REPORT OF THE EXPERT COMMITTEE ON TRIBAL HEALTH

Tribal Health in India

Bridging the Gap and a Roadmap for the Future

Ministry of Health and Family Welfare
Government of India

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2018, Published by
Ministry of Health & Family Welfare,
Government of India, New Delhi

Dedication

This report is dedicated to

The 104 million tribal people of India

and

Dr. Neeru Singh, a committee member, who passed away due to cancer on 19th August 2017

The Expert Committee on Tribal Health

1.	Dr. Abhay Bang (SEARCH, Gadchiroli)	Chairman
2.	Mr. Manoj Jhalani (AS & MD), Ministry of Health and Family Welfare, Government of India)	Member Secretary
3.	Ms Neidono Angami, Nagaland	Member
4.	Prof H. Beck (Tata Institute of Social Sciences, Mumbai)	Member
5.	Dr Yogesh Jain (Jan Swasthya Sahyog, Bilaspur)	Member
6.	Dr Joseph Marianus Kujur (Tribal Research Institute, Indian Social Institute, New Delhi)	Member
7.	Prof. Dileep Mavalankar (Director, Indian Institute of Public Health, Gandhinagar)	Member
8.	Dr. Faujdar Ram (Director, International Institute of Population Sciences, Mumbai)	Member
9.	(Late) Dr Neeru Singh (Director, National Institute of Research on Tribal Health (ICMR), Jabalpur)	Member
10.	Dr H. Sudarshan (Vivekananda Girijan Kalyan Kendra, Karnataka)	Member
11.	Dr T. Sundaraman/Dr Sanjiv Kumar (Executive Director, NHSRC (National Health Systems Resource Centre) New Delhi)	Member
12.	Joint Secretary, Ministry of Tribal Affairs, Government of India	Member

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Preface

The Expert Committee on Tribal Health was constituted jointly by the Ministry of Health & Family Welfare and the Ministry of Tribal Affairs, Government of India in 2013. Why?

The Constitution of India recognizes the special status of tribal people – the Scheduled Tribes – and provides safeguards to protect their rights and culture. However, despite their large number, (104 million according the Census, 2011), tribal people have remained marginal – geographically, socio-economically, politically, and therefore, in the national psyche. For the mainstream population, the tribals are 'those semi-naked wild people who live somewhere in the forests and mountains, and who sometimes appear in the news because their children are malnourished'.

Though it has long been suspected that tribal people have poor health and unmet needs, health care for tribal people remained subsumed in rural health care. It was assumed that tribal people have same health problems, similar needs and hence the uniform national pattern of rural health care would be applicable to them as well, albeit with some alteration in population: provider ratio. The different terrain and environment in which they live, different social systems, different culture and hence different health care needs were not addressed. Not surprisingly health and healthcare in tribal areas remained unsolved problems. But how would the nation know? No separate data on tribal health were maintained. That permitted a blissful unawareness of tribal health.

It is creditable that the two ministries of Government of India recognized that sixty six years after independence and after eleven five year plans, we need to view tribal people's health as a serious and special concern. Hence this committee, the first such endeavour, was constituted to answer two questions 1) What is the present status of health and health care in tribal areas and why the gap? 2) What should be the roadmap for the future to bridge this gap rapidly.

The Expert Committee on Tribal Health has approached this task in four stages.

1. What is the evidence and experience on the present status of health of the tribal people and health care, leading to formulation of Diagnosis of Tribal Health.
2. What should be the principles and goals of tribal healthcare?
3. How should the health care delivery and human resources be organized in tribal areas?
4. The finances, governance and knowledge required to support the above.

It proved to be a most challenging work. To our dismay we found that not only separate data on tribal population's health, health care, and finances were not available, even the institutional mechanisms to generate such data did not exist or did not function. The darkness of information was astounding. For example, nobody knew what was Infant Mortality Rate in tribal population or how much money was spent on tribal health.

This report succeeds in collating such information hidden in various databases or studies, analyzing and interpreting it and constructing the first comprehensive picture of tribal health and health care in India. Though several gaps remain, what has been accomplished is valuable and eye opener. We found that the tribal people suffer from a 'triple burden of disease'. Their health status has significantly improved over the past 25 years, and yet, it is worst as compared to other social groups. We found that the health care services in tribal areas, apart from being deficient in number, quality and resources, suffer from major design problems of inappropriateness to tribal society and lack of participation. Part one of the report is devoted to this inquiry, culminating in to the Diagnosis of Tribal Health.

Part two presents the solutions and roadmap for the future. Through a consultative process – with the experts, officers, researchers, civil society organizations, and with the representatives of tribal people, and by organizing a national workshop to identify potential solutions, by inviting suggestions online, by reviewing the evidence from other countries and finally, by searching for ideas and examples from the ongoing work of NGOs in trial areas and other reports, we have formulated a roadmap for the future. Beginning with identifying the principles of tribal healthcare we propose the goal that the health status of tribal people in India should be brought on par with the rest of the population in the next ten years.

Universal Health Care (UHC) and Universal Health Assurance (UHA) are now accepted principles of India's government policy. We propose that, in the spirit of *Antyodaya* and the constitutional promise to tribal people, the implementation of UHC or UHA in India should urgently begin with the tribal populations. We have suggested a health care delivery pattern and a governance structure. We also visualise the necessary human and financial resources and the way to mobilize. The good news is that within the limits of the national guidelines of Tribal Sub Plan and of the National Health Policy (2016), it is possible to finance tribal health care.

This report is an output of four years of work of the Committee. I must say that this Committee included individuals of exceptional quality with expertise, experience, authority and diversity. This report is a product made possible due to pooling of their efforts.

I wish to thank the Ministry of Health and Family Welfare, Government of India, for supporting, actively participating and enabling this committee in several ways, and the Ministry of Tribal Affairs, for providing very useful information and participation in the deliberations.

All the invited experts, government officers, and the tribal and civil society representatives have made this report possible by way of their valuable contributions.

I wish to specially thank the member secretary of the Committee, Mr. Manoj Jhalani, (Additional Secretary, Health, and the Mission Director, NHM, Govt. of India). His sustained administrative support as well as participation with insights and openness were a great asset.

Special thanks to the National Health Systems Resource Centre (NHSRC) and its team for acting as the secretariat, and to Ms Gunjan Veda, consultant, for very ably assisting in the enormous work of writing.

Dr Neeru Singh, then the director of National Institute of Tribal Health Research ICMR, who had spent decades of her life for tribal health research was a very active member of the Committee. We lost her due to cancer when the report was in the final stage. This report is dedicated to the tribal people of India and to her.

I hope that this report will prove to be a milestone in realizing the aim of health and health care to the tribal people of India.

Abhay Bang
Chairman, Expert Committee on Tribal health

Acknowledgement

Following persons, in their official capacity, have contributed to the decision to constitute the Expert Committee on Tribal Health.

Ministry of Health and FW, Government of India
Shri Keshav Desiraju, Secretary (2013)

Ministry of Tribal Affairs, Government of India
Ms. Vibha Puri Das, Secretary (2013)

The expert committee gratefully acknowledges the thinking and contribution of following:

Dept of Health Research Govt of India, and Indian Council of Medical Research
Dr. Soumya Swaminathan

Ms. Limatula Yaden, Ministry of Health and FW, Government of India
Ms. Sadhana Rout, Ministry of Tribal Affairs, Government of India
Ms. Sangita Verma, Ministry of Tribal Affairs, Government of India

The expert committee gratefully acknowledges the efforts and contribution of the following:

National Health Systems Resource Centre
Dr. Rajani Ved
Dr. Satish Kumar
Mr. Padam Khanna
Dr. Venkatesh Roddawar
Dr. Charu C Garg
Dr. Sandhya Ahuja
Ms. Sharvari Ubale
Ms. Ashi Karke, for Administrative support

Dr. Nikhil Utture and Dr. Jayendra Kasar, Ministry of Health and FW, Government of India

International Instt. Of Population Sciences, Mumbai
Prof. Chander Sekhar

National Institute of Nutrition, (ICMR)
Dr. Avula Laxmaiah

National Instt. Of Research on Tribal Health (ICMR)
Dr. Tapas Chakma

National Vector Borne Disease Control Program
Dr. A C Dhariwal

National AID Control Agency
Dr. Madhu Sharma

The Census Commissioner and Registrar, Sample Registration System, Govt of India
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Civil Society/NGOs
Ms. Poonam Muttreja
Ms. Jasodhara Dasgupta

Madhya Pradesh and Jharkhand
Hon. Shri Ramchandra Chandravanshi, Health Minister, Jharkhand
The State and district level representatives of tribal people, and Civil Society
Officers of the Health & FW Dept
Officers of the Ministry of Tribal Affairs

Workshop on Innovative Practices in Tribal Health Participants

Stakeholders
The Ministry of Health and Family Welfare had, on behalf of the Committee, invited suggestions from various stakeholders- Ministeries, MPs/MLAs, civil society organizations and researchers - on the way forward for Tribal health in India. Over 50 responses were received on email and hard copy, many with case studies, reports and reading materials respondents who gave online suggestions.

All the **academic sources** mentioned in the footnotes or references.

List of Abbreviations

ACT	Artemisinin based Combination Therapy
AHS	Annual Health Surveys
AIDS	Acquired Immune Deficiency Syndrome
AIR	Age-Adjusted incidence Rate
ANC	Ante-Natal Care
ANM	Auxiliary Nurse Midwifery
API	Annual Parasite Incidence
ARI	Acute Respiratory Infection
ASHA	Accredited Social Health Activist
ATSP	Additional Tribal Sub-Plan
AWC	Anganwadi Centre
AWW	Anganwadi Worker
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy
BCC	Behaviour Change Communication
BHO	Block Health Officer
BMI	Body Mass Index
BPL	Below Poverty Line
CAG	Comptroller and Auditor General
CBGA	Centre for Budget and Governance Accountability
CBPR	Community Based Participatory Research
CDU	Central Diagnostic Unit
CED	Chronic Energy Deficiency
CES	Coverage Evaluation Survey
CHC	Community Health Centre
CHD	Coronary Heart Disease
CHW	Community Health Worker
CMR	Child Mortality Rate
CNS	Central Nervous System
CPHM	Comprehensive Primary Healthcare Management
CSIR	Council of Scientific and Industrial Research
CSR	Corporate Social Responsibility
CSSM	Child Survival and Safe Motherhood
DBT	Department of Bio-Technology
DGHS	Directorate General of Health Services
DH	District Hospital
DHO	District Health Officer
DHR	Department of Health Research
DLHS	District Level Household and facility Survey

DPC	District Planning Committee
EAG	Empowered Action Group
EAP	Externally-Aided Projects
ECHO	Extension for Community Health Outcomes
EmOC	Emergency Obstetric Care
EMR	Electronic Medical Record
EMRI	Emergency Management and Research Institute
FP	Family Planning
FRLHT	Foundation for Revitalisation of Local Health Traditions
FY	Financial Year
G6PD	Glucose-6-phosphate dehydrogenase
GNM	General Nursing and Midwifery
GoI	Government of India
HBNCC	Home Based New-born and Child Care
HbS	Sickle Haemoglobin
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
HLEG	High-Level Expert Group
HMIS	Health Management Information Systems
HR	Human Resource
HRA	House Rent Allowance
HRH	Human Resources in Health
HSC	Health Sub-Centre
ICDS	Integrated Child Development Services
ICMR	Indian Council of Medical Research
ICT	Information and Communications Technology
IDA	Iron Deficiency Anaemia
IDSP	Integrated Disease Surveillance Programme
IEC	Information, Education and Communication
IHDS	Indian Human Development Survey
IIPS	International Institute for Population Sciences
IIT	Indian Institute of Technology
IMA	Indian Medical Association
IMFL	Indian-made Foreign Liquor
IMR	Infant Mortality Rate
IPD	In-Patient Department
IPHS	Indian Public Health Standards
IRS	Indoor Residual Spray
ISFR	Indian State of Forest Report
ITDA	Integrated Tribal Development Agency
ITDP	Integrated Tribal Development Projects
ITNs	Insecticide Treated Bednets
JE	Japanese Encephalitis

JSS	Jan Swasthya Sahyog
JSSK	Janani Shishu Suraksha Karyakram
JSY	Janani Suraksha Yojana
KAP	Knowledge, Attitude and Practice
LASI	Longitudinal Ageing Survey in India
LE	Life Expectancy
LFT	Liver Function Test
LHV	Lady Health Visitor
LLINs	Long Lasting Insecticide Treated Nets
LWE	Left-Wing Extremism
MADA	Modified Area Development Approach
MANSI	Maternal and New-born Survival Initiative
MATIND	Maternal Health India
MCI	Medical Council of India
MCTS	Mother and Child Tracking System
MIS	Management Information System
MMU	Mobile Medical Unit
MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MO	Medical Officer
MoEF	Ministry of Environment and Forests
MoHFW	Minsitry of Health and Family Welfare
MoTA	Ministry of Tribal Affairs
MPH	Masters in Public Health
MPLAD	Member of Parliament Local Area Development
MPW	Multipurpose Workers
NACO	National AIDS Control Organization
NCD	Non-Communicable Diseases
NE	North-East
NFHS	National Family Health Survey
NGO	Non-Governmental Organisation
NHM	National Health Mission
NHSRC	National Health Systems Resource Centre
NIN	National Institute of Nutrition
NIRTH	National Institute for Research in Tribal Health
NLEP	National Leprosy Eradication Programme
NMR	Neonatal Mortality Rate
NNMB	National Nutrition Monitoring Bureau
NPR	National Population Register
NREGA	National Rural Employment Guarantee Act
NRHM	National Rural Health Mission
NSSO	National Sample Survey Office
NTHC	National Tribal Health Council
NVBDCP	National Vector Borne Disease Control Programme

OBC	Other Backward Class
OBG	Obstetrician and Gynaecologist
OCAP	Ownership, Control, Access and Possession
OOPE	Out-of-Pocket Expenditure
OPD	Out-Patient Department
OT	Operation Theatre
OTTET	Odisha Trust for Technical Education and Training
PDS	Public Distribution System
PESA	Panchayat (Extension to Scheduled Areas)
PHC	Primary Health Centre
PHFI	Public Health Foundation of India
PHU	Public Health Unit
PID	Pelvic Inflammatory Disease
PMTHF	Prime Minister Tribal Health Fellows
PNC	Post-Natal Care
PPP	Public-Private Partnership
PRI	Panchayati Raj Institutions
PTB	Pulmonary Tuberculosis
PVTGs	Particularly Vulnerable Tribal Groups
RAC	Regional Autonomous Councils
RBSK	Rashtriya Bal Swasthya Karyakram
RCH	Reproductive and Child Health
RDA	Recommended Daily Allowance
RDT	Rapid Diagnostic Test
RFT	Renal Function Test
RHS	Rural Health Statistics
RMNCHA	Reproductive, Maternal, New-born, Child and Adolescent Health
RNTCP	Revised National Tuberculosis Control Program
RSBY	Rashtriya Swasthya Bima Yojana
RSOC	Rapid Survey on Children
RTI	Reproductive Tract Infections
SAGE	Study on Global Ageing and Adult Health
SAM	Severe Acute Malnutrition
SC	Scheduled Caste
SCA	Sickle Cell Anaemia
SCA	Special Central Assistance
SCD	Sickle Cell Disease
SCP	Special Component Plan
SEARCH	Society for Education, Action and Research in Community Health
SHGs	Self-Help Groups
SRS	Sample Registration System
ST	Scheduled Tribe
STI	Sexually Transmitted Infection

TB	Tuberculosis
TBA	Traditional Birth Attendant
TFR	Total Fertility Rate
THD	Tribal Health Directorate
THO	Tribal Health Officer
THRC	Tribal Health Research Cell
THWC	Tribal Health and Wellness Centres
TM	Traditional Medicine
TRI	Tribal Research Institute
TSP	Tribal Sub-Plan
U5MR	Under-five Mortality Rate
UNDP	United Nations Development Programme
UT	Union Territory
VAW	Violence Against Women
VHSNCs	Village Health, Sanitation and Nutrition Committee
WASH	Water, Sanitation and Hygiene
WHIMS	Wireless Health Incident Monitoring System
WHO	World Health Organization
YLDs	Years Lived with Disability
YLL	Years of Life Lost

Introduction

Outline

- Need for Enquiry into Tribal Health
- Objectives
- Methodology
- Strengths
- Limitations
- Window of Opportunity

Need for Enquiry into Tribal Health

One third of the world's tribal and indigenous population, that is, over 104 million tribal people[1] live in India. Spread across 705 tribes, they account for 8.6%[2] of the country's population.

An embodiment of India's unique cultural diversity, these communities have their own distinct socio-cultural structures and way of life. The Government of India has always been cognizant of this. The **three landmark policy expressions** of which have been the Constitution of India, the Panchsheel Principles and the PESA act.

I. The Constitution of India extended administrative and political special status to the tribal population under Schedules V and VI.

II. The Panchsheel Principles for Tribal Development, enunciated in 1958, laid the ground for an enabling framework whereby the tribal people could develop according to their own genius, sharing the benefits of development, yet retaining the best elements of their tradition, cultural life and ethos. These Principles stated that:

(1) People should develop along the lines of their own genius and we should avoid imposing anything on them. We should try to encourage in every way their own traditional arts and culture.

(2) Tribal rights in land and forests should be respected.

(3) We should try to train and build up a team of their own people to do work of administration and development. Some technical personnel from outside will, no doubt, be needed, especially in the beginning. But we should avoid introducing too many outsiders into tribal territory.

(4) We should not over-administer these areas or over-whelm them with multiplicity of schemes. We should rather work through, and not in rivalry to, their own social and cultural institutions.

[1] Census of India 2011
[2] Census of India 2011

(5) *We should judge results, not by statistics or the amount of money spent, but by the quality of human character that is evolved.*[3]

III. The Panchayat (Extension to Scheduled Areas) Act was introduced in 1996 to reinforce the provisions of the Fifth Schedule and to empower the tribal communities to safeguard their customs, traditions, cultural identity and community resources in Schedule areas.

These policy safeguards notwithstanding, the elected representatives from tribal areas frequently voice the problem of poor health and health services. Numerous media reports show that the tribal population continues to suffer from lack of infrastructure, development facilities and services, much more than the general population. The incidence of malnutrition, child mortality and diseases like malaria is disproportionately high amongst them.

Available data, while meagre, appears to corroborate this.

The glaring questions are:

- Nearly seven decades after independence, why do the tribal people still suffer from the inequity in health and health care compared to others?
- How can this gap be bridged rapidly?

This has been clearly articulated in a 2014 report of the High Level Committee on the Socio-Economic, Health and Education Status of Tribals in India.[4] The report was authored by the Xaxa committee, constituted by the Prime Minister's office to look at critical socio-economic, legal and administrative issues like the definition of a tribal, the administrative reforms needed, migration, displacement, livelihoods, health and education. It highlighted that a disproportionately large segment of the tribal population continues to suffer from poor health outcomes, high morbidity and mortality. This is probably because despite recognizing the differentials in the health conditions of the tribal population, there has never been a separate policy on tribal health. Commitment to tribal health, though an integral part of inclusive growth agenda of the government, has often been limited to relaxing the norms of existing schemes for tribal areas, in the belief that a greater share of resources will resolve the issue. Yet, the unique geographical, cultural and sociological conditions of the tribal population, necessitate a system of governance and solution-finding that is customized to their special and circumstantial needs.

Geographical isolation, poor implementation of policies and programmes, and lack of adequate resources have been responsible for the poor health status of the tribal population, but they have not been the only issues at stake. The tribal communities and the general population have the same potential to enjoy optimum health outcomes, however, the disease burden and health – both the notional definition of what constitutes good health and the problems faced therein- differ substantially, primarily due to geographic, cultural and socio-economic factors. Traditionally, tribal habitations have been located in inaccessible terrains – forests, islands, hilly regions. Lack of access and connectivity has often translated into poor infrastructure, lack of basic amenities and service providers. The diverse and dispersed nature of the tribal population has also meant inadequate political representation and voice in the formulation of policies.

A lack of understanding of tribal culture and an imposition of schemes and mechanisms that are culturally alien to the tribal people, have exacerbated the problem. Further, lack of disaggregated data on tribal health has made it very difficult to even gauge the extent of the problem.

[3] Source: Jawaharlal Nehru quoted by Christoph von Fürer-Haimendorf in India and Ceylon: Unity and Diversity. A Symposium. Edited by Philip Mason, Director, Institute of Race Relations, London. Published for the Institute of Race Relations. Oxford University Press, London 1967 ; Cited on the following website: http://www.indiantribalheritage.org/?p=17554

[4] Report of the High Level Committee on Socio-economic, Health and Educational Status of Tribals in India; 2014; Ministry of Tribal Affairs, Government of India

The health status of a society is intimately related to its value system, philosophical and cultural traditions, and social, economic and political organization. Owing to their unique traditional ways of life, the concept of health and well-being of tribal people differs substantially from the rest of the population. It is intricately linked to their environment and their sense of community, a fact disregarded by existing health schemes and policies. These differential aspirations and lack of understanding has resulted in alienation, driven by mutual wariness, disrespect and in some instances, outright contempt. This has compounded the problems created by inadequate access and kept the tribal people from enjoying the benefits of the already limited services available in their areas. Therefore, the system of medicine and healthcare used for the general population has failed to adequately improve the health status- as reflected through health indicators – of these communities.

Recognising this need for a roadmap for tribal health that is based on an understanding of the health situation of the tribal people, their needs, aspirations and rights, the Ministry of Health and Family Welfare (MoHFW) and the Ministry of Tribal Affairs (MoTA), in October 2013, jointly constituted the Expert Committee on Tribal Health, under the Chairmanship of Dr Abhay Bang. It had as its members prominent academicians, civil society members and policy makers who have long been working with the tribal people.

Objectives

There is a fine line between assimilation and integration. The former approach holds the geographical isolation and differential socio-cultural traditions and structures of tribal communities responsible for their poor socio-economic conditions and seeks to remedy this by "making them like us." The later, along the lines of the Panchsheel principles, seeks to ensure that the tribal people share the fruits of development and democracy, even as they grow culturally – that is, they retain the positive practices of their communities and discard the ones that result in disease, disparity and deprivation.

The Objective of the Expert Committee was to develop a national framework and roadmap to improve the appropriateness, access, content, quality and utilization of the health services among the tribal population, particularly those living in scheduled areas. It was tasked to review the existing situation of health in tribal areas, suggest interventions, formulate strategic guidelines for states and make recommendations on the requirement of additional resources.[5]

The List of Committee Members

1.	Dr. Abhay Bang, (SEARCH, Gadchiroli)	Chairman
2.	Mr. Manoj Jhalani, (Additional Secretary and MD, Ministry of Health and Family Welfare, Government of India)	Member Secretary
3.	Ms Neidono Angami, Nagaland	Member
4.	Prof H. Beck, (Tata Institute of Social Sciences, Mumbai)	Member
5.	Dr Yogesh Jain, (Jan Swasthya Sahyog, Bilaspur)	Member
6.	Dr Joseph Marianus Kujur, (Tribal Research Institute, Indian Social Institute, New Delhi)	Member
7.	Prof. Dileep Mavalankar, (Director, Indian Institute of Public Health, Gandhinagar)	Member
8.	Dr. Faujdar Ram, (Director, International Institute of Population Sciences, Mumbai)	Member
9.	(Late) Dr Neeru Singh, (Director, National Institute of Research on Tribal Health (ICMR), Jabalpur)	Member
10.	Dr H. Sudarshan, (Vivekananda Girijan Kalyan Kendra, Karnataka)	Member
11.	Dr T. Sundaraman / Dr Sanjiv Kumar, (Executive Director, NHSRC (National Health Systems Resource Centre), New Delhi)	Member
12.	Joint Secretary, Ministry of Tribal Affairs, Government of India	Member

[5] The Terms of Reference of the Committee is available at Annexure 1.

Representatives from National programmes on Communicable and Non Communicable Disease, Reproductive and Child Health, Secretary (Tribal Welfare) from the states of Odisha and Chhattisgarh and Commissioner (Tribal Welfare) from Andhra Pradesh were special invitees to the committee.

In addition to this, Dr. Avula Laxmaiah (National institute of Nutrition, ICMR, Hyderabad), Dr. A C Dhariwal (Director, National Programme for Vector Borne Disease Control) and Prof Chander Shekhar (International Institute for Population Sciences, Mumbai) were specially invited by the committee due to their expertise in their respective fields.

Dr Tapas Chakma, Scientist 'G' at NIRTH shared his expertise, particularly with respect to morbidity patterns among tribal people in Central India.

NHSRC was the Secretariat for the Committee and under the guidance of Dr Satish Kumar, the NHSRC team, notably Mr Venkatesh Roddawar and Ms Charu Garg, assisted the committee's deliberations and operation.

Former policy maker and journalist, Ms Gunjan Veda, was appointed as a Consultant to assist the Committee in writing the committee's report.

The constitution of this Committee was a landmark move - for the first time a committee was set up to exclusively look at tribal health- demonstrating the seriousness of the government in ensuring that the fruits of development benefit all, equitably.

Methodology

The committee followed the following methodology:

1. **Regular meetings:** The committee members held regular meetings to discuss the terms of reference, the situation analysis, the work being undertaken and the way forward.

2. **Expert invitees:** Selected NGOs, experts and government officials were invited to present the situation and solution in their areas of expertise in some of these meetings. For Eg Census Commissioner and Director General of SRS, Govt. of India, Dr Madhu Sharma from NACO on HIV, Dr Mallikharjuna Rao from the National Institute of Nutrition on Nutritional status of tribal people and Ms Poonam Muttreja from the Population Foundation of India on Family Planning.

3. **Working Groups for in-depth analysis:** Nine thematic working groups[6] were formed for in depth study and analysis on: i) health status and demographic distribution, ii) morbidity burden and healthcare needs, iii) malaria action plan, iv) nutritional status, v) health culture and traditions, vi) health services and human resources vii) existing policy, planning and financing, viii) tribal people in the North-eastern states ix) Particularly Vulnerable Tribal Groups (PVTGs.)

   In order to undertake a thorough situation analysis, these working groups scoured existing reports and datasets. They also undertook multi-variate and bi-variate analysis and sought to interpret existing data with support from NIRTH and IIPS. Different Ministeries and state governments were contacted for information relating to Tribal sub-plan and schemes for tribal health.

4. **Field visits:** Committee members undertook field visits to tribal areas in Jharkhand and Madhya Pradesh to study the situation on the ground as a team and to hold consultations with tribal people and their representatives, and with the state officers in the state capitals. (Annexure – 3)

5. **External Consultation:** To make the report of the committee more inclusive, representations and recommendations were invited from government officials, policy makers, political representatives, civil society members, research institutions and the general public. The request of the committee received an

[6] See Annexure 2, for Constitution of Working groups. Materials and data collated by these groups is also available in the Annexure 3 to 15.

overwhelming response, particularly from Prime Minister's Rural Development Fellows working in tribal districts and from civil society. The recommendations and reports submitted were analysed, discussed and included in the Committee's report whenever they were backed with adequate evidence and sound rationale.

6. **Best practices Workshop:** Early on in its deliberations the committee decided to look for evidence based best practices for tribal health. Submissions were invited and 85 entries were received. These were screened and analysed by the committee members and 23 applicants were invited to an intense three day Workshop on Best Practices in Tribal Health, organized in Shodhgram, the SEARCH campus located in the tribal district of Gadchiroli in Maharashtra. After detailed presentations and deliberations, some of these practices have been included in the report. A separate report listing all the best practices that were presented at the workshop has also been prepared and the committee intends to release it as a separate volume with the support of the National health Systems Resource Centre.

7. **Drafting Committee:** A drafting committee comprising of Dr Bang, Mr Jhalani, Dr Sundarshan and Ms Veda was created to finalise the report of the committee.

Strengths

The Expert Committee on Tribal Health was the first such group formed by the Government of India and is therefore unprecedented. It brought together, for the first time, academics, policy makers, grassroots people, sociologists who were from tribal communities and programme people. It included amongst its members and invitees representation from the premier research institutions of the country, both private and public. This enabled the committee to not just collate data and evidence but to analyse it to generate information that did not exist otherwise. Through NHSRC, the committee got access to Health services data at both the central and state level.

The composition of the committee ensured that this report is consultative in nature. Indeed, extensive consultations were carried out with civil society, academics and policy makers to ensure that their concerns and their ideas find place in the road map for sustainable health care in tribal areas. The work of the High Level Expert Group on Universal Coverage (2011), the High Level Committee on the Socio-Economic, Health and Educational Status of the Tribal People (2014) and the Lancet Global Commission on the Health of the Indigenous and Tribal People (2016) also provided valuable background work, data and ideas to the committee.

Limitations

The Expert Committee was constituted to devise a tribal centric health policy that is founded on the needs, beliefs and aspirations of the tribal population. Yet, only three of the 13 members of the committee are themselves from tribal communities. Thus, though it seeks to provide an insider's perspective on tribal health, the work of the committee was carried out by outsiders, albeit ones who have spent their life engaging, working and living with tribal people.

Moreover, Committee members are cognizant of the fact that the aspirations of the tribal population, their cultural worldview and concepts of life, death and health are different from those of mainstream society. For many tribal communities death is just another part of the natural life cycle; not something to be lamented. Yet, the measures suggested in this report are based on constitutional and human rights principles that seek equality and access to healthcare for all.

The health status of tribal people cannot be separated from their socio-political status. Displacement, migration, land acquisition, loss of traditional livelihoods, lack of education, lack of accessibility and connectivity, poor infrastructure,

detention and imprisonment all adversely affect the health of the tribal population. The Expert committee recognizes these linkages and has sought to address some of them. However, for the most part, it has stuck to recommendations that deal directly with the health of the tribal people, partly because that has been the mandate and expertise of the committee and partly because, these critical and cross-linked issues have been addressed in great detail by the Xaxa committee.

The definition of tribal people used in this report is the same as that accepted under the Indian Law: that is communities identified as Scheduled Tribes under Article 342 (1) of the Constitution. It is not a perfect definition and the problems that arise with the ad-hocism associated with such a definition have been neatly laid out in the works of previous committees. For the sake of convenience and practicality- as this is the definition used for government schemes and policies - the Expert Committee decided to adopt the constitutional definition of a tribal. This does not however, reflect the committee's position on how a tribal should be defined. Moreover, given the lack of consensus on the definition of a tribe and tribal, there may be differences in data used from different sources. The committee has been unable to look at the definition of a "tribal" in every data source or to reconcile the differences.

While dealing with data, the committee faced another dilemma. Data on Tribal health from existing national surveys was extremely limited and surprisingly difficult to access. The Sample Registration System, Govt. of India was unable to provide separate estimates for the IMR in the ST population in their sample. The Integrated Disease Surveillance Programme (IDSP) and the Health Management Information Systems (HMIS) use large data sets and offer some disaggregated data. Yet being routine reporting mechanisms, they are often plagued with problems of under-reporting. The committee decided that it would restrict itself to using robust data, howsoever limiting the exercise may be. Therefore, much of the data on morbidity patterns is piecemeal and limited by geographies.

Most government policies and schemes are limited to Scheduled areas or ITDP and MADA areas. However, a vast majority of the tribal population of the country lives outside these tribal areas. These tribal people are, in some cases, more vulnerable and disadvantaged than those in scheduled areas as few provisions are available for them. Their needs, aspirations and problems get lost among the general needs, aspirations and problems of the areas where they reside. While the committee has attempted to offer specific recommendations for this population, most of its recommendations continue to be for areas where there is a concentration of tribal population. This is because often the problems of the tribal population scattered across non-tribal and non-scheduled areas, are similar to those of other marginalized, impoverished and disadvantaged groups and as such, require similar remedies.

The Expert Group recognizes the heterogeneity of the tribal population. The health problems of the tribes of the North-east are peculiar to the area. Similarly the Particularly Vulnerable Tribal Groups (PVTGs) require special expertise. The level of engagement with them has to be decided on a case by case basis. However most of the recommendations of this Committee would apply to these two groups as well (tribal communities of North East and PVTGs) but for more specific recommendations the Committee recommends setting up separate expert groups.

Window of Opportunity

The report of the committee was due in 2014. It was however delayed due to a plethora of reasons. First and foremost because the task set out for the committee was a highly ambitious one. A situation analysis of the health status of the tribal population, collectively and segment wise, was a Herculean task in a scenario, where disaggregated data was just not available. Even where data was available, there were numerous questions regarding its quality. The choice was between drafting recommendations based on a general understanding of the health situation of tribal people or spending more time to create an evidence based situation analysis.

The Committee chose the latter option. The delay in getting information (not just data) and sourcing studies was compounded by the ill health suffered by many committee members.

However, this delay has not only ensured the quality of the committee's report, it has offered a window of opportunity. The Xaxa committee has already submitted its report, highlighting many governance and administrative issues, without which the health of tribal people cannot be guaranteed. The UNDP is for the first time developing a Tribal Human Development Index. Recently, the Lancet–Lowitja Institute Global Collaboration commissioned a study to establish the state of health of indigenous population across 23 nations, including India. The results of the study were published in the Lancet on April 22, 2016.

The Government of India has also formulated a new National Health Policy. Thus, both nationally and globally there is a recognition of the differential health status of tribal communities and a willingness to undertake measures to bridge the gap between the tribal and general population. The Committee hopes that this report will provide a policy framework for bridging this gap – a framework that will empower and enable tribal communities to define their health priorities, set their health goals and create a plan of action to attain these goals.

PART I

State of Tribal Health

1
Chapter

Scheduled Tribes in India[7]

Outline

- Who is the tribal ?
- Heterogeneity
- Where are they located? Distribution of Tribal Population in India
- Population Growth, Sex Ratio and Mean Family Size
- Socio-economic Conditions including Poverty, Livelihoods, Access to amenities and Education
- Special Governance Mechanisms for Tribal Areas
- Planning and Financing
- Scheduled Tribes in India: At a Glance (table of indicators)

2.1 Who is the tribal?

According to the Census of India 2011, Scheduled Tribes population, numbering 104 million, constitutes 8.6% of the total population of the country

The Indian Constitution, and the laws made under it, recognise the special status of tribal communities. While sociologists and social anthropologists have debated and continue to debate the defining characteristics of a tribe, the Constitution recognises that tribal communities need and deserve special protections, ensured through the politico-administrative establishment. "Accordingly, the device of scheduling has been adopted to enable identification of tribal communities and tribal areas that are to come within this dispensation."[8] Article 342 of the Indian Constitution defines "Scheduled Tribes" as the "tribes or tribal communities or parts of or groups within tribal communities which the President of India may specify by public notification."[9]

As the Constitution did not define the criteria for recognition of Scheduled Tribes, the Lokur Committee was set up in the 1960s to look into this issue.[10] In its report, the committee recommended five criteria for identification as STs (1) primitive traits (2) distinct culture, (3) geographical isolation, (4) shyness of contact with the community at large and (5) backwardness.[11] The arguments around the pejorative connotations of some of these criteria and debates on how to define a tribal community have been captured in the Report of the High Level Committee on the Socio-Economic, Health and Educational Status of Scheduled Tribes in India, 2014.

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7. This chapter extensively uses data from the following sources: Census 2011, National Sample Survey 2007-08, National Sample Survey 2012-13. It also draws heavily on the Statistical Profile of Scheduled Tribes 2013 and 2014 developed by the Ministry of Tribal Affairs and the Report of the High Level Committee on the Socio-Economic, Health and Educational Status of Scheduled Tribes in India, 2014, Ministry of Tribal Affairs, Government of India.
8. Report of the High Level Committee on the Socio-Economic, Health and Educational Status of Scheduled Tribes in India, 2014, Ministry of Tribal Affairs, Government of India.
9. http://tribal.nic.in/Content/DefinitionpRrofiles.aspx.
10. Report of the Advisory Committee on the Revision of the Lists of Scheduled Castes and Scheduled Tribes, 1965; Available at http://hlc.tribal.nic.in/WriteReadData/userfiles/file/Lokur%20Committee%20Report.pdf ; Last accessed on June 13, 2016.
11. Cited in Report of the High Level Committee on the Socio-Economic, Health and Educational Status of Scheduled Tribes in India, 2014; Ministry of Tribal Affairs, Government of India.

2.2 Heterogeneity

Historically, there has been a tendency to view tribal people as a homogenous entity. Yet, there is huge variation in the history, lifestyle, health situation, beliefs and behaviours across tribal communities. At present, there are 705 scheduled tribes in the country.[12] These can be divided into four major categories:

1) Tribal people living in Schedule V areas and in tribal dominated blocks and districts (except PVTGs)

2) Tribal population in North- East India: The highest concentration of tribal population is found in the North-eastern states. The communities and their health and developmental issues in this region differ significantly from those in the rest of the country. Several of these areas are covered under the Schedule VI of the constitution.

3) Particularly Vulnerable Tribal Groups: In 1975-76, and thereafter in 1993, certain groups regarded as the poorest of the poor among the STs were identified as Primitive Tribal Groups, now called the Particularly Vulnerable Tribal Groups (PVTGs).[13] The criteria fixed for the identification of such groups was: i) Pre-agricultural level of technology ii) Very low literacy levels; and iii) Declining or stagnant population iv) Subsistence level of economy. Currently there are75 tribes/ sub-groups in the country that are classified as PVTGs.[14] They account for less than 0.6% of the households in the country. The state of Andhra Pradesh has the maximum number of PVTGs at 12.[15]

4) Tribal people living outside Schedule areas.

Currently, Odisha has the largest number of notified STs (62) followed by Karnataka (50) Maharashtra (45), Madhya Pradesh (43) and Chhattisgarh (42). Sikkim has the least with four tribes followed by Nagaland, Daman and Diu and Uttarakhand with five each. Among the South Indian States, Karnataka has the largest number of Scheduled Tribes (50) followed by Tamil Nadu (36) and Kerala (36).[16]

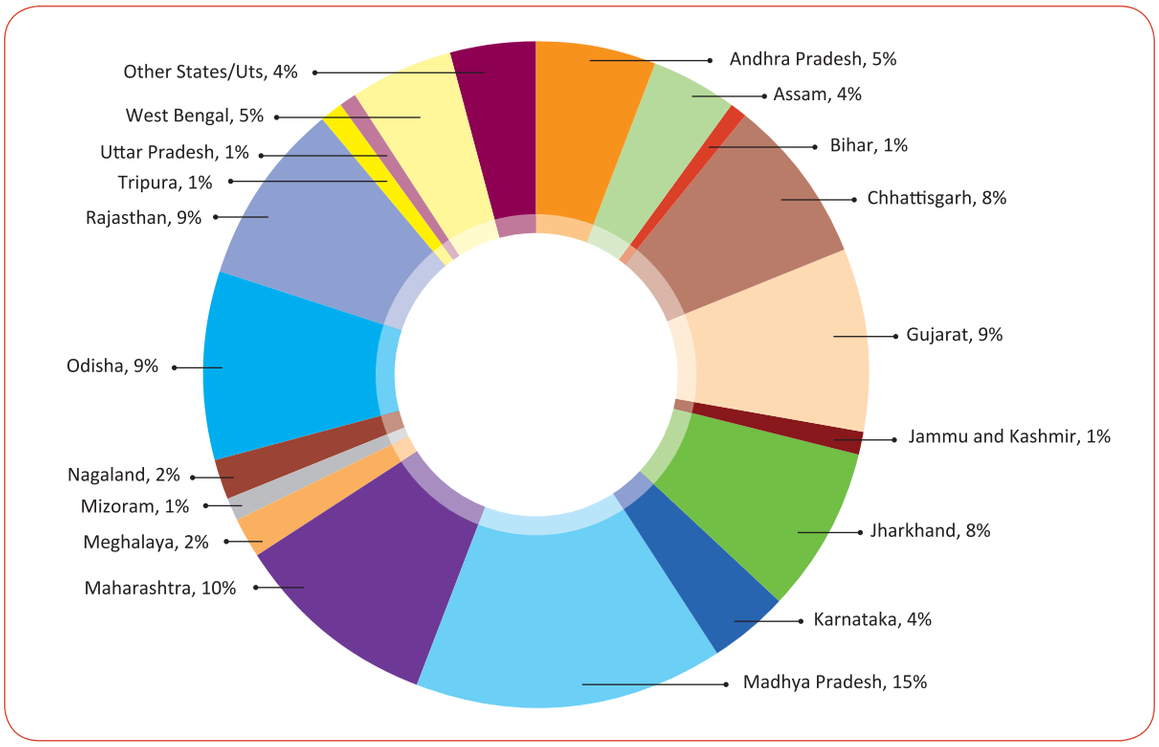
The tribal population of India has been found to speak 105 different languages and 225 subsidiary languages (IGNOU, 1990). Languages spoken by Indian tribes can be classified into four major families of languages, e.g. Austro-Asiatic family, Tibeto-Chinese family, Dravidian family and Indo-European family.[17]

2.3 Where are they located ? Distribution of Tribal Population in India

Numerically, Madhya Pradesh has the largest ST population. It accounts for 14.7% of total ST population in the country (over 15 million), followed by Maharashtra (over 10 million), Odisha and Rajasthan (over 9 million each). In fact, more than two thirds of the ST population lives in the 7 states of MP, Chhattisgarh, Jharkhand, Odisha, Maharashtra, Gujarat and Rajasthan.[18] However, the concentration of tribal population is highest amongst the North Eastern states, particularly Mizoram (94.4%), Nagaland (86.5%), Meghalaya (86.1%) and Arunachal Pradesh (68.8%).

[12] Statistical Profile of Scheduled Tribes in India, 2013; Ministry of Tribal Affairs; Government of India; Available online at http://tribal.nic.in/WriteReadData/userfiles/file/ScheduledTribesData/Section1.pdf ; last accessed June 27, 2016.
[13] Identifying Livelihood Promotion Strategies among Particularly Vulnerable Tribal Groups under NRLM; UNDP India; 2012. Available at http://in.one.un.org/img/uploads/SolEx_FTP/MF/res17081301.pdf ; Last accessed on June 27, 2016.
[14] Statistical Profile of Scheduled Tribes in India, 2013; op cit.
[15] Listing by the Ministry of Tribal Affairs, Government of India; Available at http://tribal.nic.in/Content/Particularly%20Vulnerable%20Tribal%20Group.aspx ; Last accessed June 27, 2016.
[16] Report of the High Level Committee on the Socio-Economic, Health and Educational Status of Scheduled Tribes in India, 2014, op cit.
[17] Report of the High Level Committee on the Socio-Economic, Health and Educational Status of Scheduled Tribes in India, 2014; op. Cit.
[18] Census 2011; Government of India

Figure 1: State/UT's share of scheduled tribes(ST) to total ST population of India



Source: Primary Census Abstract for Total population, Scheduled Castes and Scheduled Tribes, 2011; Office of the Registrar General & Census Commissioner, India.

Almost 90% of the tribal population of the country lives in rural areas.[19] The distribution of scheduled tribes by district shows that there are 151 districts in which their share is more than 25 per cent. There are 13 districts in the country with more than one million tribal population, and interestingly, none of them are in North Eastern India. Dahod district in Gujarat has the largest tribal population with 1,580,850 persons, followed closely by Nashik and Thane (Maharashtra), and Udaipur (Rajasthan).[20]

Thus, there are 169 districts in which the ST population constitutes more than 20 per cent of the population, and 809 blocks where the ST population is more than 50 per cent.

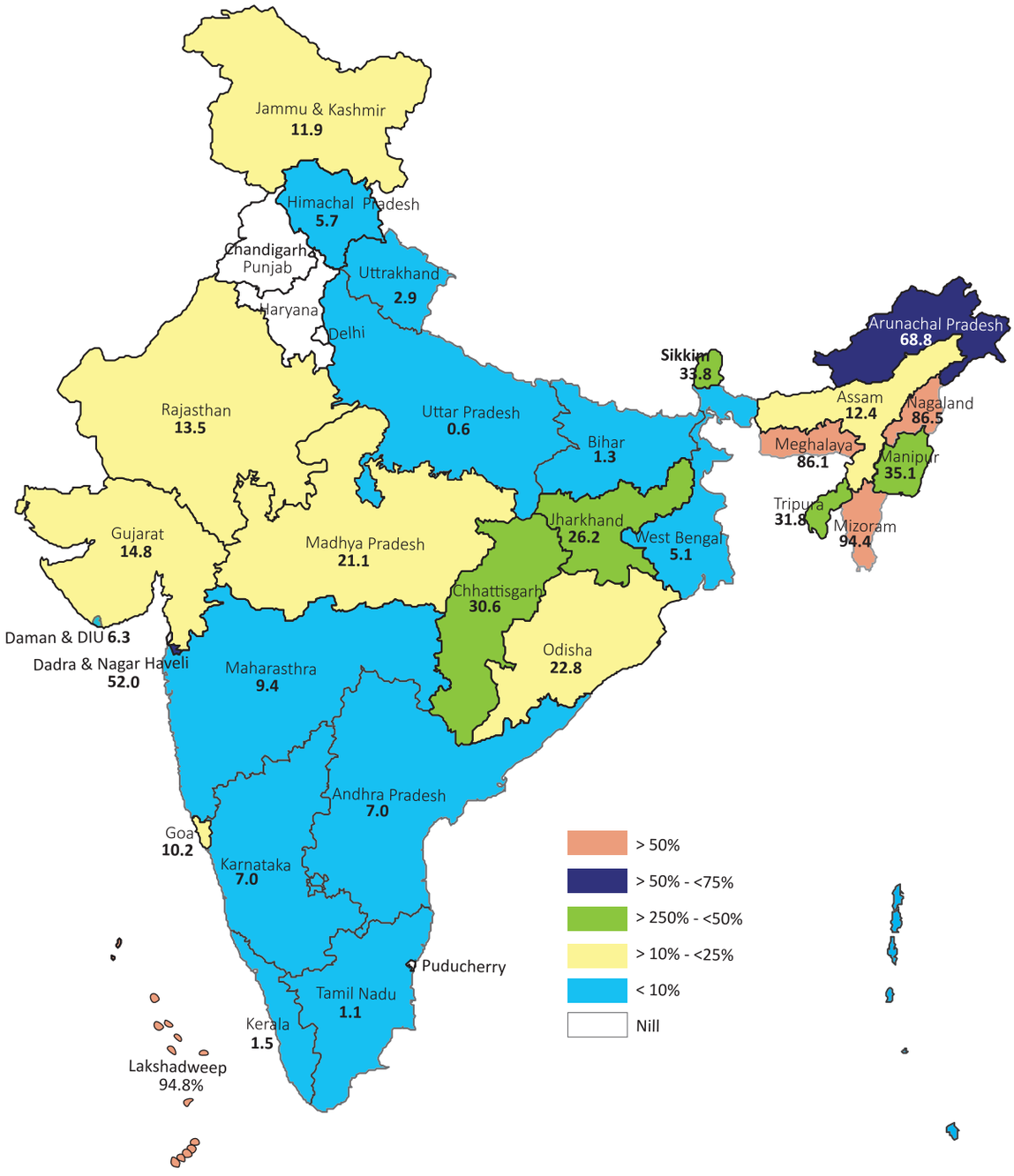
Table 1: Concentration of ST population across Districts

S. No	Percentage of ST Population	Number of Districts
1	Less than 1 per cent	55
2	Between 1 and 5 per cent	282
3	Between 5 and 20 per cent	134
4	Between 20 and 50 per cent	79
5	50 per cent and above	90
	Total	**640**

Source: Statistical Profile of Scheduled Tribes in India, 2013, MoTA
Note: Out of 640 districts in India, in 50 districts of Punjab, Chandigarh, Haryana, Delhi and Puducherry, there is no Scheduled Tribes population, as no Scheduled Tribe is notified there.

[19] Census 2011; Government of India
[20] Communication Prof Chander Shekhar.

Figure 2: Concentration of ST population across various states (as % of total population of the state)



Source: Primary Census Abstract for Total population, Scheduled Castes and Scheduled Tribes, 2011; Office of the Registrar General & Census Commissioner, India

Tribal People Living Outside the Tribal Majority Blocks: An Estimate

A substantial percentage of tribal people live outside scheduled areas. Census 2011 clearly shows that there is a movement of tribal people from tribal areas to non-tribal areas, possibly in search of livelihood and educational opportunities. Similarly non-tribal people are moving into tribal areas in the quest for land and natural resources. This is reflected in a 32 per cent decline in the number of villages with 100% tribal population between Census 2001 and 2011.

Unfortunately the Ministry of Tribal Affairs does not monitor the number of tribal people living outside tribal areas. It also does not have any data in this regard. At the behest of this committee, IIPS Mumbai undertook a study to estimate the number of tribal people living outside tribal areas. Based on the Census 2011 data of blocks with more than 50% tribal population across the country, the study showed that 809 such blocks accounted for nearly45% of the ST population (46.7 million out of the total 104 million in the country). In other words, almost 55% of the tribal population lives outside these 809 tribal majority blocks.

The tribal population of the country continues to live pre-dominantly in hilly and forested areas. According to the ISFR 2013, over 37 per cent of the area in the 189 tribal districts of the country is covered by forests, as against the national forest cover of 21.23 per cent. The North East region, which constitutes less than 8 per cent of the geographical area of the country, accounts for nearly one fourth of its forest cover.[21] **Together the tribal areas account for almost 60% of the forest cover in the country.**[22]

The common understanding and experience of working in tribal areas shows that tribal habitations are scattered across large areas, resulting in a low density of population. According to the 1991 Census, the density of population in the Scheduled areas of Andhra Pradesh was 125 persons per square kilometre as against 194 persons per square kilometre in non-Scheduled areas.[23] Yet, surprisingly, no analysis has been undertaken in recent times to see at the national level the density of population in tribal areas vis-à-vis non-tribal areas, to understand how the schemes and norms need to be revised.

2.3 Population Growth, Total Fertility Rate, Sex Ratio and Mean Family Size

The decadal growth of Scheduled Tribes was better than the growth rate of the general population between 1991 and 2001, and between 2001 and 2011. In the latter case, the growth rate of the general population was 17.64 while the growth rate of the Scheduled Tribe population, in the corresponding period, was 23.66. On the whole, the ST population within the total population of India increased from 8.2 per cent in 2001 to 8.6 per cent in 2011.[24]

What this also means is that between the 2001 and 2011 Censuses, the tribal population has grown by 2.1%, though some states have experienced negative growth (Nagaland and Andaman & Nicobar Islands). The decadal growth has been highest in Sikkim (6.2%), Bihar (5.7%), and Himachal Pradesh (4.7%). Two states (Goa and Uttar Pradesh) have witnessed an exceptional growth in tribal population due to notification of new groups as scheduled tribes. Similar phenomenon has happened in many other states in the past.[25]

[21] Forest Survey of India 2013; Available at http://fsi.nic.in/cover_2013/sfr_forest_cover.pdf
[22] Report of the High Level Committee on Socio-economic, Health and Educational Status of Tribals in India; 2014; Ministry of Tribal Affairs, Government of India.
[23] M Aruna Kumar, Decentralised Governance in Tribal India: Negotiating Space Between the State, Community and Civil Society; 2010; Cambridge Scholars Publishing; UK; pg 11.
[24] Report of the High Level Committee on Socio-economic, Health and Educational Status of Tribals in India; 2014; Ministry of Tribal Affairs, Government of India.
[25] Detailed tables in Annexure.

Recent estimates by the IIPS, based on the NFHS-4, of the TFR for STs is 2.5. *According to NFHS 3, the estimated TFR for STs was around 3.1 against estimate of 2.4 for rest of the population***.** However, the wanted or desired fertility rate was similar to the replacement level of fertility. Thus the fertility rate in tribal population is declining and is within reasonable limits.

At 990 per 1000 males, the Sex Ratio among STs is much better than the All India average of 933. It is also an improvement from 978 in 2001. Tribal population in states like Goa (1046), Kerala (1035), Arunachal Pradesh (1032), Odisha (1029), Meghalaya(1013) and Chhattisgarh(1020) show a positive sex ratio. *However, the Child Sex Ratio among STs has declined from 972 in 2001 to 957 in 2011.* While this is still better than the all India average of 914, it represents a worrying trend and can be attributed to greater dispersion of tribal communities and consequently increased access to ultrasound technology.

The Mean Family Size in the tribal population is found to be lower than non-STs in both rural and urban settings. In urban areas, the average size of an ST family is 3.3 persons as compared to 4.8 persons in non-STs family, a difference of 1.5 persons per family. The gap is much smaller in rural areas. However, Census 2011 shows that in almost all the North-Eastern states, the average family size among ST households is more than the national average family size.

2.4 Socio– Economic Conditions

Rights over Natural Resources*: Of the 58 districts, wherein the forest cover is greater than 67 per cent, 51 districts are tribal districts.* Therefore, a large section of the tribal population has been dependent on forests for their livelihood.[26] Yet till the introduction of the Forest Rights Act, 2006 (explained later) they were systematically denied access to these forest resources, resulting in malnutrition, poverty and extreme deprivation.

Three States with substantial tribal populations –Odisha, Chhattisgarh and Jharkhand -have considerable **mineral reserves**. Together they account for 70 per cent of India's coal reserves, 80 per cent of its high-grade iron ore, 60 per cent of its bauxite and almost 100 per cent of its chromite reserves. According to the Centre for Science and Environment, about half of the top mineral-producing districts are tribal districts – and these are also districts with a high forest cover. Unfortunately, much of this forest land has been diverted for mining purposes resulting in environmental degradation, loss of livelihood, and displacement of tribal communities.[27] During 1951-1990, almost 40% of the 2.13 crore people displaced due to dams, mines, industries, wildlife sanctuaries etc belonged to Scheduled Tribes.[28]

Occupation and Work Participation Rate *(WPR):* A large proportion of Scheduled Tribes are collectors of forest produce, hunter-gatherers, shifting cultivators, pastoralists and nomadic herders, and artisans.

Census 2011 shows that *over two-thirds of the tribal population is working in the primary sector* (as against 43% of the non-tribal population), and is heavily dependent on agriculture either as cultivators or as agricultural labourers. What is alarming is that increasingly the tribal people are moving from being cultivators to agricultural labourers.[29] A comparison between Census 2001 and 2011 shows that the proportion of cultivators reduced by more than 10%, while the proportion of agricultural labourers increased by 9% among the ST population.[30] It is estimated that, in the last decade, about 3.5 million tribal people have left agriculture and agriculture-related activities to enter the informal labour market.[31] Displacement and enforced migration has also led to an

[26] Report of the High Level Committee on the Socio-Economic, Health and Educational Status of Scheduled Tribes in India, 2014; op. Cit.
[27] Report of the High Level Committee on the Socio-Economic, Health and Educational Status of Scheduled Tribes in India, 2014; op. Cit.
[28] Report of the Steering Committee for 10th Five Year Plan "Empowering the Scheduled Tribes" of Planning Commission. Cited in Vanbandhu Kalyan Yojana Background Note; MoTA; Available athttp://vky.tribal.nic.in/circular/BackgroundNoteonconvergence.pdf
[29] Census 2011; op cit
[30] Statistical profile 2014; op cit
[31] Report of the High Level Committee on the Socio-Economic, Health and Educational Status of Scheduled Tribes in India, 2014; op. Cit.

increasing number of Scheduled Tribes working as contract labourers in the construction industry and as domestic workers in major cities. Currently, one of every two tribal households relies on manual labour for survival.

In comparison to the general population, *the Work Participation Rate is high for the tribal people, primarily due to the high work participation rate among females* (43.5% amongst ST females as against 25.5% among general population and 28.3% among SC population). Census 2011 shows that the percentage of non-workers among total ST population (i.e. 42.0%) has also declined substantially from 50.9% in 2001 and is not as dismal as the percentage of non-workers among the SC (i.e. 52.2%) and all social groups (53.3%).[32] However, the proportion of marginal workers is highest among the ST population (35.2% for ST against 24.8 % for general population).

The poor economic status of the tribal population can be ascertained from the fact that for 86.57% ST households the monthly income of the highest earner is less than Rs 5000.[33]

***Poverty**:* The Commission on Macro-Economics and Health set up by the WHO in 2000, clearly articulated the linkages between poverty and ill-health. "It demonstrated that impoverished people share a disproportionate burden of avoidable deaths and suffering; the poor are more susceptible to diseases because of malnutrition, inadequate sanitation, and lack of clean water, and are less likely to have access to medical care, even when it is urgently needed. Serious illness can impoverish families for many years as they lose income and sell their assets to meet the cost of treatment and other debts… Illness also keeps children away from school, decreasing their chances of a productive adulthood."[34]

As per the poverty ratios estimated by the erstwhile Planning Commission, the population of Scheduled Tribes below poverty line has come down from 47.4% in 2009-10 to 45.3% in 2011-12 in rural areas. In urban areas also, it has declined from 30.4% in 2009-10 to 24.1% in 2011-12.[35] **Overall, 40.6% ST population lived below poverty line as against 20.5% of the non-tribal population in the country.**[36] The estimates by the Planning Commission are provided in table -2.

A recent paper by the World Bank used calculations based on IHDS 2005 and 2012 to show that the scheduled tribes population in India suffers more from chronic poverty as compared to other social groups. Upward mobility is lowest among the Adivasis and downward mobility is the highest among them, followed by Dalits. The paper found that, "conditional on being poor in 2005, an Adivasi is 25 per cent and a Dalit is 8 per cent less likely to be non-poor in 2012 than an OBC (the group with the next lowest probability). And conditional on being non-poor in 2005, an Adivasi and a Dalit are 12 and 5 per cent more likely to be poor in 2012, respectively, than a Muslim (the group with the next highest probability). These results are qualitatively unchanged even after controlling for the effects of education, household composition (size and share of adults) and area of residence (urban/rural) in the year 2005.Thus Adivasis are at a disadvantage relative to the rest of the population both in terms of chronic poverty and transitions in and out of poverty."[37] This, the study concluded, is mostly attributable to the disadvantageous locations in which they live.

[32] Census 2011, Cited at http://pib.nic.in/newsite/PrintRelease.aspx?relid=124134

[33] Statistical Profile 2013; op cit.

[34] WHO, Investing in Health: A summary of the Findings of the Commission on Macro-Economics and Health, 2000. Available online at http://www.who.int/macrohealth/infocentre/advocacy/en/investinginhealth02052003.pdf ; Last accessed November 30, 2016

[35] Census 2011, cited at http://pib.nic.in/newsite/PrintRelease.aspx?relid=124134

[36] Ian Anderson et al; Indigenous and Tribal people's Health (A Lancet-Lowitja Institute Global Collaboration): a population study; The Lancet; 2016

[37] Carlos Felipe Balcazar, Sonal Desai, Rinku Murgai and Ambar Narayan, "Why did Poverty Decline in India? A Nonparametric Decomposition Exercise", March 2016; World Bank Policy Research Paper, Pg 10-11; Available at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/03/15/090224b084201cb7/1_0/Rendered/PDF/Why0did0povert0composition0exercise.pdf ; Last accessed 23 May 2016

Table 2: Socio-Economic Status of Scheduled Tribes: AT A GLANCE

S. No.	Indicator	ST Population	Non ST Population	Source & Year
1	Sex Ratio	990	938	2011 Census
2	Mean Family size	4.5	5	Estimated using Census 2011
3	Mean Family Size (urban)	3.3	4.8	Estimated using Census 2011
4	Mean Family Size (rural)	4.7	5	Estimated using Census 2011
5	% population with No education	41.3%	31.3%	NSSO 68th Round
6	% of population with Primary education	34.7%	31.6%	NSSO 68th Round
7	% of population with Secondary education	21.9%	31%	NSSO 68th Round
8	% population with Higher education	2.1%	6.1%	NSSO 68th Round
9	% population working in the primary sector	65.7%	43%	NSSO 68th Round
10	% Households with Access to Tap water	10.7%	28.5%	Census 2011
11	% Households with access to tap water from a Treated Source	7.9%	23.3%	Census 2011
12	% Households with Access to Improved Sanitation Facilities	17.4%	44.3%	Census 2011
13	Prevalence of Open Defecation	74.7%	47.2%	Census 2011
14	% Households with no Drainage Facility	77.3%	45.9%	Census 2011
15	% Households with electricity as main source of lighting	51.7%	68.9%	Census 2011
16	% Households with a separate Kitchen	53.7%	62.1%	Census 2011
17	% Households using clean cooking fuel	9.5%	31.1%	Census 2011
S. No.	**Indicator**	**ST Pop**	**All India**	**Source & Year**
1	Child Sex Ratio	957	914	Census 2011
2	% of people living below poverty line (rural)- Tendulkar Method	47.4%%	33.8%	Planning Commission 2009-10, Stat Profile 2013
3	% of people living below poverty line (urban)- Tendulkar Method	30.4%	20.9%	Planning Commission 2009-10, Stat Profile 2013

Access to Amenities:[38]

Only about 52 per cent of tribal households have electricity as the main source of lighting. Use of electricity in tribal households ranges from about 12 per cent in Bihar and 16 per cent in Odisha to nearly 95 per cent in Himachal Pradesh and 94 per cent in Goa. In the rural areas, about one per cent of ST households do not have access to any source of lighting. Further, over 57% of the ST households own neither landline nor mobile phones.

Data from census 2011 shows that access to tap water, sanitation facilities, drainage facilities and clean cooking fuels is much lower among the tribal population. Only 10.7% of the tribal population has access to tap water as against 28.5 % of the non-ST population. Availability of tap water in the tribal households ranges from 2 per cent in Odisha to 54 per cent in Goa, followed by Sikkim with 49 per cent.

There is a huge urban-rural differential in accessing improved sanitary facility – in rural areas only 10 per cent of ST households have access to improved sanitation facilities, compared to 61 per cent of urban households. All India, three out of every

[38] Detailed tables in Annexure 4

four tribal people (74.7%) continue to defecate in the open. In states like Jharkhand, Rajasthan and Odisha more than 90% of the tribal population practices open defecation. Moreover, 77.3% tribal households in the country have no drainage facility as against 45.9% non-tribal households. The situation of ST households is marginally better in Southern and Western India.

Use of clean cooking fuels[39] among non-STs is more than three times compared to STs. This difference is highest in the state of Odisha, Rajasthan, Chhattisgarh, Madhya Pradesh, Jharkhand, Gujarat, and Meghalaya. According to Census 2011, almost 9 out of every 10 tribal households in the country use polluting fuels for cooking within the house.

Education

Till date there is a stark gap in the educational indicators for the tribal and non-tribal population. About 41 per cent of the ST population in India is illiterate as compared to 31 per cent of the non-ST population - a difference of 10 percentage points**.** Data also shows that the participation of tribal people in the education system decreases as the level of education goes up. Thus while 35% tribal people had attained primary education, less than 2% had received higher education. Nationally, only 6.7% of ST population above 18 years of age have completed 12 years of education. (Lancet 2016). Barring the 3 states of Uttar Pradesh (12%), Nagaland (10%) and Mizoram (5%), the proportion of STs with higher education is much lower than non-STs. In Gujarat only 0.1% of the ST population has completed higher education as against 12% of the non-ST population.

The dropout rate among tribal communities is also very high compared to the general rate. According to Statistics of school education 2010-11, dropout rate for ST students is as high as 35.6% for classes 1-5, 55% for 1-8 and 71% for 1-10.

Special Governance Mechanisms for Tribal Development

Recognizing the special needs of the tribal communities, the Constitution of Indian created two distinct administrative arrangements to ensure the protection of their rights and culture in areas where they are in a numerical majority. These are the **Fifth and Sixth Schedules.** The Sixth Schedule areas are those that were 'excluded' until the Government of India Act, 1935 in what are now the states of Assam, Meghalaya, Mizoram and Tripura. These areas have been given special provisions under Part XXI of the Constitution and Autonomous District Councils have been set up in them. These councils serve as an instrument of self-management and have powers of legislation and administration of justice, in addition to executive, developmental and financial responsibilities.[40]

Similarly, the Fifth Schedule aims to provide protection to the tribal population through separate laws for Scheduled Areas. It mandates the institution of a Tribes Advisory Council in all the Schedule states, with no more than 20 members, three-fourths of who belong to the Scheduled tribes. Under this provision, the Governor has a special duty to keep the President informed of the situation in the Schedule areas and to create rules for appointment of the Council members, conduct of meetings etc. The provisions of the Fifth Schedule have seen further legal and administrative reinforcement in the form of Provisions of **Panchayats (Extension to Scheduled Areas) Act, 1996**.[41]

Recognizing that Scheduled Areas, because of their richness in natural resources, are susceptible to pressure from "unscrupulous elements indulging in illegal mining & forest felling" leading to land alienation, exploitation, "dislocation of the communities and loss of major sources of livelihood," the Government of India promulgated PESA in December 1996.[42] This Act sought to

[39] Clean cooking fuel includes PNG/LPG, electricity and biogas.
[40] Website of MoTA; http://tribal.nic.in/Content/TribalAreasProfiles.aspx
[41] Report of the High Level Committee on Socio-economic, Health and Educational Status of Tribals in India; 2014; Ministry of Tribal Affairs, Government of India.
[42] ibid

protect the customs, rights and livelihoods of those living in Scheduled Areas by extending Part IX of the Constitution to the Schedule V Areas and empowering Gram Sabhas.

In 1999, a separate **Ministry of Tribal Affairs** was created to ensure the socio-economic development of Scheduled Tribes in an integrated, planned and coordinated manner. However, till very recently, most schemes of MoTA have focused on education and livelihoods.

The **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006** was introduced to redress the "historical injustice" committed against forest dwellers and restore their right to land and forest produce. Under this Act, tribal communities that live within the forest and rely on it for livelihood, are entitled to the following rights: Right to live in the forests; *Ownership or Title rights* to land that is being farmed by forest dwellers as on 13 December 2005, subject to a maximum of 4 hectares; *Usage rights* to minor forest produce, fish, grazing areas and pastoralist routes; *Relief and development rights* for rehabilitation in case of illegal eviction or forced displacement and *Forest management rights* to protect the forests and wildlife.[43]

Besides this, a number of measures have been taken, both in the Constitution and through the legislature, to ensure the rights and well-being of the tribal population. However, there has never been a dedicated mechanism for looking at Tribal Health.

Planning and Financing

Ministry of Tribal Affairs (MoTA) is the nodal agency for planning and safeguarding the welfare of tribal people. But currently, the committee could not find any comprehensive plan for the development of tribal people, including health at the national level. Unfortunately the MoTA does not lead the other departments in planning for various aspects of tribal development. Similarly MoHFW or NHM did not actively consider for tribal health. Health of the most vulnerable was left out by both the ministries.

Initiated during Fifth Five Year Plan for socio-economic amelioration of the tribal communities, the **Tribal Sub-Plan** is a major instrument of inclusion for the ST population.

The basic objective of the Tribal Sub-Plan (TSP) is to channelize the flow of funds and benefits from the general sectors in the Ministries/Departments for the development of Schedules Tribes, at least in proportion to their population, both in physical and financial terms. The Tribal Sub-Plans are integral to the Annual Plans as well as Five Year Plans, making provisions therein non-divertible and non-lapsable, with the clear objective of bridging the gap in socio-economic development of the STs within a specified period.

The TSP strategy is being implemented through 196 Integrated Tribal Development Projects/ Integrated Tribal Development Agencies (ITDPs/ ITDAs), 259 Modified Area Development approach (MADA) Pockets, 82 Clusters and 75 Primitive Tribal Groups in 23 TSP States/UTs. Except in the states of Assam, Karnataka, Tamil Nadu and West Bengal, the ITDPs are contiguous areas of the size of a block or tehsil where the ST population is 50% or more of the total population. In Andhra Pradesh and Odisha these areas function on an agency model under the Registration of Societies Act. MADA pockets were introduced in the Sixth Plan in recognition of the presence of smaller, yet concentrated pockets of tribal population. MADA pockets are areas with a minimum population of 10,000, where 50% or more are from the STs. Similar areas with 5000 population are called clusters.[44]

[43] Wikipedia and FRA 2006 available at http://tribal.nic.in/WriteReadData/CMS/Documents/201306070147440275455NotificationMargewith1Link.pdf

[44] Website of the Ministry of Tribal Affairs, Government of India. Available online at http://tribal.nic.in/Content/IntegratedTribalDevelopmentITDPsITDA.aspx

Planning Commission guidelines clearly state that the expenditure under TSP is meant only for filling the development deficit, as an additional financial support, over and above the normal provisions which should be available to STs, like others, in various schemes, including in flagship programmes. "The funds under TSP are earmarked from the total plan outlays (not excluding the investments under externally aided Projects-EAPs and any other scheme), not less than the population proportion of STs in the State as per 2011 Census and in tune with problem share of the ST population."[45] Yet this does not seem to be the case.

Tribal Sub-Plan Programmes are financed from the following sources:

(a) Tribal Sub Plan funds from State /U.T Plans and Central Ministries/Departments;
(b) Special Central Assistance (SCA) to Tribal Sub Plan (TSP);
(c) Grants under Article 275 (1) of the Constitution to the States/U.Ts;
(d) Funds through Central Sector Schemes;
(e) Funds from Centrally Sponsored Schemes and;
(f) Institutional Finance.

In a nutshell, the prominent reasons for the underperformance of TSP funds have been identified as (i) Lack of unified planning, implementation and monitoring mechanism; (ii) Absence of institutions in the field to access central TSP funds and State TSP Funds; (iii) Scattered financial resources used in a scattered manner; (iv) Lack of location specific perspective plan; (v) Weakening of institutions specifically meant for delivery of goods and services to tribal population, i.e. Integrated Tribal Development Agency (ITDA)/ Integrated Tribal Development Projects/Tribal Research Institutes (TRI) and Micro Projects; (vi) Utilization of TSP funds being more ritualistic than outcome based initiative based on gap analysis in HDI; (vii) Inadequate administrative and financial powers with the Tribal Welfare Departments in the States and Ministry of Tribal Affairs at Centre; and (viii) absence of a platform to monitor the outcomes of tribal development programmes.[47]

The availability of funds under TSP during the last three years, shows that, on an average, per capita availability of fund per year for the development of tribal population of the country (as per Census 2011) was around Rs. 8,000. During the current year, it is around Rs. 10,000.[46] However, often the percentage expenditure shown under TSP is a mere accounting exercise instead of a well-monitored and well-planned venture that ensures that funds reach the people living in tribal areas. This is because various Ministeries show under TSP, the regular services that they would in any case have to provide in tribal areas. The additional expenditure in these areas, which is the mandate of the TSP, remains unstated. There is no consolidated data available on TSP expenditure, at the state and centre level.

[45] http://planningcommission.gov.in/sectors/guide_state1208.pdf ; Pg 13
[46] Document on Van Bandhu Kalyan Yojana; MoTA, Government of India. Available online at http://vky.tribal.nic.in/circular/BackgroundNoteonconvergence.pdf; Last accessed June 29, 2016
[47] http://vky.tribal.nic.in/circular/BackgroundNoteonconvergence.pdf

2

Chapter

State of Health and Health Care in Tribal Areas

Outline

- Health Indicators – Life Expectancy, RMNCHA indicators.
- Disease Burden – morbidity profile, communicable diseases, non-communicable diseases and genetic disorders
- Nutrition– daily intake, malnutrition and anaemia.
- Mental Health and Substance Abuse
- Health Culture – tribal view of health and health seeking behaviour
- Health Infrastructure and Human Resources – requirements and shortfall
- Policy Planning and Finances
- Tribal Health in the North Eastern States
- Conclusion: Ten Burdens of Tribal Health

The tribal people in India form a heterogenous group – there is huge diversity not just in their cultures and lifestyle, but also in their socio-economic and health conditions. The differences persist across regions but also between groups in the same region and between members of the same community who live in tribal areas and those who live outside it. Yet, the one commonality among tribal communities in India is that they have poorer health indicators, greater burden of morbidity and mortality and very limited access to healthcare services. Even in a progressive state like Kerala, tribal groups bear a higher burden of underweight (46.1 vs. 24.3%), anaemia (9.9 vs. 3.5%) and goitre (8.5 vs. 3.6%) compared to non-tribes.[48]

There is also a near complete absence of data on the health situation of different tribal communities. Of the little available, "Most of the evidence on the health of Scheduled Tribes is available either at the aggregated level, failing to account for the diversity among Scheduled Tribe groups, or focuses on the health of a specific Scheduled Tribe, making it difficult to analyze inter-tribal inequalities in health."[49] In the absence of a comprehensive picture of tribal health in the country, policy measures and government programmes are often ad-hoc. This committee therefore spent a considerable amount of time in trying to piece together the picture of tribal health in the country. Committee members from various research organizations like NIN, IIPS, NIRTH, NVBDCP and NHSRC were requested to undertake studies as well as to undertake analysis of the available data to arrive at an understanding of the tribal health situation.

[48] Slim Haddad, Katia Sarla Mohindra,,Kendra Siekmans,, Geneviève Màk and Delampady Narayana, "Health Divide" between the indigenous and non-indigenous populations in Kerala: a population based study; BioMed Central Public Health; 2012, 12:390

[49] ibid

3.1 Health Indicators among the Tribal People

3.1.1 Life Expectancy

The IIPS analysed data from the national Census 2011 to estimate, by indirect methods, the life expectancy and IMR for the ST and the non-ST population in India. These estimates, as published in the Lancet 2016[50], show that Life Expectancy at birth for ST population in India is 63.9 years, as against 67 years for the general population. This LE for tribal people is likely to be an overestimate because child deaths are under reported amongst tribals more often than in general population. Most of the old tribal people do not know their age or the date of birth. Hence, the age of the old individual recorded in the Censes might be guess work, thereby providing higher estimate of age and the life expectancy of tribal people.

3.1.2 Reproductive, Maternal, Newborn, Child Health and Adolescents (RMNCHA):

Due to the poor civil registration system in the country, it is very difficult to get reliable estimates of fertility and mortality. While some data is available at the state level, it is not disaggregated by population groups.

3.1.2.1 Maternal Health

No recent estimates for maternal mortality among the tribal women are available.

We do know that early marriage, early child birth, low BMI and high incidence of anaemia are critical reasons for high maternal mortality. According to NFHS 3, 21.1% teenage tribal girls had begun childbearing- the highest among all social groups. The Rapid Survey on Children 2013-14 reveals that, more than 30% ST women in the 20-24 years age group are married before they turn 18. Alarmingly almost 50% adolescent ST girls between the ages of 15 and 19 years are underweight or have a BMI of less than 18.5. This proportion is higher than all other population groups.

In combination with obstetric hemorrhage, anaemia is estimated to be responsible for 17-46% of cases of maternal deaths.[51] Various studies and surveys have shown a high prevalence of anaemia among tribal women. NFHS 3 shows that 65% tribal women in the 15-49 years age group suffer from anaemia as against 46.9% other (non SC, ST) women. A study conducted in 2015 shows that even in a well-performing state like Kerala, about 65% tribal women continue to suffer from anaemia.[52] Furthermore, tribal women continue to do hard labour for much longer during pregnancy as compared to other social groups. All this puts the tribal mother at risk during pregnancy.

One way to tackle this is by provision of full ante-natal care and safe delivery services to pregnant women. A full ANC includes a minimum of 4 ANC check ups, one tetanus toxoid injection and iron and folic acid supplementation. While there has been a sharp rise in the incidence of registration of pregnancies across population groups, the full ANC coverage remains poor, particularly for the tribal woman.

RSoC data shows that while 81.8% ST women had received at least one ANC, only 15% had received full ANC, the lowest among all social groups. The data also reveals that of all the social groups, tribal women are the least likely to visit a private health centre for antenatal care. Among the ST women who received ANC, 36.5% ST women received ANC at the Anganwadi centre, 43.1% at a government facility and about 22 per cent at a private facility.[53]

Both RSoC and DLHS 4 (20012-13) data reveal wide differentials between the ST women and others when it comes to ANC within the first trimester, particularly in Nagaland, Kerala, Manipur, Tripura, Andhra Pradesh and Andaman and Nicobar islands.

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[50] op cit

[51] World Bank, WHO, UNFPA. Preventing the tragedy of maternal deaths. A report on the International Safe Motherhood Conference Nairobi, Kenya. Geneva: WHO; 1987. Cited in B.M. Srinivasa et al, Prevalence of anemia among tribal women of reproductive age-group in Wayanad district of Kerala; International Journal of Health and Allied Sciences; Vol 3, Issue 2; 2014. Available online at http://www.ijhas.in/article.asp?issn=2278-344X;year=2014;volume=3;issue=2;spage=120;epage=124;aulast=Shrinivasa#ref11

[52] Ismail IM et al. International Journal of Community Medicine and Public Health. 2016 May;3(5):1183-1188

[53] Rapid Survey on Children 2013-14, Ministry of Women and Child Development, Government of India; April 2016; Available online at http://wcd.nic.in/acts/rapid-survey-children-r soc-2013-14

At 70.1%, the rate of institutional delivery is the lowest among tribal women.[54] However, it is a big jump from 18% in NFHS 3 (2005-06) and 57% in CES 2009.[55] Similarly 72.7% tribal women were assisted by a skilled health personnel as against 78.8% SC, 81.6% OBC and 86.1% women from other groups. The figures are also supported by the recently released NFHS 4. One reason behind the rapid increase in institutional deliveries and registered births among the tribal population could be the introduction of the Janani Suraksha Yojana. CES 2009 found that the awareness about JSY was high among ST women as compared to other groups (64.1% as against 64.4% SC, 58.6% OBC and 57,5% others). Recent RSoC data shows that as many as 54.7% tribal women benefitted from JSY- the highest among all the social groups. Many civil society organizations fear that the huge jump in institutional deliveries is just on paper. There seems to be a nexus where the JSY money is divided between health workers, doctors and patients. Unpublished findings from SEARCH show that only one out of every two women in the tribal areas of Gadchiroli opts for institutional delivery.

Cost of institutional delivery and lack of transport continue to be deterrents. NSSO 2014 data reveals that though the total average expenditure on childbirth at a health centre is lowest amongst the tribal population, it is still approximately Rs 4000 – way more than the costs covered by schemes like JSY.

Often women have to travel long distances to reach the health centre. There is also the cost of treatment as well as other associated costs like transport and loss of wages DLHS 3 data had revealed that the transport cost reported by STs at the national level (Rs 416) was much higher than non-STs (Rs 290). One of every 5 tribal woman had identified this as a barrier in opting for institutional delivery. DLHS 4 data reveals that across most states tribal women continue to cite distance from the health centre, lack of transport, lack of time and high cost as the main reasons for not opting for institutional deliveries.

An analysis of data from NSSO 2014 reveals that 27% tribal women still deliver at home, the highest among all population groups. This could in part be attributed to the unfriendly attitude of health workers, language and understanding gap and the lack of trust in an alien system. Different cultures assign different meanings to health, illness, childbirth, healing practices and providers of healing services. The perception of emergency and management of complications also varies. Yet maternal health services provided by the government do not make any attempt to integrate contextual realities or cultural practices of tribal communities and are often not in tune with their health beliefs and practices.

The rise in institutional deliveries not with standing, coverage of post-natal care remains poor. Only about 37% tribal women reported receiving any PNC within 48 hours of delivery. Further one out of every two tribal women who had a live birth in the last 3 years did not receive a home visit from a primary health worker within a week of the delivery. [56]

Besides coverage, the quality of maternal health care – ANC, delivery, PNC, EmOC is difficult to assess in the absence of documented process indicators and outcomes of care in tribal areas. A fact-finding mission led by the Population Foundation of India found that 16 women had died due to poor quality of care at a sterilization camp in the tribal district of

[54] RSoC 2013-14

[55] http://files.givewell.org/files/DWDA%202009/GAIN/UNICEF%20India%20Coverage%20Evaluation%20Survey%20(2009).pdf
57 The NFHS 4 report has not yet provided disaggregated data pertaining to health indicators of ST population. However in order to gain a perspective regarding the current scenario of the tribal population, an overall national estimate was arrived at for this report by the IIPS based on the data available from 10 states with relatively high tribal population namely Maharashtra, Madhya Pradesh, Assam, Odisha, Jharkhand, J&K, Rajasthan, Himachal Pradesh, Gujarat, Chhattisgarh. One district each from these states was selected with highest tribal population (ranging between 70 to 90%). This analysis does not include states from the North Eastern region as mentioned earlier in the report. These estimates are based on partial data hence are provisional.

[56] RSoC

Bilaspur in Chhattisgarh.[57] SEARCH, Gadchiroli found that in the tribal village Kondawahi, Maharashtra 8 out of the 32 pregnancies had resulted in maternal deaths. Though they may seem like anecdotal evidence, these episodes do raise a possibility that maternal mortality and maternal outcomes may be much worse than reported in several tribal areas.

3.1.2.2 Child Health:

The child health indicators for the scheduled tribes are poor, and worse than the general population.

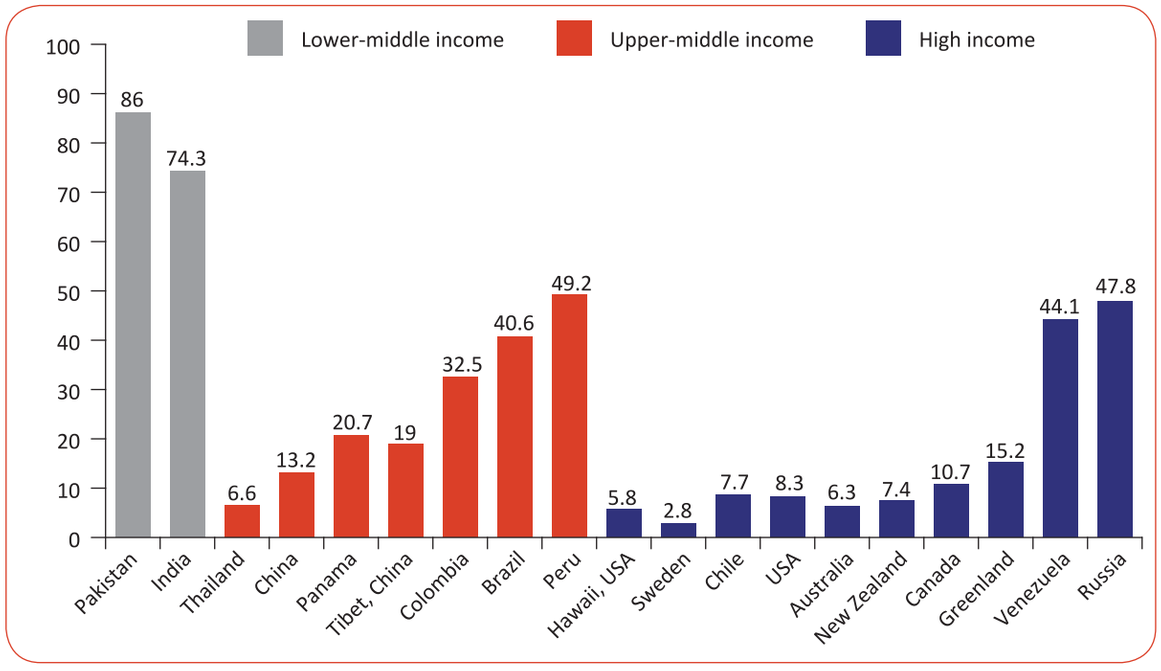
3.1.2.3 Child mortality in tribal population

A. Estimates of IMR and Under-five Mortality rate

Since the Sample Registration System failed to provide the estimated child mortality rates in tribal population, this committee relied on two estimates.

- **Indirect estimate based on the Census 2011, providing the IMR pertaining to the year 2008.[58] This showed that the tribal IMR was 74 as against the 62 for rest of the population in India,** an excess of about 20 percent. It is based on the whole population data (104 million ST) hence the estimates are precise. But, because it is indirectly calculated, the validity may be limited. Moreover, it is already 9 year old, and does not provide the time-trend. The Fig 3 shows the global comparison of IMR in Tribal and indigenous populations in different countries. The S T IMR in India is highest in the world among the indigenous populations, next only to the Federally Administered Area in Pakistan. India cannot be proud of this.

Figure 3: Infant Mortality Rate among Indigenous and tribal populations in different countries



This figure shows the relation between country income status and infant mortality rate, but is not a comparison between Indigenous populations

(Source: Modified from Ian Anderson, Bridget Robson, Michele Connolly, Abhay Bang, et al. Indigenous and tribal peoples' health (The Lancet–Lowitja Institute Global Collaboration): a population study. Lancet 2016)

[57] As presented to the Expert Group by Ms Poonam Muttreja, Executive Director, Population Foundation of India at the Fifth Meeting of the Group on January 21, 2015.

[58] Ian Anderson, Bridget Robson, Abhay Bang et al. Indigenous and tribal peoples' health The Lancet–Lowitja Institute Global Collaboration): a population study, Lancet 2016

- The National Family Health Survey offers an opportunity to estimate the IMR and child mortality rate based on the ST population in its sample. Here, though the sample size is much smaller than the Census, at the national level it is adequate to make the estimates. Other advantages are – it is directly measured by way of a careful interviews, and since we have four such surveys, one can build a time trend. The limitations are the smaller ST sample size, and the possibility that the NFHS underestimates neonatal mortality, thereby underestimating IMR by nearly one third.[59]

The NFHS 3 data on IMR in tribal population is 10 years old and the disaggregated data for tribal population from NFHS 4 is not yet available for all districts. Therefore, we have reviewed the NFHS-4 data from districts with more than 50% tribal population to get an overall picture of current IMR scenario in tribal population.

The IIPS, on the request of this Committee, undertook the exercise of analyzing the NFHS data, and provided the estimates for the ST and other caste groups in the NFHS 1,2,3, and 4. The NFHS-4 estimates are the most recent, pertaining to the year 2014 that could be obtained. It is necessary to keep in mind that these estimates do not pertain to the year of the survey, but to the mid-point of the period of birth history inquiry (past ten years in NFHS 1 and 2, and past five years in NFHS-3 and 4). These estimates are presented in the following table 3:

The estimated IMR for ST population in 2014 was 44.4, the 1-4 year mortality rate was 13.4, and the under-five MR was 57.2 per 1000 live births. This is significantly less than the Census based estimate of IMR of 74 for the year 2008. There is a possibility of some underestimation in NFHS for the reasons explained earlier.

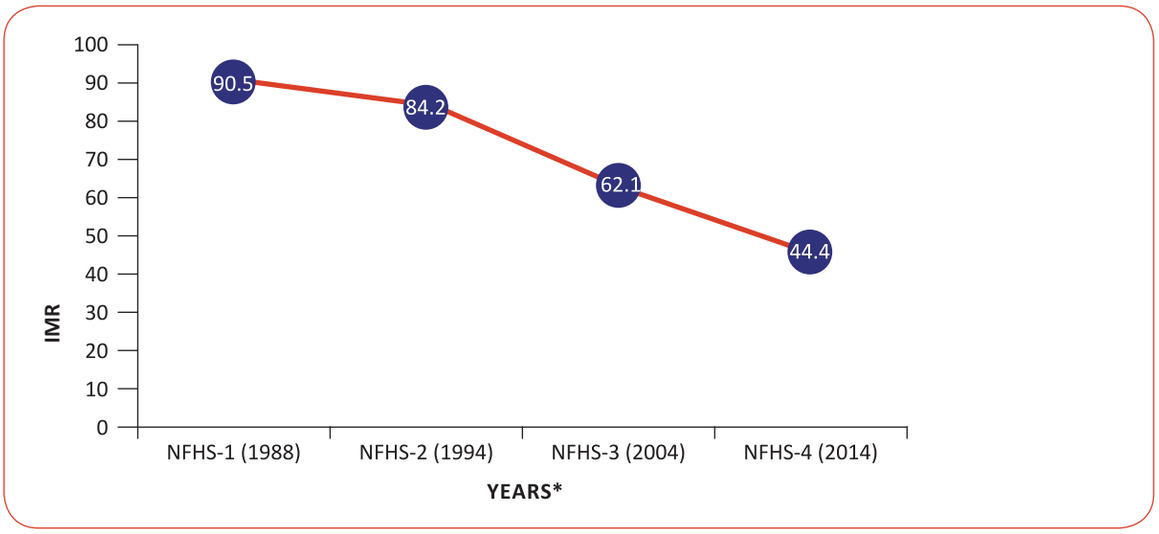
Table 3: Child Mortality Rates in Tribal Population (1988-2014)

	NFHS-4* 2015-16 (2014)			NFHS-3 2005-06 (2004)			NFHS-2 1998-99 (1994)			NFHS-1 1992-93 (1988)		
	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)	Infant mortality w(1q0)	Child mortality (4q1)	Under-five mortality (5q0)	Infant mortality (1q0)	Child mortality (4q1)	Under-five mortality (5q0)
Scheduled Tribe	44.4	13.4	57.2	62.1	35.8	95.7	84.2	46.3	126.6	90.5	49.1	135.2
Others**	32.1	6.6	38.5	48.9	10.8	59.0	61.8	22.2	82.6	82.2	32.0	111.5

*Results are provisional. **'Others' are other than ST, SC and OBCs.

[59] Bang A T et al. Hidden Child Mortality in Maharashtra, Ministry of Health and FW, Govt. of India, 2006

Figure 4: Time trend of IMR in ST population



*The IMR estimated by NFHS pertains to the midpoint of the period of inquiry of birth histories.

B. Time Trend

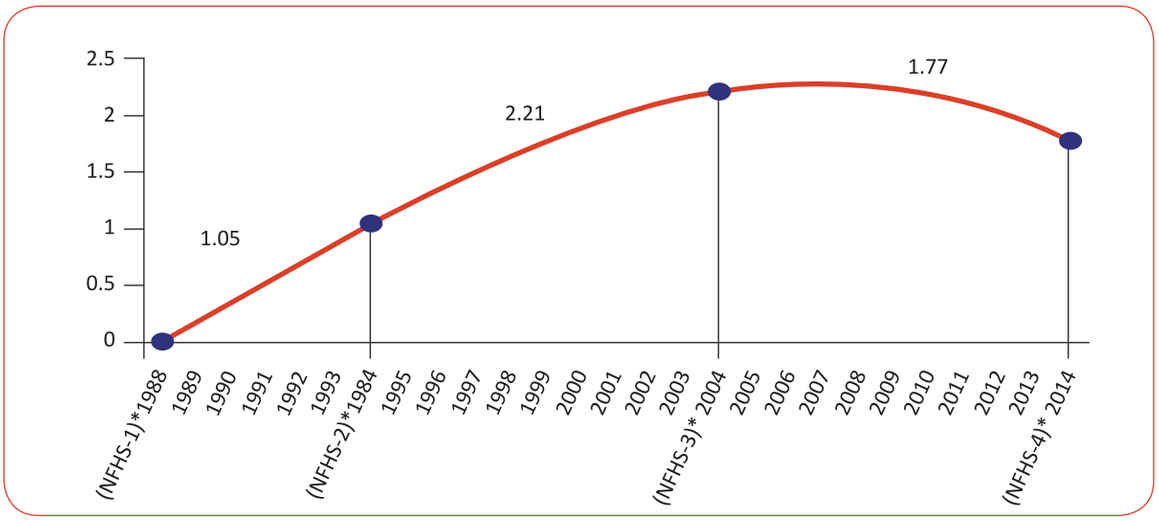
1. The time trend of the tribal IMR based on the four NFHSs is present in the Fig. 4

The tribal IMR over the period of 26 years (1988 – 2014) has halved, reduced from 90 to 44. This is certainly a major improvement. This could be attributed to the improvement in several socio-economic changes in tribal population (income, education, roads and connectivity, water supply etc) but the health care also must have played a major role.

2. The Figure also reveals that the maximum reduction in tribal IMR occurred during the decade 1994 to 2004, a reduction by 22 points followed by in the decade 2004 to 2014, a reduction by 18 points. This is reflected in the Fig. 5

The figure shows that the annual rate of reduction in tribal IMR after peaking in 2004, declined during the last ten years of 2004-14. This is a natural tendency due to the law of diminishing returns. Each further reduction becomes more difficult as the rate

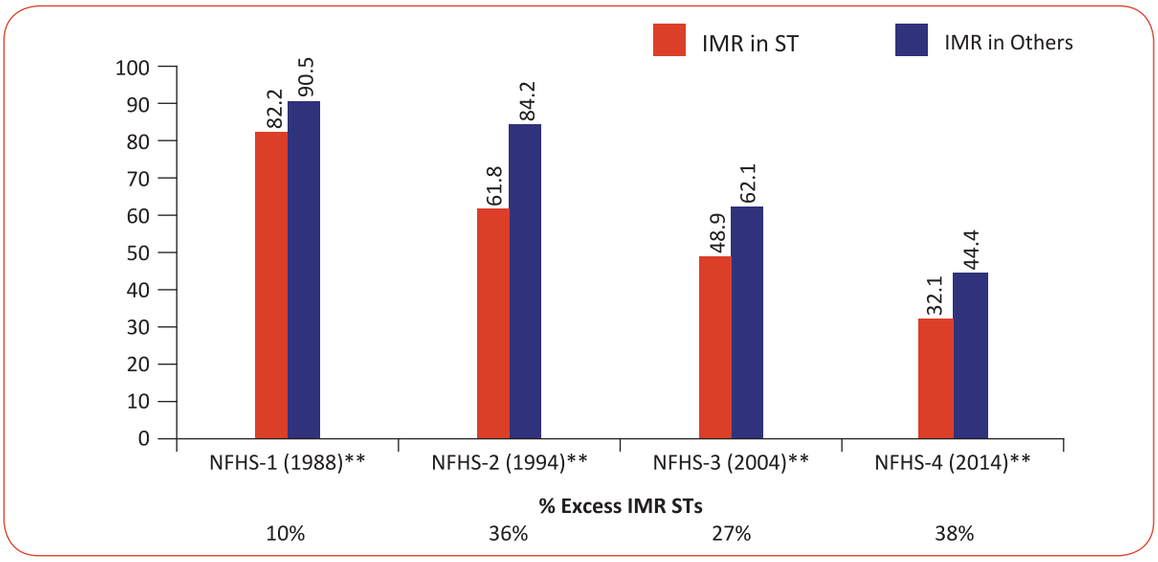
Figure 5: Annual rate of reduction in IMR of STs



Source: NFHS 1, 2, 3 and 4

*The IMR estimated by NFHS pertains to the midpoint of the period of inquiry of birth histories.

Figure 6: Comparison of IMR in ST and Others



* Others comparise the population excluding STs, SCs and OBCs.
** The IMR estimated by NFHS pertains to the midpoint of the period of inquiry of birth histories.

reaches lower level yet it calls for more strategic and vigorous efforts to reduce the IMR rapidly.

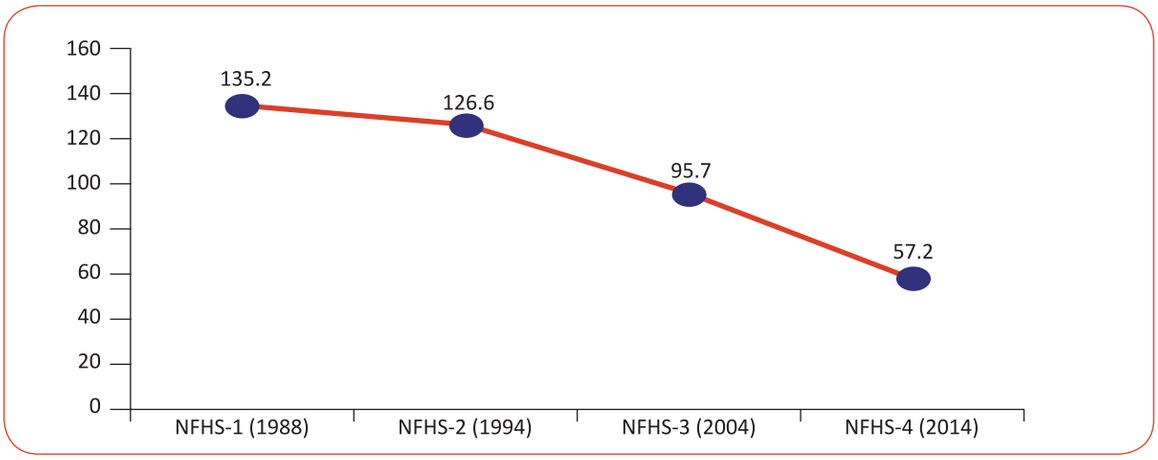
3. The Fig. 6 shows the comparison of IMR in the ST population with the 'Others' (other than ST, SC, OBCs). Taking the 'Others' as the reference population, we find that the ST IMR in 2014 was 38% more than the 'Others'. This is the present gap in the health status of tribal versus the favourably placed social groups. The same figure also presents the time trend of this gap in the four NFHSes. The gap was only 10% in the year 1988 but increased to 38% in 2014.

Thus, though the absolute level of IMR in tribal population in India has nearly halved over a quarter century, the gap with the favourable social groups has widened from 10% to 38%.

4. The under-five MR (Fig. 7) shows a large reduction in tribal U5MR, from 135 (in 1988) to 57 (in 2014), i.e. a 58 percent reduction. But Fig. 8 reveals that the gap with the 'Others' has widened from 21% in 1988 to 48% in 2014.

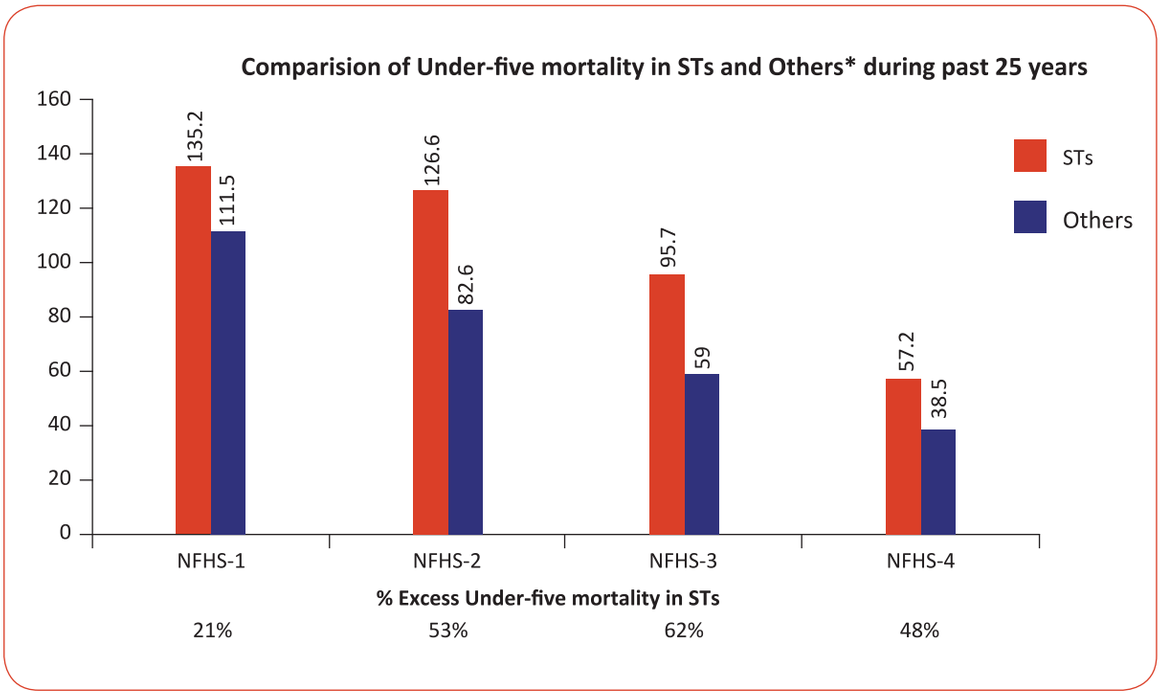
5. This also means, that like in the rest of the population, the 1-4 year MR has decreased

Figure 7: Time trend of under-five mortality in ST population



*The numbers estimated by NFHS pertains to the midpoint of the period of inquiry.

Figure 8: Comparison of under-five mortality in STs and others



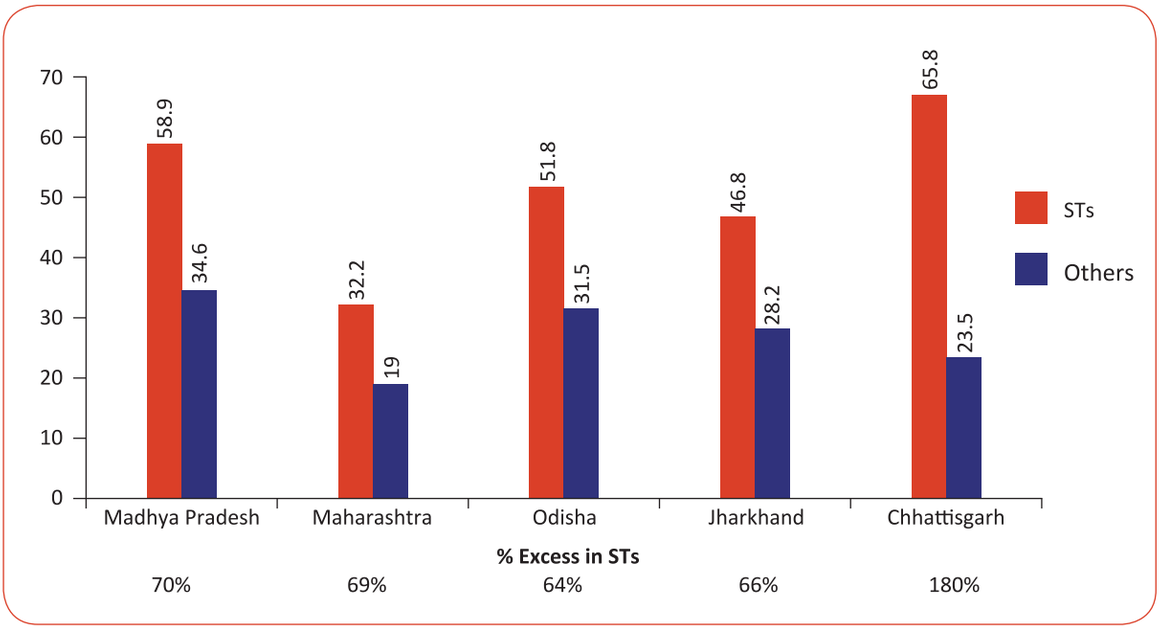
*Others comprise the population excluding STs, SCs and OBCs.

more rapidly than the IMR – for the well-known reason that neonatal mortality reduced slowly, and now it must be constituting the largest part of the U5MR.

C. Levels and disparity in some states in 2014

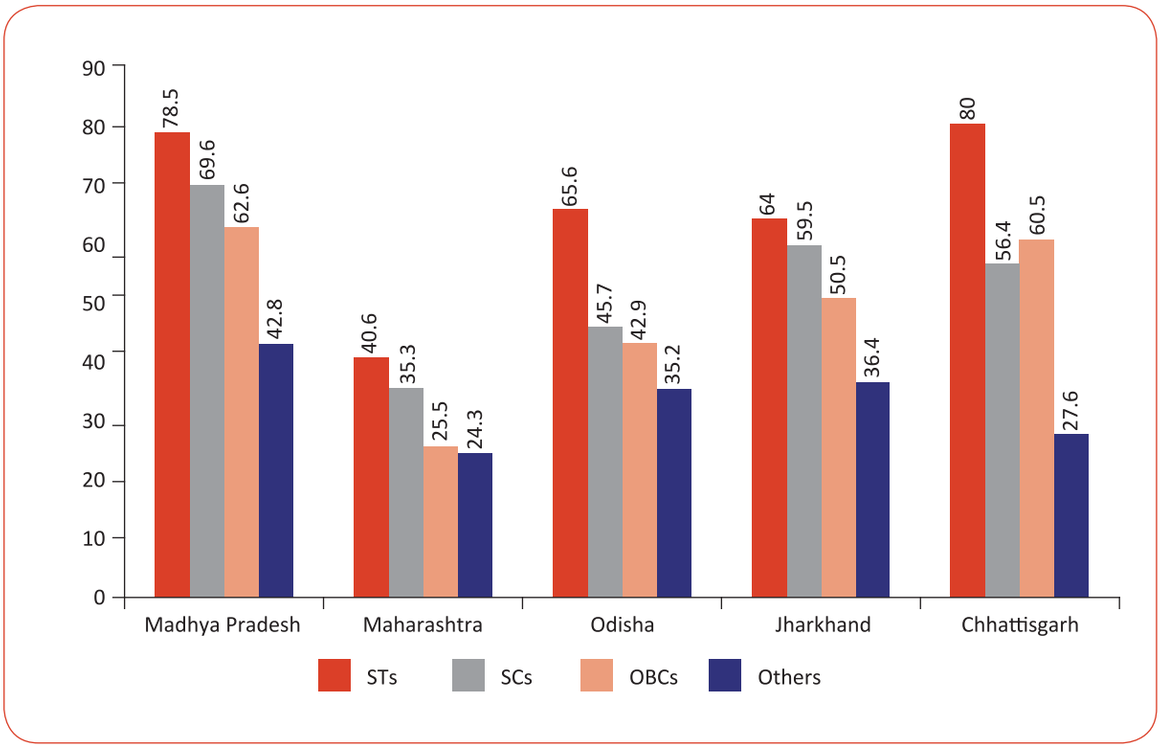
The IIPS has provided us the IMR and U5MR by the social groups in five states with large ST population

Figure 9: Comparison of IMR in states in STs and Others*



Source: NFHS-4 (2014), data provided by the IIPS, Mumbai. The estimates are provisional
*Others comprise of population excluding SCs, STs and OBCs.

Figure 10: Under-five mortality in social groups in selected states



based on the NFHS-4 data. These are presented in two Fig 9 & 10 These show

a) A huge IMR gap of 64% to 180% between the ST and others.
b) The U5MR shows a clear gradient by the social group, with the highest gap in Chhattisgarh (27.6 in others Vs 80 in ST)

Obviously, even as recently as 2014, the IMR and U5MR in ST population was much higher.

The estimated number of tribal child deaths in India in 2011.[60]

1. Infant deaths

As per NFHS-3 (2005-06), IMR – ST was 62.1 with reference period of five-years preceding the survey. It assumed that estimate refers to year 2004. As per NFHS-4 (2015-16), IMR – ST was 44.4. Again it refers to year 2014. Therefore, the difference of the two was 18 and it should be divided by 10 years. It means linear average

Conclusion: The estimated tribal IMR in India is somewhere between 44 to 74 per 1000 live births. It has nearly halved over a quarter century, and the U5MR has reduced by nearly 60%. But, during the same period, the gap with the favourable social groups has widened to a 48% excess U5MRin the tribal population. As recently as in 2014, in some of the states with large ST population, the ST U5MR was two to three times higher than in others.

[60] As computed by the IIPS based on the national data on ST population.

annual decline in the IMR was 1.8. To get the IMR estimate for 2011, we should add 44.4+3*1.77. So it comes around 49.7 as on 2011.

Now if we multiply the live births in ST population (Census 2011) by this estimated ST IMR 2,114,739* 0.0497=105103 infant deaths are estimated. Thus an estimated 105,000 tribal infant deaths occurred in the country in 2011.

2. Under five child deaths.

In the same way, the under five child deaths in tribal population can be estimated from the U5MR – ST of 96 in 2004 (NFHS-3) and of 57 in 2014 (NFHS-4). The annual rate of reduction was 3.9. The U5MR in the year 2011 is extrapolated to be 69 per 1000 live births. When applied to the estimated live births in ST, (2,114,739) in 2011, the estimated number of tribal underfive child deaths in the country in 2011 was 145,917.

Other Child Health Indicator

The Rapid Survey on Children 2013-14 shows that the highest percentage of children with birth weight less than 2.5 Kgs is found among the tribal population - 21.6% for STs as against 19.6% for SCs, 18% for OBCs and 17.6%for others.

CES 2009 showed that awareness of danger signs among new born was lowest among ST women compared to all other groups necessitating health education in the local language. However, early breastfeeding practices were best among ST women. This continues to be the case in RSoC 2013-14.

Despite the high rates of infant and child mortality in tribal areas and the heavy burden of diseases, full immunization coverage remains consistently low among the ST population across states. According to the Rapid Survey on Children 2013-14, full immunization for children among 12-23 months is 55.7% among the ST as compared to 71.6% among all other groups.[61] The child immunisation coverage among the ST population as per recently released NFHS 4 is estimated to be 57.5% (based on analysis of data for districts with more than 50% tribal population)[62] The drop out rate from vaccination is also highest among the scheduled tribes. The place of choice for vaccination among the STs is the Anganwadi Centre. As many as 63.4% ST children get vaccinated in Anganwadi centres, 27.7% at government health facilities and just 6.3% at a private facility.[63] One reason for this could be the proximity of AWC centres as against health facilities. The poor immunization coverage in tribal areas is related not just to difficulties in availability, procurement and storage of vaccines but also to accessibility of the target population, both in terms of distance and uptake.

3.1.2.4 Family Welfare and Reproductive health

Contraceptive use (Currently married women aged 15-49 using any methods) among the ST population at an all India level has been close to the Non-ST population (41% vs 49%).[64] There are two possible reasons for this. First, it may be that the tribal population has access to contraception, and are regulating their fertility. Second, the sterilization dominated, incentive driven family planning programme of the government may be attracting the poor. In either case, the result is that over time fertility has gone down even in those districts where the tribal population is large (like in Odisha). While the TFR for STs at 3.1 was higher than the general population (2.4), NFHS 3 data revealed that the wanted fertility was the same as the replacement level of fertility. This indicates a demand for contraceptive services.

[61] Rapid Survey on Children 2013-14, Ministry of Women and Child Development, Government of India; April 2016; Available online at http://wcd.nic.in/acts/rapid-survey-children-rsoc-2013-14

[62] Provisional estimates from NFHS-4, as analysed by the IIPS for this report.

[63] RSoC 2013-14

[64] DLHS 3

Table 4: RMNCHA Indicators among STs

S. No.	Indicator	ST	SC	OBC	Others	Source
1	% Institutional Delivery	70.1	76	79.2	84.2	RSoC 2013-14
2	% Delivered by skilled health provider	72.7	78.8	81.6	86.1	RSoC 2013-14
3	% Received full ANC	15	18	19.6	23.2	RSoC 2013-14
4	% Received PNC within 48 hours of delivery/discharge	36.6	35.3	43.3	38	RSoC 2013-14
5	% Availed benefit from Janani Suraksha Yojana (JSY	54.7	54.5	47.7	39.4	RSoC 2013-14
6	Women aged 20-24 married before age 18 (%)	21.4	20.5	20.9	21.6	RSoC 2013-14
7	Men aged 25-29 married before the age of 21 (%)	24.7	24.5	24.8	25.9	RSoC 2013-14
8	IMR (per 1000 live births)	44.4	45.2	42.1	32.1	NFHS 4 (2015-16 (Provisional)
9	Child Mort. (1-4 yr) Rate/1000 Live-births	13.4	11.1	9.0	6.6	NFHS 4 (2015-16) (Provisional)
10	U5MR (per 1000 live births)	57.2	55.8	50.8	38.5	NFHS 4 (Provisional)
11	% With birth weight less than 2500 grams (out of those weighed)	21.6	19.6	18	17.6	RSoC 2013-14
12	% Fully immunized	55.7	61.6	65.4	71.6	RSoC 2013-14
13	% Children aged 0-23 months breastfed immediately/ within an hour of birth	54.7	43.1	42.3	44.8	RSoC 2013-14
14	% Children aged 0-5 months who were exclusively breastfed	64.3	67.1	64.0	64.5	RSoC 2013-14
15	TFR	3.12**	2.92	2.75	2.35	NFHS 3
16	% Contraceptive use (Currently married women aged 15-49 using any method)	41.9			49.3*	DLHS 3

** More recent, NFHS-4 estimate (provisional) is 2.4
*For DLHS, 'Others' means all non-STs.

With some exceptions (such as breast feeding in 0-23 months or JSY benefits), on most of the indicators of health care coverage or health statistics, the ST population is uniformly worse by 10-25% as compared to others but by upto 50% (38 Vs 57) in the case of Under 5 Mortality (U5MR).

3.1.3 Triple Burden of Disease

The tribal population in the country faces a triple burden of diseases. While malnutrition and communicable diseases like malaria and tuberculosis continue to be rampant, rapid urbanization, environmental distress and changing lifestyles have resulted in a rise in the prevalence of non-communicable diseases like cancer, hypertension and diabetes. To add to this is the third burden of mental illnesses, especially the addiction.

Currently, there is no single source of data available to create a countrywide disease burden profile. Consequently, there is no system for regular data collection of morbidity in tribal areas. Though a lot of data from IDSP and HMIS is available there is a possibility of gross under-reporting. Therefore this committee decided to use data from a few good quality, albeit limited population-based studies to draw a morbidity picture for tribal areas for more targeted and effective planning. Three primary studies were used here.

1. The NNMB Tribal Survey carried out in 9 NNMB states during 2008-09 found fever and acute respiratory infections to be the most common morbidities among the tribal population.
2. An analysis of the NSSO 2014 data by the Public Health Foundation of India reveals that the reported proportion of fever, tuberculosis, vector borne diseases, blood diseases and respiratory ailments is highest among the STs when compared to other population groups. (Table 5)

These findings are further represented here in two diagrams Fig 11 and 12. The Fig 11, a pie diagram, shows the proportional distribution reported illness groups.

Fig 12, a bar diagram shows comparision of the different type of illness groups in ST versus total population

Table 5: Percentage distribution of reported disease conditions among all ailing persons in different social groups (15 days recall) in India, 2014 (Source: NSSO 2014)

Disease	ST	SC	OBC	Others	Total
Fever	33.36	25.89	22.82	18.87	22.74
TB/Filer/Titanus	1.52	0.99	1.16	0.46	0.93
STD/HIV/AIDS	0.12	0.26	0.09	0.02	0.1
Vectorborne disease	5.17	3.33	2.12	2.97	2.79
Cancers	0.14	0.43	0.42	0.35	0.38
Blood disease	1.76	0.86	0.7	0.91	0.86
Diabetes	3.79	7.57	10.49	11.36	9.85
OtherMetabolic	0.98	1.42	1.45	2.39	1.72
Mental/Neuro	5.3	6.18	4.92	4.9	5.16
Eye/Ear	2.08	2.31	1.9	2.16	2.07
Cardio	4.98	10.31	13.07	16.03	13.04
Respiratory	17.68	13.62	14.89	12.92	14.21
Gastro	6.16	7.87	6.38	5.86	6.46
Skin	2.02	2.64	2.27	2.44	2.38
Musculo-Skeletal	10.16	10.72	10.94	11.66	11.08
Gento-Urinary	0.82	1.72	2.42	1.28	1.84
Obstetric	1.03	0.27	0.35	0.12	0.31
Injuries	1.77	1.99	1.45	1.77	1.67
Others	1.14	1.59	2.15	3.51	2.42
Total	**100**	**100**	**100**	**100**	**100**

Figure 11: Proportion of different illness groups in ST population

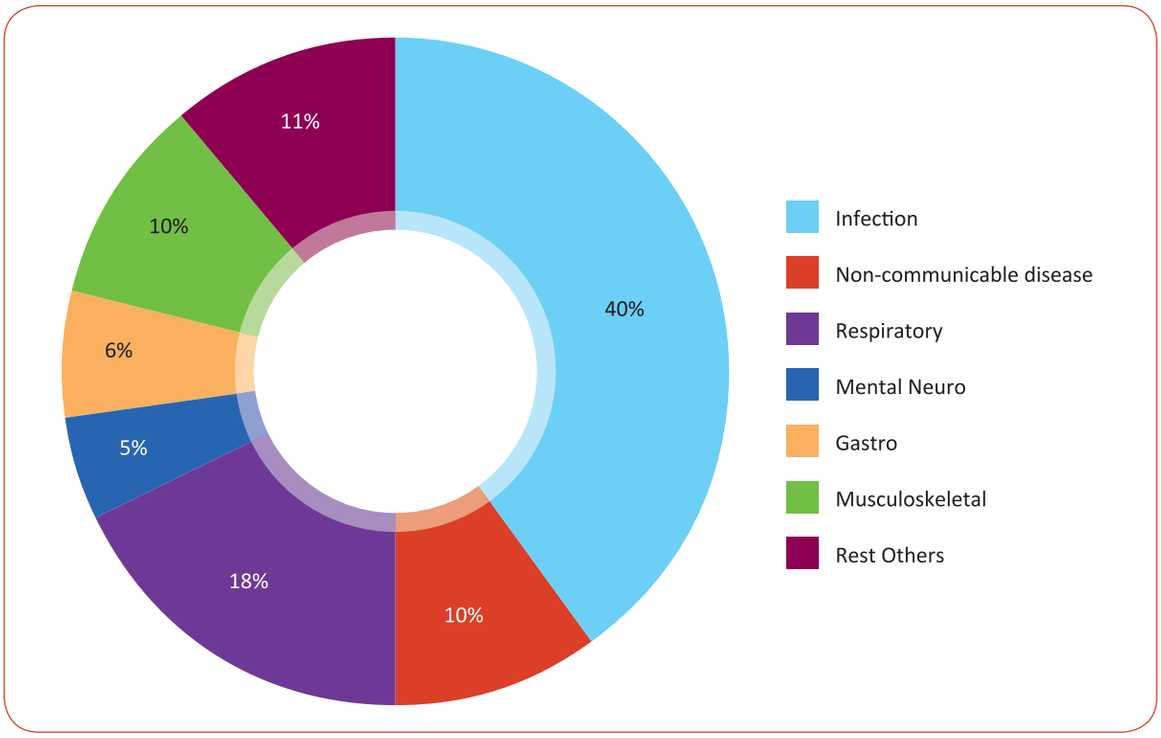
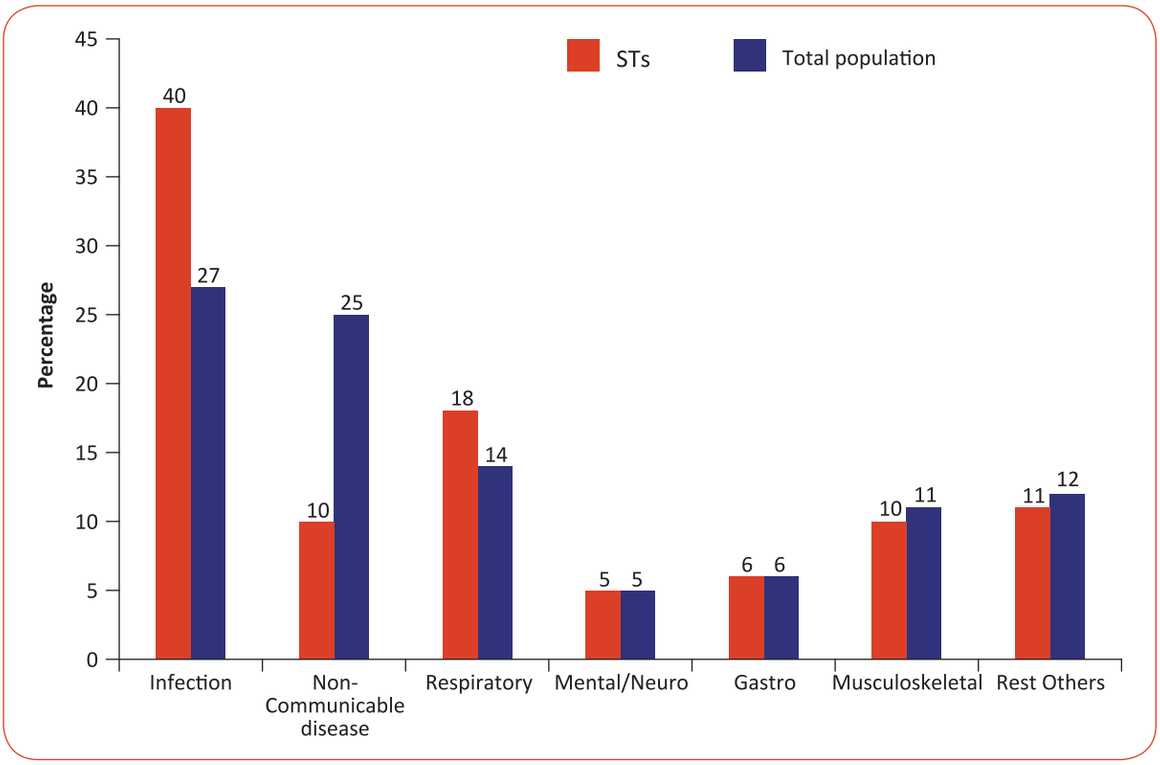


Figure 12: Comparison of reported illness groups in ST vs Total population



The NSSO data clearly show that a) while the infections still constitute the larger proportion, (40%), b) the reported proportion of non-communicable diseases like Cancer, Diabetes and Cardiac ailments though lower among the tribal population (10%) in comparison to the other population groups (25%), it is sizable and needs attention. c) Alarmingly, tribal people report a high proportion of respiratory (18%), mental/neurological (5%) and musculo-skeletal (10%) conditions. The obstetric ailments were three times the national average. Epidemiologic transition is emerging, Most importantly, the health care needs of tribal people are NOT RMNCHA alone but broader.

3. At the committee's behest, NIRTH Jabalpur estimated the number of expected cases of different morbidities/health problems at a given point of time in one lakh tribal population in Madhya Pradesh, based on the health and nutritional surveys it had conducted in tribal dominated districts of the state. (Table 6)

Table 6: Prevalence and expected number of major morbidities and nutritional deficiency disorders among tribal people according to age group per 100,000 population

Morbidities/Disorders	Average Prevalence (%)	Per 1,00,000 populations
Tribal pre-school children (0-5 yrs) 13,000		
ARI	21.6	2811
Scabies	8.2	1069
Fever	19.1	2477
Dysentery	4.4	569
Diarrhoea	9.9	1290
Multiple Boils	4.6	592
Worm Infestation	48.3	6279
Anaemia (Moderate/Severe)	62.1	8073
Underweight	61.1	7943
Stunting	48.2	6270
Wasting	35.1	4567
Tribal school going children (6-14 yrs) 22,000		
Worm Infestation	50.8	11170
Anaemia (Moderate/Sever)	58.2	12804
Tribal adults (15+ yrs) 65,000		
ARI	10.3	6695
Fever	13.5	8743
Cataract	4.8	3136
Diarrhea	3.5	2243
Bronchitis	1.4	878
Pulmonary TB	0.00387	252
Hepatitis B	2.9	1854
H simplex	12.4	8032
STI (Syndrome)	12.7	8255
Dental carries	4.5	2893
Anaemia (Moderate/Severe)	38.3	24895
Malnutrition (CED)	60.0	39000

Sources: Annual Reports of NIRTH, Jabalpur (www.nirth.res.in)

There are approximately 13,000 tribal pre-school (0-5 yrs) children per lakh tribal population. Among them at any given time, there will be 7000, cases of worm infestation, 3000 cases of acute respiratory infection (ARI) and 2000 cases of fever. There will be about 1300 cases of diarrhoea, 1000 of scabies, 600 cases each of multiple boils and dysentery. Among nutritional disorders, about 8000 cases each of anaemia and underweight, 6000 cases of stunting and 4500 cases of wasting are expected.

For every one lakh population, about 22,000 children will be in the school going age group (6-14 yrs). At any given point of time, on average, there will be about 13,000 cases of anaemia and 11,000 cases of worm infestation among them.

NIRTH calculated that there would be 65,000 adults (15 years or older) per lakh population. Among them, fever (8743), syndromic STI cases (8255), herpes simplex (8032), ARI (6695) and pelvic inflammatory diseases (PID) (5298) would be the most common diseases. Among nutritional disorder/deficiencies, there would be about 39,000 cases of malnutrition, 25,000 cases of anaemia, 4000 cases of conjuntival xerosis and 3000 cases of dental carries.

These estimated numbers provide a rough idea about the need of health care and the huge quantum of workload for primary care.

Taken in conjunction, these studies provide a morbidity picture for the tribal population. In addition, a few ailments need to be studied in greater detail for the huge impact they have on the tribal population. These are:

a) Communicable diseases including malaria and tuberculosis
b) Malnutrition
c) Non-communicable diseases including cancer, diabetes and hypertension
d) Addiction
e) Genetic disorders like the sickle cell disease.

3.1.3.1 Communicable Diseases

The tribal population bears a disproportionate burden of communicable diseases, primarily those that are often referred to as diseases of poverty and underdevelopment. These include malaria, tuberculosis, skin infections, sexually transmitted diseases, HIV, typhoid, cholera, diarrhoeal diseases, hepatitis, and viral fevers. Dengue is widely prevalent in several tribal areas in Madhya Pradesh, Chhattisgarh and Odisha. In Odisha, 20 districts are endemic for filariasis, while Kala-azar is prevalent in Bihar, Jharkhand and West Bengal. Assam, Uttar Pradesh, West Bengal, Jharkhand, Bihar and Tamil Nadu have seen outbreaks of Japanese Encephalitis.

3.1.3.1a Malaria

Almost 80% of malaria reported in India is from the areas where 20% of country's population resides – in tribal, hilly, hard-to-reach or inaccessible areas.[65] *Moreover, although tribal communities constitute only about 8% of the national population, they account for about 30% of all cases of malaria, more than 60% of P. falciparum, and as much as 50% of the mortality associated with malaria.*[66]

With almost 11.7 lakh cases annually in India[67],[68] the socio-economic burden due to malaria alone is pegged at around $1.94 billion (Rs 12,000 crore).[69] If we consider that roughly half of the burden of malaria is borne by the tribal population, **the economic burden would be a staggering Rs. 6000 crores per year.** Yet, the amount spent by India per at-risk capita for malaria control is the lowest in the region.[70]

[65] NVBDCP, http://nvbdcp.gov.in/malaria3.html
[66] Indegenous People's Development Plan; National Vector Borne Disease Programme; Available online at http://www.nvbdcp.gov.in/Doc/VBDCP_IPDP.pdf
[67] 2015 figures from the NVBDCP. Available at http://nvbdcp.gov.in/Doc/malaria-situation-Oct16.pdf
[68] World Malaria Report 2016; WHO; available online at http://apps.who.int/iris/bitstream/10665/252038/1/9789241511711-eng.pdf?ua=1
[69] http://timesofindia.indiatimes.com/india/Malaria-costs-India-Rs-11640-crore-yearly-dengue-6000-crore-WHO/articleshow/51032231.cms
[70] World Malaria report 2016 op cit.

A 2015 study by the National Vector Borne Disease Control Programme (NVBDCP) using retrospective data from 2008-2012 across 35 states/UTs and 620 districts clearly demonstrated that prevalence of malaria is much higher in areas with a tribal population. It found that 91 tribal majority districts comprising about 5% of country's total population and 31% of total ST population contribute about 44% of the total malaria cases, 68% *Plasmodium falciparum* and 43% deaths due to malaria. Among these, districts from Odisha contribute the highest number of malaria cases (43%), *P. falciparum* (50%) and deaths (34%). Districts from Jharkhand contribute 16% malaria cases, 12% *P. falciparum* with 2% deaths. While, Chhattisgarh is the 3rd highly malarious state responsible for 13% malaria cases, 13% *P. falciparum* with 3% deaths due to malaria. (Sharma, R.K., Thakor, H.G., Saha, K.B., Sonal, G.S., Dhariwal, A.C., & Singh, N. (2015). Malaria situation in India with special reference to tribal areas. *The Indian Journal of Medical Research*, *141*(5), 537–545).

Tribal habitations are often in proximity to nature. The numerous hill streams and the thick, often inaccessible forests that intersperse or surround tribal villages serve as a breeding ground for mosquitoes throughout the year, making them particularly susceptible to malaria. "Rainfall, water logging and rise in the pooling are major problems of the tribal areas. Moreover, ethnic communities prefer to go to spiritual healer for treatment or to untrained and unlicensed practitioners (quacks). The presence of various malaria parasites and vector species, climatic diversity favouring growth and proliferation of the parasite and vector as well as a highly susceptible human population have resulted in high malaria transmission in tribal areas."[71] Poorly clothed outdoor sleeping, rapid urbanization and abandoned mines are the other reasons for the high prevalence of malaria among the tribal population. Inadequate spraying, shortfall in training, supplies, transport, and non-availability of staff on duty have worsened these complexities.

Yet despite the disproportionate burden of malaria in tribal areas, only 10% of the budget of the NVBDCP is marked for TSP.

The National Framework for Malaria Elimination in India announced in February 2016 seeks to eliminate malaria (zero indigenous cases) throughout the entire country by 2030 and maintain malaria free status in areas where malaria transmission has been interrupted. Clearly, these goals cannot be met, unless tribal health is prioritized as the majority of malaria cases and fatalities are from tribal areas.

3.1.3.1 b Tuberculosis

The Revised National Tuberculosis programme does not disaggregate data routinely on the basis of ethnicity, caste or religion, though some data is available for designated tribal districts. In the absence of population-based estimates on the prevalence of tuberculosis among the tribal population, this committee has referred to the pooled estimates referred to by ICMR.

A systemic review and meta-analysis of existing studies carried out in 2015 arrived at a pooled pulmonary TB prevalence estimate of 703 per 100,000 for the tribal population.[72] *This is significantly higher than the prevalence estimated for the country (256 per 100,000).*[73] *Meanwhile, the RNTCP annual report estimates only 80 smear positive cases per 100,000 tribal population.*[74] ***This would mean that only 11% of pulmonary TB cases in tribal population are treated****. A prevalence study on pulmonary tuberculosis (PTB) among tribal* population of Madhya Pradesh conducted by NIRTH, Jabalpur in 11 districts during

[71] Ravendra K. Sharma, H.G Thakor, K.B. Saha, G.S. Sonal, A.C. Dhariwal and Neeru Singh, Malaria Situation in India with special reference to Tribal Areas. Indian J Med Res 141, May 2015, pp 537-545; Available online at http://icmr.nic.in/ijmr/2015/may/0506.pdf ; Last accessed November 18, 2016

[72] Beena E. Thomas, Srividya Adinarayanan, C. Manogaran, and Soumya Swaminathan, Pulmonary tuberculosis among tribals in India: A systematic review & meta-analysis, Indian Journal ofMedical Research. 2015 May; 141(5): 614–623; Accessible at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4510760

[73] Annual Status Report. New Delhi: RNTCP; 2013. Revised National Tuberculosis Control Programme (RNTCP). Zero TB deaths, Stop TB: In my lifetime: TB India 2013; p. 225. Cited in Beena E. Thomas, Srividya Adinarayanan, C. Manogaran, and Soumya Swaminathan, Pulmonary tuberculosis among tribals in India: A systematic review & meta-analysis, Indian Journal ofMedical Research. 2015 May; 141(5): 614–623

[74] Pulmonary tuberculosis among tribals in India, op cit.

2006-2008 found an overall prevalence rate of 387 per 100,000 population.[75] However, it detected a much higher prevalence rate of 1,518 among the Saharia in Sheopur district. A recent study by the Institute among the Saharia of Gwalior and Shivpuri district found an alarmingly high prevalence rate of 3000 per 100,000 population.[76]

Thus, there seems to be a wide variation in the prevalence of TB among the tribal communities overall, with certain tribes like the Sahariya demonstrating a very high prevalence of the disease. This can in part be attributed to the following reasons: a) High Prevalence of Malnutrition among these Tribes. b) Excessive overcrowding in houses and cultural behavior of spitting within the premises of household during common gathering in house c) Poor coverage and treatment rates of the national programs in ST population, and d) Migratory nature of Tribes where an entire village migrates, resulting in default to anti TB treatment and drug resistant tuberculosis.

Alcoholism, indoor smoke, sharing of living space with cattle, absence of toilets, delayed PDS rations, delays in seeking care, low awareness, dependence on quacks and emergence of Multi-drug resistant TB are the other reasons for the high TB prevalence among select tribal communities.

The Revised National Tuberculosis Control Programme claims to have a Tribal Action Plan with incentives for patients and volunteers for sputum transport in tribal and difficult areas. It has also revised the norms for microscopy centres and tuberculosis units in these areas. However, there is no information on the implementation and performance of this plan.

3.1.3.1 c Leprosy

According to the 2011 census, the proportion of ST population in India is 8·6% but during 2012, the proportion of new leprosy cases among ST population was found to be 18·5%, revealing a disproportionate burden of leprosy among the tribal population.

Recently published annual report 2015-16 of NLEP published by Central Leprosy Division, DGHS revealed the leprosy status in India. Based on the reports received from all the States and UTs for the year of 2015 -16, current leprosy situation in the country says a total of 127334 new cases were detected during the year 2015-16, out of which 23929 (18.79%) cases are from Schedule Tribe. Andaman and Nicobar islands, Chandigarh, Daman and Diu, Delhi, Lakshadweep, Puducherry, Punjab, Mizoram and Goa reported zero new leprosy case among tribal population in the year of 2015-16. Remaining other states have reported new cases, highest no. of cases reported from Maharashtra (5165) 32.91% of total new cases, Chhattisgarh (2351) 22.52% of total new cases, Jharkhand (1393) 31.43% of total new cases, **Orissa** (2941) 28.91% of total new cases, West Bengal (1255) 15.36% of total new cases and Madhya Pradesh (2041) 30.94% of total new cases occurred in 2015-16. Dadra and Nagar Haveli is the only UT where 99.76% (424) of new leprosy cases belonged to schedule tribe population.

Tribal populations are an underserved population group and access to health services is a major challenge for them. Since leprosy treatment is integrated with the general health services, identifying leprosy cases is not going to be easy in these settings and they remain as endemic reservoirs, unless greater efforts are made to reach them.

Few studies conducted to find out the burden of Leprosy in tribal population in India are mentioned below, which claimed leprosy exists in Tribal population and needs more attention. Study conducted in Andhra Pradesh[77] revealed a high burden of leprosy among the tribal population having prevalence of previously undetected leprosy cases was found to be 14·7/10,000. Another study

[75] Bhat J., Rao V.G., Gopi P.G., Yadav R., Selvakumar N. Tiwari B.K., Gadge V., Bhondeley M.K., Wares D.F. Prevalence of Pulmonary tuberculosis amongst the tribal population of Madhya Pradesh, central India. Int. J. Epidemiol. August 2009 38: 1026-1032

[76] V.G. Rao, J. Bhat, R. Yadav, M. Muniyandi, R. Sharma & M.K. Bhondeley . Pulmonary tuberculosis - a health problem amongst Saharia tribe in Madhya Pradesh. Indian J Med Res 141, May 2015, pp 630-635

[77] Hidden leprosy cases in tribal population groups and how to reach them through a collaborative effort, Andhra Pradesh – Leprosy Review 2015

provided the pattern and burden of 3 major illnesses (TB, cervix cancer and Leprosy) occurred among tribal population of Chhattisgarh and Madhya Pradesh[78], study revealed that illnesses that require major surgery for their treatment and leprosy were significantly more common among people belonging to the particularly vulnerable tribal groups than among the non-tribals. Recent Published study[79] provides information on the health seeking behavior of tribal population for Leprosy and TB which claimed there was lack of awareness about the cause and curability issues of Leprosy among tribal population in Maharashtra, tribal people prefer traditional healers over government service providers. Study also found that the present IEC campaign for leprosy and TB activities needs to be promoted in tribal dominated areas in the form of intensified health education and public awareness campaigns to increase awareness on the causes, transmission and availability of government health facilities for leprosy and TB.

3.1.3.1 HIV/AIDS

Due to rapid acculturation, displacement caused by mining, loss of livelihoods, migration and sexual exploitation of young tribal girls, the tribal population is vulnerable to HIV/AIDS. The National AIDS Control Programme (NACP) does not gather data on the basis of ethnicity or caste. Thus there are no statistics on HIV/AIDS prevalence among the tribal population. However, some of the broad evidence which point towards the higher incidence of HIV among tribal population are:

a) Evidence of higher STI/ RTI among the tribal population which increases the likelihood of HIV transmission six times;
b) 65 (34%) of the 192 ITDPs fall in A &B category districts;[80]
c) 42 (56%) districts among the 75 districts with > 50% tribal population are in A & B Category;
d) Among the tribal majority states, Manipur, Nagaland and Mizoram are severely affected with prevalence rates of 1.4, 0.78 and 0.81 respectively. The national prevalence for HIV is 0.27.[81]

In view of the higher vulnerability of the tribal population, the Department of AIDS Control has prepared operational guidelines for a Tribal Action plan.

3.1.3.2.1.1 Non-Communicable Diseases

Historically, it has been believed that the tribal population does not suffer from non-communicable diseases like cancer, diabetes, hypertension and cardiovascular ailments, primarily due to their proximity to nature, healthy food habits and lack of stress. However, there is evidence of an early epidemiologic transition in tribal areas and associated increase in the incidence of non-communicable diseases.

According to DLHS 4, the reported prevalence of cardio-vascular diseases among tribal people is almost at par with non- tribals in all the ten states except Manipur, Maharashtra and the Andaman and Nicobar islands. While the tribal population in Manipur shows a very low prevalence of cardio-vascular ailments, those in Maharashtra and the Andaman islands show a much higher prevalence rate in comparison to the general population.[82]

Hypertension is directly responsible for 57 per cent of all stroke deaths and 24 per cent of all coronary heart diseases (CHD) in India. The nine states NNMB Tribal study carried out in 2008-09[83] found that one out of every four tribal adults suffered from hypertension (27% men and 26% women after age adjustment). This is at par with the national prevalence rate. Further the

[78] Burden & pattern of illnesses among the tribal communities in central India - in Indian Journal of Medical Research, May 2015
[79] Socio-cultural features and help-seeking preferences for leprosy and tuberculosis: a cultural epidemiological study in a tribal district of Maharashtra, India – Infectious diseases of Poverty, 2015
[80] Under the National Aids Control Programme, Category A districts are defined as those where there is more than 1% ANC (Ante-Natal Clinic) prevalence in any of the sites in the last 3 years. Category B districts have less than 1% ANC prevalence in all the sites during last 3 years, with more than 5% prevalence in any High Risk Group site.
[81] NACO Estimates, 2010
[82] DLHS 4
[83] A. Laxmaiah, I.I. Meshram, N. Arlappa, N. Balakrishna, K. Mallikharjuna Rao et al, Socio-economic & demographic determinants of hypertension & knowledge, practices & risk behaviour of tribals in India, Indian J Med Res 141, May 2015, pp 697-708

prevalence of hypertension increased significantly with age, consumption of tobacco, alcohol and a sedentary lifestyle. Yet two out three tribal adult men and women did not know the signs and symptoms of the ailment. More worryingly, only 5 per cent men and 9 per cent women suffering from hypertension knew their hypertensive status.

The high prevalence of hypertension among the tribal population is also borne out by data from DLHS 4 and independent tribe specific studies. In all the 10 DLHS states, the prevalence of hypertension among tribals is almost at par with non-tribals. In some states like Maharashtra, Himachal Pradesh and Sikkim, hypertension is more prevalent among the tribal population than among others. A NIRTH survey in Madhya Pradesh found that the prevalence of hypertension among the Baiga tribe was 10.5% in Mandla, 20.2 % in Dindori and 11.2% in Balaghat. The prevalence of hypertension was 21.5% among Bharia Tribe of Patalkot valley of Chhindwara district.[84]

Table 7: Prevalence (%) of hypertension among tribal adults covered in 9 NNMB states during 2008-09

States	Men (%)	Women (%)
Kerala	44.8	35.8
Tamil Nadu	17.8	18.4
Karnataka	28.4	25.5
Andhra Pradesh	17.0	20.8
Maharashtra	27.7	19.3
Gujarat	9.9	6.3
Madhya Pradesh	20.7	23.9
Odisha	53.7	48.8
West Bengal	29.9	30.1
Pooled	25.2	23.1

Source: National Nutrition Monitoring Bureau, NIN, (ICMR) Hyderabad.

In an analysis, the Jan Swasthya Sahyog which works in Central India, found that the median BMI of tribals with diabetes were 16.3 and 16.4 kg/m^2, respectively for men and women and over 70 per cent had BMI less than 18.5. This is contrary to the usual association between obesity and diabetes. The JSS study found that the mean age for the onset of diabetes was significantly earlier for the tribal population as compared to the non-tribals.[85]

Similarly a cross-sectional study among the Saharia, a particularly vulnerable tribal group of Madhya Pradesh, found 8.9% males and 7.1% females to be "pre-diabetic", having more than 140 mg/dl random sugar level.[86] The 9 state NNMB survey in 2008-09 found that about 38% men and 33% women were aware of diabetes mellitus. Of them, less than 1% were known diabetics.[87]

These findings suggest that hypertension prevalence is already high among the tribal population, while other non-communicable diseases are also catching on and deserve attention.

1.1.1.2 GENETIC DISEASES including Sickle Cell Disease (SCD)

Sickle Cell Disease (SCD) is a genetic disease of abnormal hemoglobin (HbS) and red blood cells. It occurs in two forms. Sickle cell trait (also called Heterozygous, because the sickle gene is received only from one parent) which is much more common, often an asymptomatic or mildly symptomatic condition wherein the person carries the 'S' gene and transmits it to the progeny. These (trait) individuals are partially protected from the dangerous falciparum malaria. More uncommonly, when the baby receives 'S' gene from both the parents, it is called homozygous or Sickle Cell Anemia (SCA), often a severe disease.

[84] NIRTH Annual Report, 2013-14

[85] ibid Jain Y, Kataria R, Patil S, Kadam S, Kataria A, Jain R, Kurbude R, Shinde S. Burden & pattern of illnesses among the tribal communities in central India : A report from a community health programme. Indian J Med Res [serial online] 2015 [cited 2017 Nov 23];141:663-72. Available online at: http://www.ijmr.org.in/text.asp?2015/141/5/663/159582

[86] Satwanti Kapoor, Renu Tyagi, Kiran Saluja, Anumeha Chaturvedi and A.K. Kapoor, Emerging health threats among a primitive tribal group of Central India; Journal of Public Health and Epidemiology Vol. 2(2), pp. 13-19, April 2010 ; available online athttp://www.academicjournals.org/article/article1379342095_Kapoor%20et%20al.pdf

[87] National Institute of Nutrition, Diet and Nutritional status of Tribal Population and prevalence of Hypertension among adults: Report of Second Repeat Survey, 2009, Hyderabad; available online at http://nnmbindia.org/NNMBTribalReport.pdf

India has the third highest number of global births of sickle cell anaemia (SCA) in the world, after Nigeria and DR Congo.[88] Regional studies suggest that approximately 7,500-12,000 babies with Beta Thalassaemia major and 15,000-25,000 babies with sickle cell anemia are born in India each year.[89] The reported rates of SCA in scheduled castes and scheduled tribes are high - for example around 1 in 50 and 1 in 86 births respectively in central India.[90] The prevalence of SCD (anaemia and trait together) and thalassemia disorders varies between 1- 40 per cent in particular tribal communities. However, most of the prevalence is due to the heterozygous form of diseases.

Madhya Pradesh has the highest sickle load. Twenty seven of the 45 districts in the state fall under the sickle cell belt and the prevalence of HbS, the biomarker of SCD, varies from 10 to 33 per cent.[91] In Maharashtra, the sickle gene is widespread in the Vidarbha region, in the Satpura ranges in the north and in some parts of Marathawada. The prevalence of sickle cell carriers in different tribes varies from 0 to 35 per cent with the *Bhil*, the *Madia*, the *Pawara*, the *Pardhan* and the *Otkar showing* a high prevalence of HbS (20-35 %). It has also been estimated that Gadchiroli, Chandrapur, Nagpur, Bhandara, Yoetmal and Nandurbar districts have a high prevalence of SCA."[92] Extensive population surveys by the Indian Red Cross Society, Gujarat reveal that more than 11 per cent of the 1,68,498 tribals screened in 22 districts of the state were carriers.[93] In Wayanad district of Kerala, the prevalence of carriers among the tribal population is 18.2 to 34.1 %.[94]

While the Sickle Cell Trait (more common) is usually asymptomatic, hemolysis, anaemia and jaundice are the common manifestations of the less common SCA. Recurrent episodes of severe body pain and infections are common. Enlargement of the spleen and liver are also observed. Among the tribal population, Iron deficiency anemia (IDA) is very common in sickle cell anaemia patients. [95]

There are two views with respect to the sickle cell disease program. The first points out that most of the studies on morbidity and mortality due to Sickle are hospital-based where only severely affected cases reach. The Sickle in India is often milder than its counterpart in Africa. The natural history of SCD in the population, and the excess morbidity and mortality it causes are not clearly known. Under these circumstances, this view raises some questions: do all individuals with the sickle gene need to be labeled, alarmed and treated? Is the mass screening approach effective, and is it needed? Would a treatment programme for those with severe manifestations suffice? This view cautions against the institution of rigorous measures for mass screening for the disease without understanding its implications. It further holds that the tribal people themselves do not recognize this as a major health problem. It stresses the need for a longitudinal study to first understand how the SCD manifests in tribal communities, and how it impacts them. The second view holds that mass screening and management of SCD is important to ensure greater life expectancy and quality of life for the tribal people.

[88] Correspondence with Prof Simon Dyson

[89] Cited in note from Dr Sangeeta Chattoo, Department of Health Sciences, University of York. Complied from Grow et al., 2014; Colah et al., 2011, Weatherall, 2010; Petrou 2010; Balgir, 2000

[90] Piel FB, Patil AP, Howes RE, Nyangiri, OA, Gething, PW, Dewi, M, Temperley, WH, Williams, TN, Weatherall, DJ and Hay, SI (2013a) Global epidemiology of sickle haemoglobin in neonates: a contemporary geostatistical model-based map and population estimates. Lancet 381(9861): 142-151; quoted by Simon Dyson in January 2016 submission.

[91] Roshan B. Colah, Malay B. Mukherjee, Snehal Martin, and Kanjaksha Ghosh, Sickle Cell Disease among Tribal Population in India; Indian J Med Res. 2015 May; 141(5): 509–515; available online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4510747/#ref16

[92] Kate S.L, Lingojwar D.P., Epidemiology of Sickle Cell Disorder in Maharashtra, Int J Hum Genet, 2(3): 161-167 (2002) Available online at https://www.researchgate.net/profile/Devendra_Lingojwar2/publication/268077770_Epidemiology_of_sickle_cell_disorder_in_the_state_of_Maharashtra/links/548a148a0cf214269f1ac207.pdf

[93] Colah et al; op cit

[94] ibid

[95]

The Government of India has taken the latter view and started an extensive programme for screening 3 crore people for the sickle cell trait, under the supervision of the Prime Minsiter's Office. Bureaucrats, medical officers and block medical officers in 19 states have been sensitized to the problem and technicians, ASHAs and paramedics in 11 states have been trained for screening and management of the sickle cell disease. In Jharkhand and Chhattisgarh, the screening has already started.[96]

Prior to this, the MoHFW, Ministry of Tribal Affairs and the ICMR have supported several state level population based screening and counselling interventions covering higher incidence tribal areas across states (e.g. Gujarat, MP, Maharashtra, and Chhattisgarh). Largely, the focus has been on screening with a view to identifying carriers and couples in their reproductive years, providing counselling to prevent the spread of the disease (e.g. Chhattisgarh); and offering prenatal diagnosis with a view to counselling couples where a foetus is identified as being affected (strong focus of the Gujarat Sickle Cell Anaemia Control Programme).[97] Yet the fact remains that even in groups with the highest prevalence of the sickle cell gene (HbAS 25%+), the proportion affected by sickle cell anaemia (HbSS) would rarely surpass 2%.[98] Moreover, SCD among tribal populations is generally milder than among the non-tribal groups with fewer episodes of painful crises, infections, acute chest syndrome and need for hospitalization. This has partly been attributed to the very high prevalence of α-thalassaemia among these tribes as well as higher foetal haemoglobin levels.[99] **In the absence of any cure and treatment, just identifying carriers may lead to stigma and social ostracism.**

Another genetic disease prevalent in many tribal groups in India is the G6PD deficiency. Among the 14 primitive tribal populations from four different States showing a high frequency of sickle gene, the prevalence of G6PD deficiency varied from 0.7 to 15.6 per cent.[100]

3.1.4 Nutrition

The food habits and lifestyle patterns of the tribal population differ considerably from the non-tribals and from each other. Even within the same tribal group, the food consumption pattern varies across different seasons -from extreme deprivation during the lean season to high intake in the post-harvest period. Problems of poverty are compounded by lack of sanitation, access to healthcare and frequent ailments leading to rampant under-nutrition. Recent times have also seen a social, economic and cultural transition among the tribal people. Lack of access to forests, loss of livelihoods, migration, acculturation and a growing reliance on the public distribution system have limited the dietary diversity. This change has been associated with the introduction of lifestyle diseases leading to a 'double burden of disease'.

3.1.4.1 Daily Nutrient Intake

Cereals and millets form the bulk of tribal diets. On an average, their intake decreased by about 50 g/CU/day between the second (1988-90) and the third NNMB surveys (2008-09). The extent of decrease was maximum in the state of Andhra Pradesh (by about 145 g), followed by West Bengal (99 g), Odisha (87 g) and Madhya Pradesh (81 g). Kerala, on the other hand, witnessed an increase of about 24 g. A marginal decrease of about 4-9 g was observed in the overall intake of other foods like green leafy vegetables (9 g), other vegetables (6 g) and sugar/jaggery (4 g).

[96] Website of the Ministry of Tribal Affairs, Govt of India.
[97] Note from Dr Sangeeta Chattoo.
[98] Simon Dyson
[99] Roshan B. Colah, Malay B. Mukherjee, Snehal Martin, and Kanjaksha Ghosh, Sickle Cell Disease among Tribal Population in India; Indian J Med Res. 2015 May; 141(5): 509–515; available online at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4510747/#ref16
[100] ibid.

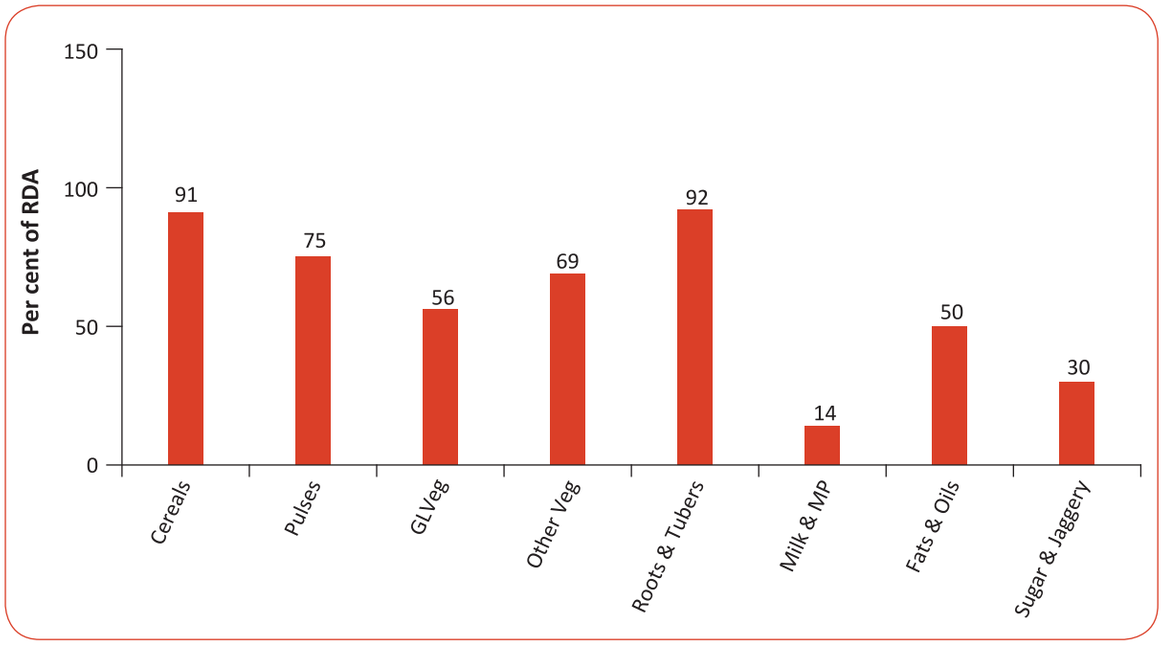
The National Nutrition Monitoring Bureau (NNMB), an agency of the Indian Council of Medical Research has been conducting decadal nutritional surveys among the tribal population across 9 states since 1985-87 to assess the current and time trends in their nutritional status. The third round of the survey completed in 2008-09 found that the mean intake of most foodstuffs and nutrients by tribal people continued to be below the Recommended Daily Allowances (RDA) by the Indian Council of Medical Research and had in fact reduced over the years, across all age groups and for both genders. This is worrisome and maybe indicative of a rising food insecurity or a change in dietary habits.[101]

The consumption of protective foods such as green leafy vegetables, milk and milk products, fish and flesh foods, fruits, oils and fats increased marginally over a period of three decades. Yet it continued to be very low (as seen in the figure below), particularly among the younger age groups. Interestingly, there was no gender differential in the nutrient intake, indicating that the position of women and girls in tribal society is better than among their non-tribal counterparts.

The average intake of energy decreased by about 150 kcal/CU/day between the surveys. The extent of decrease was about 350 kcal in the states of West Bengal and Andhra Pradesh, about 300 kcal in Odisha and Madhya Pradesh and about 134 kcal in Maharashtra. In contrast, the intake increased in the states of Tamil Nadu, Kerala and Gujarat. The average daily intake of proteins decreased by about 3 g/CU/day and of Vitamin A by about 117 µg/CU/day.

Barring the state of Gujarat and Kerala, the intakes of protein decreased across all States while decline in Vitamin A was observed in all the states, except Karnataka and Andhra Pradesh. Fig 14 shows the average Daily household intake of nutrients as percentage of RDA.

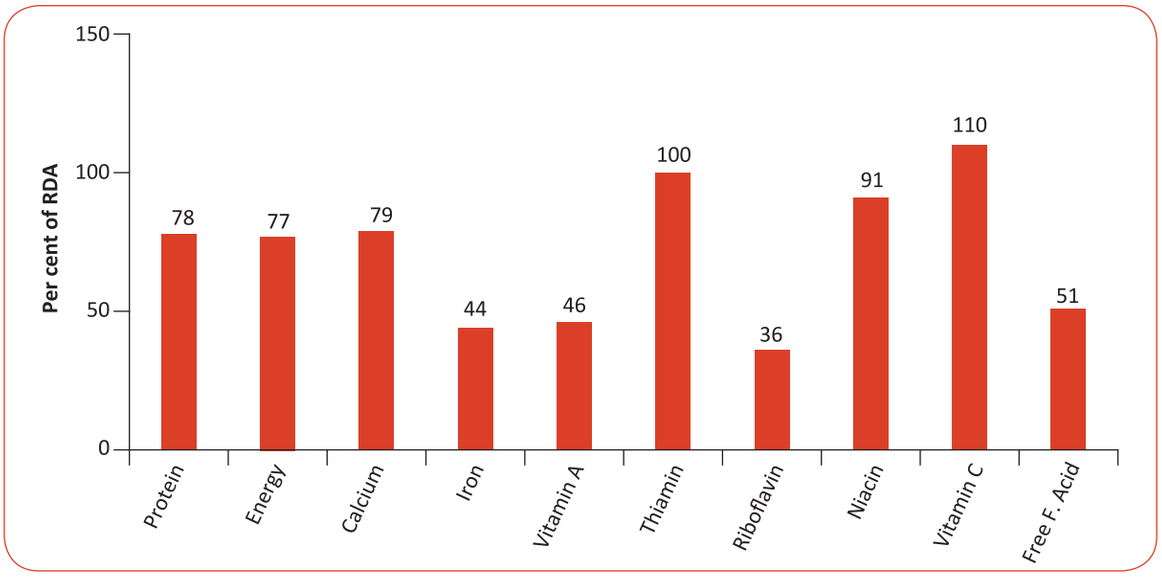
Figure 13: Average daily household intake by ST population of food stuffs as % of RDA[102]



[101] NNMB Technical Report 25, Diet and Nutritional Status of Tribal Population and Prevalence of Hypertension among Adults Report on Second Repeat Survey, National Institute of Nutrition, Hyderabad, 2009; Available online at http://nnmbindia.org/NNMBTribalReport.pdf.

[102] ibid

Figure 14: Average daily household intake of nutrients by ST population as % of RDA[103]



The proportion of tribals of different age groups consuming less than 70% of the daily protein and energy requirement was observed to be higher than their rural counterparts. Only about 29-32% of children of different age groups and 63-74% among adult men and women were consuming diets that were adequate in both protein and energy.

Though, the proportion of individuals with protein-calorie adequacy decreased among all the age groups, there was a decline in the prevalence of clinical forms of protein-energy malnutrition and vitamin deficiency signs like Bitot spots and angular stomatitis.

The food intake by tribal mothers is inadequate not only in terms of protein and calories, but in iron, calcium and vitamins as well. Only about 25% pregnant and lactating women had adequate intakes of both protein and calories. This leads to undernourished mothers and children and risk-prone pregnancies. This is further complicated by the practice of hard labour till the time of delivery, the intake of alcohol by tribal woman, and certain traditional beliefs. For instance, in a few communities, the food intake of the pregnant woman is in fact reduced due to the fear of recurrent vomiting and to reduce the size of the baby for easier delivery.

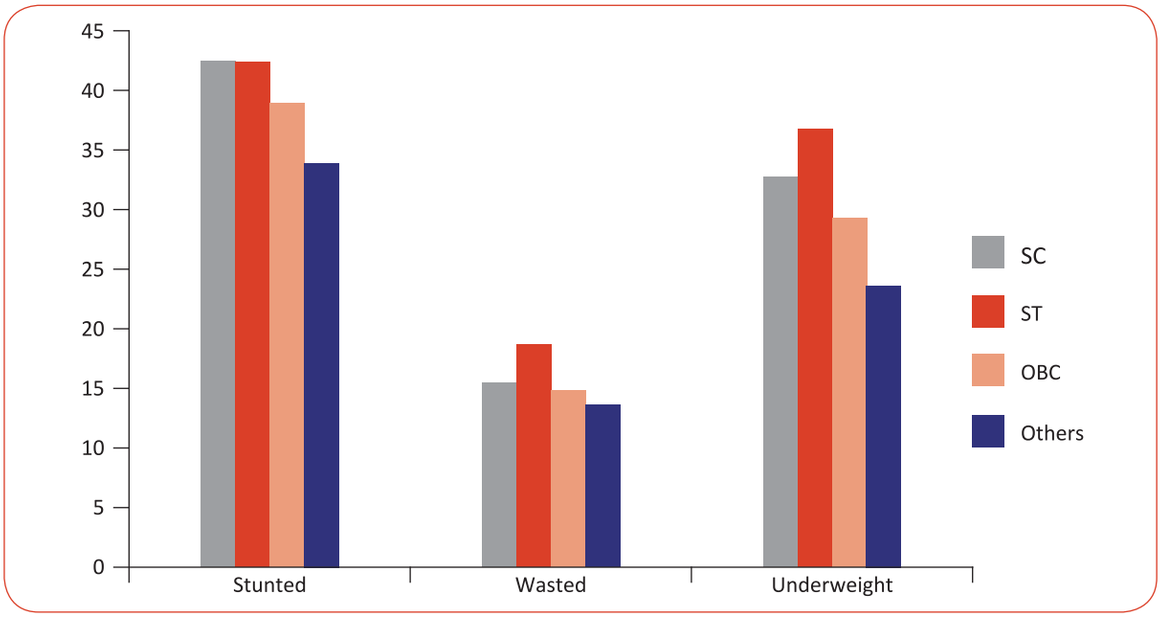
3.1.4.2 Malnutrition

The NFHS3 and RSoC (cross sectional surveys) provide data which enables us to look at the current nutrition status of tribal children, while the NNMB surveys enable us to get a picture of malnutrition as the tribal child grows. There are huge disparities between the nutritional status of tribal children and those belonging to non-tribals, except in the northeastern states. This can be attributed to socio-economic determinants such as livelihoods and income literacy, family size, presence of concurrent morbidity.

The RSoC data shows that the overall levels of stunting, wasting and underweight among tribal children has reduced significantly from the NFHS3 levels. In 2013-14, 42.3% tribal children under the age of 5 years were stunted, 18.7% were wasted and 36.7 % were underweight as against 53.9%, 27.6% and 54.5% respectively in 2005-06. However, compared to other social groups, tribal children continue to be the most malnourished. The prevalence of underweight is almost one and half times in tribal children than in the 'other' castes. (Fig 15). The same trend is noticed in NFHS 4, where percentage of under 5 children being underweight has been reduced to 41.93 % against 54.5% in NFHS 3.

[103] ibid

Figure 15: Prevalence of under-nutrition among tribal children in comparison to other population groups, RSoC 2013-14



The NNMB surveys also show that the prevalence of under-nutrition among school age tribal children reduced between 1998-99 and 2008-09. The reduction was most significant among 14-17 year olds (10%). *The improvement in the nutritional status of the individuals, despite a decline in the food and nutrient intake, could be attributed to non-nutritional factors such as reduced physical labour, improvement in access to safe drinking water, better out-reach of healthcare services coupled with improvement in socio-economic conditions.*[104]

The third NNMB survey also reveals that as in the general child population, under-nutrition among tribal children in fact increases with age. The prevalence of underweight (52%) and stunting (55%) was higher among preschool children as compared to infants. It was found to be higher in the

The time trend (NNMB 2 and 3 followed by the RSoC) show some welcome decrease in the prevalence of malnutrition in tribal children. However, time and again, episodes of increased malnutrition and child deaths are reported in tribal pockets (Melghat, Nandurbar, Thane) by the media and in the state legislatures. The nature and the reasons for these tragic spurts need to be identified and suitable measures instituted. Since such episodes are reported mostly during rainy seasons, they may be caused by a seasonal food scarcity, increased infections (malaria, diarrhea) and a breakdown of access to health care during the rainy season.

[104] A report on the Diet and nutritional status of tribal population and prevalence of hypertension among adults was released by the National Nutrition Monitoring Bureau in 2009. It reported marginal improvements in the general nutrition status from its analysis on the time trends in diet and nutritional status. Interestingly it reported the improvement in status despite no significant improvement in dietary intakes in the last decade, attributing the improvement to non-nutitional factors like sanitation, safe water, access to health services, etc. The report is available online at this link NNMBTribalReport.pdf

states of Madhya Pradesh, Maharashtra, Gujarat and Odisha. Though, no gender differentials were observed in the prevalence of under-nutrition, a stepwise regression analysis had shown that the risk of underweight and stunting was significantly higher among the children of illiterate mothers, and households with lowest wealth index and children who had various morbidities.

Time trend data from the last two NNMB surveys shows that the prevalence of chronic energy deficiency (BMI < 18.5) reduced across all states in the one decade between the surveys. CED among adult men reduced by 9% and among adult women by 6%. The maximum reduction (22%) was seen in Gujarat followed by Tamil Nadu and Andhra Pradesh. The data also shows an increase in the prevalence of overweight. Overweight and obesity (BMI ≥23, Asian cut-off levels) among men increased from 3.6% in 1998-99 to 7% in 2008-09 and from 4% to 8% among women in the same period. There is a need to study the nutritional transition that is taking place among the tribal communities.

Paradox of tribal nutrition

1. Malnutrition (stunting among children, and low BMI among adults) in tribal people is more than among the non-tribal population, and is unacceptably high.

2. The food intake and the intake of various nutrients such as proteins, calories, vitamins have decreased in the last decade in the tribal population.

3. Yet, the prevalence of clinical malnutrition in children or low BMI in adults has, to some extent decreased in a decade, probably because of reduced physical activity, and decrease in nutritional wastage due to infections.

3.1.4.3 Micronutrient deficiencies among indigenous population in India

Micronutrient deficiency among tribal population is rampant. National Nutrition Monitoring Bureau (NNMB) has been conducting repeat surveys for assessing the diet and nutritional status of tribal populations in India, since 1985-87 and as per its recent report (2008-09), revealed that about two-third of the preschool children were consuming iron below 50% of Recommended dietary allowances (RDA), which is the major cause for high levels of anaemia among these people. The National family health survey 4 (2015-16) has shown that about 60% of 6-59 months children were anaemic in rural and tribal areas. Mothers of young children reportedly revealed that only 4.2% had received iron supplements within the past one week.

3.1.4.4 Anaemia

Nutritional anaemia is a major problem for women in India, particularly those in the rural and tribal belt. Anaemia causes fatigue, affects working capacity under conditions of stress, increases susceptibility to other diseases and may lead to complications during pregnancy. Maternal malnutrition is quite common among the tribal women, especially those who have closely spaced pregnancies. NFHS 3 shows that 65% tribal women in the 15-49 years age group suffer from anaemia as against 55.7% SC and 46.9% other women. The situation of ST women is particularly grim in Bihar followed by West Bengal and Andhra Pradesh. The prevalence of anaemia among children (6-59 months) is also notably higher among ST children compared to children of other social groups. According to NFHS 3, about 77% ST children were anaemic compared to about 64% other category children.

1.1.4 Mental Health and Addictions

In the absence of knowledge about the harm caused by alcohol and tobacco, compounded by the easy availability due to tradition as well as the legalized or illegal trade, tribal people worldover are known to be easy prey to these addictive substances. In addition, tribal people during the modern time have been exposed to several existential threats and the mental stress. A large segment of the tribal population lives in areas that are mired in conflicts. The Naxalite movement is based predominantly in tribal areas. The 106 left wing extremism affected

districts in the country[105] account for about 18% of its population, but 31% of the tribal population.[106] 40 of these districts have more than 25% tribal population. Similarly, many insurgent groups operate in the north-eastern states which are primarily inhabited by the tribal communities. The ensuing violence has resulted in insecurity, severe stress and consequently mental health problems in the tribal population. Displacement and migration due to environmental disasters, mining, land acquisition and loss of livelihoods also takes its toll on the mental health of tribal people. The drug corridor passes through the north-eastern states and there is a high incidence of drug abuse among tribal communities in these states. Yet there are no systematic studies that document the extent of mental health problems among the tribal community and their causes. Further, in most of these areas no help or counseling is available for the sufferers.

Globally tobacco and alcohol consumption have emerged as the two among the top ten risk factors for health.[107] Tribal people in several parts of the world and in India are known to be more vulnerable to the hazardous use of these substances.

Tobacco, alcohol and drugs threaten the tribal people in five ways:

- Harm health and increase the incidence of serious diseases and mortality;
- Reduce productivity and increase poverty;
- Disrupt family and community harmony;
- Generate law and order problems;
- Constitute a major out of pocket expense and adversely affect the family economy.

Thus, these substances are anti-health, anti-harmony and anti-development. They might be partly responsible for the increasing incidence of non-communicable diseases like hypertension and cancers among the tribal population.

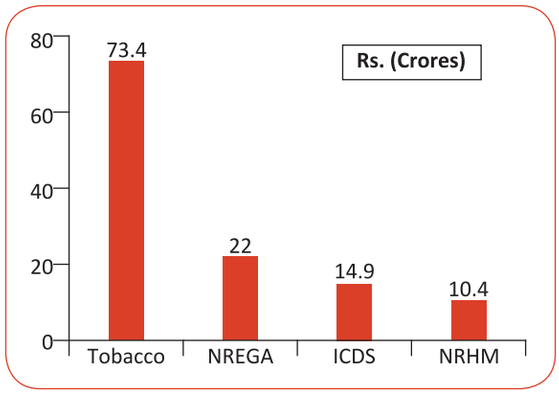
Tobacco

The 9 state NNMB survey 2008-09 showed that about 36% of tribal men and 6% of women were smoking tobacco; the proportion of smokers in both sexes was higher among the 50-70 years age group as compared to the 20-30 years age group. About 27% men and 6% women had been smoking for more than 10 years. About 11-52% were chewing tobacco, while about 3% men and 5% women were snuffing the same.

Data from NFHS 3 had shown a much higher incidence of tobacco usage among the tribal community, probably because the NNMB survey did not include states like Mizoram, Bihar, UP and West Bengal where more than 80% men use tobacco.[108] According to NFHS 3, almost 72% of the tribal men in the 15-54 years age group were using tobacco as compared to 56% non-tribal men.

A study conducted in 2008 by SEARCH in the tribal district of Gadchiroli revealed revealed that the people of Gadchiroli district (population 1.1 million) spent an estimated Rupees 73 crore on purchasing tobacco products in the year 2008-09, in comparison to the NRHM buget of Rs 10.4 crores, ICDS budget of Rs 14.9 crores and MNREGA budget of Rs 22 crores in the same year[109] (Fig. 16)

Figure 16: Out of Pocket Expenditure over tobacco in Gadchiroli Vs Budgets of Developmental Schemes (2008)



NREGA - National Rural Employment Gurantee Act,
ICDS - Integrated Child Development Services,
NRHM - National Rural Health Mission.

[105] As per the MHA February 2016. List available at http://pib.nic.in/newsite/PrintRelease.aspx?relid=136706
[106] Calculated based on the 2011 census estimates and the 2016 list of LWE affected districts.
[107] Global Burden of Disease study, 2015
[108] See Annexur- 8 for statewise usage of tobacco among ST men
[109] S Sawalkar, M Deshmukh, Y Kalkonde, D Shah, A Bang. Tobacco vs Development Private Spending on Tobacco in Gadchiroli District, Economic & Political Weekly, 2013

Tobacco and Alcohol increase the poverty in Gadchiroli

The more recent district sample surveys by SEARCH (2015) in Gadchiroli found that:

a) Prevalence of alcohol use among men (above 15 years) was 41%. The district level Annual out of pocket expense on alcohol was Rs. 79 crore.
b) Another district sample survey in 2016 showed the prevalence of tobacco use (all age groups) was 44%, and money spent was annually Rs 298 Cr.

Thus, annually the out-of-pocket money spent by people on alcohol and tobacco together was Rs. 377 crores.[110] This was more than twice the size of Annual District Plan in the previous year (Rs 157 crores). This is indeed alarming.

Alcohol

According to NNMB 2008-09, the consumption of alcohol was significantly higher among tribal men (59%) compared to women (14%). Daily consumption of alcohol was reported by about 5-11% among adult men and 1-3% in women. These numbers are similar to the NFHS 3 figures[111] which showed that slightly above half of ST men consume some form of alcohol at the national level. Once again this is much higher than the consumption among non-ST men (30 percent). The estimated consumption among STs is found to be higher in the eastern states like Assam (70%), West Bengal (70%), Odisha (69%), Chhattisgarh (67%), Jharkhand (67%) followed by Arunachal Pradesh (66%) and Andhra Pradesh (66%).

Excise Policy for Tribal Areas

Recognising the harmful impact of alcohol on the tribal communities, the Ministry of Home Affairs, Government of India promulgated the Excise Policy for Tribal areas in 1976. According to this policy:

a) No commercial sale of alcohol is permitted in scheduled areas.
b) Tribal people are permitted to consume traditional, home made alcoholic beverages under the community control.
c) Vigorous educational efforts should be made by way of schools, colleges, civil society, tribal leaders to wean away tribal people from drinking.

Yet, this policy is often being violated by the states – either in letter or in spirit. The High Level Committee appointed under the chairmanship of Dr. Vijay Kelkar by the Government of Maharashtra pointed out that, "It is widely accepted that liquor ruins tribal people. The Government of Maharashtra adopted the guidelines issued by the Central Government in 1976 and enacted the New Excise Policy for tribal areas in 1977. Following this policy, sale of liquor was prohibited in Scheduled Areas and no shops were allowed. However, this policy was circumvented in1980 and liquor shops were permitted in towns and taluka headquarters in the tribal areas. As a result, tribal areas now have enough supply of country-made and IMFL. This has further added to the poverty and misery of the people, especially that of women and children. In the tribal majority Nandurbar district, nearly 40 lakh litres of liquor was officially sold in 2010-11, the approximate market price of which would be Rs 80 Crore to 100 Crore. In Navapur taluka, a Scheduled Area, of the Nandurbar district alone more than 2,70,000 litres of liquor was sold in November 2012 (Information provided to the committee by the Excise Department, Nandurbar). It thus makes a mockery of tribal welfare and health."

[110] SEARCH district sample survey, Gadchiroli, 2015 and 2016
[111] See Annexure-8 for consumption of alcohol among tribal men and women in different states.

3.1.5 Animal Attacks and Violence in Conflict Areas

As tribal areas are often surrounded by forests, animal bites from snakes, dogs and scorpions are common. India has highest snakebite mortality in the world -between 45,000 to 50,000 annually, ie about 125 people per day.[112]

As the conflict between man and environment intensifies and boundaries are constantly redefined, it is the tribal people, living in environmentally sensitive areas with rich natural resources and forests who bear the wrath of animals and nature alike.

3.1.6 Migrant Tribal People and Health

Rapid deforestation and forest laws that limit access to forest produce, have robbed many tribal communities of food, fodder, shelter and livelihoods. Migration and displacement of the tribal population due to loss of livelihoods, floods, famines and large scale infrastructure and mining projects has a serious impact on security, safety, mental and physical health of the tribal people. It limits their access to facilities like the ICDS and schools. Such tribal migrants are doubly vulnerable as they do not have access to the special schemes and programmes being run for STs in the scheduled areas.

A three year multi-centric study on migration, poverty and access to healthcare in Hyderabad city conducted by National Institute of Nutrition between 2011 and 2014 showed 21.7% migrants belonged to the ST community. Data shows that across all categories, with regard to public healthcare services utilization, almost 50% migrants were getting treatment from private doctors, followed by unqualified local practitioners (28.7%), private nursing homes (11%) and the lowest from government hospitals (8.7%). This was because more than half the respondents reported difficulty in getting treatment from government hospitals during their previous illness.[113]

3.2 Health Infrastructure and Human Resources for Tribal Health

India has 0.7 physicians per 1,000 people and most Indians travel about 20 kilometres to reach a hospital.[114] The Ministry of Health declares that there are about 6 to 6.5 lakh doctors available in India. But India would need to double that number by 2020 to maintain the required ratio of 1 doctor per 1,000 people.[115]

These numbers aside, data from the Rural Health statistics reveals huge gaps in the health infrastructure and resources across the country. This gap is particularly huge in tribal areas due to serious geographical and socio-economic challenges. Access to health services becomes difficult as the roads are poor or restricted. There is lack of public or private transport and ambulance services are weak or non-existent. Often even telephone networks do not reach these areas. Poor availability of health personnel, lack of adequate equipment, language and social barriers, waiting time at health centres and poverty also add to problems of access.

The healthcare delivery and human resources in tribal areas reveal the following gaps:

- Number gap (inadequate people and facilities)
- Functions gap
- Cultural gap
- Knowledge and attitude gap
- Performance gap
- Management and support gap

This is worrying as despite the low acceptance of the modern healthcare system among the tribal people and the barriers to access, the scheduled tribe population of the country continues to rely heavily on the public health system, much more than any other social group.

[112] http://www.indiansnakes.org/content/india-snake-bite-initiative

[113] Dr. J.J.Babu; Dr.K.S.J.Kiranmayi; K.Prasad Rao; A.Kalyani; D.Apparao; G.Narasimha Rao, Migration, poverty and access to healthcare: A multi-centric study on people's access and health system's responsiveness in Hyderabad city, National Institute of Nutrition, 2014.

[114] ibid

[115] http://www.ijtre.com/manuscript/2015020789.pdf

Table 8: Percentage distribution of all treated inpatient and outpatient episodes by type of care from different social groups based on NSSO 2014

	Out patient Care		In Patient Care	
Social Groups	**Public**	**Private**	**Public**	**Private**
ST	48.02	51.98	59.61	40.39
SC	29.57	70.43	49.51	50.49
OBC	25.53	74.47	33.44	66.56
Others	18.52	81.48	34.5	65.5
Total	**25.08**	**74.92**	**38.43**	**61.57**

Health Care seeking

An analysis of the NSSO 2014 data by the Public Health Foundation of India (at a request from this committee) shows that one of every two tribal persons who seek outpatient care and 60% of those who seek inpatient care visit a government facility, higher than any other social group. (Table 8)

The data also shows that 61.4% tribal women deliver in government health facilities, while 27.8% deliver at home. Less than 11% deliver in a private hospital.

The low utilization of private health facilities by the tribal people could be due to poverty, lack of private facilities in tribal areas or lack of faith in private doctors. However, what it does signal is the need to strengthen public health facilities in tribal areas and to ensure that these facilities are run by qualified and sensitive health functionaries who treat the tribal people with respect.

In order to achieve this, the government has been taking a number of steps. Given that most of the tribal habitations are concentrated in far-flung areas, forestland, hills and remote villages, the population coverage norms have been relaxed as per IPHS:

a) For a Sub-Centre, the average norm for Hilly/ Tribal areas has been fixed at 3,000 as against 5,000 for plains;
b) For a Primary Health Centre (PHC) the average norm for Hilly/Tribal areas has been fixed at 20,000 as against 30,000 for plains; and
c) The norm of Community Health Centres (CHCs) is fixed at 80,000 for Hilly/Tribal areas as against 1, 20,000 for plains.

Similarly, Multipurpose Workers are appointed for 3,000 populations in tribal areas as against the norm of 5,000 populations for general. Under NRHM, states have been provided with the flexibility of relaxing the norm of one ASHA per 1000 population to one ASHA per habitation in tribal/hilly difficult areas.

3.2.1. Health infrastructure[116]

The Rural Health Statistics provides data related to the health infrastructure and human resources for tribal areas. At the behest of this committee, the NHSRC undertook an analysis of the data from the RHS 2017 to identify the requirements and the shortfalls in tribal areas, in view of these norms. It selected 21 states and UTs based on the presence of district/districts having 25% or more tribal population. It includes all north-eastern states and Union Territories of Dadra and Nagar Haveli, Lakshadweep and Andaman & Nicobar Islands. The required health infrastructure – sub-centres, PHCs and CHCs – was derived based on the total tribal population in rural areas in each state. The required human resources for health have been calculated based on the available tribal health infrastructure in these 21 states/ UTs. Though this method has limitations, it gives some approximations.

[116] Detailed tables of the requirement and shortfall across states are available in annexure-9

3.2.1.1 Tribal health sub–centres

These comments focus on the ten major states with significant tribal population (Table No. 9).

Rajasthan has the maximum 43% shortfall in tribal sub centres as per population norms, followed by Madhya Pradesh 39% and Jammu and Kashmir (34%). Shortfall of 31% has been observed in Maharashtra and 38% in Meghalaya. Some states reporting no shortfall in number of sub-health centers include Chhattisgarh, Andhra Pradesh, Gujarat, Assam, Arunachal Pradesh, Mizoram and Tripura.

In terms of buildings (Annex 9, table 9.1), the proportion of sub-centers functioning out of rented buildings range from 35% in Andhra Pradesh to – none in Himachal Pradesh. Gujarat and Maharashtra have about 5% sub-centres in rented buildings. Assam, Gujarat and Odisha have listed 108, 621 and 355 new sub-centres under construction.

3.2.1.2 Primary Health Centres (Table–9)

Jharkhand has reported the highest percentage shortfall of tribal PHCs (58%) as per the existing population norms. This is followed by Madhya Pradesh (53%), Rajasthan (52%), Jammu and Kashmir (31%) and Maharashtra (30%) respectively. Chhattisgarh, Andhra Pradesh, Gujarat and Himachal Pradesh have an adequate number of PHCs as per the population norms.

Table 9: Healthcare Infrastructure for Tribal People in states: Required and Shortfall*

MAJOR STATES	Sub-Centre			PHCs		CHCs	
	Tribal Population (Rural)	Required	Shortfall	Required	Shortfall	Required	Shortfall
Chhattisgarh	7231082	2410	0	361	0	90	10
HP	374392	124	20	18	0	4	0
J & K	1406833	468	161	70	22	17	6
Jharkhand	7868150	2622	157	393	228	98	0
MP	14276874	4758	1806	713	381	178	74
Odisha	8994967	2998	309	449	24	112	0
Rajasthan	8693123	2897	1239	434	225	108	43
Andhra Pradesh	2293102	764	0	114	0	28	0
Gujarat	8021848	2673	0	401	0	100	08
Maharashtra	9006077	3002	945	450	135	112	45
NE STATES	Sub-Centreb			PHCs		CHCs	
Arunachal Pradesh	789846	263	0	39	0	9	0
Assam	3665405	1221	0	183	0	45	14
Manipur	791126	263	37	39	0	9	2
Meghalaya	2136891	712	276	106	0	26	0
Mizoram	507467	169	0	25	0	6	0
Nagaland	1306838	435	39	65	0	16	0
Sikkim	167146	55	7	8	0	2	2
Tripura	1117566	372	0	55	08	13	05
UTs	Sub-Centre			PHCs		CHCs	
A & N	26715	8	0	1	0	0	0
Dadra and Nagar Haveli	150944	50	04	7	0	1	1
Lakshadweep	13463	4	0	0	0	0	0

Source: Rural Health Statistics 2017 as analysed by NHSRC

* Shortfall means 'Required – In-position' and '0' may indicate a surplus as well.

The availability of labour room, functional OT and new born care corner are dismal in PHCs in six states (Jharkhand, Odisha, Chhattisgarh, HP, Rajasthan, MP).

In terms of buildings (Annex 9), in all the major states, 100% CHCs runs out of government or rent-free/Panchayat buildings. In case of PHCs it is more than 99% in all the states (except Jammu & Kashmir 96%). It is only at the level of Sub-centres, substantial lack in centres running out of government or rent-free/panchayat buildings is observed especially in the states of Jammu and Kashmir and Andhra Pradesh where 58% and 35% of sub-centres run out of rented buildings.

3.2.1.3 Community Health Centres (Table–9)

If we look at the population norms, Himachal Pradesh, Jharkhand, Andhra Pradesh and Odisha have an adequate number of tribal CHCs, while there is a shortfall of 42% in Madhya Pradesh and 40% each in Rajasthan and Maharashtra. In all the states the tribal CHCs are located in government/ rent free buildings.

The performance of CHCs varies across states. DLHS 4 data shows that the use of CHCs as a first referral unit is quite low in the case of Jharkhand. Moreover, most CHCs are not properly equipped. Except in Odisha and Jharkhand, almost two thirds of the CHCs did not provide all the four essential services. Availability of medical officers, specialists, equipment and essential drugs remain a challenge. Among the schedule V states, Maharashtra leads in most of the components whereas Jharkhand falls at the bottom.

Summary of health care infrastructure in states/UTs with tribal areas

Data on required versus shortfall in the number of Sub-centres, PHCs and CHCs in tribal areas of 18 states and three UTs was studied. These 18 states consist of 10 states having significant tribal population and eight north-eastern states.

Ten States:

In 10 major states, overall deficit of 20% sub-centres, 30% PHCs, and 22% CHCs has been observed. All the states show shortfall in the number of sub-centres Except Chhattisgarh, Andhra Pradesh and Gujarat. At the level of PHCs, in all states shortfall was noted except Chhattisgarh, Andhra Pradesh, Gujarat and Himachal Pradesh. Similarly, all the states reported deficit in the number of CHCs except four i.e. Andhra Pradesh, Himachal Pradesh, Jharkhand and Odisha.

North-East States:

Similarly, in eight states of North-East, deficit in number of sub-centres ranges from shortfall of 39% in Meghalaya to surplus of 115% in Mizoram. Whereas, all the states, except Tripura, show a surplus in the number of PHCs. However, a deficit in the number of CHCs is observed in four (Assam, Manipur, Sikkim and Tripura) out of eight NE states.

Deficit States:

Out of total 18 states, seven (Chhattisgarh, Andhra Pradesh, Gujarat, Arunachal Pradesh, Assam, Mizoram and Tripura) have no deficit but 11 are noted to have deficit in the number of sub-centres, which is 4996 i.e. 27% of the total required number. Similarly, 11 states have no shortfall of PHCs but seven deficient states reported a shortfall of 1023 i.e. 40% of the total required in the number of PHCs. Likewise, shortfall of 209 in the number of CHCs reported in 10 states accounting to 31% of required number in these states.

Thus in about half of the states, the health institutions in tribal areas were deficient in number by 27 to 40 percent as compared to the present norms. Among the UTs an 8% shortfall in Sub-centers and of 1 CHC (against the requirement of 1) was reported from Dadra and Nagar Haveli. No other shortfall was noted at any level.

3.2.2 Human Resources[117]

Attracting and retaining doctors and specialists to rural areas has long been a challenge for the public health system. Given the inaccessibility of tribal areas and the propensity to regard them as punishment postings due to lack of adequate socio-

[117] Unless otherwise stated, all the data in this section is from RHS 2014

Table 10: Shortfall* in Human Resource For Health (2007 and 2017)

Human Resource	Tribal Areas		All India	
	% shortfall in 2007	% shortfall in 2017	% shortfall in 2007	% shortfall in 2017
Specialists at CHCs	85 %	82.3 %	58 %	81.5%
Laboratory Technicians at PHCs and CHCs	48 %	32.6 %	37 %	40.0 %
Staff Nurses at PHCs and CHCs	50 %	27.9 %	34 %	20.2 %

Source: RHS 2007 and 2017

economic and cultural infrastructure, this problem is further compounded in tribal areas.

This analysis assesses the number of personnel in the existing healthcare infrastructure. Thus it underestimates the total deficit of HR by not including the HR required in the deficient infrastructure quantified in the earlier section.

A quick snapshot of the gap in health personnel in tribal areas of the ten major states is indicated below. There was, in 2017, a 82 percent shortfall of specialist doctors, 33% of lab technicians and 28% of staff nurses in tribal areas. Alarmingly, the gap has remained almost unchanged for the specialists in the 10 years between RHS 2007 and 2017. The gap has reduced for other two types i.e. lab technicians and staff nurses but it still persists at nearly 30 %.

Between 2012 and 2014, the NHSRC conducted multiple reviews of the public health workforce across different states. It found lack of adequate salary and incentive structure, irregular recruitment policies, failure of many schemes to fill vacancies in tribal areas (e.g. the Rs 75,000 bond in Gujarat and Chhattisgarh Medical Corps Incentive package), huge disparities in salaries of regular and contractual staff and refusal of MOs trained in EmOC to serve in tribal areas.

Based on these reviews and various other studies by the government and non-governmental organizations, **the large gap in human resources in health centres in tribal areas can be attributed to:**

a) Limited scope for professional interaction or growth for the staff;
b) Feeling of social and professional isolation;
c) No added monetary benefits despite difficult postings; in some cases pay is less due to lower HRA;
d) Poor working conditions and environment in the government health institutions in tribal areas leading to frustration. Buildings, facilities, personnel, medicines and supplies finances and the functioning systems are often missing making it difficult to provide service to the people.
e) Lack of good schools, entertainment and other social infrastructure;
f) Lack of transparency in posting; absence of a fair transfer policy which ensures rotational posting and does not keep some people limited to tribal areas throughout their careers;
g) Corruption in the Health Department and irregularities.
h) Absence of rigorous monitoring.

Over the years, the government has been undertaking a series of steps to address the gap in human resources in these areas. There is 50 % reservation in Post Graduate Diploma Courses for Medical Officers in the Government service who have served for at least three years in remote and difficult areas. Tamil Nadu offers additional marks for each year of working in tribal areas for the in-service PG entrance test. Higher pay packages, sanctioning AYUSH doctors as MOs and introducing a cadre of rural health practitioners have also been tried. Maharashtra and several other states have introduced a bond for compulsory rural service, but it is flouted by most of the doctors completing MBBS. The medical education and the health departments seem unwilling or unable to enforce the execution of the bond.

These measures notwithstanding, the gap in health personnel continues. Further, the quality of care offered by the existing health personnel also remains questionable due to lack of motivation, understanding and mutual respect.

Doctors Are Free Not to Serve

A study conducted in Maharashtra of the implementation of compulsory rural service bond from the MBBS doctors trained in the public financed medical colleges revealed that every year nearly 2200 MBBS and 1000 MD/MS/ Diploma doctors graduate. Since 1996 a service bond has been introduced. Inspite of the order of the High Court Mumbai (2011) and remarks by the CAG (2010) the Directorate of Medical Education and the State Government has not taken any significant action to enforce the service bond. The data collected by way of RTI showed that from the four government medical colleges who responded, 1041 MBBS doctors graduated but only 1 graduate fulfilled the service bond, 100 paid the bond amount and 940 neither served nor paid. Yet the State Government took to steps to execute the bond terms.

The authors estimated that the money lost by government by not recovering the amount was Rs. 900 Cr per year.[118]

This paradox of vacant posts of doctors and specialists in the PHCs and CHCs in tribal areas, and the non-enforcement of bond on the 90% doctors is surprising and tragic !

3.2.2.1 ASHA

The NRHM introduced the ASHA to bridge the gap between the people and the public health system. The programme envisages a trained female community health worker in every village to deliver first contact healthcare, promote reproductive and maternal health services and good health practices, act as a health activist, mobilise the community and provide counseling and referral support. In tribal areas where the public health systems suffer from problems of acceptability, these workers can play a very crucial role.

As of January 2015, on an average nationally there is one ASHA per 969 people. In larger states like Maharashtra, Rajasthan and Gujarat the ASHA caters to a relatively higher number of the population. For instance, population coverage per ASHA ranges from 1100 in Maharashtra to 1084 in Rajasthan. *Yet, there are no numbers available as to the density of ASHAs in tribal areas or the average number of people covered by them.* What we do know is that Chhattisgarh, which is primarily a tribal state has the highest density of ASHAs - one ASHA per 296 population. The north-eastern states also have a high density of ASHAs.

The successful deployment of ASHAs (Mitanin) in Chhattisgarh, and the effective delivery of Home-based Newborn and Child Care as demonstrated in Gadchiroli, in the Ankur project in Maharashtra and in the MANSI project in Jharkhand has resulted in a steep decline in NMR, IMR and CMR in tribal areas. They present powerful evidence that ASHA is a very appropriate, feasible and effective way of bridging the health care gap in tribal areas. Yet, this committee in its visits to tribal states found either the lack of appreciation of this fact or inability to manage this solution in the State Health Missions.

3.2.2.2 Male Health Worker at Sub–centres

There are many aspects to the shortfall of health personnel in tribal areas. While it is difficult to find quality personnel to fill posts, the fact remains that in many cases, posts are not even sanctioned, despite a huge gap between the requirement and the functionaries in position. In the case of the male

[118] Amrut Bang and Vitthal Salve, 'Need for Doctors in the Public Health System in Maharashtra' – submitted before the High Court Mumbai.(2017)

Table: 11: Health Workers: Male (MPW) at health sub-centres in tribal areas of Ten states (RHS-2017)

MAJOR STATES	Health Worker [M] at SHC				
	Required [R]	Sanctioned [S]	In-Position [P]	Vacant [S-P]	Shortfall [R-P]
Chhattisgarh	2804	2906	1839	1067	965
Himachal Pradesh	104	104	62	42	42
Jammu and Kashmir	307	232	183	49	124
Jharkhand	2465	2333	669	1664	1796
Madhya Pradesh	2952	2112	999	1113	1953
Odisha	2689	1273	1254	19	1435
Rajasthan	1658	119	102	17	1556
Andhra Pradesh	804	640	516	124	288
Gujarat	2775	2775	2355	420	420
Maharashtra	2057	1577	1475	102	582

The total deficit is of 9161 MPWs i.e. 49% of the required number of MPWs in these states.

health workers (MPW) in tribal sub-centres, the gap between the required number and the sanctioned posts varies from 93% (1539) in Rajasthan to 5% (132) in Jharkhand. Contrarily, Chhattisgarh has excess number (102 positions) of sanctioned male health workers as against the required numbers. However, 38% of the total sanctioned positions are vacant. Considerable numbers of vacancies against sanctioned posts were observed in the states of Chhattisgarh (37%), Jharkhand (71%), Madhya Pradesh (53%) and Himachal Pradesh (40%). Vacancies against the sanctioned positions range from 1% in Odisha to 71% in Jharkhand. In terms of absolute numbers, Jharkhand, Chhattisgarh and Madhya Pradesh have 1664, 1067 and 1113 positions vacant respectively as on March 2017. Andhra Pradesh and Maharashtra reported a shortfall of 36% and 28% against the required number of male health workers.

3.2.2.3 ANMs, Health assistants and nursing staff

There is a shortage of ANMs at the level of sub-centres in tribal areas in two States (Gujarat and Himachal Pradesh), and at PHCs in three states (Himachal Pradesh, Odisha, Gujarat) out of the ten States chosen for analysis.

i. As per the norm, every PHC should have one male health assistant and one female health assistant or Lady Health Visitor (LHV). There are shortages of Health Assistants – both male and female - in all the states except Maharashtra. In absolute numbers, Jharkhand and Madhya Pradesh - the states with the greatest number of tribal people-have the highest number of vacancies.

Table 12: ANMs for Tribal Health

MAJOR STATES	ANM (Health Worker [F]) HSC			ANM (Health Worker [F]) PHC		
	Required	Sanctioned	In-Position	Required	Sanctioned	In-Position
Chhattisgarh	2804	2906	3554	392	448	439
Himachal Pradesh	104	104	86	43	11	6
Jammu and Kashmir	307	232	717	48	18	79
Jharkhand	2465	2333	3709	165	160	206
Madhya Pradesh	2952	4180	4873	332	664	460
Odisha	2689	2689	2897	425	400	296
Rajasthan	1658	3684	2481	209	339	310
Andhra Pradesh	804	6832	4952	155	1564	1305
Gujarat	2775	2775	2455	406	406	0
Maharashtra	2057	2819	4310	315	1713	561

Source: RHS 2017
**Shortfall is 'Required – In-position'*

ii. *The total surplus of ANMs in tribal areas in these 10 states is 13501, i.e. 64% of the required number of 21,105. This 'surplus' may reflect the real need of ANMs posts.*

iii. In RHS, the requirement of nursing staff is calculated as one per PHC and seven per CHC. Here two kinds of scenarios emerge. On the one hand are states like Rajasthan, Gujarat, Andhra Pradesh and Chhattisgarh that have sanctioned more than the required number of posts for the nursing staff. This has however not translated into availability of nursing professional and Chhattisgarh has reported substantial vacancies in both PHCs and CHCs. On the other hand, there are states like Jharkhand and Odisha that report an excess in the in-position nursing staff than the sanctioned primarily because they have not sanctioned an adequate number of posts. In both cases, there is a severe shortage in nursing staff. The highest shortfall is reported in Himachal Pradesh (77%) followed by Jharkhand (56%) and Odisha (54%).[119]

3.2.2.3.1 PHC Doctors and the Specialists at CHCs

Finding doctors for tribal postings has long been a challenge. States like Chhattisgarh Jharkhand, Himachal Pradesh, Rajasthan, Andhra Pradesh, Gujarat and Maharashtra have sanctioned more than the required number of allopathic doctors at the PHC level. *However, the 'sanctioned' or in position does not necessarily mean these are filled with actually functioning doctors. Moreover, these data are contradicted by the frequent statements in the state assemblies by the health ministers that they are unable to get doctors to fill the positions in tribal areas*. Some states (e.g. Chhattisgarh and Gujarat) continue to face a shortfall in the number of doctors in position. Chhattisgarh and Madhya Pradesh reported 57% and 37% vacancies respectively against sanctioned posts. Most of the states have in-position doctors more than the required hence not showing any shortfall, but it is also a fact that the states have sanctioned more than the required number which may indicate that the need is more in these states. This may be a result of hiring contractual allopathic doctors under NHM.

The total shortfall of PHC doctors in tribal areas in four states which reported shortfall was 508 out of the required 1555 (33%) in those states. The shortfall of specialist doctors at the CHCs in ten states was 2305 out of 2728 required i.e. 84%.

As of March 2017 all states reported a shortfall in the number of Surgeons, Paediatricians, Obstetricians, Gynaecologists and all other specialists. Against the total required number, only 14% of surgeons, 17% of pediatricians and 44% of radiographers are in position in the tribal CHCs of ten major states (also

Table 13: Position of Doctors at PHCs and Specialists at CHCs for Tribal Health

STATES	Allopathic Doctors at PHCs			Total Specialists at CHCs		
	Required	Sanctioned	Shortfall	Required	Sanctioned	Shortfall
Chhattisgarh	392	409	235	320	328	296
Himachal Pradesh	43	62	0	32	0	32
Jammu and Kashmir	48	38	0	44	37	24
Jharkhand	165	290	0	416	234	391
Madhya Pradesh	332	332	124	416	420	351
Odisha	425	425	90	528	359	473
Rajasthan	209	438	0	260	166	210
Andhra Pradesh	155	280	0	76	43	56
Gujarat	406	782	59	368	340	330
Maharashtra	315	370	0	268	79	142

Source: RHS 2017
**Shortfall is Required – In-position.*

[119] See Annexure-10 for detailed tables

see annexure 10). Vacancies for Obstetricians and Gynaecologists against the sanctioned positions range from 40% in Jammu and Kashmir to 91% in Chhattisgarh (not shown in the table). There are no sanctioned posts for Gynaecologists or Obstetricians across the 8 tribal CHCs of Himachal Pradesh. With the exception of Andaman & Nicobar Island, there are no sanctioned OBG posts in UTs. Against the required number of physicians, only 11% have been sanctioned in the Andhra Pradesh, 33% in Odisha and 24% in Maharashtra (Annex 10, table 10.3). In proportion, availability of Physicians against the required number is very low ranging from minimum zero (Himachal Pradesh) to maximum 27% (J&K and Maharashtra).

Thus it is clear that getting specialists to public facilities in tribal areas remains a huge challenge. Further some studies in the tribal districts of Gujarat and MP under the MATIND project show that even private Obstetricians and Gynecologists in tribal areas are rare. This is logical as the paying capacity of the people in tribal areas is much less. Further there are few medical colleges in these areas.

To deal with this shortfall of doctors and specialists in tribal areas, states have been trying a number of measures. Some states offer higher payment to personnel serving in tribal areas. The government of Gujarat recently passed an order offering an additional Rs 25,000 per month to MOs for working in tribal blocks and an additional Rs 35,000 for specialists. The government of Chhattisgarh offered Rs 70,000 as salary and Rs 30,000 as monthly performance related bonus for attracting MOs to tribal and Naxal affected areas. By doubling and tripling the existing salaries of MOs they were able to fill the vacancies in these difficult areas. However, a similar demand will be raised by others. The huge burden such a move would place on the exchequer, it is important to examine the financial feasibility and whether the MOs stay in position and perform.

Another common strategy is to fill vacant posts for Medical Officers with AYUSH medical officers who are more easily available than MBBS doctors. Two states Assam and Chhattisgarh had developed a cadre of rural health practitioners with 3 years of training. While this worked in Assam, it did not work well in Chhattisgarh.

Some time back the Government of India developed a proposal and guidelines for starting a three year B.Sc in Community health. These graduates were to be posted at sub-health centers.. However, neither GoI nor any states have taken this up, possibly due to objections by the Indian Medical Association. In the 2018 initiative of Health and wellness centres, the GoI has announced an intension to place a Community Health officer at these upgraded sub-centres.

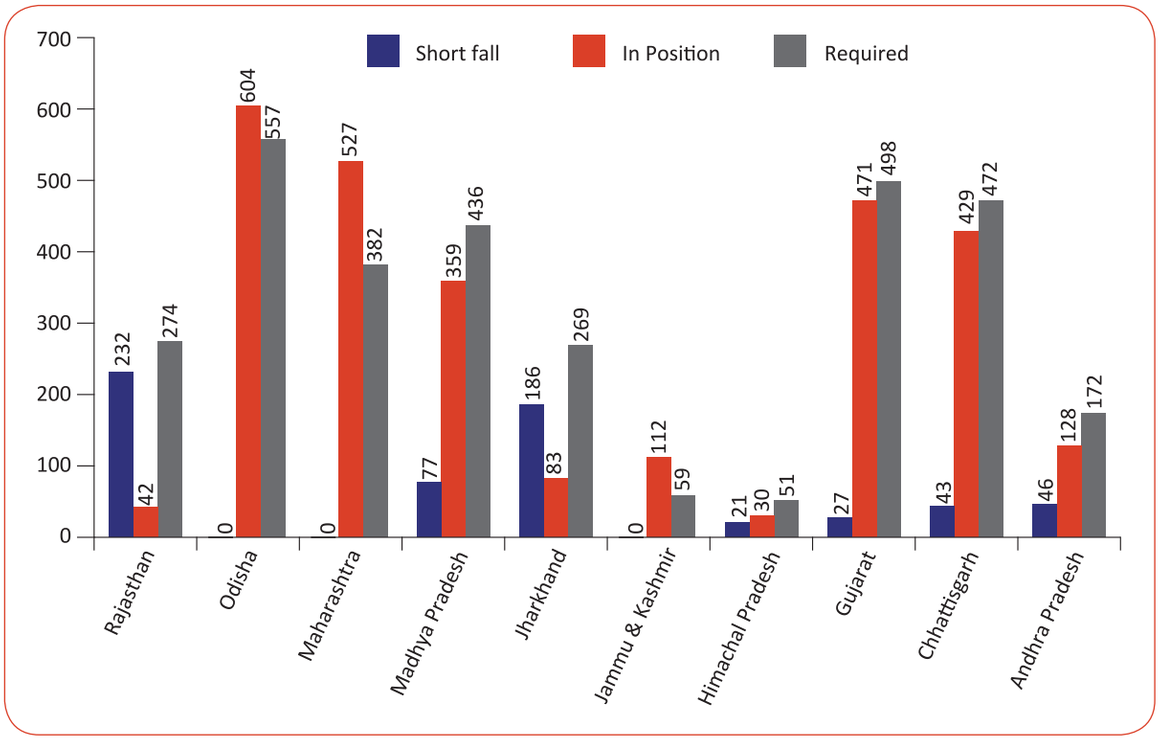
Table 14: Position of Surgeons, Obstetricians & Gynaecologists and Paediatricians at CHCs for Tribal Health[120]

MAJOR STATES	Surgeons		Obstetricians/Gynaecologists		Paediatricians	
	Required	Shortfall	Required	Shortfall	Required	Shortfall
Chhattisgarh	80	76	80	72	80	73
Himachal Pradesh	8	8	8	8	8	8
Jammu and Kashmir	11	7	11	5	11	4
Jharkhand	104	104	104	89	104	96
Madhya Pradesh	104	92	104	87	104	89
Odisha	132	123	132	107	132	118
Rajasthan	65	38	65	54	65	59
Andhra Pradesh	19	17	19	10	19	14
Gujarat	92	84	92	80	92	76
Maharashtra	67	40	67	26	67	27

Source: RHS 2017
** Shortfall means 'Required – In-position'*

[120] See Annexure-10 for detailed tables on Availability of Specialists and doctors.

Figure 17: Status of Pharmacists – PHCs and CHCs (Tribal Areas)



(Source: RHS 2014)

3.2.2.4 Pharmacists and Paramedical Staff

At PHC level, availability of all paramedic staff is worrisome in almost all the schedule 5 states.

The required number of **pharmacists** is calculated based on a norm of one per PHC and one per CHC. As of 2017 (Annex 10, table 10.6), the states of Rajasthan and Jharkhand report more than a 50% shortfall in pharmacists. Whereas, the states of Andhra Pradesh and Himachal Pradesh reported 26% and 41% shortage respectively while Maharashtra and Jammu and Kashmir reported more than the required number of pharmacists.

3.2.3 Summary of the HRH number gap in tribal areas

1. **Male Health Worker at HSC:** Data on number of male health workers (MPW) in tribal areas of ten states was evaluated. The total number of required Male health workers in these ten states is **18615**.The number of shortfall was **9161**, which is **49%** of the total required number, in these ten states.

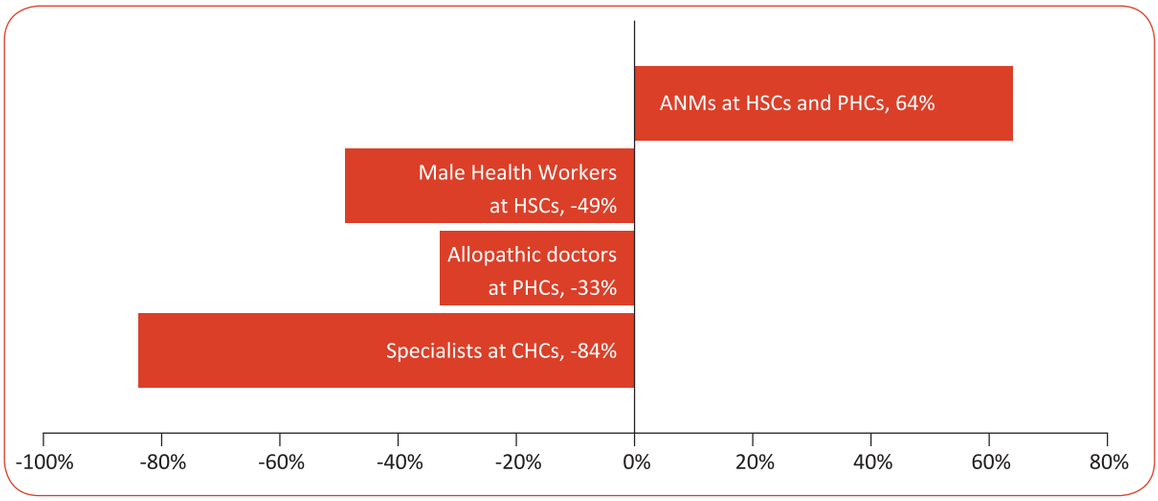
2. **ANMs:** Out of 10 major states, two at the level of HSCs and three at the level of PHCs show shortfall in the number of ANMs. In total, against the required number of 21105, there are 33696 ANMs in position. Thus, the excess of 13501 ANMs against the required number, amounts to surplus of 64% ANMs.

   In fact, such deployment, probably dictated by the need, indicates that one ANM is required for 2000 people.

3. **Doctors at PHCs:** Out of ten major states with significant tribal population, shortage of Allopathic doctors at PHCs is reported in four states i.e. Chhattisgarh, Madhya Pradesh, Odisha and Gujarat. In these four states, total required number of allopathic doctors is 1555 and the shortfall is of 508, which is **33%** of the required number in these states.

4. **Specialists at CHCs:** The required number of specialists at CHCs in all ten states was 2728 with a shortfall of 2305 giving shortage figure of almost **84%**. Also, there is shortage of

Figure 18: % Surplus/deficit in tribal areas of ten states*



Source: Calculations based on the RHS data 2014

* Ten states with sizeable ST population – Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jammu and Kashmir, Jharkhand, Madhya Pradesh, Maharashtra, Odisha and Rajasthan.

86%, **79%** and **83%** of surgeons, Obstetricians & Gynaecologists and Paediatricians, respectively. Alarmingly, the gap has remained almost unchanged for the specialists in the 10 years between 2007 and 2017.

These numbers are from the government statistics. The real functional gaps are likely to be more.

3.3 Health Culture

In most tribal communities, there is a wealth of folklore related to health. Health and treatment are closely inter-related with the environment, particularly the forest ecology. Tribal people and forest dwellers collect a variety of leaves, fruits, seeds, and nuts, with medicinal value and use it for treatment. Traditional healers act as the medium between man, nature and the supernatural entity, providing spiritual security to the tribal people. Often, they are the port of first call for the tribal population when they experience sickness because:

a) The healers are a part of the community and the culture and the tribal people have faith in them;
b) There is absence of functioning public health institutions
c) The attitude of the government health functionaries towards the tribal people is full of disdain;
d) Health facilities are far off;
e) The modern health care system lacks emotional content and spiritual security; it is alien;
f) Allopathic medicines are expensive.

Traditional healers are generally divided into **two categories**: **the diviner**–diagnostician who provides a diagnosis usually through spiritual means, and the **herbalist** who chooses and applies relevant remedies. However, with rapid deforestation and urbanization, traditional healers are unable to find herbs and apprentices. Moreover, with the increasing outreach of health care, NGOs, schools, media, and scientific information the tribal people are increasingly seeking modern medicine in addition to the traditional healing.

However, on the one hand, the influence of traditional healers is becoming more limited. On the other, the lack of emotional content and spiritual security in the modern health care system continues to keep the tribal people away from the public health facilities. Awareness about and acceptability of the Indian Systems of Medicine (like Ayurveda and Unani) is also low, particularly in the north-east and in states like Jharkhand.

The Panchsheel policy on tribals stated that Government should not impose its ideas and solutions on tribal people. In keeping with this, the NRHM framework outlines use of both AYUSH and

local health traditions. Efforts have been made in Karnataka to engage traditional providers in health care by making them identify and refer their patients for issues other than common ailments. However there are malpractices and delays in referral.

3.3.1 Health Education and Awareness

Tribal societies have remained away from scientific knowledge about the causation of disease (nutrition, micro-organisims) or the ways to prevent (sanitation, personal hygiene, nutrition, immunization, etc) and treat them. Awareness about good health practices and symptoms of diseases continues to be poor. Expectant mothers to a large extent are not inoculated against tetanus and consumption of iron, calcium and vitamins tablets is poor. From the inception of pregnancy to its termination, no specific nutritious diet is consumed by the women. In fact, some pregnant tribal women, (in communities like the Dudh Kharia, Santal) reduce their food intake to ensure that the baby may remain small and the delivery may be easier. Alcohol consumption continues during pregnancy and almost all the tribal women continue their regular activities, including hard labour during advanced pregnancy. Though breastfeeding is common, both initiation of breast feeding and complementary feeding is often delayed. CES 2009 revealed that *awareness of all the forms of distress among infants was also poorest among the tribal mothers.*

As late as in 1995, the tribal people in Gadchiroli ranked malaria as their topmost health problem, but did not know that mosquitoes transmit malaria. (Tribal Health Program SEARCH, Gadchiroli)

3.4 Health Planning

One of the key challenges for tribal health has been the absence of specific planning for tribal areas keeping in mind their distinct socio-economic conditions and realities. Action towards improvement in tribal health has often been limited to a relaxation in norms for tribal areas within the existing schemes and policies or targeted implementation of particular schemes in tribal areas. For instance, under the Janani Suraksha Yojana, apart from the EAG states and Jammu and Kashmir, incentives were only available to women from SC/ST and BPL families. Similarly, given that most of the tribal habitations are concentrated in far-flung areas, forest land, hills and remote villages, the population coverage norms for tribal areas under NHM have been relaxed as noted in the segment on Health Infrastructure. Under the NHM, all Tribal and LWE affected districts have been designated as Special focus districts to ensure targeted enhanced allocation of resources, innovative approaches for health care and enhanced monitoring and supervision.

Recognising the distinct problems of tribal health, the National Health Policy of 2002 provided for the state governments to tailor implementation strategies according to the need in tribal areas.

Table 15: Awareness of signs of distress in newborns among tribal mothers (%); (CES 2009.)

Background characteristics	Baby does not cry immediately	Blue tongues and lips	Difficulty in breathing	Cold/hot to touch	Abnormal movement	Poor sucking of breast	Develop yellow staining of palm and soles	Number of women#
Social Group								
Scheduled Caste	55.5	28.6	44.6	34.0	28.7	45.1	27.3	4167
Scheduled Tribe	50.9	24.7	38.2	27.5	20.3	41.5	20.1	3900
Other backward Classes	55.3	30.4	48.8	34.6	32.8	48.7	29.9	8080
Others	61.7	33.7	50.4	37.3	32.5	51.1	32.0	6837

However, state-level interventions that are adapted to tribal settings are few and far in between. Where such initiatives do exist, there is a complete lack of monitoring and evaluation to gauge their impact.

In fact, lack of data on tribal health and absence of tribal people in agenda setting have been the two key challenges to planning for tribal health in India.

There is lack of population level data on tribal health. Information, where it is available, is at the state level. Effective planning and implementation however necessitates district and sub-district level data. In the past, the HMIS of the Health Department used to collect population-based data, disaggregated by gender, scheduled castes and tribes. However, in the transition from population-based data to institution-based data, the disaggregated data collected through HMIS was lost. Currently, only gender disaggregated data is available at the facility level. It is expected that the National Family Health Survey 4 and the District level Household and Facility Survey 4 will have specific data on the tribal population, but how effective and comprehensive this data will be remains to be seen.

The near absence of local tribal communities in the agenda setting and implementation of health programmes is the other key challenge. While the National Health Mission mandated the creation of village level committees for health and sanitation as well as committees at the level of PHCs, CHCs/ taluka hospitals and district hospitals, little was done to ensure the representation of tribal communities within these bodies. Such an inclusion would not just have ensured that the health priorities of tribal communities are reflected in policy making, it would also have increased the acceptance of the public health system within these communities.

3.5 Financing of Tribal Health

As explained in Chapter 2, the Tribal Sub-Plan was initiated during Fifth Five Year Plan for the socio-economic amelioration of the tribal communities because the benefits of the general plan schemes and programmes designed for the overall development of the economy did not fully reach them. Under **the revised guidelines on TSP,** the Ministry of Women and Child Development and the Department of Health & Family Welfare are required to earmark between 7.5 to 8.2% of their Plan Outlays for the tribal sub-plan.[121] The guidelines also direct that the estimated expenditure on STs should be mentioned in as much detail as possible for each relevant scheme/ programme under TSP in the budget books of all Ministries and Departments.

States' Allocation to Health under the Tribal Sub Plan: An analysis of the budget of all state governments for the FY 2012-13, by the NHSRC, revealed that only seven states – Andhra Pradesh, Himachal Pradesh, Gujarat, Odisha, Rajasthan, Tamil Nadu and West Bengal – had allocated money for health under the TSP.

None of these seven states followed the guideline[122] of earmarking funds under TSP from the outlays, at least in proportion to the percentage of ST population in the State. Tamil Nadu, Odisha and Rajasthan were the worst in meeting this condition, with percentage deviations being more than 60%.

While states like Maharashtra do spend a proportion of the TSP money on health, this is not reflected separately in their budget documents, making analysis of actual TSP spending on health difficult and often incomplete. Even where money is earmarked, there is scanty information.

Despite the Planning Commission guidelines in this respect, the Ministry of Tribal Affairs itself does not have information on the TSP allocations made by different states or the allocations to health made under the TSP budget of different states.

However, in all these states, except Andhra Pradesh, the money allocated under TSP was

[121] Revised Guidelines for Implementation of Tribal Sub-Plan (TSP) by the States/UTs No.M-11012/03/2013-SJ&SWPlanning Commission(SJ & E Division)

[122] Revised Guidelines for Implementation of Tribal Sub-Plan (TSP) by the States/UTs No.M-11012/03/2013-SJ&SWPlanning Commission(SJ & E Division)

almost fully utilized. Andhra showed less than 50% utilization. The state-wise central and state share of allocation under TSP in these 7 states show that that except in Andhra Pradesh, allocations and expenditures from state have a higher share than the centre. It is generally felt that the sizeable proportion of the claimed expenditure in tribal areas is an accounting jugglery. Due to lack of transparent accounting and data it is usually not possible to assess how much was actually spent in tribal areas.

Disaggregated State expenditures on health under TSP according to the level of care: Distribution of state expenditure on health under the tribal sub plan according to the level of care shows that Himachal Pradesh, Tamil Nadu, West Bengal and Odisha spend more than 60% of the money for health under TSP on primary care. In fact, West Bengal incurred 81% of its TSP expenditure on primary care. In contrast, Gujarat spent 45% on secondary care and Rajasthan spent 29% on tertiary care and 22% on administrative expenses.

Out of Pocket Expenditure (OOPE) on Healthcare by Tribal people: The absence of a strong and functioning public health system often translates into an increase in out-of-pocket expenditure by the people. As no specific studies looking at the out-of-pocket expenditure by the tribal communities were available, the NHSRC analysed Health Expenditures reported in nationally representative consumer expenditure surveys (CES), conducted by the National Sample Survey Office (NSSO) in four rounds: 2000, 2005, 2010 and 2012.The all India average of per capita monthly total OOPE in Scheduled Tribe population in 2012 was Rs. 24 , well below the OOPE for all popuation groups at Rs 54. Similarly, the OOPE on drugs by the ST Population was Rs.16.9 in 2012 where as it was Rs.36.1 for all the population groups. *This could signify that the ST population is unable to access healthcare and utilize services in both the public and the private health system due to lack of awareness, non-availability of facilities near their place of residence or financial burden of seeking care.*

3.6 Tribal Health in North East India

This committee recognized that the tribal communities in North East India and the PVTGs have special situations, which require a separate set of recommendations. It also felt that it did not have the expertise or resources to gather information on these groups. Therefore, the report just contains two brief sections compiling the salient features from existing information on these special groups. The committee believes that two separate groups should be constituted to take into account the health status of these communities and to suggest measures for improving it.

Table 16: State wise tribal population in the North East and no. of districts with ST population more than 50% and between 25% to 50 percent as per Census 2011

Sl. No	NE States	Total Population	Total No. of districts	Total ST Population	% of ST population	Districts with more than 50% ST Popln.	Districts with Between 25% to 50% ST Popln.
1	Arunachal Pradesh	1383727	16	951821	68.8	13	3
2	Assam	31205576	27	3884371	12.4	2	5
3	Manipur (Excl. 3 Sub-Divisions of Senapati Distt.)	2570390	9	902740	35.1	5	0
4	Meghalaya	2966889	7	2555861	86.1	7	0
5	Mizoram	1097206	8	1036115	94.4	8	0
6	Nagaland	1978502	11	1710973	86.5	11	0
7	Sikkim	610577	4	206360	33.8	1	3
8	Tripura	3673917	4	1166813	31.8	1	3

The tribal communities of the eight states of North East India comprise about 12 per cent or one eighth of the total tribal population of the country. According to the2011 Census, Scheduled Tribes comprise more than 60% of the population of Mizoram, Meghalaya, Nagaland and Arunachal Pradesh and more than 30% of the population of Sikkim, Tripura, and Manipur. Assam is the only north-eastern state with less than 20% tribal population. **Forty-eight of the total 86 districts in these eight states have more than 50% ST population. There are 145 tribal communities** of which 78 communities are large, each with a population of more than 5000.

Often there is a tendency to lump Scheduled Tribes together. However, the needs, aspirations and socio-economic development conditions of the 145 tribes of these region are not only distinct, but they vary considerably from those of the tribal communities in the rest of the country.

3.6.1 Sex Ratio

As in the rest of India, *sex ratio among the tribal communities in the NE states is better than among non-tribal population.* The tribal population in the states of Arunachal Pradesh (1032), Mizoram (1007) and Meghalaya (1013) show a sex ratio above thousand, while at 960, Sikkim has the lowest tribal sex ratio amongst the north-eastern states.[123]

3.6.2 Literacy and Education

The literacy rate in the north-eastern states is high and unlike in the rest of the country there is no disparity between the tribal and non-tribal population here, except in the state of Tripura.[124] *Except in Arunachal Pradesh (64.6%), the tribal population in all states has a literacy rate of more than 70%.* Mizoram has the highest tribal literacy rate at 91.5%.

3.6.3 Reproductive, Maternal and Child Health indicators

As is the rest of the country, *the maternal health indicators for the tribal people are worse than the non-tribal population even in the north-eastern states.* Coverage of full ANC remains poor. While institutional deliveries among the tribal population has gone up in all the states, it remains extremely low in Nagaland and Manipur.[125] According to DLHS 4, this was primarily because of distance from the health centres and lack of transportation. Prevalence of anaemia is more than 50% in all the NE states except for Tripura.[126]

NFHS 3 shows that the *Infant Mortality amongst the tribal population is higher than the total state average in Arunachal Pradesh, Manipur and Meghalaya.* Coverage of children with full immunization was lower among the tribal communities in the north-east when compared to those in the rest of the country. Coverage was less than 50% in the states of Nagaland, Manipur and Meghalaya.

Unlike the rest of the country, *the Total Fertility Rate amongst the tribal communities in the north-east is high*. Due to higher birth rate, the Tribal Population in all these states in the 0-6 years age group is in the range of 10.6% to 19.9%; the highest in Meghalaya (19.9%) followed by Arunachal Pradesh (15.9%). Birth order 4+ is found to be in higher proportion amongst the tribal people in the north-east.

Performance of male sterilization was observed to be poor across the Northeastern states. On female sterilization, there are significant intrastate variations. For instance in Arunachal Pradesh it ranges from 7.4% in East Kameng to 39.5% in West Siang. Similar gaps were observed in Mizoram and Nagaland. Adoption of spacing methods is better amongst the ST population in all the NE states.

3.6.4 Morbidities

The disease patterns among the tribal communities in north-east India are distinct from those in the rest of the country. For instance, the sickle cell trait which has a high prevalence rate in some communities in central and western India, is not

[123] Census 2011
[124] At 79.1% tribal literacy rate is 8% less than the overall literacy rate of 87.2%.
[125] RSoC 2013-14
[126] NFHS 3

Table 17: RMNCHA indicators among ST population in the North-eastern states and India (in %)

S. No	Indicator	Nagaland	Manipur	Meghalaya	Mizoram	Assam	Tripura	Sikkim	Arunachal Pradesh	INDIA
1	Received Full ANC	3.6	8.8	22	43.1	25.9	12.8	55.7	22.1	15
2	Institutional Delivery	19.2	37.7	65.2	95	84.3	63	89.3	62.8	70.1
3	Received Any PNC	5.7	3.1	19.8	8.2	5	10.3	10.2	11.8	36.6
4	Availed benefits from JSY	36.7	15.2	67.4	85.4	78.9	53.6	47.4	55.5	54.7
5	Women aged 20-24 yrs married before age 18	4.9	32.8	22.8	9.9	28.5	40.2	29.7	53.8	30.8
6	Men aged 25-29yrs married before the age of 21	1.4	19.2	21.7	19.4	14.9	30.7	24.1	25.4	36.5
7	Women (age 20 years and above) with iron deficiency anaemia	49.6	55	53.4	60.9	-	46.5	67	50.9	-
8	Adolescent Girls (15-19 years) with BMI less than 18.5	46.5	25.9	20	23.2	45.7	21.3	6.5	52.6	49.2
9	Children aged 0 –35 months with Birth weight less than 2.5 Kgs	19.9	1.9	9.5	2.3	11.9	12.7	8.8	9	21.6
10	Full Immunization	38.2	33	45.1	68.8	52	50.9	74.5	54.2	79.3

Source: RSoC 2013-14 for all indicators except prevalence of anaemia among women; DLHS 2012-13 for prevalence of anaemia

observed in the north-east. However, given the rapid urbanization, mining and armed conflict in the region, *the incidence of non-communicable diseases and mental ailments is high. Similarly, there is a high incidence of HIV/AIDS in the region, primarily due to drug abuse.* Adult HIV and AIDS prevalence rates in Manipur and Nagaland are 1.57 and 1.2 per cent respectively and well above the national average of 0.34 per cent according to the Department of AIDS Control, Ministry of Health and Family Welfare, Government of India. There are some 100,000 people, who live with HIV and AIDS in the eight north-eastern states.[127]

3.6.4.1 Malaria and Japanese Encephalitis

Malaria continues to be a major problem in the north-eastern states, particularly along the international borders where P. falciparum is the dominant parasite. Five states - Arunachal Pradesh, Assam, Meghalaya, Mizoram and Tripura have areas which are malaria endemic. Most districts of Arunachal, 5 districts of Mizoram, two tribal dominated districts of Tripura and Garo Hills of Meghalaya have API (Annual Parasite incidence) greater than 10. All tribal dominated districts of Assam except Dhemaji and Dima Haso have API greater than 5. More worryingly, there have been reports of multi-drug resistance in the thickly forested pockets of Myanmar which shares the border with many north-eastern states. This can put many tribal communities in the region at risk and needs to be monitored.[128]

Japanese Encephalitis was first observed in the NE in 1976 in Assam and since then the disease has appeared in endemic forms or sporadic outbreaks. Based on JE cases in 10 districts of Arunachal Pradesh during 2005-2010, it was found that children were at a greater risk compared to adults. Incidentally, all these 10 districts are also highly endemic for malaria.[129] Spread of JE in these hilly and foothill regions of NE states, erstwhile known for malaria endemicity, is posing a challenge with regards to proper diagnosis, treatment and management of cases as both JE and celebral malaria present a somewhat similar clinical picture.

3.5.4.2 Cancer: Studies show a high incidence of cancer in different north-eastern states. This can in part be attributed to the high consumption of tobacco and alcohol. In Manipur, lung cancer was the commonest among males (AIR-14.1/100000) followed by stomach cancer (6.5/100000) and nasopharyngeal cancer (4.5/100000) while in females lung cancer was (11.9/100000) followed by breast (9.1/100000) and cervical cancer (8.2/100000). In Mizoram, male stomach cancer was the commonest (47.6/100000) followed by lung (28.3/100000) and esophagus (26/100000) cancer. In female lung cancer was (28.7/100000) followed by stomach (22.7/100000) and cervical cancer (17.1/100000). Among the Naga, stomach cancer was the commonest while in Meghalaya esophagus cancer was the commonest.

3.6.5 Substance Abuse and Mental Health

Many areas in the north-east, particularly in the states of Nagaland, Manipur and Assam have been witness to insurgent groups and armed conflicts for a few decades now. This coupled with the high incidence of drug abuse in the states has taken a toll on the mental health of the people. Consumption of alcohol and tobacco among the men and women in the north-eastern states is also high.

3.6.6 Nutrition

The Rapid Survey on Children 2013-14 has revealed a wide variation in the prevalence of malnutrition across the eight north-eastern states. However, what is apparent is that the nutritional states of these communities is much better than that of the tribal population in the rest of the country. Only Meghalaya and Mizoram have a higher incidence of stunting among their tribal population than the national average for Scheduled Tribes.

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[127] http://www.unodc.org/southasia/en/frontpage/2009/September/drugs-and-hiv_-trails-of-tears-and-hope-in-a-hidden-jewelry.html

[128] K M Tun et al, Spread of artemesinin-resistant Plasmodium falciparum in Myanmar: a cross-sectional survey of the K13 molecular marker; The Lancet; Volume 15, No. 4, p415–421, April 2015; available online at http://www.thelancet.com/journals/laninf/article/PIIS1473-3099(15)70032-0/abstract

[129] National Vector Borne Disease Control Programme, Delhi, India; unpublished data

Table18: Prevalence of Malnutrition among the Scheduled Tribes in North East India as per RSOC 2013-14

States	Stunted	Wasted	Severely Wasted	Underweight
Nagaland	29.9	11.4	4.6	19.4
Manipur	43.1	6.7	2	17
Meghalaya	42.5	13.7	5.6	32.8
Mizoram	27.3	14.4	6.2	14.9
Assam	33.5	6.8	2	14.8
Tripura	31	16.3	7.2	29.6
Sikkim	25.7	4.1	1	15.4
Arunachal Pradesh	27.6	17	7.2	24.7
All India	42.3	18.7	5.3	36.7

Similarly if we look at the weight of adolescent girls between the ages of 15 and 18 years in India, the highest incidence of low weight (BMI less than 18.5) is among the STs – 49.2% as against the national average of 44.7 per cent. While three north-eastern states – Nagaland (46.5%), Assam (45.7%) and Arunachal Pradesh (52.6%) show a high incidence of low BMI among adolescent girls, tribal girls in the other five north-eastern states fare much better. Sikkim has one of the lowest incidence of underweight adolescent girls at 6.5%.[130]

A study by Agrahar-Murugkar and Pal[131] among Khasi Tribes of Meghalaya has found that consumption of energy, protein, iron, and vitamin C were adequate except in lactating women. Iron intake also was significantly lower in pregnant women in the low income groups. Consumption of pulses, dairy products, other vegetables, and fats and oils were significantly below the recommended daily allowance, leading to low consumption of fat, calcium, and carotene in all physiologic states and income groups.

With rapid urbanization there has been an increase in not just rural-urban migration, but migration to the rest of the country. This has led to a change in dietary patterns and lifestyle among the tribal population of the north-east. However, there has been no systematic study to capture this change or determine its impact, if any, on the nutritional and health status of the tribal people.

3.6.7 Health Seeking Behaviour and Awareness

Data from DLHS 3 shows that awareness about most health issues is at par in the general and the ST population in all the north-eastern states, except Tripura. Awareness about diarrhoea management amongst the tribal women was found to be almost at par with the overall state data all states except Tripura. Similarly, awareness about the danger signs of ARI amongst the tribal population was almost at par with the overall total population of the state except for the states of Manipur and Tripura. Except in Tripura, awareness and knowledge levels on HIV/AIDS were almost similar. Only on the issue of STI/RTI, the ST women lag behind the general population by huge margins in the states of Assam, Tripura and Manipur.[132]

Tribal populations in the region have their own indigenous systems of medicines and acceptability of AYUSH is very low.[133]

[130] RSOC 2013-14

[131] Agrahar-Murugkar D, Pal P.P. (2004).Intake of nutrients and food sources of nutrients among the Khasi tribal women of India. Nutrition. 20(3), 268-273

[132] DLHS 3

[133] Guite, Nemthianngai, and S. Acharya. "Indigenous medicinal substances and health care: A Study among Paite Tribe of Manipur, India." Studies of Tribes and Tribals 4, no. 2 (2006): 99-104.

3.6.8 Health Infrastructure[134]

The health infrastructure in the north-eastern states seems to be better than the rest of the country, as far as the norms are concerned. However, this does not necessarily mean greater access to healthcare for the population. This is because the terrain in most of the north-eastern states is mountainous and habitations are few and far in between. Further when it comes to secondary care and the presence of CHCs, there is a huge deficit.

The states of Arunachal Pradesh, Mizoram, Meghalaya, and Nagaland have reported all the sub-centres as tribal. Assam, Manipur, Sikkim and Tripura have 28%, 54%, 33% and 46 of the total sub-centres located in tribal areas. While, Arunachal Pradesh, Assam, Mizoram, and Tripura reported more than the required number of sub-centres, the remaining four states reported shortfalls ranging from 39% in Meghalaya to 9% in Nagaland (Please see table No. 9).

Barring Assam (which has reported 28% of PHCs as tribal), 50-100% per cent of all PHCs in the north-eastern states are tribal. All states except Tripura have more than the required number of PHCs and over 99% of them are located in government or rent free buildings.

Four states, Sikkim, Tripura, Assam and Manipur reported a shortfall in the number of Tribal CHCs. In Tripura, the shortfall was over 38%, while Sikkim did not have any tribal CHC.

3.6.8 Human Resources for Health[135]

As in the rest of the country, there are huge gaps in availability of some categories of health functionaries across all levels in the North-eastern states. The position with respect to availability of doctors and specialists is alarming (Annex. 12.4 to 12.7).

While no estimates as to the number of ASHAs in the tribal areas are available, the density is much higher among the north-eastern states as compared to other high focus states. Population covered by ASHA workers for all states in the region, except Assam, Nagaland and Sikkim, is less than 600 (much lower than the all India average of 969).

The situation about ANMs (female MPWs) is much better in the NE states (Annex. 12.7). The number in-position at sub-centres is usually more than the required, except in Assam and Tripura. In case of the ANMs at PHCs, the number in-position is more except in Mizoram.

Of the required 1644 health assistants (Male and Female) across North-eastern state, only 31% are in-position. Mizoram, Sikkim and Manipur reported 63%, 40% and 44% vacancy as against sanctioned allopathic doctors.

The allopathic doctors at PHCs – their sanctioned number of posts are often more than the required by the national norms. The shortfall is sizeable only in Assam. However, the situation is alarming in case of specialists at the CHCs; the shortfall is near 100% in some of the states.

Problems in the Management of Human Resource for Health in the North East

Multiple reviews of the public health force by the NHSRC conducted between 2012 and 2014 reveal that:

a) Many states like Arunachal, Assam and Nagaland lack a proper HR, transfer and posting policy ;
b) Irregular recruitments and acute shortage of specialists. Arunachal Pradesh has not appointed regular specialists since 1990 and allied medical staff since 2003;
c) Lack of training, performance review and promotion;
d) Poor retention policies;

[134] Based on RHS 2017
[135] Please see Annexure-12 for detailed tables on HR for Tribal health in the North Eastern states.

e) Poor working and living conditions with no incentives;
f) Absence or slow pace of salary review.

3.7 Health Situation Among Particularly Vulnerable Tribal Groups (PVTGs)

There are seventy-five tribal communities who are categorized as Particularly Vulnerable Tribal Groups (PVTGs) and are scattered across eighteen states and union-territories. At present there are 75 tribal groups identified and categorized as Particularly Vulnerable Tribal Groups (PVTGs), (earlier known as Primitive Tribal Groups) located in the States/ UT of Andhra Pradesh, Bihar, Jharkhand, Gujarat, Karnataka, Kerala, MP, Chhattisgarh, Maharashtra, Manipur, Odisha, Rajasthan, TN, Tripura, UP, Uttarakhand, West-Bengal and Andaman & Nicobar Islands (Figure 1). (Singh, Subramaniam, Roy, & Mishra, 2014; Ministry of Tribal Affairs, 2015)[136]

Although the PVTG category is a useful aggregator/ label for some of the most socially disadvantaged and vulnerable communities across the country, it lumps together geographically, socially and culturally distinct populations across several states. Even within the PVTGs, there are significant variations between various groups in terms of their population as seen in Table-19. According to the 2001 census, 12 tribes recorded a population larger than 50,000, while 19 tribes recorded less than 1000 individuals. While strategies for the larger PVTGs can echo with those for the larger ST communities in the respective states, the issues and strategies for the smaller tribal groups i.e. 'vanishing tribes' need further emphasis and warrant higher importance and urgency.

Health indicators of tribal communities are lagging behind and indicators for PVTGs wherever available are worse-off. There are huge information gaps on various aspects of tribal health; among tribal health the health of PVTG groups is worse-off and poorly documented. In this short note, the key health issues of PVTGs are identified based on a wider review of published and grey literature. A comprehensive detailing of the health related scenario faced by PVTGs of Jharkhand outlined in the Godda report (see box 1), reflect the scenario for many PVTGs across the country.[137]

Extract from a report on maternal health and nutrition in tribal areas of Jharkhand **(*Maternal health and nutrition in tribal areas: Report of the fact-finding mission to Godda, Jharkhand*, 2014)**

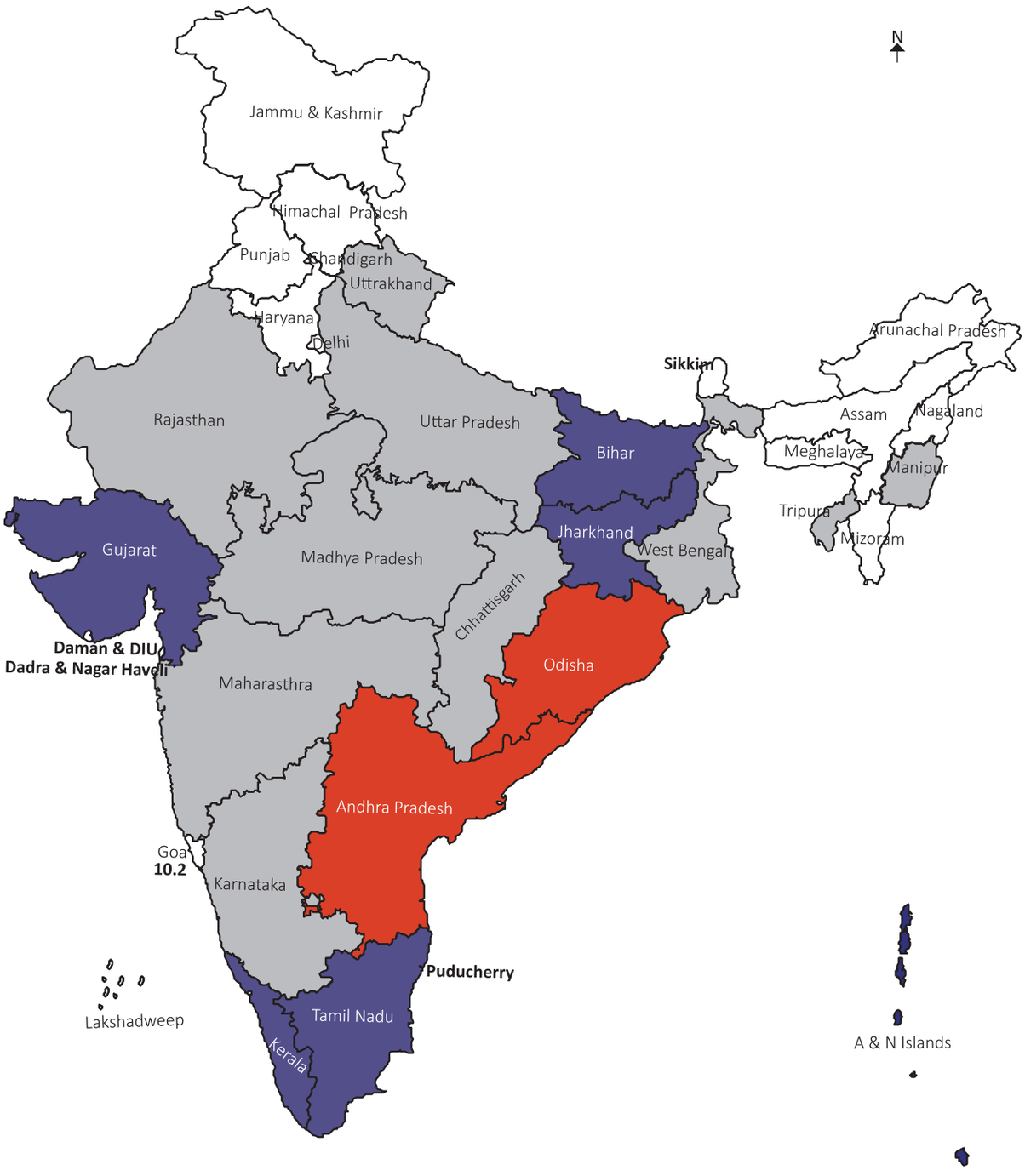
NAMHHR carried out this Fact-finding mission after a paper was published in Economic and Political Weekly (EPW) (Stairway to Death: Maternal Mortality beyond numbers, Banerjee et al, Aug 3, Vol XLVIII no. 31, 2013) that examined 23 maternal deaths occurring in one year among young, poor women mostly from tribal communities (including PVTG) in two blocks of Godda District (Jharkhand). The objective was to develop an understanding of the situation of maternal health and related determinants such as nutrition, explore issues of service provisioning and suggest alternate strategies to improve health and nutrition services in the area.

The secondary data already indicates that the "one-size fits all" template approach to maternal health will not work in this area: in Godda district, it is clear that childbirth at home is 75.2 percent which is three times the rate of institutional delivery (24.4 percent). Yet the government has ignored the safety of these women, and put their lives at jeopardy by not putting in place a plan for safe home births with effective referral linkages in case of complications.

Moreover, within the Sundarpahari Block with 79 percent tribal population, there is a high proportion of primitive tribes like the Pahariyas, and the situation is exacerbated by low literacy (27 percent) and poor communications. There is poor convergence between departments towards saving the lives of the women of these PVTGs, leading to avoidable maternal deaths. Their traditional food patterns linked to the forests and the robust practice of mixed organic farming has been disturbed by the

[136] Singh, N,, Subramaniam, S.R., Roy, J. & Mishra, R. (Eds.), (2014). Tribal health bulletin (Vol.21). Regional Medical Research Centre for Tribals.
[137] Maternal health and nutrition in tribal areas: Report of the fact-finding mission to Godda, Jharkhand. (2014)

Figure 19: Map of PVTGs in different states of India based on census 2001 (Singh et al., 2014)



Number of PVTGs inhabiting different states

- ≤ 5
- 5 - 9
- ≥ 10
- Nill

- 75 PVTGs inhabit different states of the country, among them, 25 PVTGs inhabit two States (Odisha & Andhra Pradesh).

Table 19: Distribution of PVTGs based on their population size based on 2001 census (Singh et al., 2014)

PVTGs with less than 1000 population			PVTGs with more than 50,000 population		
S. No.	PVTGs	Population	S. No.	PVTGs	Population
1	Birjia (Bihar)	17	1	Konda Reddis (Andhra Pradesh)	83096
2	Sentinelese (A&N Islands	39	2	Lodha (West Bengal)	84966
3	Great Andamanese (A&N Islands)	43	3	Dongaria Khond (Andhra Pradesh)	85324
4	Onge (A&N Islands)	96	4	Saharia (Rajasthan)	76237
5	Birhor (Madhya Pradesh)	143			
6	Asur (Bihar)	181			
7	Mankirdia (Odisha)	205	PVTGs with more than 1,00,000 population		
8	Jarawa (A&N Islands)	240	S. No.	PVTGs	Population
9	Cholanaicken (Kerala)	326	1	Saharias (Madhya Pradesh & Chhattisgarh)	450217
10	Shompen (A&N Islands)	398	2	Baigas (Madhya Pradesh & Chhattisgarh)	332936
11	Birhor (Bihar)	406	3	Katkarias/Khathodis (Maharashtra)	235022
12	Savar (Bihar)	420	4	Kolam (Maharashtra)	173646
13	Raji (Uttaranchal)	517	5	Riang (Tripura)	165103
14	Sauria Paharia (Bihar)	585	6	Hill Kharia (Jharkhand)	164022
15	Birhor (Odisha)	702	7	Irulas (Tamil Nadu)	155606
16	Korwa (Bihar)	703	8	Mal Paharia (Jharkhand)	115093
17	Todas (Tamil Nadu)	875			
18	Kota (Tamil Nadu)	925			
19	Raji (Uttar Pradesh)	998			

introduction of PDS grains, and the reluctance of the forest and agriculture departments. Iron-rich foods growing in the area have been ignored and women have been asked to take tablets during pregnancy which is alien to tribal culture.

Their local knowledge of herbal medicines and traditional birthing practices have been ignored and eroded by the intrusion of an exclusively allopathic health system that wants them to come to hospitals where no one speaks their language. Most of them have not been through school, and wide communication gaps persist. While roads lead up to the new factory being set up by a large industrial group, there are no roads for the villages of the PVTGs who prefer to live amidst the forests and hills. Different tribal areas and their health problems need to be seriously studied both within Jharkhand and other areas of Tribal communities. The PVTGs or particularly vulnerable tribal groups require anthropological studies to understand the underlying reasons: what are acceptable health practices for different tribal groups from the government system and what good health practices exist within their own tribal health systems, which they would like to retain. In addition there should be investigation into their nutritional status, as well as study of local food and agriculture practices.

Given the geographical situation of Godda district, it is difficult for health services to reach communities

located deep in the forests. As a result, we observed tribal villages where women have never received ante-natal care, have no information about JSY or JSSK, and all of them have had home birth with some near-miss and maternal deaths; in PVTG villages the ANM has never come, and none of the children were immunized.

Maternal and child health: In some of the PVTGs, there is a severe neglect of maternal and child health services, particularly among tribal groups in Bastar, Kutia Kondhs of Odisha, Santals, Jaunsaris and Kharias in schedule V areas.(S. Basu, 2000; S. K. Basu, 1993; Kshatriya, 2014)[138, 139, 140] In many of these groups, expectant mothers do not even receive a single dose of tetanus toxoid vaccination putting both mother and child at risk.

Access to medicines: While irrational drug use is a concern across the country, in tribal communities especially the PVTGs the term 'rational' will have to be re-looked at. Given tribal communities have only been recently exposed to modern medicine or allopathy, the sensitivity of these drugs for common illnesses, and possible adverse reactions have to be explored. This particularly takes priority when dealing with PVTGs where the vulnerability is both in terms of biology and numbers.

PVTGs & drug policy

In the late 2000s, one of the committee members was invited by an expert committee looking at PVTGs in Andaman & Nicobar islands, where he observed that the pharmacy that catered to the Great Andamanese tribe stocked Nimesulide syrup for children. Nimesulide is a drug banned in many countries and its use in a tribal community with less than hundred individuals should be strong discouraged. The expert committees for PVTGs (Jarawas and Shom Pen) also advocated for preference for traditional medicinal practices for such tribes with cautionary drug use. The committee also recommended against routine immunisation of the PVTGs at present adopting a wait and watch approach instead.

Family welfare and reproductive rights: A uniform family welfare approach across the country prevents adaptation to family welfare needs of particularly vulnerable tribal groups and other tribal communities; restrictions currently apply for some groups hindering their reproductive rights, while others are in need of infertility care and/or safe abortion services.

Another aspect of family welfare services to be considered is provision of infertility care for tribal couples. States like Andaman & Nicobar and Nagaland reported a negative decadal growth in the recent census with most of the Andaman tribes having small populations and belong to particularly vulnerable tribal groups. (*Statistical Profile of Scheduled Tribes in India*, 2013)[141] The government also has in place a policy that disallows permanent family planning methods to be accessed by PVTGs. The high level committee in its recent report on tribal communities reviewed this policy and termed it as a denial of reproductive rights of the community (see box).[142]

Research gaps: Some of the poorly researched themes include the various social determinants of health, the role and way in which social determinants work against tribal health and development, implementation research of reasons for failure of policies and programmes in tribal areas, research related to substance abuse, mental health, adolescent, reproductive and sexual health, gender, displacement, migration and health-seeking behavior among PVTGs. Evaluation research and policy research are also scarce, particularly evaluations that ask how or why a given policy/programme worked as opposed to

[138] Basu, S. (2000). Dimensions of tribal health in India. Health and Population: Perspectives and Issues, 23(2), 61-70.
[139] Basu, S.K. (1993). Health Status of Tribal Women in India. Social Change.23(4), 19-39/
[140] Kshatriya, G.K. (2014), Changing Perspectives of Tribal Health in the Context of Increasing Lifestyle Diseases in India Journal of Environmental and Social Sciences, 1(1), 1-7.
[141] Statistical Profile of Scheduled Tribes in India. (2013)
[142] Xaxa. V., Ramanathan, U., Bara, J., Mishra. K., Bang. A., Basant, S., & Panda, H. (2014). Report of the High Level Committee on Socio-economic, Health and Educational Status of Tribal Communities of India. New Delhi. Retrieved from https://ruralindiaonline.org/resources/report-of-th-high-level-committee-on-socio-economic-health-and-educational-status-of-the-tribals-of-india.

PVTGs & their 'preservation' (Xaxa et al., 2014)

"Their (particularly vulnerable tribal groups' (PVTG)) socio-economic vulnerability and low population levels has led them to be treated as endangered and 'on the verge of extinction' - terminology which denies them their full humanity. Rather than granting them their autonomy and rights to address historical injustices, this perception has led to disastrous state Government interventions in the name of their preservation. One such scheme has been the State policy-disallowing members of PVTGs from availing of sterilisation schemes in government hospitals. Tribes such as the Paharias, Baigas, Kamars and Pahari Korvas of central India have been denied permanent methods of contraception in an attempt by the State to encourage population growth in the face of their apparently dwindling numbers. This policy originated in an order passed by the Madhya Pradesh government in 1979 to exclude vulnerable tribal communities from the wave of sterilisation drives taking place across north India. However, even decades later, this order continues to be followed.

Such a policy denies members of PVTGs the autonomy to make free and informed reproductive choices, and particularly denies any agency and bodily autonomy to women of these communities, who have to bear the burden of the denial of access to sterilisation facilities. Moreover, it sidesteps the real factors contributing to high mortality rates such as chronic malnutrition, starvation and lack of access to adequate health facilities. On the other hand, in the Wayanad district of Kerala, Kattunayakan tribal communities are sometimes coerced or intimidated into undergoing sterilisation in order for health workers to meet necessary sterilisation targets. Both practices need to be condemned and it is necessary that the reproductive rights and autonomy of PVTGs be respected by the State. The real issue for PVTGs is the non-provision of health facilities as well as denial of their right to sufficient, nutritious food."

did it work (or not). Tribal health programmes and polices rarely invest in systematic and scientific evaluation approaches to learn and improve their implementation.

Ethical issues: Ethical issues related to research on tribal health and within tribal communities is an important problem, along with the research methods employed when working with such vulnerable communities. While on one hand there is the need to review research on tribal health carefully for the application of high ethical standards, there is limited training on this topic among researchers and a paucity of competent ethics review committees that can oversee such research. Cultural and socio-political factors also are significant barriers to research on tribal health. In this respect, a greater use of emancipatory research approaches that are finding a place within the health policy and systems research community, such as participatory action research could be an important way of using research as a tool for greater involvement, participation and engagement of tribal people.

Need for special focus on PVTG areas: There needs to be an explicit commitment by state health departments as well as district governments to focus on tribal health, either like national programme where guided by centre and adapted by state or each state to carve out its plan and include in NHM and other national initiatives. The initial NHM framework did not mention any focus on tribal communities, but the recent framework (2012-17) does call for some focus on tribal communities and areas affected by left wing extremists. Most recommendations though club tribal communities with other 'vulnerable' communities and thereby do not acknowledge the distinct socio-cultural characteristics of these communities. A more explicit focus is warranted in all policies.

Within the PVTGs as explained earlier, there is a further important and urgent need to focus on the 'vanishing tribes' in each state. A local planning committee for each such PVTG is warranted similar to the tribe-specific expert committees in Andaman and Nicobar, that are able to contextualise each and every health policy to that particular tribal group and design a customised health policy for that particular PVTG. For instance, in the case of Jarawas in Andaman & Nicobar, the expert committee for Jarawas took a hard decision to not introduce routine immunisation against polio for the 200-odd tribal community due to the absence of any exposure of the community to the wild virus and the possibility of harm induced by the vaccine itself. The committee adopted a 'wait and watch' policy instead, a difficult but necessary decision that went against the national policy guidelines. This and many similar instances hence emphasise the need for a tribe-specific committee for each PVTG especially the 'vanishing' PVTGs.

Different tribal areas and their health problems need to be seriously studied both within Jharkhand and other areas of tribal communities. The PVTGs require anthropological studies to understand the underlying reasons: what are acceptable health practices for different tribal groups from the government system and what good health practices exist within their own tribal health systems, which they would like to retain. In addition there should be investigation into their nutritional status, as well as study of local food and agriculture practices. (*Maternal health and nutrition in tribal areas: Report of the fact-finding mission to Godda, Jharkhand*, 2014)

3.8 Situation of Tribal Health – Conclusion

Thus, it can be concluded that tribal health in India suffers from ten burdens:

Together these ten burdens have resulted in poorer health outcomes among the tribal people, in comparison with the rest of the population.

Yet over the decades, significant improvements have taken place. This can be seen by comparing the fertility rates, IMR and CMR, and malnutrition in children in the NFHS II, III, IV and RSoC, or the series of nutritional surveys of tribal population by the NNMB.

This means two things. One, that the health situation of the tribal population can be improved and two, that as things stand today, a lot of work needs to be done. There is need for urgent action.

Ten Burden of Tribal Health

1. Communicable diseases, maternal and child health problems and malnutrition continue to prevail;
2. Non-communicable diseases including mental stress and addiction are rapidly increasing;
3. Injuries due to accidents, snake and animal bites and violence in conflict situations;
4. Difficult natural conditions arising due to geographic terrain, distances and harsh environments;
5. Worse social-economic determinants, especially in education, income, housing, connectivity, water and sanitation;
6. Poor quality and inappropriate health care services with low access and coverage, low outputs and outcomes;
7. Severe constrains in health human resource at all levels; the professionals from outside are unwilling to serve in tribal areas, and the local potential human resource is not trained and utilized by the health system.
8. The legitimate and needed financial share for tribal health is not allocated or used in most of the states. There is lack of transparent accounting of the actual expenditure on tribal health.
9. Lack of data, monitoring and evaluation that masks the above mentioned problems;
10. Political disempowerment of tribal people– from the individual to the national level that exacerbates these problems. There is little inclusion of tribal people in the planning, priority setting and in execution.

3

Chapter

Diagnosis of Tribal Health

There has been some improvement in tribal health indices over a period of time. Infant and child mortality have reduced, nutrition levels have improved and more tribal people are seeking care. However, despite these strides, the tribal population continues to lag behind the general population, on both the socio-economic determinants of health, health outcomes and health system. Applying the principles of Equity and Antyodaya, this committee has no hesitation in saying that tribal health must receive first and the highest attention.

4.1 The social determinants of health are heavily pitted against the health of the Scheduled Tribe population.

NSSO 2012-13 data shows that about 41 per cent of the ST population in India is illiterate as compared to 31 per cent non-ST population - a stark difference of 10 per cent.[143] It also shows that the proportion of STs completing education up to 12th is only 6.7% in the country.[144] Similarly as per Census of India, 2011, just about 11 per cent of the tribal households in the country have access to tap water (as against 28.5% non ST population) and 17 per cent have access to improved sanitary facilities (as against 44 % non ST population).[145] Poverty estimates reveal that 40.6% of the scheduled tribes population in India (rural plus urban) suffers from poverty as compared to 20.5% other social groups.[146]

4.2 The fertility rate has reduced to TFR 2.5 (NFHS-4) The IMR and underfive MR have reduced significantly especially during past twenty years. Yet, the improvements in health outcome indicators among the tribal population have been slower than those among the rest of the population.[147]

The IMR indirectly estimated based on the Census 2011, reveals it to be 20% higher in ST population than the non-ST population (74.3 Vs 61.7).[148] It is indirectly estimated that in 2011, nearly 145,000 tribal children died in one year.

[143] NSSO 68th Round, 2012-13

[144] Ian Anderson et al; Indigenous and Tribal people's Health (A Lancet-Lowitja Institute Global Collaboration): a population study; The Lancet; 2016

[145] Census 2011

[146] Carlos Felipe Balcazar, Sonal Desai, Rinku Murgai and Ambar Narayan, "Why did Poverty Decline in India? A Nonparametric Decomposition Exercise", March 2016; World Bank Policy Research Paper, Pg 10-11; Available at http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/03/15/090224b084201cb7/1_0/Rendered/PDF/Why0did0povert0composition0exercise.pdf ; Last accessed 23 May 2016

[147] Report of the Expert Committee on the Socio-Economic, Health and Educational Status of Tribal Communities in India; May 2014; Ministry of Tribal Affairs, Government of India; Pg 202

[148] Lancet 2016, op cit.

An analysis of surveys conducted by the National Institute of Nutrition shows that there has been a reduction in the prevalence of malnutrition among the tribal population- prevalence of underweight, stunting and wasting (WHO standards) among 1-5 year tribal children, declined from 57 per cent, 58 per cent and 23 per cent respectively in 1998-99 to 52 per cent, 55 per cent and 22 per cent in 2007-08. However, not only was this change marginal and extremely slow, it was accompanied by a worrying decline in the average intake of all nutrients among the ST population, barring thiamine, niacin and vitamin C.[149]

4.3 On the epidemiological front, the diseases prevalent in tribal areas can be broadly classified in the eight categories.[150]

- **Malnutrition** – Low birth weight, under-nutrition among children, lower body size of adults, anemia, iron and vitamin A and B deficiency.
- **Maternal and child health problems** – high IMR, under five mortality rate, neonatal mortality and maternal mortality; acute respiratory infections, diarrhoea.
- **Communicable diseases** – malaria, filaria, tuberculosis, leprosy, skin infections, sexually transmitted diseases, HIV, typhoid, cholera, diarrheal diseases, hepatitis, viral fevers etc.
- **Accidents and injuries** – burns, falls, animal bites including snake and scorpion bites, violence due to conflicts, and more recently, motor cycle accidents.
- **Non-communicable illnesses** – Hypertension, stroke, diabetes, cancers.
- **Mental health problems** – especially in the areas affected by conflicts; addictions to alcohol and tobacco in general, and to drugs in the North East region.
- **Hereditary diseases** - Haemoglobinopathies (Sickle Cell) and G-6 PD deficiency.
- **Special problems** – Silicosis due to working in mines, orthopaedic and surgical problems, gynaecological problems, oro-dental problems and eye problems.

4.4 While the tribal communities continue to suffer from the huge burden of malnutrition, communicable diseases, maternal and child health problems, there is evidence of early epidemiologic transition among the tribal population.

It has long been believed that the tribal population seldom suffer from lifestyle diseases like cancer, diabetes and hypertension. However, there is evidence to suggest an early shift of the disease burden from what were regarded as diseases of underdevelopment- malnutrition, communicable diseases- to what are ostensibly the diseases of "affluence," ie the non-communicable diseases. This can, in part be attributed to the high prevalence of hypertension (24%) among ST adults[(8)] and use of addictive substances by many tribal communities. Rapid exposure to media and modern lifestyle, without proper health education has accentuated these problems. This is particularly disastrous for the PVTGs.

In the Western world, the indigenous populations carry a huge NCD burden. With the epidemiologic transition underway among the tribal population in India, it is imperative to check this trend, lest our people go the way of the Polynesians and the Native Indians. Studies show that the current prevalence of hypertension among adult tribal population in India is almost comparable to that reported for rural adults. Yet, awareness levels were very low.[151] Health Education, delivered in the local languages and in the socio-cultural context of the tribal population, is therefore extremely important.

[149] Ibid; pg 207

[150] Ibid; pg 241

[151] As per Criteria of Joint National Committee On Prevention, Detection, Evaluation and Treatment Of High Blood Pressure VII Report. Citied in the Report of the Expert Committee on the Socio-Economic, Health and Educational Status of Tribal Communities in India; May 2014; Ministry of Tribal Affairs, Government of India; Pg 214

4.5 A Diagnosis of Tribal Health therefore reveals that almost seven decades after Independence and despite many constitutional provisions to safeguard their interests, the tribal population continues to suffer disproportionately from health problems, compounded by problems of healthcare access and quality.

NSSO 2014 reveals that 70.4% tribal people who have suffered from some episode of illness access formal care (public or private), as against the All India average of 82.14%.[152] Among all social groups, the ST women have the lowest access to postnatal care and the highest rate of home delivery.[153] This is partly because the tribal communities often live in remote, forest fringe areas that are often difficult to access and partly because of financial and cultural factors. Coverage with medical insurance including the Rashtriya Swasthya Bima Yojana (RSBY) remains extremely low in the Scheduled Areas. Thus the Scheduled Tribes populations are almost completely without financial protection against acute and catastrophic illnesses.[154] They also continue to rely heavily on the public health care delivery system. NSSO 2014 data shows that 48% ST population seeks outpatient care at government institutions, as against 30% SC population, 26 % OBC and 19 % others. Hence access to quality public health infrastructure is of paramount importance to the tribal people.

4.6 Yet the Public health system including infrastructure, human resources and governance in the tribal areas remain inadequate. In more than half of the states with sizable tribal population, the health care infrastructure was 28 to 37 percent deficient in numbers compared to the NRHM population norms.

Even where the buildings have been created under NHM and health centres established, they often remain dysfunctional. This is further compounded by inadequate monitoring, poor quality of reporting, and accountability and most importantly, the scarcity of human resources. There is no data about ASHAs in tribal areas. ANMs at the HSC are often adequate or surplus in number than the norm – indicating that the need is higher than the norm. The shortfall of male MPWs (58%), PHC doctors (32%) and specialists at CHCs (86%) in tribal areas is deplorable. Doctors, specialists and other health workers are often missing, absent, ill-trained or ill-equipped to work in tribal areas, which are regarded as punishment postings, with poor infrastructure, absence of facilities and lack of avenues for personal and professional growth.

This absence of medical personnel, combined with the unfriendly behaviour of existing staff, language barriers, large distances, poor transport facilities, low literacy and low health care seeking behaviour, leads to low utilization of the existing health care institutions in Scheduled Areas.[155]

The lack of mutual understanding and trust between the tribal people and the health functionaries remains a huge bottleneck.

1.7 Tribal cultures have a distinct heritage and their own systems of traditional healing which address both the mind and the body. They rely heavily on medicinal herbs. These traditional beliefs and methods, that are different from the modern scientific worldview, have a strong influence on the health practices and health seeking behaviour and choices of tribal people. Instead of being dismissive of them,

[152] Percentage of people who sought some form of care for ailments (based on 15 days recall); Analysis of NSSO 2014 data by PHFI Health Economic Unit

[153] NSSO 2014

[154] Report of the Expert Committee on the Socio-Economic, Health and Educational Status of Tribal Communities in India; May 2014; Ministry of Tribal Affairs, Government of India

[155] Report of the Expert Committee on the Socio-Economic, Health and Educational Status of Tribal Communities in India; May 2014; Ministry of Tribal Affairs, Government of India

there is a need to study these systems in a holistic manner and to distinguish harmful and beneficial practices. Our current health care delivery system is incompatible with tribal cultural and belief systems, leading to low rate of acceptance.

1.8 *The organization of public health service delivery in tribal areas suffers from serious design flaws.*

That affect its efficiency, efficacy and uptake. The distinct geographic and socio-cultural environment of the tribal people notwithstanding, their healthcare needs and the epidemiological patterns in tribal areas were neither documented nor analysed for policy formulation. One example of this is the case of snakebite. Tribal people are at a higher risk of snakebite. Due to huge distances and traditional beliefs, care seeking is low or late, resulting in death. The Million Death study estimated that 45,900 deaths occur due to snakebite in India.[156] This is same number as the total maternal mortality in the country. Thus snakebite requires high priority, particularly in tribal areas. But this has not been the case. The same is true of malaria.

1.9 Planners and government officials recognized that there was a "greater" need amongst the tribal population. Yet this need was neither measured nor calibrated. Consequently, the schemes for rural areas were extended to the tribal areas with a simple revision in the population norms. Even this revision was often arbitrary and not based on actual studies. For instance, till date, despite repeated requests neither MoTA nor any other government department has been able to share data on the population density in tribal areas or the number/percentage of people living outside scheduled areas.[157] Therefore, there is no way of ascertaining whether the revised norms are sufficient to bridge the health gap in tribal areas. Moreover, often there is a discrepancy in the need and the funding allocated towards it. For instance, though the tribal population accounts for 30% of all malaria cases and 50% of the mortality due to malaria, only 10% of the funds under the National Vector Borne Disease Control programme have been earmarked for the tribal population.[158] With no nodal body looking at guidelines and planning for the health of the tribal population, there is a huge policy and planning vacuum that needs to be filled.

1.10 This mismatch between actual need, policy formulation and financing is often the result of a serious lack of data on health culture, morbidities, programme implementation among the tribal people. Further, disaggregated expenditure data on tribal health is currently unavailable, making it difficult to ascertain whether quantum of funding provided is sufficient. There is a common perception and complaint that funds for health care in tribal areas are underutilized, diverted to other areas, or utilized inefficiently, and worst, siphoned off by way of corruption.

1.11 *Tribal sub-plan (TSP) is the mechanism where funds allocation is at least in proportion to the percent ST population in the states that is made available over and above the routine expenses as for the general population.*

The availability of funds under TSP during the last three years shows that, on an average, per capita availability of fund per year for the development of tribal population of the country (as per Census 2011) was around Rs. 8,000. During the current year, it is around Rs. 10,000.[159] However, often the percentage

[156] Mohapatra B. Warrell D et all, Snakebite in india: A National Representative Mortality Survey. Accessible at http://journals.plos.org/plosntds/article?id=10.1371/journal.pntd.0001018 ; for the Million Death Study, 2011. Last accessed November 30, 2016

[157] Prof Chander Shekhar and his team at the IIPS have estimated the tribal population living in blocks with more than 50% ST population and the MoTA has computed some data on tribal population living in districts with 50% or more tribal population.

[158] Indegenous People's Development Plan; National Vector Borne Disease Programme; Government of India; Available online at http://www.nvbdcp.gov.in/Doc/VBDCP_IPDP.pdf; last accessed April 28; 2016

[159] Document on Van Bandhu Kalyan Yojana; MoTA, Government of India. Available online at http://vky.tribal.nic.in/circular/BackgroundNoteonconvergence.pdf; Last accessed June 29, 2016

Diagnosis of Tribal Health: Salient Points

- Lack of understanding of differential needs of tribal people
- Absence of data to map the situation of tribal health and monitor performance
- No special planning; Mismatch between need and policy formulation
- Inadequate health infrastructure and human resources
- Insufficient budgetary allocation
- Poor Management and Accountability
- Little presence of tribal people in planning, decision making and implementation

expenditure shown under TSP is a mere accounting exercise instead of a well-monitored and well-planned venture that ensures that funds reach the people living in tribal areas. This is because various Ministeries show under TSP, the regular services that they would in any case have to provide in tribal areas. The additional expenditure in these areas, which is the mandate of the TSP, remains unstated. There is no consolidated data available on TSP expenditure, at the state and centre level.

In conclusion, it can be said that despite the high reliance of the tribal people on the public health care system in Scheduled Areas[160], it continues to be characterized by low output, low quality and low outcome delivery system, often targeting wrong priorities. An important reason behind this is the near complete absence of community participation in the planning, design and implementation of health services.

Local tribal youth migrate outside in search of employment while unwilling non-tribal workers continue to be forced to work in tribal areas. This results in a mismatch of aspirations and expectations. Though a number of legislative provisions, most notably, the PESA have been put in place to provide Tribal Gram Sabhas a role in designing and managing social sector schemes, there is no mechanism to ensure that this actually happens. This also remains the fate of the VHSNCs under NHM and the ITDP structures created by MoTA. The intent for participatory development and the Panchsheel principles notwithstanding, the lack of concerted effort in the area, has muffled the voice of the tribal people at all levels of governance. There is very little effective political representation from the tribal community. The lack of interaction and consultation between the administrative mechanisms and the tribal people is compounded by language and cultural barriers. Even at the central level, there is no mechanism, within the MoTA or MoHFW, to look at tribal health.

Therefore restructuring and strengthening of the public health care system, in accordance with the needs and aspirations of the tribal communities, and with their full participation, should be the highest priority for the Ministries of Health and Family Welfare, both at the Centre and in the states.[161]

Furthermore, thus far, planning for tribal development has been limited to special schemes or measures designated for tribal areas, ie districts, blocks and clusters with more than 50% tribal population. However, there is evidence to show that 55% of the tribal population in the country lives outside the 809 blocks with more than 50% tribal population. Moreover, there is an increasing movement of tribal people from scheduled to non-scheduled areas in search of education and livelihood opportunities. Thus, planning for Tribal Health also requires specific measures for tribal people living in non-tribal areas.

The basic principles for this restructuring and recommendations for a robust, health care system in tribal areas are outlined in the following section.

[160] Analysis of NSSO 2014 data by PFHI Health Economics Unit

[161] Report of the Expert Committee on the Socio-Economic, Health and Educational Status of Tribal Communities in India; May 2014; Ministry of Tribal Affairs, Government of India

PART II

Roadmap for the Future

4

Chapter

Principles and the Goals of Health Care for the Tribal People

Nearly one hundred million tribal people in India are politically, economically and educationally most marginalized, and geographically the farthest placed. Naturally their health status is the worst. The distance between tribal people and the health care providers, planners, and managers is not only geographical, but more importantly, cultural, psychological and temporal – as if they exist in different worlds, in different time bubbles. If the latter group (including us) has to plan or design health care for the former, we need to be guided by the following principles:

1) **Justice and responsibility** – It is the constitutional and moral responsibility of the government and of the society to do justice to this vulnerable segment of the population. It is an irrevocable promise, a tryst. Health care to the tribal people is an acid test of Indian democracy. The health care response must match with the health care needs of the tribal people. More the need, more and better should be the response. This again is a constitutional promise, and a corollary to the principle of justice. Provision of health care to the tribal people cannot be derived from the market principle of financial returns or profit, but should be only on the principles of justice, rights and equity.

2) **Appropriateness**: Tribal people are unique from the rest of rural India. Yet, it has often been assumed that they are carbon copies of their rural counterparts and the same healthcare programmes have been extended to them. Their anatomy and biology may be same but the geography, environment, social organization, culture – knowledge, beliefs and practices, health care seeking and sources, as well as the morbidity and mortality patterns, frequency, and consequences are different. They not only differ from the non-tribal population, but also differ among themselves (705 tribes live in India). A uniform and rigid model of health care is definitely inappropriate. The health care delivery and content must be appropriate to the culture of each tribe and its locality. "Development" and "development policies" should be reoriented to be in sync with not just the culture, but the aspirations of each of these groups, individually and collectively.

3) **Autonomy**: The single deepest aspiration among the diverse tribal groups is the strong desire for autonomy. Tribal people want to be autonomous so as to be able to preserve their identity, their way of life. The Constitution of India, as well as the Panchsheel Principles of tribal development expounded by the first Prime Minister of India – both emphasize and promise this autonomy. The Schedule 5th and 6th of the Constitution as well as the PESA provide for a semi-autonomous administrative structure in tribal areas.

   Autonomy is also necessary to ensure that the health care designed or planned for the tribal people is appropriate to their needs and culture.

4) **Decentralized planning and administration**: To ensure appropriateness and autonomy, the planning, management and accountability of health care in tribal areas must be decentralized. This means more role and power to the basic units such as the Gram Sabhas, the Panchayat institutions and the district. However, enormous capacity building efforts will be required to enable these units perform better.

5) **Acceptable and Culture sensitive:** For the health care to be acceptable to the tribal people, it must be culture sensitive and tribal friendly, provided with dignity, and yet never forced upon them. The use of tribal dialect and respect for tribal culture must be integral. A contentious, but important issue is how to accommodate the indigenous medical system – the providers and

the therapies– without sacrificing the scientific principles and methods of public health. One way could be to train the traditional healers in elementary health care. Other possible way is to offer a choice at the health care institutions.

6) **Universality**: All tribal people living in the scheduled areas or outside, should be covered by special and appropriate health care models. For those living in non-scheduled areas (with rural population), special provisions must be made at the household level, eg access to health insurance on a priority basis, access to housing facilities.

7) **Accessible**: In view of the problem of distance – physical and cultural – access to health care is of paramount importance. The low population density, huge distances, hilly terrain or forests, and lack of transport systems pose obstacles. But health care must be designed and delivered to ensure access for all. This will mean that infrastructure, human resource and service delivery should be as near as possible. The famous Chinese dictum stated in the First People's Health Congress should be the guiding principle – 'How far a mother on foot can walk with a sick baby? Health care must be available within that distance'. This principle becomes even more pertinent in case of the tribal population because of their poor care seeking behaviour. Access can be ensured in several ways:

   i) **Health care institutions** should be more in number, at a lower population ratio. A maximum limit of distance should also be incorporated in deciding their number and locations. For this, we will have to move beyond the IPHS in tribal areas.

   ii) **Human Resources:** They should be more in number and placed at a short, walk-able distance. This means, each tribal village and hamlet should have a trained community health worker and volunteers. This would also mean that majority of these workers must be from within the community, and should be community-based. A sizable proportion of health care – preventive, promotive and curative should be community-based.

   iii) **Outreach service and mobile care**: In view of the distance and low health care seeking behaviour among the tribal people, this approach may be more appropriate.

   iv) **Knowledge and Skills transfer:** Health literacy among tribal people is low. To ensure access to health care services and their uptake by the STs, behaviour change communication and health education are important. These should be done in a culturally sensitive manner, using local languages and through training of local tribal youth as health workers and volunteers.

   v) **Technology**: Use of information technology and mobile phones can bypass the distance and enable a quantum jump in access to knowledge.

The principle of accessibility places the primary responsibility of ensuring access on the health care services, thereby making community-based care and outreach services the backbone of health care in tribal areas.

8) **Comprehensiveness**: Health care for the tribal people should be comprehensive, covering health education and promotion, and preventive, curative and rehabilitative care at the level of community, primary, secondary, and for a selected problems, at the tertiary level.

9) **Adequacy**: The quantity and quality of health care must be adequate. The optimum levels must be stated, monitored and safeguarded. In view of the distribution of the tribal population in scheduled and non-scheduled areas, population norms may be revised.

10) **Integration to address the social determinants:** Difference between the tribal people and the rest is primarily environmental, socio-economic, cultural and political. Tribal people have lower levels of education, income,

housing, wealth, roads, communication, credit, electricity utilization etc. The poorer health status is partly an outcome of these. Several initiatives of various ministries aim to mitigate this gap by planning various schemes and programmes. Better health outcomes will result if multi-dimensional development is pursued. The health initiatives need to collaborate with other programmes such as the schools, ICDS, water and sanitation, MNREGA, PDS, Roads, Forest rights, PESA, Excise policy, telecommunication etc.

11) **Empowerment**: Several of the above principles can be best practiced not by a patronizing model of provided care but by the empowerment model. Empowering tribal people can be accomplished in several ways.
   i) Knowledge transfer and training – a massive effort to import health literacy and the basic scientific information necessary for taking care of health.
   ii) Local and community-based human resource
   iii) Delegation of medical roles and skills.
   iv) Local leadership development
   v) Local planning, management and accountability.
   vi) Financial and administrative powers.
   vii) Use of enabling technologies.

12) **Flexible and dynamic**

Tribal health care should be designed not with a fixed rigid template, but should offer a flexible framework. The details, such as health care priorities and goals, must be chosen locally. In line with the principles of NHM, the district, block and village should become the seat of choosing many of these. This also means the health care solutions offered must take the form of a wider menu from which the states and the districts will opt for what is appropriate for them. Moreover, the design must be dynamic to allow for the rapid changes in the tribal society and the changing disease pattern to be equally rapidly addressed.

13) **Financial Resources**

To bridge the health status deficit in tribal areas and to overcome the handicaps and difficulties, more per capita financial resources will be needed in tribal areas. These should come largely from:

1. The regular health care budget of the state including the Central schemes. As per the guidelines of the erstwhile Planning Commission of India, each line department (Health and Family Welfare) must spend a proportion of its planned and non-plan budget in the tribal areas at least equal to the proportion of tribal population in the state population.

2. ST component of the state plan: To bridge the gap, additional resources equal to the proportion of the ST population in the state are earmarked as the ST component of the state plan. In view of the importance of health and education, at least 15 per cent of the ST component of the state's plan must be ear marked and made available for the health care to tribal people. This has been done in the State of Maharashtra. This money should be additional to the regular budget from the Ministry of Health and Family Welfare mentioned above, and should never be allowed to substitute the later.

3. Special provisions for tribal health from the Central component.

4. The mines, the forest department and the public and private sector companies located in or drawing raw material from tribal areas may also be charged a cess as the share of the local tribal people.

5. In addition, a smaller component may also be mobilized from the civil society and the CSR.

Goals

The overarching goal of health care for the tribal people should be to bridge the current gap in the health status of the tribal people and to bring their health coverage and outcome indicators at par with the state's average latest by the year 2027.

The **sub-goals** should be:

1. To create a functioning, sustainable and universal system of health care for the tribal people, consistent with the above general principles, in the next five years, by 2022.

2. To design and create the following components essential for health care for the tribal people:
    - An administrative structure for local participation, planning and management, especially a greater role to the Gram Sabhas empowered under the PESA Act
    - Focus on comprehensive primary health care delivered closer to the community
    - More human resource for health
    - Health education and knowledge dissemination plans.
    - Measurement and monitoring (surveillance) system
    - Special Financial system.
    - Research: bio-medical, epidemiological and operational research to provide appropriate solutions for the existing problems.

3. To allocate and spend on tribal health a budget equal to 8.6% of the total health budget, over and above the amount spent as per capita health expenditure. This comes to roughly 2.5-3% of the per capita GDP, which is in line with the suggestions of the HLEG and the new National Health Policy (2016). MoTA should also spend 15% of its own funds and the funds available under TSP on Tribal Health.

4. To establish at the Central and the state level the new bodies called Tribal Health Council and Directorate for Tribal Health to regularly review the progress in implementation, health indicators, finances, and the new evidence and to suggest the corrective or policy measures at the national level. This body, to be chaired by the Health Minister and Co-chaired by the Minister of Tribal Affairs should include the elected tribal representatives, health administrators, researchers and the representatives of civil society.

5
Chapter

Organization of Service Delivery and the Roadmap

Outline

The health care needs, beliefs and aspirations of the tribal populations are often very different from that of the general population in rural areas. Yet the current system for delivery of health services in tribal areas is similar to that in rural areas, except for a relaxation of the population norms. While these revised norms reflect the government's intent to ensure that tribal people get access to timely and good quality healthcare, given the realities of the tribal health situation, they are insufficient to have the desired effect.

Traditionally, tribal communities have lived in and around forest and hilly areas, or in remote hamlets with little connectivity. Even today, distance and poor geographical access, compounded by the near absence of all season road connectivity and transport facilities, are major barriers to access to healthcare in tribal areas. The time, money and effort required to visit a health centre and seek treatment, often keeps the tribal away from the healthcare system. This coupled with poor quality of care, absence of healthcare personnel, a trust deficit with respect to the government healthcare system, traditional cultural practices and healthcare belief systems and alien-ness of the healthcare delivery mechanism adversely impacts the delivery of service to, and uptake of service by, the tribal people. As suggested in the chapter on the Principles of Healthcare for tribal people, *these barriers can be surmounted through a decentralized provision of care that brings healthcare closer to the tribal habitations, by empowering them to manage their own health and by the use of technology. This would however entail a re-visioning of the healthcare delivery system based on an understanding of the dynamics of culture, healthcare beliefs, problems and aspirations of the tribal people.* This is especially important because unlike the rest of the population, a huge proportion of tribal people who access healthcare, do so at government facilities.

The NSSO (2014) data, analysed by the PHFI shows that while nationally 25% of the illness episodes were treated in public health care (out-patients), it was 48% for the tribal population. For the inpatient treatments this was 38% overall versus 60% for the ST population. Hence access and quality of public health care is vital for tribal people who heavily depend on it.

The Government of India in its 12th Five Year Plan had talked of universal health care. The New Health Policy of the government also focusses on universal health assurance. Given the deplorable condition of tribal health, it is important to ensure that the Tribal people have the first right to this universal health assurance.

In Tribal Health, the organization of service delivery needs to incorporate three aspects: a) preventive and promotive healthcare- what is to be done when the tribal is not sick? (eg provision of clean drinking water and sanitation, prevention of injuries and bites, counselling re substance abuse and lifestyle disease) b) curative care- what is to be done when the tribal falls ill? c) surgical and specialty care- what is to be done when the tribal is very sick and requires specialist intervention?

The major recommendations proposed by the committee for doing so are outlined below:

Challenges and Recommendations

Challenge 1: *Ensuring timely access to quality healthcare for the tribal population*

It is important to ensure timely access to quality healthcare for tribal people at a location closer to them. This entails that at least 70% of the focus on tribal health should be on primary health care. At the same time the scope of health care services available to tribal population needs to be expanded to include much needed gynaecological and surgical care, eye care, dental care, mental health among others. For this, we suggest:

1) Reorganization of Service Delivery Mechanisms in Tribal areas:

1.1 Tribal ASHAs: In the tribal areas where hamlets are often scattered, *ASHAs should be appointed at the level of each habitation- going down to one for every 50 households* (about 250 population). Hamlets which are smaller than 50 households have to be aggregated together for a minimum critical size. Though the ASHA was introduced as a health activist, most of her work currently focusses on provision of health services. It is important to ensure that the ASHA pays equal attention to the role of social activation. For this, *fifty per cent of their remuneration should be fixed and the rest should be performance based, linked to service delivery.*

Further, ASHA training curriculum and competencies in tribal areas need to be somewhat different, and designed to make her multi-skilled to manage all preventive and promotive activity, acute simple illnesses, follow up care on all chronic illnesses and to maintain records. Being from the tribal community, the ASHA will be cognizant of the local culture and traditional belief systems. However, she needs to be apprised of the morbidity profile of the habitation and the factors that impact it. The current ASHA is a starting point and a process of certification can iterate towards the desired skill set. These ASHAs should be provided with medical kits for treatment of minor ailments.[162]

1.2 Tribal Health Volunteers: Local tribal youth- 5 boys and 5 girls per village- should be identified, motivated and trained as *Arogya Mitras* or health volunteers to spread information on good health practices. (More details in section on Road map to primary health care in tribal areas) These youth will be selected by the Gram Sabha and work under it.

1.3 Village Health Sanitation and Nutrition Committees*:* There is a need for carefully selected hamlet level VHSNCs. Currently, VHSNCs are formed at the level of revenue villages. This is insufficient as hamlets are often apart and relatively autonomous. Under the PESA Act, each hamlet is an autonomous Gram Sabha. The VHSNC should follow a similar pattern.

[162] Detailed functions of ASHA workers in Chapter on Human Resource for Health and later in this chapter

1.4 Tribal Health and Wellness Centres: At the present norm of one PHC per 20,000 population in tribal areas, each PHC caters to 50-100 villages, with large distances. Hence, if not the primary health centre, the primary health care must move closer to the people. The Government proposes to convert present health sub-centres, across the country, into health and wellness centres over the next 5-10 years, depending on the capacity of states.[163]

Given the situation of health among the tribal people and the disproportionate burden of morbidity and mortality amongst them, *this committee proposes that this centre in tribal areas be called Tribal Health and Wellness Centres (THWC), initially at a population ratio of 1:3000 but over a period to reach 1:2000. This rollout of Health and Wellness centre should begin in the tribal areas and should, over a period of 3 years, cover all tribal sub-centres (including those in scheduled areas, ITDP and MADA pockets), beginning with places with more than 50% tribal population.*

A broader basket of 15 types of services should be offered at these tribal health and wellness centres will include:

- Health education
- Care during pregnancy and childbirth (at all centres for tribal areas)[164]
- Neonatal and child health care services including immunization and management of sick child.
- Adolescent health care services
- Family planning, contraceptive services and other Reproductive Health Care services
- Management of common communicable diseases and general out-patient care for acute simple illnesses and minor ailments
- Management of Communicable diseases: National Health Programmes
- Screening and Management of Non-Communicable diseases
- Screening and Basic management of Mental health ailments
- Counselling, particularly with respect to substance abuse and nutrition[165]
- Care for Common Ophthalmic and ENT problems
- Basic Dental health care
- Geriatric and palliative health care services

[163] *Health and Wellness Centres (HWCs):* The Report of the Taskforce on Comprehensive Primary Health Care Rollout suggests that every sub-centre be converted to a health and wellness centre, with comprehensive primary care facilities, including access to diagnostics and drugs, over the next 5-10 years across various states. The team: Each HWC will have a primary care provider team led by a Community Health Officer and will comprise of all ASHAs in the villages covered by the sub centre, two ANMs and a male MPW. The Community Health Officer will be a trained mid-level practitioner – BSc Community health, nurse practitioner or AYUSH doctor, certified for a set of competencies in delivering public health and primary care services. Members of the primary care team, including the ANM and MPW will be trained in multiple skills to enable them to function as laboratory technicians, counsellors or pharmacists, etc as the need arises. In the absence of paramedics, this will ensure that all the requisite skills are available within the team at the HWC, thereby assuring delivery of services to the people. Services: Each HWC will be upgraded to provide preventive, promotive, curative and rehabilitative services at par with what is currently available at the sector level primary health centres. It will provide referral for consultation with an MBBS doctor, if the need arises. Besides, diagnostic laboratories, HWCs will have screening capabilities for various conditions that are mandated to be treated at this level. Monitoring and data collection Functions: Active registration of every household and individual in the coverage area through an annual search, will be carried out and family folders maintained at the HWC. This data would eventually be digitized and included in an integrated data system. Performance of these centres, including quality of care, would be measured through improved monitoring with active community engagement, use of IT tools for patient satisfaction audits and grievance redressal mechanism and periodic external verification. *Source: The Report of the Taskforce on Comprehensive Primary Health Care Rollout; MOHFW*

[164] According to The Report of the Taskforce on Comprehensive Primary Health Care Rollout, this service will be available in select centres, depending on the requirement of states. But for tribal areas, the committee recommends that this be available at all centres. The Report of the Taskforce on Comprehensive Primary Health Care Rollout; MoHFW, Government of India

[165] Additionality for tribal areas

- Trauma Care (that can be managed at this level) and Emergency Medical services
- Referral

Training for health workers in these centres should include local language and sociological skill development, in addition to multi-skilling as paramedics.

1.5 Mobile Outreach Services (MOSs): Experience with the use of MOSs has been variable. Yet they are essential in tribal areas, particularly ones that are difficult to access and far from the primary health centres. *This committee recommends that there should be two Mobile Outreach Services per PHC i.e. 1 MOS per 10,000 population in tribal areas to reach out to all the tribal hamlets and to make health care available at their doorstep, at least once every month and during emergency situations such as seasonal fevers, diarrhoeal disorders, malaria etc.* The current government guidelines for MMUs mandate vehicles that are huge and expensive. Many are unable to travel on the narrow paths leading to tribal habitations. What is being suggested here is a smaller and simpler vehicle with a driver and the same PHC team to carry out outreach programs in the evening and treat patients. The focus of MOSs should be on health promotion, screening, care for chronic illnesses, both communicable (TB, HIV, leprosy,) and non-communicable, including mental health in addition to treating common illnesses. These mobile clinic should be able to provide a two months drug refill to all the chronic patients who are registered for treatment under it. There should be a health educator on each MOS to bridge the knowledge gap among the tribal population. Should the need arise, these vehicles can also be used for transporting emergency cases to the nearest point where an 108 ambulance is available. However, these MOSs should complement, not substitute primary health care in tribal areas.

1.6 PHC and Additional PHC: The section on Road map for Primary care in Scheduled areas describes the functions and facilities needed at the PHC level in great detail. It is important to ensure a further relaxation of population norms for these institutions for hilly and difficult terrain. Moreover, each PHC should also have an ophthalmic assistant, an oral hygienist and a mental health counsellor to ensure expansion of the basket of services available to the tribal population.

1.7 Specialist Services: The problem with respect to specialist care in tribal areas is twofold. One, tribal people do not go to PHCs and CHCs and seek care for non-emergency surgical problems such as hernia, hydrocele, piles etc. Two, specialists don't reach tribal people to provide care or to undertake surgery.

Given the paucity of specialists, super-specialists and surgeons in tribal areas, periodic diagnostic and surgical camps need to be organized, for chronic surgical, gynaecological and ophthalmic problems The specialist doctors at the district hospital and CHCs may be mobilized for this. These doctors, particularly, Gynaecologists, Obstetricians, Paediatricians, General surgeons and Physicians, deployed at CHCs, district hospitals and medical colleges, should visit PHCs on a regular basis. Additionally, while doctors from urban areas are averse to staying and working in remote locations, many are happy to volunteer 2-3 times in a year to serve the underprivileged. ICT tools should be deployed to create a dynamic database of such doctors and an annual camp rooster should be created. There is a need to put in place strict

SEARCH experience of surgical camps in Gadchiroli

SEARCH (Society for Education, Action and Research in Community Health) provides health care to the tribal and rural population in Gadchiroli district of Maharashtra. A 'tribal friendly' 30 bed hospital provides the secondary level care. When SEARCH was unable to get a resident surgeon and an anaesthetist, an approach of surgical camps for planned surgery was evolved. It has been going on for two decades now. Nearly 50 general surgeons, specialists and anaesthetists from all over Maharashtra regularly volunteer to provide free services. The hospital's regular team identifies needy patients in the regular OPD, gets pre-operative examination (CBC, Sugar, BP, ECG, X-Ray, HIV) and preparation done. Ten to twelve surgical camps of one or three day duration are organized every year. These camps offer General surgery, Gynaecological surgery, Spine surgery, Urosurgery, Plastic surgery, Paediatric surgery, ENT surgery and Gastro-enteric surgery.

Operation theatres have been constructed with the help of the MP LAD funds. Blood bank support is received from the district hospital. Local tribal girls have been trained as nursing assistants, and work under the supervision of doctors. The whole team is led by a senior gynaecologist.

Nearly 6000 patients have been operated upon in the last 18 years. The patients are usually discharged after 7 to 10 days. The post-operative complication rate is very low (less than 2%), operative or post-operative mortality is rare (0.05%). Patients from nearly 1000 villages seek care through these camps.

guidelines for such camps to ensure quality of service provided.

2) **Transportation for Health workers:** Given the distances and scattered populations in tribal areas, it is important to provide local suitable two wheel vehicles to frontline health workers eg ANMs and MPWs to ensure that they are able to cover maximum ground in minimum time. Government can, through banks, make available personal loans to these workers.

3) **Round-the-clock services:** Many patients travel long distances to reach health centres. Often times, they reach the centres late and have to wait outside over night or make alternate arrangements. This can act as a major deterrent in care seeking. It is important to ensure assured emergency service including admission in a health facility, irrespective of time of day, for all patients. One PHC in every 20,000 population should have staff quarters and 24x7 on call services. The tendency of the workers to remain absent can be countered by verifying their physical presence at the centres with the help of GPS and bio-identification attendance recording.

4) Technology Driven Solutions:

4.1 Innovative Point of Care diagnostics: One corollary of the need to take health care closer to habitations and work places is the need to innovate more point of care diagnostic technologies; to develop frugal and rugged technologies that can work with ease in the peripheral health facilities and with community health volunteers, along with easier methods of calibration and verification of their accuracy. In some areas like in diagnosis of fevers and infections new technologies have to be developed. But even regular technologies like weighing machines and blood pressure

equipment need innovation to make them more affordable, and reliable and to ensure periodic revalidation. Several universities abroad and the IITs, National Institute of Design, CSIR institutions could be contacted for these needs awaiting solutions.

4.2 **Tele-medicine:** Tele-medicine cane be used for assisting the doctors and health workers at the PHCs and the THWCs with expert advice.

4.3 **Data collection:** Collection of data and monitoring is a huge problem across the country, but particularly in tribal areas. Local health workers in tribal areas can be empowered with mobile and tablet connectivity to record and share data and problems via sms or internet.

5) Public Private Partnership: There are numerous examples of NGOs stepping in and provide healthcare services to tribal people in the remotest corners of the country. There are also many successful examples of PPP. However, it is important to ensure a balance in such relationships.

Often NGOs work locally with particular tribal groups through service delivery or community based models to improve their health status. Eg, Vivekananda Girijana Kalyana Kendra in Chamarajanagar, Christian Hospital Bissamcuttak, Sewa Rural Hospital in Jhagadia. While modest government grants are available to support part of the work at these institutions, most of the funding is derived from private donors. The biggest strength these models offer is their understanding of local socio-cultural beliefs which enables them to ensure better utilization of services and greater impact. However, this local customization often makes it difficult to replicate these models. There have been very few examples of them scaling up and being adopted in other parts of the country. One such successful model has been the Home Based New Born Care model developed by SEARCH, Gadchiroli. There is a need to study such existing models, document their strengths and to systematically study their potential for scaling up, in different tribal areas.

The Karuna Trust experience has demonstrated that managing PHCs in the PPP mode does not necessarily lead to privatization and can in fact be a remarkable tool for strengthening the PHC and empowering the public health system to better serve the community.

Use of ICTs in PHCs managed by the Karuna Trust: A case study

The PHCs managed by the Karuna Trust use technology solutions to improve service delivery after the basic health system has been put in place.

Drug Logistics: Logistimo has developed a tool that enables the pharmacist at remote PHCs to place an indent for medicines at the head-office through alerts and reminders on cell phones thereby, eliminating stock-out situations entirely. The dashboard installed at the Karuna Trust head office continually monitors drug usage and stock-out through a simple android mobile technology, thereby eliminating wastage. This technology has now been adopted by the Government of Karnataka in the districts of Chamarajanagar and Shimoga.

Comprehensive Primary Healthcare Management (CPHM): This technology developed by EMC^2, with technical inputs from Karuna Trust, enables provision of ***comprehensive*** preventive, curative and promotive health-care services to the members of the community by bringing together health-workers and decision makers on a single platform. Earlier the ANM had to carry and maintain multiple registers during her visits and submit multiple reports at the end of the month. Now, she carries a tablet that has all the information for the community. She also gets alerts on ANC and PNC care, immunization, follow-up treatment for TB and other illnesses. CPHM allows PHCs to manage the health records over a period of time, enabling the "life cycle" approach to health. Currently, the Gumballi PHC managed by Karuna Trust has about 23,000 health records of the community on the CPHM. The Trust is now looking into adding an electronic medical record (EMR) component for PHC/ sub-center clinics to this tool.

ECHO- Karuna Program (Tele Medicine): Extension for Community Health Outcomes (ECHO) was started by Dr. Sanjeev Arora of the University of New Mexico, to assist in the treatment of Hepatitis C patients in remote areas of Albuquerque through a hub-and-spoke model. The same principle has been applied by the Karuna Trust to train, strengthen and build the capacity of Medical Officers and health-workers at remote PHCs through an online video-conferencing system. Regular neurology sessions are conducted by the Medanta Hospital of Gurgaon while NIMHANS uses this portal to train health-workers in managing the community mental health. The program has been especially successful in 15 PHCs in Karnataka, where internet connectivity has been established and necessary hardware like display screen/ monitor, web-camera and microphones provided. Regular paediatric and obstetrics/ gynaecology sessions are conducted and health-workers are allowed to direct their questions to an expert sitting at the hub. These discussions allow for a deeper understanding of the topic, resulting in better health service at the facilities.

e-Partograph: Most maternal deaths can be avoided by providing timely intervention and care during ANC, delivery and PNC. Blue Crimson has developed an application to record and relay the partograph digitally to an expert in the hub, in real time as the labour proceeds. The expert who is continuously monitoring the partograph parameters will be able to advise the health-workers on the kind of intervention needed at different stages thereby ensuring better decision-making. In case of emergencies, the expert refers the case to the nearest higher facility. This is currently being piloted in 3 PHCs in Karnataka and will be scaled up to 15 in the coming months.

School Health Program: The Rashtriya Bal Swasthya Karyakram (RBSK) proposes school health check-ups for all school going children on an annual basis. It calls for a systemic approach which not only involves all the major systems of the body, but also included follow-up of the diseased state thereby ensuring effective treatment of conditions early on in life and decreasing the burden of health management in the future. Cerner has developed the Smart Health Program tool to manage the school health program and monitor the students' health over their schooling years. Currently, more than 100,000 children are being screened with this tool.

PPP in Healthcare: The Karuna Trust Experience

Primary Health Centres (PHCs) in India are the basic units of the public health infrastructure of the government mandated to provide a wide range of services to a population of 20,000 to 30,000. However, they face many challenges due to poor management of PHCs, lack of political commitment, inadequate allocation of financial resources and absence of community participation. Therefore, a form of partnership where the public (government) and private (both for-profit or not-for-profit) sector work together to provide quality health care to all was initiated in 1996. The MoHFW handed over the management of a PHC in Gumballi in Chamrajnagar district of Karnataka to the Karuna Trust.

The Karuna Trust was set up in 1986 to respond to the widespread prevalence of leprosy in Yelandur Taluk of Karnataka and has been successful in reducing the prevalence of leprosy from 21.4 per 1000 population to 0.28 per 1000 over a period of 26 years. Subsequently, it expanded its mission to address problems of Epilepsy, Reproductive and Child Health, Dental care, Eye care, Mental health and Tuberculosis and integrated these healthcare services into primary healthcare as an innovative approach.

The organization's success in turning the poorly equipped and low performing PHC at Gumballi into a model health centre offering high quality and affordable primary healthcare, prompted other state governments to invite them for similar initiatives. Besides Karnataka, the Trust is currently managing PHCs in Arunachal Pradesh (11), Meghalaya (11), Manipur (3), Odisha (6) and Rajasthan (12).

Under the present arrangement, state governments sanction 100% funding for managing the PHCs. Even before a PHC is taken over for management, the Trust assesses the willingness of the community to accept such a partnership by starting a dialogue with the community, eliciting recommendations from gram, taluk and zilla panchayats and applying to the zilla panchayat to seek approval from the health committee. Following this, a Memorandum of Understanding (MoU) is signed with the Director of Health Services for a period of 2-3 years and the PHC is taken over from the District Health Officer. The existing government staff is given the choice to continue or opt for transfers.

The Trust ensures that the PHCs managed by it meet the Indian Public Health Standards (IPHS) standards and conform to the specifications set out in the MoU. Moreover, it provides the following services at no additional cost to the total expenditure: dental health care, community mental health care, vision care, epilepsy management, non-communicable disease management, cancer screening, integrating traditional tribal medicine into PHCs, family planning, micro credit and community health insurance. It has also spearheaded a number of technological innovations to improve healthcare delivery to the community. These include Logistimo- a drugs supply chain management solution for PHCs that has not been adopted by the government of Karnataka, e-Partograph – an application to record and relay partographs in real time as the labour proceeds to ensure assistance to health workers in remote areas and the Smart Health Program tool that is currently being used to monitor the health of 100,000 school students over their schooling years.

6) **Corporate Social Responsibility (CSR)**: Under the new government rules, there is a large amount of funding potentially available through the CSR channels. Some of these funds are already being directed for Government campaigns like 'Swachch Bharat.' A similar campaign should be launched to encourage corporations to invest in provision of health care in tribal areas. This campaign should target at least 5% of the total CSR funds.

Challenge 2: *Lack of Secondary and Tertiary care in tribal area.*

Tribal people need higher level of care for emergency medical problems such as accidents, obstructed labour, celebral malaria, snakebite etc. They also need specialist services for eye, orthopaedic, gynaecological and psychiatric problems or chronic surgical conditions. As the incidence of hypertension, diabetes, cancer and stroke goes up, increasing level of secondary and tertiary care will be needed.

For secondary and tertiary care in tribal areas, the challenge is ensuring functionality and provision of care, not population norms. Data presented in the chapter on Health Situation of Tribal People shows that there are practically no specialists- both in the public and private sector- in tribal areas. The lack of infrastructure and human resources for provision of secondary and tertiary care facilities is compounded by poor referral services. Often tribal people do not travel to these care facilities due to the huge cost involved in transportation, stay and the loss of wages.

1) **Timely referrals and support:** For the health system to work seamlessly and efficiently, a robust referral system needs to be established. The system should start right at the level of the CHW (when to refer to a sub centre or PHC) and should continue at all levels (when to refer to an MBBS doctor, a secondary care or tertiary care unit).

   Most tribal people do not go for referrals due to the high out-of-pocket expenditure involved – cost of transportation, loss of wages, cost of food, medicine, diagnostics and stay near the referral centre, to name a few. It is important to ensure that all medicines are provided free of cost; there should be no prescriptions for collection of medicines from outside the government health facilities. *Tribal Help Desks should be set up in CHCs and DHs (described in detail later) to ensure that no user fee - not even a token amount- is levied on the tribal people* as there is strong evidence to show that this reduces uptake of services. *Diagnostics should be free* and covered for through insurance. In case the insurance system is not in place, there should be a surplus emergency fund at every referral centre to ensure free diagnostics for the patient through Trust based hospitals or NGOs. *All indoor patients at all facilities including PHCs should be provided with food, at no charge.*

   Often, tribal patients reaching CHCs and district hospitals feel lost. Moreover, at times, they are turned away due to unavailability of beds or doctors. It is important to ensure that whenever a referral is made, the health unit to which the patient is referred is informed of the referral and prepared for it. Furthermore, referral visits often entail travelling long distances, loss of daily wages and a transportation expense. *For tribal areas, all VHSNCs should be provided with an emergency referral fund to enable CHWs to refer emergency cases to the nearest health centre and make arrangements for their transportation.* Also, for such emergency cases, a health worker should always accompany the patient.

2) **Timely Patient Transport Systems:** For acute illness and emergency care, beyond the level of what a community health worker or mid-level health practitioner can provide, there is a need for robust, timely and easily available patient transport systems to ensure last mile connectivity for patients and pregnant women. For many, this can be a matter of life and death. Various systems have been tried by different state governments and NGOs. Eg in response to the mapping of maternal deaths in Guna district of Madhya Pradesh, local Gram Panchayats identified willing vehicle owners and coordinated emergency transport

to sub-centres with 24X7 delivery facilities for women in remote villages. In addition, through a public-private-NGO partnership with UNICEF technical support and monitoring by state officials, the district arranged for a call center and free ambulance transport to 22 facilities providing 24 × 7 deliveries. The service transported 1153 patients in the first 6 months, and was then extended to the district of Shivpuri. In Purulia district of West Bengal, with a high percentage of isolated villages, several pradhans (local PRI leaders) initiated an emergency referral transport system consisting of locally appropriate "van rickshaws." Women's self-help groups managed the system, which interlinked difficult-to-reach areas with main roads.[166] EMRI run 108 ambulances are operational in many parts of the country in PPP mode. Under this system calls are made to a centralised number and the nearest ambulance, equipped with an emergency medical technician to record vital parameters and provide pre-hospital care, is dispatched to collect the patient.[167] Hill states like Uttarakhand run a Doli/Palki scheme for transporting pregnant women to the nearest point connected by a transport system.[168] Some countries in Africa use a motorcycle driven ambulance.

In addition to the ambulance-on-call service offered by the public health care institutions, two complementary models have emerged for provision of emergency patient transport: *a centralized 108 like system that allows for well-equipped ambulances with a health personnel, located at key points. Alternatively, localised solutions through empanelled private vehicles run by local youth and women's SHGs.* Depending on the terrain and availability of local vehicles, the adequate patient transport system needs to be selected. For mild to moderate illnesses, bike ambulances may also be considered.

For tribal areas the *norms for 108 Ambulance services need to be relaxed*. There is a need for a scheme to ensure that the cost of transportation does not fall on the tribal people as this may become a deterrent for seeking timely hospital care, especially for poor families. In Madhya Pradesh, there is an interesting scheme wherein every household pays Rs 25 per year, and if they have any problems, especially malaria, they are provided a fixed transport allowance per visit. If they do not avail this facility, the Rs 25 goes to the government.[169] However, tribal people are often too poor to pay even this nominal sum. Government can offer transport allowance in tribal areas for some life threatening emergencies like Snake bite, very sick child, accidents, difficult delivery, fever with convulsions or unconsciousness etc. This will increase the care seeking, reduce mortality and enhance trust in the public health care. The VHSNC in every hamlet should be provided with an Emergency Transport Fund.

3) **Increasing the availability of safe blood:** Blood is imperative for Compulsory Obstetric care and for accidents which are common place is tribal areas. There is a need to relook at the guidelines for blood banks and revise them for tribal areas in a manner that allows for opening of more blood banks, without compromising on the safety of patient or donor. Infrastructural requirements need to be relaxed; as long as a blood bank is able to ensure hygiene, safety and proper testing and blood storage facilities, it should be allowed to function. There should be emergency blood storage units or blood banks at all CHCs and DHs in tribal areas.

[166] Henry D Kalter, Pavitra Mohan, Archana Mishra, Narayan Gaonkar, Akhil B Biswas, Sudha Balakrishnan, Gaurav Arya,and Marzio Babille; Maternal death inquiry and response in India - the impact of contextual factors on defining an optimal model to help meet critical maternal health policy objectives; Health Res Policy Syst. 2011; 9: 41; Available online at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3292953/

[167] http://www.gvk.com/media/GVKEMRI%209-4-13.pdf

[168] DHAP Dehradun, 2011-12; Available online at http://www.cmodehradun.org/dhap_2012.pdf

[169] Example quoed by Dr Neeru Singh at the meeting of the Expert Group on April 5-6, 2016.

4) **Clustering of health centres:** Given the paucity of specialists and doctors in tribal areas, hospitals in a district may be organized as a cluster and a team of specialists be ensured in each cluster.

5) **Provision of care through Medical Colleges:** For tertiary care, medical colleges in tribal areas should take direct responsibility of 3 PHCs and 1 CHC. This has been tried successfully in Karnataka. It is important to understand that medical colleges are not just institutions for the development of the health cadre, but they have capacities to provide care. Specialists and doctors from these colleges could be mandated to visit health centres in tribal areas on a rotational basis and to organize health camps. In additional to this, all PHCs, CHCs and District hospitals should have formal institutional referral linkages to medical colleges. Work in tribal PHCs should be made a compulsory part of internship and the bond of compulsory rural service.

6) **Use of telemedicine:** Getting doctors and specialists into tribal areas remains a challenge, nonetheless one that can be addressed, at least partially, with the use of technology. For many years now, organizations like E-health point in Punjab and World Health Partners in Bihar have been providing primary healthcare to the rural masses, in remote areas, through the use of tele-medicine. In these areas, tele-medicine terminals with trained technicians provide care under instructions from doctors in city hospitals. More recently, social enterprises like iKure in West Bengal have developed platforms like Wireless Health Incident Monitoring System (WHIMS) to diagnose and screen diseases through the use of a tele-medicine run hub and spoke model.[170]

In addition to providing supportive primary care, telemedicine is being used for tertiary care support to secondary care providers and secondary care referral for primary providers. Narayana Hrudalaya has been using tele-medicine to provide care across 800 centres in India. Tele-radiology and ophthalmology was started in Tripura in 2008 and has been scaled up to cover the entire state. Carried out as a partnership between the Government of Tripura and the Aravind Eye Care, this initiative uses Telemedik, a patented system that allows for transfer of patient data over telephone lines and facilitates consultation with doctors.[171]

This committee therefore sees tele-medicine as providing a systematic back up to all PHCs and CHCs in tribal areas- mainly for discussing and finalizing treatment plans in all chronic illness- knowing that the patient may often not make the journey to the district of medical college hospital. This should especially be emphasized for specialties like psychiatry dermatology or oncology, where care is not available even in the district hospital, and where the consultant opinion is very important. Many of these initiatives and technologies have already been documented and are available through the NHSRC Innovations portal. Administrators in tribal areas should be apprised of them to enable them to include the appropriate use of tele-medicine in their District Health Action Plans.

7) **Financial Protection:** Financial protection through government medical insurance schemes ensuring cashless service, should be provided to the tribal people for seeking secondary and tertiary care. All existing government insurance programmes should be evaluated for the percentage of ST beneficiaries.

Challenge 3: *Ensuring Continuity of Care*

An integral part for ensuring continuity of care is making the patient an important stakeholder in the care process. Making the family a part of the primary health care process is an important prerequisite which will help ensure better continuity of care. Maintaining updated health

[170] http://www.ikuretechsoft.com/index.php/programs/health-care-delivery?id=566
[171] Opportunities, Ecosystems and Roadmap to Innovations in the Health Sector; National Innovation Council, 2013

information of each individual at all levels of care is an essential step in this process. The information must be accessible to both beneficiary and provider. The Taskforce on Primary Health Care report has also suggested that every individual and family be registered with a primary care team. Further each THWC, would be required to maintain a family folder to ensure that the population within its coverage area is registered. Registration would be an active process. Every house and individual who is recorded in the census/Aadhar/National Population Register (NPR) must be registered. An active annual search would ensure that new arrivals into the population get registered. Anyone resident in the area, say for more than three months, would qualify to be registered. Where Aadhar card is available or an RSBY card has been provided these numbers would be part of the registration process- but the lack of identification number cannot be a reason for non-registration. To a person with a health care needs – the experience of care should be one of seamless continuity. One important enabler for continuity of care is the digitisation of individual patient care. Record of care provided to each individual is important- whether it is care provided by the primary care provider at the THWC or by the hospital and consultant. Maintaining case records of patients helps in follow-up and ensuring that desired health and nutrition practices are being followed at home. Hence the report recommends that these family folders, maintained at the THWC, should be eventually digitised and integrated into a national network of electronic health records similar to the Mother and Child Tracking System (MCTS).[172]

Challenge 4: *Ensuring Access to Essential Medicines and Diagnostics*

1. **Free availability of essential medicines:**

1.1: It is important to ensure that all medicines are provided free to the tribal people at the health centre itself. Each facility should have a fund for medicines to ensure no patient is asked to purchase medicines from outside the health centres.

1.2: Often, health centres do not have adequate drugs. Some are present in excess (due to lack of use), while others disappear fast and there is a delay in stock up. To manage this, many states have adopted e-Aushadhi, a web based application which deals with the management of stocks of various drugs, sutures and surgical items required by different district drug warehouses. The main aim of 'e-Aushadhi' is to ascertain the needs of various district drug warehouses such that all the required materials/drugs are constantly available to be supplied to the user district drug warehouses without delay. This includes classification/categorization of items, codification of items, quality check of these items, etc and finally issuing drugs to the patients, who is the final consumer in the chain. The model has been implemented at the level of CHCs and above and is particularly successful in Rajasthan. It seeks to implement a transparent system for procurement, storage and distribution of quality drugs, supplies, equipments, required for the hospitals, at competitive prices. It also minimizes wastage and monitors the drug consumption pattern.[173] It is important to extend this to PHCs and gradually to the level of ASHAs to ensure that all health centres and providers are well stocked with the requisite drugs and supplied.

1.3: Free and timely Diagnostics: The basic principle for diagnostic service availability is to minimise the movement of the patient and improve the timeliness and reliability of the report. The organization of diagnostic services in a district should be based on a careful distribution of

[172] ibid
[173] For further information refer to http://www.cdac.in/index.aspx?id=hi_dms_aushadi

capacities across sites, including the Tribal Health Centres.[174] To begin with, ASHA should be able make simple diagnosis such as malaria and anaemia.

2.1 Implement Recommendations of Taskforce on Primary Health Care Rollout in tribal areas: The Taskforce on Comprehensive Primary Health care Rollout has suggested a diagnostic structure to bring identification of ailments closer to the community. These recommendations need to be rolled out in the tribal areas on a priority basis. They include a Central Diagnostic Unit (CDU) for every 20 Health and Wellness Centres-THWCs in tribal areas (depending upon distances and populations served). Since we are recommending one THWC per 2000 population, and one PHC per 20,000, the CDU would correspond with two PHCs in tribal area. Regular transportation of samples to the central laboratory and diagnosis within 24 hours should be ensured through employment of diagnostic runners – local youth who visit the Tribal Health Centres at specified times of the day (usually once or twice a day) "to collect the samples, transport these to the CDU, and deliver reports from tests conducted the previous day. Variations of this approach have been attempted in hub and spoke models for organization of diagnostic services. Successful examples from NGO run models such as Jan Swasthya Sahyogin Chhattisgarh and Sugha Vazhvu Healthcare in Tamil Nadu and organization of such services by larger commercial laboratory chains show the feasibility of such an approach."[175]

2.2 Diagnostic facilities for ailments that are to be diagnosed at the sub-centre level should be available at these Tribal Health Centres. The ANM or the MPW there should be trained for multi-tasking and do common lab testing.

2.3 The MOS (Mobile Outreach Services) attached to each PHC should have a mobile lab with it and a lab technician. That will make essential lab facilities available in the field especially for chronic diseases.

2.4 A large number of private doctors operate in tribal areas. The NSSO (2014) data reveal the 52% of the out patient treatment to tribal people was by the private sector. These private practitioners' blind diagnosis leaves much to be desired, resulting in continued illness, increased cost and even deaths. Skill building of private doctors in using simple diagnostics to arrive at correct diagnosis before starting treatment is recommended.

2.5 The quality and ethics of the present private clinical laboratory and radiology services needs to be monitored and improved, especially in the tribal areas.

2.6 Use of Technology: The rapid progress in the field of low-cost technological innovations and medical devices, designed for resource-poor settings, should be leveraged for diagnostics at primary care levels. Many NGOs, social enterprises and governments are already leveraging technology to assist in diagnosis on the spot and over long distances and to facilitate the dispensation of medicines. Simple, reliable, accurate and low cost diagnostics needs to be developed by India's grant making institutions and giant technology institutions.

[174] Report of the Taskforce on Comprehensive Primary Health Care Rollout
[175] ibid

Challenge 5*: Improving Health Literacy in Tribal areas*

Level of education and knowledge about health and diseases – in short, Health Literacy – is low among the tribal population. This generates a knowledge gap of a few centuries between what is known to science and what tribal people know, believe and act on. For instance, often they are unaware that malaria is caused by mosquitoes, diarrhoea by germs and that early initiation into breast-feeding can save babies. Knowledge is the best pill and best vaccine. Therefore massive health literacy drives for continuous health education of women, men, youth and children are needed.

This should be achieved by way of

1) Targeted Mass communication – wall paintings, posters, media.
2) Health Science exhibitions on mobile vans eg 'Video rath'
3) Folk media – Folk theatre, street plays, cultural groups.
4) Health education courses and activities in schools. (expanded later)
5) Every contact with health system (ASHA, ANM, PHC, MMU) must be accompanied by a five minute health education.
6) IT : technology tablets, mobile phones.
7) Village volunteers
8) VHSNC

The health education contents and language must be locally appropriate.

Ensuring provision of health education and healthcare through School Health care Programme can bring in a generational and cultural change in tribal health.

Currently, the health conditions in most Ashram schools are pitiable. Reports about incidence of malaria, diarrhoea, snake bite, food poisoning, scabies, communicable diseases, etc in these schools abound. In 2013, the Mumbai High Court was informed that as many as 793 children had died in Ashramashalas across Maharashtra in the last decade due to minor illnesses, scorpion bites, snake bites and fever.[176] If this is the situation in a relatively well-developed state like Maharashtra, one can well imagine the fate of students in these schools in poorer states like Odisha and Jharkhand.

Yet, Ashram schools and hostels for tribal boys and girls offer a window of opportunity. In Maharashtra alone there are 4.5 lakh tribal children in 1100 Ashram schools.[177] SEARCH, in Gadchiroli district of Maharashtra, has run such project 'Aamachi Nirogi Aashramshala' (Our Healthy Aashramshala). These schools can be used to inculcate good health practices, disseminate information, monitor health and nutritional status, provide health care and train boys and girls to become frontline health workers. They should become a point of convergence and delivery for several priority actions including:

a) Provision of first aid for fever, diarrhoea, fall, snake bite, injuries;
b) Health education: orientation on community health in tribal village; diet and nutrition counselling (6-16 years) including anaemia and micro-nutrient deficiencies; promotion of toilets, personal hygiene and sanitation practices; malaria control; adolescent sexual and reproductive health education;
c) Counselling and care: counselling regarding use of tobacco, alcohol and drugs; identification of and support for mental health, cognitive and learning disabilities;
d) Screening, early detection and treatment/ correction of several diseases eg congenital heart disease, prevention of rheumatic heart diseases, neurological problems, eye and ear problems and sickle cell anaemia;
e) Training: paramedic and CHW vocational training for the students.

It is important to ensure that every Ashram school is attached to a trained medical officer or a nurse practitioner, along with essential medicines, including anti venom injections. In fact, the Mumbai

[176] http://timesofindia.indiatimes.com/city/mumbai/793-deaths-in-ashram-schools-across-Maharashtra-in-10-years/articleshow/22297070.cms
[177] ibid

High Court mandated the presence of a medical officer in the vicinity of an Ashram school.[178]

Challenge 6: *Increase uptake of services through cultural compatibility*

The brick and mortar health centres with their clinical appearance and stained sheets often inspire deep suspicion and trepidation among the tribal population. These health centres and the rules followed therein are often diametric to tribal culture. Further, many tribal people do not understand the language being spoken or the processes that need to be followed to get quality care. To them these centres are the proverbial white elephant, with a huge cost to their dignity, values and belief systems. The disdain and disrespect that they encounter at the hands of frontline health workers and doctors, creates a chasm between the patients and the facilities, that adversely impacts the uptake of healthcare facilities by tribal people.

Cultural compatibility is therefore the key to ensuring uptake of health services by the tribal population.

1) **Making Hospitals more tribal friendly:** Health facilities should be suited to the cultural practices of tribal communities, eg modifying the labour table for giving birth in the squatting posture, cooking facility for patients and families in Hospitals; using local foods; allowing a companion during delivery; and finding someone who knows the tribal language to explain what is happening. Privacy for women, presence of a female attendant when a woman is being examined and provision to record all instances of violence against women are

Tribal – friendly Hospital

SEARCH (Society for Education, Action and Research in Community Health) decided in 1992 to start a small hospital for tribal people (Gond) in Dhanora block of Gadchiroli district in Maharashtra. The team knew that tribal people usually did not seek care from the existing government hospitals. So they first held a series of consultative meetings with tribal people from 50 villages and their leaders, and asked the reasons for non-seeking care. The tribal people offered following reasons:

1. The big buildings of hospitals scare us. We feel lost.
2. The hospital staff ridicules our language, dress and food.
3. They speak some strange language (English).
4. The doctors and nurses are wrapped in white shrouds (aprons) like we wrap dead bodies in white cloth.
5. The sick patients are admitted but the relatives are thrown out.
6. Medicines are very costly.
7. There is no God in these hospitals. How can there be healing without God ?

SEARCH designed a hospital which looks more like a tribal village. The 'indoor' is in the form of ten huts where the families can stay with the patients. The OPD registration room is designed like a 'gotul', a traditional Gond institution. Local tribal girls and boys are recruited and trained for various roles in the hospital. A generic medicine pharmacy is run where medicine prices are 50-60% lower. A small temple of the goddess 'Danteshwari', the highest goddess of the Gond tribe is constructed at the entrance. And finally, respecting the desire of the tribal women, the hospital is named Ma Danteshwari Davakhana!

When the hospital was ready, tribal women said – "Now this is our hospital, not yours!"

[178] http://www.punemirror.in/pune/cover-story/Ashram-shalas-to-get-govt-aid-after-15-yrs/articleshow/31164173.cms

important. The buildings should be more tribal friendly; perhaps small elements like tribal paintings or images can be introduced to make them feel more comfortable. Health messages can be painted on the hospital walls with the help of local art forms to break the monotony of waiting for doctors.

2) **Help Desks at Health centres:** Health centres, particularly CHCs and district hospitals are complex entities with a series of procedures and protocols that most tribal people do not understand. They often feel lost in these spaces and are unable to demand or obtain quality care. It is therefore important to create a help desk with a tribal counsellor at every hospital and CHC in tribal areas to help tribal patients navigate through intra - and inter-hospital referrals. This tribal counsellor should be from the predominant tribal community living in the catchment area of the health centre, so that (s)he is able to communicate with the ST patients in their own language. His/her tasks would include helping the patients to fill forms and complete formalities, guiding them to the right rooms, explaining the prescription or care advised by the doctor, answering any questions that the patient or his/ her family may have about their condition and informing the care providers at the next level of care in case of referrals. These counsellors could, for many tribal patients, be the one friendly and familiar face in an alien and overwhelming setting. In case the tribal patients encounter disdain at the health centre, these desks can also serve as the complaint box.

Past experience shows that unless these counsellors are carefully selected, trained and monitored, these help desks can become dens of corruption and exploitation. This committee recommends the use of IT based innovative feedback mechanisms to avoid this pitfall.

The registration clerks should be oriented to do this action in the PHC and PHU.

3) **Strengthen and locally adapt health promotion strategies:** We should integrate into health promotion strategies, select traditional health practices that have been documented to have a positive impact. There is a need to ensure that the health education and awareness materials developed are relevant to local culture and are in local dialects. Social scientists and anthropologists should be involved in creating/disseminating awareness materials. NGOs, working closer to the community, are often good at this. Health education by ASHA/ ANM through Village Health and Nutrition Days should be prioritised.

4) **Sensitization of health workers:** There is a need to sensitize all health care functionaries deployed in tribal areas on the local tribal perceptions and beliefs regarding health and disease. This should include the doctors, nurses, ANMs, pharmacists, MPWs, health educators and counsellors. Care should be taken during a) Medical history taking of patients, including of the past treatments taken, b) Advising to the patients on diet, medicines and other practices, c) health education and promotion of various 'does' and 'don'ts'. d) Designing communication strategy and material. Cultural sensitivity – not to offend or antagonize, and cultural compatibility – to align and make use of the traditions will increase the acceptability and compliance. For example permission to adopt squatting position during labour.

Roadmap for Provision of Primary Healthcare in Tribal Areas

This committee recommends that the government should focus 70% of its resources for tribal health on provision of primary care in tribal areas. This Comprehensive primary health care should include preventive, promotive, curative and rehabilitative care.

Making primary health care available, requires two components. The first is a triad comprising the

package of services that would be available, the way in which service delivery would be organized and the human resources required to deliver these services. The second component is a set of supplementary strategies that include access to drugs and diagnostics, information technology, ensuring quality of care, human resource development, and management.[179]

The promise of Universal Health Assurance, as proposed in the new National Health Policy (2016), and the Universal Health Coverage as recommended by the HLEG (2011) should begin with the tribal areas.

Universalising Comprehensive Primary Health care in tribal areas must remain one of the central priorities of government interventions towards improving tribal health. Though the broad principles of primary health care are universal, their specific features at the level of implementation details change with the tribal context.

For tribal areas with scattered population and poor health indicators, this universal primary care can only be achieved by way of a) Empowering the tribal people for health (increasing the health literacy, and building in the community a capacity for health care i.e. tribal human resource) and b) by moving the centre of gravity for provision of health care closer to the community. The World Health Organization stipulates a minimum ratio of one doctor[180] and 2.28 health workers[181] per 1000 population. This has also been recommended by the High Level Expert Group Report on Universal Health Coverage for India.[182] As against this there is only one doctor per 1,700 citizens in India. This ratio is as low as 1:20,000 in rural areas.[183] So one can imagine the doctor patient ratio in tribal areas which have the most gaps in human resources, given their remote locations and poor infrastructure.

Delivery of health care services- be it preventive, promotive or curative - are based on the network of health sub-centers, primary health centers, Community health centers and district hospitals. To this the NHM added the ASHA. Equally important it defined standards for each level of facility- the Indian Public Health Standards- setting out the services which are to be delivered and the minimum human resources and infrastructure required for the same. Much of the focus in implementation has gone onto closing infrastructure and equipment gaps- with less emphasis on HR and almost none on expanding the basket of services available. There is a *need to shift the emphasis to making a larger basket of services available, and matching this with adequate human resources and infrastructure.* Further given the geographic, social barriers and the problems of attracting and retaining health workers in these areas – considerable innovation is required in how these services are to be delivered.

Continuity of care is one of the key tenets of primary health care. Care must be ensured from the level of the family through the facility level and be based on the principles of Dignity and Respect for Traditions and Practices, Information Sharing, Participation and Collaboration.[184]

Organisation of Tribal Health Care

In the light of these principles, the Expert Committee would like to suggest the following structure for delivery of primary Health care in tribal areas.

[179] Report of the Task Force on Comprehensive Primary Health Care Rollout

[180] Cited in Madhav G Deo, 'Doctor Population ratio for India- The Reality,' Indian J Med Res 137, April 2013, pp 632-635; Available online at http://icmr.nic.in/ijmr/2013/april/perspective.pdf

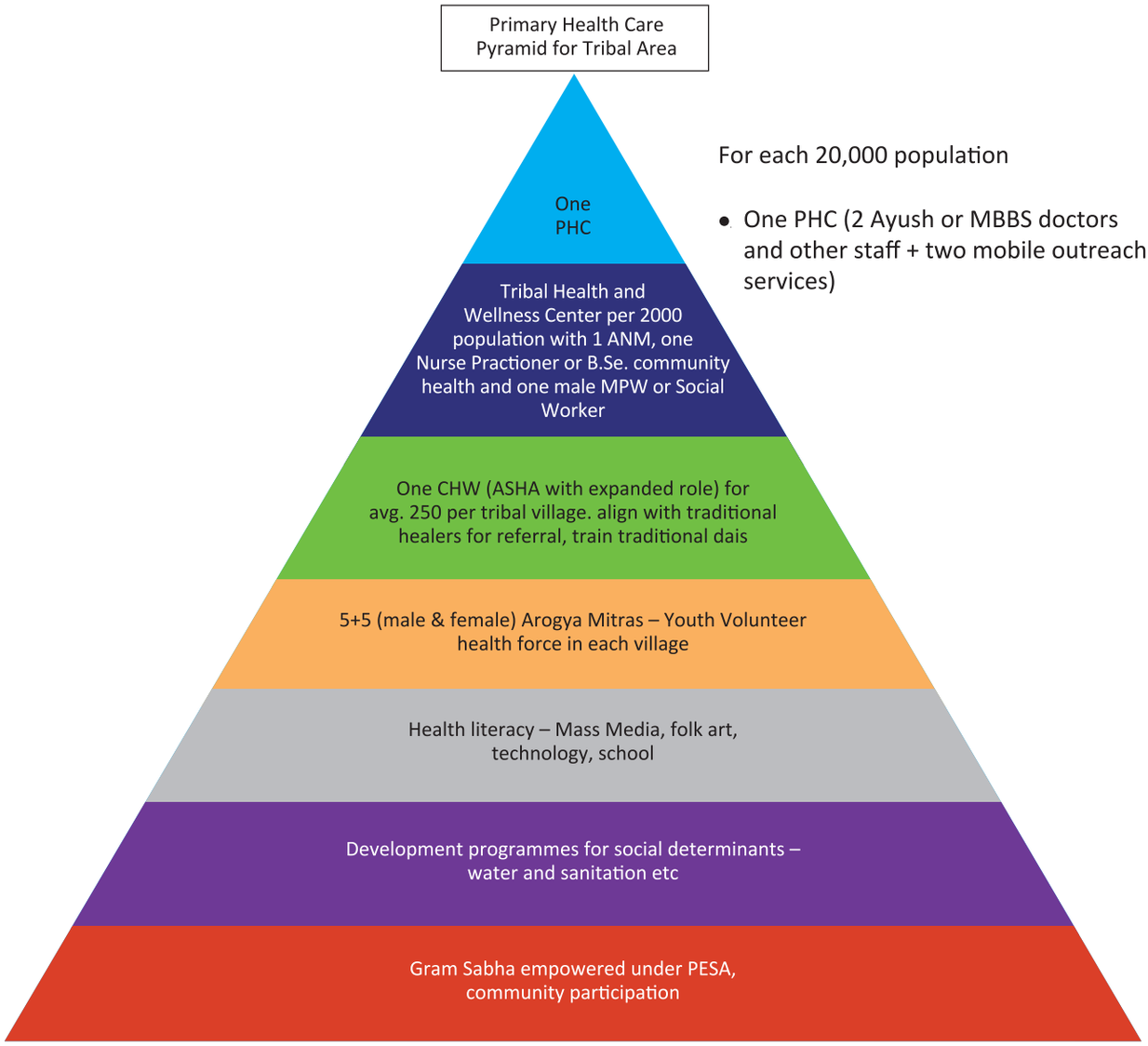
[181] World Health Organization; World Health Report; 2006. Available at http://www.who.int/whr/2006/06_chap1_en.pdf?ua=1

[182] High Level Expert Group Report on Universal Health Coverage for India, Planning Commission of India, New Delhi, November, 2011.

[183] PriceWaterhouse Cooper; 2012; https://www.pwc.in/assets/pdfs/publications-2012/healthcare_financing_report_print.pdf

[184] Taskforce Report

Figure 20: Proposed Governance Structure of Tribal Health



This structure visualises three distinct layers for the delivery of primary health care in tribal areas:

1. ***Primary care in the community*** *through trained local tribal youth called Arogya Mitras, trained traditional dais and ASHAs, with the active support and participation of the Gram Sabha and the key community influencers.*

    i) At the base of this proposed structure would be the **Gram Sabha** constituting all adults in the village and empowered under PESA. The PESA act gives the role and power to the Gram Sabha to guide the social and health programmes in the tribal village. This Gram Sabha and its concomitant structures up to the Panchayat level would have to work with government functionaries to ensure that the local developmental programmes of the Ministries and divisions which impact the socio-economic determinants of health are undertaken on a priority basis in tribal areas. The gram sabhas will be the starting point of the need-based health planning. The village specific health needs will be decided by them and mediated through an annual **Tribal Health Assembly.**

ii) To bridge the knowledge gap, a massive **Health Literacy drive** through mass media, folk media, schools etc would need to be undertaken in local tribal dialects and using local cultural symbols.

iii) This drive would be supported by trained **Arogya Mitras**. These would be volunteers -5 boys and 5 girls from every tribal hamlet (per 250 people)- who would spread awareness about health and good health practices, after due training and capacity building. The Mithras will also promote Sanitation, healthy living, sports and yoga among youth and control of tobacco and alcohol. They will be selected and their work monitored by the Gram Sabha.

iv) The topmost rung at the community level would be the community health workers: one **ASHA** for a population of 250. As the tribal population is more scattered, it is not possible for an ASHA to cover one thousand people. While NHM allows states to relax norms for ASHAs for tribal and hilly areas, there is no stipulation on the extent of this relaxation. As a result, not many states have asked for additional ASHAs.

This committee recommends that there should be one ASHA per 50 households or 250 population in tribal areas. The tribal ASHA should be chosen from the community.[185] She may be less educated and should be trained for expanded functions listed later on in Table 20.

The ASHA will be guided/supported by the Tribal Health and Wellness Centre. The ANM and Social Worker there will be her supervisors. She will be IT empowered. For better acceptance by a traditional community, ASHA will take cooperation of the TBA and the traditional healer who will be oriented/ trained for limited supportive role.

This committee recommends that the ASHA in tribal areas should be paid a fixed 50% of their honorarium per month for retention and non-quantifiable work. The remaining 50% should be performance-linked payment. Health departments for various vertical programmes have a tendency to use financial clout to push their priorities. The ASHA may become an agent of these, losing her connection and loyalty to the community's needs. Hence at least half of her total payment, that is the fixed component, should be routed through the Gram Sabha or the VHSNC.

2) Primary care at the Tribal Health and Wellness Centre – This will be the first institutional point of care, through a trained mid-level health care practitioner. The health sub centre in tribal areas should be renamed as the Tribal Health and Wellness Centre (THWC) and in accordance with the proposed Health and Wellness centres, offer a much broader range of preventive, promotive, curative and rehabilitative services. The THWC would have the following 15 functions:

- Diagnosis and treatment of common or important illnesses, and minor emergencies, backed by point of care and simple diagnostics and telemedicine facility.
- Supervising and supporting Trained ASHAs (8-10 in the area) and their functions.
- Deliveries, ANC, PNC, Home-based Newborn and Child Care
- Control of Communicable diseases
- Referral, if necessary, by arranging emergency transport.
- Immunization
- Nutrition – screening, counselling, referral of SAM
- Health education and promotion in 8-10 villages
- Organizing diagnostic and treatment clinics eye, dental, surgical, gynaecological
- Sanitation

[185] Further details re the roles and responsibilities of ASHA workers are available in the chapter on Human Resources for Tribal Health

- Sexual, reproductive, adolescent health and Family Planning.
- NCDs – screening, detection, regular treatment and follow up
- Addiction – prevention, counselling, organizing de-addiction treatment
- Trauma care
- Records, reporting, data generation

This THWC would be the centre of gravity for Tribal Health and would cover a population of 3000 initially but then eventually 2000, usually within a radius of 5 Km. It would have an ANM, 1 Male health worker and /social worker for managing, health education and social mobilization and one attendant for the support functions. In addition to this a mid-level health care practitioner- a trained Ayurvedic doctor or Nurse/Practitioner would be stationed here to provide basic curative health care. The ANM and Male Health worker would be multi-skilled to enable them to take up the task of paramedics including simple lab diagnostics and ensure service delivery.

These centres would also serve as the gate keepers, ensuring that only people who need to be reviewed by a doctor visit the PHCs. Appropriate technology would be used to connect these mid-level practitioners to MBBS doctors to facilitate proper diagnosis and timely referrals.

3) **Primary Health Centre:** At the apex of the Primary Health care pyramid in tribal areas would be the **Primary Health Centre**. This centre is currently for a population of 20,000 i.e. approximately 80 villages/hamlets. *The ten THWCs per PHC, strengthened with Ayurvedic doctors will be able to take provision of care closer to the people thereby reducing distance between tribal villages and health care services.* PHC would offer referral support and continuity of care. Staff would be appropriately skilled to function as ophthalmic technicians, dental hygienists, physiotherapists, mental health counsellors etc.[186] Trauma care services would also be offered. All PHCs, CHCs and District Hospitals should have a help desk to support tribal patients (a registration clerk for PHCs) and should provide a range of diagnostic services. These help desks would be notified by frontline health workers every time a patient has been referred and is on his or her way.

Mobile Outreach Services: To improve the outreach and access, each PHC would also have Mobile Outreach Services (MOS) that would visit every village in the catchment area at least once a month and offer basic health care, ANC, diagnostics, medicines for regular and chronic ailments and health education. This MOSs would work as a complement, not a substitute for delivery of health care services and the same PHC staff will run the MOS in the evening. Every PHC would have two medical officers: one MBBS doctor and one Ayurveda doctor who has received adequate training. The PHC staff would conduct OPD in the morning and take turns to provide outreach care in the evening by way of MOSs. These MOSs would be on Tata Sumo like vans, thereby reducing expenditure.

This proposed structure for primary health care delivery in tribal areas would involve 1 to 2 per cent of the population in tribal areas in health care delivery and awareness as health workers (excluding volunteers). *It will empower the tribal people manage their own health.* At the same time, it will ensure the timely and efficient delivery of quality primary health care.

Additional Requirement:[187] Though there will be additional costs involved in supporting this structure, the benefits will far outweigh them.

At the community level the main cost would be of training, equipping and deploying ASHAs.

At the Tribal Health and Wellness Centre level, the facilities and workforce being suggested are in line with the Health and Wellness Centres that the government is planning to roll out. The

[186] Taskforce on Rollout of Primary Care

[187] All estimates have been calculated as per RHS 2014 figures and only demonstrate the requirement across rural tribal population in 18 states and 3 UTs.

norms would entail a total requirement of 27,000 THWCs.[188] Currently, according to RHS 2014 there are 21,753 tribal sub-centres in the country (18 states and 3 UTs). However, as per current norms, the number of sub centres needed for this 8 crore population living in tribal majority blocks and MADA pockets and clusters is27,000. This committee recommends strengthening these sub-centres to become THWCs. Once that is achieved in 3-5 years, the committee recommends increasing the number of THWCs to 40000 (i.e. 1 THWC per 2,000 population.

At the PHC level, cost of the additional 4000 APHCs required can be minimized by setting them up in rented buildings.

Recommendations for Provision of Healthcare for Tribal people living Outside Scheduled areas

The Government has, over the years, adopted a number of measures to carry the development benefits, to the tribal people. Most such schemes, be they for education or health care, have been limited to scheduled areas or ITDP (Integrated Tribal Development Project) areas and MADA clusters. Yet, the reality is that there is no definitive information on the number of tribal people living in these areas and number living outside. Surprisingly, the Ministry of Tribal Affairs does not even have basic data like the number of tribal people per ITDP and MADA cluster and their total population. Trends from census 2011 suggest that the tribal population in the country is getting increasingly dispersed.[189] In Maharashtra, 51% of the ST population lives outside TSP, ATSP and MADA areas.[190] Estimates by the IIPS based on the Census 2011 data show that in India, less than 45% of the tribal people live in blocks with over 50% tribal population.[191] **Conversely, nearly 55% ST population (5.78 Cr) lives outside the tribal majority blocks.** All this necessitates the need for measures for tribal people living outside tribal areas.

These ST families are migrants of sort, dislocated from their natural resources and the community support. In some cases, their situation is worse than that of their counterparts living in tribal areas because no special schemes have been developed to address their needs and they do not share the benefits of the Tribal Sub Plan. In other cases, their situation is no different from the economically deprived sections.

While, this committee spent most of its time and resources in trying to make recommendations for tribal areas, it would like to **suggest the following nine steps for tribal people living outside TSP areas.**

1) **Population enumeration, and preparing village/town wise lists of ST families living outside the Scheduled Areas:** This exercise should become mandatory, at all levels, so that each unit (Village, sub-centre, PHC, block, district) has the numbers and lists of the ST families and individuals therein. This could be based on the Census (2011), and/or on the village population registers prepared by each ASHA and ANM. It is important to know where the tribal people are staying to be able to tailor schemes for them, and to reach-out to them.

2) **ST sub-sample in National in surveys:** An ST sub-sample should be included in national surveys such as NFHS, SRS, NSSO, DHS etc to enable independent assessment of the coverage and outcomes.

3) **Tribal Health Cell**: A tribal health cell should be created at the state and district level to monitor the health status, outcomes and coverage of health services for tribal people, including those living outside scheduled areas. This Tribal Health cell, headed by a nodal officer, should be responsible for

[188] This number is computed based on the following: the number of blocks with >50% ST population is 809 (Census 2011). 25% increase is assumed to include small tribal clusters, as in MADA, Mini MADA etc. Similarly, total population of these 809 blocks is 6.4 Crores. Additional 1.6 crore (25%) assumed for the population in other tribal clusters. Total 8 crore people (ST + Non STs) to be serviced in the tribal majority blocks and scattered tribal clusters.
[189] See chapter 2 on Scheduled Tribes in India
[190] Computed y IIPS based on Census 2011
[191] Ibid

commissioning, collating and disseminating studies on the health Knowledge, attitude and practice (KAP) of the scattered tribal population. It will also be the responsibility of this cell to enumerate the barriers in accessing health care and to determine the needs of this population.

4) **Social Facilitators:** To overcome the isolation, ignorance and diffidence of the ST people living outside, MoTA should appoint one social facilitator per 2000 ST families living outside scheduled areas to periodically visit them, identify health needs, facilitate care seeking and access to health care as well as other government benefits. Assuming 55% ST population nationally living outside scheduled areas, nearly 5.5 crore is such population, or 1.1 crore families. Thus nearly 5500 such facilitators will be required.

5) **Targeted Health communications:** Often the scattered ST population is also educationally disadvantaged. It is important to provide targeted health communications to these families to fill the big information gap that exists. The communication could be oral, printed (Health Bulletin, Post cards calendars, posters), or via SMSes in the local dialect.

6) **ST Health Card:** All tribal people should be provided an ST health card to enable them to avail special benefits like health insurance and to fast track facilitation at health care institutions.

7) **Health Insurance:** It is important to ensure that all tribal people (excluding the creamy layer and government servants) are covered under public health insurance schemes. They should be given a priority in the central and state medical care insurance scheme. If the state does not have a medical insurance scheme, an Aadivasi Aarogya Bima Yojana should be introduced with special provisions tailored to the morbidity and causes of death pattern and healthcare needs among the tribal population.

8) **Provision of primary care:** All frontline health workers and the health care institutions (ASHA, ANMs, AWW, PHCs) and the disease control programmes and schemes should be given **ST specific coverage targets** depending up on the ST population in their work area. It should be their task to enumerate the ST population in their work, screen them for their health care needs and provide necessary coverage of various national programs and schemes.

   The 'coverage of ST population' should be monitored as an essential service indicator of all workers and institutions.

9) **Formation of Health SHGs:** Since PESA won't apply outside scheduled areas, MOTA and the MOHFW should facilitate formation of Self Help Health Groups for scattered ST families for mutual support, information sharing and health care seeking.

6
Chapter

Human Resources for Tribal Health

Outline

- The 3 Problems of Human Resources for Tribal Health
- The Design Problem: Need for local participation
- Recommendations
  - Objective 1: To empower the local tribal population and building capacities for provision of healthcare
  - Objective 2: To bridge the Gap in the provision of care created by the absence of a dedicated health work force
  - Objective 3: To attract specialists, doctors and other health functionaries to tribal areas and to ensure that they stay in position
  - Objective 4: To Improve the performance of "in-position" functionaries
  - Objective 5: To ensure availability of Seats in Medical Colleges for Tribal youth and others willing to practice in Tribal areas
- Conclusion

Well-trained, well-equipped, responsive and quality health human resources are the backbone of an effective health system and a healthy society. They not only ensure availability of quality care for the people, but also empower them to lead a healthy life by adopting good practices, identifying early symptoms of disease and seeking timely intervention and care. India produces 30,000 doctors, 18,000 specialists, 30,000 AYUSH graduates, 54,000 nurses, 15,000 ANMs and 34,000 pharmacists annually.[192] Yet as the situation analysis in Section 1 of this Report demonstrates, the health workforce in our tribal areas is inadequate, demotivated, ill-equipped and without leadership. Despite a plethora of measures, the gap in the need and availability of human resources remains huge.

Our Heath workforce in tribal areas is plagued by 3 Problems:

1) **Population or Posting:** Data from Rural Health Statistics reveals vacancies on a large scale for the posts of specialists, Medical officers (MOs), lady health visitors (LHVs), male workers and technicians in tribal areas across the country, including those in developed states like Gujarat and Maharashtra. Further, studies like Maternal Health India (MATIND), conducted in select districts of Gujarat and Madhya Pradesh, show that the population of private doctors, particularly specialists like Obstetricians and Gynaecologists, in these areas is also scant.[193] This is logical given the absence of medical colleges in tribal areas and the poor paying

[192] Quoted in the report of the Steering Committee on Health for the 12th Five Year Plan; available at http://planningcommission.nic.in/aboutus/committee/strgrp12/str_health0203.pdf

[193] Mavalankar, Dileep, Doctors for Tribal Areas: Issues and Solutions; Indian Journal of Community Medicine; 2016; Vol 41 Issue 3

capacity of tribal people. The fact is that in our tribal areas, health functionaries (except frontline health workers like ASHAs and ANMs) are simply not there. We need to populate the health workforce in tribal areas.

2) **Presence:** Even in places where health functionaries are in position, they are seldom present at the health centre. While there is no systemic research or data available on presence of "in position" health functionaries in tribal areas, the pervasive feeling (substantiated by media reports, complaints by elected representatives, and visits by officials and NGO audits) is that these health personnel are often "missing." Most prefer to stay in better developed towns and cities or to undertake private practice, till the time they secure a transfer. Therefore presence and retention of health functionaries in tribal areas is a major challenge.

3) **Performance, ie Quality of HR and Quality of care provided:** In the absence of adequate facilities, incentives and avenues for professional growth and supervision, monitoring, and HR management, the health workforce in tribal areas is often demotivated and under skilled. This adversely impacts the quality of care offered to tribal people, thereby corroding their faith in the government healthcare system.

At the heart of these three problems is the simple fact that health personnel view a tenure in tribal areas- which are often remote and lack adequate infrastructure- as a punishment. They do not find the atmosphere conducive to personal or professional growth, lack basic amenities and access to good schools, state-of-the-art communication facilities, malls, theatres, restaurants and other luxuries of urban living, face undue hardship and in the case of LWE affected districts, even a threat to their lives and well-being. Moreover, they find themselves in a place whose language and culture they do not understand. As has been suggested by many other reports in the past, **it is vital to "reposition" postings in tribal areas and make them more lucrative through a mix of financial and non-monetary incentives.**

Design problem: The morbidity and mortality profile in tribal areas demands a preventive-educative and curative primary care. The difficult terrain and distances mean the health care should be available in or close to the community. The ethnic and cultural features of tribal society demand that the health care provider, as far as possible, should be a local tribal. The present health workforce pattern is opposite of this. It emphasizes and awaits specialists and doctors at the vacant posts rather than looking for and developing the workforce from within the tribal communities and the local population. If globalization does not bring in the required HR from the outside, local human resources should be seen as the solution.

This committee believes that the **only way of effecting a vibrant, responsive and present health workforce in the tribal areas in a sustained manner, is by ensuring that local tribal people are trained and deployed in the health force**. This will empower them to be responsible for their own health. At the same time, it will ensure that the functionaries stay in tribal areas, understand the people and culture and are sensitive to their needs, thereby improving not just access to care and quality, but also its acceptability amongst the tribal population.

Moreover, it is important to place the centre of gravity of the workforce not at the top – the specialists and doctors - but closer to the communities. More focus – the numbers, roles and resources – should be on community based health workers, volunteers, and on health care sub-centers close to the communities. Community based preventive, promotive and simple curative primary care needs a kind of health HR which can be generated from and retained in the tribal areas, rather than highly professional personnel recruited from urban areas and forced to work in tribal areas. The later results in a mismatch of skills, services and aspirations for both the service provider and the seeker.

Recommendations

This Committee would like to make the following recommendations to deal with challenges of Human Resources in Health in Tribal areas.The

recommended HRH pyramid has been presented earlier in Fig 20.

Objective 1: Empowerment of the local tribal population and capacity building in provision of healthcare

There must be a clear policy statement that for the entire public health workforce in the health sector, be it temporary or permanent, the preference would be for district based recruitment preferably with the same tribal background as the main tribes of that district. Instead of forcing people who are reluctant to come and work in tribal areas, it is preferable to provide an opportunity to those who live there and are happy to work there. Deploying local professionals (preferably from their own community) in health services makes for better understanding, sensitivity, rapport and confidence of the people in them. It is a common experience that ASHAs, Anganwadi workers and ANMs coming from the local areas and tribal communities have been much appreciated by the tribal population. While finding doctors and specialists from local communities could be problem, it is possible to do so for all allied medical services, support staff, nurses and frontline workers.

a) **Training tribal youth as Health Volunteers**: Tribal youth present a rich resource – literate, local and often with free time. To reach out to every tribal family and individual with health information and behaviour change communication, a small number of tribal youth – five boys and five girls- in each village, should be identified, motivated, trained and given activities as Health Volunteers by the Gram Sabha. These volunteers or Aarogya Mitras will galvanize the social atmosphere in the village through a series of small actions such as health education, spreading messages, demonstrative actions, group activities, celebrations, assisting the needy in seeking health care, assistance with emergency transport etc. This will be an unpaid health workforce. They will be encouraged by way of youth training camps, sports, cultural activities at the THWC, PHC and taluka level and through recognition.

b) **Integrating tribal youth into the 'paid' health workforce**: Instead of importing unwilling medical personnel from outside, the more feasible and sustainable long term solution will be to select, train and deploy local boys and girls from tribal areas as Trained Birth attendants, paramedics and allied health professionals - staff nurses, lab technicians and pharmacists. Students with an aptitude for community health and community service, should be identified from Ashram schools and trained rigorously after the completion of their schooling. The youth working as Health Volunteers, should also have the option of being trained to join this paid workforce after the completion of their education. The National Skilling Mission can be linked to provide some of this training. After their training and certification, they should be posted as health workers and staff nurses in tribal health centres (sub-centres), as pharmacists and lab technicians in PHCs, APHCs and CHCs in their own areas. This will not only ensure availability of health personnel and services, but also acceptability of services by the local community.

c) **Integration of Traditional healers:** In the endeavour to reach tribal populations, there is a need to devise a system to connect with the traditional healers. Their role in the community should be recognized, they should be offered training and encouraged to adopt a referral role for animal bites, TB, malaria and other serious ailments. (More details in chapter on Integration of Traditional Health and Practices)

d) **Integration of traditional birth attendants:** Given the high incidence of home deliveries, particularly in interior tribal areas that have limited physical access, it is very important to train the dais or traditional birth attendants. Often access to institutions during bad weather is a serious hurdle. In all such situations and times, tribal women are in the hands of dais. Training impacts at two levels. One, the dais learn and practice safe delivery with the help of the TBA kit. Two, dais that are trained are

able to identify high risk pregnancies and deliveries and transfer the patient immediately to a health facility at the earliest. Therefore, the government needs to undertake training of dais with appropriate skill transfer and certification. Dais should be provided with delivery kits, and linking them to the nearest ASHA and the ANM.

e) **Selection and skilling of Tribal ASHAs: T**here is a need to select, train and equip at least one tribal ASHA in every tribal hamlet. Thus, there should be one ASHA for every 50 families, approximately 250 people. To ensure better uptake of services, these ASHAs should be from the same hamlet/community that they serve. The ASHA in tribal areas should have several kinds of roles – Health education and BCC, community mobilization, action on social determinants (water, sanitation, nutrition, gender etc), liaisoning with the Gram Sabha, preventive and promotive care, treatment on common 20 illness, assistance in referral, connecting with the health care system etc. The proposed job description and time allocation for the ASHA in tribal areas is described in the table below:

Eight type of functions and total 4 hours of work perday is expected from tribal ASHAs

Following are the five requisites for making tribal ASHA the base of the health care pyramid,:

- Each tribal village/hamlet to select a local resident, motivated and preferably literate as ASHA.
- Fifty per cent of the remuneration for ASHA should be fixed and the remaining 50% should be performance linked.
- A long term process of training, 25 days per year, provided through multiple-short duration workshops to 'progressively build as well as refresh her capabilities'.
- A sustained training system in each block (320 ASHAs)
  - a) One trainer
  - b) ASHA facilitators (1:20 ASHAs) for field supervision, support and onsite training. Involve the THWC staff as her facilitators.
  - c) Training curriculum, material, DVDs.
  - d) Venue
  - e) Tablet to each ASHA and the ASHA kit
  - f) Training monitoring and a training MIS.
  - g) For a community based worker like the ASHA, onsite training in her village by a field supervisor acting as a visiting trainer is crucial.
- The ASHA workers should be encouraged to upgrade their skills through multi-skilling bridge courses so that they can be upgraded to the role of ANMs.

Table 20: Proposed Functions and expected work load of ASHA in tribal village/hamlet with 250 population

	Functions	Approximate time Per month (in hours)
1	Treatment of illnesses. (Expected No. per month) • Community based TT (50) • MMU (10) • Assistance in referral (2)	15
2	Reproductive, sexual, adolescent health and FP (15-50 yrs. 150 persons)	15
3	Maternal – newborn – child health (6 deliveries/yr + 30 under-five children)	15
4	Communicable diseases + Sanitation	15
5	NCDs. (40 persons with NCDs)	15
6	Health promotion, mental health & addiction	15
7	Vital statistics, record keeping, reporting to the supervisors	15
8	Monthly Training	15
	Total	**120 (4 hours/day)**

Objective 2: To bridge the gap in the provision of care created by the absence of a dedicated health work force

a) **Creating Mid-level care providers through bridge courses:** While qualified specialists and MBBS doctors may be unwilling to be posted in tribal areas, global experience shows that the gap can be adequately filled by a variety of trained practitioners. Countries in Africa are using trained "Clinical Officers" in PHCs, sub-centers and hospitals to carry out OPD and primary care work. They are trained for 3 years and are not fully qualified doctors but are allowed to dispense basic medicines. They are complemented by fully qualified Midwives who carry out all deliveries and manage minor complications of pregnancy and delivery. Similarly, Sri Lanka has Apothecary doctors providing primary care in rural areas for the last several years.

The fact is that for THWCs and PHCs , it is the mid-level care provider who has the most potential to close the gap in medical doctors. This mid-level care provider may be called a Community Health Officer or a Nurse Practitioner. It important to ensure that selection and training of these practitioners takes place within the district of posting.

There can be three streams of entry into this cadre:

1) In-service lateral entry from AYUSH, Dentistry, a nursing qualification or a pharmacist, after a suitable bridge course. A need based competency building training curriculum should be designed and such bridge training should be offered to nurses, ANMs, multi-purpose health workers and pharmacists to empower them to provide primary care diagnosis and treatment, with mobile phone based support from doctors from the nearest PHC. The Nursing Council of India has recently cleared both ANMs and GNMs for nursing practice. After this training they may be deployed as Nurse practitioners in PHCs and in Tribal health Centres. Similarly, the state of Odisha has already planned a six months long course for AYUSH doctors that will make them eligible for the post of MOs in PHCs.

2) Young tribal men or women with 12 years of education may be deployed as paramedics after intense training. After five years of service, they should be eligible for a bridge course that makes them a mid-level care provider.

3) Graduates from three year courses in B.SC Community Medicine or Rural Health. A few years back, the Government of India notified guidelines for starting a three year degree program called "BSc in Community health." Graduates from this course were to be posted at sub-health centers to provide clinical and public health services in rural areas. Though the course was approved by the Medical Council of India (MCI), it was strongly opposed by the Indian Medical Association (IMA). Consequently, no state or national government has taken it up. Similarly, states like Assam, West Bengal and Chhattisgarh had developed a three year trained rural health practitioner cadre, some time ago. The model was partially successful in Assam, but it did not work in Chhattisgarh as the requisite legal provisions allowing independent practice for these practitioners were not made.[194] Currently, the scheme has been discontinued in Assam as well. It is important to learn from the past experiments and reintroduce these courses to create a middle level of care providers who can work in remote and difficult PHCs and sub-centres to fill the gap created by the absence of doctors. Even if they do not get MCI recognition for practising as a 'doctor', the state

[194] Mavalankar, ibid

governments can consider creating a legal provision to permit them mid-level clinical functions in difficult and tribal areas. Let not the better (doctor) be an obstacle to provide the good (mid level functionary). It also must be realized that the scarcity and the high cost of doctors is forcing even countries like the US to legally permit such solutions in the form of Nurse Practitioner.

b) **Multi-skilling of doctors:** The problem of availability of specialists is not going to go away anytime soon. Indeed, as corporate hospitals catering to medical tourists increase, an internal brain drain results. Specialists no longer leave the country- but the effect is the same. However, many nations have shown it possible to create a cadre of basic specialists, by upgrading available MBBS doctors with a set of core specialty skills of medicine, paediatrics, surgery, orthopaedics, obstetrics and gynaecology, anaesthesia, eye and ear disease and basic trauma care. CMC Vellore had pioneered a Diploma and MD in Family Medicine course. Nepal has an MD in General Practice. Training MBBS doctors to provide specialty care such as EmOC, paediatric diseases and newborn care after due training, has been tried out under the CSSM (Child Survival and Safe Motherhood) and RCH (Reproductive and Child Health) programmes of the government. This model needs to be adopted in tribal areas across the country. Only motivated MBBS doctors who are well settled in tribal areas or are willing to settle there should be provided such training.

   While there will a cost of training for doctors, this will not put any additional burden on the overall health budget as cost of availability of doctors (even multi-skilled ones) will be lower than cost of specialists.

c) **Task Shifting**: There is a need for a systemic task-shifting with CHWs doing work that one normally expects of nurses and paramedics; nurses and paramedics becoming mid-level care providers, and doctors getting multi-skilled as basic specialists. This can improve both access to and quality of care in tribal areas with very little cost implications. Of course, building up confidence and use of skills in situ is going to need far more than mere training and certification. After two decades of selective care in many remote districts we find doctors who do not have confidence to see a wide range of patients, and we have surgeons who do not operate.

d) **Supportive Functions:** There is a need for a fresh approach to supportive functions for tribal areas– an approach where support for a cluster of facilities is outsourced to a dedicated NGO or medical educational institution which brings in nurse-trainers, surgeons and family physicians to provide on the job training and support for the establishment of a wider range of clinical care, especially in the 11 basic specialties in the district hospitals and 5 basic specialties in CHCs. If these trainer- professionals are chosen for a sense of dedication and high levels of motivation, they could inspire the younger professionals posted at these health centres. This is inherently a central function of the Directorate of Health Services, but for complex reasons of governance and institutional aberrations, it would require external support to kick start the programme.

e) **Use of Technology:** Social enterprises like E-Health Point in Punjab, Sky Clinics by World Health Partners in Bihar demonstrate a simple model wherein specialized diagnosis and prescription of medicine is facilitated by trained technicians or nurses, in consultation with doctors and specialists located in cities, over telemedicine terminals. Narayana Hrudalaya has been successfully using telemedicine to provide care globally, including at 800 centres across India.

   In the absence of doctors and specialists in tribal areas, a well-equipped tele-medicine set up, operated by trained nurse practitioners or technicians can help in bridging the immediate gap in service provision. Appointment of a dedicated and trained tele-medicine operator is crucial. In the past, many tele-medicine facilities at CHCs and PHCs have been under or unutilized as the responsibility for manning

them fell on already overburdened health functionaries. The Ministry of Health and Family Welfare has recently set up five Health ATMs using tele-medicine in four states- Himachal Pradesh, Madhya Pradesh, Odisha and Andhra Pradesh – on a pilot basis.[195] The performance of these ATMs needs to be carefully monitored and their success ascertained.

f) **Mobile and camp based approach:** As suggested in the chapter on Organization of service delivery, well equipped mobile vans can be used to provide out-patient care facilities on a fortnightly or monthly basis in tribal hamlets. This will increase the outreach of non-emergency services such as 1) health education, 2) preventive measures 3) screening, early diagnosis and treatment of common diseases, 4) referral, and 5) onsite training of frontline workers.

For chronic problems, periodic surgery camps can be organized with surgeons, physicians and specialists who may normally not be available in tribal areas. While specialists are not willing to be stationed in remote and difficult postings, many of them, including private sector practitioners from cities, are willing to offer such services in tribal areas once or twice a year, if proper arrangements are made. This model has been used by several NGOs and by the government for sterilization and cataract operations. This can be extended to other specialties and complex medical procedures for chronic ailments in tribal areas. Such specialties could be Ophthalmology, Dentistry, ENT, Orthopaedics and spine, Mental health, Gynaecology and sterility, General surgery, Cardiology and Paediatrics.

g) **Public Private Partnership approach:** PPP has also been successfully used for running patient transport service (108 ambulance with GVK EMRI), providing diagnostics (through private players in Bihar, West Bengal and Rajasthan) and for provision of service in rural areas (OTTET Telemedicine network for covering 51,000 villages in Odisha).[196] There is a need to undertake a rigorous evaluation and documentation of such initiatives to examine the possibility of replication in tribal areas. There is a lot of scope for using PPP in healthcare with reputed and dedicated local NGOs to ensure provision of quality healthcare. The Karuna Trust has successfully done this in Karnataka and in the North-eastern states. However, for this to be a reality, stringent yet realistic guidelines need to be set in place. This needs a balancing act. On one hand, the double standards (such as much lower salaries to the health staff and doctors when PHCs or MMUs are given to NGOs in areas where government is unable to get the staff) must be avoided. On the other hand, false claims of service outputs and duplication of service also need to be avoided.

Objective 3: To attract specialists, doctors and other health functionaries to tribal areas and to ensure that they stay in position.

a) **Financial Incentives:** After spending 5 years in pursuit of an MBBS degree and paying hefty fees, despite the huge government subsidy on medical education, most doctors would like to earn substantial pay checks that enable them to lead comfortable lives in well-developed urban areas. Many states have tried to incentivize posting in rural and tribal locations by offering small incentives to the tune of Rs 5000-10,000. However, experience shows that unless the financial incentive is a substantial one, doctors continue to evade such postings. The government of Chhattisgarh has been able to attract medical officers to PHCs in its tribal and LWE affected districts, by offering a monthly salary of Rs 70,000 and a monthly performance related bonus of Rs 30,000. This is almost 2-3 times the salary of an average MO. Similarly,

[195] Ghosh, Abantika, Now at Work, Five ATMs that dispense medicines; Indian Express; March 8; 2016 Available at http://indianexpress.com/article/india/india-news-india/mp-himachal-pradesh-odisha-and-andhra-pradesh-now-at-work-five-atms-that-dispense-medicines/

[196] Centre for Health Market Innovations; http://healthmarketinnovations.org/program/ottet-telemedicine

the Government of Gujarat has recently announced an additionality of Rs 25,000 per month for MOs and Rs 35,000 for specialists in tribal blocks. By offering a special salary to an Obstetrician/ gynaecologist, they have managed to secure a specialist in the district hospital in the remote tribal district of Dangs.[197]

A similar model can be adopted by other states, linking the percentage of hike to the remoteness of the area and specific difficulties (LWE areas, hilly terrain etc).

Budgetary Implications: Despite the huge hike in salaries in these areas, the overall cost to the exchequer will not be unduly high. Let us suppose that in a state with 30% of PHCs in tribal areas, doctors working in tribal area are paid twice as much as those working in non-tribal areas. The total salary bill of MOs will increase by 30%. If the salary of all other cadres remains unchanged, then the total state health salary budget will barely increase by about 5%.

b) **Non-financial incentives:** Often more than financial incentives, it is power and responsibility that attracts elite officers, and even doctors. The authority to take decisions along with the ability to "do good" and "make a difference" is a powerful inducement. This coupled with incentives like well-equipped housing facilities through group housing schemes, preference for selection in post graduate courses, avenues for professional participation and networking through support groups can go a long way in sustaining interest in difficult postings. Most developed nations with rural or remote areas have professional associations in place to counter the feeling of professional isolation experienced in such areas and to work as a support group for newly deployed and existing professionals. The Government of Tamil Nadu offers additional marks for each year of working in tribal areas for the in-service PG entrance test so that the probability of securing a PG seat increases. This seems to be effective in attracting doctors to tribal areas and can be replicated. Government of India also provides for 50% reservation in Post Graduate Diploma Courses for Medical Officers in government service who have served for at least three years in remote and difficult areas. Incentive at the rate of 10% of the marks obtained for each year in service in remote or difficult areas, up to the maximum of 30% of the marks obtained in the entrance test, for admissions in Post Graduate Medical Courses is also offered.

c) **Compulsory posting with proper Posting and Transfer policies**

Compulsory posting of Medical officers in tribal areas, for a period of 3-5 years, staggered or together, over the course of their entire service- normally 30 years in span- is another option. The years of "compulsory service" in tribal areas will vary from state to state depending on the percentage of tribal PHCs. There can be two ways of calculating this: a) One year of service in tribal areas for every 3% of tribal PHCs in the state, with a maximum compulsory tenure of 5 years. b) Number of years in service in tribal areas in proportion to the percentage of tribal PHCs in the state, ie, if a state has 30% PHCs in Tribal areas, then the MO will have to spend 30% of his or her total career (approximately 9 years) in tribal areas. Promotions and pensions can be made contingent on fulfilling this requirement for compulsory service. For this provision to work the system of posting has to be transparent, fair and rigorously implemented. There is no guarantee that MOs thus forced into service in tribal areas will actually be present at the health centres or will treat patients with dignity and care. There is also the danger that this provision will increase corruption within the system with MOs being asked to "pay" to avoid or delay this posting. Thus any policy

[197] Mavalankar, Dileep, Doctors for Tribal Areas: Issues and Solutions; Indian Journal of Community Medicine; 2016; Vol 41 Issue 3

for compulsory posting, has to be matched by adequate incentives so that it is regarded as a mandatory learning experience, rather than a punishment posting.

Currently discussion is underway in the state of Gujarat to provide doctors a choice between compulsory service in rural/tribal postings or forgoing the subsidy for MBBS courses. This could be an effective system if implemented properly. All medical students could be made to sign a bond whereby if they do not serve the mandatory number of years in tribal areas, they would have to pay the remaining fee (current government subsidy) along with accrued interest. In effect, the current government subsidy is converted into a loan. Suppose the state stipulates 5 years of compulsory service – 2 within the first 5 years, 2 over the next 5 years and one year before the end of career. If the candidate has not served two years in tribal areas within the first five years, he would have to pay 40% of the loan amount along with interest for 5 years to the government. Similarly if (s)he skips the next two years, (s) he will have to pay another 40% along with 10 years of accrued interest. And if (s)he skips the final one year, 20% of the loan amount along with accrued interest for the entire duration of his/her service will have to be paid for access to pension services.

While this would mean that those from economically underprivileged backgrounds are forced to serve in tribal areas, combined with suitable financial and non-financial incentives, it would ensure that these MOs and specialists are not professionally penalized. Moreover, the state will have to review its HRH (Human Resources in health) situation every 5 years and decide on the need to continue this provision. This is to avoid the emergence of a situation where the number of medical graduates exceeds the number of available postings in tribal areas. The state of Karnataka had to face a similar situation wherein it did not have enough rural postings to accommodate the number of doctors being churned out every year.

d) **Appointment of Prime Minister's Tribal Health Fellows:** Another solution worth exploring, is the development of PMTHF along the lines of the Prime Minister's Rural Development Fellows. These PMTHFs should be selected though a special process and be appointed for a period of 5 years. They will be recruited differently, trained differently (taught to respect tribal culture and practices), paid differently (more than normal to attract quality people) and be provided special amenities to attract them to tribal areas. They will be posted at the district and taluka level – equivalent of the DHO and BHO and will be provided with additional powers and responsibilities. Existing MOs and officers in tribal areas will have the option of applying for PMTHF, along with public health professionals and doctors.

e) **Empanelled doctors and medical officers:** Positions in tribal areas should be empanelled making them coveted postings. Doctors and medical officers should be selected through a special process and be provided with additional benefits. These empanelled personnel should be trained to perform minor surgeries, conduct deliveries, provide Compulsory and Emergency Obstetrics care as specialists will continue to elude tribal areas in the foreseeable future. Given their special skills and difficult posting they may be paid a higher salary and be given special benefits like the option of early voluntary retirement with full pension, after serving 15-20 years in tribal areas like it is done in military. However, all of this should be on the condition that they do not conduct private practice or be transferred out of tribal areas during their tenure.

f) **Flexible Recruitment and Contracting Norms:** **The** Government of Chhattisgarh had developed an innovative scheme wherein positions for doctors in remote areas were advertised. Each applicant was asked what salary (s)he would expect to work in the specified remote, tribal and Naxalite dominated areas. Under this scheme, after negotiations, MBBS doctors were paid about 2.5 times the regular salary.

Similarly, Specialists were offered a salary of about Rs 2,00,000 per month. This scheme is reportedly successful, but needs in-depth evaluation. Has it been successful in keeping the doctors in these difficult areas and are the doctors providing quality services and care? It is imperative to allow for flexibility in recruitment norms to attract doctors to these difficult postings. The norms should allow for better incentives, performance linked bonuses, shorter duration of posting and flexible timings. Measures like posting couples together in a tribal area can be implemented to ensure that the family, and therefore the doctors, stay in the area and are not always "visiting" spouses.

Budgetary implications: Will vary depending on the salary offered, the contracting norms and the perks included.

g) **The "needs" of the doctors:** Undertake a Random Choice Experiment wherein students at medical colleges would be asked what they would require to take up a posting in tribal areas. Their choices and responses should be factored into the HR policy for these areas.

h) **Avenues for professional growth and career advancement:** Professional isolation and stagnation is often a primary concern of functionaries posted in tribal and difficult areas. It is important to ensure that they are provided ample opportunities to attend national and international forums. Career advancement through bridge courses that offer multi-skilling, refresher training and promotions should also be ensured. Performance review, periodic appraisal, certification and recognition for frontline workers performing well in tribal areas is important.

i) **Transparent policy of postings and transfer:** Currently, a functionary, once posted in a tribal or difficult area is abandoned there for a long time. This leads to the belief that "out of sight is out of mind" and results in the labelling of these positions as punishment postings. To counteract this, a fair and transparent policy of transfer and allocation of postings is imperative. It is important for officers to know that they have not been singled out for a difficult posting and to know for how long they are likely to stay in the place. Technology can be deployed to ensure fairness of postings and availability of information in the public domain.

j) **Bifurcation of Responsibilities:** Many doctors do not like to practice in the government set up as they have to carry out routine work, particularly related to public health. A bi-furcation of responsibilities wherein, the MBBS doctors would only have clinical responsibilities and not have to look after administrative and public health responsibilities could be carried out on a pilot basis. This has been done in Africa. An ANM or GNM could be provided additional training as a public health practitioner to undertake the routine public health functions. Though this would lead to a bifurcation of curative and preventive functions, both services would still be available under a single roof.

Objective 4: Ensuring Performance of "in position" functionaries

a) **Feedback from the Gram Sabha and the tribal people:** Under the PESA act, the 'Gram Sabha' in tribal village has been empowered to guide the social sector and the health programmes and schemes. Hence, the health care staff must seek both, the guidance on the needs, and feedback on its services, from the gram sabha. This could be achieved at five levels
   1) Gram sabhas
   2) Gram Panchayat and block panchayat
   3) Locally organised annual Tribal health Assemblies
   4) ITDP and District level committees
   5) Tribal Advisory Council at the state level.

b) **Technology based Monitoring and Supervision:** Lack of monitoring leads to high absence of health functionaries and poor coverage of healthcare services in remote, tribal areas. To tackle this, there is a need to set up technology based monitoring systems. This can be done through the use of CCTVs or a SMS based attendance system with surprise verification checks. Similar SMS based systems

have been employed by various districts and states for ensuring attendance of teachers and for checking the progress of NREGA sites. This committee recommends that the MoHFW invite a group of IT and technical experts to work with policymakers to identify technology based low cost monitoring solutions that are neither human resource nor effort intensive. These systems should be easily implementable without the need for constant technology based support.

c) **Innovative Feedback mechanisms:** To overcome the problem of rude behaviour of healthcare providers, a performance and output based payment structure for doctors, as in the UK, could be carried out on a pilot basis. One portion of the salary could be fixed and the other could be linked to the number of patients being seen by the doctors and patient feedback on quality of care. However, given that tribal patients may not be forthcoming with their feedback, innovative ways of getting the same would need to be designed with the help of communication experts and social scientists. Currently, the Government of India is also planning to integrate a patient feedback mechanism into the proposed Health and Wellness centres.

d) **Orientation and Language training:** All frontline workers and healthcare functionaries posted in tribal areas, including MOs, should undergo a special training and orientation programme with modules on a) disease patterns and priorities in tribal areas b) local tribal culture and health practices, including key words in local dialect c) WASH (Water, Sanitation and Hygiene) d) coping with the life in tribal areas.

e) **Revision of Norms and guidelines and provision of support amenities:** The committee strongly believes that there is a need to relook at norms for tribal areas, particularly with respect to ASHA workers. It is unrealistic to expect a tribal ASHA to cover 500 people if they are spread across different hamlets and large geographical areas. This impractical responsibility can be both demotivating and stressful. There is a need to relax norms for ASHAs and other health workers to resolve geographical access issues in tribal areas. At the same time, frontline health functionaries (particularly ANMs) should be equipped with bicycles or bikes to enable them to commute in areas where they are expected to cover long distances.

Objective 5: Availability of Seats in Medical Colleges for Tribal youth and others willing to practice in Tribal areas.

a) **Opening dedicated medical colleges in Tribal areas:** Geographical disparities exist in the availability of medical and nursing colleges. Only 193 of the 640 districts in the country have a medical college, while the remaining 447 districts do not have any medical teaching facilities.[198] The committee recommends creation of dedicated medical colleges in tribal districts, exclusively for tribal students in the scheduled areas in the state, on a priority basis. Serving in tribal areas should be made compulsory for those graduating from these colleges. This can be done through a legal bond. If the Supreme Court ruling on the admission to medical colleges do not permit such 'dedicated' medical colleges, either the Supreme Court may be approached for permission, or these colleges and degrees be named differently, eg Bachelor of Tribal Health. This will ensure that these graduates are unable to set up private practice in cities directly. The state governments should create legal framework to allow these differently trained doctors for tribal areas. After serving for 10 years in tribal areas, these graduates would be eligible for license to practice. In view of the aim of this degree, the curriculum should be appropriate to produce doctors:

   i) Who belong to a tribal community
   ii) Who are resident of a schedule area in the state
   iii) Willing to commit to work for at least 10 years in that area after completing the degree

[198] Report of the Steering Committee on Health for 12th Five Year Plan

iv) Whose curriculum and the competencies include clinical, public health and social cultural skills necessary to provide health care at the PHC in tribal area

v) Who are trained in the tribal medical college in a way that they do not get alienated from the tribal society and culture during their medical training

vi) The training is based partly in the college/hospital setting and partly in the community/PHC setting.

This may require a bold departure from the current MBBS curriculum. A special Task Force might be constituted for deciding the training objectives and the curriculum.

b) Reservation of seats for tribal people willing to serve in tribal areas: Each medical college in the states with a sizable tribal population should have some seats reserved for tribal candidates from tribal areas, who are bound to return and work only in the tribal areas. The number of such seats may depend on the tribal population and the need in each state. If the Supreme Court decision prohibits such reservation, then the **government may open one medical college in each such state only for such bonded tribal candidates**. The college may be opened by a separate tribal health society to avoid the national seat quota.

Globally, it has been established that investment in human resources for health is critical for ensuring an effective healthcare system. In the long run, the social gains in terms of quality of life and economic gains in terms of increased productivity of people as well as personnel far exceed the actual investment. This committee firmly believes that for the proposed reorganization of Health Services in Tribal areas to be effective, adequate investments have to be made for generating a vibrant, well equipped and motivated health force in tribal areas. These investments need to be backed by appropriate policy revisions imparting special dignity for work in tribal areas, adequate health training infrastructure, greater transparency and effective implementation to ensure a healthy life for our tribal people.

7

Chapter

Addressing the Ten Special Problems of Tribal Health

Outline

Recommendations for the following 10 Special Challenges to Tribal Health:

- Challenge 1: Malaria control
- Challenge 2: Reducing the prevalence of Malnutrition
- Challenge 3: Reducing Child Mortality
- Challenge 4: Ensuring Safe Motherhood and health of the women
- Challenge 5: Providing Family Planning Services and care for Infertility
- Challenge 6: Controlling the use of addictive substances and providing de-addiction and mental health care.
- Challenge 7: Sickle Cell Disease.
- Challenge 8: Animal Bites and Accidents
- Challenge 9 : Providing Health Literacy
- Challenge 10: Health of Chilren in Ashramsalas

The chapter on the Health Status of the Tribal population has clearly demonstrated that tribal communities in India have poorer health indicators, greater burden of morbidity and mortality and very limited access to healthcare services in comparison to the rest of the population. In particular**, there are ten health problems that affect the tribal people disproportionately and keep them from enjoying a healthy and productive life.**

These are:

1. Malaria
2. Malnutrition
3. Child Mortality
4. Maternal and Women's Health
5. Population growth and Infertility
6. Mental Health and substance abuse
7. Sickle Cell Disease
8. Animal Bites, Accidents and Occupational Health Hazards
9. Knowledge gap on health.
10. School Health of Tribal Population

This chapter seeks to offer a menu of solutions for each of these special problems:

Challenge 1: Controlling Malaria in the tribal population

A 2015 study by the National Vector Borne Disease Control Programme (NVBDCP) using retrospective data from 2008-2012 across 35 states/UTs and 620 districts has clearly demonstrated that incidence of malaria is much higher in areas with a tribal population**. It found that the 124 districts with only 8 per cent of the country's total population and 49 per cent of its tribal population, accounted for 46 per cent of the total malaria cases, 70 per cent of the Plasmodium falciparum cases and about 47 per cent of the malaria deaths in the country.**

The study noted that "the presence of various malaria parasites and vector species, climatic diversity favouring growth and proliferation of the parasite and vector as well as a highly susceptible human population have resulted in high malaria transmission in tribal areas."[199]

Since nearly half of the malaria problem in India is concentrated in tribal areas, and since these areas are most difficult, it can be stated that the ultimate fate of Malaria Elimination in India being planned by the Government of India and the WHO, will be decided in tribal India. These areas will be the last citadels of malaria, and hence should receive the first and the highest attention.

Yet only 10% of the budget of the NVBDCP is marked for TSP. It is important that government policy be cognizant of the disproportionate burden of malaria on the tribal population and design specific programmes with a dedicated budget for tackling them.

1. **Declare Malaria Control as a Special Programme in Tribal Areas**: In view of the importance of malaria in tribal health, control and elimination of malaria should be declared as a special program of highest priority in tribal areas, similar to the Immunization or the HIV-AIDS control programs.

2. **Implement the Tribal Malaria Action Plan[200]:** The National Framework for Elimination of Malaria unveiled on February 10, 2016 acknowledged that the transmission of the disease was highest in tribal and hilly regions. It suggested the setting up of one-stop centres or mobile clinics on fixed days in these areas to provide malaria diagnosis, treatment, and to increase community awareness.[201] It also suggested implementation of the Tribal Malaria Action Plan. This is a welcome first step but needs to be backed by adequate programmes and budgetary resources.

This committee strongly recommends the immediate introduction of a new Tribal Malaria Action Plan in 91 tribal dominated districts under the National Health Mission. These 91 districts comprising 5% of India's total population and 31% of its total ST population contribute about 9% of the total blood slide examined, 44% of the total malaria, 68% of the *Plasmodium falciparum* and 43% of the deaths due to malaria in the country. In phase 2, the TMAP should be implemented across all tribal districts.

- The objective of the TMAP is to reduce the annual parasite incidence to less than 1 API in Tribal districts.

- **It proposes to do so by undertaking a seven point strategy:** 1) intensive surveillance of all fever cases for malaria using a bivalent rapid diagnostic test (RDT) at the village level through ASHAs, 2) providing on-the-spot treatment and follow-up for all positive cases and referral for serious ones, 3) ensuring integrated vector management for appropriate vector control, 4) distribution and use of long lasting insecticide treated bed-nets, 5) prioritizing villages as per risk, 6) undertaking social marketing and 7) community mobilization.

- **The seven pronged actions under the TMAP** involves a) supply chain management for RDTs, ACTs (Artemisinin based Combination Therapy), indoor residual spray (IRS) and long lasting insecticide treated nets (LLINs); b) training of ASHAs and health workers on diagnosis, treatment and record-keeping; c) provision of improved malaria services through alternate service providers, timely referral, mobile based surveillance, transport

[199] Ravendra K. Sharma, H.G Thakor, K.B. Saha, G.S. Sonal, A.C. Dhariwal and Neeru Singh, Malaria Situation in India with special reference to Tribal Areas. Indian J Med Res 141, May 2015, pp 537-545; Available online at http://icmr.nic.in/ijmr/2015/may/0506.pdf ; Last accessed November 18, 2016

[200] The detailed TMAP prepared by the NVBDCP is available at Annexure-14

[201] Directorate of National Vector Borne Disease Control Programme, Ministry of Health and Family Welfare, Government of India, National Framework for the Elimination of Malaria in India 2016-2030; Available online at http://www.searo.who.int/india/publications/national_framework_malaria_elimination_india_2016_2030.pdf; Last accessed November 13, 2016

allowances and regular inspection of construction and development sites; d) Improved diagnosis through microscopy facilities for RDT negative cases, six monthly mass surveys during the transmission and non-transmission seasons, annual spleen examinations at schools and anganwadis for 2-9 year olds to determine malaria endemicity, prevalence of asymptomatic carriers, mixed infections etc; e) Follow up and epidemiological tracking through patient cards, electronic data management of all records, regular screening of migrants, mobile technology and automated monthly report cards with key epidemiological indicators; f) Implementation of a vector control strategy ensuring timely spraying operations, provision of LLINs/ ITNs, community awareness activities and mandatory provision of bed nets and treatment for labourers by contractors at all project development sites; g) Community mobilization and involvement through behaviour change activities and frequent consultations by trained facilitators at different levels.

- The Directorate of NVBDCP in MoHFW will be responsible for the overall implementation of TMAP, while state NVBDCPs will oversee its implementation along with the vulnerable community plan at the state level through full-time social development professionals.

- A database of experts with social science background and knowledge of tribal people and other vulnerable communities will be developed to ensure the availability of appropriate trainers and technical resources.

- Over a period of time, the TMAP will not only help to reduce transmission of malaria and ensure timely treatment, it will facilitate local level analysis of epidemiological data for proactive management of malaria.

3. **Ensure Adequate Human Resources:** Vacancies in the existing structure for malaria control at the district level should be filled on a priority basis. Below the district level, a malaria technical supervisor cadre should be created to tackle the local focal aspect of malaria in tribal areas. Creation of specialised posts for persons with technical expertise is a critical component of the TMAP. A specialized stream should be introduced in the MPH (Masters in Public Health) program to generate such cadre. Unless these posts are filled by qualified personnel the plan will not be successful. To avoid the pitfalls of vertical programs, it is crucial that integration with the NHM at, and below the district level is achieved, and DHOs, Tribal Health Officers (THOs)[202] and PHC MOs are intensely involved.

4. **Introduce Surveillance system:** Introducing active surveillance at the community level, epidemic alert, malaria death alert and drug shortage alert is of utmost importance for a long-term fight against malaria. A real-time epidemiologic information system should be established using IT.

5. **Ensure Malaria protection at Ashramshalas**: Ashramshalas cater to a large number of tribal children. For example, nearly 4.5 lakh tribal children in Maharashtra live in Ashramshalas. Yet, most often, the malaria protection measures are not provided. These should be instituted.

6. **Introduce special and emergency care for Falciparum malaria:** Falciparum malaria sometimes leads to serious complications (cerebral malaria, severe anaemia, haemolysis and jaundice, complications in pregnancy, among others), and a sizable number of deaths. In view of the fact that nearly half of the malaria deaths in the country occur in tribal areas, referral, emergency transport and good quality hospital care for such cases should become a high priority in tribal areas.

[202] See Chapter on Human Resources for Tribal Health

7. **Check the spread of vector through abandoned mines:** Often water pools in abandoned mines and these become sites of mosquito breeding. The TMAP already proposes legal safeguards to prevent this. In addition to this, the Ministry of Mines and Ministry of Coal should add addressing spread of malaria and other vector borne diseases to their existing guidelines/ SOPs for mine closure and reclamation of abandoned mines.

8. **Health education and BCC in tribal areas** to control malaria be introduced using modern IT tools as well as the folk media. School children should be a major target group. Curriculum should include malaria control measures and personal protection.

9. **Support research:** There is an urgent need of, and scope for research and innovation for controlling malaria, both the fundamental research (New insecticides, medicines and vaccines) or applied and operational research (BCC methods, promoting the use of LLIN and early care seeking, training of ASHAs, information system using IT, supply management, program management).

Challenge 2: Reducing the prevalence of Malnutrition among the tribal population

Under-nutrition continues to remain a major cause of morbidity and mortality among the tribal population. A 2016 study by Lancet found that the incidence of stunting is 8% higher among the tribal communities than among the benchmark population.[204] Studies by the National Nutrition Monitoring Bureau (NNMB) have shown that only about 30% of the preschool and school age children and 25% of pregnant and lactating women from tribal communities had adequate intakes of both protein and calories. Consequently, as described in the chapter on, "The Health Status of Tribal People", even tribal adults are malnourished and have low (<18.5) BMI. The situation is more acute among the PVTGs. While family size, lack of access to appropriate quantity and quality of food due to poverty, landlessness and absence of livelihood security continue to be the major reasons behind this, it is also important to acknowledge that the food habits of the tribal communities are changing due to economic and cultural transitions taking place within them. According to the theory of 'Foetal origin of adult onset diseases', if babies

*As anti-malarial drug resistance and insecticide resistance grows, it is important to find new drugs to treat the disease. Many tribes in India practice traditional medicines and some of them have no instance of malaria. The Ministry of Tribal Affairs is already considering the constitution of a Task Force for identification of a third generation of anti-malarial drugs based on tribal medicines and medicinal diets. Some work in this regard has been done by the ICMR, Tribal Research Institutes, Botanical survey of India, Anthropological survey of India and Ministry of AYUSH/ Ayurvedic Institutes. However, it is important to first document these practices and to systematically undertake research to generate evidence on their efficacy. A successful example of using traditional wisdom for curing ailments is the use of Cassia Tora leaves for checking the incidence of Fluorosis. NIRTH, Jabalpur has undertaken systematic studies to demonstrate the efficacy of these commonly found leaves in treating Fluorosis and MoTA has issued a circular asking states to promote the use of the same.[203]

*The Department of Science and Technology may be requested to examine the feasibility of mixing mosquito repellent with the building material or inner wall surface coating material for tribal dwellings so that the wear and tear of nets ceases to be a concern.

[203] http://www.tribal.nic.in/WriteReadData/userfiles/file/letter0001.pdf
[204] Ian Anderson et al; Indigenous and Tribal people's Health (A Lancet-Lowitja Institute Global Collaboration): a population study; The Lancet; 2016

malnourished in-utero, and born with low birth weight, gain even moderate weight during their adult life, they are more prone to develop diseases like coronary heart disease, stroke and diabetes. A sizable proportion of tribal people who were born with low birth weight are presently exposed to dietary change and modern processed foods, refined carbohydrates, salt and sugar. This is leading to a growing incidence of non-communicable diseases like hypertension and diabetes.

This committee strongly believes that the origins of malnutrition in tribal people are in a complex web of causes. Hence the need for inter-sectoral programmes to tackle the problem of malnutrition.

Poverty, food insecurity, lack of quality food, non-use of milk and milk products by some tribes, diminishing availability of animal and plant foods from the forests, unsafe and inadequate water, lack of toilets, lack of adequate knowledge about hygiene, health, breast feeding and complementary feeding, lack of time to repeatedly feed the child, high incidence of infections, especially malaria, diarrhoea, respiratory and skin infections, low and delayed care seeking, poor health care availability – are but a few of the causes of malnutrition in tribal population. Obviously, the corrective actions can encompass agriculture, forest policy, animal husbandry and fishing, livelihood programs, MNREGA, education, transport, connectivity, PDs, ICDS, mid-day meal program and several others.

It is beyond the scope as well as the expertise of the Committee to examine and recommend measures encompassing such wide gamut. Hence we restrict only to a limited specific aspects and recommendations.

Ensuring Food security:

1. **Mapping Local Food patterns**: While news of malnutrition deaths among tribal communities, particularly on a seasonal basis is common, there is very little information on the food consumption patterns of different tribal communities. This information is important to not just track and manage seasonal malnutrition, but to also ascertain which food-grains are missing from their diets. It is critical to designing a responsive and efficient public distribution system.

2. **Use of local foods:** A study by Murugkar-Agrahar and Subbulakshmi (2005) has evaluated the nutritive value of wild berries consumed by Khasi tribes of Meghalaya. The study concludes that the wild berries eaten by the Khasi are a good source of nutrients and considering their low cost and easy availability, they need to be popularised and recommended for commercial exploitation.[205] Use of Cassia Tore leaves to check the spread of fluorosis is already being encouraged by MoTA. The National Institute of Nutrition (NIN) and National Nutrition Monitoring Bureau (NNMB) have already carried out several studies on different tribal groups in the country to document their diet and nutritional status. This should serve as formative research for designing the nutrition menu for not just ICDS, but the mid-day meal scheme as well. Instead of pushing down a standard menu, there must be an effort to prioritise those grains, and those sources of proteins and greens, which are part of the habitat and way of life of tribal communities. Use of local foods in mid-day meals, ICDS, hospitals, PDS and the Girijan Co-operative societies not only makes economic sense, it also increases receptivity as the people are familiar with the food. Moreover, it encourages them to adopt and use these readily available items in their own homes, thereby improving their nutritional status. Local PDS options have been tried with some groups in AP and Telangana and the results need to be closely monitored. Local food supplies based diet charts need to be prepared for every district and disseminated through Gram Sabha, Ashram Schools.

[205] Agrahar-Murugkar, D., Subbulakshmi, G., Nutritional value of edible wild mushrooms collected from The Khasi Hills of Meghalaya, Food Chemistry, 89, 599-603, 2005.

3. **Strengthening of ICDS:** The expansion of the ICDS scheme and the relaxation of population norms to ensure that they reach all tribal hamlets was a welcome step in fighting malnutrition among tribal communities. To improve the quality and effectiveness of ICDS services it is important to combine food supplementation with a strong element of health education and nutrition counselling. Nutrition counselling in tribal areas must be built on the knowledge of local foods and food habits. ICDS should be used to promote home and community based kitchen gardens. Medical Officer and ANMs of the PHC should undertake regular supervision and monitoring of malnutrition at ICDS centers. Given the high levels of seasonal migration among many tribal communities, it is important to ensure that migrant children are able to visit ICDS centres and benefit from the schemes when their families move to a new place.

   A centre-based ICDS grossly limits the effectiveness of the programme because only children beyond 3 years of age are able to walk in to the centre. Epidemiologic studies have convincingly shown that malnutrition develops during pregnancy and up to the age of two years. Hence, the focus of ICDS must shift from a Centre-based service to a home-based reach-out during the period of pregnancy and the 2 years, often called 'the critical thousand days'. Similarly, from merely serving food to those children who walk in to the centre, the activities ought to include health and nutrition education of mothers, ANC, HBNCC, immunization, protection from malaria and anaemia, prevention and early diagnosis and treatment of infections in children. This has always been the mandate of the ICDS, but in its current form, these activities have fallen off the radar and the entire focus has been on supplementary nutrition.

4. **Management of Malnutrition**: Currently, there are Nutrition Rehabilitation Centers at the District level to treat cases of acute malnutrition. However, these are not very effective due to the long distances, and because they entail a loss of livelihood for the tribal families. Many tribal people are also not comfortable with the hospital like environment of the centres. Though theoretically there can be two approaches to management of malnutrition: institution based and community based, this committee believes that both the approaches will be needed. Hence a judicious mix – in which the tribal families have a choice – must be adopted. In both cases, home-based follow-up through frontline workers should be carried out. Tribal PHCs should have Nutrition Centers to take care of moderate and severe malnutrition cases. ANMs trained in Nutrition can manage the unit along with the other PHC staff. These centres should have a local name and should also provide nutritional counselling.

Phulwaris and Fulwaris: Tackling Malnutrition in Children under the age of three in Chhatisgarh

For its Best Practices Workshop, the Expert Group received two entries from hamlet-centred, community-based creche programmes being run in Chhattisgarh to combat malnutrition among tribal communities- the Phulwari initiative of the Jan Swasthya Sahyog (JSS), an NGO and the Fulwari initiative of the Government of Chhattisgarh. Both the schemes are designed to target the under three population and are demand based.

The JSS runs 83 Phulwaris for over a 1000 children under the age of three in 38 villages. These creches open from 8 am to 4 pm, 26 days in a month and have one paid Phulwari worker per 10 children. The workers are selected by the village community and are provided basic training in child nutrition and health by the JSS. Children receive 900 kcal and 22 gms of protien per day through three meals at a daily cost of approximately Rs 28 per child. Healthcare at these centres is provided by the Village Health worker and includes iron supplementaton, growth monitoring and deworming medicines. Toys are provided for cognitive development. The programme uses the WHO Anthro software for monitoring impact and claims to have noticed a significant reduction in wasting and underweight in children who attended the Phulwaris. It is currently being replicated by many NGOs in Bihar, Odisha and Jharkhand. Scaling up of this model to all tribal areas will need Rs. 6000 crore annually.

The Fulwari is a community managed Health and Nutrition Centre that focuses on children under the age of 3 and pregnant and lactating women. It is run by the Women and Children department of the Government of Chhattisgarh through the Zila and Gram Panchayats. It organizes daycare through a habitat based collective of mothers - not paid by government - who take all its decisions and manage the funds. They meet twice a month and receive health and nutrition education from the Mitanin. Two mothers volunteer every day and take care of the children. The space is also provided by a villager. Every centre has 5-20 children and opens for 6-7 hours daily, including holidays. Children are provided three hot cooked meals costing Rs 6 per child per day and pregnant and lactating women, two meals costing Rs 15. Funds for food and essentials come through the Panchayat. 2850 Fulwaris covering 36000 children and 16000 women at an annual cost of Rs 30 crore are currently operational.

There is a need for special attention to children under 3. Both these programmes need to be analysed in great detail. Questions like should a young child be deprived of parental care for 8 hours in a day, is the cost structure tenable and replicable, will women be willing to volunteer or should they be paid, need to be duly considered. Most importantly, we need to generate evidence on whether these approaches reduce child malnutrition in the community. While there are questions about the effectiveness of the ICDS program and its substantial cost, is it feasible and advisable to add a parallel and cost-intensive program for under-three year children?

Challenge 3: Reducing Child Mortality among the tribal population.

As described in the chapter on Status of Tribal Health, IMR, U5MR and malnutrition are unacceptably high among tribal children. Neonatal causes, pneumonia, diarrhoea and malaria remain the main medical reasons behind high child mortality. The committee recommends the following

1. **Recording and Measuring Child mortality**: The serious problem of high child mortality rate in tribal areas is usually 'solved' by not recording it. The study on 'Hidden Child Mortality in Maharashtra' surveyed 231 villages at 13 sites, of which the 4 sites were tribal, for two years. All births and child deaths were recorded. Comparison with the routine reporting in the Health Department and the ICDS showed that only 25 to 30 per cent of child deaths were

recorded by the official reporting system. The study also found that even the NHFS and SRS underestimated neonatal deaths, and hence the IMR, by nearly one third.[206] Availability of handheld devices, mobile phones and the internet now make more complete recording and real-time monitoring a feasible proposition. The 'Child Mortality Evaluation Committee' constituted by the Government of Maharashtra endorsed the findings of the Study, and recommended several measures for complete recording and monitoring of child deaths. These measures need to be revisited and implemented especially in tribal areas where the problem of unrecorded child deaths is more serious.[207]

2. **Home-based Newborn and Child Care (HBNCC)**: Several field trials at multiple sites have generated strong evidence that HBNCC is very effective in reducing NMR, IMR and CMR, by covering the major causes of child mortality. (Gadchiroli[208] trial, Ankur[209], ICMR trial[210], MANSI[211].) In Ankur project in Maharashtra the reduction of NMR and IMR was highest (60%) in tribal areas as compared to rural and urban sites. The MANSI project, recently completed in tribal areas in Jharkhand, generated strong evidence of the feasibility and effectiveness of delivering HBNCC through ASHAs in tribal area. The NMR, IMR and CMR reduced by 40 to 50 per cent within three years.

   The 11th Five Year Plan recommended that the Gadchiroli model of HBNCC become the mainstay of child survival. NRHM operationalized HBNCC in 2011, and since then ASHAs are being trained and incentivized for providing HBNCC.[212] The training modules have been prepared by NHSRC with the help of SEARCH; state and district trainers have been trained. Nearly 860,000 ASHAs all over the country are receiving the Module 6 and 7 training through four planned workshops. However several **policy and operational gaps** remain, especially in tribal areas. These need to be plugged urgently.

   a) A cadre of HBNCC trainers – contractual or from the existing health system – at the national, state and district level needs to be trained, certified and maintained, so that one trainer per 100 ASHAs is available throughout the year.

   b) Training manuals, aids and ASHA reading materials need to be made available, the last two in the local tribal dialect.

   c) ASHA HBNCC kit with all equipment, medicines and records must be available with each ASHA in tribal areas, and should be replenished regularly.

   d) All ASHAs in tribal areas should be given complete HBNCC training (4 workshops and refresher), evaluated and certified.

   e) One ASHA facilitator per 10-20 ASHAs needs to be deployed, trained, monitored and paid. The Tribal Health and Wellness Centre suggested in this report per 2000 population will have 8 ASHAs in its area. The THWC should support and supervise ASHAs.

   f) Apart from ASHAs, the traditional birth attendants in tribal areas should be oriented for HBNCC to modify their practices and support ASHAs.

   g) ANM and Antibiotics: All ANMs in tribal areas should be trained and equipped to provide HBNCC, including the use of antibiotics (co-trimoxazole,

[206] Bang, Reddy and Deshmukh, Hidden Child Mortality in Maharashtra; Ministry of Health and Family Welfare, Government of India (2006)
[207] Report of the Child Mortality Evaluation Committee (Volume 01). Ministry of Health & FW, Govt of Maharashtra. (2004)
[208] Bang etal Lancet 1999
[209] SEARCH, Gadchiroli : Report of the Ankur project (2006)
[210] ICMR (unpublished. Presented to the MOH & FW) 2011.
[211] MANSI – A joint project (2011-15) of Govt. Of Jharkhand, Tata Steel, America India Foundation and SEARCH Gadchiroli.
[212] Operational guidelines on Home Based Newborn Care, NRHM, Ministry of Health & FW, Govt of India (2011).

amoxycillin and gentamicin) for the treatment of newborns with sepsis and children with pneumonia. The NHM has recently decided to do so. It should be rapidly operationalized in tribal areas on a priority basis because access to functional and quality institutional care for sick newborns is less likely there.

h) Monitoring:[213] The coverage of HBNCC is unknown today. A monitoring system starting from below, with the HBNCC records filled by ASHA, verified by the facilitator or ANM going up to the national level needs to be established on a priority basis. An HBNCC MIS will permit the program manager at the district, state and national level to monitor the various indicators for the readiness and functioning of the ASHA system, and delivery of HBNCC services – coverage, quality, outcomes. This is particularly important in tribal areas to improve the delivery of HBNCC and to rapidly reduce newborn and child mortality.

i) At the national and state level dedicated HBNCC and ASHA officers should be designated, and a cell should be created to monitor and manage the programme.

j) Clear goals and targets should be fixed for various indicators of HBNCC. This committee broadly recommends the following targets for HBNCC in the tribal areas:
   - 90% targets for deployment, training and readiness of ASHAs, facilitators and ANMs.
   - 85% targets for coverage of HBNCC
   - 80% targets for quality indicators of HBNCC
   - NMR, IMR and CMR: 30% reduction in 3 years and 50% reduction in 5 years

Challenge 4: Ensuring Safe Motherhood and health of the women from tribal communities.

While the position of women is better off in some tribal communities, in others gender based discrimination continues to persist in some form or another. The sex ratio among tribal communities is much better than the national average but exposure to mainstream cultural practices like sex selective abortions is putting the tribal girl child at a risk. While in 2001, 120 tribal districts had a child sex ratio of 950 or more, in 2011 this figure fell to 90 districts.[214] Barring the north-eastern states, the gender gap in literacy among STs also remains very large. Moreover, increasing alcoholism and substance abuse, migration, lack of livelihood security, and cultural practices like witchcraft, have a serious impact on the health of women. The high incidence of conflict and displacement in many tribal areas also places a severe strain on women's health- mental, physical and reproductive. Poverty makes them vulnerable to trafficking. However, little has been done to study the impact of these factors on the health of tribal women.

Safe deliveries, proper nutrition, pregnancy and post pregnancy care are indeed important to check the high incidence of maternal mortality and morbidity among tribal women. At the same time, the focus on women's health has to stretch beyond fertility and pregnancy.

1) **Focus on Safe deliveries, not institutional deliveries:** For the past ten years the focus of government schemes has been on promoting institutional deliveries to ensure safety of mother and child. Schemes like Janani Suraksha Yojana (JSY) were introduced with the specific objective of reducing maternal mortality through institutional deliveries.[215] JSY offered

[213] See Annexure-13 for detailed note on the proposed monitoring indicators for HBNCC

[214] Shambhu Ghatak, When Tribal India too Begins to favour its sons; webarticle; 24 December 2014; Available at http://www.indiatogether.org/child-sex-ratio-among-scheduled-tribe-population-women

[215] NRHM website; Government of India. http://nrhm.gov.in/nrhm-components/rmnch-a/maternal-health/janani-suraksha-yojana/background.html ;http://mohfw.nic.in/WriteReadData/l892s/file28-99526408.pdf

financial incentives to all pregnant women for institutional delivery and post-delivery care in the low performing states. In other states, the financial incentives were limited to BPL women. The scheme sought to encourage institutional delivery among tribal women by offering cash assistance to all pregnant tribal women, irrespective of their BPL status, even in the high performing states. Institutional deliveries did increase all over the country, but to a lesser extent in tribal areas.[216] The reasons are many. Tribal families are less keen to abandon the traditional and convenient home delivery. Moreover, on the supply side, there are many barriers: an absence of doctors, health care workers and healthcare infrastructure in tribal areas, long distances and lack of proper transportation, loss of time and wages due to hospital admission, alien-ness of the hospital environment during an event that is linked with many traditional beliefs, inconsonance between tribal views and procedures of child birth and the modern methods (eg, many tribal communities traditionally use the squatting position for giving birth), and finally, lack of support of family and traditional birth attendant.

Given the fact that infrastructure in tribal areas- both physical and human resource- still leaves much to be desired, there is a need to focus on safe deliveries, irrespective of the place of delivery. The fact is that for many tribal women, particularly those living in remote and difficult terrains, home deliveries will continue to be the preferred and at times, the only available option. *Therefore, in addition to institutional delivery, it is imperative to train the traditional birth attendants and dais and equip them with TBA (trained birth attendant) kits.* TBAs and ASHAs in tribal areas should be taught about safe delivery practices. The focus should be on early detection of complications, provision of immediate care and transport facilities to the nearest equipped health centre, should the need arise. T*ribal women should be given the choice to decide where they want to give birth, and both the places be made safe*.

2) **Round-the-clock Emergency Obstetrics care:** All health facilities – PHC and above - in tribal areas should have birthing facilities and should be equipped to provide round-the-clock emergency obstetrics care at least to the stabilization level.[217] There should be at least one place with Emergency Obstetrics Care per 2 lakh population and within one hour vehicular journey from a primary care site. This shall, in most circumstances, mean that other than the district hospital, more sub-district hospitals or CHCs would be equipped to play this role.

3) **Accommodation near health centres**: In addition to a loss of wages, going to institutions for delivery often entails accommodation hassles and food expenses for family members accompanying the tribal woman. For tribal people living in very remote areas, arrangements for living near the PHC around the time of delivery (transit accommodation) should to be established. Eg the Maher Ghar scheme of Maharashtra which proposes to provide for stay facilities near 57 PHCs in 9 tribal districts. Pregnant women from tribal communities can stay in these Maher ghars with their youngest child and one relative, 4-5 days before their expected delivery date.[218] Tamil Nadu has also introduced birth waiting rooms in tribal areas.[219] Experience of these two states should be evaluated for quality, utilization, satisfaction and cost, to decide about providing such facilities in other areas.

4) **ANC and PNC care**: ANC and PNC coverage remains lower for ST mothers as compared to others (NSSO 2014). The measures suggested earlier (ASHA, Tribal health Centre, MMU) will aid in increasing this. HBNCC provided by trained ASHAs will also improve PNC coverage.

[216] NSSO 2014
[217] http://cbhi-hsprod.nic.in/listdetails.asp?roid=107
[218] For further information refer to https://www.nrhm.maharashtra.gov.in/maher.htm
[219] http://www.nrhmtn.gov.in/tribalhealth.html

5) **Emergency transport for maternal complications:** as described in the chapter on Organization of Service Delivery is a mandatory service.

6) **Special measures for Particularly vulnerable tribal groups:** Home delivery services by training of TBAs and ASHAs should be made available for particularly vulnerable tribal groups residing in remote and difficult terrains.

7) **Timely Payment**: Fair and timely payment of incentives under JSY and HBNCC to ASHAs and the mothers is to be ensured. Use of IT and bank transfers will make this faster and transparent.

8) **A comprehensive plan for women's health:** It is important to study and document the impact of the socio-economic problems of tribal communities - migration, loss of livelihoods, displacement, substance abuse and conflict – on women's health. For instance, how does migration for work impact the health of pregnant women? Do migrant women have access to sanitation facilities? What health hazards do women face while working in mines and construction sites? Has increasing substance abuse led to an increase in instances of violence against women? How does conflict and displacement impact women's health? There is a need to create a comprehensive programme that among other things ensures a) access to ANC, PNC, iron supplements and THRs for migrant women b) rescue and access to medical care and support services for women who have been trafficked c) availability of toilets, water and sanitary pads in camps for the displaced d) counselling for survivors of VAW at the Tribal Health and Wellness Centres e) Education and counselling on reproductive health issues, nutrition, VAW.

Challenge 5: Providing Family Planning Services and Infertility care

The current TFR in ST population has reduced to 2.5 (NFHS–4)

Despite an overall rise in the tribal population in the country (as suggested by the Census figures), many tribal communities, particularly those belonging to the PVTGs continue to decrease in size. In a bid to curtail the diminishing numbers of some of these tribes like the Birhor, Baiga, Abujmadi, Kamar and Pahari Korwa, the Madhya Pradesh government had in 1979 issued an order restricting sterilization among them. In 2012, the Planning Commission noted that this order was misconstrued as a blanket ban on sterilization of PVTGS (then called PTGs) and denied women their basic reproductive rights.[220] This committee firmly believes that it is important to recognise the right of every man and woman, including those belonging to PVTGs to make their own reproductive choices.

1) **Determining the true TFR:** According to the Census of India, the proportion of ST population in the country increased from 8.2% in 2001 to 8.6% in 2011. However, these numbers need to be treated with great caution for two reasons: a) Often new groups are declared as tribes and included within the purview of STs b) Many non-tribals declare themselves as tribals to access the benefits available to tribal communities. The MoHFW should collaborate with the Census Commissioner to establish the true fertility rates for all tribal communities and to adopt individual and case- appropriate solutions for population stabilization.

2) **Availability of Family Planning information and services:** Where a tribe is not vanishing, is showing a constant increase in its population and has a total fertility rate of more than 2.1, the government should ensure the availability of safe family planning methods under the RCH

[220] Aarti Dhar, Misconstruing order, Chhattisgarh Tribals denied sterilization for three decades, The Hindu; published online on October 31, 2012 0:21 IST.

programmes. Tribal communities should be informed about the benefits of family planning and should be allowed to adopt methods of their choice, including sterilization. If traditional remedies are being used for family planning in communities, they need to be documented and scientifically studied.

3) **Culturally sensitive Infertility care**: Some tribal communities, particularly those recognized as PVTGs are vanishing. There is a need to study the reasons for the rapid decline in their population and to address the causes. Where needed, infertility care should be provided in a manner that is culturally and socially acceptable to these communities. Many times, indigenous practices exacerbate the problem that was created due to unmediated outside contact and lack of policy planning. For example, as per the last official count there are less than 100 Onge. The initial decline in the population of the community was fuelled by skirmishes with the British and subsequent problems of contact with other settlers. Studies have now shown a high incidence of infant mortality and sterility among the Onge and a net reproductive rate of just 0.91.[221] Among the Onge there is often a huge age difference between spouses as widows and widowers are allowed to choose any unmarried person as their spouse. This adds to the problem of sterility. In such cases, it is important to immediately form a group of anthropologists and public health specialists to analyse the problem and to find tribe-appropriate solutions. Some of the infertility could be because of high incidence of sexually transmitted diseases, either endemic or due to contact with, and coercion by the outsiders. Alcoholism among males is another common cause. Appropriate measures for the individual couples and for the communities should be introduced.

Challenge 6: Controlling the use of addictive substances and providing de–addiction and mental health service

Mental health problems, including substance abuse among tribal communities are particularly important, yet understudied issue. Globally, tobacco and alcohol consumption have emerged as two of the top ten risk factors for health (Global Burden of Disease study, 2015). Tribal people in several parts of the world, including India are known to be particularly vulnerable to these addictive substances. Alcohol and tobacco addiction have played havoc in the reservations for indigenous Indians in the US and Canada. Drug addiction and substance abuse among tribal communities has emerged as a major problem in some parts of north-east India resulting in high incidence of cancers and loss of economic productivity.

1. **Map the magnitude of the problem**: As part of the NSSO and NFHS surveys, the government should measure the usage of alcohol, tobacco and drugs among the tribal population once every three years and monitor the use, abuse, harmful effects and money spent. SEARCH, an NGO in Gadchiroli district, has conducted a series of such studies to monitor the use and ill effects of tobacco and alcohol over the past ten years.

2. **Implement the Excise Policy for Schedule Areas**: The Excise Policy for Tribal Areas prescribed by the Central Government and accepted by the State Governments in 1976 should be strictly enforced in Scheduled Areas (including towns). The spirit of this policy has been compromised by subsequently amending the rules and permitting liquor shops in the towns and large villages in the Scheduled Areas. This laxity should be removed.

[221] Chattopadhyay, "Quest for Survival of the Negrito Tribes of Andaman- The Great Andamanese, The Onge, The Jarawa and the Sentinelese", in Tribal Development in Andaman Islands; Sarup and Sons, New Delhi 2003; online access https://books.google.co.in/ books?id=WEztW7c0CqQC&pg=PA63&lpg=PA63&dq=reasons+for+declining+population+of+ onge&source=bl&ots=s1g9BDLnxP&sig=O8vz5aqGFBkC5ZxMeeO7_ rOWoA4&hl=en&sa=X&ved=0ahUKEwjL0uj_5fvQAhWHPI8KHci3DT8Q6AEIPDAH#v=onepage&q= reasons%20for%20declining%20population%20of%20onge&f=false

a. All liquor permits (sale and purchase) in the Scheduled Areas should be cancelled and no shop, bar or restaurant, in and within a periphery of 10 km of the Scheduled Area should be permitted to sell liquor.
b. Tribal communities may be permitted to distil liquor from mahua leaves but its production and consumption should be subject to the approval of the women in the Gram Sabha.
c. PESA act gives the power to control use of alcohol in village to tribal gram sabhas. That should be exercised. Women should be especially empowered for this.

3. **Restrict the supply of Tobacco:** The supply, storage and selling of all types of tobacco and tobacco products should be progressively restricted, and over time effectively reduced in Scheduled Areas.

4. **Effective IEC campaign:** There is a need to employ extensive publicity, information and education campaigns to create awareness among the tribal people about the ill-effects of alcohol and tobacco, and the need to quit.

   Such campaigns need to be launched across different tribal districts and money should be earmarked for this.

5. **Establish a network of responsive De-addiction centres:** There is a need to improve the network of de-addiction centres, depending on local patterns of substance abuse. At the same time it is important to ensure access to these centres by making them patient and tribal friendly. Counselling and therapy should also be made available at all tribal PHCs and CHCs.

6. **Community based strategies and support groups:** Create community based substance abuse strategies using women's and students groups for information sharing, advocacy, monitoring, reporting and rehabilitation. It is important to create a support network within communities with high incidence of abuse.

Mukti–path: Towards the Liberation from tobacco and alcohol in Gadchiroli

In the Gadchiroli district, Government of Maharashtra, SEARCH and the Tata Trusts have jointly started an integrated, multi-pronged district pilot called Mukti-path to control the consumption of alcohol and tobacco. In response to a peoples' movement against alcohol led by SEARCH, the Government of Maharashtra introduced prohibition against alcohol in Gadchiroli district in 1993. Following a series of studies by SEARCH, which showed increase in tobacco consumption in the recent years, a three year district program called *Mukti-path has been launched, with the aim of reducing alcohol and tobacco consumption by 50 per cent.* The proposed integrated strategy has four arms:

a) Mass awareness generation;
b) Organising communities and Gram Sabhas for reducing these substances;
c) Effective enforcement of the prohibition and ban by the state government;
d) De-addiction services

A state level Task Force under the chairmanship of the Chief Minister and a District committee for execution under the Chairmanship of the District Collector have been created, with SEARCH acting as the advisor, trainer and monitor. *The three year project for 1.1 million population has an annual budget of Rs. 5 crore and an expected saving of Rs. 100 crore by the third year.*

7. **Culturally appropriate Mental health support**: Many tribal communities live in conflict zones and face extraordinary stresses due to violence, national calamities, disasters, displacement and lack of livelihood security. Thus it is important to ensure access to counselling, identification and treatment of mental health problems and rehabilitation services at the primary health care levels. Mental Health is an important component of the Tribal Health and Wellness centres being suggested by this committee (See chapter on Organization of Service Delivery for full list of services and personnel at THWCs). This committee recognises that availability of trained psychiatrists, psychologists, occupational therapists, trained nurses and counsellors is a challenge in urban areas. In remote tribal areas, this will be an even greater challenge. Moreover, it is also important to ensure that the counsellors and mental health practitioners in these areas have a nuanced understanding of the culture, lifestyle and belief systems of the tribal communities and speak the local language to be able to successfully provide support. This is a tall order. The committee therefore recommends that several pilot projects and field trials need to be initiated to develop this crucial aspect. The ICMR and the MOTA should support this research.

8. **Timely Screening of Mental Health Problems:** A program should be created in tribal districts to visit schools regularly for the timely screening of children for mental illnesses. Children thus identified should be provided treatment and rehabilitation, while their families should be provided counselling.

Challenge 7: Sickle Cell Disease[222]

India has the third highest number of global births of sickle cell anaemia in the world (after Nigeria and DR Congo). Even though they constitute only 8 per cent of the national population, the incidence of SCD (anemia and trait together) and thalassemia disorders varies between 1- 40 per cent in particular tribal communities. A very high frequency of sickle cell trait has been observed among the tribal groups of Tamil Nadu (16.5- 22.0%), Maharashtra (6.0-30.0%), Madhya Pradesh (11.8- 35%), Chhattisgarh (2.0-20.0%) and Gujarat (11-21.0%). Further, the manifestations of the disease also vary among these communities.

Currently, there are two views on SCD in India. The first points out that most of the studies on morbidity and mortality due to Sickle are hospital-based where only severely affected cases reach. The Sickle in India is often milder than its counterpart in Africa. The natural history of SCD in the population, and the excess morbidity and mortality it causes are not clearly known. Under these circumstances, do all individuals with the sickle gene need to be labeled, alarmed and treated? This view cautions against the institution of rigorous measures for mass screening for the disease without understanding its implications. It further holds that the tribal people themselves do not recognize this as a major health problem. It stresses the need for a longitudinal study to first understand how the SCD manifests in tribal communities, and how it impacts them. The second view holds that mass screening and management of SCD is important to ensure greater life expectancy and quality of life for the tribal people. The GoI has taken the latter view and started an extensive programme for screening for the sickle cell trait.

However, there is evidence that local and state level screening and interventions, often contracted through private sector organisations and NGOs have been introduced without proper planning and consultation. Largely, the focus has been on screening with a view to identifying carriers and couples in their reproductive years, providing 'counselling' to prevent the spread of the disease (e.g. Chattisgarh); and offering prenatal diagnosis with a view to 'counselling' women/couples where a pregnancy/foetus is identified as being affected. The programme is based on the premise that early diagnosis, counselling of the affected family members, providing comprehensive health care to the affected patients and creating awareness in

[222] For a detailed discussion on Sickle Cell Disease, refer to the chapter on the Health Status of the Tribal Population

the affected communities are of key importance for control of sickle cell anaemia and other inherited disorders. With reasonable adjustments, appropriate social support, and challenges to discriminatory attitudes, people living with sickle cell disease could grow up relatively healthy and succeed in both education and employment. Yet, there is no evidence to show that marriage counselling prevents intermarriages among sickle traits in tribal people in India.

Experience of Tackling Sickle Cell in Chattisgarh

Sickle cell anemia in central India causes much morbidity and sizeable mortality too. For a genetic illness, which should ideally cause same severity pattern in whoever is affected by it, the tribals suffer more complications and deaths due to poorer health systems that support them than the non tribals. SCA presents both as acute complications in form of painful crisis, severe anemia, hemiplegia and other CNS complications, Acute chest syndrome and severe infections , as well as chronic complications such as renal failure, congestive heart failure due to Pulmonary hypertension and painful hips due to avascular necrosis of the hips.

Thus the appropriate care of this illness requires availability of treatment facilities for pain, infections, anemia and for prevention of acute and chronic complications. For pain, we need analgesics from Paracetamol, Non-steroidal anti- inflammatory drugs like ibuprofen to opiates like morphine for severe pain. This requires easing the overzealous regulation of licensing of use of opiates, and ensuring supply of morphine in public health facilities like District hospitals, Medical colleges and even at CHCs. Adequate supply of appropriate antibiotics should also be ensured. Blood transfusions should be also available for people with SCA especially in those with pregnancy and in those with acute painful crisis.

Besides, folic acid, the drug that has revolutionized the outcomes of people with SCA is hydroxyurea. This medicine reduces the percentage of sickle cell hemoglobin and thus reduces the incidence of acute painful crisis and also protects against chronic complications. This medicine has to be taken for long durations (in years) to maintain its effect, and can easily be prescribed according to certain criteria by medical officers. It is a rather safe drug and can be dispensed by non physician health workers.

Only when we can ensure the appropriate treatment of those who suffer from SCA (SS disease) should we turn towards screening people for sickle cell. Screening either pregnant women, or their fetus, or newborns , or adolescents has the moral imperative to offer treatment to all found with the disease.

In Chhattisgarh, for example, treatment is presently not available beyond routine analgesics and antibiotics for SCA. Blood transfusions are available in most district hospitals when needed. Folic acid is offered as treatment to many, which alone does not make any difference to people's disease course. Hydroxyurea is not available in the public health systems outside Raipur Medical college.

Even with such a dismal management scenario for sickle cell disease, the state launched an adolescent screening programme for some years, without ensuring treatment for those found with the SS disease. For example, in February 2016, out of 6000 people found to have SS disease on Hb Electrophoresis, not even 1000 had been put on hydroxyurea. Also, this runs the risk of exposing those found with the trait being ostracized or labelled as disease agents. This is not a desirable state of affairs.

The Government of India started an extensive programme for screening 3 crore people for the sickle cell trait, under the supervision of the Prime Minister's Office. Bureaucrats, medical officers and block medical officers in 19 states have been sensitized to the problem and technicians, ASHAs and paramedics in 11 states have been trained for screening and management of the sickle cell disease. In Jharkhand and Chhattisgarh, the screening has already started.[223]

Moreover, even in groups with the highest prevalence of the sickle cell gene (HbAS 25%+), the proportion affected by sickle cell anaemia (HbSS) would rarely surpass 2%. We know little about the long term social implications of these disorders on the lives of tribal communities and individuals. New-born screening for sickle cell needs to be supplemented by adequate precautions and counselling both for families and communities to avoid discrimination.

The fact is that *while the current system has created a mechanism for screening people on the sickle cell trait, there is no plan of action for people with the disease. Therefore this committee believes that providing good quality care for those with clinically severe Sickle Cell Anaemia must be the first priority. In the absence of an evidence of the need, the whole program of mass screening may prove to be a futile exercise of shadow chasing.* It also carries a serious risk of labelling and stigmatising several million tribal individuals with sickle cell trait.

1) **Sickle cell clinics:** There is a need to develop sickle cell clinics at the district and the block level in all the states where screening is being launched. These clinics will have the diagnostic facility for Hb electrophoresis to confirm or rule out SCA. A registry of Sickle Cell Anaemia cases should be prepared and followed up. The clinics will be equipped with trained counsellors who provide counselling to persons with SCA and family members on what having the sickle cell disease means, risk factors and management in case there are symptoms. These clinics will provide comprehensive treatment and follow-up to patients.

   Assuming a population of 80,000 per block and one million per district, and assuming even a lower estimate of 15% sickle trait and 1% Sickle Cell Anaemia, one would expect at least 800 cases of SCA per block, and 10,000 per district. This number is larger than that of pulmonary tuberculosis, and hence, certainly needs clinical care and support.

2) **Community level management:** The PHCs, THWCs and frontline health workers in tribal areas with high prevalence rate of sickle cell must be trained to handle minor complications and pain management seen in sickle cell patients. They must also receive training in patient and family counselling which is a critical part of management. Any acute illness should be considered as a medical emergency and should be directed to a CHC or district hospital where investigations like CBC, LFT/ RFT, X-ray, pulse oximetry, ultrasonography, etc can be carried out.

3) **Develop a comprehensive and ethical policy**: Recessive gene disorders are a specific case where policies of prevention raise huge ethical issues regarding the reproductive rights of 'carriers' who are otherwise 'healthy' and brought under the purview of interventions for the purposes of reducing the incidence of the disease. Individuals and couples should have a choice whether or not they want to be tested, and when and whether they want to use prenatal technologies to detect a disorder and opt for a termination. Whilst the assumptions of autonomy and choice might operate very differently within the context of vulnerable Adivasi communities, their illiteracy or presumed ignorance are not default ethical grounds for state intervention in their reproductive rights through covert and overt means that involve notions of community partnership. The ethical reverberations of state interventions with or without proper community consultation, and the potential for reinforcing ideas and attitudes of stigma towards people with the

[223] Website of the Ministry of Tribal Affairs, Govt of India.

Review of the Sickle Cell Disease Program

This Committee recommends a re-examination of the Sickle Cell Disease programme and design of a strategy based on the answers to the following questions:

1. What is the epidemiological burden of excess mortality and morbidity caused Sickle Cell Disease – homozygous and heterozygous ? This should be estimated in terms of the indicators such as, Number of pre-mature deaths, Years of Life Lost (YLL), Number of people who suffer morbidity, Years Lived with Disability (YLDs) and the Economic Cost of the Disease.
2. Is the strategy of mass screening justified on the grounds of:
   - Ethics and human rights
   - Availability of effective therapy for those screened positive ?
3. Is marriage counseling feasible and effective in preventing inter-marriages among the heterozygous ?
4. Is the strategy likely to be effective in preventing the birth of S-S babies and in reducing the YLL and YLDs ?
5. What are the alternative strategy options and their effectiveness and cost effectiveness? Eg, Making clinical treatment and follow-up available to those with severe manifestations through the existing health care institutions.
6. What should be the realistic goals, outcome indicators, strategic priorities and operational precautions for the revised Sickle Cell Disease programme?

condition, and young women in particular, need to be debated more widely.

Challenge 8: Ensuring timely treatment for Animal Bites, Accidents and Occupational Health problems

Living in and around forest areas pre-disposes tribal communities to man-animal conflict (elephant raids, tiger/leopard encounters, bear mauling etc.). The High levelcommittee on the Socio-Economic, Health and Educational Status of Tribals in India (Xaxa committee) discusses the issue and measures to tackle it in great detail. This committee would only like to suggest the following measures to ensure that the health problems arising due to the proximity to natural habitats and the conflicts therein are adequately addressed:

1. **Development of a comprehensive system for the management of animal bite cases and the trauma**:

   a) Develop first aid guidelines for animal and accident related injuries. First-aid and triage centres with guidelines/ awareness materials in local languages should be housed within all Tribal Health and Wellness Centres.

   b) Often tribal areas are very far from well-equipped hospitals with trauma care facilities, blood banks, intensive care and life support services. It is important to map the time and distance taken to reach such facilities from tribal areas and to make transport arrangements for timely and immediate referral. In certain cases of accidents and animal attacks, delays can be life threatening.

c) Since animal bites and snake bites are more common in tribal areas, and might be responsible for more deaths than maternal mortality, an urgent and intensive response is warranted. *All medical officers and nurses at the CHC, PHC and THWC[224] should be trained for managing these emergencies appropriately. A short training module needs to be developed and accreditation/ certification introduced.* No doctor or nurse working in tribal areas should be uncertified.

d) Institute a Snake Bite Management system: Medical Officers at PHCs, and sub-district hospitals should be trained for snake bite management as per the National Snakebite Management Protocol of the Government of India. ASHAs, ANMs and other peripheral health workers in tribal areas should be trained in first aid treatment and timely referral to the higher centres. All health facilities in tribal areas, particularly those reporting a high incidence of snakebite cases, should be well stocked with anti-venom injections. Community education to alert the people about the type of environments favoured by dangerous snakes and advise on how to avoid being bitten would also help to reduce number of snake bites.

2. There is a need for ambulances and blood banks in tribal areas due to high incidence of trauma and accidents. The Section on Organization of Service Delivery has already outlined the measures needed in this regard.

3. Undertake research on occupational and environmental health in tribal areas and build local capacities in dealing with these issues.

Challenge 9: Health Literacy in Tribal areas

Level of education and knowledge about health and diseases– in short, Health Literacy – is low among the tribal population. Knowledge is the best pill and best vaccine. Therefore massive health literacy drives for continuous health education of women, men, youth and children are needed. Detailed ways of doing so are included in the Chapter on Organization of Service Delivery.

Challenge 10: Health of Children in Ashramsalas

A large number of tribal children reside and study in Ashramshalas. (Nearly 450,000 in Maharashtra alone). However, the living and health conditions there are deplorable. The Salunke Committee, appointed by the High Court, Mumbai on Health in Tribal Schools provides the recommendations for improving the current scenario. These are also recommended by this committee. These include 1) improvement in inter-departmental convergence and coordination. 2) Prominent display of critical helpline numbers and service providers. 3) Ensuring accessibility to Emergency Referral Services (108) and 4) increasing coverage through RKSK/MMU outreach visits. 5) Deputation of ANMs in Aashram schools and treating Aashram School as a Sub center Village. 6) Capacity building and training of teachers and senior students in primary care and first aid. 7) Empanelment of local private medical services in absence of public facilities. 8) Ensuring measures for mosquito and pest control. 9) Enforcement of ban on consumption and storage of tobacco, alcohol and other intoxicating substances. 10) Reproductive and sex education and prevention of sexual abuse to tribal adolescents.

This committee believes that tackling the Ten challenges outlined in this chapter will go a long in improving the health status and the quality of life of the tribal population.

[224] See chapter on Organization of Service Delivery for THWC

School health in Tribal Areas: Salunke Committee Report

In response to a Public Interest Litigation and Media outcry, a 15 member committee was formed under the leadership of Dr. Subhash Salunke, Former Director General, Health Services, Government of Maharashtra to conduct a study related to the prevention and management of morbidity and mortality among Ashram schools students in Maharashtra.

The report of the study submitted to The Governor of Maharashtra on October 2016, pointed out that 1,077 students'deaths have occurred during the last decade in Ashram schools across the state. The main causes of death were recorded as snakebite, stomach-aches, high fever, accident, suicide, etc.

The committee conducted Medico Social Review of 793 deaths.In 67% cases, there was no proper mention of cause of death in the death certificates. While ashram schools failed to produce any data related to 12% deaths, for over 17% deaths it was "unknown cause", for 13% as "sudden death" and 23% died due to "severe illness".

The Report identified lack of quality (inadequate infrastructure and limited capacity of staff to handle minor ailments) and inaccessibility of medical care (lower coverage of 108, MMUs and RBSK visits) as the major gap resulting in higher death rates among children residing in Ashram schools. Concerns were also raised regarding quality and frequency of meals provided, resulting in poor nutritional status among children.

Following immediate actions are recommended by the committee:

- Improvement in inter-departmental convergence and coordination
- Prominent display of critical helpline numbers and service providers
- Ensuring accessibility to Emergency Referral Services (108) and increasing coverage through MMU outreach visits.
- Deputation of ANMs in Aashram schools and treating Aashram School as a Sub center Village
- Capacity building and training of teachers and senior students in primary care and first aid.
- Empanelment of local private medical services in absence of public facilities
- Ensuring measures for mosquito and pest control
- Enforcement of ban on consumption and storage of tobacco, alcohol and other intoxicating substances.

The committee further suggests increased accountability of the District Administration and development of a mechanism for regular review of the deaths occurring in the Schools across the state

8

Chapter

Integrating Traditional Tribal Medicine into Primary Health Care

Outline

- Traditional Medicine or 'people's health culture' is usually an oral tradition of healing techniques and properties of plants and animal substances that is passed from one generation of healers to the next.
- Health among tribal groups is a functional, not a clinical concept.
- It is not culture alone, but a lack of options that governs the final decision on care seeking.
- The traditional tribal medical system and the modern medicine and public health will continue to co-exist for at least a few generations. The objective is to facilitate a seamless integration where different systems of medicine co-exist to provide the best possible care to the people from tribal communities.

Recommendations

- Objective 1: To study, document and test tribal health traditions, particularly traditional medicines, of different tribes.
- Objective 2: To integrate tribal medical practitioners into primary health care.
- Objective 3: To empower the tribal people to adopt healthy practices to enhance their capacity for self care.
- Objective 4: To enable the tribal people to enjoy the economic benefits of their traditional knowledge
- Objective 5: To encourage the tribal people to access modern healthcare services.

The World Health Organization defines Traditional Medicine as 'the health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being.[225]' Traditional Medicine or 'people's health culture' is usually an oral tradition of healing techniques and properties of plants and animal substances that is passed from one generation of healers to the next.

Due to their close association with the environment, the health beliefs and systems of tribal communities are often very different from the rest of the population. Tribal people harbour a wealth of folklore and traditional wisdom related to health, closely entwined with the environment, particularly the forest ecology. They often use different parts of locally available plants, not only for the treatment of diseases, but for population control as well.

[225] http://www.who.int/mediacentre/factsheets/2003/fs134/en/

Sociologists suggest that health among tribal groups is a functional, not a clinical concept wherein a threat is expressed through a withdrawal from day to day work.[226] Most tribal societies believe that diseases are caused by supernatural forces. They view the traditional healer as a medium between man, nature and the supernatural entity who guards their community and provides spiritual security. The lack of emotional and spiritual content in the modern healthcare system is therefore, to a large extent, responsible for the reluctance of the tribal people in embracing it.

Even today, many tribal communities rely on herbal and indigenous systems of medicine. A study carried out in the state of Meghalaya found that 87% of the respondents believed their traditional system of herbal medicine to be efficacious and 46 % reported using it in the 3 months prior to the survey. In comparison only 31% had heard of any of the AYUSH (Ayurveda, Yoga, Unani, Siddha and Homeopathy) systems and only 10.5% had ever used it in their lifetime.[227] Similarly, during consultations carried out by this committee in the state of Jharkhand, the Hodopathy practitioners talked about lack of representation within the ambit of AYUSH.

The fact is that in many communities, it is the traditional healer, not the AYUSH or allopathic doctor who is approached first. While some of them use herbal medicines, many resort to magic and witchcraft. This has adverse consequences. At the very least it delays care seeking. This is a challenge of inter-cultural integration and transition that needs to be addressed sensitively.

The aim of the tribal health policy should be three fold:

a) To empower the tribal people to be healthier;
b) To seek and identify effective and safe practices and remedies in tribal medicine;
c) To bring the traditional tribal healer into primary health care in order to increase the access to primary health care by tribal people.

It is important to remember that often it is not culture alone, but a lack of options that governs the final decision on care seeking. Therefore the principal requirement for bringing tribal people to the modern health infrastructure is access– without financial or geographic barriers, discrimination, loss of dignity or active exclusion.

Objective 1: To study, document and test the tribal health traditions, particularly tribal systems of medicine, of different tribes

1. **Compendium on Tribal herbal medicines with rigourous testing:** Tribal people have traditionally had their own systems of medicine, many of which use local herbs. With rapid urbanization, deforestation and lifestyle changes among the tribal people, this knowledge is fast disappearing. There is a need for documentation and study of herbal remedies, followed by rigorous scientific evaluation to test their potential. This is a fundamental but huge task. This should be done through a partnership between the Indian Council for Medical Research (ICMR), Department of Bio-Technology (DBT), Council for Scientific Industrial Research (CSIR), the National Medicinal Plant Board, and the Central Drug Research Institute, Lucknow. Anthropologists and sociologists from the Anthropological Survey of India should be included in this study team. This Committee recommends the creation of a compendium on Tribal herbal medicines and their scientific assessment.

2. **Documentation of Traditional Practices:** A few standalone studies among different tribal groups indicate the presence of practices for childbirth and disease control which are highly effective. At the same time, in many communities, there exist retrograde beliefs that threaten the life and well-being of community members, particularly the mother

[226] Mahapatra, L.K. 1994. Concept of Health Among the Tribal Population Groups of India and its Socioeconomic and Socio-cultural Correlates", (Pp.1-12) in C.J. Sonowal and Purujit Praharaj, Tradition Vs Transition: Acceptance of Health Care Systems among the Santhals of Odisha, Ethno-Med., 1(2): 135-146 (2007).

[227] Albert, S., M. Nongrum, E. L. Webb, J. D. Porter and G. C. Kharkongor (2015). "Medical pluralism among indigenous peoples in northeast India-implications for health policy." Tropical Medicine & International Health 20(7): 952-960.

and the child. There is a need for rigorous and systematic documentation and study of health practices among tribal communities. This should be carried out by linking tribal communities to local universities and medical institutions. The data thus collected, should be used for designing appropriate behaviour change communication initiatives.

3. **Evidence Based dissemination:** After rigorous documentation and analysis of traditional tribal practices, evidence based guidelines should be developed to promote healthy practices and use of local herbs, scientifically proven to be beneficial. This information should be transmitted back to the local level – to both the health functionaries and the tribal community. There is a precedence for this. The WHO has developed a list of herbs that may be used for primary health care. For practices identified to be harmful, a tribe appropriate BCC strategy should be designed.[228]

Objective 2: To integrate tribal medical practitioners into primary health care.

1. **Integrate Traditional healers in Primary healthcare:** Despite the advent of modern medicine, traditional healers continue to play an important role in the lives of tribal communities. It is imperative to work with these tribal healers for two reasons. Firstly, they inspire faith amongst the community and are often the first point of reference and care for many tribal families. Secondly, these healers are the repositories of centuries old traditional wisdom and are often well versed with local flora and fauna. This knowledge needs to be respected, documented, validated and used for the benefit of the tribal community and others.

    a) The first step in the integration of these traditional medicine practitioners is recognizing their traditional position and skill and differentiating them from untrained modern medicine practitioners, commonly referred to as *quacks.* These two types of informal practitioners are often mixed up and referred to by similar names, leading to an erosion of the credibility of the traditional medicine practitioners in the eyes of the non-tribal population. This perpetuates a cycle of misunderstanding, lack of trust and mutual respect, putting the tribal practitioners on the defensive. There is a need to properly enlist all traditional healers in a community.

    b) Documented knowledge on traditional practices and medicines that have been validated should be shared with these healers.

    c) The identified tribal healers should be offered training and encouraged to adopt a referral role for animal bites, TB, malaria and other serious ailments. The training should involve an understanding of the organization of service delivery under the modern system of medicine, adoption of good health and hygiene practices and recognition of symptoms of common ailments that require referrals. A system of incentives should be worked out to ensure that these healers view the modern system of medicine and healthcare service delivery as the next logical step in offering good care to their communities, and not as a threat to their existence and livelihood.

    d) Where the Gram Sabha so desires, local traditional healers may be integrated into the PHC and allowed to treat alongside the doctor and the AYUSH practitioner. The choice of who to consult- doctor, AYUSH practitioner or traditional healer – should lie with the patient. At the same time, all the three medical practitioners should be encouraged to recognise conditions that need referral to another system of medicine and to advise patients accordingly. Bringing the traditional healer to the PHC would

[228] WHO studies and guidelines on Traditional medicines available online at http://apps.who.int/medicinedocs/en/d/Js22298en/ ; Last accessed January 10, 2017

Mainstreaming Traditional Medicines into official Primary Health Care: A Case Study

Recognizing the importance of traditional medicine and its relevance in modern times, the Karuna Trust, in collaboration with the Foundation for Revitalisation of Local Health Traditions (FRLHT) and the Ministry of Environment and Forests (MoEF), introduced the ***'Mainstreaming Traditional Medicines into official Primary Health Care'*** project. It focussed on introducing the community-based folk medicine system into the primary health care system with the belief that the integration of TM would go a long way in improving the access and quality of primary health care services.

The project addressed the following specific objectives:

- Assess the popular local medical practices in the respective regions under particular PHCs;
- Validate these selected health practices;
- Integrate the validated practices in 25 PHCs in Karnataka;
- Develop a cadre of *Arogyamitras*/*ASHAs* to cater to the preventive, promotive and curative needs of the community through local health traditions;
- Advocate for a policy on mainstreaming the traditional medicine into the official primary health care system through a pilot study/ demonstration;
- Orient Ayurvedic medical college students to community-based approaches to health and primary health care.

The key strategy of the project was to utilize the network of PHCs already managed by Karuna Trust to pilot the mainstreaming of TM. Two types of activities were planned:

Preparatory Activities: Based on remoteness of the villages under their jurisdiction, problems of accessibility and existing presence of traditional knowledge and health practices, PHCs were identified for implementation of TM. Traditional health practitioners (*Vaidyas*) were identified and made partners in the programme. A rapid assessment of prevalent diseases in the area was conducted and four health conditions were prioritized. Local health traditions to treat these conditions were identified and validated through systematic, scientific research.

Integration of Traditional Medicine (TM) in PHCs: *Arogyamitras/ASHAs/Vaidyas* were carefully selected from the community. Preference was given to women and persons from a traditional healer's family or to those possessing basic knowledge of locally available medicinal plants. Training was provided to all the PHC medical staff and A*rogyamitras* on TM. Demonstration plots of traditional medicinal plants were established in the PHCs. TM Clinics were established in each PHC. A*rogyamitras*, operating the TM clinic under the supervision of the chief medical officer, demonstrated to patients the preparation of the medicine as well as medicinal plants in the demonstration plot. *Arogyamitras* also visited villages and conducted TM training for SHGs, students and teachers. They assisted in establishing herbal gardens in schools and households.

Impact

The project succeeded in breaking barriers and re-introducing plants into the lives of the rural people, underscoring their medicinal values and promising health for all. It led to:

- An increase in the number of people opting for traditional medicines at the PHC;
- Increased knowledge and awareness of traditional medicinal plants and their use in the community;
- Community's willingness to nurture traditional medicinal plants in their kitchen gardens;
- Acceptance of traditional medicines by health service providers whose scekpticism was addressed by the validation process adopted by the project;
- Increased awareness on health, PHC's role and value of traditional knowledge systems;
- Improved health-seeking behaviour.

Challenges

There is resistance from allopathic health practitioners to the idea. Further, traditional healers are often reluctant in sharing information on TM. Appropriate selection and training of *Arogyamitras* and advocacy at the government level are critical for the success of the project.

not only positively impact the tribal people's perception of the health centre, it would also enable the health system to keep an eye on serious cases that may require immediate assistance or referral. The ultimate objective is a seamless integration where different systems of medicine co-exist to provide the best possible care to the people from tribal communities.

e) Many traditional healers and practitioners are grappling with issues of survival. As forest areas and herb–rich environments are shrinking, accessing herbs, roots and plants for medicinal purposes is becoming increasing difficult. Moreover, with the advent of modern medicine and the erosion of their position within the tribal society, many are finding it difficult to acquire apprentices. Ensuring access to medicinal plants for these healers is important. As the credibility and efficacy of selected herbal remedies is proved, a scheme should be launched for the development of herbal gardens at tribal PHCs with select plants. A network should be created to enable tribal practitioners to share and learn from each other, enter into dialogue with senior practitioners and retain the local resource base on which their art depends. This requires a sensitised facilitation- one which is aware of the limitations and potentials of traditional healing and approaches it without disdain.

2. **Train traditional birth attendants:** Given the high incidence of home deliveries, particularly in interior tribal areas that have limited physical access, it is important to train the dais or traditional birth attendants. Often access to institutions during bad weather is a serious hurdle. In such situations tribal women are in the hands of dais.

   Training impacts at two levels. One, the dais learn and practice safe delivery with the help of the TBA kit. Two, dais that are trained are able to identify high risk pregnancies and deliveries and transfer the patient to a health facility at the earliest. Therefore the government needs to undertake training of dais with appropriate skill transfer and certification. Dais should be provided with delivery kits, and should be linked to the nearest ASHA and the ANM for consultation and referral. This will also ensure that the ASHA and ANM have updates on the status of the pregnant woman and her child and are able to record all births.

3. **Orient health personnel about local tribal health traditions and TM:** The lack of understanding and respect for traditional medicine among modern medicine practitioners and frontline workers often serves to alienate the tribal people. Practices and remedies that have been tested and validated need to be shared with the health personnel to bridge this gap and to enable them to work effectively with the traditional healers.

Objective 3: To empower the tribal people to adopt healthy practices to enhance their capacity for self care.

Design effective behaviour change communication campaigns: Health outcomes are closely associated with practices of everyday life like approaches to child-birth, breast feeding, child nutrition, drinking water and sanitation.

a) The promotion of healthy behaviours requires formative research with ethnographic inputs to feed into health education and communication strategies, and to define the content of the communication. Recognizing also the wide variations between tribes, such ethnographic work must be tribe-specific. Research work that approaches this topic by comparing current practices to the national standardized guidelines on health related practices could seriously miss the opportunities and barriers that existing cultures pose. But an ethnographic description untouched by a more modern, science based demarcation between what is clearly a harmful practice, and what is a valid one is also not helpful. As a result many BCC campaigns have very poor results. A delicate balance needs to be maintained

between sensitivity towards tribal traditions and modern science of health. It is imperative to involve social scientists and anthropologists in design of BCC campaigns and materials for tribal communities.

b) Health campaigns must necessarily mix a strong endorsement of good practices inherent in tribal cultures – like exclusive breastfeeding, or giving colustrum to children (where such customs exist) -with a reasoned and sensitive disavowal of the harmful practices. The tendency to label everything traditional as "wrong" may seriously undermine the confidence of the tribal population in these messages.

c) Awareness is the key to improve health conditions of the tribal people. As of now, most of the communication (IEC/BCC and counselling) strategies are in standardized format and do not address the cultural diversity in the health practices of tribal populations. All BCC strategies must recognize the heterogeneity of tribal groups and the need for tribe and region specific interventions, in the local language and dialect. The state could use different types of tribal art forms to bridge the knowledge gap and to spread awareness in tribal pockets. There is a need to adopt communication for development – a two way communication process to empower people, to amplify voice, facilitate meaningful participation and foster social change.

d) Failure to involve elected members, religious heads, faith leaders, community elders and traditional healers in health promotion activities has led to poor percolation of health awareness. Educating these leaders would help in building trust among tribal communities towards health service providers.

Objective 4: To enable the tribal people to enjoy the economic benefits of their traditional knowledge

1. **Enable tribal people to cultivate, consume and collectively market validated tribal remedies:** The traditional wisdom of tribal communities, after being rigorously tested, has the potential to serve as a tool for the economic empowerment of the community. It may also lead to a decentralization of the healthcare system, at least with respect to primary health. Community members can be trained and empowered to use local herbs for preventive purposes and for symptomatic relief in some cases.

Two case studies demonstrate how this can be done effectively: The case of the Karuna Trust cited earlier in this chapter and the case of Aadi Aushadi in the box below.

Aadi Aushadi, a unique social enterprise

The Aadi Aushadhi project is an example of linking traditional knowledge to scientific research and creating meaningful social interventions that turn tribal healers into successful entrepreneurs.

The Shoolapaneshwar forests in South Gujarat are home to the Vasava tribals, a community of farmers who hunt, gather herbal plants, and raise cattle. Traditionally this community possesses immense knowledge of the medicinal plants growing in their area – knowledge that has been orally passed from one generation to the next.

A few years ago, Dr Lancy D'Cruz, an ethno-botanist joined hands with the Xavier Research Foundation and the Adivasi Samajik Kendra, Dediapada to launch an innovative project that sought to convert the herbal knowledge of these tribal people into a livelihood opportunity for them.

The knowledge of 250 plant species of ethno-medicinal significance belonging to over 75 families was documented, assessed through scientific testing and used to create herbal medicines. With support from various organizations like the Jeevan Tirth and the Manthan Educational Programme Society India, Aadi Aushadhi was born. The aim was to promote the socio-economic development of the Vasava community and to protect their traditional knowledge of medicinal plants. Today, this knowledge has been channelized to create a range of products that treat common ailments, like acidity, arthritis, diabetes, kidney stone, jaundice, cough, cold and loose motions. The group has also experimented with various products of Amla, and local plants to create jams, sherbets, hair oils, massage oils, tea powder and Chavanprash.

The Aadi Aushadhi members have organised themselves as a group of producers and marketers engaged in mass cultivation of medicinal plants on individual farms. By enhancing agronomical techniques for sustainable agriculture of medicinal plants, putting in place community level systems for soil and water conservation and switching from single to multi-cropping, they registered an increase in yield. This served to reduce migration and provide educational and health benefits to their families. The tribal people currently function through three self-help groups. They run an office and a processing unit at Dediapada, sell traditional medicines (processed and packaged) at local fairs, state-level and national events and operate a website. With capacity building training for innovation in product-making, communications and marketing, *Aadi Aushadhi* has been able to create a visibility for their brand.

Direct beneficiaries: 52 members. 450 people.

Indirect beneficiaries: 22 villages.

Source:http://aadiaushadhi.com/today/, http://www.sxca.edu.in/xaviersahmedabad.aspx?pagename=aadiaushadi

Objective 5: To encourage the tribal people to access modern healthcare infrastructure

The brick and mortar health centres with their clinical appearance and stained sheets inspire deep suspicion and trepidation among the tribal population. These health centres and the rules followed therein are often diametric to tribal culture. Further, many tribal people do not understand the language being spoken or the processes that need to be followed to get quality care. To them these centres are the proverbial white elephant, with a huge cost to their dignity, values and belief systems. The disdain and disrespect that they encounter at the hands of frontline health workers and doctors, creates a chasm that adversely impacts the uptake of healthcare facilities by tribal people. Cultural compatibility is therefore the key to ensuring uptake of health services by the tribal population.

1) **Help Desks at Health centres:** Health centres, particularly CHCs and district hospitals are complex entities with a series of procedures and protocols that most tribal people do not understand. They often feel lost in these spaces and are unable to demand or obtain quality care. It is therefore important to create a help desk with a tribal counsellor at every hospital and CHC in tribal areas to help tribal patients navigate through intra- and inter-hospital referrals. This tribal counsellor should be from the predominant tribal community living in the catchment area of the health centre, so that (s)he is able to communicate with the ST patients in their own language. His/her tasks would include helping the patients to fill forms and complete formalities, guiding them to the right rooms, explaining the prescription or care advised by the doctor, answering any questions that the patient or his/ her family may have about their condition and informing the care providers at the next level of care in case of referrals. These counsellors could, for many tribal patients, be the one friendly and familiar face in an alien and overwhelming setting. In case the tribal patients encounter disdain at the health centre, these desks can also serve as the complaint box.

   Past experience shows that unless these counsellors are carefully selected, trained and monitored, these help desks can become dens of corruption and exploitation. IT based innovative feedback mechanisms may be helpful in avoiding this pitfall.

2) **Making Hospitals more tribal friendly:** Health facilities should be suited to the cultural practices of tribal communities, eg modifying the labour table for giving birth in the squatting posture, cooking facility for patients and families in Hospitals; using local foods; allowing a companion during delivery. The buildings should be tribal friendly. Minor changes like introductionn of tribal paintings or images of tribal Gods will go a long way in making the patients feel more comfortable. Painting health messages on the hospital walls with the help of local art forms will not only break the monotony of waiting for doctors but also sensitise the tribal people to public health issues.

3) **Sensitization of health workers:** Training of Skilled Birth Attendants (Staff nurse or ANM) in tribal beliefs and practices is important. All health care functionaries should be sensitised to tribal perceptions and beliefs regarding health and disease.

4) **Assembly of tribal health:** As discussed in the chapter on the Organization of Service Delivery, an annual tribal health assembly should be organized at various levels- PHC, block, district, state and national -wherein healthcare functionaries and govenrment officials get an opportunity to hear the health perspectives and problems of the tribal population. This assembly will facilitate a two way dialogue and serve as an important platform for the bureaucrats and the tribal population to learn from each other. It will apprise policy makers of the opinion of the tribal people with respect to government schemes and their operaton.

The consultative process will ensure that the priorities of the tribal population are reflected in health policies and will also increase the receptivity of the health programmes among the tribal people. SEARCH in Gadchiroli has been conducting an Annual Tribal Health meet for the 48 villages that it works in for 20 years now. This has ensured that the priorities and activities selected by SEARCH are appropriate and are accepted by the local population.

In **conclusion**, this committee firmly believes that there is a need to document and assess the traditional tribal medicines and practices; encourage and support traditional practices that are culturally and contextually relevant, while clearly delineating those that are harmful. Tribe specific and sensitive health communication in local dialects plays an important role in providing information needed to make informed choices. In the spirit of the Panchsheel policy of tribal development we need to accept that the traditional tribal medical system and the modern medicine and public health will co-exist for at least a few generations. The objective is to facilitate a seamless integration where different systems of medicine co-exist to provide the best possible care to the people from tribal communities.

9
Chapter

Research, Generating Knowledge and Data on Tribal Health

Outline

Knowledge based on rigorous research is essential for an understanding of prevailing health status, culture, systems and gaps therein. It is also the bedrock of effective policy formulation. It enables us to identify what needs to be done, plan how it can be done, develop and test new solutions and measure the impact of our programmes and policies to enable mid-course corrections.

Given the plethora of health problems among the tribal population and the difficulties in delivering optimum health care to them, research in tribal health should be of the highest priority. Yet this is not so. If one were to conduct a quick survey of the field and assess by counting the resources allocated, number of researchers, the number of annul publications and new solutions, tribal health research would certainly rank at the bottom.

Recognising this, in recent years, the Government of India has undertaken measures to support Tribal Health Research. The Indian Council of Medical Research (ICMR) has identified Tribal Health as a priority area and has established a Tribal Health Research Forum to synergize and intensify the research efforts of the various ICMR Institutes engaged in the area of tribal health research. This forum will also work towards translating the identified leads to public health benefits.[229] The Regional Medical Research Centre of the ICMR has been upgraded to the National Institute for Research in Tribal Health (NIRTH). MoTA has

[229] Report of the Working Group on Health Research for the 12th Five Year Plan, Planning Commission, Government of India, 2011; Accessible at http://planningcommission.gov.in/aboutus/committee/wrkgrp12/health/WG_5health_research.pdf

requested MoHFW to document traditional tribal practices to combat malaria and to explore their potential for developing the third generation of drugs to fight malaria.[230] The Tribal Research and Training Institutes in several states, financed by the MOTA, are expected to assess the state of various schemes and programmes, including those related to health.

As these efforts continue to take shape, the fact remains that as of date, there is scant data and information on the health culture, systems and health status of the tribal population in the country. The few research studies that exist are related to specific diseases like malaria, tuberculosis and sickle cell disease or to the nutritional status of communities. Even though a lot of data is generated through the Health Management and Information Systems (HMIS) and the Primary Health Centres in tribal areas, the lack of disaggregation at the level of reporting means that there are huge data gaps at all levels. Moreover, often the routine data generated through disease control programmes and HMIS is poor in quality.

Most published studies on Tribal health are either commentaries or represent the findings of localised research undertaken by NGOs. Though the National Institute for Research in Tribal Health, Jabalpur has undertaken some systematic surveys on various aspects of Tribal Health, problem-solving original research work in the area is scarce. The network of Tribal Research Institutes under MoTA and Tribal Units at various ICMR centres notwithstanding, there is little effort by the states to nurture similar research centres for advancing locally relevant research on tribal health issues. A systematic assessment conducted in 2009 by the Swami Vivekananda Youth Movement in collaboration with the Government of India and the WHO in five states, acknowledged the paucity of data on tribal health and reported the absence of a systematic mechanism to capture disaggregated health-related data for the tribal people.[231]

This lack of information has resulted in fragmented interpretations and disjointed, piecemeal solutions to tribal health issues, often directed at symptomatic treatment, without a diagnosis of the cause. A more comprehensive and efficacious policy on tribal health demands a well-developed understanding of the health of tribal people- including but not limited to their knowledge, attitude, practices, health seeking behaviour, epidemiological status, access and availability of health services and the changes therein with the introduction of new measures.

Principles and Approaches to Tribal Health Research

The Inter-Tribal Health Authority Research Protocol for research among the First Nations (tribal population) of Canada identified 4 Rs that are important for any research among the tribal population.[232] These are:

- Respect (for tribal culture)
- Relevance (to tribal communities)
- Reciprocity (through a two way process of learning and exchange)
- Responsibility (empowerment through activate engagement; ensuring that the tribal people face no adverse consequences due to research including denial of access to their traditional knowledge).

In addition to these basic tenets, this committee proposes the following five approaches to Research on Tribal Health:

a) **Multi-disciplinary:** Tribal health is as much a product of their existing lifestyle and belief systems as of the services and facilities available to the tribal population. The definition of health and disease varies not just between the tribal population and the general public but even between different tribal groups. Any effective research on tribal health needs to therefore feature an inter-disciplinary team

[230] Letter from MoTA to MoHFW; Accessible at http://tribal.nic.in/WriteReadData/userfiles/file/secyletter.pdf
[231] Study to understand the Health Status and Healthcare Systems In selected tribal areas of India; Accessible at http://www.graam.org.in/wp-content/uploads/2015/11/Study-to-understand-the-Health-Status-and-Healthcare-Systems-in-selected-tribal-areas-of-India1.pdf
[232] Inter Tribal Health Authority Research Protocol, 2007; Accessible at http://www.cahr.uvic.ca/nearbc/documents/2009/aboriginal/ITHA%20Research%20Protocol.pdf

with sociologists and anthropologists who can bring to the research an understanding of tribal knowledge, attitude and practices (KAP) with respect to life, death, disease, food, child birth among other things. Similarly, knowledge of local tribal communities and their languages is important to ensure that the nuances of the both the question and the answer are not lost in translation. Finally, a knowledge of economics is vital to understand questions re costing and scaling up. A multi-disciplinary team with ethno-cultural expertise is important not just for broad health systems research but also for limited and focussed epidemiological studies.

b) **Participatory and community based:** Cultural and socio-political barriers are significant obstacles to both Tribal Health Research and Solutions Implementation. On the one hand, many researchers are insensitive to or unaware of what the tribal people deem as health problems. On the other, the tribal people do not see the need for many such studies and are worried about its possible fallout on their health and reputation. Often there exists suspicion and wariness between the researchers and the tribal communities, born of a mutual lack of understanding of each other's value systems. This is compounded by the lack of respect for local culture and traditions demonstrated by many researchers and field workers engaged in data collection. One way of building trust amongst the tribal people to encourage their full co-operation is by engaging them through participatory research.

Community Based Participatory Research (CBPR) addresses the needs of the community and ensures that the findings of the research are transmitted to and adopted by community members. It begins with explaining the need for the research to the community and by actively seeking their co-operation through detailed discussions on how the knowledge will be generated, used, shared, and, ultimately, "owned." The last is particularly important, when it comes to research documenting ethnic and tribal knowledge and practices, particularly with respect to traditional medicines. In a world with increasing focus on Intellectual Property Rights and patents, the question of ownership of knowledge becomes important. Tribal Health Research has to ensure that tribal people are not deprived of their rights, dignity or the benefit from their traditional wisdom, by any ensuing patents. For CBPR to be effective, tribes must be equal partners in study design, data collection, interpretation, and publication.[233] Protocols for ownership, control, access and possession (OCAP) of knowledge generated through Community Based Participatory Research need to be established and shared with tribal communities.[234]

c) **Epidemiologic research:** Since the tribal people differ from the general population in several ways, and given that there is huge heterogeneity, state specific and tribe specific epidemiologic research will be the foundation of the tribal health plan. Epidemiologic research to measure the morbidity and mortality status of the tribal population, the rates and the trends, the risk factor causing diseases, the intervention trials etc will be undertaken.

d) **Implementation Research integrated into policy and programmatic decision-making:** According to the WHO, implementation research is, "the scientific study of the processes used in the implementation of initiatives as well as the contextual factors that affect these processes. It can address or explore any aspect of implementation, including the factors affecting implementation (such as poverty, geographical remoteness, or traditional beliefs), the processes of implementation

[233] Anna Harding, Barbara Harper, Dave Stone, Catherine O'Neill, Patricia Berger, Stuart Harris, and Jamie Donatuto; Conducting Research with Tribal Communities: Sovereignty, Ethics, and Data Sharing Issues; Environmental Health Perspectives; Jan 2012, 120 (1); Accessible at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3261947/

[234] http://fnigc.ca/sites/default/files/docs/ocap_path_to_fn_information_governance_en_final.pdf

themselves (such as distribution of fully-subsidised insecticide-treated bednets (ITNs) through maternal health clinics, or the use of mass vaccination versus surveillance-containment), and the outcomes, or end products of the implementation under study." Embedded in the real world, implementation research is a powerful tool for capturing and analysing information in real time, allowing for the assessment of performance, and facilitating health systems strengthening. It is particularly important in supporting the scale-up of interventions and integrating them into health systems at the national level. Too often interventions that work in small-scale pilot studies fail to live up to expectations when rolled out in national strategies, or fail to transfer from one country to another as a result of contextual differences. Implementation research not only helps to clarify why that happens, but can be used to support the process of re-iterative refinement needed for successful adaptation.[235]

e) **Evaluation Research:** A large number of programs and schemes are implemented in tribal areas – both by the Government and to a smaller extent by the civil society. Are these schemes appropriate? Are these interventions delivered with good coverage and quality? Is there adequate demand and utilization? What are the barriers and bottlenecks? And finally, is there an impact? Evaluative studies are needed to answer such questions.

Scope of Tribal Health Research

Tribal Health Research in the country has thus far been sporadic and limited to occasional studies of disease patterns, mortality and service delivery. It has also focused on a few geographical areas, ailments and communities. There is a need for a more holistic tribal health research plan that covers the gap in terms of themes, regions and tribes.

Research on Tribal Health should encompass:

a) Studies of the knowledge, attitudes and practices in the tribal people. What do they want? Why?

b) Study of tribal medicines and practices, and scientific evaluation of the same;

c) Epidemiological studies: Study of morbidities and mortality that affect tribal populations; the rates and the trends, and the interventions studies.

d) Healthcare Delivery Systems in Tribal areas: priorities, inputs, coverage, quality, utilization, barriers and bottlenecks, outcomes.

e) The policy, governance and financing.

In other words, epidemiological and health services research among tribal communities needs to be complemented by Health Policy and Systems Research (HPSR) that includes research on various traditional health practices, formal and informal healthcare pathways chosen by people, as well as the various resources (human, financial and materials), goals and values that underlie the planning and management of public and private structures that afford care. HPSR investigates how social factors, health policy, financing systems, organizational structures and processes, medical technology, and personal behaviours affect access to health care, the quality and cost of health care, the quantity and quality of life.[236] A multi-disciplinary system, it blends economics, sociology, anthropology, political science, public health and epidemiology to draw a comprehensive picture of how health systems respond and adapt to health policies, and how health policies can shape − and be shaped by − health systems and the broader determinants of health.[237] Therefore, in order to plan appropriately for tribal health in the country, HPSR is important.

[235] http://who.int/alliance-hpsr/alliancehpsr_irpguide.pdf
[236] As cited on the website http://www.academyhealth.org/About/content.cfm?ItemNumber=831&navItemNumber=514
[237] Website of Alliance for Health Policy and Systems Research; http://www.who.int/alliance-hpsr/about/hpsr/en/

Here it must be accepted that a number of ethnographic studies and research activities have been undertaken by social scientists among various tribes to create an understanding of their belief systems and social milieu. However, there is a disconnect between this considerable wealth of ethnographic information that has been generated and the use of such insights for improving programme design and implementation. If we want programmes to be efficacious, this disconnect needs to be tackled. HPSR will provide us with vital information for policy plan updates, and thereby aid in strengthening health service programs for Scheduled Tribes across the nation.

Challenges and Recommendations

Challenge 1: Undertaking Innovative Solutions Research

- **Grand Challenges:** The Tribal Health Research Cell in collaboration with the Ministry of Health and Family Welfare should appoint a group to identify and run 10-20 Grand Challenges in Tribal Health to be resolved using technology and health care delivery innovations. These can be funded through the Tribal Health Research Fund. A consultative process should be set up at the national level to identify the main problems awaiting solutions, and the specific research questions. Such a process, should take as inputs the findings and recommendations of this committee as well as information and priorities collected from the tribal representatives, NGOS, experts and State and District Health officers. It should also look at such processes undertaken in other countries, particularly in Canada and Australia. This list of priorities should guide the subsequent decision-making and grant-making for these Challenges.

- IEC/BCC interventional components should be a priority of health research on tribal population.

Challenge 2: To collate and make available existing data on tribal health

- **Existing Data Sources:** Currently, the sampling methodology for many population based surveys eg SRS (Sample Registration System) is not designed to provide information on tribal populations. It is a sad commentary that this huge system which collects mortality data from a population sample of nearly 7.2 million is unable to provide the mortality rates in the ST population in their sample. Even where they are, existing data on tribal populations in surveys like DLHS (District Level Household and Facility Survey), AHS (Annual Health Surveys), NSSO (National Sample Survey Office), SAGE (Study on Global Ageing and Adult Health), LASI (Longitudinal Ageing Survey in India) needs to be segregated, analysed and made available to researchers and practitioners. The Committee recommends that these on-going national surveys be advised to aim to estimate various rates in the tribal population. A list of tribal health specific questions should be prepared by the MoHFW and the national surveys should, at the stage of sampling, data collection and analysis, aim to answer these questions. This will make optimum use of resources and efforts.

- **Census and Sample Registration Systems:** If Registrar General of India either uses or provides the F-Series data from the Census, then demographers can calculate recent Mortality and fertility estimates/ vital indicators for the Tribal Population. In addition to this, the district census handbook can also be a valuable source of information. The Sample Registration System annually publishes the IMR for the rural, urban and total population in each state. The category of 'Tribal' should be added for the states with sizable tribal population. The tribal specific vital rates- for these states and nationally- should be estimated and published annually.

- **Tribal Health Directorate:** The Expert Committee recommends that the task of collating the available data on tribal health and identifying information gaps be entrusted to the special Tribal Health Directorate created within the MoHFW (explained in the Chapter on Governance). This cell should become the central repository of tribal health data from across different Ministeries and sources. It should advise the need for information to various agencies and receive it on an on-going basis.

- **Dissemination of Data:** The Ministry of Tribal Affairs in 2013 brought out a Statistical Profile of Tribes in India, collating information on the socio-economic status of the tribal population. Such a publication should be brought out every 3 years by MoTA in conjunction with the Tribal Health Directorate in MOHFW to ensure that data on tribal health is easily available to researchers and practitioners. Thus, a State of Tribal Health report should be published every three years and placed before the nation.

Challenge 3: To generate knowledge and disaggregated data on various aspects of tribal health

- **Tribe Specific Surveys:** The special Tribal Health Directorate set up under the MoHFW should, with the support of the Department for Health Research, undertake a thorough study of the data available on tribal health through existing data sources (identified in Objective 1) and independent studies. Thereafter if necessary, a case can be made for a separate Tribal Health Survey or for large scale tribe specific health surveys similar to NFHS and RCH with common parameters and uniform framework/ methodology/ time span, to fix the specific data gaps identified and deemed essential.

- **Collection of Tribal Health Data:** Standard guidelines for HMIS and Civil registration systems must insist on capturing tribal identity so that these could be analysed subsequently. A pilot study should be carried out in tribal blocks to perfect the system of birth & death registration.

Research institutions and organizations carry out short term to extensive work on tribal health issues but lack tribe-specific estimates on health and other development indicators. National survey like NFHS, DLHS, AHS, NSSO, SRS and Census should generate tribe specific estimates.

The MoHFW is planning to provide tablets to all ANMs. This will enable instant digital recording of health data. Similarly mobile technology can be used to enable data capturing and validation through other frontline workers like ASHA. The Tribal Health Directorate can identify critical information gaps on the wellness status of tribal communities and where possible, ensure that this data is gathered through the ANMs or other frontline workers. The Directorate will also be responsible for constantly collating and analysing this data with support from DHR and making it available to policy makers and health functionaries at national, state, district and block levels.

- **Epidemiological Research:**
  a) The availability of epidemiological information with respect to tribal populations needs to be increased many-fold. This relates to both areas where tribal populations are dominant or high and to areas where tribal populations are a minority. The health transition from infectious to non-infectious disease among tribal communities should be studied through regular data collection and analysis and the insights thus obtained should be employed to design preventive and curative interventions at the appropriate time.

  b) Several community based sentinel surveillance sites need to be established to get disease and morbidity data. These sentinel surveillance sites should provide information and support for drawing health plans for tribal population.

  c) Past attempts at disaggregated information capture and analysis have had to be given up due to the problems related to the recording and aggregating

such data. The situation has changed, or has the potential to change, where primary records are digitized and EHRs (Electronic Health Records) come into use.

- **Maternal and Child Death Audits:** There is a need for compulsory maternal and child death audits for all maternal and child deaths in tribal communities. This can be extended to all deaths among PVTGs, invoking the district health machinery to investigate and intervene as needed.

- **Tribal Health Research Agenda and Special Cell:** There is need to systematically record, analyse and meaningfully interpret the health situation of tribal population spread across different geographies, particularly on the following issues: population and birth rates, morbidity and mortality patterns; health care needs; cultural belief and practices; food and consumption patterns; impact of socio-economic determinants on health like gender, displacement and migration; availability and access to healthcare services; confidence and usage of health services. The DHR in consultation with the MoTA and the Tribal Health Directorate at MoHFW needs to develop a comprehensive research agenda for tribal health (as suggested under Objective 1 above) and a systematic plan for fulfilling it. A corresponding Tribal Health Research Cell, headed by a senior officer, needs to be created within DHR to oversee all Tribal Health Research and to ensure that the data and knowledge generated therein is systematically transferred to the Tribal Health Directorate for policy formulation and public dissemination. The DHR should earmark at least 10% of its budget for Tribal Health Research and this should be entrusted to the Tribal Health Research Cell (THRC).

- **Tribal Health Index (THI):** To enable the policy makers and people appreciate the health deficit in tribal population and subsequent progress or lack of it, a composite Tribal Health Index should be created to summarily capture the state of tribal health. With the rapid increase in the non-communicable diseases, the IMR is no longer sufficient to represent health, health care and risk factors. The Tribal Health Index shall be used to rank the states/ districts, to monitor the progress and allocate resources.

  a) The Tribal Health Directorate under MoHFW should, with the support of the THRC, aggregate and analyse data from existing surveys and systematic research to monitor the a Tribal Health Index. Alternately, the responsibility of estimating the THI for various states be entrusted to a competent specialized agency.

  b) The existing national surveys like the SRS, NFHS, NSSO, DHS, AHS should be asked to collect the data required to monitor the Tribal Health Index.

  c) This Tribal Health Index and all the other information on Tribal Health collected, collated and analysed by the Tribal Health Directorate (with the support of THRC) should be made available in the public domain for researchers, practitioners (public and non-governmental) and policy makers. An online repository of tribal health information needs to be created. This should offer not just information with respect to THI but also state and tribe specific information re various health parameters, disease prevalence patterns, service infrastructure and uptake. It should also include a systematic compilation and review of tribal focused schemes/programmes, implemented by both the state and the centre.

The committee recommends that the MoHFW and the MoTA constitute a Task Force to plan the composition and the mechanism of annually generating the Tribal Health Index and appropriate use of it.

Challenge 4: To document and test tribal health traditions, particularly tribal medicine

- **Compendium on Tribal herbal medicine:** Tribal people have traditionally had their own systems of medicine, many of which use local herbs. With rapid urbanization, disappearance of forests and changing lifestyle of tribal people, this knowledge is fast disappearing. There is a need for documentation and study of herbal remedies, followed by rigorous scientific evaluation to test its potential. This should be done through a partnership between the Indian Council for Medical Research (ICMR), Department of Bio-Technology (DBT), Council for Scientific Industrial Research (CSIR), the National Medicinal Plant Board, and the Central Drug Research Institute, Lucknow. Anthropologists and sociologists from the Anthropological Survey of India should be included in this study team. This Committee recommends the creation of a compendium on Tribal herbal medicines.

- **Documentation of Traditional Practices:** There is a need for documentation and study of tribal health practices. This can be carried out by linking tribal communities to local universities and medical institutions.

- **Evidence Based dissemination:** After rigorous documentation of traditional tribal practices, evidence based guidelines should be developed to promote healthy practices and use of local herbs, scientifically proven to be beneficial. Similarly, for those practices identified to be harmful, a BCC strategy should be designed.

Challenge 5: Creating and strengthening capacities for Tribal Health Research

- **Research support by Medical Colleges:** Medical colleges situated in and adjoining tribal areas should on a priority basis, undertake applied research pertaining to tribal population or tribal health problems. Fellowships can be offered to encourage the same. Tribal Universities like the Indira Gandhi National Tribal University at Amarkantak, Madhya Pradesh (and all others that are established subsequently) should undertake participatory health systems research amongst the tribal people of the area.

- **Inter-ministerial Studies:** There is a need to undertake analytical and interventional studies in coordination with different Ministries to improve social-economic determinants of health in tribal areas.

- **Awards and Recognition:** Researchers posted in tribal areas and those working on tribal life and tribal health should be motivated with awards and regular/ flexible promotion schemes. Researchers working in the tribal areas should get exposure to premier institutes in India and abroad and should have the freedom to interact with the researchers/ scientists related to research methodology/ techniques and technology/ research outputs. However, special precautions may need to be imposed on those working with sensitive populations/ areas like the Jarawa or the Sentinelese.

- **Training and Orientation:** Regular and compulsory refresher courses on tribal health, with a focus on appropriate research methodologies, particularly participatory community based research methodologies, should be introduced for the research staff of the Tribal Research Institutes (TRIs). A panel of Technical support/ Trainer institutes should be created and technical institutes for a particular programme should be selected by the Tribal Health Research Cell, depending on the type of research to be undertaken.

Orientation and sensitization programmes should be conducted among the health researchers, medical students and data collectors working in tribal areas to apprise them of the ethics of tribal research and local sensitivities.

Inter-disciplinary problem identification and problem solving workshops need to be conducted in tribal areas with research and educational institutions.

Challenge 6: Strengthening the Institutional mechanism for Tribal Health Research and allocation of sufficient funds

- **Expansion of the ICMR and TRI networks:** ICMR has a flagship programme on tribal health and has established the Tribal Health Forum – a network of 17 ICMR institutes, co-ordinated by the National Institute for Research in Tribal Health (NIRTH), Jabalpur. Tribal Health Units have been established in 10 institutes and are undertaking regular studies on haemoglobinopathies, tuberculosis, malaria, filarial, dengue, diarrhoea, maternal and child health issues, hypertension, nutritional deficiencies etc in tribal areas. While much needed, for this network to function effectively, ICMR should develop independent Field Stations in tribal areas of the country. To beginwith, this should be done on a priority basis in districts with more than 50% tribal populations (and without any TRI or ICMR unit). In places where TRIs and ICMR institutes exist, a special tribal health field unit with specified budget needs to be created within them.

- **Tribal Health Research Centres and Demonstration Centres in NGOs:** To avoid duplication and costs, select NGOs already working in the tribal areas and with the capacity to conduct quality research should be encouraged to establish Tribal Health Research Centres or Demonstration centres of excellence. To begin with, 15 such sites should be set up in the country, one in every state with a sizeable tribal population. Initial support for capital and capacity building expenses should be provided. Exchange of personnel and placement from and to the ICMR institutes should be encouraged. Specific schemes and fellowships for such placements should be initiated. Valuable research output can be generated through such centres and units run by the NGOs.

- **Tribal Health Directorate and Tribal Health Research Cell:** A special Tribal Health Directorate needs to be created within the MoHFW to oversee all matters related to Tribal Health (described in detail in the chapter on Governance). A parallel Tribal Health Research Cell (THRC), headed by senior officer, needs to be created within the Department of Health Research. This THRC will be responsible for setting the agenda for tribal health research in consultation with the Tribal Health Directorate, MoTA and health researchers. It will oversee the conduct of tribal health related research through a plethora of governmental institutions spread across various ministeries- MoTA, Department of BioTechnology, Department of AYUSH, Ministry of Culture etc). The cell will be responsible for co-ordination of multi-disciplinary research and for ensuring that the results are transmitted to all relevant policy makers for inclusion in policy and programme design. It will assist the Tribal Health Directorate within MoHFW in developing and maintaining a Tribal Health Index and creating an online repository of information on Tribal Health.

- **Budget for Tribal Health Research:** At least 10% of the Budget of DHR should be spent on tribal health research. In addition to this, 5% of the TSP funding on Health should be ear-marked for Health Research to create a special Tribal Health Research Fund.[238] Proposals for the studies to be undertaken with this special Tribal Health Research Fund should be invited from academic department, institutions and NGOs and submitted to the THRC.

  MoTA should create special grants for promoting academic activities such as undertaking Ph.D work/ PDF/D.lit/DSc in tribal health. These grants can be administered in consultation with the THRC. Similarly, a specialized stream of Public Health for Tribal People should be encouraged within the Public Health education and institutes.

[238] Dr Soumya Swaminathan, Secretary, Department of Health Research, personal interview

Challenge 7: Protecting the Rights and Access to Knowledge for Tribal people and Tribal Communities

- **Strengthening Ethics Oversight:** Ethical considerations and guidelines have to be followed strictly in undertaking health research among the tribal population. This is particularly true for those working among isolated PVTGs with dwindling numbers. It is imperative to ensure that research is not at the cost of the well-being of these communities. There is a need to devise strong ethical standards and guidelines for tribal areas and to ensure that they are adhered to through effective ethics review committees, including representation from the tribe/tribes among who the research is taking place.

- **Protecting Knowledge Rights of the Community:** In today's world of Intellectual Property Rights and patents, it is important to ensure that tribal people are not denied access to their traditional remedies and herbs after documentation and scientific evaluation of their efficacy. Tribal communities have their own systems of knowledge access, ownership and possession and these should be respected. It would be the responsibility of the THRC to ensure this through policy measures, ethics training for researchers and provision of legal support, where required.

Monitoring, Supervision and Impact Evaluation of health programs in tribal areas

Regular monitoring, supervision and evaluation of health policies, programmes and infrastructure is an important way of creating Knowledge re Tribal Health. While there is an HMIS already in place to monitor the health outcomes of communities, the system needs to be strengthened to ensure availability of good quality, disaggregated data at all levels for a robust prognosis of tribal health issues and evaluation of measures and policies.

- **Strengthening the HMIS:** While the HMIS provides for a mechanism for regular collection of data on tribal health, the mechanism needs to be strengthened to ensure quality of data. It is not always in the interest of the health worker to report the actual situation, leading to inconsistencies in reported and actual data. This is reflected in huge differences in HMIS data and those from independent surveys like DLHS. Moreover often health workers are neither trained nor equipped to collect data and to interpret the nuances of the responses given by tribal people. There is a need for proper orientation and training of frontline health workers to ensure rigorous adherence to processes of data collection. Moreover, there is a need to evolve robust and comprehensive tribal (ST) and gender disaggregated data, output and outcome indicators.

Health Management Information System

HMIS should have 3 important components:

a) HMIS of the Health department
b) Community Monitoring by VHSNCs
c) Health Surveys (SRS, NFHS, DLHS)

HMIS of the Health department:

Earlier the HMIS of the Health Department had population based and gender, SC and ST disaggregated data. Unfortunately, this has been discontinued and facility based with only gender disaggregated data is implemented. *We need to have both population and facility based HMIS along with ST disaggregated data.*

Community Monitoring by VHSNCs:

Advisory Group of community Action has implemented "Community Action for health" which includes, Community Health Planning, Community Action and Community Monitoring. This should be implemented with greater emphasis in tribal PHCs and Community Monitoring data should be used for triangulation of data along with the other two.

Health Surveys (SRS, NFHS, DLHS):

The SRS, NFHS, DLHS and other Annual surveys should have ST disaggregated data.

Triangulation of data:

Triangulation of the above three data will give a better understanding of the status of tribal health.

- **Data on Tribal people within all existing programmes:** All national programme should have data/information exclusively on tribal people and special provisions should be made to monitor the benefits of the programme for tribal population. In order to get better return of investment (interventions) made in the name of ST targeted programs, reliable data is necessary. We must make provisions in the targeted programs to generate such data if regular systems are unable or unwilling to provide data. The Guidelines for TSP issued by the NITI Ayog already stipulate that a Bench Mark Survey (BMS) be undertaken at grassroots level in each State/UT to ensure that the delivery of benefits under TSP reach the tribal people. This survey should, among other things, reflect benefits already drawn, socio-economic status of STs, occupational category, availability of basic amenities. The guidelines further stipulate that these surveys be conducted on a continuing basis to reflect the impact as measurable indications of socio-economic upliftment and change. These surveys need to be conducted rigorously, through the involvement of the State Tribal Research Institutions. Consultations should also be carried out with the civil society organizations.

- **Monitoring benefits to the tribal population:** Many non-tribal people reside in schedule areas. *It is neither possible nor desirable to deny them developmental benefits or health facilities.* However, there is a need to monitor programmes to track what percentage of the beneficiaries and users in scheduled areas are tribal people. The health and other indicators for this population need to be separately monitored, and not simply lumped with the health status of the PHC or CHC.

- **Policy evaluation:** There is a need to undertake systematic evaluation of policies and programmes. We need to go beyond the question of "Did they work?" to understand "why" or "how" they worked or did not work in order to guide further interventions in the area. There is a need to focus on implementation research in Tribal Health and to ensure that the results from it feed into programmes and policies, thereby ensuring maximum gains for tribal health. Interventional studies are necessary to demonstrate effective strategies for control and prevention of various endemic diseases (vector borne diseases, other communicable diseases, haemoglobinopathies, etc), re-emerging diseases and newly evolving diseases such as non-communicable diseases (diabetes, hypertension and other life style diseases).

10
Chapter

Governance and Participation

Outline

The Constitution of India guarantees the tribal people rights over land, natural resources and self-governance through provisions like the Fifth and Sixth Schedules, the Forest Rights Act and the Panchayat (Extension to Scheduled Areas) Act (PESA). Directive principles of state policy protect the weaker sections of society, particularly the Scheduled Tribes, from social injustice and all forms of exploitation. The National Commission for Schedule Tribes safeguards the interests of the tribal population and provides advice on planning for their socio-economic development. Yet, tribal people continue to suffer disproportionately from disease and deprivation. While trying to improve this by way of various measures including the Tribal Health Care, it is important to ensure that these constitutional provisions are adhered to, both in letter and spirit.

Robust governance mechanisms, based on the principles of decentralized planning and participatory development that not only provide a "voice" to the tribal people but ensure that this voice is heard and heeded in the planning, implementation and evaluation of health care delivery systems are vital. Due to their scattered population and heterogeneous nature, tribal communities are not seen as "political game changers" and strong "vote banks." Even in the districts or in the states of North-East India where they are in a majority, the sheer number of ethnic and tribal groups, limits their ability to determine the political fate of leaders and aspirants. Consequently, their needs and aspirations get overlooked despite constitutional guarantees.

India's tribal populations are not homogenous. Yet, there has been a tendency to paint all tribal communities with the same brush. Given the immense diversity in the beliefs, lifestyles, history, level of socialization and health and development situation of these groups, the impact of such uniform policies understandably leaves much to be desired. In its 11th Five year Plan, the erstwhile Planning Commission recognized that, "The issues in tribal development are complex and often not

understood very well. Each of more than 300 main tribal groups differs from each other in customs, practices, traditions, faith, and language. [sic] As such, uniformity in socio-economic development plans for all tribal groups and programmes is not appropriate. Vast quantities of data, generated at various geographical sites across the country, lie scattered, unanalysed and unused. They need to be processed and stored meaningfully…."

The fact is that there are no universal or one-size-fits-all solutions to the difficult challenges of improving tribal health. The substantial variations of actual and perceived needs, resources, and organizational capacity among communities, paralleled by significant differences in both overall health status and disease morbidity, necessitate the use of the district or the sub-district (ITDP area) as a unit for the tribal health plan, with emphasis on the special needs of difficult/sparsely populated habitations.

This committee would make the following recommendations to ensure effective health care delivery in tribal areas through a robust governance and participation mechanism:

Challenge 1: Creating a more responsive and focused governance structure for tribal health, at all levels of governance

Although almost 8-9 % of the Health Ministry's budget is to be spent on tribal people as per the GoI mandate, the segment remains headless. There is no separate Directorate for Tribal Health within the Ministry of Health. Similarly, though Health has been identified as one of the priority areas for TSP funding, there is no special cell on tribal health within MoTA. As a result, not only has there been little focus on outlays and outcomes for tribal health, there is very little information available on the actual allocations and expenditures. It is important to create a more responsive governance mechanism to ensure that adequate funds are allocated for tribal health and to oversee the effective use of these funds through well-designed policies that allow for flexibility at the local level.

1. **National Tribal Health Council**

   To focus the national attention, resources and efforts for rapidly overcoming the deficit in health status and health care suffered by the 10.4 crore tribal people in India, a National Tribal Health Council should be created. The NTHC will be jointly constituted by MoTA and MoHFW for a time limit of five years and cover health, health care and all the related aspects. It will address all the ST population in the country, living in the scheduled areas or outside it as well.

   Scope

   1) To design and approve policies for Tribal health
   2) To develop the institutions, human resources and health care delivery systems for the tribal people.
   3) To achieve health outcomes at par with those of the non-tribal general population in the respective states.
   4) To approve a National Roadmap for Tribal Health, incorporating the above three.
   5) To approve the budget for tribal health.

   National Tribal Health Council will be the highest policy making body on Tribal health with inter-ministerial linkages. It will discuss and approve the Tribal Health Plan including the envelope of the resources and the principles of allocation. NTHC will meet annually to review the progress and approve policy decisions.

2) **The National Tribal Health Roadmap:** In light of this committee's report and recommendations, a roadmap should be prepared by the MoHFW. This should act as an operational plan to achieve the first three tasks identified in the scope of work for the NTHC. After discussion and approval by the NTHC, this Roadmap will become a part of the plan of the National Health Mission. The Tribal

Table 21: Suggested composition of National Tribal Health Council

1.	Minister of H & FW, GOI	Chairperson
2.	Minister of MOTA, GOI	Co-Chairperson
3.	Secretary H & FW GOI	Member
4.	Secretary MOTA GOI	Member
5.	Director, NHM (A.S) GOI	Member
6.	Director, Tribal Health Mission, (J.S.)	Secretary
7.	Director, Tribal Health Research Cell, DHR, GOI	Member
8 & 9	Ministers of H&FW of two states with sizable ST Population	Member
10 & 11	Ministers of tribal affairs of two states.	Member
12-14	Three tribal Members of Parliament	Member
15	Member, NITI Aayog	Member
16-18	Representatives of three civil society organization working for tribal Health for more than ten years.	Member
19-20	Representatives of two academic organizations.	Member

Health Directorate with the NHM will facilitate and monitor its implementation.

3) **Constitution of Tribal Health Directorate**: A Tribal Health Directorate (THD) should be established under National Health Mission, both at the national and state level, with a senior bureaucrat at its helm (a Joint Secretary Level officer at the Centre and Additional Director level at the state). This Directorate will function as the Secretariat of the NTHM and NTHC, planning and operationalizing its recommendations. It should have a statistician and be responsible for actively seeking and collating data related to the health conditions of tribal communities across the country, individually and collectively from various Ministeries, Surveys etc. It should publish a **State of Tribal Health report** every year and place it before the nation. It should also maintain an annual **Tribal Health Index** (with support from the Tribal Health Research Cell explained below). Both at the central and state level, these THDs should oversee the formulation of policies and implementation of all programmes for tribal health. A toothless or powerless Directorate will be of little use and would only create yet another administrative deadwood. This Directorate should therefore be responsible for overseeing the Health Ministry's **budget** for STs and for the TSP allocation towards health.

4) **Constitution of a Tribal Health Research Cell**: The Tribal Health Directorate at the centre should be supported by a **Tribal Health Research Cell (THRC)**, set up within the Department of Health Research and headed by a senior officer. Its mandate would be to create an agenda for tribal health research and to oversee adherence to this agenda. It would commission and conduct tribal health related research through a plethora of governmental institutions spread across various ministeries- ICMR, MoTA, Department of Bio-Technology, Department of AYUSH, Ministry of Culture etc. and through universities, NGOs and others. The cell would be responsible for co-ordination with various national surveys (SRS, NFHS, NSSO, DLHS) to collect and analyse the tribal specific data on relevant aspects. It will also coordinate multi-disciplinary research ensuring that the generated information, knowledge and evidence, is shared on a regular basis

with the THD and other government bodies to ensure that these become the basis of policy formulation. It would maintain a repository of all information on tribal health and ensure the protection of tribal people's right to their traditional knowledge and information. The DHR should earmark at least **10% of its budget** for Tribal Health Research and this should be entrusted to the Tribal Health Research Cell (THRC). The same setup of Tribal Health Council, Tribal Health Directorate and Tribal Health Research cell must be duplicated at the state level, atleast in the 9 states with large tribal population.

5) **One Thousand Tribal Health Officers**: In all tribal majority districts or districts with 25% tribal population, a **Prime Minister's Tribal Health Fellow (PMTHF)** should be appointed as a District Tribal Health Officer and should report to the DHO and the state THD. Similarly, a Taluka Tribal Health Officer, selected from PMTHF should be appointed in the 809 tribal majority blocks and should be provided with greater responsibility, including overseeing the local implementation of tribal health plans from both the TSP and NHM budgets. This expanded role and budgetary control may make the posting an attractive one and will encourage DHOs and BMOs to apply for it.

809 Taluke Tribal health officers+150 District Taluka Health Officers + A few state and national level officer= 1000 Tribal health Officers should constitute a new empanelled, empowered and effective cadre to operationalise tribal health.

In order to attract dynamic personnel, posts in tribal areas should be made into empanelled postings (as described in the chapter on HR for Tribal health) and should offer higher salaries (20-25% increase offered as a Hard area allowance or a performance linked incentive), greater incentives, budgetary control and training. Prime Minister's Tribal Health Fellows (PMTHF), as described in the chapter on Human Resources, should be selected and posted not just at the state and national level, but in the 150 districts with more than 25% tribal population and in the 809 tribal majority talukas.

It will be the responsibility PMTHFs to

i) Create the participatory consultative structure described earlier
ii) Develop the taluka and district tribal health plans and budgets
iii) Supervise the implementation
iv) Review and report

Challenge 2: Enhancing participation of tribal people in shaping policies, plans and services by way of five levels of institutions

The poor acceptability and utilisation of health care services is, in part, attributable to the near absence of participation by tribal communities or their representatives in shaping polices, plans or ensuring implementation of services in tribal areas, right from the hamlet to the national level. This creates a gap in what is conceived as "needs" between the community and the policy makers, and also results in a lack of mutual trust and respect.

Not only are tribal people missing in policy making bodies, even the experts and advocacy groups consulted and the task forces constituted to look into the "developmental divide" between tribal and other people seldom have adequate tribal representation. While governance mechanisms have been set up at the district and village level under PESA to provide Gram Sabhas a role in implementation of schemes, little is done to invite and empower tribal people or their representatives in these bodies. Moreover, there is no mechanism to ensure that the participation and oversight provided under PESA is put into practice.

1) **Community Participation:** People's participation is an important factor in improving health outcomes and the performance of health systems. It creates realistic expectations

between tribal communities and health services delivery and thereby improves efficiency, contributing towards public health. Tribes in India need to be conceptualized in relation to their different geographical, socio-economic, cultural and health care needs. Decentralized health planning can facilitate direct participation of the tribal people, which should be based on local socio-cultural and traditional knowledge. **Under PESA Act, tribal Gram Sabhas have been empowered to guide the Social Sector programs and plans in the village.** These inputs and can be included in the district development plan under District Planning Committees (DPC). These DPCs need to be strengthened so that they become the fulcrum of the planning efforts in the district and have the capacity to undertake the tasks expected of them.

Ensuring participation of local communities in tribal areas in health planning could be achieved through five institutions- a tribal health council at the national and state level, an assembly on tribal health held once a year, a district level consultative tribal health council, the village health, sanitation and nutrition committee, and finally the Gram Sabha.

1.1 **Advisory tribal health councils at the national and state level:** The states and regions in our country differ substantially in terms of geography, social and cultural dimensions. It would be advisable to constitute a Tribal Advisory Council at the Centre and for each state (beginning with the nine states with substantial tribal population), comprising of healthcare experts and practitioners, local NGOs and representatives of all major tribal communities in the area, to review the health plans of the Government (and the state Tribal Health Cells) and give suggestions for inclusions. Such strategic initiatives will ensure the prioritisation of the health needs of the tribal population and the appropriateness of suggested measures. In the absence of adequate representation from tribal communities in administrative and policy making bodies, it will also ensure that measures taken by those responsible for tribal health are in tandem with the needs of local communities. These councils, at the national and state level should meet at least twice a year, and take review of the implementation and give advice on corrections.

1.2 **District level consultative Tribal Health Council:** At the district level, a consultative Council with district health society members, local NGOs, representatives of all tribal communities, social welfare department, forest department, women and child department should be constituted. This group will meet at least twice a year to review and deliberate over tribal health specific programmes and issues.

1.3 **Assembly on tribal health:** Once every year there is a need to organize a block and village level tribal health assembly. The former would have tribal representatives from villages. This will be an important platform for both the sides – the government departments and the tribal population itself -- to learn from each other. It is important to construct a platform where health problems and priorities of the tribal population can be expressed, opinion sought on the proposed health solutions and activities of the government, and feedback gathered on the ongoing health activities. This will be extremely important not just from the perspective of planning and execution, but also accountability. 'SEARCH,' an NGO based in Gadchiroli, Maharashtra has been holding a similar tribal health assembly to ensure that it is responsive to the needs of the local tribal communities.

Tribal Health Assembly in Gadchiroli

For the past 20 years, SEARCH annually calls a tribal health assembly inviting representatives and healers from 48 tribal villages. The appeal is enhanced by linking the assembly with the cultural events and a 'puja' of the tribal goddess. A yatra visits every tribal village to invite the village, and select the representatives. The agenda of the assembly includes:

a) Reporting SEARCH's plan for the previous year and the progress made
b) Comments, feed-back, suggestions on the performance of last year
c) Setting priorities for the next year, after an initial round of discussion, through the ballot box. Tribal representatives vote and select their priority problems and needs.
d) Deciding the course of action re these priorities.

In the past 20 years following priorities have been selected: Malaria, Backache and limb pain, Diarrhoea, weakness among women, Alcoholism among men, "Our children die", Drinking water shortage, Need for ambulance service, Forest rights, Livelihood/MNREGA, Sports for youth, Computer education to children.

These assemblies have kept the activities of the organization grounded, responding to the real needs – not the imagined needs- of the tribal people. They have improved the acceptance/ participation/utilization of activities by tribal people.

1.4 **Village Health, Sanitation and Nutrition Committees:** The village health, sanitation and nutrition committee (VHSNC) under NHM is linked both to the district panchayat health committee- as a ward member chairs it- and to the Self Help Groups who are represented in it. There is no call to make village health plans, which experience shows have limited utility and effectiveness. However the VHSNC is a useful forum to mobilise communities to participate in health programmes, monitor access to all public services and identify needs and gaps in service provision which they feed to the district or tribal area health planning process. It is important to both empower them through training and ensure that their inputs are reflected in the district health action plans. It would be the task of the taluka and district tribal health officers to ensure this.

10% of the budget under DHAP should be untied funds for village/hamlet specific needs – needs determined by a well-informed VHSNC that has been exposed both to the problems and various solutions that have been tried to effectively handle this. Being the closest to the ground, it is the VHSNC that will be able to choose and determine which of the basket of available solutions would be best suited in the context of a particular village or tribal community. **These VHSNCs should be formed at the hamlet level**.

1.5 **Gram Sabha:** A tribal village/hamlet is a physical and social reality. PESA duly recognizes and empowers the 'Gram Sabha' which is at each village/hamlet, and not at the Gram panchayat level. The Gram Sabha should be consulted and asked for the health priorities and gaps which need to be covered, feedback on various existing programmes, and suggestions for the next year. Gram Sabha should have some discretionary fund (Rs. 10,000/yr) for addressing the village specific health care needs or health promotion activities.

All participatory processes need some

template of agenda and review items and the guidelines on the processes. These should be prepared as tools to assist organizing these meetings. Moreover, the scope and limits of their advisory power should be clearly defined. Otherwise suggestions are often ignored by the officials who may find them inconvenient.

2) **Revising Funding norms:** Currently, when MoTA invites proposals for delivery of medical services in tribal areas, funding is only provided for the tribal population. However, both tribal and non-tribal people live in scheduled areas. A systematic analysis of the 809 blocks with more than 50% tribal population across the country (2011 census data) by IIPS shows that these blocks have a total population of 6.41 crore of which 4.67 crore are tribal. *It is neither possible, nor desirable to deny health care services to the almost 2 crore non-tribal population living in tribal blocks. Therefore, funding for tribal areas should be based on the total population (not just the total ST population) of the areas* and should allow for treatment of both tribal and non-tribal population. However, a system of data collection should be established to monitor specifically the health status of tribal population.

Challenge 3: Ensuring inclusive governance through local level planning; shifting focus from national to state, and district, finally up to the village level.

Planning for tribal health cannot be at the national level, particularly in view of the heterogeneity and unique context of tribal communities. Therefore it is imperative to ensure that planning for tribal health is bottom upwards and ensures inputs from the village level onwards. This can be ensured through:

1) **Decentralization and participatory planning:** The huge diversity among the tribal population requires diversification in health planning and execution of an all-inclusive form of local self-government. The essence of governance reform to address the organization of health services and the improvement of tribal health is decentralization with strong technical support. Decentralization is an imperative to build responsive health services, and provide the flexibility needed to plan for tribal areas, given what we know about their heterogeneity. However decentralization has often meant a shifting of responsibility and accountability from state to district level, without the necessary institutional capacity which includes matching powers, training and finances. Such decentralization has generally failed.

Decentralization should mean that the district has the appropriate rules and necessary power to organize local consultations, hire the leadership and the staff, to pay them what is required, to define the package of services that is required and to organize the delivery and financing of services – all of it in a more flexible manner. It is only in such a context that participatory planning can yield the desired results. The National Health Mission (NHM) did see many useful district plans made- but without flexibility in resource allocation and in the structure of rules- these plans could not be implemented.

Building institutional capacity for decentralized planning in district

We thus need specially constituted and much more empowered district health societies which have a high degree of technical support. The unit for preparing the Tribal Health Plan must be the district, or the sub-district or ITDA since many districts have the tribal and not tribal areas clubbed together.

The paradox of tribal health planning is that while more flexibility and autonomy is needed in tribal areas, the planning capacity is poorer precisely in the same areas. Hence it is important to build the capacity for planning and management by way of 1) Strengthening the **district tribal health council** 2) Deploying a **District Tribal Health Officer – a new specialized cadre.**

2) **Effective District Tribal Health Action Plans:** Once the necessary enabling institutional structures are in place, effective decentralization requires a medium term district tribal health plan that fulfils three criteria- is made in a participatory manner, is technically sound, and is matched by/ matches resource allocation for it. The district tribal health council - and where regional autonomous councils (RAC) exist- a RAC level consultative committee should be constituted and have a formal linkage to the district health society. Such consultative committees should have at least two day sittings, twice every year- for an annual and midterm review of the plan- and its approval must be taken before the medium term plan is sanctioned.

3) **Evidence based planning**: It is important to ensure that strategies for tribal health are evidence based. There is a need for formative research and community planning in designing tribal health programmes. Currently, lack of disaggregated data presents a key barrier at various levels – from knowing the situation on ground to making informed decisions.

Challenge 4: Ensuring convergence and inter–sectoral co–ordination for tribal health

Improving tribal health requires a holistic view on health, integrative thinking, and strategies that address not only health care services, but the inseparable effects of individual behaviours, the social determinants of health, and health equity. Tribal health cannot be achieved without considering the interplay of water and sanitation, nutrition, substance abuse and gender based violence. While it is true, that many tribal societies are more egalitarian in their approach to women, this is not the case universally. Moreover, pressures from migration, substance abuse, and practices like witchcraft also take a toll on the health of tribal women and their families. Increasing access to ultrasound technology and exposure to social beliefs that see the girl child as a burden have led to a decline in the female sex ratio among tribal communities.

The health systems should functionally integrate inputs from social development sectors as well as individual and community level health concerns. Efforts should be targeted to reduce duplication and encourage complementarity and collaborative strategy. Expanded use of pilot innovation projects should be supported, particularly where there is likelihood that the outcomes will result in transferable or adaptable knowledge that could benefit other communities as well.

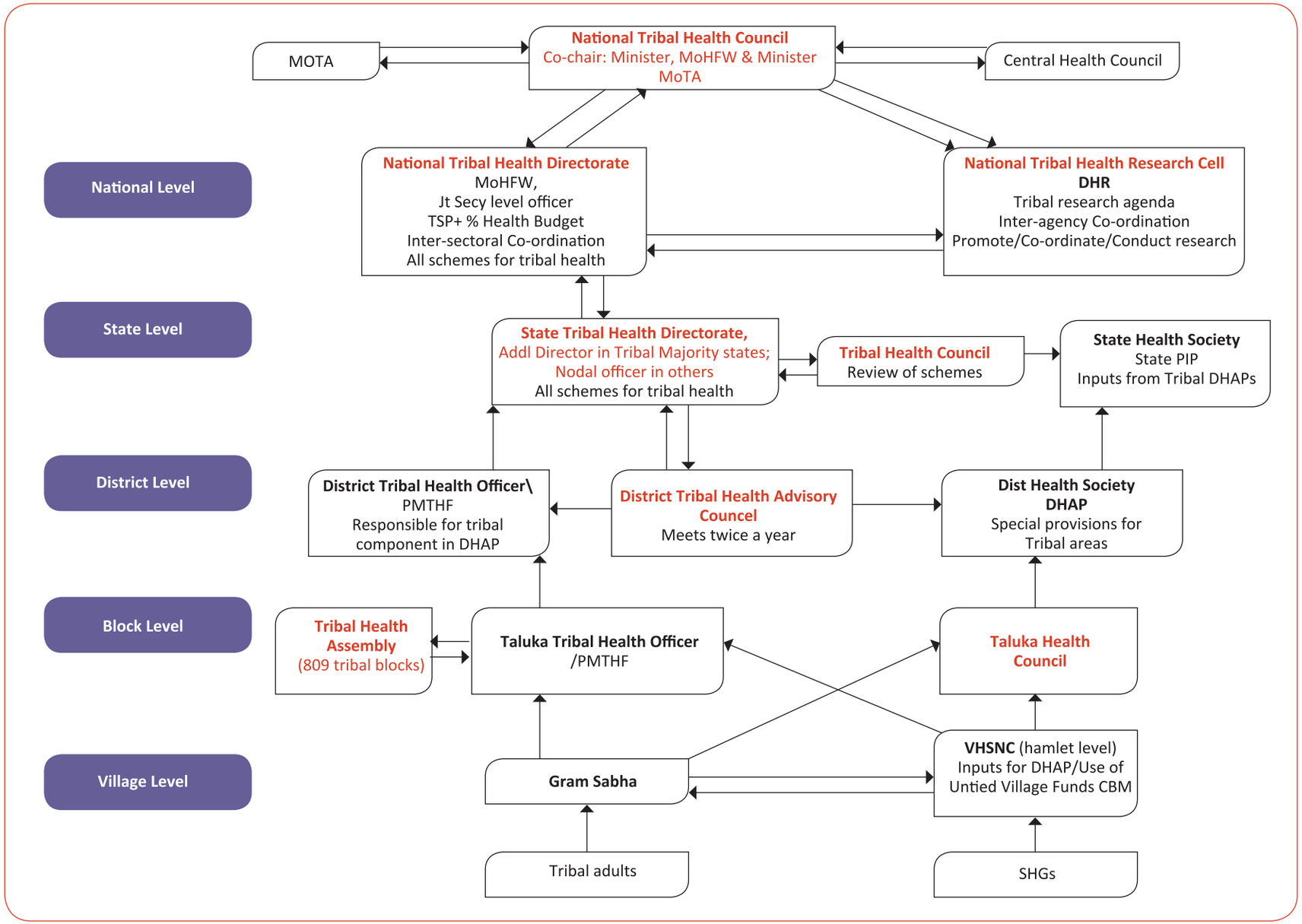
MoTA has asked States to take steps to strengthen their ITDAs/ITDPs as delivery institutions for all public goods and services. Strengthened ITDAs would serve to improve coordination and outreach of all services, including health services. MoTA is also asking States to consider establishing institutions/agencies in urban areas to help the STs staying in these areas to access the services due to them.

The THD and the THRC suggested above will act as instruments of inter-sectoral collaboration. The THRC will co-ordinate with different governmental and non-governmental institutions to ensure that the data and research agenda for tribal health is fulfilled. The THD, both at the central and the state well, will work with various related departments and ministeries like Education, Telecom, Drinking Water and Sanitation, Women and Child Development, Rural Development, Environment and Forests to ensure that the socio-economic determinants of health are addressed.

Challenge 5: Instituting and implementing measures for effective monitoring, evaluation and evidence based scale–up

1) **Evidence Generation:** It is important to ensure that data on tribal population is routinely collected for all programmes run by different Ministeries and Departments. The THC will aggregate this data and analyse it with the support of the THRC. The quality of this disaggregated tribal health data, collected in a regular manner, needs to be regulated for better district and state tribal health monitoring. This will entail use of technology

Figure 21: Proposed Governance Structure of Tribal Health



as well as training of frontline functionaries who collect data.

2) **Routinely collected data is often of poor quality:** To assess the needs, utilization, coverage and impact of schemes for tribal people, various national sample surveys should be directed to collect tribal specific information on a tribal sub-sample. These surveys include, SRS, Census, NSSO and NFHS.

3) **Community Based Monitoring:** Community Based Monitoring is another important way of ensuring accountability and people's participation. This is already being carried out in many states across the country. In tribal areas, representatives from tribal communities should be elected to Rogi Kalyan Samities and trained about their roles and responsibilities.

4) **Scaling-up of positive lessons**: Various states have adopted different models under PESA and ITDA for tribal areas. In addition to this, many NGOs also run programmes on tribal health. There is a need to systematically evaluate these programmes and to explore their scaling up potential. Some such examples and their discussion is available with the MOH & FW generated by way of the national workshop on Best Practices in Tribal Health.

Designing District Tribal Health Action Plans and State PIPs for Tribal areas

The first community development plan was started on October 2, 1952 in 55 selected blocks and later scaled up across the country. The purpose was to empower the community to not only identify the problems and solutions but to also undertake the responsibility to institute the processes to resolve them. The issue of decentralized planning for development became more relevant and necessary only after the 73rd amendment to the Constitution and the promulgation of the PESA act. However, it is still facing many challenges and obstacles because of the heterogeneity of the population, poor political commitment and weak capacity of *Panchayati Raj* Institutions (PRIs).

Health is considered an integral component of development of a given community and involvement of community to identify its health and development needs is critical. Therefore NRHM (2006), 12th Plan and NHM (2012) emphasize the preparation of health plans that are reflective of local health needs by involving the community through a participatory process. However, political and administrative commitment, well-informed communities and empowered local self-governments are necessary pre-conditions to develop inclusive health plans at different levels.

The district tribal health plan for tribal areas must address the specific health issues of tribal population and its different sub-groups. As we know, the Schedule Tribes differ considerably from one another in race, language, culture and beliefs. However, there are certain broad similarities between the mutually divergent tribal groups like adherence to cultural practices, faith in their own traditional systems of health care etc. The district health plan should respond to these characteristics of specific tribal groups.

The Framework for the District Tribal Health Action Plan must refer to the following key dimensions:

1. **Enabling environment in terms of Policy, Political and Cultural or Legal support available for the local tribal population**

   (a) **Awareness re Constitutional Provisions** There are many constitutional provisions, which address the health and development needs of tribal and weaker sections of the country.[239] The Policy planners, health providers and local community leaders must be aware of these entitlements granted to the tribal population by the Constitution.

[239] See the chapters 'Introduction' and 'Schedule Tribes of India'.

(b) The **National Tribal Health Roadmap** and various policies and programmes approved by the NTHC, NHM and the state level Tribal Health Council.

(c) **Tribal Council**
Village Tribal Councils or Gram Sabhas are very significant as they represent the sentiments of local tribal people and are reminiscent of traditional tribal self-governance. The Tribal Council -- a unique feature of tribal villages- needs to be involved in the planning process as the tribal communities respect and follow the decisions of this body.

(d) The needs and views expressed at the **Tribal Health Assemblies** should be incorporated.

(e) **Inter-sectoral co-ordination and inputs**
For health services to have a sustainable and perceptible impact on health of tribal community, it is essential to involve other development departments, stakeholders and organizations providing support to the tribal population in the planning process for developing health plans. Convergence with the Tribal Department, Women and Child Development, Public Health and Engineering Department, Panchayati Raj Department and other Social Organizations like Tribal welfare groups, Self Help Groups and Youth organizations will help to address the social determinants of health. Coordination with these departments and organizations will help us develop an integrated health plan with synergy of inputs from various development sectors to address health challenges of the tribal area.

2. **The health plan must be developed using Participatory Planning Process and should take into account the following issues**

(a) **Background and Situation Analysis of tribal health**
The background and situation analysis should reflect the status of health and health care for the tribal people of the district. The reasons for poor health status should be analysed. This would include both status of their health (e.g. nutrition, mortality, sex- ratio) and access to health services (% of tribal in RNTCP, ANC services, OPD/IPD, human resources in tribal areas, availability and functioning of facilities in tribal area/pockets, shortfall of health facilities, API of tribal area/ pockets, access to safe drinking water and sanitation).

Mapping of infrastructure and human resources and basic services in tribal area has to be done in order to identify the gaps.

The recent NFHS, DLHS, Census, NSSO, ANM and AWW register and HMIS (if available) can serve as sources of data that can be used for this analysis.

(b) **Socio-epidemiological Analysis**
Socio-epidemiological data (communicable diseases, local morbidity profile, major communicable diseases and transmission patterns) will be very useful in making responsive DHAPs. The IDSP data base with an MIS of various disease control programmes and the service records maintained at health facilities like Sub divisional or District Hospitals need to be made more robust before they can be used for this purpose. The MCH Tracking system instituted by MoHFW and the HMIS are other possible sources of data. However, it is vital to ensure quality of data, especially when it deals with large scale, routine data collection.

(c) **Changing Diseases pattern**
Health problems prevalent in tribal areas include Malnutrition, Anaemia and endemic infectious diseases like malaria, tuberculosis, and diarrheal diseases. As a result of modernization and changing economic scenario, the prevalence of Non Communicable Diseases such as hypertension and diabetes mellitus has

also shown rising trends in the tribal population. It is important for the DHS to be cognizant of these changing trends so that appropriate measures can be built into the DHAP.

(d) **Service Utilization Pattern**

District Health Plan should map out the utilization of different health services- both in the public and private sector- by tribal communities. The extent of services provided by private practitioners in tribal areas will enable us to understand the total capacity of health service delivery of these areas and the pattern of service delivery.

(e) **Socio-Cultural Preferences:**

The pattern of health and nutrition problems of the tribal population is highly varied. Many tribal populations of eastern, southern and central India and the Andaman Islands are efficient food gatherers and hunters. There are many tribal groups in the north-eastern, central and eastern region who still practice shifting cultivation. There are settled agriculturalists at par with other peasants in many parts of Madhya Pradesh, Gujarat, Rajasthan, Maharashtra, Jharkhand, West Bengal and Odisha and then, there are urban industrial workers as well. Formulation of District Health plan will take into account these differences while dealing with their health issues/challenges. It would be very relevant to make note of specific socio-cultural or health practices that may have positive or harmful effect on health of tribal population.

3. Information, Education and Communication (IEC) Plan

For bridging the health literacy gap, the IEC Plan for tribal areas is an important component of district health plan and IEC strategy should be sensitive to prevailing socio cultural and health practices of tribal population. It should also take into account appropriate channels of communications and role of tribal leaders and tribal councils in dissemination of health education messages.

4. Development of the District Tribal Health Plan

(a) **Areas: This plan should apply to all scheduled areas in the district and should cover ITDP, tribal majority blocks, MADA and mini-MADA areas.**

(b) **Formation of the planning team**

Every district will form a planning team at the district, block, PHC and village level with State mentoring. This can also be done with existing human resources and trained manpower.

It is proposed that all the programme managers, RKS members, and representatives from Zila/Block Panchayat, tribal department, representatives from those NGOs who are involved in tribal issues and DTHO, should be involved in District and Block Planning teams.

PHC or block level team is proposed to be consisting of Medical Officer at PHC, Panchayat head, Chairman of the Health Committee of the block panchayat (if it exists) and VHSNC, RKS, Chief of Tribal village council, ANMs, AWWs, ASHA, ASHA Facilitators, representative from Block Planning Team, Taluka Tribal health officer, and two to three members from Village Tribal Council.

(c) **The Planning Process may use appropriate Participatory and Learning tools** like village transect walk, household surveys, Focus Group Discussion, Seasonality diagrams, Matrix Ranking, Relationship diagrams etc.

(d) **Roles and Responsibilities of the Team**

The District planning team should, in consultation with the district tribal health council, play a lead role in health planning for tribal areas located in the district. It should facilitate the formation of block and PHC teams, conduct the situation analysis as per framework, aggregate and compare the local health indicators with state and National averages, develop the need-based priority list and goals and targets for district, block, PHC and village teams and carry out capacity building of block/PHC teams.

The Block team should conduct the planning process at block, PHC and Village levels. This team should also provide inputs to develop area specific IEC plans. Their role also includes the consolidation, aggregation, and prioritization of village level plans including the special needs of individual villages and taking approval from the Block Panchayat.

(e) **Capacity Building of Team**

The District Level team should be oriented on issues related to development of District Health Plans and their capacity developed to facilitate the planning processes, conducting situational analysis, disaggregated data analysis for diseases and service utilization, consolidating and aggregating the block level plan etc.

Block and PHC Level team should be oriented in facilitating the planning processes at PHC and village level, facilitating the health survey, mapping the availability of infrastructure and conducting interviews with patients and members of community to elicit their feedback on services utilized from health facilities or from local doctors. PHC team would also be briefed regarding consolidating village level plans and disaggregated data analysis related to morbidities and health services utilization pattern.

5. **Evaluation and Monitoring of implementation of District Health Plan**

The District Health Plan so developed should specify indicators for monitoring progress of implementation of planned activities to achieve desired outputs and outcomes. The district health plan should therefore specify a few process, output and outcome indicators as suggested below for consideration by those managing the health programmes

- **Resource Mobilization and Utilization of Fund:** This will cover receiving of funds and its utilization as per allotted budget from the parent department (Health) as well as from other sectors (like Rural Development, Education, women and Child Development and Tribal Development etc.)

- **Human Resource for Health**: Deployment and training plans.

- **Infrastructure and Preparedness**

- **Utilization of Services**: MCH coverage, Detection and Treatment coverage under Communicable and Non-Communicable Disease Control Programme, factors responsible for possible low/high utilization of public health services, out of pocket expenses.

- **Quality of Care:** Including technical competence, inter-personal communication, client satisfaction, client participation in management accountability and redressal mechanisms.

- **Community Involvement in updation or modification of health plans and**

delivery of services. This may include the number of times the health plans were reviewed with stakeholders, modes of involvement of community in supporting outreach health programmes, Village Council/ PRI involvement in health related activities, perception of PRI/ tribal council members on health needs and the way to address its.

6. **Outcomes of the District Action Plan**

Improvements in:

a) Tribal Health Index
b) Infant, Neonatal, Child mortality, Maternal mortality, Crude Birth and Death Rate.
c) Incidence/prevalence of main diseases such as Malaria, Tuberculosis, Leprosy, Filariasis, HIV, Anaemia, Severe Malnutrition, addiction
d) Reduction in main risk factors such as mosquito breeding and density, indoor smoke, tobacco and alcohol use, hypertension, open defecation, lack of safe drinking water etc.
e) Knowledge and Behaviour of the people on Health and Healthcare

11
Chapter

Financing Tribal Health

Outline

Recommendations for Financing Tribal Health

- Objective 1: To ensure adequate financing for tribal health; determine the present spend and required spend; and mobilise adequate resources
  - Increase government spending on health;
  - Adhere to TSP guidelines; Earmark percentage of TSP expenditure for Health
  - Estimating how much to be allocated for tribal health
  - Earmark MOTA allocation for health for selected achivities
  - Provide health Insurance for all tribal people
  - Encourage selective PPP in Health and CSR funding
  - Monetary instruments: additional cess on extractive industries and tax exemptions for investments in health for tribal areas
- Objective 2: To ensure optimal utilization of resources and transparent accounting
  - Financial monitoring and Transparency
  - Consolidated pool of funds

Inclusive policies and programmes for tribal health need to be matched with adequate budgetary provisions. Recognising the gap in the status of the tribal population vis-à-vis the normal population, ***the Government of India introduced the Tribal Sub-Plan that mandated a spending on the tribal population at least in proportion to their numbers. The TSP was visualized as an additionality over and above the regular programmatic spending in the tribal areas by departments and ministeries.***

However, this provision has not been effective in improving the status of the tribal population primarily because it has been reduced to an exercise in notional allocation at the time of budget presentation and subsequent re-appropriation to ensure timely utilization. To overcome this problem, the state assembly of the erstwhile Andhra Pradesh passed an act making it mandatory to keep the unspent TSP money in the TSP pool, preventing its diversion. However, other states have no such provisions. The High-Level Committee on Balanced Regional Development (Kelkar Committee) appointed by the Government of Maharashtra estimated that between 1994 and 2011, Rs. 7608 crore were under-spent on tribal development in the state as compared to the legitimate share to be allocated to TSP.[240]

[240] *Report of the High Level Committee on Balanced Regional Development Issues in Maharashtra,* Department of Planning, Government of Maharashtra, 2013; p.220, and annexure 7.4 ; available online at https://www.maharashtra.gov.in/site/upload/WhatsNew/KCR-23122014.pdf

The Ministry of Tribal Affairs itself does not have information on the TSP allocations made by different states or the allocations to health made under the TSP budget of different states. Despite repeated attempts, the committee was unable to get this information from either the Ministry of Health or the Ministry of Tribal Affairs. This lack of information not only stymies all attempts at effective policy making, it proves a great impediment in determining how much money is actually available to close the healthcare gap between the tribal and non-tribal population.

Moreover, even in states where actual allocation is made for TSP, very little is earmarked for tribal health. An analysis of the budget of all state governments for the FY 2012-13, by the NHSRC, revealed that only seven states – Andhra Pradesh, Himachal Pradesh, Gujarat, Odisha, Rajasthan, Tamil Nadu and West Bengal – had allocated money for health under the TSP. Where money is earmarked, there is scanty information. Thus while states like Maharashtra have new guidelines stipulating that 15% of the TSP be spent on health, this is not reflected separately in their budget documents, making analysis of actual TSP spending on health difficult and often incomplete.

The Centre for Budget and Governance Accountability (CBGA) presents yet another aspect of the problem. The Union Budget 2016 announced that from the coming year, "the distinction between the Plan and Non Plan expenditure would be withdrawn. Given that the strategy of TSP is applicable only to the Plan budgets of the ministries, how the Union Government plans to continue with its implementation is not clear. In the absence of any alternative roadmap suggested for its implementation, it also raises an important concern as to whether the government even plans to continue with TSP from the next fiscal."[241]

Like the Narendra Jadhav Committee Report to the Planning Commission for implementation of SCSP and TSP, the CBGA suggests differential earmarking by various ministries, based on their respective areas of concern, out of the total ministry budgets, to circumvent this problem.

This committee would like to make the following **recommendations** to deal with the challenges of financing Tribal Health:

Challenge 1: How to ensure adequate financing for tribal health

There is no getting away from the absolute necessity of increasing public health expenditure in tribal areas and for tribal health. Compensating for distances, lower social, economic and educational levels, lower baselines on health indicators and poorer ability to pay means that *the per capita expenditure on public health in tribal areas would need to be much more than the expenditure in non-tribal areas. Further since much of it is going to be in the nature of primary care, the proportion of healthcare that would be spent on human resources would be high- well over 50% of the total public health expenditure.* For progress and change, it is important that policy thinking recognizes and accepts these two inter-linked necessities. In the context of tribal areas, it is important to consider value for money propositions only after a certain threshold level of funding and human resource deployment has been achieved. This is because tribal health is the issue of the worst affected, the most untouched corners of the country. To reach there, the costs will always be higher. However, *while the cost-benefit ratio for ensuring tribal health may not be favourable, the cost-equity ratio will be extremely favourable.* Ankur and multiple studies on Home based neo-natal care have shown that for the same set of activities the neonatal mortality reduction was 26 per cent in urban slums, 50 per cent in rural areas and 60 per cent in tribal areas.

[241] Centre for Budget and Governance Accountability, *Connecting the Dots: An Analysis of the Union Budget 2016-17*; March 2016, New Delhi

Due to higher baselines, the intended outcomes are better in tribal areas.[242]

1. **Increase the government spending on health:** Currently, India loses 6% of its GDP due to preventable illnesses and premature deaths.[243] Yet, the budgetary allocation for health remains dismal - just 1.15% of the GDP in 2013-14.[244] When funding for all areas is low, and there is persistent demand from more articulate and politically powerful communities and districts, tribal health is often the victim. A minimum threshold funding for the public health sector as a whole will therefore help to reach tribal areas effectively.

   The National Health Policy (2016) envisages that atleast 2.5% of GDP be allocated towards health to ensure a functional public health system. This is in line with the recommendations of the High Level Expert Group on Universal Health coverage that suggested that public expenditure on health be increased to 2.5% of the GDP by 2017 and 3% of the GDP by 2022.[245] **This Expert Group feels that increase in public spending on health to at least 2.5% of GDP as recommended by various committees and policies is the starting point for any substantial change in the health status of the people of this country. This will have to be accompanied by a focused increase of allocations for tribal health to at least 8.6 per cent of the health budget[246] and implementation of operational processes to increase utilization in the regions dominant with tribal and vulnerable populations.**

2. **Adhere to TSP guidelines:** Guidelines issued by the Planning Commission in 2013 clearly stipulate that *"The expenditure under TSP is meant only for filling the development deficit, as an additional financial support, over and above the normal provisions which should be available to STs, like others, in various schemes, including in flagship programmes…* The funds under TSP are earmarked from the total plan outlays (not excluding the investments under externally aided Projects-EAPs and any other scheme), not less than the population proportion of STs in State as per 2011 Census and in tune with problem share of the ST population."[247] ***Here, it is important to note the principle of additionality. It means that the regular activities and expenditure in the tribal areas by the MoHFW are NOT part of the stipulated 8.6 percent.***

   Though the Planning Commission guidelines clearly lay out allocations by various ministeries and departments and the mechanism for utilization of these funds, adherence to them and the respective allocations to tribal health have been poor and often unaccounted. Measures should be taken to ensure targeted and planned allocations, to improve utilization and to keep clear accounts.

[242] SEARCH, Ankur Project report, Gadchiroli 2006.
[243] Divya Rajagopal, Rohini Mohan, India's disproportionately tiny health budget, The Economic Times; October 31, 2015; Available online at http://economictimes.indiatimes.com/industry/healthcare/biotech/healthcare/indias-disproportionately-tiny-health-budget-a-national-security-concern/articleshow/49603121.cms
[244] NHSRC, National Health Accounts Estimates Report 2013-14, Ministry of Health and Family Welfare, Government of India , 2016
[245] Report of the High Level Expert Group on Universal Health Coverage; Planning Commission, Government of India, November 2011; New Delhi; Available online at http://planningcommission.nic.in/reports/genrep/rep_uhc0812.pdf
[246] This is as per the guidelines of the Planning Commission and has already been accepted by the MoHFW.
[247] http://planningcommission.gov.in/sectors/guide_state1208.pdf

Table 22: Expected allocations for Tribal Health in the health budget (as per TSP guidelines) by the States and the Centre at the present level of public health allocation

State/ UT *	% ST Population (A)	Budget Estimates for Health in Rs Crores (2015-16) (B)	Expected Allocation for Tribal Health in proportion to tribal population Rs. Crores (C = A*B)
Jammu And Kashmir	11.90%	2680	319
Himachal Pradesh	5.70%	1776	101
Uttarakhand	2.90%	1782	52
Rajasthan	13.50%	12033	1624
Uttar Pradesh	0.60%	16098	97
Bihar	1.30%	5059	66
Sikkim	34.00%	343	117
Arunachal Pradesh	68.80%	657	452
Nagaland	86.40%	515	445
Manipur	33.20%	487	162
Mizoram	95.00%	487	463
Tripura	31.80%	803	255
Meghalaya	86.20%	633	545
Assam	12.50%	3551	444
West Bengal	5.80%	6346	368
Jharkhand	26.20%	2941	771
Odisha	22.90%	3897	892
Chhattisgarh	30.60%	3282	1004
Madhya Pradesh	21.10%	6091	1285
Gujarat	14.80%	7845	1161
Daman & Diu	6.30%	65	4
Dadar and Nagar Haveli	52.10%	93	49
Maharashtra	9.40%	10090	948
Andhra Pradesh	7.00%	6022	422
Karnataka	7.00%	6321	442
Goa	10.20%	740	75
Lakshadweep	94.90%	60	57
Kerala	1.50%	5643	85
Tamil Nadu	1.10%	8163	90
Andaman and Nicobar Islands	7.50%	262	20
Punjab	0	3214	0
Chandigarh	0	387	0
Haryana	0	3252	0
Puducherry	0	574	0
Delhi	0	4638	0
Total (States)		**126830**	**12814**
Union (MoHFW including Ministry of AYUSH)	**8.60%**	**33282**	**2862**
Grand Total		**160112**	**15676**

(Source: Calculations by the NHSRC, 2017)

** According to Census 2011 following states and UTs did not report ST population- Punjab, Chandigarh, Haryana, Delhi, Puducherry*

3. Estimating the financial allocation due for tribal health

Table-22 indicates the expected central and state-wise allocations for Tribal Health based on present level of public health expenditure and TSP guidelines. Using these budgetary estimates the following can be inferred:

A)
- Health Budget 2015-16 (States + UTs)[248]: Rs 1,26,830 crores
- Central Health Budget 2015-16 (MoHFW): Rs 33,282 crores
- Overall Health Budget 2015-16 (States+ UTs + MoHFW): Rs 1,60,112 crores
- Expected TSP allocation from health budgets towards tribal health: Rs 15,676 crores (Table-22)
- The total tribal population in the country: 104 million
- Per capita additional allocation due towards tribal health as per TSP guidelines: ~Rs 1507

B) Per capita overall government health expenditure in the country: Rs 1277 [249]
Per capita government health expenditure in the country (after deducting expected allocation for TSP and SCP):Rs. 940 [250]

C) The Planning Commission guidelines clearly state that the TSP money is an additionality. **Therefore overall per capita expenditure on tribal health in the country should be a summation of the per capita health expenditure in the country (minus TSP and SCP allocation) and the per capita allocation for tribal health as per TSP. This is (Rs. 940 + 1507) equal to Rs 2447 per capita ST per year.**

D) Interestingly, if 2.5 per cent of the country's GDP is spent on Health, as per the recommendations of this committee and the national health policy, the overall expenditure on health would be Rs 3,39,400 crores, which comes to Rs 2707 per capita[251]. *Thus, under the current circumstances, following the TSP guidelines will ensure that at least for the tribal population, the health expenditure is in tandem with National Health Policy and the recommendations of various committees*. In other words, till the overall health budget of the country increases, following the TSP guidelines will ensure that at least for the most marginalized sections of society, i.e for the tribal people, per capita health expenditure is roughly at par with the per capita health expenditure that is needed to ensure universal health coverage (as per the HLEG). This will not just improve the overall health and well-bring of the tribal population, it will take us one step closer to implementing the draft national health policy.

[248] Except Punjab, Puducherry, Haryana, Chandigarh and NCT of Delhi which did not have any tribal population as per the 2011 census.

[249] The per capita government expenditure for 2015-16 is based on the 2015-16 budget estimates for health as mentioned in table-22 It is Rs. 1277 using the population value of 125.4 Crore (according to projected population by RGI Source: Report of the technical group on Population projections for India and states 2001 to 2026, national commission on population, May 2006)

[250] The expected SCP expenditure values according to the Planning Commission are equal to the proportion of Scheduled Caste population in a particular state/ India. The SC population in India in 2011 was 16.6%. Thus the expected budgetary allocation to SCP is 16.6% of total health budget, ie Rs.26579 Crore in 2015-16 (as per the table above). The remaining total government expenditure on health after deducting (expected TSP and SCP allocation) is Rs. 117857 Crore (160112 – 15676 – 26579= 117857). Per capita government expenditure on health using the above value is Rs.940 (Calculations by NHSRC)

[251] The GDP at current prices for 2015-16 is estimated at Rs 135.76 lakh crore. The real GDP or GDP at constant (2011-12) prices for 2015-16 is estimated at Rs 113.50 lakh crore. For the purpose of this calculation, GDP at current prices has been used. Source: Economic Times. Available online at http://economictimes.indiatimes.com/articleshow/52522153.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst; Last accessed November 27, 2016

4) **Earmark percentage of MOTA's allocation for Health:** MoTA's focus has primarily been on education and livelihoods. It is important for MoTA to clearly bring out guidelines with respect to its expenditure, earmarking a certain percentage for health. There is a precedent here. The Department of Tribal Development, Government of Maharashtra has already issued an order stating that 15% of the district allocation of its funds should be spent on health.

Tribal Health Activities which should be considered for financial support from TSP funds by the MOTA – at the national or the state level.

1) In principle, we recommend that any activity or program which is a part of the regular activities and services of the MoH FW should not be funded by the MOTA from the TSP funds unless the line department has allocated and used its own share of the budget for the tribal population in proportion to the share of the total population.
2) The strategic focus of the TSP funds should be on the initiatives which:
   a) leverage the mobilization or utilization of the funds of the MoHFW
   b) Special problems/needs of the tribal health not likely to be covered by the regular programmes of the MoHFW.

Following are some of such items:

i) **Independent Information**: Independent data generation on tribal population, health status and health outcomes, IMR and CMR, health care coverage and quality, gaps, barriers etc.
ii) **Information on Tribal Health Culture:** Beliefs and behaviours, health care preferences. Ploughing back this information into the health care program planning and operations.
iii) **Tribal Health Literacy**: Developing the tribal BCC strategy, activities and material in tribal dialects so that the health-related appropriate knowledge rapidly reaches the tribal people.
iv) Designing special programmes for the health care as well as health education of tribal children in **Ashram Schools**.
v) Developing **special human resources for tribal health:** their training and deployment. Such personnel could be
   a) A management cadre of Tribal Health Officers at the Taluka, District, ITDP level.
   b) Opening special medical college exclusively to produce committed/ bonded doctors from and for the tribal areas.
   c) Enhancing the number, training and support to ASHAs
vi) **Specific Disease control in tribal areas** (such as Malaria, Child Mortality, Addiction, Snake bites and & animal bites) only to supplement the special projects or innovations.
vii) Hard Area Allowances
viii) PPP with not for profit organisations and supporting 15 Centres of Excellence in Tribal Health.
ix) Facilitating reach out of National insurance schemes to tribal populations.

5) **Provide Health Insurance for all Tribal people:** In the last decade, many state governments have opted for health insurance along with strategic purchasing of healthcare, often from private hospitals. As of 2013-14, 22 crore or 18% of the country's population was covered under health insurance; 67% of these were from public insurance companies.[252] While the effectiveness of such schemes, especially where private players are involved, remains to be established, if we look at coverage, the tribal population once again seems to have been bypassed. NFHS 3 data showed that less than 3 per cent of ST households had access to any type of health-related insurance. *However*

[252] Central Health Intelligence Bureau, National Health Profile 2015 Government of India; pp 155; Report available online at http://cbhidghs.nic.in/writereaddata/mainlinkFile/NHP-2015.pdf

the recently released NFHS 4 data reviewed for this purpose by analysing the status of health related insurance in districts with more than 50% tribal population revealed that less than one fourth (22.8%) of the ST households had access to any type of health-related insurance. Coverage under the Rashtriya Swasthya Bima Yojana (RSBY), a nationwide insurance scheme targeting people below poverty line, remains extremely low in the tribal areas.

It is important to ensure that all the tribal people – whether they are living inside or outside scheduled areas- are covered under government insurance programmes. Where such a programme is not available, a special provision should be made to ensure coverage for ST households under a health insurance scheme. In both cases, an additional allowance for transportation should be built into the insurance schemes as due to their scattered habitations the tribal people usually incur greater expenditure on transportation. This expenditure often deters them from seeking healthcare.

This committee strongly believes that the health insurance coverage should be seen as a means of enabling the tribal population to access secondary and tertiary health care, without incurring any additional financial burden.

Further, as few tribal people have access to or use secondary and tertiary care, the insurance companies should be mandated to encourage the tribal population to seek care and the proportion of ST beneficiaries should be monitored. *At the same time strict guidelines and vigilance will be needed to ensure that the health care providers do not thrust up on the hapless tribal people unnecessary or excessive medical procedures just to earn money.*

Having said this, the committee firmly believes that the insurance system should not be used as a front for the privatization of healthcare services. Private health facilities enrolled under the scheme should not be treated as a substitute for a robust public health system. It is imperative that the public health system be strengthened across the country, particularly in the tribal areas.

6) **Encourage Public Private Partnership in Health selectively:** The use of PPP in healthcare to support the public resources and ensure access to quality services for all has been much debated. This committee believes that a well thought out PPP structure can indeed strengthen the availability of care for the most deprived. However, this should not be used as an excuse for privatization of health services. This committee believes that to improve the status of tribal health there is a modest scope for public private partnerships and a high scope for alliance and partnerships with non -government agencies.

This has been successfully done with the Karuna Trust in six states including Arunachal Pradesh.

The experience of PPP in healthcare shows that it is most effective in support or ancillary services - that is, in areas where contracting is easier, uncertainties less and outcomes more measurable. Thus ambulance services, high tech diagnostic services, diet and laundry services etc can be outsourced effectively.

This committee recommends the use of PPP as a tool for ensuring greater access to healthcare services, with the caveat that all such ventures should be designed to ensure access to quality care for all users, particularly the disadvantaged tribal population. Not-for-profit organizations should be the preferred partner for PPP initiatives and the government should ensure that the terms of partnership support the NGO in ensuring quality care. Currently, the terms of PPP are extremely unfavourable and impede the efficacy of the NGOs in service delivery. For instance, the MMUs have been outsourced to NGOs in many remote and difficult locations. However, the salaries offered for the doctors and staff nurses on these are half of what is offered in the government set-up. It is unrealistic to expect the NGOs to keep these MMUs functional with well-trained personnel

at these salaries when the government is unable to recruit and retain personnel at double the amount. If PPP has to be effective, the partnerships need to be designed for success, taking into account the difficulties in service delivery and the needs of the areas.

7) **Tap into Corporate Social Responsibility (CSR) Funds:** Existing corporate, mining and mineral companies should be encouraged to sponsor services in tribal areas as part of their CSR. These companies should be encouraged to fund the extra cost of paying higher salaries and benefits to the staff working in tribal areas. Alternately, they could sponsor a part of the health centre's budget by providing the requisite funds to the District Health Society or run primary health care services in Tribal areas. An example of this is the MANSI project under which Tata Steel in collaboration with SEARCH, Gadchiroli, the America-India Foundation and the Government of Jharkhand provides home based mother and newborn care to the tribal population in the Saraikela block of Jharkhand, near Jamshedpur. A recent evaluation of the initiative shows that neonatal and child mortality has reduced steeply over a period of four years.[253]

8) **Levy a Cess on Extractive industries:** Resource rich tribal areas often suffer the consequences – environmental, social, economic and health- of the projects and plants run by extractive industries. A mandatory health impact assessment study should be carried out before any industry is allowed to undertake operations in tribal areas. A cess, on all extractive industries and projects that are either located in tribal areas or whose operations impact tribal areas or cause displacement therein, should be levied to expand public health and education services in these areas. However, this cess should not become a tool for legitimising displacement or environmental damage. Rather, once a project has passed all the necessary checks and balances and received the mandated approvals, this cess should be levied in keeping with the political and moral responsibility to benefit the local population from which the industry derives income and for the amelioration of any adverse effect on the local economy and population health.

9) **Special Central Assistance to Tribal Areas:** Just like the states of North-east India and Jammu & Kashmir, tribal areas should also be allocated special funds by the central government to ensure access to basic services and rights for this most deprived section of the society. Under NRHM there is already a provision for higher allocation to tribal areas. But this amount needs to be enhanced through a special central assistance that allows for flexibility in organization of services, based on the special needs of the scheduled areas. This is already operational in areas affected by left wing extremism (most of which are tribal) but needs to be extended to other scheduled areas.

10) **Tax exemptions:** Companies or individuals donating funds for tribal areas can be provided special tax exemptions up to 100- 150 per cent. Currently, the government provides huge tax exemptions for setting up industries in remote or backward areas. Similarly benefits should be provided for assistance with provision of health care services in these areas.

Challenge 2: How to ensure optimal utilization of resources and transparent accounting

1) Data collection and transparency: Despite the central mandate for spending in tribal areas, currently there is little information available on how much money is actually being spent under TSP and towards what end. Thus it is not possible to determine what quantum of resources have been made available for tribal health and whether this allocated quantum is sufficient to meet the programmatic and other needs. There is a need for a transparent system that collects and makes available information on allocations, spending and gaps for tribal health from the district level upwards. In order to ensure that the

[253] Evaluation of MANSI project by SEARCH, Gadchiroli and the America-India Foundation; 2015. (Unpublished.)nic.in/writereaddata/mainlinkFile/NHP-2015.pdf

additional allocation of funds is efficiently utilized, it is important to maintain, in the public domain, information on outlays, expenditure and outcomes on tribal health for all levels of government.

Currently, the non-availability of financial data on tribal health stems from poor monitoring of allocation and utilization of funds in tribal areas. This could be addressed *by ensuring that the union and state departments follow and maintain strict accounting records for all funds released and utilized and with disaggregated accounting reports on expenditures on tribal populations/districts. This requires to be done not only in the analysis of state and central budgets, but also for the flow of national health mission funds and the funds from publicly financed health insurance schemes.*

2) **Single pool of funds:** The current system of fund flows for tribal health is complex. Several ministries and state departments provide funds to these regions/ populations through different mechanisms. A mechanism to consolidate the pool of funds for health for tribal populations /regions could be proposed at district level under the aegis of the district panchayat (or tribal autonomous council where this exists, and the district health society).

In conclusion, **the three essentials of financing tribal health** are:

a) Strict adherence to TSP guidelines ensuring additional allocation by Health Ministries (Centre and states) to public health allocation and expenditure in tribal areas, in proportion to the share of ST population, to a total of Rs. 15676 crores, and ensuring that 70% of this is spent on primary health care;

b) Total public expenditure on tribal health is increased to Rs 2447 per capita. This will bring it to the level equivalent to 2.5 percent of national GDP, matching the goal of the new National Health Policy 2016

c) Efficient fund flows from the government matched by transparent accounts, financial monitoring and reliable data.

Annexures

Terms of Referrence of the Committee

Terms of Reference of the Expert Committee on Tribal Health

i. To develop a national framework and road map to improve access to health services among tribal population;

ii. To prepare strategic guidelines for States to draw up Programme Implementation Plans including model District Health Action Plans for tribal health based on tribal health issues and disease burden;

iii. To review the available health data/indicators including morbidity and mortality data for the tribal districts/blocks notified by Ministry of Tribal Affairs and to suggest mechanism for creating and maintaining a regular database specific to tribal health and tribal health interventions;

iv. To review the information on health infrastructure and availability of human resources and make recommendations on interventions to be made to create/strengthen the existing infrastructure and improve availability of human resources for health in tribal districts/blocks;

v. To review the special schemes/programmes and interventions undertaken by MoHFW, identity the gaps & deficiencies in their implementation and to suggest strategic interventions for improved implementation

vi. To examine and suggest interventions to address the specific needs of the tribal population specially the Particularly Vulnerable Tribal Group (PTGs);

vii. To make recommendations on the requirements of additional resources (Infrastructure, financial and Human) in the tribal districts/blocks;

viii. To suggest the ways and means for improved supervision and monitoring systems for implementation of health programmes in tribal districts/areas;

ix. Any other matter the Committee may deem fit to accelerate efforts for improving tribal health

2

Annexures

Composition of Working Groups in the Committee

S. No	Working Group on	Nodal agency/Member	Other Members / Expert
1	Burden of Malaria in Tribal Areas and suggest Model Malaria Action Plan for the tribal areas	Dr. A. C Dhariwal, Director NVBDCP	Dr. Neeru Singh Dr. H. Sudarshan Dr. Yogesh Jain Dr. Sanjeev Kumar Dr. Tapas Chakma Dr. A.B. Ota, (Commissioner SC ST Development Deptt, Govt. Odisha) Dr. A.K. Gupta
2	Morbidity burden and health care need in tribal areas	Dr. Neeru Singh, Director NIRTH & Scientist G', RMRCT	Dr. Tapas Chakma Dr. Yogesh Jain Dr. H. Sudarshan
3	Health Status and demographic distribution of ST Population: A Compilation of Available information Latest Data	Dr. F Ram, Director, Indian Institute of Population Sciences	Dr. Dileep Mavalankar Dr. Sanjeeb K Mishra Prof Chander Sekhar
4	Nutritional Status of Tribal Population	Dr. A. Laxmaiah, Scientist F, NNMB	----
5	Health culture and Traditions in Tribal Populations and health care utilization	Professor H Beck, TISS	Dr Marianus Kujur Dr H Sudarshan Dr Sanjay Gaur
6	Health services and Human Resources for Health in the scheduled areas-The status in the states	Dr Sanjiv Kumar, E.D, NHSRC	Dr Dileep Mavalankar Dr H Sudarshan Dr Anand Bang Dr Nikhil Utture Dr Faisal Shaikh Dr Madhu Sharma, NACO
7	Existing Policy, Planning and Financing in Health for Tribal population	Dr Sanjiv Kumar, E.D, NHSRC	Mr. Manoj Jhalani, [JS (Policy), MoHFW] Ms. Sangeeta Verma, E. A, MoTA Dr Faisal Shaikh Dr Nikhil Utture Consultant from Finance division of NHM. State representative from Andhra Pradesh (To be nominated by Commissioner Tribal Welfare) State representative from Andhra Pradesh (Name to nominated by Commissioner Tribal
8	Situation Analysis and special problems of Tribals in North East States	Dr Sanjiv Kumar, E.D NHSRC (NE-RRC)	Director RMRCT, Dibrugarh Mrs Neidonuo Angami Dr H Sudarshan
9	Special needs of the Primitive and Vulnerable tribal Groups	Ms Sangeeta Verma, EA, MoTA	Dr. A. B Ota Dr H. Sudarshan Dr T. Chakma

3

Annexures

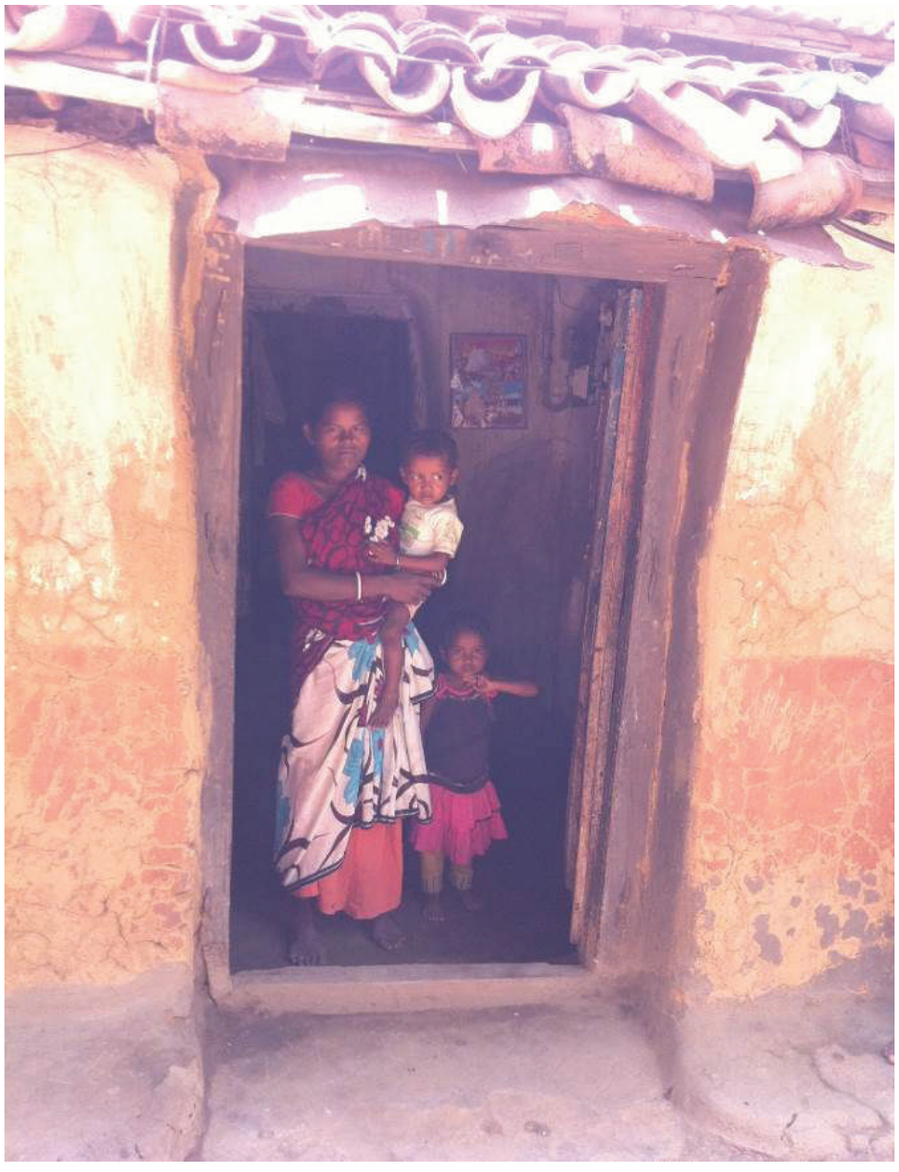
Reports of the two state visits by the Committee

1. Jharkand

Expert Committee on Tribal Health

Report on Visit to Jharkhand

Date of Visit: 14th to 16th September 2015



National Health Systems Resource Center
New Delhi

Acknowledgement

The team would like to sincerely express appreciation and thank Health Minister, State Officials and staff of the facilities visited by the team for facilitating stakeholders consultation, providing all the documents asked for, appropriately and very openly responding to various issues raised by the team members and excellent hospitality provided.

Background

The tribal groups constitute 8.61% (104 Millions) of the country population and have been historically amongst the most disadvantaged section of population owing to remoteness of their habitats and relatively less 'voice' in say of things. In general, these population groups perform poorly on most of the developmental indicators and this extends to poor health status among tribal populations. Against this backdrop, the Ministry of Health and Family Welfare in consultation with Ministry of Tribal Affairs constituted an Expert Committee on Tribal Health in 2013. Chaired by Dr. Abhay Bang. The main objective of the committee is to provide recommendations to better address health care challenges of Tribal populations in the country.

The committee in its recent meeting (held on 16, July 2015) took the view that wider consultations with representatives of state government, elected representatives, civil society members and tribal community members must be sought so as to provide a holistic set of recommendations. In this context, members of the expert committee **(Annexure 1)** visited Jharkhand from 14th to 16th September 2015 and held detailed discussions with various stakeholders **(Annexure 2)** on existing health situation amongst the tribal population in the State and develop a future roadmap. Issues related to planning of health services in tribal areas and better implementation of programs were discussed. This report details and documents the discussions that were held with various stakeholders.

Interaction with civil society/NGO representatives

Led by Dr. Abhay Bang, (Chairperson, Expert Committee on Tribal Health) and coordinated by Ms. Akay Minz (State Programme Coordinator, Jharkhand) the discussions in this session were on the issues of need for a separate tribal health plan; nature of the planning process including development of objectives, health interventions and budgetary requirements; administrative mechanisms and the unfinished agenda of NRHM as far as tribal health is concerned?

Various representatives from various civil society organizations (Annexure 3) were also informed on the work done so far by the committee, especially the analyses of the disease and mortality pattern among the tribal population with scientific vigor. Further, it was articulated to the participants that the expert committee member's primary aim is

Interaction with Civil Society/NGO Representatives – Ranchi, Jharkhand

to 'listen views and experiences of those working in tribal health and hear the tribal voice through such organizations and individuals'. Enthusiastic discussions were held and the participants put forth following as the key issues related to tribal health in the state of Jharkhand:

- Particularly Vulnerable Tribal Groups (PVTGs) live far fringe areas and there is huge distance between these tribal groups and health facilities, which act as barrier in physical access. In addition, the government health delivery system often do not reach to the needy tribal populations due to reasons such as scattered population, inadequate number of health facilities and shortage of health workers. In general, health services are being provided by Rural Medical Practitioners (RMPs) or quacks in tribal areas.

- Most of the tribal community depends on traditional healers *(Oja)* for their health needs and prefer them over health facilities due to reasons such as relatively easier accessibility, culturally acceptable practices of traditional healers and lesser out of pocket expenditure. Language barrier is also a reason for tribal populations to prefer traditional healers and most MOs are not able to understand various tribal dialects. However, such practices are often harmful and there is need for IEC/BCC in local language. As of now, most of the IEC/BCC and counselling are in standardized format and they do not address the cultural diversity in health practices of tribal populations. Culture of resistance and culture of silence is observed among tribal groups and there is need to accept and work on these issues

- Malaria is rampant in tribal areas, and it is one of the major health issues. In addition, poor sanitation conditions prevail in tribal communities and cohabitation with livestock is further leading to increase in vector borne diseases. It has been observed that many pregnant women in tribal areas have malaria too. There is a need for addressing sanitation (including personal hygiene) in tribal communities. Simultaneously there is a need for diligent implementation of population based malaria screening program to arrest the spread.

- Malnutrition, and anemia are also prevalent in tribal areas. Tribal people have been increasingly deprived from animal protein due to displacement from forests and it has resulted in malnutrition. In-breeding is another big problem in PVTGs due to cultural practices that also resulted in many health problems. Population control targets may not fit for PVTGs and one need to consider different strategies.

- Another major problem is consumption of alcohol, which is rampant in these communities. Health department is yet to have an effective strategy to overcome or deal with such cultural practices. .

- Health seeking behavior is closely associated with cultural practices. While some practices are harmless and some are harmful. For instance, in Ho tribes in Kholan division, husband conducts delivery. There is need to conduct studies to understand various practices (such as husbands conducting deliveries in Ho tribes) and utilize such information in designing health promotion programs. In addition, there is a need to strengthen evidences emerging out of tribal populations. As of now data related to tribal health is limited and we generally tend to discuss averages that might mask the real picture of certain pockets.

- Apart from culturally relevant IEC/BCC, it is also important that choice of therapy be made available to tribal people at health facilities. For instance, those who wish to access tribal system of medicine (Hedopathy) should have an option to do so and recognition along with co-location strategy will be helpful in this regard. In 2013, government of Jharkhand recommended GoI to include HEDOPATHY in AYUSH system. This issue is pending at central level. Further, respect and dignity must be demonstrated by the health providers.

- To some extent National Health Mission (NHM) has addressed issues related to

tribal community through provision of more resources envelop in HPDs, more ASHAs in tribal pockets etc. but failed to address tribal specific health issues. It is important to recognize tribal as heterogonous groups. While there might be some health issues similar across all tribal groups (for instance, malnutrition, anemia, alcoholism etc.), but we have largely not able to understand the root causes among different tribal groups and develop relevant strategies. At national level, work has initiated as multi-sectoral action plan that need to percolate at state and district level. State specific challenges in NRHM implementation, especially related to ASHA program, need to be addressed too.

- Failure to involve elected members, religious heads and faith leaders, traditional healers etc., in health promotion activities has led to poor percolation of health awareness. Educating these leaders would help in building trust among tribal communities towards health service providers.

On the issue of planning for health services in tribal areas the participants expressed following views:

1. Fund allocation to State (under tribal sub-plan) must be linked to proportion of tribal population and disease burden.
2. Role of Gram Sabhas must be enhanced in implementing PESA and Integrated Action Plan (IAP) for development of tribal areas.
3. There is a Need to sensitize MLAs from tribal constituencies on excise policy for scheduled areas for its enforcement. This would help in reducing alcohol selling outlets in tribal areas
4. Self-Help Groups (SHG) are sufficiently empowered in the State and they have network across the state. These groups could be involved in in planning and monitoring of health services.
5. As of now a separate Tribal Affairs ministry is not present in the state and welfare department looks after tribal issues. A separate ministry for tribal affairs could be considered.

Visit to CHC, Raidih, Gumla District

Dr. Ashutosh, MO Raidih facilited the visit of the hospital. All departments (OPD, ARSH clinic, Malnutrition Treatment Center (MTC), Labour room etc.) in the CHC were visited and interactions were held with medical and para-medical personnel to understand the health service available in the center - this is one of the best functioning CHC in the state. Not representative. Following are some of the observations.

Interaction with MO i/c, Raidih-CHC, Gumla, Jharkhand

Malnutrition Treatment Center, CHC-Raidih, Gumla, Jharkhand

- OPD register indicated diverse profile of the patients visiting the hospital. On an average 40 to 45 patients visited out door per day however, OPD load increases on market day.

- Adolescent, Reproductive and Sexual Health (ARSH) clinic and ANC clinic registered 3 to 4 cases per day.

- Interaction was held with Malnutrition Treatment Center (MTC) nurse to understand the criteria for admission into the center. The ANM was in a position to explain the process and criteria for admission. Members also interacted with children's mothers to understand services available in the center. MTC center was well managed with wall painting, toys and other play games. It seems, MTC center nurse provide literacy programme to mother during their stay for two week, which is well appreciated by the members. The MTC center also brings change in children's mother due to proper food and clean and hygiene environment.

Interaction with Sahiyas (ASHA)

Members introduced to the group of ASHAs and explained the purpose and objective of the interaction. At the onset of the discussion, members made it clear to all ASHA that the objective is to understand the tribal health issues and not to assess or evaluate the performance of Sahiyas. There were around 30 Sahiyas present and all Sahiyas come from tribal areas. Members emphasized that Sahiyas know much better about tribal health issues than anyone else because they belong to the community and live in that area. The discussion were on following issues:

Expectations of tribal(s) from ASHAs, whether they listen to Sahiyas or not; what has been the experience of Sahiyas while working in tribal areas and what health needs we focus on.

- Sahiyas articulated that after NRHM many things have changed.Prior to Sahiyas, tribal people were dependent on traditional healers (Ojas). Now they are coming forward to take health services with the help of Sahiyas. The

common health issues are fevers, cold and cough, diarrhea, dysentery, malaria, TB, leprosy, filarial etc. Tribal people think filariasis is hereditary (which it is not) and they call it hathi paon. Sahiyas observe filariasis day on 11th November every year and provide Mass Drug Administration. They also support in DDT spray, explain the spray benefits to the community members.

- Sahiyas refers fever cases to nearest hospital and as they do not carry slides. RDT kits have also not provided to Sahiyas in the district. It was later learned that RDT kits were provided to Sahiyas but lack of training and skills could not use properly. RDT kits were available in health sub-center and as per the guidelines given to ANMs.

- Sahiyas reported that no one has died due to malaria in in the recent past. Sahiyas take pregnant women to CHC for delivery services due to better health infrastructure and transportation facility through Mamata Vahan. Many of the Health Sub-centers do not have water and electricity supply which is a limiting factor for conducting deliveries at HSC.

- Few Sahiyas have also learned how to measure BP with the help from ANMs during VHNDs. When enquired about other Sahiyas willingness to learn BP measurement, almost all Sahiyas showed interest. It was observed that all Sahiyas in the district received payment in time.

- While discussing, it appeared that Sahiyas were adequately skilled in identifying health issues of new born babies, lactating mothers, on importance of breast feeding practice, low birth weight baby care, Kangaroo mother care etc. Though Sahiyas are adequately skilled to manage at community level most of the cases are referred to CHCs. Committee Members observed that there is too much emphasis on referral and the only message given to Sahiyas is don't do anything as everything is risky. This is complete disempowering culture – where medical culture does not allow non-medical people to take any responsibility.

- Sahiyas completed training module 7 and module 8b is running. Sahiyas were using HBNC forms. Sahiyas articulated steps involved in home based newborn care and managing sepsis and pneumonia in new born. All Sahiyas have HBNC tool kit however, the medicine was not replenished due to lack of supply. Cotimoxazole syrup is not available with Sahiyas.

- As of now one Sahiya Sathi looks after 17 Sahiyas in the district and it may not be feasible to support 17 Sahiyas.

How to improve health situation of tribal population in your area what suggestion you give what need to be done?

- Sahiyas articulated that awareness is the key to improve health conditions of the tribal people. Alcohol is another issue, until alcohol is not control it is difficult to improve the health conditions of tribal people. Almost all Sahiyas considered alcoholism as a major problem in tribal community. They also expressed concern on the fact that tribal people rarely participated in Gram Sabha meetings. Sahiyas also articulated about the issue of migration and spread of infections like HIV in such migrants.

- When enquired about how many Sahiyas are interested to take-up two years ANM training, almost all Sahiyas showed interest in joining such course. Sahiyas also expressed willingness to provide better health services within village if they become ANMs.

Interaction with district officials and district level Civil Societies/NGOs

Members introduced to the group district officials and civil societies/NGO members and explained the purpose and objective of the interaction. The list of participants provided in the Annexure-4. Following emerged out of these discussions:

- Acceptance of government health services among tribal people is good except in left wing extremism affected districts.

Interaction with Sahiyas, Raidih-CHC, Gumla District, Jharkhand

- Keeping in view the tribal culture of not expressing or demanding anything, it is important that health services be provided at their door step not in health facility.

- Sahiyas have done well in social mobilization efforts and wherever Sahiyas are strong health service delivery and acceptance is good.

- Owing to lack of health infrastructure and manpower many districts are unable to provide 24/7 services even at CHCs.

- Getting a Medical Officer is not a problem, but retention is an issue. One can improve immunization, institutional deliver at sub-center and PHC without doctors with the help of ANM and Sahiyas but when it comes to monitoring, quality and technical support without doctors it not possible. To improve retention, Medical Officers should have regular transfer, pay non-practicing allowances, and better HR governance. For instance, in family welfare department salary payments have not been made since March and such grievances must be handled at the earliest.

- There is huge unmet need for health services in the district. MMUs could be the best strategy but the district has only 4 MMUs. Even if we double MMUs it is not feasible to cater all unmet needs of the people.

- Promoting Sahiya to ANM through two years formal training is possible but one need to be cautious. There should be certain pre-conditions before selecting Sahiya and need to reserve some seats for Sahiyas in ANM Schools. ANM schools should be opened in all the district to improve availability of allied medical services.

- To overcome shortage of MO, ANMs can be provided two years bridge course but similar skill up-gradation should be provided to pharmacist, dresser and other technicians.

Interaction with Health Minister
Shri Ramchandra Chandravanshi

Members introduced to the minister and gave background about the expert committee on tribal health. The team briefed the Minister on previous interactions held with various stakeholders in State. Further discussion were held on the issues of tribal development situation in State and the challenges in providing health services to tribal people.

The Minister emphasized on the need of educating tribal population so that they are empowered and know their rights. Lack of education was also cited as a reason for poor developmental status and consequent rise of extremism. He further clarified that there is no shortage of resources for tribal development. He also informed that fund utilization by the welfare department (which looks after tribal affairs) has improved as compared to previous years and to further improve health status. He emphasized the need for more medical colleges in the State and improvement of rural infrastructure so that HR could be retained in remote areas.

The Minister also supported the suggestion of bridge courses for ANMs who could manage HSCs and PHCs without depending much on doctors. Another important measure agreed by the Minister is to allot 27% of funds (across various departments) for tribal welfare as per previously circulated planning commission guidelines.

Interaction with State Health Officials

Members introduced to the minister and gave background about the expert committee on tribal health. The following are key points emerged from the discussion.

Mission Director (MD)

- State focusing on High Priority Districts (HPD), which are predominantly tribal population and as per the NHM guidelines, allocating 30% more funds. There is a need to emphasis on tribal health in the state apart from focusing on vulnerable tribal population in certain pockets.

- State do not have a separate sub-plan for tribal health but intend to build such plans with the support from civil societies and local communities. State to call for an Expression of Interest (EoI) for developing sub-plan for tribal health on a pilot basis in one district.

- Different types of art form available in the state and state using folk media to bridge the knowledge gap and to spread awareness in high priority districts. Due to financial limitation, unable to implement across the state but trying to channelize CSR funds for such activities.

- Traditional medicine is an important and integral component of tribal health, which is acceptable and effective. There is need to document such practices.

- Excise policy for tribal areas need to revive and implement in the state.

- There is need to coordinate with tribal department to channelize various funds available for tribal welfare. State would closely coordinate with tribal department for TSP and IAP fund for health.

- The key health indicators of the state are good but it may not reflect ground reality. Need to conceive focused malaria and TB programmes for tribal areas.

Principal Secretary, Health

- State is in the process of launching sickle cell anemia project focused on tribal population. In the first phase, project would screen all tribal population and in next phase it may provide treatment.

- Government of India should provide clear framework for upgrading ANM through bridge course and placing them at HSC. Upgrading ANM to nurse practitioners through bridge course and placing them at HSC will be desirable. State government can frame such guidelines covering limited number of diseases with good package but concerned about legal sanctions. All allied medical practitioners are recognized by different councils like dental, nursing and medical council etc.

- Tele-medicine has potential to reach remote areas but at the same time it has limitation due to basic infrastructure like connectivity and electricity etc. in the state. State would pilot in one district at CHC level for its feasibility in implementing across the state.

- State government has recently set-up a committee to work out the technical specifications for pre-fabricated structures. State is willing to pilot pre-fabricated

structures through CSR fund. Government has prioritized CSR money to build such structure. Building a pre-fabricated structures is much faster, durable and cost-effective.

- All public health professional should promote and advocate such reforms in health infrastructure. NRHM should also provide pre-fabricated guidelines at least for building health sub-centers.

State Health Profile

Health Indicators – Jharkhand (Source: Jharkhand NPCC Meeting, MoHFW)

I. Key Health Indicators

Key Indicator	Jharkhand		% Decline	India		% Decline
TFR	3.5 (SRS 2005)	2.7 (SRS 2013)	22.86	2.9 (SRS 2005)	2.3 (SRS 2014)	20.68
IMR	50 (SRS 2005)	37 (SRS 2013)	26	58 (SRS 2005)	40 (SRS 2014)	31.03
MMR	312 (SRS 2004-06)	208 (SRS 2011-13)	33.33	254 (SRS 2004-06)	167 (SRS 2010-12)	34.3
U5MR	59 (SRS 2008)	48 (SRS 2013)	18.64	69 (SRS 2008)	49 (SRS 2013)	28.98
NMR	29 (SRS 2005)	26 (SRS 2013)	10.34	37 (SRS 2005)	28 (SRS 2013)	24.3

II. Service Delivery Trends - Progress of Public Health Facilities in Service Delivery – Jharkhand(HMIS)

Indicator	2011-12	2012-13	2013-14	2014-15
OPD /10,000 population	3259	3322	3408	3473
IPD /10,000 population	183	162	166	168
Institutional Deliveries at Govt. Facilities	310911	326839	397633	383281
Major Surgeries	25659	21832	20555	28597
Minor Surgeries	35495	42073	53332	44939

III. Status of Delivery Points – Jharkhand

261 health facilities out of 533 (49%), have been designated and functioning as delivery points.

Out of the 261 delivery points, 51 (19.54%) health facilities are conducting C-section

Facility	Total Number	No. of DPs	% of Facilities
DH	23	22	95.65
FRU (CHCs and other FRUs)	30	30	100
Non FRU CHC	150	150	100
24*7 PHC	79	59	74
PHC	251	0	0
Total	533	261	

IV. Status of FRUs – Jharkhand

Type of District	Number of Districts	Number of FRUs required	No. of functional FRUs	Short fall
HPDs	11	29	14	15
Non HPDs	13	42	26	16
Total	24	71	40	31

38/105 LSAS doctors, 45/87 EmOC trained doctors posted in FRUs.

V. Human resource for Health

No documented HR policy for doctors, nurses and paramedical staff. No cadre for PGMOs

State level vacancies – Jharkhand

Cadre	Regular	Contractual
Specialist	Data not provided	88 %
Medical Officer	21%	NA
Staff Nurses	46%	48%
ANMs	37%	15%
Lab Technicians	78%	37%

VI. Health Infrastructure – Status of New Construction

Infrastructure for basic Primary Health Care is inadequate, conditions of the facility buildings and residential quarters- very dilapidated. Reliable electricity/water supply is also lacking. No Involvement of District officials in supervision of construction activities. As on till date state has made operational 2/24 SNCUs, 7/40 NBSUs.

Facility	Sanctioned	Completed	% Achievement
CHC	22	6	27%
PHC	21	5	24%
SC	638	298	46.70%
Total	681	309	45.37%

VII. Mobile Medical Units (MMU)

99 functional out of 103 MMUs. Cost Proposed is on higher side (Rs 2.1 Lakh per MMU per month). OPD load in these MMUs ranges from 99 to 2776 per month. Average OPD load per month is 1588 i.e. 66 patients per visit. Diagnostic tests conducted in MMUs ranges from 43 to 8975. Average diagnostic tests are 2014 per month i.e. 80 tests per month

Range of Diagnostic and OPD test – Jharkhand

Ranges	No. of MMUs (OPD)	No. of MMUs (OPD) Diagnostic
0-1000	12	28
1000-2000	66	32
2000-Above	25	43

Information on the Visit

1: Member of the Expert Committee on Tribal - Jharkhand Team

Sl	Name	Designation
1	Dr. Abhay Bang	Chairperson, Expert Committee on Tribal Health; Director, SEARCH
2.	Dr. Neeru Singh	Member, Expert Committee on Tribal Health; Director, RMRCH, Jabalpur
3.	Mr. Venkatesh Roddawar	Consultant, National Health Systems Resource Center, New Delhi

2: Description of State visit from 14th to 16th September 2015

Date	Description	Time
14th September 2015	Arrival at Ranchi	3:00 PM
	Interaction with state level civil society/NGO members at State Health Society, Namkum campus, Ranchi	4:30 onwards
15th September 2015	Visit to Raidih block, Gumla District	First half
	Visit to Raidih CHC, interaction with CHC Medical Officer and para-medical staff; interaction with group of Sahiyas (ASHA)	
	Interaction with Civil Surgeon, Gumla and district level civil society, NGO and Faith based organisation members.	Second half
16th September 2015	Meeting with Health Minister, Shri. Ramchandra Chandravanshi	First half
	Meeting with Principal Secretary, Health Mission Director, NHM and Director-in-Chief, health, Jharkhand	
	Departure to Delhi	Second half

3: list of participants from various civil society organisations

Sl No	Name	Organization
1	Dr. Abhay Bang	Chairperson, expert committee on tribal health
2	Dr. Neeru Singh	Member, expert committee on tribal health
3	Mr. Venkatesh Roddawar	Consultant, NHSRC, New Delhi
4	Dr. J.P Sanga	State Tribal Health coordinator, Jharkhand
5	Dr. Pradeep Baskey	Deputy Director, Community Cell, NHM
6	Ms. Akay Minz	SPC, Community Cell
7	Mr. Subrat Mahopatra	Health division, TSRDS
8	Dr. Anupam Sarkar	American India Foundation (MANSI Project)
9	Md. Ziauddin	Center for catalyzing Change, Jharkhand
10	Mr. Abijeet Chadda	Center for catalyzing change, Jharkhand
11	Ms. Soumi Guha Halder	FHI 360 (Communication Cell)
12	Dr. Sandeep	State Technical office (USAID)
13	Mr. Raj Kumar	Ekjut, Jharkhand
14	Mr. Vikas	Ekjut, Jharkhand
15	Ms. Ananda Devi	World Vision, Jharkhand
16	Mr. Mahadev Hansda	Save the Children, Jharkhand

Sl No	Name	Organization
17	Mr. Ranjan Panda	CINI, Jharkhand
18	Mr. Nikilesh	Vikash Bharti, Jharkhand
19	Ms. Savita Lakra	UNICEF, Jharkhand
20	Ms. Haldar Mahato	PHRN, Jharkhand
21	Ms. Vasavi Kiro	HEDON, Jharkhand
22	Mr. Sambalsingmund	Birsa Adharsh Seva Samsthan, Jharkhand
23	Dr. D.P Teneja	USAID, Jharkhand
24	Dr. Dinesh	Jhpiego, Jharkhand
25	Dr. J.P Sanga	State Tribal Health coordinator, Jharkhand
26	Dr. Abhay Bang	Chairperson, expert committee on tribal health
27	Dr. Neeru Singh	Member, expert committee on tribal health

4. List of participants at District Health Society, Gumla,

S No	Name	Organization
1	Dr. Abhay Bang	Chairperson, expert committee on tribal health
2	Dr. Neeru Singh	Member, expert committee on tribal health
3	Mr. Venkatesh Roddawar	Consultant, NHSRC, New Delhi
4	Sis. emintis oso	UHC gumla
5	Dr. M. R Acharya	Vikash Bharti
6	Mr. Xavier Ekka	DPC, Gumla
7	Dr. Ashutosh Tigga	MO i/c Raidih
8	Anil Toppo	MMU, Gumla
9	Harrid Toppo	Gram Utthan Kendra, Gumla
10	Mr. Mahendra Bhagat	Vikas Bharti
11	Dr. Chandra Kissor Sharma	
12	Dr. Ritesh Kumar,	RMNCH+A
13	Dr. Sandeep Rai	RMNCH+A
14	Sis. Susana	Gram Utthan Kendra, Gumla
15	Mr. Rajiv Kumar	DAM, Gumla

State Visits

1. Madhya Pradesh

Report Tribal Health Committee Visit
District Chhindwara and the state capital Bhopal

7th to 9th September
Dr. Abhay Bang
Dr. Neeru Singh,
Dr. Shikha Yadav (NHSRC)

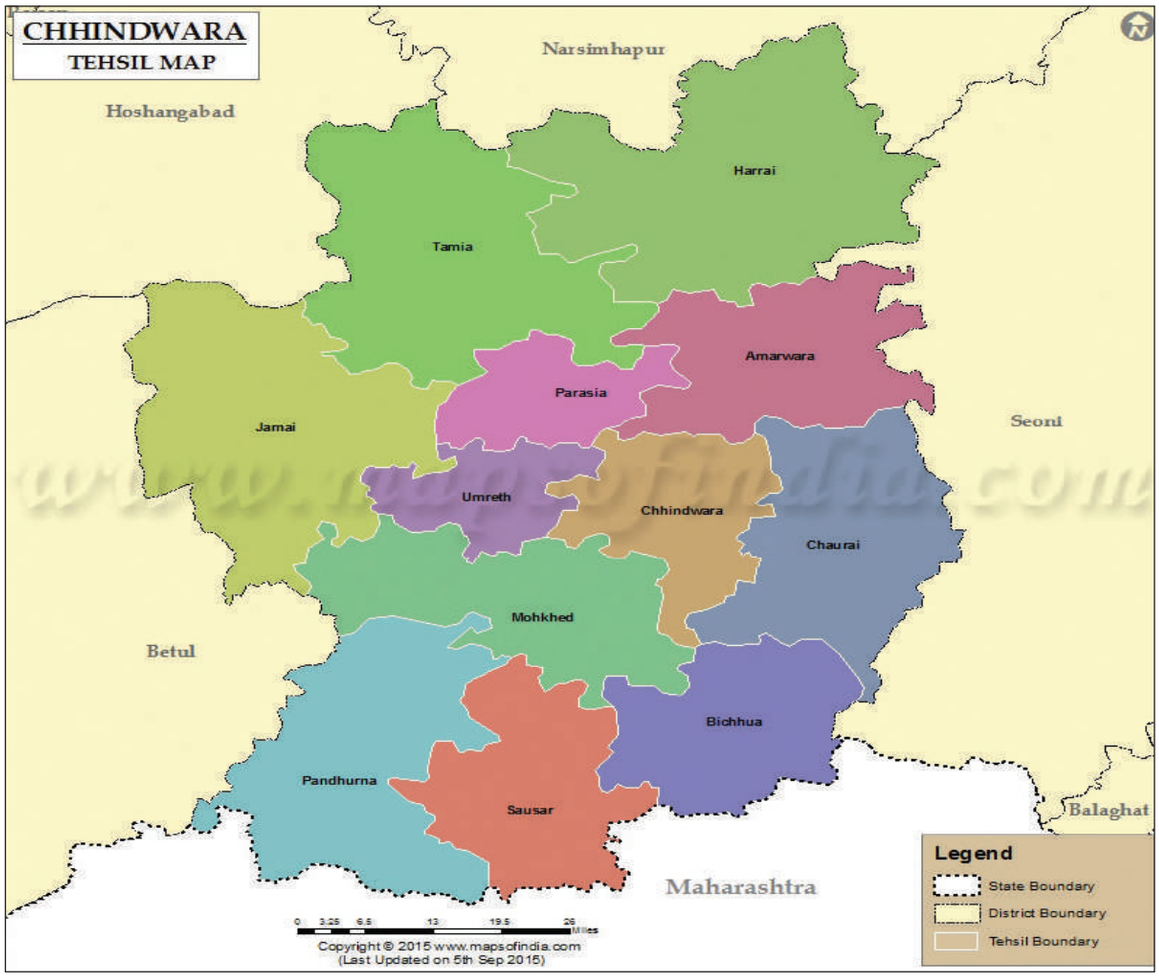
District profile

Chhindwara was formed as the annexation of the Nagpur State in 1854 and at first belonged to the Nagpur Division. It formed part of the Nagpur Commissionary since 31st October 1931, immediately after abolition of the Nerbudda Commissionery. Chhindwara district became a part of the Jabalpur Division after the creation of the New Madhya Pradesh on 1st Novemeber, 1956.

The District headquarters are situated at Chhindwara. The District comprises of 12 tahsils, viz. Tamia, Amarwara, Harrai, Chaurai, Jamai, Parasia, Umreth, Chhindwara, Mohkhed, Sausar, Bichhua, and Pandhurna. There are 8 municipalities, 7 nagarpanchayats, 9 census towns and total 24 towns. There are total 1965 villages out of which 1906 are habitated and 59 are inhabited. There are 11 Janpadpanchayats and 803 gram panchayats in the District.

The district has a total population of 2,090,922 as per Census 2011, which contributes to 2.88% of State's total population. The total ST population is 769,778, which is 36.8% percent of the total District population. The average literacy rate of the District is 71.16 percent. Chhindwara has a sex ratio of 964 males per 1000 females (Census 2011), which has showed a 12 point increase since Census 2001. The child sex ratio, however, has shown a 2 point decline from 958 (Census 2001) to 956 (Census 2011).

There are a total 11 health blocks in the District, out of wehich 4 are tribal, viz. Harrai (76% tribal), Tamia (78% tribal), Bichhua (55% tribal), and Junnardev (50% tribal). The team visited Block Tamia, which is primarily a tribal block and has 172 villages. The Block has 1 CHC, 4 PHCs, 30 SHCs and 172 Gram Arogya Kendra.



Facility and Community visit: Day 1, 07th September, 2015

PHC Chindi

- Human Resource- 1 Pharmacist, 2 ANMs (1 stationed at facility, other for field activities)
- There was no medical officer at the facility since five years.
- Service delivery-
  - Average daily OPD- 40
  - Average deliveries- 20 per month
  - NBCC was unavailable as the radiant warmer was due for repair.
  - Ambu bag was available at the facility but was unused, as it was still packed.
  - Drug shortage of azithromycin, cefixime.
  - Delivery register, referral register and OPD records were well maintained.
- The discussions with ANM and Pharmacist were both active and had fair knowledge levels. Interestingly, the OPD records showed a limited number of diagnoses only (perhaps due to limited skills of the pharmacist, who was actually running the OPD services).

FGD with ASHAs

- An FGD was conducted with 7 ASHAs of the PHC Chindi.
- Most of the ASHA were selected in 2006 and were working since then.
- The discussions revealed that the ASHAs were trained in Module 6&7, but no refresher trainings were held afterwards. The only orientation cum training they had received was of diarrhea control in 2014.
- The ASHAs were well aware about the community issues, both social and health, but were little hesitant while the discussion initially.
- Issues such as delay in connectivity during emergency referral were a major challenge quoted by all the ASHAs.
- Malaria control and availability of sanitation facilities emerged as a major need of the community, after discussions.
- On discussion regarding incentives, ASHAs mentioned that usually they receive incentives on time, but JSY and HBNC incentives were received after 2-3 months.
- It also came to light that the community preferred local quacks or healers for treatment of cases of snake bites, over opting for modern medicine. The ASHAs also informed that use of wizardly methods to treat certain ailments is still practiced in the villages.
- A significant observation was that the 2 ASHAs belonging to Muslim community were more articulate and confident compared to the other members of the group. They were more interactive with the team.

Gram Arogya Kendra– Village Beejadhara

- ANM was present at the GAK at the time of visit.
- Records of children coming to AWC, growth charts and VHNDs were well maintained.
- Drugs and logistics such as IFA tablets, Vit. A syrup, sphygmomanometer, thermometer, weighing scale, etc. were available at the GAK for VHND sessions.

FGD with community – Village Beejadhara

- An FGD with 25 village inhabitants was conducted.
- It was a mixed group comprising of young adults, women, adolescents and elderly.
- The village elderly were interacting more with the team and answering to the queries/ questions asked by the visiting team members.
- The women group was less interactive and was hesitating to discuss their health issues with the visiting team, perhaps due to presence of males around them.
- The community members present unanimously agreed that hygienic sanitation practices, availability of toilets was their prime demand. They did not mention any concerns regarding deaths due to malaria or snake bite. Only after probing a little, the community agreed that snake bite cases are treated with local traditional methods only, and modern medicine methods are not seen as a first choice.
- The team also observed visible cases of obesity among women in particular, which was a peculiar observation.

Other observations:

- The team visited the vicinities of Patalkot, which is an unusual place in itself, located at a depth of 1200-1500 feet in a valley. There are 12 villages and 13 hamlets in this valley and is a treasure of forest and herbal wealth also. Most of the inhabitants are from Bharia and Gond tribes. Due to the inaccessibility of this area, the tribals from this region were cut off from the civilized world for long. But now, major development has taken place in this area over the years. There are primary health centres, veterinary health centres, etc. have now been made functional in this area.

- The team observed local people selling traditional herbs collected from the dense forests below in the valley, claiming them to have curative properties for health ailments ranging from common cold to malaria and diabetes.

Meeting with District Collector, Chhindwada, Local Assembly Representatives, NGO Representatives: Day 2nd, 08th September 2015

The team met following keynote officials and persons:

- Sh. Mahesh Chand Choudhary, Collector and District Magistrate,
- Ms. Tanvi Sundriyal, CEO Zila Panchayat,
- Smt. Kanta Thakur, Head Zila Panchayat,
- Sh. Nathan Shah Kawreti, MLA

NGO Representatives:

- Sh. Sukhpal Bunkar, LEPRA Society,
- Sh. Gurudayal, Gramin Vikas Mandal,
- Sh. Rakesh Solanki, Janmngal Sansthan

Other members:

- Dr. M.K. Sehlam, CMHO
- Dr. Ashok Bhagat, BMO Tamia
- Sh. Manoj Rai, DCM
- Sh. Jandas Vinote, BCM Tamia

Key discussion points:

- The total fund under the Tribal Sub-Plan was not known to the officials, but it was approximately 5-10% of the total District plan, as revealed during discussion.
- Fluorosis and malaria, inadequate referral transport services in tribal areas, defunct SHCs, unavailability of medical officers at facilities, emerged as major health and service delivery issues.
- It was told to the visiting team that the usual demands from the tribal community during Gram Sabha meetings are those regarding establishing infrastructure in health, assured referral transport services, and availability of medicines.
- The participants were asked about their priorities pertaining to tribal health and following issues were identified:
  - Community representatives and NGO representatives:
    a) Ensured availability of clean & safe drinking water and sanitation,
    b) Position a female Medical Officer at least at Block level health facilities,
    c) ASHAs to be trained in giving treatment for common ailments,
    d) Establishing a L2 facility within the tribal areas vicinity to improve accessibility,
    e) Assured availability of specialists (orthopedics/pediatrician) and female doctors at all levels of facility,
    f) Assured diagnostic facilities (X-ray, laboratory investigations) at all facility levels,
    g) Utilizing the available knowledge base of traditional healthcare practices used by tribals,
    h) Focus on primordial prevention strategies by using IEC/BCC/IPC by involving ASHAs, youth groups, school children, etc.
  - Government representatives:
    a) Promote health education as a preventive health measure,
    b) Availability of any health worker/ ANM at Gram Panchayat level,
    c) Revise ASHA selection process and trainings,
    d) Community support groups for people seeking treatment at tertiary level facilities,
    e) Establish a comprehensive database for health issues/priorities of tribal community.

Meeting with Principal Secretary (Health), Commissioner (Health), Mission Director (National Health Mission): Day 3rd, 09th September

The visiting team had a meeting with following officials at State level:

- Smt. Gauri Singh, PS (Health)
- Sh. Pankaj Agarwal, Commissioner (Health)
- Sh. Faiz Ahmed Kidwai, MD (NHM)
- State officers for RBSK, NCD and NVBDCP

Key discussion points:

- The current process of funding to tribal areas is through a general plan under the Tribal Sub Plan and not as an additionality, which should be the preferred approach,

- Approximately 160 crores provided annually to Tribal Districts under TSP, out of the total ,State and GoI budget and is regulated by Ministry of Tribal Affairs at the State level,
- Need to establish a database at the State level, with comprehensive details of tribals blocks,
- State has recently completed a village level survey, for mapping home deliveries, most of which were ST villages,
- Following were the specific health and service delivery issues identified during the discussion:
  - Malaria, anemia, pelvic inflammatory disease, HIV in Balaghat, Seoni, Chhindwara, Jhabua and Alirajpur,
  - Shortage of human resource; mainly medical officers,
  - Quality of services

Meeting with Commissioner (Tribal Affairs): Day 3rd, 09th September

The visiting team had a meeting with Sh. J.N. Malpani, Commissioner (Tribal Affairs). Following discussions were made in the meeting:

- The Tribal affairs department does not have any monitoring mechanism in place for tribal health issues,
- 21% of the total State budget is provided under Tribal Sub Plan, which is approximately Rs. 400 crores,
- The budget expenditure is mainly in three main areas, viz. social development, education nd economic development of the tribal areas,
- The tribal affairs department has a limited contribution to health needs of tribals as ensuring regular medical check- ups of students residing in hostels managed by the department.
- Most of the work done by Tribal Research Institutes is limited to social & cultural development of the tribals.

Suggestions/Recommendations:

- Establish mechanisms to utilize existing data sources (OPD, HMIS, MCTS) to develop a comprehensive database on tribal health needs,
- Population surveys on chronic & insidious diseases to understand epidemiologic prevalence of these diseases,
- Utilize the surplus human resource of BDS and AYUSH practitioners to saturate the primary level health facilities, after giving them required trainings,
- Opt for creating human resource in healthcare sector through suggested bridge course, BSc. Community health or any such short courses. This would be a long term strategy to generate a workforce with necessary skills to function in the tribal areas,
- Introduce a intermediary level of services at Gram Panchayat level, with ANMs trained through a uniquely designed bridge course, to function as “Tribal Nurse Practioner”,
- Establish a medical/nursing college in one of the selected tribal area (Mandla or Balaghat), for intake of students from tribal community only, with an essential bond to serve in tribal areas only.

4

Annexures

Scocio–demographic status of Tribal People in India

Table 4.1 to 4.11

Table 4.1: State-wise Demographic Status of Total Population & ST Population (Census 1991, 2001 & 2011), their decadal growth rate (from 2001) and proportions of STs to the State and to the Country's total population. (Source: Statistical Profile of Scheduled Tribes in India, 2013; Ministry of Tribal Affairs; Government of India)

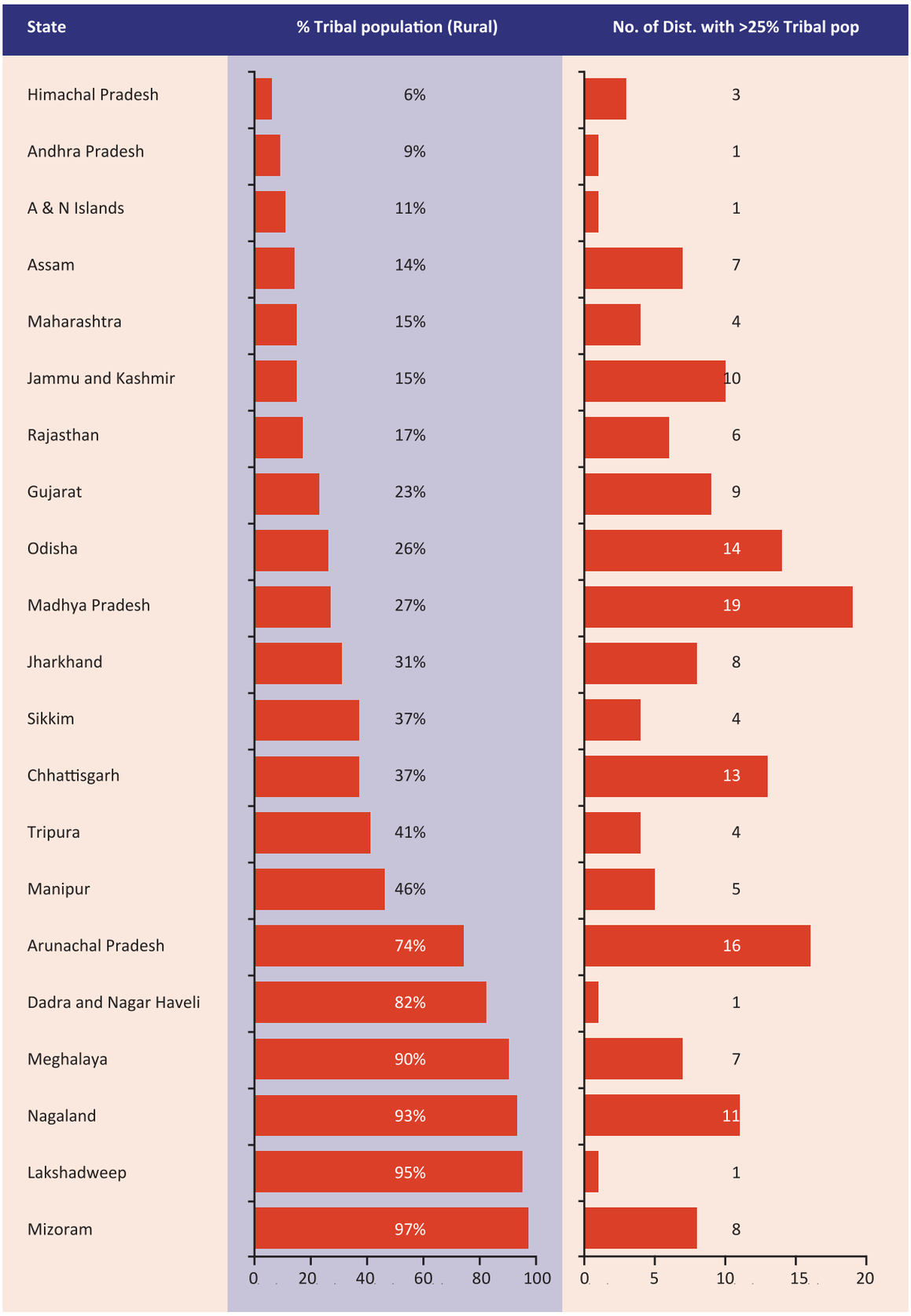
S.No	India/ State	Total Population			Decadal Growth in % (from 2001)	ST Population			Decadal Growth in % (from 2001)	% age of STs in the State to total State population in 2011	% age of STs in the State to total ST population in India in 2011
		1991	2001	2011		1991	2001	2011			
	India	**838,583,988**	**1,028,610,328**	**1,210,569,573**	**17.69**	**67,758,380**	**84,326,240**	**104,281,034**	**23.66**	-	-
1	Andhra Pradesh	66,508,008	76,210,007	84,580,777	10.98	4,199,481	5,024,104	5,918,073	17.79	7.00	5.68
2	Arunachal Pradesh	864,558	1,097,968	1,383,727	26.03	550,351	705,158	951,821	34.98	68.79	0.91
3	Assam	22,414,322	26,655,528	31,205,576	17.07	2,874,441	3,308,570	3,884,371	17.40	12.45	3.72
4	Bihar	86,374,465	82,998,509	104,099,452	25.42	6,616,914	758,351	1,336,573	76.25	1.28	1.28
5	Chhattis-garh*	-	20,833,803	25,545,198	22.61	-	6,616,596	7,822,902	18.23	30.62	7.50
6	Goa	1,169,793	1,347,668	1,458,545	8.23	376	566	149,275	26273.67	10.23	0.14
7	Gujarat	41,309,582	50,671,017	60,439,692	19.28	6,161,775	7,481,160	8,917,174	19.20	14.75	8.55
8	Haryana	16,463,648	21,144,564	25,351,462	19.90	-	-	-	-	0.00	0.00
9	Himachal Pradesh	5,170,877	6,077,900	6,864,602	12.94	218,349	244,587	392,126	60.32	5.71	0.38
10	J&K	-	10,143,700	12,541,302	23.64		1,105,979	1,493,299	35.02	11.91	1.43
11	Jharkhand*	-	26,945,829	32,988,134	22.42	-	7,087,068	8,645,042	21.98	26.21	8.29
12	Karnataka	44,977,201	52,850,562	61,095,297	15.60	1,915,691	3,463,986	4,248,987	22.66	6.95	4.07
13	Kerala	29,098,518	31,841,374	33,406,061	4.91	320,967	364,189	484,839	33.13	1.45	0.46
14	Madhya Pradesh	66,181,170	60,348,023	72,626,809	20.35	15,399,034	12,233,474	15,316,784	25.20	21.09	14.69
15	Maharash-tra	78,937,187	96,878,627	112,374,333	15.99	7,318,281	8,577,276	10,510,213	22.54	9.35	10.08
16	Manipur	1,837,149	2,166,788	2,570,390	18.63	632,173	741,141	902,740	21.80	35.12	0.87
17	Meghalaya	1,774,778	2,318,822	2,966,889	27.95	1,517,927	1,992,862	2,555,861	28.25	86.15	2.45
18	Mizoram	689,756	888,573	1,097,206	23.48	653,565	839,310	1,036,115	23.45	94.43	0.99
19	Nagaland	1,209,546	1,990,036	1,978,502	-0.58	1,060,822	1,774,026	1,710,973	-3.55	86.48	1.64
20	Orissa	31,659,736	36,804,660	41,974,218	14.05	7,032,214	8,145,081	9,590,756	17.75	22.85	9.20

(Cont.....)

S.No	India/ State	Total Population			Decadal Growth in % (from 2001)	ST Population			Decadal Growth in % (from 2001)	% age of STs in the State to total State population in 2011	% age of STs in the State to total ST population in India in 2011
		1991	2001	2011		1991	2001	2011			
	India	**838,583,988**	**1,028,610,328**	**1,210,569,573**	**17.69**	**67,758,380**	**84,326,240**	**104,281,034**	**23.66**	-	-
21	Punjab	20,281,969	24,358,999	27,743,338	13.89	-	-	-	-	0.00	0.00
22	Rajasthan	44,005,990	56,507,188	68,548,437	21.31	5,474,881	7,097,706	9,238,534	30.16	13.48	8.86
23	Sikkim	406,457	540,851	610,577	12.89	90,901	111,405	206,360	85.23	33.80	0.20
24	Tamil Nadu	55,858,946	62,405,679	72,147,030	15.61	574,194	651,321	794,697	22.01	1.10	0.76
25	Tripura	2,757,205	3,199,203	3,673,917	14.84	853,345	993,426	1,166,813	17.45	31.76	1.12
26	Uttara-khand*	-	8,489,349	10,086,292	18.81	-	256,129	291,903	13.97	2.89	0.28
27	Uttar Pradesh	139,112,287	166,197,921	199,812,341	20.23	287,901	107,963	1,134,273	950.61	0.57	1.09
28	West Bengal	68,077,965	80,176,197	91,276,115	13.84	3,808,760	4,406,794	5,296,953	20.20	5.80	5.08
29	Andaman & Nicobar Islands	280,661	356,152	380,581	6.86	26.77	29,469	28,530	-3.19	7.50	0.03
30	Chandigarh	642,015	900,635	1,055,450	17.19	-	-	-	-	-	-
31	Dadra & Nagar Haveli	138,477	220,490	343,709	55.88	109,380	137,225	178,564	30.12	51.95	0.17
32	Daman & Diu.	101,586	158,204	243,247	53.76	11,724	13,997	15,363	9.76	6.32	0.01
33	Delhi	9,420,644	13,850,507	16,787,941	21.21	-	-	-	-	-	-
34	Lakshad-weep	51,707	60,650	64,473	6.30	48,163	57,321	61,120	6.63	94.80	0.06
35	Puducherry	807,785	974,345	1,247,953	28.08	-	-	-	-	-	-

* States like Chhattisgarh, Jharkhand and Uttarakhand were created in the year 2000 after re-organization of the states of Madhya Pradesh, Bihar and Uttar Pradesh. MANIPUR (Excl. 3 Sub-divisions of Senapati Distt.)

Table 4.2: State wise % tribal population(Rural) and number of district with >25% ST population



(Source: Census 2011)

Table 4.3: Sex Ratio, TFR and Mean Family Size in ST population by state

State	Sex Ratio		TFR		Mean Family Size	
	STs	Non-STs	STs	Non-STs	STs	Non-STs
Jammu & Kashmir	924	884	*	2.1	5.7	6.3
Himachal Pradesh	999	970	*	1.8	4.3	4.7
Uttarakhand	963	963	*	2.4	4.6	5.1
Rajasthan	948	925	3.7	2.8	5.0	5.5
Uttar Pradesh	952	912	5.3	3.2	2.2	6.1
Bihar	958	917	*	3.4	3.2	5.5
Sikkim	960	856	1.9	2.2	4.5	4.9
Arunachal Pradesh	1032	759	3.1	2.8	5.5	4.9
Nagaland	976	687	3.5	3.2	4.9	5.3
Manipur	1002	987	3.8	2.6	5.2	5.0
Mizoram	1007	565	*	*	4.9	6.5
Tripura	983	949	*	2.1	4.5	4.3
Meghalaya	1013	851	4.2	*	5.6	5.0
Assam	985	954	2.5	2.7	4.4	5.0
West Bengal	999	947	*	2.3	4.2	4.6
Jharkhand	1003	930	3.8	2.8	5.0	5.5
Odisha	1029	964	3.1	2	4.3	4.4
Chhattisgarh	1020	978	2.8	1.8	4.5	4.6
Madhya Pradesh	984	917	3.8	2.3	4.8	4.9
Gujarat	981	909	*	*	4.9	5.0
Daman & Diu	977	599	*	*	4.6	4.0
Dadra & Nagar Haveli	1010	574	*	*	5.4	4.2
Maharashtra	977	925	2.4	2.1	4.3	4.8
Andhra Pradesh	993	993	*	1.6	3.8	4.0
Karnataka	990	972	2.5	2	4.5	4.6
Goa	1046	965	*	1.8	4.4	4.5
Lakshadweep	1003	286	*	*	6.1	5.0
Kerala	1035	1085	*	2.2	3.6	4.3
Tamil Nadu	981	997	*	*	2.1	3.9
Andaman & Nicobar Islands	937	871	*	*	3.7	4.1
India	990	938	3.1	2.4	4.5	5.0

The definition of Sex Ratio is taken as number of females per thousand males. The data source is Census 2011; TFR data is from NFHS 3; Mean Family Size estimated by IIPS using Census 2011 data

Table 4.4: Occupational structures by types of sector among STs and Non-STs, (NSSO 68th Round, 2012-13.)

State	Primary		Secondary		Tertiary	
	ST	Non-ST	ST	Non-ST	ST	Non-ST
Jammu & Kashmir	35.1	28.0	36.2	41.0	28.7	31.0
Himachal Pradesh	31.3	42.2	30.8	30.2	38.0	27.7
Uttarakhand	41.5	34.9	15.9	24.6	42.6	40.5
Rajasthan	42.4	40.4	48.4	35.7	9.3	23.9
Uttar Pradesh	48.3	48.1	30.8	31.7	20.9	20.2
Bihar	65.9	63.1	31.4	18.6	2.7	18.3
Sikkim	60.7	50.3	5.2	13.8	34.1	36.0
Arunachal Pradesh	73.1	46.4	5.2	23.2	21.7	30.4
Nagaland	46.0	6.7	13.6	73.9	40.5	19.4
Manipur	55.9	38.5	17.1	28.7	27.1	32.8
Mizoram	43.6	68.3	16.2	10.2	40.2	21.5
Tripura	41.2	25.4	43.6	39.8	15.3	34.7
Meghalaya	48.6	25.5	8.4	14.1	43.0	60.4
Assam	65.1	53.0	17.7	23.7	17.2	23.3
West Bengal	82.0	41.2	7.7	30.9	10.3	27.9
Jharkhand	65.8	32.0	22.8	36.6	11.4	31.4
Odisha	65.7	46.7	22.1	28.4	12.2	24.8
Chhattisgarh	81.8	61.2	9.1	19.9	9.1	18.9
Madhya Pradesh	73.0	49.4	18.4	24.6	8.6	26.1
Gujarat	77.3	38.0	11.0	30.8	11.8	31.2
Daman & Diu	3.6	20.8	89.9	28.3	6.5	50.9
Dadra & Nagar Haveli	34.5	0.3	42.6	51.8	22.9	47.9
Maharashtra	63.0	37.7	17.9	19.3	19.0	42.9
Andhra Pradesh	75.6	43.8	11.4	25.5	13.0	30.7
Karnataka	68.5	45.6	12.8	16.9	18.7	37.5
Goa	7.9	5.4	24.9	14.5	67.2	80.2
Lakshadweep	19.9	14.5	24.3	43.8	55.8	41.7
Kerala	45.8	22.0	30.4	38.3	23.7	39.7
Tamil Nadu	63.4	33.6	17.1	32.8	19.5	33.6
Andaman & Nicobar Island	72.6	15.5	5.1	32.7	22.3	51.8
India	**65.7**	**43.0**	**19.8**	**27.6**	**14.5**	**29.4**

Table 4.5: Education attainments among STs and Non-STs, (NSSO 68th Round, 2011-12)

State	No education		Primary		Secondary		Higher	
	ST	Non-ST	ST	Non-ST	ST	Non-ST	ST	Non-ST
Jammu & Kashmir	35.6	31.4	33.1	27.0	26.5	35.0	4.8	6.6
Himachal Pradesh	24.5	22.2	40.8	30.1	31.1	41.2	3.6	6.4
Uttaranchal	25.3	23.8	32.1	35.1	40.4	33.6	2.3	7.5
Rajasthan	52.9	37.4	31.1	32.5	13.5	24.6	2.5	5.5
Uttar Pradesh	43.8	40.7	27.7	30.6	18.7	23.9	9.9	4.8
Bihar	45.9	39.7	37.5	34.4	16.0	23.2	0.7	2.7
Sikkim	18.4	17.0	54.6	49.7	24.4	29.2	2.7	4.1
Arunachal Pradesh	28.8	26.6	32.8	33.4	34.5	33.7	3.9	6.3
Nagaland	11.3	9.2	29.1	46.7	47.8	42.9	11.8	1.2
Manipur	18.5	20.0	32.1	27.8	43.6	43.2	5.8	9.0
Mizoram	11.2	24.1	39.2	47.8	44.6	25.3	5.1	2.9
Tripura	22.1	18.3	50.5	43.8	26.8	33.0	0.6	4.9
Meghalaya	11.5	5.6	48.6	43.2	36.2	42.7	3.7	8.5
Assam	20.9	20.6	45.8	40.7	32.0	35.6	1.4	3.1
West Bengal	41.3	29.2	39.9	37.9	17.2	26.9	1.6	6.0
Jharkhand	42.4	35.2	34.0	32.8	22.3	26.9	1.3	5.2
Orissa	48.5	30.3	30.8	30.0	20.0	35.3	0.8	4.5
Chhattisgarh	31.1	29.5	43.1	38.3	23.8	27.9	2.0	4.4
Madhya Pradesh	46.1	30.7	38.7	34.6	14.2	28.8	1.0	6.0
Gujarat	42.8	25.7	32.9	34.4	22.5	33.7	1.8	6.3
Daman & Diu	9.0	24.3	57.8	28.7	33.1	35.3	0.1	11.6
D & N Haveli	41.5	20.1	29.9	26.2	26.2	43.2	2.4	10.5
Maharashtra	42.0	22.1	30.6	28.0	25.5	41.2	1.8	8.7
Andhra Pradesh	57.2	37.3	20.3	25.7	19.2	30.2	3.2	6.8
Karnataka	44.7	28.7	28.9	26.9	24.5	37.1	1.9	7.2
Goa	37.8	16.4	22.1	22.8	38.3	47.5	1.8	13.4
Lakshadweep	18.1	0.0	34.4	36.8	44.4	60.0	3.1	3.2
Kerala	36.3	13.7	26.9	28.4	32.2	50.4	4.6	7.5
Tamil Nadu	50.2	25.0	25.0	31.8	22.9	35.8	2.0	7.4
A & N Islands	22.6	21.9	35.0	32.0	37.9	38.8	4.4	7.2
India	**41.3**	**31.3**	**34.7**	**31.6**	**21.9**	**31.0**	**2.1**	**6.1**

Source: National Sample Survey 2011-12

Table 4.6 Dropout Rates of All Categories, ST & SC Students (1990-91 to 2010-11) (from Statistical Profile of STs in India)

Year	Sex	Classes I to V			Classes I to VIII			Classes I to X		
		All	ST	SC	All	ST	SC	All	ST	SC
	Boys	40.1	60.3	46.3	59.1	75.7	64.3	67.5	83.3	74.3
	Girls	46	66.1	54	65.1	82.2	73.2	76.9	87.7	83.4
1990-91	**Total**	**42.6**	**62.5**	**49.4**	**60.9**	**78.6**	**67.8**	**71.3**	**85**	**77.7**
	Boys	39.7	54.4	41	54.3	73	61.9	67.3	82.5	75.5
	Girls	40.9	60	45.2	59.5	78.3	68.3	73.7	86.8	81
1996-97	**Total**	**40.2**	**56.5**	**42.7**	**56.5**	**75.2**	**64.5**	**70**	**84.2**	**77.6**
	Boys	38.4	51	43.7	52.9	67.3	58.6	64.2	79.9	71.1
	Girls	39.9	54.1	47.1	56.9	72.7	63.6	68.6	82.9	74.9
2001-02	**Total**	**39**	**52.3**	**45.2**	**54.6**	**69.5**	**60.7**	**66**	**81.2**	**72.7**
	Boys	28.7	40.2	32.1	48.7	62.9	53.7	60.1	78	68.1
	Girls	21.8	39.3	33.8	49	62.9	57.1	63.6	79.2	73.8
2005-06	**Total**	**25.7**	**39.8**	**32.9**	**48.8**	**62.9**	**55.2**	**61.6**	**78.5**	**70.6**
	Boys	24.6	30.6	32.3	46.4	62.8	51.6	58.6	77.3	66.6
	Girls	26.8	35.8	39.9	45.2	62.2	55	61.5	79.1	72.2
2006-07	**Total**	**25.6**	**33.1**	**35.9**	**45.9**	**62.5**	**53.1**	**59.9**	**78.1**	**69**
	Boys	26.2	32	33.7	44.3	63.5	53.9	56.4	75.8	67.8
	Girls	24.8	32.4	29.5	41.4	63.1	51	57.3	77.4	68.6
2007-08	**Total**	**25.6**	**32.2**	**31.8**	**43**	**63.4**	**52.6**	**56.8**	**76.5**	**68.1**
	Boys	30.3	32.7	35.2	40.6	50.6	55.2	53.4	58.5	74.7
	Girls	27.3	25.3	33.7	44.4	52.0	60.6	52.0	59.7	75.9
2009-10	**Total**	28.9	**29.3**	34.5	**42.4**	**51.3**	**57.8**	**52.8**	**59.0**	**75.2**
	Boys	28.7	37.2	29.8	40.3	54.7	46.7	50.4	70.6	57.4
	Girls	25.1	33.9	23.1	41	55.4	39	47.9	71.3	54.1
2010-11	**Total**	27	**35.6**	**26**	**40.6**	**55**	**43.3**	49.3	**70.9**	**56**

Source: Statistics Of School Education 2010-2011

Table 4.7: Condition of households of population in India and States/UTs, Total, 2011

State	Good		Livable		Dilapidated	
	STs	Non-STs	STs	Non-STs	STs	Non-STs
Jammu & Kashmir	32.8	57.3	61.5	39.1	5.7	3.6
Himachal Pradesh	68.4	72.7	29.7	25.7	1.9	1.6
Uttarakhand	58.2	67.1	38.0	29.5	3.8	3.4
Rajasthan	31.3	54.3	62.3	42.2	6.4	3.5
Uttar Pradesh	40.6	42.9	52.5	50.5	6.9	6.6
Bihar	30.6	36.2	62.4	56.5	7.0	7.4
Sikkim	54.7	57.6	40.1	36.9	5.2	5.5
Arunachal Pradesh	54.5	46.5	42.6	49.4	2.9	4.1
Nagaland	52.9	49.4	45.6	47.0	1.5	3.6
Manipur	39.2	61.9	56.7	33.1	4.1	4.9
Mizoram	62.4	60.4	34.8	36.9	2.8	2.7
Tripura	52.7	54.9	42.2	40.0	5.1	5.1
Meghalaya	47.8	49.5	46.3	44.1	5.9	6.3
Assam	32.4	32.8	60.2	55.8	7.5	11.4
West Bengal	27.5	41.8	57.9	46.7	14.7	11.6
Jharkhand	36.6	46.0	58.9	49.6	4.5	4.5
Odisha	19.1	32.7	72.3	59.1	8.6	8.2
Chhattisgarh	43.1	48.1	53.6	47.7	3.3	4.2
Madhya Pradesh	38.8	56.0	55.1	40.5	6.0	3.5
Gujarat	51.2	70.1	46.6	28.5	2.2	1.4
Daman & Diu	57.4	68.8	39.4	30.8	3.2	0.4
Dadra & Nagar Haveli	54.4	77.2	44.8	22.6	0.8	0.2
Maharashtra	48.0	65.9	44.1	30.2	7.9	3.9
Andhra Pradesh	57.8	70.7	36.5	26.0	5.7	3.3
Karnataka	50.0	60.8	43.7	35.4	6.3	3.8
Goa	68.6	77.0	29.0	21.6	2.4	1.4
Lakshadweep	78.9	74.7	20.3	24.1	0.7	1.2
Kerala	38.4	66.8	45.3	28.1	16.3	5.1
Tamil Nadu	59.8	70.4	37.5	27.8	2.8	1.8
Andaman & Nicobar Islands	86.5	64.7	13.3	32.9	0.2	2.4
India	**40.6**	**54.4**	**53.1**	**40.3**	**6.3**	**5.3**

The unit of Analysis is number of Households. Census 2011 is the data source for these percentages.

Table 4.8 Households with sanitary facility in India and States/UTs, Census, 2011

State	*Improved sanitary facility						Open defecation					
	STs			Non-STs			STs			Non-STs		
	[1]T	[2]R	[3]U	[1]T	[2]R	[3]U	[1]T	[2]R	[3]U	[1]T	[2]R	[3]U
Jammu & Kashmir	12.4	9.0	57.6	33.7	20.7	66.6	71.1	74.7	24.3	42.3	55.1	10.2
Himachal Pradesh	55.8	53.2	84.8	66.8	64.2	86.9	36.7	39.4	8.2	29.2	32.1	6.8
Uttarakhand	43.6	33.0	85.9	63.7	52.0	91.0	51.5	61.9	9.9	32.5	44.4	4.6
Rajasthan	6.9	2.8	59.7	33.7	17.6	76.2	91.7	96.1	34.5	59.7	76.3	15.9
Uttar Pradesh	31.5	12.8	75.5	31.4	18.0	77.6	62.3	81.8	16.3	63.0	77.1	14.8
Bihar	11.3	7.3	55.2	19.7	14.5	63.4	85.0	89.6	35.3	75.6	81.2	28.8
Sikkim	76.0	71.5	91.7	79.4	73.8	91.8	12.8	15.9	2.0	10.5	14.2	2.3
Arunachal Pradesh	28.6	17.8	75.4	40.9	23.2	70.1	38.8	46.1	7.1	27.1	39.7	6.4
Nagaland	46.7	37.1	77.7	64.5	36.4	80.0	17.8	22.5	2.2	8.2	19.1	2.2
Manipur	42.1	38.1	71.4	48.7	37.1	62.7	16.4	18.5	1.5	5.0	7.1	2.5
Mizoram	69.0	51.2	85.7	73.3	45.5	84.1	6.6	12.8	0.8	6.0	16.3	2.0
Tripura	39.3	37.0	84.0	72.8	67.5	81.3	30.3	31.7	3.9	3.1	4.3	1.1
Meghalaya	33.0	22.9	81.3	55.7	27.4	90.4	36.2	43.2	3.0	23.4	41.6	1.2
Assam	19.1	14.4	72.0	32.4	23.3	77.4	54.0	58.3	5.8	29.9	34.9	4.9
West Bengal	18.2	11.9	62.5	50.6	35.8	80.9	73.2	79.8	26.1	36.3	48.8	10.9
Jharkhand	7.2	2.8	45.8	25.6	8.1	67.2	90.8	95.5	49.3	71.7	89.8	28.6
Odisha	5.0	3.3	29.2	22.3	13.1	62.9	91.6	93.4	65.7	72.1	81.7	29.6
Chhattisgarh	10.7	8.2	40.8	26.0	12.1	60.8	84.6	87.2	54.0	69.2	84.0	32.0
Madhya Pradesh	6.7	3.5	45.6	31.9	13.6	73.3	90.9	94.3	48.5	64.3	83.5	20.7
Gujarat	22.3	12.8	68.6	62.0	36.9	87.7	73.5	83.9	23.0	34.5	60.5	7.9
Daman & Diu	36.4	19.6	51.1	80.0	54.6	86.2	54.1	76.6	34.6	7.9	28.3	2.9
Dadra & Nagar Haveli	15.8	9.3	45.0	85.6	79.6	87.2	80.8	88.2	47.5	5.7	11.8	4.1
Maharashtra	26.9	17.8	56.6	52.8	37.6	69.3	59.7	73.3	15.2	31.0	52.9	7.3
Andhra Pradesh	17.8	9.0	67.6	49.4	32.6	82.6	78.0	87.3	25.9	45.6	62.9	11.4
Karnataka	26.9	14.3	66.7	50.6	27.9	82.7	66.9	80.8	23.0	43.3	66.9	10.2
Goa	53.6	46.7	63.2	77.0	67.8	82.3	36.3	45.0	24.4	14.1	24.1	8.4
Lakshadweep	97.9	97.8	97.9	89.2	97.7	87.9	1.5	1.7	1.4	7.1	1.2	8.0
Kerala	62.8	58.4	88.1	90.3	88.3	92.5	25.7	29.5	4.2	3.4	4.9	1.7
Tamil Nadu	32.2	11.6	66.2	46.1	21.7	72.0	60.3	83.5	21.9	45.4	73.0	16.1
Andaman & Nicobar Islands	87.4	86.9	95.7	63.6	48.9	86.2	11.5	12.1	2.4	28.9	42.7	7.8
India	**17.4**	**10.4**	**61.2**	**44.3**	**27.1**	**77.9**	**74.7**	**82.4**	**26.1**	**47.2**	**65.3**	**12.1**

* Flush/Pour latrine connected to Piped Sewer system or Septic tank and Pit Latrine with Slab/Ventilated Improved Pit; 1-Total 2-Rural 3-Urban

Table 4.9: Availability of tap water within the households in India and States/UTs, Census, 2011

State	Availability of tap water						Tap water from treated source					
	STs			Non-STs			STs			Non-STs		
	[1]T	[2]R	[3]U	[1]T	[2]R	[3]U	[1]T	[2]R	[3]U	[1]T	[2]R	[3]U
Jammu & Kashmir	12.9	10.7	41.3	42.7	28.1	79.4	6.4	4.2	34.0	29.2	14.3	66.7
Himachal Pradesh	47.7	44.7	80.3	54.3	50.5	83.5	45.8	42.7	79.0	52.4	48.5	82.7
Uttarakhand	35.0	27.4	65.4	41.8	29.1	71.4	28.3	19.8	62.3	36.6	23.4	67.3
Rajasthan	6.4	2.8	53.0	33.4	18.1	73.7	5.4	2.0	49.2	28.6	13.2	69.1
Uttar Pradesh	19.8	9.7	43.4	19.3	11.8	45.2	16.7	7.2	38.8	15.3	8.1	40.3
Bihar	3.0	1.5	18.8	2.8	1.1	16.6	2.3	1.1	15.2	2.2	0.9	13.1
Sikkim	48.6	39.9	79.1	54.2	43.2	78.8	19.7	6.7	65.2	24.8	8.3	61.4
Arunachal Pradesh	30.7	22.5	66.2	34.2	19.2	59.0	14.8	8.5	41.9	17.6	8.9	32.0
Nagaland	15.0	12.3	23.9	14.9	9.4	17.9	2.4	1.8	4.4	4.2	2.0	5.4
Manipur	9.8	7.5	26.3	15.0	3.2	29.3	5.2	2.8	22.8	14.1	2.5	28.1
Mizoram	29.7	5.7	52.2	42.1	6.9	55.8	26.1	3.2	47.6	38.3	3.7	51.8
Tripura	4.6	2.7	40.1	18.6	8.0	35.8	3.0	1.4	33.8	14.4	4.4	30.6
Meghalaya	12.6	5.5	46.5	31.7	5.7	63.4	10.5	3.7	42.7	29.4	4.4	60.0
Assam	3.0	1.3	21.6	6.1	2.3	24.6	2.5	1.0	19.7	5.5	2.0	22.6
West Bengal	5.0	2.1	25.8	13.2	2.9	34.2	3.9	1.2	23.1	11.7	1.9	31.5
Jharkhand	2.0	0.3	17.3	9.8	1.1	30.5	1.8	0.2	15.7	8.8	0.8	27.7
Odisha	1.6	0.6	15.7	7.7	1.8	34.0	1.3	0.4	14.7	6.7	1.2	31.2
Chhattisgarh	2.8	0.9	25.1	12.9	3.6	36.1	1.8	0.4	18.8	9.3	1.5	28.8
Madhya Pradesh	3.2	1.4	26.1	16.9	5.6	42.6	2.4	0.7	22.7	13.2	2.8	36.7
Gujarat	17.6	9.5	57.4	62.2	48.2	76.6	10.8	3.3	47.0	38.8	15.1	63.2
Daman & Diu	47.4	42.4	51.8	58.7	68.3	56.3	36.5	34.9	37.9	44.1	63.0	39.5
Dadra & Nagar Haveli	14.4	13.1	20.4	39.2	32.6	40.9	6.9	5.3	14.2	27.2	13.7	30.6
Maharashtra	27.2	16.0	63.5	54.1	34.8	75.2	22.1	10.1	61.1	47.8	24.3	73.3
Andhra Pradesh	16.7	11.1	48.2	37.2	25.5	60.4	11.3	5.3	44.8	29.3	15.4	56.7
Karnataka	21.3	12.5	49.0	35.6	17.6	61.0	15.5	6.4	44.2	28.5	9.4	55.3
Goa	54.3	45.9	65.9	76.1	66.5	81.6	51.3	41.8	64.3	74.2	63.9	80.1
Lakshadweep	16.4	30.4	11.9	21.0	19.8	21.2	5.6	0.7	7.2	16.3	0.0	18.7
Kerala	14.5	11.9	29.7	21.7	16.8	27.1	10.6	7.8	26.2	17.4	11.8	23.6
Tamil Nadu	17.3	5.7	36.5	28.8	13.3	45.3	15.0	4.0	33.3	24.3	9.0	40.5
Andaman & Nicobar Islands	59.8	57.6	95.5	58.2	41.6	99.9	54.7	52.4	89.7	50.6	31.5	95.5
India	**10.7**	**5.6**	**42.9**	**28.5**	**15.2**	**54.5**	**7.9**	**3.0**	**38.2**	**23.3**	**9.7**	**49.8**

1-Total 2-Rural 3-Urban

Table 4.10: Households using cooking fuel in India and States, 2011

State	[1]Clean		[2]Domestic	
	STs	Non-STs	STs	Non-STs
Jammu & Kashmir	11.2	35.9	63.1	52.2
Himachal Pradesh	34.6	39.1	52.3	50.7
Uttarakhand	31.4	45.2	45.6	28.5
Rajasthan	5.0	26.0	17.8	31.9
Uttar Pradesh	20.7	19.1	25.5	24.0
Bihar	4.9	8.5	30.0	26.2
Sikkim	36.8	44.3	55.0	44.8
Arunachal Pradesh	23.9	40.3	66.2	50.1
Nagaland	16.7	44.2	80.3	46.7
Manipur	14.8	37.9	71.5	56.5
Mizoram	52.8	53.5	35.5	25.1
Tripura	6.0	23.0	70.0	67.7
Meghalaya	9.2	37.9	77.2	43.2
Assam	11.0	20.4	78.5	67.8
West Bengal	6.1	19.1	39.8	39.0
Jharkhand	3.9	15.3	28.9	18.8
Odisha	1.9	13.0	55.8	49.0
Chhattisgarh	3.0	15.3	51.6	40.3
Madhya Pradesh	3.6	22.7	33.4	29.1
Gujarat	11.5	44.2	52.4	27.1
Daman & Diu	41.5	54.8	39.8	8.1
Dadra & Nagar Haveli	12.6	63.5	70.9	3.8
Maharashtra	19.2	46.9	41.0	27.8
Andhra Pradesh	12.5	38.5	27.0	21.2
Karnataka	14.3	35.0	65.1	50.3
Goa	42.2	76.8	48.8	15.6
Lakshadweep	17.8	21.3	66.0	35.9
Kerala	10.5	37.0	79.0	59.9
Tamil Nadu	30.6	48.7	32.1	26.6
Andaman & Nicobar Islands	35.1	45.4	54.9	30.0
India	**9.5**	**31.1**	**43.7**	**31.5**

Note: [1]Clean cooking fuel includes PNG/LPG, Electricity and Biogas, [2]Domestic fuel includes fire-wood, crop residue and cowdung cake.

Table 4.11 Households with sources of lighting in India and States/UTs, Total, Census, 2011

State	Electricity		Solar		No Light	
	STs	Non-STs	STs	Non-STs	STs	Non-STs
Jammu & Kashmir	59.7	88.9	3.8	0.6	6.7	1.2
Himachal Pradesh	94.5	96.9	0.9	0.1	0.2	0.1
Uttarakhand	83.7	87.1	1.9	1.2	0.4	0.3
Rajasthan	39.7	71.7	0.9	0.6	1.0	0.8
Uttar Pradesh	36.7	36.8	1.1	0.5	0.5	0.2
Bihar	11.5	16.5	0.7	0.6	0.1	0.1
Sikkim	91.5	93.1	0.4	0.2	0.6	0.5
Arunachal Pradesh	66.2	64.6	4.0	0.7	14.2	3.4
Nagaland	81.2	84.6	0.3	0.4	1.2	0.9
Manipur	57.8	73.8	4.9	0.4	1.0	0.4
Mizoram	84.3	82.3	1.4	0.5	0.3	0.1
Tripura	46.9	78.0	3.8	1.0	0.4	0.3
Meghalaya	59.2	70.8	0.8	0.7	0.8	0.5
Assam	28.0	38.5	2.1	0.6	0.3	0.2
West Bengal	31.7	56.0	1.1	1.2	0.7	0.5
Jharkhand	29.3	52.1	1.4	0.5	0.1	0.1
Odisha	15.6	51.3	0.6	0.3	1.2	1.0
Chhattisgarh	56.8	83.6	2.2	0.3	0.4	0.2
Madhya Pradesh	54.0	70.7	0.6	0.2	0.4	0.2
Gujarat	80.0	92.3	0.4	0.1	1.5	0.9
Daman & Diu	96.6	99.2	0.0	0.0	0.7	0.0
Dadra & Nagar Haveli	90.8	98.9	0.1	0.0	0.6	0.1
Maharashtra	59.8	86.7	1.2	0.1	2.0	0.8
Andhra Pradesh	80.0	93.1	0.4	0.2	0.7	0.4
Karnataka	83.6	91.2	0.4	0.2	0.7	0.4
Goa	93.8	97.2	0.3	0.2	1.0	0.3
Lakshadweep	99.7	99.6	0.0	0.0	0.0	0.0
Kerala	62.8	95.0	2.2	0.1	0.1	0.0
Tamil Nadu	84.4	93.6	0.7	0.1	0.9	0.4
Andaman & Nicobar Islands	94.0	85.4	0.1	0.2	0.3	0.5
India	**51.7**	**68.9**	**1.1**	**0.4**	**1.0**	**0.4**

5

Annexures

Health (RMNCHA) Indicators for ST tribes in India

Table 5.1: Mean age at Marriage and Child Marriage among ST population in India (Source RSoC 2014)

State	Mean Age at Marriage(Years)		% ST Women Aged 20-24 years married before age 18	% ST Men aged 25-29 years married before age 21	% Adolescent ST Girls (15-19 years)ever married
	ST Female	ST Male			
Jammu and Kashmir	22.5	26.5	24.2	22.5	18
Himachal Pradesh	21.4	25.4	25	23.1	*
Rajasthan	18.4	21	49.9	65.9	21.2
Jharkhand	20.5	23.7	23.6	39.3	18.2
Odisha	20.1	25.2	44.9	36	9.8
Chhattisgarh	20.1	23.5	26.5	40.5	6.3
Madhya Pradesh	21.1	22.7	43	64.6	10.4
Gujarat	24.6	24.9	14.6	36.2	8
Maharashtra	22.5	25	27.1	1	5
Andhra Pradesh	20.1	23.5	27	25.9	24.8
India	21.4	24.7	30.8	36.5	12.7

Table 5.2: ANC, PNC received by women who had a live-birth in the 35 months prior to the RSoC2014 survey

State	% Women who received Full ANC				% women who received PNC within 48 hours of discharge/delivery			
	SC	ST	OBC	Others	SC	ST	OBC	Others
Jammu and Kashmir	14.7	7	6.1	20.6	10.3	3.2	5.2	12.9
Himachal Pradesh	25.5	12.7	22	30.6	11.7	10.9	5.7	17.6
Rajasthan	6.1	5.4	7.9	15.9	10.8	9.5	10.4	5.1
Jharkhand	3.6	6.6	7.9	7.2	9.8	17.2	12.2	7.5
Odisha	26.8	14.7	24.9	34.2	13.3	4.2	15.9	9.5
Chhattisgarh	9.2	17.6	22.7	28.6	43.3	42.8	46.5	63.7
Madhya Pradesh	10.8	5.5	14.9	19.5	62.2	43.8	69.4	62.5
Gujarat	32.7	23.7	27.7	22.6	46.3	47.9	46.3	48.4
Maharashtra	17.7	21.3	24.9	27	76.5	65.4	76.9	80.6
Andhra Pradesh	41.9	28.1	39.5	35.8	75.1	63.9	81.7	77.7
India	18	15	19.6	23.2	35.3	36.6	43.3	38

Table 5.3: Institutional Delivery and JSY among Women who had a live-birth in the 35 months prior to the survey (RSoC 2014)

State	% Institutional Delivery				% Availed Benefits of JSY			
	SC	ST	OBC	Others	SC	ST	OBC	Others
Jammu & Kashmir	66.5	54.4	64.5	79.2	60.3	59.5	57.3	58.6
Himachal Pradesh	61.4	68.4	67.7	75.2	42.6	36.7	25.3	34.6
Rajasthan	77.4	81.6	84.1	85.8	72.1	67.9	62	58.9
Jharkhand	50.8	46.7	61.2	69.2	39	58.1	39.2	44.5
Odisha	85.8	60.1	87.3	95.9	83.7	75.7	79.2	72.4
Chhattisgarh	47.9	51	58.8	86.6	40.7	50.6	50.5	47.4
Madhya Pradesh	75.9	63.1	85.6	89.1	73.5	58.3	67.7	65.4
Gujarat	85.4	88.5	85.7	90.7	22.9	26.9	23.7	13.8
Maharashtra	88.6	76.7	90.8	93.8	37.5	50.5	29.9	19
Andhra Pradesh	88.4	79.2	93	94.6	43.3	39.9	37.2	45.1
India	76	70.1	79.2	84.2	54.5	54.7	47.7	39.4

Table 5.4: Percentage distribution of women aged 15-49 by place of childbirth during last 365 days in India–2014 (Source: PHFI analysis)

Social Group	HSC/PHC etc	Public Hospital	Private Hospital	Home
Rural				
ST	20.24	41.2	10.75	27.80
SC	14.37	45.91	18.37	21.35
OBC	15.07	38.66	27.46	18.81
Other	8.59	43.3	31.87	16.24
Total	**14.2**	**41.6**	**24.2**	**20.0**
Urban				
ST	4.67	39	38.32	18
SC	4.23	50.47	33.89	11.42
OBC	3.02	38.41	47.01	11.56
Other	3.01	32.51	56.33	8.16
Total	**3.3**	**38.4**	**47.6**	**10.7**
Rural +Urban				
ST	18.7	40.99	13.48	26.83
SC	12.41	46.79	21.37	19.43
OBC	12.13	38.6	32.22	17.04
Other	6.7	39.65	40.14	13.5
Total	**11.6**	**40.8**	**29.8**	**17.8**

Table 5.5: Transport and delivery (excluding transport) cost incurred to ever-married in India and States, 2007-08.

State	Transport cost (Rs.)		Delivery cost (in Rs.)	
	Non-ST	ST	Non-ST	ST
Jammu and Kashmir	487.7	543.4	4060.9	2979.0
Himachal Pradesh	719.3	845.9	4621.7	4075.3
Uttarakhand	726.9	406.5	4235.8	2283.4
Rajasthan	314.5	297.5	2453.0	1581.3
Uttar Pradesh	271.6	233.4	3827.4	2746.9
Bihar	236.1	203.6	3017.0	2067.8
Sikkim	366.1	299.8	2190.2	1186.2
Arunachal Pradesh	786.6	745.8	3632.6	2833.6
Manipur	512.4	615.6	6481.6	4924.8
Mizoram	132.1	215.0	3540.7	2359.3
Tripura	346.9	341.6	3388.9	1447.4
Meghalaya	1119.2	747.5	4110.5	2747.6
Assam	533.0	495.0	3870.5	2558.3
West Bengal	239.2	260.0	3908.0	1649.8
Jharkhand	405.5	387.6	4484.3	3027.7
Odisha	526.3	515.2	3351.7	2050.9
Chhattisgarh	383.7	444.0	4531.7	2280.6
Madhya Pradesh	365.4	281.3	2799.5	1127.3
Gujarat	218.3	297.5	3857.3	1929.3
Daman & Diu	174.4	111.8	5527.4	3328.9
Dadra & Nagar Haveli	178.9	100.5	4846.4	3101.1
Maharashtra	213.8	240.5	4255.2	3233.8
Andhra Pradesh	171.2	183.8	6083.7	4336.8
Karnataka	223.0	203.4	4574.8	3150.2
Goa	186.2	147.0	8438.4	3560.9
Lakshadweep	300.2	1371.4	1260.5	5349.7
Kerala	176.3	211.3	7425.6	3575.2
Tamil Nadu	155.2	171.2	4196.7	2315.9
Andaman & Nicobar Island	412.9	100.6	1789.1	1894.8
India	**289.5**	**415.8**	**4201.4**	**2550.0**

Table 5.6 Average total expenditure (Rs.) per childbirth in health centers in India (NSSO 2014)

Social Group	Average total expenditure (Rs.)
ST	3993
SC	6551
OBC	8803
Others	11269
Total	**8508**

Source: Analysis by PHFI

Table 5.7 % Children 12-23 months who received full Immunization (RSoC 2014)

	SC	ST	OBC	Others
Jammu & Kashmir	69.8	51.3	37.5	66
Himachal Pradesh	75.1	67.9	91.1	81.7
Rajasthan	56.6	49	63	68.6
Jharkhand	56.8	59.1	66.7	76.7
Odisha	55.2	61.9	61.6	70
Chhattisgarh	55.2	63.6	74.7	76.7
Madhya Pradesh	47.6	44.3	56.9	68.3
Gujarat	54.1	44.3	59.7	60.6
Maharashtra	71.7	66.2	78.7	80.7
Andhra Pradesh	71.9	65.3	74.3	79
India	61.6	55.7	65.4	71.6

Table 5.8 Breastfeeding trends among children (RSoC 2014)

	Children aged 0-23 months breastfed within an hour of birth				Children aged 0-5 months who were exclusively breastfed			
	SC	ST	OBC	Others	SC	ST	OBC	Others
Jammu & Kashmir	13.4	13.2	21.9	22.7	*	46.2	55.9	62.5
Himachal Pradesh	53.8	59.8	35.5	51.4	50.4		60.7	66.4
Rajasthan	44	34.2	37.4	39.4	41.1	47.8	57.2	42.3
Jharkhand	32.6	37.4	29.5	34.6	66.7	58.8	64.1	55.6
Odisha	67.3	78.6	70.2	76.8	68.9	76	71.2	57.2
Chhattisgarh	41.8	47.2	46	39.6	81.8	85.9	79.7	76.9
Madhya Pradesh	41.4	52.1	40.2	36.1	84.9	73.1	73.1	67.9
Gujarat	36.9	50.9	43.5	44.5	72.1	72.2	72.1	76.4
Maharashtra	53.4	63.6	53.8	55.9	66.8	85.4	68.9	76.8
Andhra Pradesh	46.1	59.1	47.5	56.3	73.7	61.3	68.3	71
India	43.1	54.7	42.3	44.8	67.1	64.3	64	64.5

Table 5.9: Neonatal Mortality Rate, Infant Mortality Rate and Under-five Mortality Rate among STs and Other by States/UTs, NFHS, 2005-06

	Neonatal Mortality Rate		Infant Mortality Rate		Under-five Mortality Rate	
India/State	STs	1Other	STs	1Other	STs	1Other
Jammu and Kashmir	11.2	34.0	34.3	44.7	*	9.0
Himachal Pradesh	*	24.0	*	28.2	*	33.1
Uttarakhand	*	27.3	*	43.8	*	52.2
Rajasthan	38.4	44.7	73.2	58.1	113.8	69.9
Uttar Pradesh	--	38.1	--	71.4	--	87.7
Bihar	--	51.6	--	82.2	--	108.9
Sikkim	14.3	37.3	28.9	48.7	35.9	59.9
Arunachal Pradesh	34.9	28.8	67.6	48.7	100.9	78.6
Nagaland	20.9	17.2	45.8	33.8	65.8	53.5
Manipur	34.2	18.2	51.2	25.8	71.4	37.9
Mizoram	--	--	--	--	--	--
Tripura	44.8	29.0	*	53.4	*	56.9
Meghalaya	23.9	*	49.3	*	74.0	*
Assam	43.9	48.1	59.0	74.0	83.2	100.9
West Bengal	*	42.9	*	56.6	*	70.4
Jharkhand	64.3	60.7	93.0	75.5	138.5	92.7
Odisha	54.0	31.7	78.7	53.1	136.3	64.2
Chhattisgarh	67.0	63.3	90.6	83.1	128.5	109.3
Madhya Pradesh	56.5	39.6	95.6	66.8	140.7	79.9
Gujarat	53.0	35.9	86.0	47.3	115.8	55.7
Maharashtra	32.5	34.3	51.4	40.5	69.8	47.4
Andhra Pradesh	63.4	46.3	94.1	54.0	112.0	63.2
Karnataka	36.0	29.0	45.8	43.5	77.9	60.4
Goa	*	15.0	*	22.2	*	29.2
Kerala	*	13.9	*	19.9	*	20.7
Tamil Nadu	*	*	*	*	*	*
India	**39.9**	**34.5**	**62.1**	**48.9**	**95.7**	**59.2**

1-Others excludes SCs and OBCs Sources: NFHS (2005-06)

Table 5.10 Percentage of currently married women aged 15-49 years, currently using any modern contraceptive method according to states, in India, DLHS-2007-08.

States	STs		Non-STs	
	Percentage	Sample	Percentage	Sample
Jammu & Kashmir	38.9	2508	43.3	12165
Himachal Pradesh	68.1	1077	69.6	8545
Uttarakhand	57.3	268	58.9	11839
Rajasthan	53.5	6190	55.6	32607
Uttar Pradesh	28.1	1177	27.0	81631
Bihar	19.2	927	29.6	43412
Sikkim	63.0	1966	57.0	2210
Arunachal Pradesh	47.3	10794	51.2	3072
Manipur	15.8	4597	23.4	4156
Mizoram	57.3	6598	39.8	247
Tripura	33.3	1560	45.5	2361
Meghalaya	15.8	5604	26.2	566
Assam	34.3	6928	29.8	21662
West Bengal	45.3	1547	54.0	18995
Jharkhand	17.2	8364	38.7	17411
Orissa	27.1	7212	44.1	19154
Chhattisgarh	40.1	6582	54.1	10337
Madhya Pradesh	48.0	10488	56.9	33701
Gujarat	52.4	5875	57.7	17110
Daman & Diu	57.8	279	53.6	1499
Dadra & Nagar Haveli	51.9	573	54.4	304
Maharashtra	60.4	6018	64.8	26569
Andhra Pradesh	57.9	2075	67.5	17756
Karnataka	60.0	2269	62.4	22935
Goa	40.5	118	36.5	1238
Lakshadweep	16.2	1240	32.0	24
Kerala	57.7	234	55.8	11438
Tamil Nadu	43.5	429	59.4	24158
Andaman & Nicobar Islands	62.4	86	67.5	1639
India	**41.9**	**103835**	**49.3**	**500969**

Note: Percentage is weighed and sample size is un-weighted.

Table 5.11: Indicators related to Pre-Pregnancy/Reproductive age – IUDs and Sterilization (M&F) (DLHS 4)

DLHS States	No. of District	IUD Insertion		Male Sterilization		Female Sterilization	
		Non-Tribal District Average	Tribal District Average	Non-Tribal District Avg.	Tribal District Avg.	Non-Tribal District Avg.	Tribal District Avg.
Arunachal Pradesh	13	1.77%	4.03%	0.03%	0.10%	20.67%	20.92%
Nagaland	11	-	6.35%	-	0.15%	-	6.52%
Mizoram	8	-	4.71%	-	0.00%	-	35.91%
Meghalaya	7	-	1.00%	-	0.10%	-	7.59%
Manipur	5	3.10%	1.38%	0.40%	0.26%	1.78%	1.30%
Sikkim	1	7.17%	8.30%	4.60%	1.40%	16.00%	20.60%
Tripura	1	0.50%	0.40%	0.20%	0.10%	16.90%	0.18%
Himachal Pradesh	2	0.82%	80.00%	3.12%	8.85%	44.11%	24.15%
Maharashtra	1	2.00%	0.90%	1.60%	1.30%	53.50%	50.50%
A & N Islands	1	2.75%	0.90%	0.70%	0.70%	50.40%	48.40%

Morbidity Profile of S T population

Table 6.1: Prevalence and expected number of major morbidities and nutritional deficiency disorders among tribal pre-school children (0-5 yrs) per 1,00,000 population (A study in Madhyapradesh)

Morbidities/Disorders	Average prevalence	Per 1,00,000 pop.
General Morbidities		
ARI	21.6	2811
Scabies	8.2	1069
Fever	19.1	2477
Dysentery	4.4	569
Diarrhoea	9.9	1290
Multiple Boil	4.6	592
Splenomagaly	2.0	254
Ear discharge	3.1	407
Impetigo	0.9	122
Conjunctivitis	0.9	122
Dermatitis	1.3	163
Worm Infestation	48.3	6279
Nutritional Deficiencies		
Emaciation	1.5	198
Marasmus	1.1	137
Bitot's spot	2.5	325
Night blindness	2.1	273
Conjunctivalxerosis	7.2	930
Angular Stomatitis	2.1	276
Dental carries	1.8	231
Goiter	0.3	42
Anaemia (Moderate/Severe)	62.1	8073
Underweight	61.1	7943
Stunting	48.2	6270
Wasting	35.1	4567
Expected Nos. of Children		**13000**

Sources: Annual Reports of NIRTH, Jabalpur (www.nirth.res.in)

Table 6.2: Prevalence and expected number of major morbidities among tribal school going children (6-14 yrs) per 1,00,000 population

General Morbidities	Average prevalence	In a block with 1,00,000 pop
Worm Infestation	50.8	11170
Anaemia (Moderate/Sever)	58.2	12804
Expected Nos. of Children (6-14 yrs)		**22000**

Sources : Annual Reports of NIRTH, Jabalpur (www.nirth.res.in)

Table 6.3: Prevalence and expected number of major morbidities and nutritional deficiency disorders among tribal adults (15+ yrs) per 1,00,000 population

Morbidities/Disorders	Average prevalence	In a block with 1,00,000 pop
General Morbidities		
ARI	10.3	6695
Fever	13.5	8743
PUS	4.3	2811
Cataract	4.8	3136
Scabies	2.8	1804
UTI	3.2	2080
PID	8.2	5298
Diarrhea	3.5	2243
Bronchitis	1.4	878
Pulmonary TB	0.00387	252
Hepatitis B	2.9	1854
H simplex	12.4	8032
STI (Syndrome)	12.7	8255
Nutritional Deficiencies		
Goiter	3.2	2048
Conjunctivalxerosis	5.6	3608
Bitot's spot	1.9	1219
Night blindness	3.7	2373
Angular Stomatitis	2.3	1495
Dental carries	4.5	2893
Anaemia (Moderate/Sever)	38.3	24895
Malnutrition (CED)	60.0	39000
Expected Nos. of Adults		**65000**

Sources: Annual Reports of NIRTH, Jabalpur (www.nirth.res.in)

Table 6.4: Indicators for Chronic Illnesses :Blood Sugar Level >140mg/dl and >160mg/dl in persons above 18 years (DLHS 4)

State	Blood Sugar Level >140mg/dl		Blood Sugar Level >160mg/dl	
	Average for Non-Tribal	Average for Tribal	Average for Non-Tribal	Average for Tribal
Maharashtra	13.16%	12.70%	6.5%	5.60%
Mizoram	8.3%	8.3%	4.0%	4.0%
Arunachal Pradesh	8.93%	8.69%	4.25%	2.76%
Manipur	8.58%	7.4%	4.53%	3.22%
Tripura	5.77%	4.80%	2.67%	2.20%
Nagaland	11.68%	11.68%	5.04%	5.04%
Meghalaya	13.43%	13.43%	5.01%	5.01%
Himachal Pradesh	15.73%	16.05%	6.39%	6.25%
Andaman & Nicobar	14.7%	15.0%	7.85%	7.20%
Sikkim	16.83%	13.90%	8.13%	5.20%

Table 6.5 Prevalence of Hypertension (Persons above 18 years of age) –DLHS 4

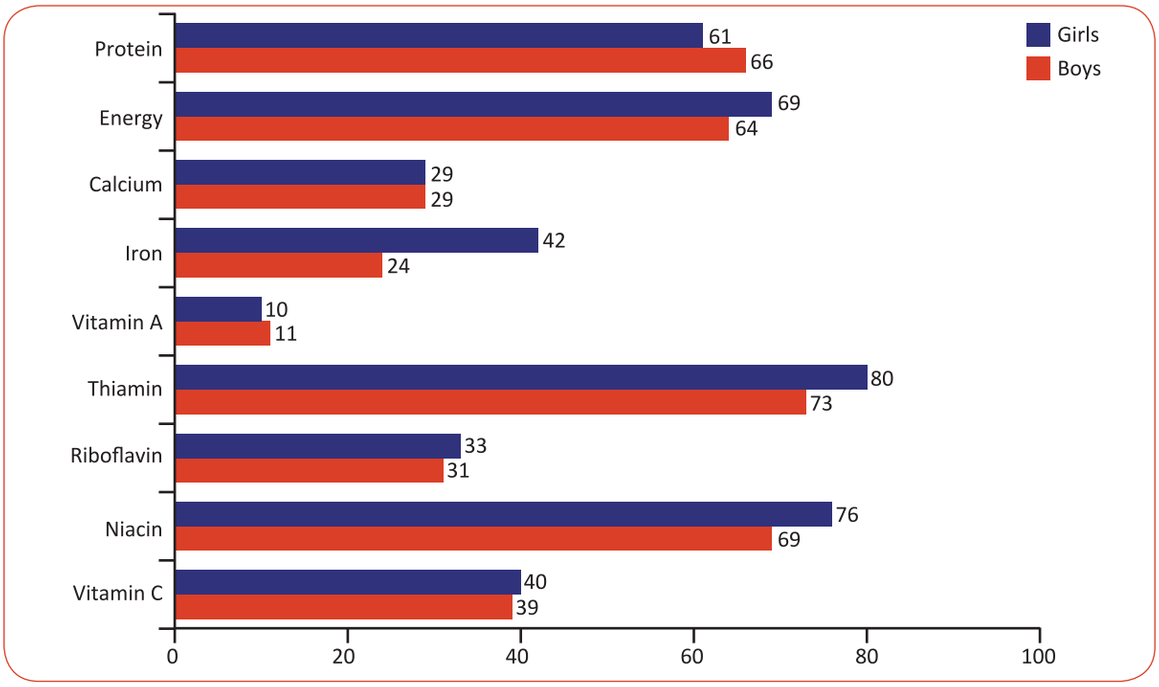
State	Above Normal Range > 140mm Hg		Moderately High (>160 mm Hg)		Very High (>180mm Hg)	
	Average Non-ST	Average ST	Average Non ST	Average ST	Average Non ST	Average ST
Maharashtra	24.75%	27.20%	8.63%	11.50%	3.25%	2.70%
Mizoram	19.39%	19.39%	5.14%	5.14%	1.70%	1.70%
Arunachal Pradesh	20.97%	24.26%	7.37%	7.23%	2.90%	2.71%
Manipur	23.48%	19.62%	6.5%	4.98%	2.20%	1.62%
Tripura	21.53%	16.50%	6.4%	4.90%	2.43%	1.90%
Nagaland	36.85%	36.85%	14.88%	14.88%	6.70%	6.70%
Meghalaya	19.61%	19.61%	6.74%	6.74%	2.70%	2.70%
Himachal Pradesh	32.37%	36.9%	11.51%	15.70%	5.06%	7.70%
Andaman & Nicobar	27.75%	44.70%	10.25%	19.90%	4.30%	9.30%
Sikkim	34.73%	41.50%	15.60%	18.80%	6.73%	9.10%

Table 6.6: Prevalence of Disease of Cardiovascular System (DLHS 4)

State	Average For Non-Tribal	Average For Tribal
Maharashtra	11.43%	19.10%
Mizoram	3.56%	3.56%
Arunachal Pradesh	5.07%	4.45%
Manipur	11.98%	5.98%
Tripura	2.83%	2.70%
Nagaland	4.00%	4.00%
Meghalaya	1.68%	1.68%
Himachal Pradesh	5.48%	5.40%
Andaman & Nicobar	2.55%	7.50%
Sikkim	11.13%	11.10%

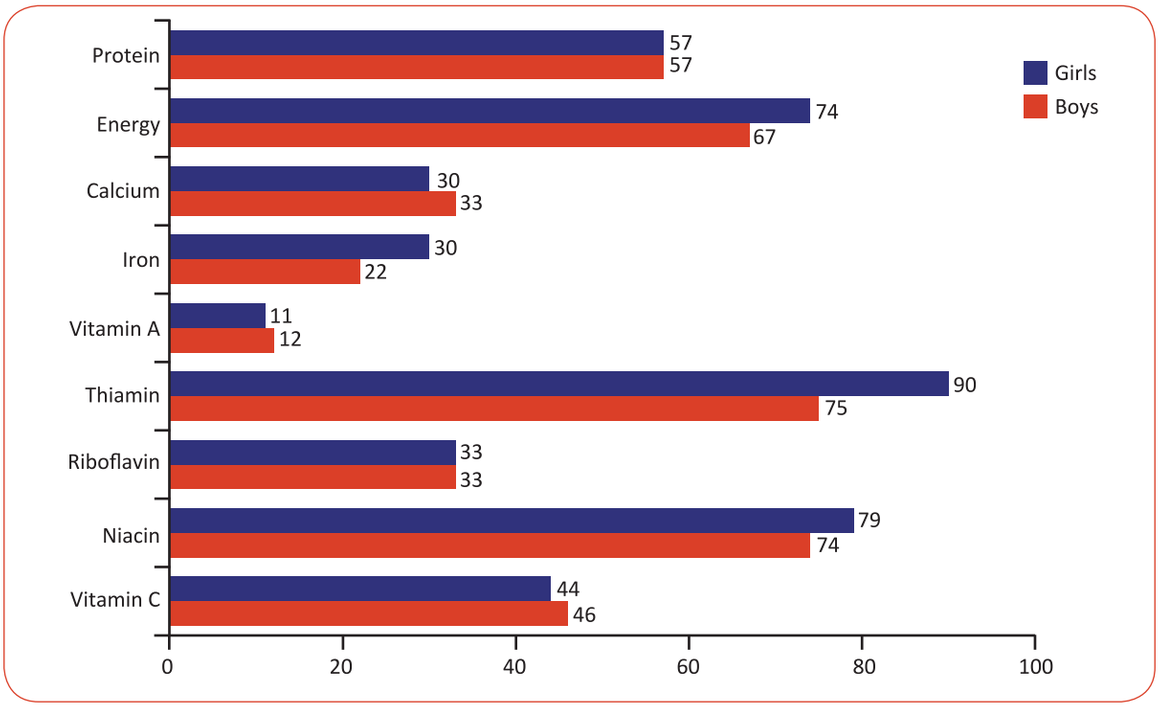
Nutritional Status of ST Population

Figure 7.1: Median intakes of Nutrients as % of RDA among 10-12 year children



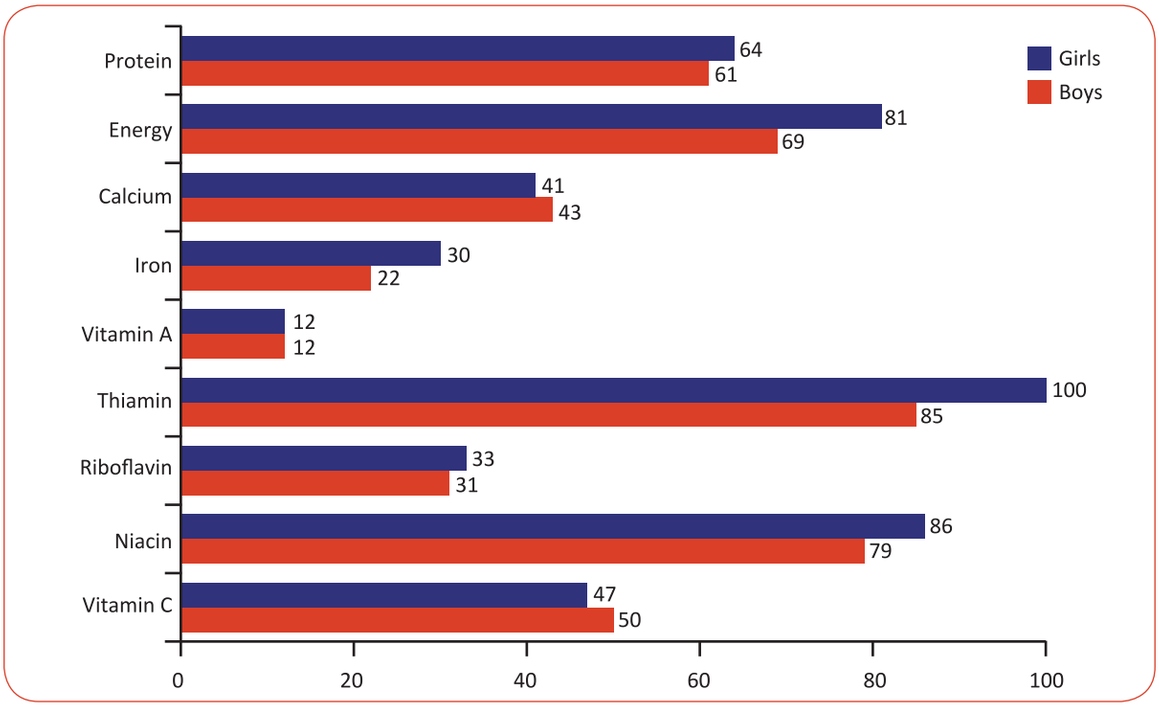
(Source:NNMB Second Nutritional Survey 2007-08)

Figure 7.2: Median intakes of Nutrients as % of RDA among 13-15 year children



(Source:NNMB Second Nutritional Survey 2007-08)

Figure 7.3: Median intake of Nutrients as % of RDA among 16-17 year children



(Source: NNMB Second Nutritional Survey 2007-08)

Table:7.1: Average intake of Foodstuffs (g/day) among School Age and Adolescents (NNMB)

	Cereals	Millets	Cereals & Millets	Pulses &Legu-mes	Green Leafy Veg.	Other Veg.	Roots & Tubers	Nuts & Oils	Condi. & Spices	Fruits	Fish	Other Flesh Foods	Milk & Milk Products	Fats & Oils	Sugar & Jaggery
7-9 years															
Boys & Girls	233	56	289	26.6	16.5	27.7	28.5	3.4	7.8	14.5	3.0	4.1	14.5	7.0	7.6
10-12 Years															
Boys	266.4	64.4	330.8	28.4	21.4	30.2	32.4	3.5	8.9	13.8	3.4	5.0	16.1	7.2	7.1
RDI			420	45	50	50	30	-	-		-	-	250	40	45
Girls	257.0	65.0	322.0	27.6	18.8	29.9	32.4	3.6	8.0	14.2	3.5	4.5	16.5	7.2	7.8
RDI			380	45	50	50	30	-	-	-	-	-	250	35	45
13-15 Years															
Boys	316.6	70.2	386.8	29.4	21.4	33.9	37.0	5.5	9.0	15.6	4.5	4.6	20.1	8.4	8.3
Girls	297.0	61.7	358.7	28.6	22.4	32.4	34.4	5.4	8.7	17.7	4.8	5.2	16.1	7.7	8.0
16-17 Years															
Boys	345.3	93.6	438.9	34.6	20.4	36.7	41.6	5.6	10.0	17.1	5.0	7.5	22.2	9.9	8.7
Girls	309.6	73.1	382.7	27.8	20.2	37.7	36.3	6.8	10.3	17.4	4.6	5.3	19.0	8.3	8.7

Table 7.2: Prevalence of undernutrition (<-2SD) of tribal pre-school children-by tribe (NNMB)

State	Tribe	Nutritional status #		
		Underweight **	Stunting *	Wasting ^
Kerala	Kani	32.8	45.3	15.4
	Paniya	46.0	56.3	16.7
	Manan	49.3	54.7	26.7
	Kurichor	36.8	55.3	10.5
	Irulor	34.9	43.4	21.7
	Kurumbar	49.3	64.4	22.2
	Adiyan	36.1	55.6	11.1
Tamil Nadu	Malayalee	43.7	40.2	20.0
	Irular	20.6	32.4	8.8
Karnataka	M. Naik	34.7	31.0	21.6
	Koraga	39.3	34.6	17.8
	Hasalaru	47.3	54.5	21.8
	Maliakudias Gowda	51.4	48.6	27.0
Andhra Pradesh	Koya	46.1	49.0	18.9
	Gond	56.6	45.0	30.2
	Bhagatha	44.0	48.9	15.2
	Valmiki	27.4	45.2	6.9
	Kondadora	53.1	52.4	18.6
	Poorja	46.3	49.5	22.1
	Jatapu	46.9	49.4	14.8
Maharashtra	Warli	60.4	52.5	30.2
	Kokna	67.1	58.4	34.2
	Mahadev Kodi	59.6	55.6	20.2
	Bhil	66.9	65.7	28.8
	M. Koli	52.4	51.8	28.3
	Thakar	57.3	55.5	30.8
	Korku	61.5	62.8	25.7
	Gond	54.9	55.6	20.3
Madhya Pradesh	Kol	36.4	58.2	20.0
	Gond	43.5	52.4	23.7
	Kanwar	43.1	46.6	22.4
	Bhilala	66.1	69.9	29.0
	Baiga	58.9	60.0	24.4
West Bengal	Santal	50.4	40.0	32.8
	Munda	53.4	50.0	22.4
	Bhumiya	43.0	45.0	14.8

#: WHO Growth Standards **:p<0.01 *:p<0.05 ^: not significant

Table 7.3: Prevalence of under-nutrition among ST Children (below age 6) RSoC2014

	Percentage ST children 0-59 months who are		
	Stunted	Wasted	Underweight
Jammu & Kashmir	37.9	6	21.2
Himachal Pradesh	34.9	15.5	17.9
Rajasthan	45.9	22.8	44.5
Jharkhand	53.4	19.9	51.1
Odisha	46.1	22	46.8
Chhattisgarh	44.4	15.5	38
Madhya Pradesh	49.7	19.5	46
Gujarat	42.2	21.5	39.4
Maharashtra	38.7	22	32.4
Andhra Pradesh	34.5	16.9	22.7
India	42.3	18.7	36.7

Table 7.4: Distribution of adult men according to BMI grades & Hypertension- by tribe (Source: NNMB)

State	Tribe	BMI Grades # ^			Hypertension ^
		CED	Normal	Overweight/ Obesity	
Kerala	Kani	36.4	54.6	9.0	42.5
	Paniya	36.5	56.4	7.1	41.8
	Manan	33.4	58.0	8.6	53.3
	Kurichor	34.3	55.8	9.9	34.4
	Irulor	41.7	51.7	6.6	41.9
	Kurumbar	43.0	45.4	11.6	45.9
	Adiyan	29.1	61.4	9.5	42.3
Tamil Nadu	Malayalee	37.9	51.6	10.5	15.4
	Irular	45.7	50.0	4.3	8.5
Karnataka	M. Naik	46.6	45.0	8.4	31.6
	Koraga	39.8	52.1	8.1	25.3
	Hasalaru	41.2	53.9	4.9	28.3
	Maliakudias Gowda	42.6	50.0	7.4	32.8
Andhra Pradesh	Koya	39.6	52.2	8.2	15.1
	Gond	55.3	41.8	2.9	12.1
	Bhagatha	31.8	62.7	5.5	22.6
	Valmiki	33.9	51.3	14.8	18.5
	Kondadora	29.9	66.3	3.8	23.1
	Poorja	29.2	67.3	3.5	19.0
	Jatapu	33.3	60.5	6.2	14.8

Contd.,

State	Tribe	BMI Grades # ^			Hypertension ^
		CED	Normal	Overweight/ Obesity	
Maharashtra	Warli	55.3	40.0	4.7	26.7
	Kokna	51.8	41.1	7.1	27.4
	MahadevKodi	51.5	43.7	4.8	24.8
	Bhil	56.2	39.9	3.9	30.1
	M. Koli	50.8	42.9	6.3	29.1
	Thakar	58.4	36.0	5.6	26.6
	Korku	27.4	63.8	8.8	15.6
	Gond	45.8	48.9	5.3	32.3
Madhya Pradesh	Kol	27.6	70.8	1.6	13.6
	Gond	38.0	58.0	4.0	22.1
	Kanwar	30.7	64.8	4.5	29.1
	Bhilala	47.5	49.2	3.3	7.4
	Baiga	35.2	63.6	1.2	32.8
West Bengal	Santal	43.5	52.1	4.4	28.0
	Munda	52.3	41.9	5.8	45.9
	Bhumiya	46.9	46.9	6.2	33.3

: Asian classification ^: not significant

Table 7.5: Distribution of adult women according to BMI grades & Hypertension-by tribe (Source NNMB)

State	Tribe	BMI Grades # ***			Hypertension**
		CED	Normal	Overweight/ Obesity	
Kerala	Kani	39.7	45.5	14.8	34.2
	Paniya	59.6	34.4	6.0	33.3
	Manan	31.4	46.9	21.7	41.8
	Kurichor	38.3	49.7	12.0	43.3
	Irulor	45.5	46.3	8.2	23.7
	Kurumbar	47.8	42.1	10.1	27.4
	Adiyan	44.7	41.2	14.1	35.5
Tamil Nadu	Malayalee	42.1	47.2	10.7	18.5
	Irular	39.5	46.2	14.3	13.1
Karnataka	M. Naik	51.1	37.8	11.1	26.5
	Koraga	50.3	43.1	6.6	22.9
	Hasalaru	47.8	42.5	9.7	19.2
	MaliakudiasGowda	50.1	38.9	11..0	32.4

Contd.,

State	Tribe	BMI Grades # ***			Hypertension**
		CED	Normal	Overweight/ Obesity	
Andhra Pradesh	Koya	52.6	37.8	9.6	17.5
	Gond	56.9	40.4	2.7	17.0
	Bhagatha	40.5	52.7	6.8	24.9
	Valmiki	38.9	48.9	12.2	31.7
	Kondadora	42.3	51.9	5.8	29.8
	Poorja	42.4	53.0	4.6	22.1
	Jatapu	47.7	43.3	9.0	23.5
Maharashtra	Warli	63.7	32.1	4.2	26.5
	Kokna	62.0	33.5	4.5	22.3
	MahadevKodi	67.9	28.1	4.0	19.4
	Bhil	63.6	32.4	4.0	18.1
	M. Koli	56.8	35.8	7.4	25.3
	Thakar	69.9	25.0	5.1	20.8
	Korku	30.1	57.7	12.2	1.6
	Gond	57.0	39.5	3.5	14.9
Madhya Pradesh	Kol	35.7	59.7	4.6	22.4
	Gond	45.4	49.4	5.2	25.5
	Kanwar	43.7	50.4	5.9	26.1
	Bhilala	50.0	46.3	3.7	10.5
	Baiga	43.5	52.2	4.3	33.8
West Bengal	Santal	56.9	38.9	4.2	28.9
	Munda	60.7	35.2	4.1	35.6
	Bhumiya	57.5	37.4	5.1	35.2

Table 7.6: Men aged 15-54 with mean height and mean weight, by states, NFHS-2005-06

States	STs			Non-STs		
	Mean Weight (Kg.)	Mean Height (cms)	Sample	Mean Weight (Kg.)	Mean Height (cms)	Sample
Jammu and Kashmir	59.5	165.7	32	58.9	166.6	394
Himachal Pradesh	59.4	166.8	27	58.4	165.1	516
Uttarakhand	52.9	164.4	14	57.9	164.9	494
Rajasthan	50.7	165.3	101	57.9	167.3	768
Uttar Pradesh	49.9	161.8	51	55.2	164.3	5558
Bihar	50.7	164.6	5	54.1	163.1	664
Sikkim	57.6	160.3	111	56.8	159.2	272
Arunachal Pradesh	56.4	161.1	214	54.4	161.7	139
Nagaland	56.7	162.9	1119	55.7	162.3	593

Contd.,

States	STs			Non-STs		
	Mean Weight (Kg.)	Mean Height (cms)	Sample	Mean Weight (Kg.)	Mean Height (cms)	Sample
Manipur	55.2	161.5	423	58.4	163.4	1488
Mizoram	58.2	162.3	323	58.9	160.5	5
Tripura	53.1	161.6	55	51.3	161.0	341
Meghalaya	54.3	158.2	230	55.7	159.9	50
Assam	56.9	162.5	62	52.8	162.6	592
West Bengal	51.8	162.1	59	53.7	162.5	1326
Jharkhand	49.6	160.9	134	53.9	162.5	418
Odisha	49.8	160.8	216	54.7	163.3	686
Chhattisgarh	50.3	162.6	251	55.1	163.9	583
Madhya Pradesh	51.7	162.9	248	55.5	166.2	1346
Gujarat	49.8	162.1	77	59.3	165.7	748
Maharashtra	53.0	162.7	388	58.8	164.8	3704
Andhra Pradesh	52.7	162.6	215	58.1	163.9	3512
Karnataka	55.1	164.8	185	57.9	164.7	2510
Goa	58.0	163.7	28	60.2	164.6	481
Kerala	54.3	163.3	10	62.4	165.9	599
Tamil Nadu	52.1	162.7	22	59.1	164.2	3086
India	**51.8**	**162.5**	**4605**	**57.1**	**164.6**	**32525**

Note: Percentage is weighed and sample size is un-weighted.

Table 7.7: Prevalence of Underweight and Obesity among girls aged 15-18 years (RSoC 2014)

	% Girls aged 15-18 years with BMI less than 18.5				% Girls with BMI more than 25			
	SC	ST	OBC	Others	SC	ST	OBC	Others
Jammu & Kashmir	*	33.3	41.8	28.4	*	6.7	10.5	11.1
Himachal Pradesh	54.5		41.7	55.8	0	8	2.6	1.3
Rajasthan	67.2	63.6	58.9	50.5	6.2	0.7	1.3	6.8
Jharkhand	46.3	41.1	44.7	35.7	0.6	7.8	2.8	4.9
Odisha	56.1	37.3	57.3	50	1.7	1.7	0	10.7
Chhattisgarh	45.5	41	43.3	*	1.5	3.3	0.9	*
Madhya Pradesh	55.1	41.5	44.6	46.8	0.8	4.8	0.6	4.2
Gujarat	50	73	42.4	50.4	2.8	5.1	4.2	7.3
Maharashtra	52.3	59.3	61	46.9	2.1	10.7	6.6	7.3
Andhra Pradesh	48.5	56	56.9	55.4	7.3	11.6	15.3	8.2
India	46.7	49.2	44.7	40.8	3.2	4.4	4.3	5.9

Table 7.8: Percentage of women aged 15-49 with anaemia, by states/UTs, NFHS-2005-06.

States	STs				Non-STs			
	Severe	Moderate	Mild	Sample	Severe	Moderate	Mild	Sample
Jammu and Kashmir	3.8	20.9	36.2	100	1.8	14.3	41.2	717
Himachal Pradesh	Na	10.0	53.3	24	1.4	10.9	33.4	696
Uttarakhand	Na	24.1	41.4	29	2.1	17.4	40.0	809
Rajasthan	3.4	22.1	42.6	191	2.7	20.2	32.1	1171
Uttar Pradesh	1.8	7.3	30.9	44	1.9	16.8	36.4	4087
Bihar	Na	42.9	42.9	5	1.1	18.4	50.1	1484
Sikkim	1.1	14.8	39.2	158	2.8	17.4	39.9	342
Arunachal Pradesh	1.9	10.1	34.7	375	4.2	23.3	42.3	214
Nagaland	Na	Na	Na	876	Na	Na	Na	460
Manipur	1.3	7.6	26.2	337	0.4	6.2	38.6	1045
Mizoram	0.7	10.5	35.0	587	Na	8.3	16.7	12
Tripura	2.7	28.4	46.8	103	1.2	14.9	52.8	409
Meghalaya	2.6	15.3	35.2	591	1.3	16.0	34.7	76
Assam	4.5	31.6	46.6	114	4.5	25.7	41.6	1029
West Bengal	0.8	32.5	48.3	82	1.0	16.9	48.1	1680
Jharkhand	2.5	30.3	52.3	284	1.2	20.5	47.8	797
Odisha	2.0	23.2	49.9	321	1.4	14.6	42.5	947
Chhattisgarh	2.2	28.3	43.5	326	1.3	13.7	37.5	821
Madhya Pradesh	0.9	22.7	53.2	380	1.0	16.4	40.2	1682
Gujarat	1.9	26.4	51.9	106	2.6	17.5	37.8	964
Maharashtra	4.5	22.8	37.3	199	1.3	15.4	35.1	1814
Andhra Pradesh	1.3	31.6	44.7	112	2.9	21.5	42.7	1441
Karnataka	5.6	20.4	35.2	109	1.4	16.3	35.1	1283
Goa	Na	18.9	24.3	38	0.7	8.7	30.6	711
Kerala	Na	6.7	46.7	15	0.4	6.8	27.6	791
Tamil Nadu	10.0	10.0	20.0	9	1.2	12.8	41.2	1289
Total	**2.4**	**23.9**	**45.0**	**5530**	**1.7**	**17.1**	**39.9**	**29155**

Note: Table is based on women who have given at least one birth in last five years from the date of survey. Percentage is weighed and sample size is un-weighted.

Tobacco and Alcohol Consumption And No–Communicable Diseases

Table 8.1: Prevalence of Tobacco (Smoke/Chewing) and alcohol consumption among Men aged 15-54, NFHS (2005-06).

State/ UT	Tobacco Consumption		Alcohol Consumption	
	ST	Non-STs	ST	Non-STs
Jammu & Kashmir	46.6	53.7	3.2	13.4
Himachal Pradesh	28.6	41.5	30.0	31.1
Uttarakhand	80.9	53.7	46.7	39.8
Rajasthan	75.2	59.4	30.6	17.7
Uttar Pradesh	83.2	64.8	36.2	25.3
Bihar	84.2	67.7	56.5	34.5
Sikkim	55.5	66.4	50.0	43.3
Arunachal Pradesh	55.5	73.1	66.0	55.6
Nagaland	67.5	67.2	42.9	25.8
Manipur	74.7	68.3	47.2	47.8
Mizoram	83.8	78.3	41.0	50.0
Tripura	79.2	77.0	61.9	36.1
Meghalaya	70.2	69.6	51.6	41.0
Assam	75.6	72.4	70.1	34.5
West Bengal	87.8	70.1	69.7	31.6
Jharkhand	74.0	58.1	66.9	29.3
Odisha	80.4	65.7	69.1	29.7
Chhattisgarh	76.3	65.8	66.8	46.6
Madhya Pradesh	74.1	67.7	48.6	26.7
Gujarat	64.6	59.5	31.3	14.1
Maharashtra	63.4	47.5	30.1	23.7
Andhra Pradesh	63.4	42.6	65.9	46.2
Karnataka	55.3	44.5	35.8	28.5
Goa	34.1	27.1	44.4	40.7
Kerala	73.7	43.4	53.1	44.8
Tamil Nadu	61.8	40.8	53.6	41.3
India	71.7	56.3	50.5	30.4

Table 8.2: Distribution (%) of Adult Men (³20 Years) According to their Knowledge of Hypertension & Diabetes and consumption of Tobacco & Alcoholic Beverages: By Age Group - States Pooled (Source, Second Repeat NNMB Survey)

Variables	Age group (Years)							
	20-30	30-40	40-50	50-60	60-70	70-80	≥ 80	Pooled
n	4821	5950	4776	3072	1876	580	85	21160
Aware of hypertension	47.8	44.1	42.3	40.2	39.6	39.1	50.6	**43.5**
Previous history of hypertension	0.1	0.5	1.3	3.2	4.9	7.9	17.6	**1.6**
On treatment for hypertension	0.0	0.2	0.8	2.3	3.8	6.7	15.3	**1.2**
Aware of Diabetes Mellitus	43.4	39.2	36.8	34.3	33.8	32.2	38.8	**38.2**
Previous history of diabetes	0.0	0.2	0.5	0.9	1.5	1.9	3.5	**0.5**
On treatment for Diabetes	0.0	0.2	0.4	0.9	1.4	1.7	3.5	**0.5**
Smoke Tobacco	22.5	35.0	43.1	44.0	40.6	38.6	32.9	**35.9**
Smoking 10 Cigarettes/ Cigars, beedies */day*	8.4	15.7	20.4	21.6	17.9	13.6	11.8	**16.1**
Duration of Smoking ≥ 10 years	7.4	23.7	36.1	39.6	37.2	36.7	27.1	**26.7**
Tobacco chewing	34.2	38.0	37.9	39.5	42.0	39.3	42.4	**37.7**
Use Tobacco chewing ≥ 10 times	4.0	6.4	6.9	8.0	8.3	7.8	2.4	**6.4**
Duration of Tobacco chewing ≥ 10 years	8.7	21.0	27.5	33.2	36.5	35.0	38.8	**23.3**
Snuff Tobacco	2.6	3.7	3.3	3.1	3.2	2.1	3.5	**3.2**
Snuff Tobacco ≥ 10 times	0.0	0.1	0.1	0.2	0.3	0.2	0.0	**0.1**
Duration of Tobacco Snuffing ≥ 10 years	0.7	1.7	1.8	2.3	2.1	1.2	2.4	**1.6**
Consume Alcoholic Beverages	47.3	61.8	65.4	64.0	59.3	53.4	36.5	**59.1**
Consume Alcoholic Beverages (daily)	5.3	8.9	11.5	11.2	9.4	6.7	7.1	**9.0**
Consume Alcoholic Beverages (2-3 times a week)	5.9	10.8	12.0	11.4	8.8	7.9	1.2	**9.8**
Consume Alcoholic Beverages (Weekly)	9.6	13.4	15.2	14.3	11.6	14.7	5.9	**12.9**

Table 8.3: Distribution (%) of Adult Women (³20 Years) According to their Knowledge of Hypertension & Diabetes and consumption of Tobacco & Alcoholic Beverages: By Age Group (Second Repeat NNMB Survey 2007-08)

Variables	Age group (Years)							
	20-30	30-40	40-50	50-60	60-70	70-80	≥ 80	Pooled
n	6592	7750	6016	3482	1953	433	64	26290
Aware of hypertension	42.6	38.5	37.4	32.9	30.1	32.8	34.4	**37.8**
Previous history of hypertension	0.4	0.9	2.8	4.9	6.7	8.5	9.4	**2.3**
On treatment for hypertension	0.2	0.5	2.1	4.0	5.5	6.9	9.4	**1.7**
Aware of Diabetes Mellitus	38.6	33.9	32.3	28.9	23.9	25.2	28.1	**33.2**
Previous history of diabetes	0.0	0.1	0.3	0.5	0.8	0.9	0.0	**0.3**
On treatment for Diabetes	0.0	0.1	0.2	0.5	0.7	0.7	0.0	**0.2**
Smoke Tobacco	2.8	5.6	8.1	8.8	9.6	12.2	4.7	**6.3**
Smoking ≥10 Cigarettes/ Cigars, beedies */day*	0.2	0.2	0.4	21.6	0.8	1.8	1.6	**0.3**
Duration of Smoking ≥ 10 years	1.8	4.8	7.4	8.0	9.1	11.5	4.7	**5.5**
Tobacco chewing	11.5	20.8	28.2	32.7	34.2	39.0	51.6	**23.1**
Use Tobacco chewing ≥ 10 times	0.9	1.9	3.3	4.1	4.8	7.4	7.8	**2.6**
Duration of Tobacco chewing ≥ 10 years	4.4	11.7	18.9	24.8	28.5	33.3	48.4	**14.9**
Snuff Tobacco	2.8	4.6	5.6	5.5	5.3	4.4	3.1	**4.6**
Tobacco Snuffing ≥ 10 times	0.1	0.1	0.3	0.7	1.2	0.9	0.0	**0.3**
Duration of Tobacco Snuffing ≥ 10 years	0.9	2.5	4.0	3.8	4.2	2.8	0.0	**2.7**
Consume Alcoholic Beverages	6.9	12.5	16.6	21.2	19.8	17.6	9.4	**13.8**
Consume Alcoholic Beverages (daily)	0.9	1.7	2.1	2.8	2.5	2.3	3.1	**1.8**
Consume Alcoholic Beverages (2-3 times a week)	0.7	1.3	1.9	2.1	2.0	2.5	1.6	**1.5**
Consume Alcoholic Beverages (Weekly)	1.2	2.4	3.1	3.8	3.4	3.0	0.0	**2.5**

Table 8.4: Distribution (%) of Adult Men (>20 years) according to type of Hypertension (JNC VII Criteria) by Age Group – States pooled

Category	Cut Off levels of Blood Pressure (mmHg)	Age group (Years)							
		<30	30-40	40-50	50-60	60-70	70-80	≥ 80	Pooled
	n	4816	5943	4774	3067	1875	580	85	**21140**
Normal	SBP < 120 and/o DBP < 80	40.4	34.8	31.0	26.4	21.9	20.4	12.9	**32.4**
Pre Hypertension	SBP :120-139 and/or DBP 80-89	47.3	46.0	42.4	37.0	33.0	26.9	25.9	**42.4**
Stage I Hypertension	SBP :140-159 and/or DBP 90-99	10.5	14.9	18.8	23.4	27.0	27.4	35.3	**17.5**
Stage II Hypertension	SBP ≥ 160 and/or DBP ≥ 100	1.8	4.3	7.8	13.2	18.1	25.3	25.9	**7.7**
Stage I + II Hypertension	SBP ≥ 140 and/or DBP ≥ 90	12.3	19.2	26.6	36.6	45.1	52.7	61.2	**25.2**

Table 8.5: Distribution (%) of Adult Women (>20 years) according to type of Hypertension (JNC VII Criteria) by Age Group – States pooled

Category	Cut Off levels of Blood Pressure (mmHg)	Age group (Years)							
		<30	30-40	40-50	50-60	60-70	70-80	≥ 80	Pooled
	n	6583	7743	6009	3479	1950	432	64	**26260**
Normal	SBP < 120 and/or DBP < 80	51.5	41.8	33.2	25.0	20.3	16.7	18.8	**38.0**
Pre Hypertension	SBP :120-139 and/or DBP 80-89	39.7	41.7	39.8	35.3	32.4	29.2	20.3	**39.0**
Stage I Hypertension	SBP :140-159 and/or DBP 90-99	7.5	13	18.2	24.6	26.4	25.2	32.8	**15.5**
Stage II Hypertension	SBP ≥ 160 and/or DBP ≥ 100	1.3	3.5	8.8	15.1	20.9	28.9	28.1	**7.5**
Stage I + II Hypertension	SBP ≥ 140 and/or DBP ≥ 90	8.8	16.5	27	39.7	47.3	54.1	60.9	**23.0**

Healthcare Infrastructure in Tribal Areas

Table 9.1: Building Position of Sub-Health Centres (RHS 2017)

MAJOR STATES	Sub-Centres				
	In position	Govt. Buildings	Rented Buildings	Rent Free Panchayat/ Vil. Society Buildings	Buildings Under Construction
Chhattisgarh	2804	2185	50	569	138
Himachal Pradesh	104	94	0	10	3
Jammu and Kashmir	307	129	178	0	0
Jharkhand	2465	1206	322	937	211
Madhya Pradesh	2952	2404	331	217	16
Odisha	2689	2054	458	177	355
Rajasthan	1658	1357	0	301	46
Andhra Pradesh	804	523	281	0	84
Gujarat	2775	1684	144	947	621
Maharashtra	2057	1761	100	196	76
NORTH-EAST STATES	**In position**	**Govt. Buildings**	**Rented Buildings**	**Rent Free Panchayat/ Vil. Society Buildings**	**Buildings Under Construction**
Arunachal Pradesh	312	312	0	0	0
Assam	1283	1059	177	47	108
Manipur	226	174	52	0	91
Meghalaya	436	428	63	5	3
Mizoram	370	370	0	0	0
Nagaland	396	384	1	61	2
Sikkim	48	47	1	0	0
Tripura	512	424	20	68	6

Table 9.2: Building Position of Primary Health Centres (RHS 2017)

MAJOR STATES	PHC				
	In position	Govt. Buildings	Rented Buildings	Rent Free Panchayat/ Vil. Society Buildings	Buildings Under Construction
Chhattisgarh	392	338	3	51	18
Himachal Pradesh	43	36	0	7	6
Jammu and Kashmir	48	46	2	0	0
Jharkhand	165	120	1	44	36
Madhya Pradesh	332	327	2	3	6
Odisha	425	410	0	15	15
Rajasthan	209	150	0	59	0
Andhra Pradesh	155	155	0	0	1
Gujarat	406	323	2	81	40
Maharashtra	315	274	1	40	15
NORTH EAST STATES	**PHC**				
	In position	**Govt. Buildings**	**Rented Buildings**	**Rent Free Panchayat/ Vil. Society Buildings**	**Buildings Under Construction**
Arunachal Pradesh	143	143	0	0	0
Assam	283	280	3	0	28
Manipur	45	45	NA	0	1
Meghalaya	109	109	0	0	0
Mizoram	57	57	0	0	0
Nagaland	126	118	1	7	3
Sikkim	12	12	0	0	0
Tripura	47	47	0	0	1

Table 9.3: Building Position of Community Health Centres (RHS 2017)

MAJOR STATES	CHC				
	In position	Govt. Buildings	Rented Buildings	Rent Free Panchayat/ Vil. Society Buildings	Buildings Under Construction
Chhattisgarh	80	74	0	6	2
Himachal Pradesh	8	8	0	0	0
Jammu and Kashmir	11	11	0	0	NA
Jharkhand	104	104	0	0	26
Madhya Pradesh	104	104	0	0	7
Odisha	132	132	0	0	0
Rajasthan	65	50	0	15	0
Andhra Pradesh	19	19	0	0	0
Gujarat	92	64	0	28	10
Maharashtra	67	61	0	6	2
NORTH-EAST STATES	**In position**	**Govt. Buildings**	**Rented Buildings**	**Rent Free Panchayat/ Vil. Society Buildings**	**Buildings Under Construction**
Arunachal Pradesh	63	63	0	0	0
Assam	31	31	0	0	0
Manipur	5	5	0	0	0
Meghalaya	27	27	0	0	0
Mizoram	9	9	0	0	0
Nagaland	21	21	0	0	0
Sikkim	0	0	0	0	0
Tripura	8	8	0	0	0

Human Resources for Tribal health (Source: RHS 2014)

Table 10.1: Position of Health Assistant/LHV (Female) at PHC

MAJOR STATES	Health Assistant [F] / LHV at PHCs				
	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Chhattisgarh	392	421	352	69	40
Himachal Pradesh	43	0	0	0	43
Jammu and Kashmir++	48	6	14	0	34
Jharkhand	165	160	13	147	152
Madhya Pradesh	332	332	199	133	133
Odisha	425	239	178	61	247
Rajasthan	209	265	204	61	5
Andhra Pradesh	155	129	97	32	58
Gujarat#	406	436	357	106	49
Maharashtra	315	469	540	0	**

Table 10.2: Position of Health Assistant (Male) at PHC

MAJOR STATES	Health Assistant [M] at PHCs				
	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Chhattisgarh	392	350	238	112	154
Himachal Pradesh	43	0	0	0	43
Jammu and Kashmir++	48	12	7	5	41
Jharkhand	165	160	17	5	41
Madhya Pradesh	332	332	143	189	189
Odisha##	425	0	0	0	425
Rajasthan	209	9	2	7	207
Andhra Pradesh	155	0	0	0	155
Gujarat#	406	436	351	112	55
Maharashtra	315	751	700	51	**

Table 10.3: Position of Physicians at CHCs

MAJOR STATES	Physicians at CHCs				
	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Chhattisgarh	80	73	5	68	75
Himachal Pradesh	8	0	0	0	8
Jammu and Kashmir***	11	8	3	5	8
Jharkhand	104	107	2	105	102
Madhya Pradesh	104	105	21	84	83
Odisha	132	43	7	36	125
Rajasthan	65	61	6	55	59
Andhra Pradesh	19	2	4	0	15
Gujarat#	92	62	2	60	90
Maharashtra	67	16	18	0	49
NORTH-EAST STATES	**Required [R]**	**Sanctioned [S]**	**In Position [P]**	**Vacant [S-P]**	**Shortfall [R-P]**
Arunachal Pradesh	63	NA	1	NA	62
Assam	31	NA	19	NA	12
Manipur	7	0	0	0	7
Meghalaya	27	0	12	0	15
Mizoram	9	5	0	5	9
Nagaland	21	NA	0	NA	21
Sikkim @	0	0	0	0	0
Tripura	8	0	0	0	8

Table 10.4: Position of All Specialists at CHCs

MAJOR STATES	Total Specialist at CHCs				
	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Chhattisgarh	320	328	24	304	296
Himachal Pradesh	32	0	0	0	32
Jammu and Kashmir***	44	37	20	17	24
Jharkhand	416	234	25	209	391
Madhya Pradesh	416	420	65	355	351
Odisha	528	359	55	304	473
Rajasthan	260	166	50	116	210
Andhra Pradesh	76	43	20	23	56
Gujarat#	368	340	38	302	330
Maharashtra	268	79	126	0	142
NORTH-EAST STATES	**Required [R]**	**Sanctioned [S]**	**In Position [P]**	**Vacant [S-P]**	**Shortfall [R-P]**
Arunachal Pradesh	252	NA	4	NA	248
Assam	124	NA	33	NA	91
Manipur	28	18	0	18	28
Meghalaya	108	3	13	0	95
Mizoram	36	33	0	33	36
Nagaland	84	0	8	0	76
Sikkim	0	0	0	0	0
Tripura	32	0	0	NA	32

Table 10.5: Position of Nursing staff at PHCs and CHCs

MAJOR STATES	Nursing Staff at PHCs & CHCs				
	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Chhattisgarh	952	1416	882	534	70
Himachal Pradesh	99	58	23	35	76
Jammu and Kashmir***	125	NA	190	NA	0
Jharkhand	893	368	394	**	499
Madhya Pradesh	1060	800	694	106	366
Odisha	1349	318	615	**	734
Rajasthan	664	1260	1182	78	**
Andhra Pradesh	288	385	276	109	12
Gujarat#	1050	1549	1163	386	**
Maharashtra	784	684	457	227	327
NORTH-EAST STATES	**Required [R]**	**Sanctioned [S]**	**In Position [P]**	**Vacant [S-P]**	**Shortfall [R-P]**
Arunachal Pradesh	584	NA	498	NA	12
Assam	500	NA	671	NA	0
Manipur	94	142	132	10	**
Meghalaya	298	413	610	0	**
Mizoram	120	570	212	358	**
Nagaland	273	175	387	**	**
Sikkim	12	NA	14	NA	0
Tripura	103	0	341	NA	**

Table 10.6: Position of Pharmacists at PHCs and CHCs

MAJOR STATES	Pharmacists Staff at PHCs & CHCs				
	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Chhattisgarh	472	570	429	141	43
Himachal Pradesh	51	42	30	12	21
Jammu and Kashmir***	59	56	112	0	0
Jharkhand	269	264	83	181	186
Madhya Pradesh	436	517	359	158	77
Odisha	557	610	604	6	0
Rajasthan	274	103	42	61	232
Andhra Pradesh	174	191	128	63	46
Gujarat#	498	509	471	38	27
Maharashtra	382	498	527	0	**
NORTH-EAST STATES	**Required [R]**	**Sanctioned [S]**	**In Position [P]**	**Vacant [S-P]**	**Shortfall [R-P]**
Arunachal Pradesh	174	191	128	63	46
Assam	314	276	354	0	0
Manipur	52	61	61	0	0
Meghalaya	136	135	166	0	0
Mizoram	66	99	59	40	7
Nagaland	147	135	101	34	46
Sikkim	12	10	7	3	5
Tripura	55	NA	75	NA	**

Table 10.7: Position of Lab Technicians at PHCs and CHCs

MAJOR STATES	Lab Technicians at PHCs & CHCs				
	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Chhattisgarh	472	543	392	151	80
Himachal Pradesh	51	46	16	30	35
Jammu and Kashmir***	59	NA	123	NA	**
Jharkhand	269	264	128	136	141
Madhya Pradesh	436	235	295	0	141
Odisha	557	169	192	0	365
Rajasthan	274	326	197	129	77
Andhra Pradesh	174	198	168	30	6
Gujarat#	498	498	438	60	60
Maharashtra	382	382	443	0	0
NORTH-EAST STATES	**Required [R]**	**Sanctioned [S]**	**In Position [P]**	**Vacant [S-P]**	**Shortfall [R-P]**
Arunachal Pradesh	206	NA	92	NA	83
Assam	314	171	362	**	0
Manipur	52	55	33	22	19
Meghalaya	136	118	162	0	0
Mizoram	66	92	82	10	0
Nagaland	147	72	73	**	74
Sikkim	12	10	10	0	2
Tripura	55	0	52	NA	3

Table 10.8: Position of Radiographer at CHCs

MAJOR STATES	Radiographer at CHCs				
	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Chhattisgarh	80	113	72	41	8
Himachal Pradesh	8	5	3	2	5
Jammu and Kashmir***	11	NA	28	NA	**
Jharkhand	104	104	60	44	44
Madhya Pradesh	104	101	58	43	4 6
Odisha	132	23	26	0	106
Rajasthan	65	36	15	21	50
Andhra Pradesh	19	16	5	11	14
Gujarat#	92	92	21	71	71
Maharashtra	67	14	12	2	55
NORTH-EAST STATES	**Required [R]**	**Sanctioned [S]**	**In Position [P]**	**Vacant [S-P]**	**Shortfall [R-P]**
Arunachal Pradesh	63	NA	7	NA	56
Assam	31	25	21	4	10
Manipur	7	1	1	0	6
Meghalaya	27	19	21	0	6
Mizoram	9	5	6	NA	3
Nagaland	21	1	1	0	20
Sikkim	0	0	0	0	0
Tripura	8	NA	5	NA	3

11

Annexures

Health Care Seeking and the Sources of Care

Table 11.1: Place of ANC and Immunization, RSoC 2014

States	Place of Receiving ANC (%)			Place of Vaccination (%)		
	Anganwadi	Govt Health Facility	Private Health Facility	Anganwadi	Govt Health Facility	Private Health Facility
J&K	14.5	67.9	17.9	13	82.6	4.3
Himachal Pradesh	6.1	73.5	22.2	*	*	*
Rajasthan	53	39.9	17.7	58.1	32.3	5.6
Jharkhand	61.3	15.5	11.1	88.1	4.2	6.6
Odisha	53.9	49.8	9	91	7.8	0.4
Chhattisgarh	63.5	44.7	26	78.8	12.5	1.8
Madhya Pradesh	43	22.4	8.7	83.4	14.6	0
Gujarat	38.6	35.1	40.4	65.4	20.9	11.4
Maharashtra	34.6	52.4	35.9	58.6	34.1	7.3
Andhra Pradesh	19.9	43.6	48.5	65.7	12.8	18.6
India	36.5	43.1	22.8	63.1	27.7	6.3

Table 11.2: Percentage distribution of all treated outpatient episodes by place of care from different social groups: NSSO 2014

Social Group	Rural		Urban		Rural+Urban	
	Public	Private	Public	Private	Public	Private
ST	49.79	50.21	34.46	65.54	48.02	51.98
SC	30.64	69.36	26.95	73.05	29.57	70.43
OBC	26.6	73.4	23.9	76.1	25.53	74.47
Others	22.19	77.81	14.6	85.4	18.52	81.48
Total	**27.92**	**72.08**	**20.67**	**79.33**	**25.08**	**74.92**

Source: PHFI analysis

Table 11.3: Percentage distribution of all treated inpatient episodes by place of care from different social groups : NSSO 2014 (Source: PHFI analysis)

Social Group	Rural		Urban		Total	
	Public	Private	Public	Private	Public	Private
ST	62.74	37.26	41.2	58.82	59.61	40.39
SC	51.22	48.78	44.9	55.11	49.51	50.49
OBC	34.79	65.21	31.0	69.04	33.44	66.56
Others	39.81	60.19	27.8	72.24	34.5	65.53
Total	**41.88**	**58.12**	**32.03**	**67.97**	**38.43**	**61.57**

Table 11.4: Sources of treatment seeking among STs and Non-STs by State, DLHS, 2007-08

	STs			Non-STs		
State/UTs	Public	Private	Others/NGOs	Public	Private	Others/NGOs
Jammu & Kashmir	94.8	4.3	0.9	81.2	18.3	0.4
Himachal Pradesh	95.8	4.0	0.3	85.7	13.9	0.4
Uttarakhand	72.9	26.4	0.7	67.5	31.1	1.4
Rajasthan	87.2	11.8	0.9	79.0	19.5	1.6
Uttar Pradesh	26.5	70.4	3.1	22.5	73.0	4.5
Bihar	11.5	66.9	21.6	10.2	71.5	18.3
Sikkim	95.2	3.8	1.0	93.7	6.0	0.3
Arunachal Pradesh	96.5	2.5	1.0	94.4	5.0	0.6
Manipur	92.9	5.6	1.6	88.7	10.2	1.1
Mizoram	95.1	3.2	1.7	93.1	4.6	2.3
Tripura	91.6	7.8	0.5	82.3	16.8	0.9
Meghalaya	79.7	15.5	4.8	74.9	20.7	4.3
Assam	88.1	6.8	5.0	79.5	17.9	2.5
West Bengal	57.6	19.4	23.0	44.6	27.5	28.0
Jharkhand	34.6	60.2	5.1	34.1	62.9	2.9
Odisha	92.9	6.3	0.9	88.3	10.6	1.1
Chhattisgarh	72.7	22.6	4.7	50.1	46.5	3.4
Madhya Pradesh	59.9	38.8	1.2	49.3	49.6	1.1
Gujarat	71.4	28.0	0.6	45.9	52.9	1.3
Daman & Diu	64.5	35.4	0.2	50.5	49.0	0.5
Dadra & Nagar Haveli	91.8	7.4	0.8	60.5	37.9	1.5
Maharashtra	53.9	45.4	0.7	36.9	62.6	0.5
Andhra Pradesh	71.6	26.1	2.3	41.3	55.5	3.2
Karnataka	47.2	51.8	1.0	41.0	58.1	0.9
Goa	52.1	47.9	0.0	43.1	56.3	0.6
Lakshadweep	99.9	0.1	0.0	96.4	3.6	0.0
Kerala	89.8	9.5	0.6	60.4	39.1	0.5
Tamil Nadu	77.3	17.9	4.8	63.5	35.8	0.7
Andaman & Nicobar Islands	89.4	10.6	0.0	96.7	3.0	0.3
India	77.3	20.2	2.6	47.7	47.2	5.1

Majority of STs sought treatment from public sources. Therefore, public health system needs to be improved as its efficiency can directly affect health of tribes.

Table 11.5: Health Insurance Coverage and Accessibility to Health Care (%)

Social Group	Households covered by a health scheme or health insurance	Problem in accessing medical advice or treatment		
		Distance to health facility	Concern that no drugs available	At least one problem in accessing health care
ST	2.6	44.0	35.8	67.0
SC	3.3	27.3	24.2	50.4
OBC	3.8	26.0	22.8	47.4
Others	7.8	18.5	18.7	38.2
Total	**4.9**	**25.2**	**22.9**	**46.6**

Source: NFHS-3, 2005-06, M/0 He-FW, GOI

Health Situation of Tribal People in North East India

Table 12.1: ANC and PNC received by women who had a live-birth in the 35 months prior to the RSoC 2014 survey

	% Women who received Full ANC				% women who received PNC within 48 hours of discharge/delivery			
	SC	ST	OBC	Others	SC	ST	OBC	Others
Nagaland	*	3.6	5.9	*	5.9	5.7	3.2	*
Manipur	*	8.8	38.3	36.5	*	3.1	2.2	4.8
Meghalaya	29.5	22	*	23.4	22.4	19.8	*	9.6
Mizoram	*	43.1	*	*	*	8.2	*	*
Assam	28.2	25.9	28.4	23.8	15.5	5	9	5.4
Tripura	27.5	12.8	30	26.6	18.8	10.3	24	15.9
Sikkim	56.2	55.7	61	49.1	15.8	10.2	9.8	9.7
Arunachal Pradesh	37.1	22.1	20	23.3	34.3	11.8	12.5	5.1
India	18	15	19.6	23.2	35.3	36.6	43.3	38

Table 12.2: Institutional Delivery (RSoC 2014)

	% Institutional Delivery			
	SC	ST	OBC	Others
Nagaland	23.5	19.2	9.4	*
Manipur	*	37.7	79.6	90.5
Meghalaya	97.4	65.2	*	66.8
Mizoram	*	95	*	*
Assam	87.6	84.3	89.8	63.1
Tripura	93.5	63	96.6	78.7
Sikkim	87.6	89.3	82.4	91.1
Arunachal Pradesh	57.1	62.8	57.5	74
India	76	70.1	79.2	84.2

Table 12.3: Child Health Indicators (RSoC 2014)

STATES	% children aged 0-35 months born with low birth weight	% Children 12-23 months who received full Immunization	% children 6-59 months who received deworming medicines
Nagaland	19.9	38.2	17.9
Manipur	1.9	33	9.9
Meghalaya	9.5	45.1	24.8
Mizoram	2.3	68.8	55.2
Assam	11.9	52	33.5
Tripura	12.7	50.9	26.6
Sikkim	8.8	74.5	27.7
Arunachal Pradesh	9	54.2	16.6
India	21.6	79.3	28.2

Table 12.4: Human resources for Tribal Health in the North-Eastern States: Male Health Worker, Female Health Assistant and Male Health Assistant (Source: RHS 2017)

NORTH EAST STATES	Health Worker [M]) HSC			Health Assistant [F] / LHV at PHCs			Health Assistant [M] at PHCs		
	Required	Sanctioned	Shortfall*	Required	Sanctioned	Shortfall*	Required	Sanctioned	Shortfall*
Arunachal Pradesh	312	NA	220	143	NA	137	143	NA	62
Assam	1283	300	609	283	NA	219	283	NA	253
Manipur	226	222	3	45	37	20	45	37	24
Meghalaya	436	84	244	109	67	37	109	81	26
Mizoram	370	382	4	57	85	38	57	86	35
Nagaland	396	0	NA	126	13	102	126	NA	73
Sikkim @	48	47	25	12	10	4	12	NA	12
Tripura	512	NA	172	47	NA	46	47	NA	41

* Shortfall means 'Required – In-position.'

Table 12.5: Human resources for Tribal Health in the North-Eastern States: Allopathic Doctors (Source: RHS 2017)

NORTH EAST STATES	Allopathic Doctors at PHCs				
	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Arunachal Pradesh	143	NA	122	NA	21
Assam	283	NA	233	NA	50
Manipur	45	130	73	57	**
Meghalaya	109	128	112	16	**
Mizoram	57	152	56	96	1
Nagaland	126	108	122	**	4
Sikkim @	12	20	12	8	0
Tripura	47	NA	97	NA	**

Table 12.6: Human resources for Tribal Health in the North-Eastern and other States: Specialists (RHS 2017)

MAJOR STATES	Total Specialist at CHCs				
	Required [R]	Sanctioned [S]	In Position [P]	Vacant [S-P]	Shortfall [R-P]
Chhattisgarh	320	328	24	304	296
Himachal Pradesh	32	0	0	**	32
Jammu and Kashmir***	44	37	20	17	24
Jharkhand	416	234	25	209	391
Madhya Pradesh	416	420	65	355	351
Odisha	528	359	55	304	473
Rajasthan	260	166	50	116	210
Andhra Pradesh	76	43	20	23	56
Gujarat#	368	340	38	302	330
Maharashtra	268	79	126	0	142
NORTH-EAST STATES	**Required [R]**	**Sanctioned [S]**	**In Position [P]**	**Vacant [S-P]**	**Shortfall [R-P]**
Arunachal Pradesh	252	NA	4	NA	248
Assam	124	NA	33	NA	91
Manipur	28	18	0	18	28
Meghalaya	108	3	13	0	95
Mizoram	36	33	0	33	36
Nagaland	84	0	8	**	76
Sikkim	0	0	0	0	0
Tripura	32	NA	0	NA	32

Table 12.7: ANMs for Tribal Health in the North-Eastern states

NORTH EAST STATES	ANM (Health Worker [F]) HSC			ANM (Health Worker [F]) PHC		
	Required	Sanctioned	In Position	Required	Sanctioned	In Position
Arunachal Pradesh	312	NA	323	143	NA	158
Assam	1283	NA	1217	283	0	0
Manipur	226	444	378	45	116	68
Meghalaya	436	903	790	109	215	285
Mizoram	370	405	622	57	0	18
Nagaland	396	408	702	126	131	133
Sikkim	48	NA	57	12	83	38
Tripura	512	0	213	47	0	53

Suggested Monitoring Indicators for Home Based New Born and Child Care

1.	ASHAs trained and certified in Module 6 and 7.	No. %
2.	ASHAs have complete HBNCC kit with functional equipments and medicines adequate for 3 months.	No. %
3.	ASHA facilitators – deployed, trained and functional.	No. ratio with ASHAs
4.	Dedicated officer: HBNCC and ASHA program manager/officer appointed trained and functional.	Yes/No
5.	ASHA trainers (dedicated, trained, certified, and with training material and training facility) in place	No. Ratio. with ASHAS
6.	a) Guidelines on ASHA incentives for HBNCC clearly framed, communicated in print to all ASHAs and higher up;	Yes/No
	b) ASHA payment linked electronically to their bank accounts	No. %
7.	Institutional deliveries	No. %
8.	ASHAs attended home delivery in tribal area	No. %
9.	First home visit made within 6 hours of birth in case of home delivery, and on the day of mother-baby's return to village in case of institutional delivery	No. %
10.	ASHA provided HBNCC coverage to mother-newborn, by way of 2 home visits during pregnancy and minimum 5 during neonatal period	No. %
11.	High risk status assessed and the identified HR newborns received 6 additional visits and extra care.	No. %. Deaths
12.	Breast feeding started in 6 hours and continued exclusively	No. %
13.	Sepsis:	
	a) Newborns screened for sepsis (sepsis forms filled correctly)	No. %
	b) Suspected sepsis identified	No. %
	c) Sepsis cases treated with antibiotic at home	No. %
	d) Sepsis treated cases died at home	No. %
	e) Sepsis cases referred effectively	No. %

14.	Very Sick Newborns Referred	No.	%	died
15.	ASHA facilitator made two visits in month to the ASHA and to the newborns		No.	%
16.	ASHA received her due HBNCC incentive money within 100 days of the birth of the baby		No.	%
17.	Complementary food introduced at 6 months and breast feeding continued		No.	%
18.	Sick child received assessment and correct management for • Pneumonia • Diarrhoea • Malaria • Other fevers • Other illnesses		No.	%
19.	Child deaths • Neonates • 1 – 12 months • 1 – 5 years	No.	Rate/1000	
20.	Number of Child Death Free Gram Panchayat or THCs for One year		No.	%
21.	Monthly/quarterly review taken and corrective measures instituted by the incharge officer		No.	%

Tribal Malaria Action Plan (As prepared by the NVBDCP)

Objectives of Tribal Malaria Action Plan (TMAP)

The overall objective of the TMAP is to reduce large malaria parasite reservoir in Tribal population by strengthening available resources.

Primary objective

To reduce annual parasite incidence to less than 1 API in Tribal districts

Secondary objectives

1. Intensive surveillance of all fever cases for malaria (Plasmodium vivax and P. falciparum) using a bivalent rapid diagnostic test at the village level through ASHAs (Accredited social health activists).
2. To introduce mobile based surveillance, where ever possible
3. On the spot treatment of all positive cases with a full course of antimalarials as per NVBDCP guidelines. P. vivax with chloroquine (CQ) and Primaquine (PQ) and P. falciparum with ACT and PQ.
4. Referral of serious cases to district hospital/ any other health facility
5. Follow up of all positive cases to ensure completion of treatment.
6. Integrated vector management for appropriate vector control.
7. Prioritized villages according to risk i.e. a high proportion of Pf cases, the type of vectors, forest based economy and outdoor sleeping etc for appropriate vector control measures (IRS/LLINs)
8. Social marketing to increase the use of bed nets and spray coverage
9. Community mobilization utilizing traditional and modern tools and practices.

Strategy of TMAP

To meet these objectives, our strategy would be to strengthen various components which are given as under.

1. **Supply chain management**
   - Supply of sufficient RDTs and ACTs based upon service delivery points (i.e. number of ASHAs or other providers in a given area) and not on the basis of number of malaria positives recorded in previous year. Since in tribal areas hamlets are scattered hence, it is difficult for one ASHA to cover entire village. Hence, hamlet wise ASHA's or any other service provider would perform better.
   - Maintaining buffer stocks of RDTs and ACTs at the sub-centre level to ensure timely supply of RDTs and ACTs when stocks drop below the defined minimum level. In this regard, mobile phone technology could be an efficient and effective tool for rapid communication.
   - Timely supply of insecticide for complete coverage of villages by indoor residual spray (IRS) or long lasting insecticide treated nets (LLINs)

2. **Training of ASHAs and Health Workers**
   - Intensive training for all cadres of staff particularly ASHAs or any other health provider to ensure the accuracy of RDTs when used at different community settings
   - Adherence of ASHA/ health providers to treatment guidelines by treating attended cases based on RDT results.

- Keep a record of any development project /presence of labour/migrants in the village and inform District Malaria Officer/VBD consultant. These migrants should also be checked for malaria.

- Motivating ASHAs/ health providers by involving them in monthly review meetings, listening to their concerns, and strengthening linkages with local leadership. Performance-based incentives to enhance effectiveness of ASHA or any other service provider.

3. **Improved malaria services**

- Identifying alternative service providers in areas where the minimum requirements for ASHAs cannot be met particularly in inaccessible and disturbed areas.

- Identification of serious cases and early referral to specialized health facilities.

- Collaborating with the forest department (where ever feasible)/ school teachers/ traditional healers/ village guards/ NGOs, Panchayats and others to reach under-served areas and for optimal output.

- Involvement of village health sanitation committees (VHSC) and the private and informal sectors

- Mobile based malaria surveillance where ever possible. Mobile phones may emerge as a vital tool in case detection and delivery of health care services. It also helps as an early warning system in identifying potential outbreaks

- Any development project or construction site is to be visited for malaria prevention and control

- Timely release of ASHA incentives preferably performance based

- Provision of transport allowance to ASHAs/ health provider for transporting RDTs/blood smears to sub centre and collecting supplies from the sub centre

4. **Microscopy facilities to support Improved diagnosis**

- In doubtful cases (patients having clinical symptoms of malaria but RDT is negative) blood slides are to be collected for additional examinations.

- Playing a critical role in supporting the ASHAs and staff at the sub-centre.

- Six monthly mass surveys one during transmission season and another during non-transmission seasons to determine asymptomatic reservoir, P. falciparum gametocyte carriers, mixed infections or rare species of malaria parasites (P. malariae, P. ovale or P. knowlesi). Women and infants will especially be covered in mass surveys.

- Once in a year spleen examination of children in schools/aganwadi between 2-9 years as spleen is an indicator of malaria endemicity in Tribal areas. This will also give prevalence of asymptomatic carriers, P. falciparum gametocyte carriers and mixed infections etc

5. **Follow up and epidemiological tracking**

- Providing all malaria patients with a patient card to record completion of treatment, adverse events and link new malaria episodes

- Electronic data management of all patient records from the ASHA level by the block level managers

- Migrants in the village or in forest for forest produce collection is to be screened and recorded

- Unusual climatic phenomenon such as drought or excessive rainfall, pre-monsoon rains etc are to be recorded

- Automated monthly report cards with key epidemiological indicators for timely action to avert malaria outbreaks

- Use of mobile phone for follow up thereby reducing the time lag needed in information proliferation and initiation of appropriate action by state health department and NVBDCP. Also help in epidemiological tracking

6. **Vector control strategy**

- Often insecticide spraying is delayed due to inadequacies in resources, storage space, spraying equipments etc. Spraying operations will be carried out on time. Micro planning will be done to ensure timely resource mobilization, adequate infrastructure and equipment with optimal coverage and quality of IRS

- The supply of ITNs/LLINs in highly endemic areas is inadequate. Bed nets are used only by those who realized their benefits and can afford to buy them. The demand for ITNs/LLINs will be met coupled with promotional activities involving traditional healers, Tribal councils, NGOs, CBO, School teachers, village guards and/or volunteers in communicating the benefits. Everybody will be encouraged to use bed nets even at construction sites

- It will be mandatory for contractor/ owner of development project to provide bed nets to the labours on site and provide treatment for malaria

- Verification of IRS and bed nets will be undertaken fortnightly by village health and sanitation committee

Action Plan

The TMAP model is very sensitive towards patient care. As most of the problem tribal areas are remote and inaccessible, the intervention strategies are designed to address the common constraints faced in these areas and by these people in prevention, diagnosis and treatment of malaria. The framework for consultations with tribal people and other vulnerable communities in project districts during project implementation is shown in Table 15.1. This shows the facilitators at different level and methods and frequency of consultation. These facilitators will also help in the implementation of BCC efforts, NGO involvement and culturally acceptable approaches for service delivery.

Table 14.1: Framework for Consultations with Tribal Communities during TMAP Implementation.

Consultation	Facilitator	Methods	Frequency
Village level	VHSC/ASHA and NGO	Community meeting and key client visits	Once in three months
Sub-Centre and APHC	MTS/MO-PHC with NGO	Staff meeting, community meeting, and key client visits	Once in three months
BPHC and CHC	District VBD Officer/Consultant/Social Development Professional along with project staff for mobile phone surveillance	Meeting with staff, Panchayats, key client visits	Once in four months
District	District VBD Officer/Consultant/Social Development Professional and BCC Consultants/ project staff for mobile phone surveillance	Workshop with key stake- holders (incl. tribal reps, staff, clients, NGOs, PRIs)	Six monthly
State	State Program Officer, State Social Development and BCC Consultants and key project staff	Workshop with key stakeholders (as above)	Six monthly
National	National Program Officer National Social Devpt. and BCC Consultants and all key project staff	Workshop with key stakeholders (as above)	Annually

Table 14.2: Action plan for Tribal Malaria

Action to be Taken (is also Process Indicator)	At what Level	By Whom (Implementer)	Time point/ Frequency	Output/Outcome Indicator
1. Case detection and treatment				
Surveillance in project districts using bivalent RDT for diagnosis and treatment services	District	DVBDO	Annually	Percent of malaria cases treated with CQ/ACT in 24 hrs (excl. first trimester pregnant women treatment by ACT) (disag. by M/F, age, SC/ST/ General)
Calculating need for RDT, ACT and no stock out/expiry for project districts	District, CHC/ PHC	DVBDO, DMO, MOs	Quarterly	
Mobilizing ASHA/village health workers and MPWs for case detection with RDT	Village, SC	DVBDO, MTS	6 Monthly	
Case detection with RDT	Village	ASHA/any other health provider	Continuous	
Case treatment with ACT	Village and health facilities	ASHA/Health provider	Continuous	
2. Arranging referral to avert deaths				
Identifying/mapping referral centers (RC) in project districts	District	DVBDO, DMO	Annually	Number of cases and deaths (disaggregated by M/F, age, SC/ ST/ General in project districts) when available from sentinel surveillance data
Equipping RCs with necessary anti-malarials, supportive drugs, supplies	District	DVBDO, DMO, MO	Quarterly	
Mobilizing ASHAs, VHWs, MPWs, MOs for identification of severe cases	District, Block	DVBDO, MO, MTS	Quarterly	
Arranging referral of severe cases to RCs in project districts	Village, SC, PHC	ASHA/MPW, MTS	Continuous	
Orienting RC staff to manage severe cases	Block, District	DMO, MO	6 Monthly	
Trained staff managing severe malaria	RC	DMO, MO	Continuous	
Strengthening malaria surveillance				
1. Active case detection (ACD)				
Ensuring staff in position at health facilities in project districts	State, District	SPO, DVBDO, DMO	At start and continuous	Number of cases detected by ACD (disaggregated as above).
ACD of Pf+Pv cases in project districts with RDTs	SC, Village	ASHA/MPW, VHW	Continuous	
Compiling and transmitting reports upto district for analysis and feedback	SC, PHC, CHC, DH	SC, PHC, CHC, DHS, DVBDO	Monthly	
2. Passive case detection (PCD) and Sentinel surveillance				
Identifying and equipping Sentinel Sites (SS) in project districts	State, District	SPO, DVBDO	Year 1, 3, 5	Number of cases detected by PCD (disaggregated as above). From sentinel surveil- lance data.
Ensuring staff at SS in project districts	State, District, SS	SPO, DVBDO, DMO, SS-in chge	At start and continuous	
Passive case detection	Hlth facilities	MPW, MO	Continuous	
Compiling and transmitting reports up to District for analysis and feedback	Hlthfacils., SS and District	MTS, MO, SS-in-charge, DVBDO	Monthly	

Action to be Taken (is also Process Indicator)	At what Level	By Whom (Implementer)	Time point/ Frequency	Output/Outcome Indicator
3. Rapid response				
Setting up rapid response teams in project districts	State, District	SPO, DVBDO	At start	Percent of project districts with rapid response teams
Identifying outbreaks in project districts, reporting, working with IDSP	Hlth facility, SS and District	MTS, MO, DVBDO	Continuous	
Investigating outbreak; following up	Village, Block	DVBDO, SS,MTS	Continuous	
Effective vector control				
1. Indoor Residual Spraying (IRS)				
Identifying high risk areas for IRS	District	SPO, DVBDO	Annually	Percent of houses targeted for IRS that received full, quality spraying in each round (disag. by Tribal/Non-T areas)
Supplying insecticide and equipment	PHC	SPO, DVBDO	Annually	
Storing insecticides safely	PHC	MO, MTS	Annually	
Orienting spray teams to safety, quality	PHC	DVBDO	Prior to IRS	
Organizing BCC and involving community	Village	MTS, BCC cons.	Prior to IRS	
Conducting spraying with concurrent and post quality assessments	Village	Teams, MTS, DVBDO	Per schedule	
2. Use of Long Lasting Insecticide Treated Bed Nets (LLINs)				
Identifying tribal villages for full coverage	Village	DVBDO, MTS	Annually	Percent of LLINs delivered to people of those planned by the district (disag. by Tribal/ Non-T areas)
Inviting CBOs/PRIs/Tribal Councils, etc. to participate in storage and distribution	Village	MTS, MPW, MO	Annually	
Supplying LLINs and storing safely prior to distribution	District,Village	NPO,SPO,DVBD, MTS, local group	Annually	
Distributing LLINs and monitoring proper use	Village	MTS, MPW, local group	Annually	
Prevention and treatment at Development Project/Construction sites in TMAP area				
Reduce/eliminate the breeding sites in new project/construction sites	Village/ district	ASHA/VHSC/ Tribal council	Continuous	Number of cases detected by ACD
Provide bed nets to all labours residing in temporary labour camps at development sites. Provision of penalty on the contractor if not following the instruction.	Village/ district	Contractor/ project authorities District Administration/ Tribal council	Continuous Continuous	
Malaria screening and treatment to labours working in new project/ construction sites	Village/ district	ASHA/Health providers	Monthly	

Action to be Taken (is also Process Indicator)	At what Level	By Whom (Implementer)	Time point/ Frequency	Output/Outcome Indicator
Policy and strategy development				
Conduct workshops to identify pilots to assess operational feasibility and impact of approaches to improve services for vulnerable groups and prepare TORs	National	National and Social development professional (NSD Prof.) with ICMR research institutes, medical colleges, NGOs, etc.	Annually	Number of studies identified, designed and conducted for Malaria from project reports
Conduct pilots (with TORs)	National	NSD professional	Annually	
Conduct pilots; provide reports	National	Consultants	Per schedule	
Take follow-up action as recommended	Per Recoms.	NPO, SPO	Year 3 on	
Program management and capacity building				
1. Program management				
Position national and state Social Development Professionals; form and orient multidisci-plinary team (anthropology, communica- tions, public health and software specialist) at national level	National, State	NPO and SPOs	At start of project and sustained throughout	Staff in position
2. Engage NGOs for Service Delivery and Social Mobilization				
Developing appropriate TORs and engage NGOs to work in states	National	NPO and SD Prof. with states	Year 1 and as needed	Number of villages covered by NGO activities (disag. by T/ NonT areas); project reports
Develop plans and implement activities	Villages	NGOs	Per Plans	
Obtain lower level feedback, review and revise plans, and plan expansion	National, State	N+S SD Profs, NGOs	Year 2 onwards	
3. BCC for Malaria control				
Developing TORs and engage BCC Consultant agencies for project: 1 per state	National	NPO, BCC and SD Specialists	At start of project	Percent of indivi-duals/HH who - slept under ITNs, - allowed full IRS - sought DandT in 24 hrs of fever (disag for Tribal/ Non-T areas); survey data
Doing assessments, develop strategy and plans for BCC activities per TORs	All levels	BCC Agency and others as needed	Per TORs	
Implementing activities according to plans	All levels	BCC Agency + others per plans	Per Plans	
Obtaining lower level feedback, reviewing, revising, planning expansion	National, State	N+S BCC + SD Profs, Agency	Year 2 onwards	
4. Training in TMAP and Sensitization				
Engaging Training consultant agency/ies	National	NPO and SD Prof. with states	Year 1 and 3 as needed	Percent of staff trained at each level of those estimated to require specific training (disag. by T/ Non-T areas); project reports
Assessing special training needs to ensure culturally appropriate efforts for tribal people and women, developing and carrying out training	As needed	Training agencies	Per schedule (prior to transmission season)	
Evaluating training (incl. quality, using suitable indicators); following up	As needed	NPO, SPO, SD Profs, DVBDO	Annually	

Institutional arrangements

The institutional arrangements for implementation of TMAP are given in table 4. The intervention measures include supply-side management; increasing access according to need; communication for demand-generation, informed decision-making and improved practices; socio-culturally appropriate and monitoring by dedicated staff. These activities in the project will ensure that vulnerable communities receive maximum benefits and that malaria is reduced among them by sustainable Action Plan. As a guide to implementation, it shows the action, where it will primarily take place, the persons who will be chiefly responsible for its implementation, and a likely timing or frequency of action. Thus, the TMAP is integral to the Programme's overall implementation, and is part of the GOI's National Health Mission. It will be implemented in all 91 project districts in keeping with the Project's planned phasing, as needed and feasible.

The TMAP will also guide programme supervision, and includes the indicators that will be used when feasible to assess implementation effectiveness for vulnerable communities such as the impact of RDTs on antimalarial dispensing when used by ASHA/service provider and performance of mobile based surveillance. Data providing information on project outputs and outcomes for tribal and other vulnerable groups (including women, infants and children) will be generated initially from routine program monitoring, project reports and surveys. Over time better data are expected to become available from a strengthened TMAP. When disaggregated by age, sex, SC/ST and general population, information will be available on the equity being achieved by the Project, and the acceptance of project among different section of society. Every year evaluation of TMAP will be carried out by an independent agency for impact assessment and community acceptance.

National Level: The Directorate of NVBDCP in the Ministry of Health and Family Welfare (MOHFW) will be responsible for overall implementation of TMAP. The Directorate will engage a full-time Social Development (SD) professional with a social science background to provide technical assistance and monitor the vulnerable community plan (VCP). She will coordinate with State Program Officers, state-level SD professionals, and partner organizations. For efficient and effective implementation of TMAP, other program officers and professionals responsible for mobile surveillance, BCC, Training, M&E, etc. will also be involved as and when required.

State Level: The state NVBDCP will be primarily responsible for the program and the VCP which is an integral part of it. A full-time Social Development professional will provide technical assistance and monitor the VCP. S/he will coordinate with the national level and provide support to the District VBD Officers and consultants. As above, program officers and consultants responsible for mobile surveillance, BCC, Training, M&E, etc. will be consulted as needed.

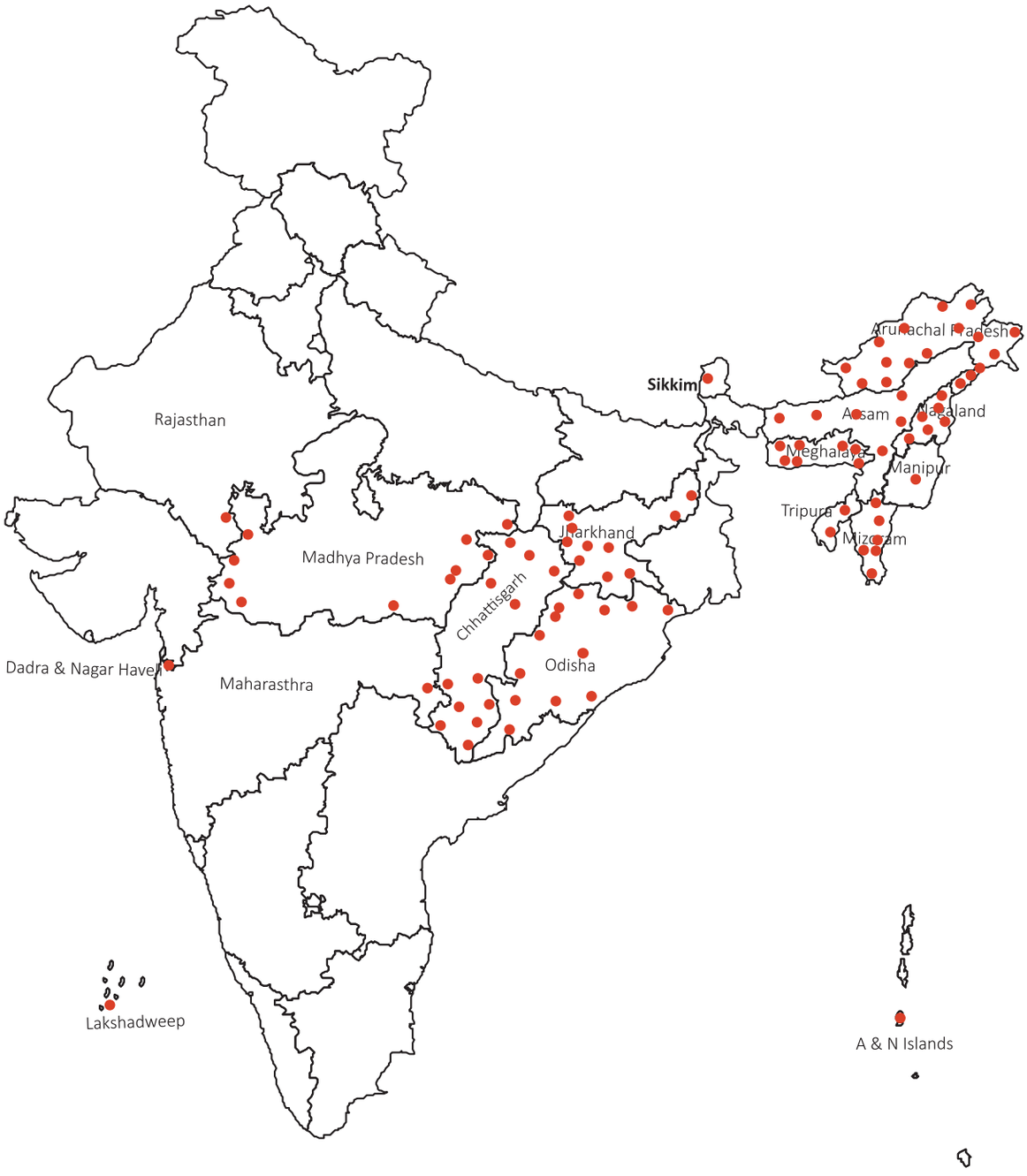
District Level: In all TMAP districts, the Project will primarily be the responsibility of the District VBD Officer. An additional program manager will be appointed at district level to increase managerial effectiveness, and two Integrated Vector Management Supervisors to improve quality and effectiveness of vector control operations. Additionally, one person with engineering background and one for software development for smooth functioning and data management of mobile based surveillance will also be hired under the project. The VCP will be implemented by the District VBD Officer with the support of the District VBD Consultant. This team will coordinate with the sub-district levels, and report on progress, constraints and resource requirements to the state team.

Capacity Enhancement: The NVBDCP has an on-going training program to enhance the capacities of health workers and technical personnel at all levels. To build the knowledge and skills to implement and manage the VCP, the curriculum and modules will be expanded to include topics such as: mobile based surveillance, socio-cultural issues; the political and self-governance structures of vulnerable communities, their rights and policies; methods to assess and address their needs and priorities; approaches to achieve and sustain vulnerable communities' access to VBD control services and

products; and so on. Social mobilization, counseling and motivation skills will be the priority under the project. Training on the VCP will be integrated into the overall NVBDCP training. Reorientation will be carried out after assessment of capacities during project reviews. A database of experts with social science background and knowledge of tribal people and other vulnerable communities will be developed to ensure the availability of appropriate trainers and technical resources.

Legislative measures: There has to be a provision for model byelaws for control of mosquitoes breeding at construction site and bednets to labours. This would reduce the spread of malaria from project site to villages.

Location of Project Districts



15

Annexures

Report of the Workshop on the Innovative Practices in Tribal Health

Organized by: The Ministry of Health & FW, Govt. of India

Hosted by: SEARCH, Gadchiroli

Dates: October 11-13, 2015.

a) The press release
b) Excerpts from the detailed report of the workshop.

Press release

National Workshop on Best Practices in Tribal Health Care

A three day national workshop on Best Practices in Tribal Health Care organized by the Ministry of Health and Family Welfare, from October 11-13, 2015, came to a conclusion today. The workshop held, at the behest of the Expert Committee on Tribal Health, to identify possible solutions to address the healthcare needs of India's100 million tribal population, was inaugurated by the Secretary, Department of Health Research and Director General, Indian Council for Medical Research (ICMR), Dr. Soumya Swaminathan. It was hosted by the Society for Education, Action and Research in Community Health (SEARCH) at Shodhgram, in Gadchiroli, a tribal district of Maharashtra.

"This workshop marks an important step towards integrating evidence from the field into policy making for tribal healthcare. It also presents a unique opportunity for government departments, ICMR and voluntary agencies to share experiences and learn from each other," Dr. Swaminathan noted in her inaugural remarks.

The workshop saw over 50 representatives from 24 organizations in academia, government and civil society present programs that they have been running to address problems ranging from malaria to maternal mortality and fluorosis to human resource constraints. Selected entries included a web based application developed by SEWA Rural, PPP model run by the Karuna Trust in Arunachal Pradesh, Malaria control strategy by MITRA in Orissa, Phulwaris for children by the Jan Swasthya Sahyog in Bilaspur, human resources outsourcing by the Government of Chhatisgarh and a weed that can assist in fluorosis management by the National Institute for Research in Tribal Health, Jabalpur. The participants could see the famous Home-based Newborn Care approach developed by SEARCH including the live demonstration of how ordinary village women trained as health workers save newborn lives. This model has been adopted by the National Health Mission and scaled up nationally through nearly 8 lakh ASHAs.

"The National Health Mission provides tremendous flexibility for state specific innovations. This workshop is an attempt towards identifying such programmes to address the healthcare needs of tribal communities," said Director, National Health Mission, Dr. Limatula Yaden.

These practices were selected from the 85 entries received by the Expert Group on Tribal Health. "These practices represent not just potential solutions for the health related problems that plague tribal communities, they also offer a ray of hope in an area that is normally seen as dark and dismal. They show us that work is being done to make healthcare accessible to tribal communities," Dr. Abhay Bang, Chairperson of the Expert Committee, noted in his concluding remarks.

The Expert Committee on Tribal Health was constituted jointly by the Ministry of Health and Family Welfare (MoHFW) and the Ministry of Tribal Affairs (MOTA) in October 2013 to review the existing situation of health in tribal areas, suggest

interventions, formulate strategic guidelines for states, and develop a national framework to improve healthcare services among the tribal population. It includes representatives from the central government, various state governments, research organizations and civil society. The Expert Group has already conducted visits to various states to review the existing situation and has, for the first time, compiled health data for tribal people at the national level.

Excerpts from the detailed report of the workshop

National Workshop on

Innovative Practices in Tribal Health Care

Organized by

The Ministry of Health and Family Welfare, Government of India

Hosted by

SEARCH, Gadchiroli

1. Background

Concept

Ministry of Health and Family Welfare, Govt. of India has constituted an Expert Group on Tribal Health. The Expert Group had decided to organize a national workshop on 'the best practices in tribal health care' with the aim to bring together the best practices, share and examine them to identify the practices which offer the potential for scaling up or the learnings for the tribal health care policy in India.

The 53 participants were from all over India, selected from the government health care programs in states, the civil society and the academic/research organizations.

The 'Best Practice' was meant to demonstrate and effective method/approach or solution which would become a candidate for scaling up to solve some of the critical problems in tribal health care. The features essential to be called a best practice were:

1. A specific important problem is addressed. The problem may be a disease, a health indicator (IMR, MMR etc) or a barrier to providing health care in tribal areas (human resource, outreach, community participation, health education, community based care, secondary care, transport, acceptance by the tribal people, coverage, monitoring, financing, etc).
2. A distinct method or a component.
3. Demonstrated feasibility of implementation.
4. Proven impact.
5. Scalability.

The nominations/applications were invited and a selection group selected the appropriate best practices for the workshop.

The workshop was organized by the MOH&FW and hosted by SEARCH, Gadchiroli.

Date: October 11th to 13th, 2015

Location: Shodhagram (SEARCH HQ) Gadchiroli, Maharashtra (200 km from Nagpur)

2. Objective

This workshop is the beginning of the Expert Group‟s search for solutions. The purpose is to share, examine and find potential solutions which can be/should be delivered on large scale

3. Selection

Selection committee

1. Dr. Abhay Bang (Chairman)
2. Mr. Manoj Jhalani (MOH&FW, GOI)
3. Dr. Neeru Singh (ICMR)

We received very enthusiastic response with 85 entries. The 5 criteria for selection were

1. A specific important problem is addressed.
2. A distinct method or a component.
3. Demonstrated feasibility of implementation.
4. Proven impact.
5. Scalability.

It was very challenging to select only 25 best practices out of the 85. Selection procedure had two stage review. National Health Systems Resource Centre (NHSRC) did the initial screening, and the three member expert group made the final choice. Twenty three best practices were presented in this workshop. The Expert Group, the Ministry of Health, NHSRC and Society of Education, Action and Research in Community Health (SEARCH) have joined hands to make this happen.

4. Workshop Proceedings

Presentations

S. No.	Organization	Practice
1	L V Prasad Eye Institute, Telangana	Eye care
2	National Institute for Research in Tribal Health, Jabalpur	Fluorosis
3	National Institute for Research in Tribal Health, Jabalpur	Malaria Control
4	MITRA, Christian Hospital, Bissamcuttack, Odisha	Malaria control
5	Jan Swasthya Sahyog, Chhattisgarh	Phulwari - creches for malnutrition
6	Government of Chhattisgarh	Fulwari, Scaling up
7	Health Department, Jashpur, Government of Chhattisgarh	Swasthya Lika Jagruti (Health Wednesday)
8	Population Foundation of India, National Health Mission	Community Based Monitoring
9	Nazdeek, Assam	Community reporting of deaths
10	National Health Mission, Palakkad, Kerala	Software-based monitoring Janani – Jatak
11	Karuna Trust, Karnataka	Operationalising PHCs by PPP
12	Deepak Foundation and Health Department, Gujarat	CEmONC by PPP
13	Tata Steel	MANSI - HBNC through ASHAs
14	SEWA Rural, Gujarat	ImTecho
15	IKP Centre For Technologies in Public Health (ICTPH), Tamil Nadu	Bridge Training for AYUSH doctors
16	Jan Swasthya Sahyog, Chhattisgarh	ANN/GNM Training
17	Health Department, Chhattisgarh	HR Outsourcing
18	Area Networking and Development Initiatives (ANANDI), Gujarat	Women‟s empowerment
19	Shrimad Rajchandra Hospital, Dharampur, Gujarat	Mobile unit
20	Health and Family Welfare Department, Gujarat	Sickle cell
21	Sugha Vazhvu Healthcare, Tamil Nadu	Enrollment and Rapid Risk Assessment
22	Integrated Tribal Development Agency, Adilabad	Increasing Institutional Deliveries
23	National Health Mission, Tamil Nadu	Birth waiting room

Two organizations selected for presentation were absent, namely by Suraksha, Odisha on ‘Malaria control’ and SERP, Andhra Pradesh on ‘Nutrition for mothers and children’.

In addition the HBNC model of SEARCH was presented along with demonstration by trained community health worker.

5. Evaluation

Assessment of 23 best practices

All participants of workshop were given chance to evaluate all 23 practices presented in this workshop through a structured score sheet.

Feedback on the workshop

All participants provided their feedback about workshop in a structured format.

6. News reports

The news reports related to "National Workshop on "Best Practices in Tribal Health Care" are summarized below. The detail of the news reports are attached in Annexure VIII.

Media	Web link
1. inbministry blogspot	http://inbministry.blogspot.in/2015/10/national-workshop-on-best-practices-in.html
2. United News of India (October 15, 2015)	http://www.uniindia.com/national-workshop-on-best-practices-in-tribal-health-care-held-in-gadchiroli/india/news/236903.html
3. The Hindu (November 29, 2015)	http://www.thehindu.com/opinion/op-ed/taking-health-care-to-tribal-heartland/article7927736.ece
4. Times of India (October 10, 2015)	http://timesofindia.indiatimes.com/city/nagpur/Bangs-to-hold-natl-workshop-on-tribal-health-at-Gadchiroli/articleshow/49294556.cms
5. The Economic Times (October 13, 2015)	http://economictimes.indiatimes.com/industry/healthcare/biotech/healthcare/indian-council-of-medical-research-dg-calls-for-new-researches-on-tribal-health/articleshow/49335311.cms
6. India Today (October 13, 2015)	http://indiatoday.intoday.in/story/icmr-dg-calls-for-new-researches-on-tribal-health/1/497373.html
7. The Economic Times (October 13, 2015)	http://health.economictimes.indiatimes.com/news/industry/punjab-to-spend-more-than-rs-419-crore-to-boost-medical-research/49673110
8. Business Standard (October 15, 2015)	http://www.business-standard.com/article/government-press-release/national-workshop-on-best-practices-in-tribal-health-care-held-115101500348_1.html
9. Report Odisha (October 15, 2015)	http://reportodisha.com/national-workshop-on-tribal-health-care-held/
10. ICMR website	http://icmr.nic.in/icmrnews/National%20Workshop%20on%20Best%20Practices%20in%20Tribal%20Health%20Care.pdf
Press Information Bureau Government of India Ministry of Health and Family Welfare (October 15, 2015)	http://pib.nic.in/newsite/PrintRelease.aspx?relid=128746
12. Dailyexcelsior (October 16, 2015)	http://www.dailyexcelsior.com/expert-group-on-tribal-health-to-submit-report-by-year-end/
13. India Today (October 15, 2015)	http://indiatoday.intoday.in/story/expert-group-on-tribal-health-to-submit-report-by-year-end/1/499402.html
14. The Economic Times (October 15, 2015)	http://economictimes.indiatimes.com/articleshow/49380203.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst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