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# Immunization among Tribal Population in India: A Need Assessment Report







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# Message from AS&MD

The Government of India (GoI) is determined about strengthening the Universal Immunization Programme (UIP) to achieve equity in full immunization coverage in the country. Efforts are being made through strengthening routine immunization and conducting mass vaccination drives such as Mission Indradhanush and Intensified Mission Indradhanush to cover the most vulnerable and under-represented groups of the country. These efforts will further India's commitment towards achieving the Sustainable Development Goals of reducing neonatal and under-five mortality in the country.

In India, the Scheduled Tribes are the most under-represented groups with consistently lowest full immunization coverage spanning decades. They live in an economic, social and geopolitical environment, with poor health indicators across all age groups. There was an imperative need to understand the socio-cultural practices and the immunization service delivery among tribal populations for better strategic interventions to bridge the inequity gaps in immunization coverage in India.

I am delighted to present the Need Assessment Report on Immunization among Tribal Population in India. This document highlights the socio-cultural perspective, the gaps identified and strategies to improve the immunization coverage among tribal population in the country.

I take this opportunity to applaud all the contributors involved in the planning, execution, analysis and drafting of the tribal need assessment study. I am sure this document will provide insight to all stakeholders in devising evidence-based strategies to increase immunization coverage and improve the health of children and pregnant women in the tribal areas of the country.





# Foreword from JS (RCH)

India, having adopted the Sustainable Development Goals, is committed to reducing the neonatal, infant and under-five child mortality, achieving universal health coverage, and supporting the research and development of medicines and vaccines for various communicable and non-communicable diseases in the country. India's Universal Immunization Programme (UIP), one of the largest public health programmes globally, is one way of ensuring the achievement of the Sustainable Development Goals (SDGs).

India caters to a large annual cohort of 26 million children and 29 million pregnant women across varied socio-economic and geographical backgrounds. In the past decade, the Government of India has introduced multiple new vaccines such as pentavalent, inactivated polio vaccine (IPV), rotavirus vaccine (RVV), measles-rubella (MR), pneumococcal conjugate vaccine (PCV) and Tetanus-diphtheria (Td) vaccine, through the strengthening of routine and mass vaccination drives under the UIP. Besides these, India has achieved elimination of polio and elimination of maternal and neonatal tetanus in the country.

Furthermore, to reach a wider beneficiary network, India launched a series of mass vaccination drives, the Mission Indradhanush and Intensified Mission Indradhanush to cover the left-outs and drop-outs. The National Family Health Survey conducted every five to ten years identified inequitable gaps in full immunization coverage among various wealth quintiles and social groups in the country.

Scheduled Tribes in India form 8.6 per cent of the total population and are representative of the social group with consistently poor health indicators and low full immunization coverage as compared to other population groups. This need assessment study was planned and conducted to determine the socio-cultural practices and beliefs in child immunization among tribal communities in India and to bridge the evidence gaps in universal health access and coverage.

The *Need Assessment Report on Immunization among Tribal Population in India* is a comprehensive document which provides an insight into the awareness, myths, and service delivery related to immunization in the tribal predominant areas of seven states across India. The study was conducted after meticulous planning and deliberation by a core team comprising of experts from MoHFW, NIHF, NCCVMRC, UNICEF, ITSU and WHO, and inputs from the Ministry of Tribal Affairs. The study was conducted by a team of researchers from varied social and health research backgrounds, and is presented herewith with strategic recommendations to improve the vaccination among tribal population. This document is intended for policy makers to frame evidence-based state-specific strategic tribal immunization action plans to bridge the gaps in immunization coverage in India.

I congratulate every person associated with conducting the study and preparing this report as it brings us closer to achieving the goal of 90 per cent immunization in the country.







# Preface from Director, MoTA

The Constitution of India recognizes Scheduled Tribes with a special status safeguarding their rights and culture. Yet, the 104 million tribal population of India (according to Census 2011) still remain the most marginalized – geographically, socially, economically, politically – and neglected groups.

Since long, the unmet needs of the tribal population had been equated to the challenges faced by the rural population in the country. However, their different cultural practices, social systems, terrain and environment contribute to varied healthcare needs. Their access and approach to modern medicine was always constrained, in comparison to other social groups in rural India. The Expert Committee on Tribal Health, constituted, jointly by the Ministry of Tribal Affairs (MoTA) and Ministry of Health & Family Welfare, Government of India, in 2013, reviewed and evaluated the evidence and experience of the tribal population's health status across the country. The committee also highlighted in their report that the healthcare services in tribal areas, apart from being deficient in number, quality and resources, suffer from major design flaws with respect to appropriateness to tribal society and lack of participation. The report provided a roadmap and strategies for the future.

However, further understanding the immunization-related awareness, acceptance, need, and practices among tribal communities, and immunization service delivery in tribal areas, was the essence behind conducting the tribal needs assessment. The goal of this study was to gather evidence and prepare tailor-made strategies to cater to the immunization-related requirements of the tribal population in the country.

This report is an output of the need assessment study conducted across tribal-predominant states in India. I wish to thank the Ministry of Health and Family Welfare, who have undertaken this initiative and produced a comprehensive document on socio-cultural practices and need assessment among tribal population on immunization in India.

I wish to express my sincere gratitude to the National Institute of Health and Family Welfare and its team for taking the lead in conducting this study and drafting this report.

Special thanks to UNICEF and other immunization partners for their contribution in planning and conducting this assessment.

I hope that this report will prove to be an asset in future planning and decision making, and achieve the aim of good health and healthcare service delivery to the tribal people of India.





# Message from Program Officer's desk Joint Commissioner (UIP)

India's Universal Immunization Programme (UIP) is one of the largest public health programmes in the world, catering to a cohort of 26 million children and 29 million pregnant women annually through 12 million sessions. The National Family Health Survey 4, conducted in 2015-16, highlighted inequities in full immunization coverage (FIC) among 12-23-month-old children in the country. Disparity in FIC was seen among different wealth quintiles and social groups. Inequities in immunization coverage were most predominant among the Scheduled Tribes.

Scheduled Tribes, 104 million according to Census 2011, reside mostly in the rural parts of India. Scheduled Tribes are a marginalized community with limited access to healthcare services, difficult geo-political environments, different cultures and social standing in society. In general, Scheduled Tribes also face the burden of poor health outcomes in the form of low immunization coverage, high infant and under-five child mortality rates.

This study was conducted under the guidance of Ministry of Health and Family Welfare (MoHFW) and Ministry of Tribal Affairs (MoTA) to determine the socio-cultural practices and need for immunization among the tribal population. It was conducted across seven states having maximum proportion of tribal population – Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Gujarat, Jharkhand and Chhattisgarh – ensuring maximum representation of tribal communities in the country. The study was planned and conducted with contributions from all immunization partners particularly UNICEF, WHO, ITSU and JSI.

The report highlights the status of awareness related to immunization among tribal communities, their acceptance and accessibility to modern healthcare services, common myths and beliefs, and strengths and weaknesses of immunization service delivery in tribal predominant areas of the country.

This report is a benchmark for planning strategic interventions and strong policy-level decisions based on evidence to improve the immunization in the tribal areas of the country.

I wish to applaud and congratulate everyone involved in various parts of the tribal need assessment. I wish this document paves the way for achieving the Sustainable Development Goals of low infant and child mortality in the country.





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# Acronyms

AEFI	Adverse Effect Following Immunization
ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AVD	Alternate Vaccine Delivery
AWW	Anganwadi Worker
BCC	Behaviour Change Communication
BDO	Block Development Officer
CCH	Cold Chain Handler
CCO	Cold Chain Officer
CCP	Cold Chain Point
CES	Coverage Evaluation Survey
DHO	District Health Officer
DF	Deep Freezer
DIO	District Immunization Officer
FGD	Focus Group Discussion
FIC	Full Immunization Coverage
HMIS	Health Management Information System
HR	Human Resources
ICDS	Integrated Child Development Services
IDI	In-Depth Interview
IEC	Information, Education and Communication
ILR	Ice Lined Refrigerator
IMR	Infant Mortality Rate
ITDA	Integrated Tribal Development Agency
MoHFW	Ministry of Health and Family Welfare
MOIC	Medical Officer In-Charge
MoTA	Ministry of Tribal Affairs
MP	Madhya Pradesh
MPW	Multipurpose Worker
NCD	Non-Communicable Diseases
NE	North East
NGO	Non-Government Organization
NIHFW	The National Institute of Health and Family Welfare
NFHS	National Family Health Survey
OBC	Other Backward Classes



PIP	Programme Implementation Plan
PRI	Panchayati Raj Institution
PVTG	Particularly Vulnerable Tribal Groups
RCHO	Reproductive and Child Health Officer
RI	Routine Immunization
RSOC	Rapid Survey on Children
RVV	Rotavirus Vaccine
SC	Scheduled Caste
SDG	Sustainable Development Goals
SEPIO	State Expanded Programme on Immunization Officer
SMS	Short Message Service
ST	Scheduled Tribe
TDO	Taluk Development Officer
TNA	Tribal Need Assessment
TSP	Tribal Sub-Plan
UIP	Universal Immunization Programme
UNICEF	United Nation's Children Fund
VHSN	Village Health Sanitation and Nutrition
VPD	Vaccine Preventable Diseases
WCD	Women and Child Development

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# Executive Summary

According to Census 2011, the Scheduled Tribes form 8.6 per cent (~104 million) of India's total population. The tribal population is believed to be marginalized, residing predominantly (90%) in rural areas and find it difficult to access healthcare services and modern ways of life. Tribal groups are all at different stages of social, economic and educational development. Certain groups, or Particularly Vulnerable Tribal Groups (PVTGs), have been characterised based on pre-agricultural level of technology, stagnant or declining population, extremely low literacy, and subsistence levels of economy. Overall, the delivery and utilisation of health services in tribal regions of the country are sub-optimal due to various reasons and the immunization coverage of the tribal population is no exception, as the full immunization coverage (FIC) is as low as 56 per cent (NFHS-4).

Despite these glaring gaps, there is only limited literature on the strengths and challenges for the immunization programme in tribal areas of the country. To bridge the literature gaps for generating evidence on immunization services among the tribal population, a need assessment study was conducted to determine the strengths and challenges faced by the immunization programme in tribal areas. The present study was aimed at generating evidence on the community's need for immunization and to document socio-cultural practices and barriers, which in turn help suggesting a model for interventions.

The need assessment was carried out in 14 districts across seven tribal-predominant non-North East states of India. A qualitative cross-sectional study was conducted through in-depth interviews (IDIs) and focus group discussions (FGDs) at the state, district, block and village level. Interviews were conducted for SEPIO, DIO, MOIC, tribal department officials, frontline health workers (ANMs, ASHAs, AWWs), key influencers, and caregivers. The FGDs were conducted with caregivers/family members and community. Semi-structured questionnaires were used for data collection. Data was analysed using theme-based content analysis.

There is no specific plan/budget to address the vaccination needs and conduct sessions in tribal areas, including the PVTGs. Lack of coordination between the tribal department and health department affects the service delivery in tribal communities. Difficult working conditions, distant session sites, lack of transportation and connectivity in most areas, particularly during rainy season, were major impediments in conducting outreach sessions and in the mobilisation of beneficiaries. Limited health staff in some sub-centres, not enough cold chain points; and delayed/incomplete ASHA payments were some of the weaknesses highlighted. Most of the tribal population accepted the immunization, despite low literacy levels and low per capita income. However, loss of daily wages secondary to AEFI, fear of AEFI, migration for better livelihood, lack of connectivity/transportation to session sites, and the PVTG's belief in traditional faith healers were predominant reasons for left-outs and drop-outs in such tribal groups.



The SWOT analysis of the RI programme in tribal areas also indicated receptive health functionaries and communities, strong immunization supply chain, and multiple state-level innovations as key internal strengths of tribal immunization. Lack of awareness and limited access to health care services due to poor infrastructure and connectivity were the predominant weaknesses of the system. The system further faces external threats such as climatic havoc in an already difficult geographic terrain, such as excessive rains leading to floods, swamping and landslides etc. However, there is an opportunity for developing a strong inter-departmental coordination with the tribal department, utilising and strengthening vaccination-acceptance among communities, and increasing the involvement of religious and local leaders. The study also highlights the fact that the immunization programme has reached the remotest of locations. This opportunity could be utilised to reach and deliver need-based services of other health programmes, providing a comprehensive package of services to improve overall health indicators of the tribal population.

The study provides key recommendations to improve service delivery and the quality of immunization services, and strengthen community engagement for demand generation. Quality-driven service delivery can be ensured by strengthening existing healthcare facilities, integration of immunization services with other healthcare delivery packages, inter-sectoral convergence between the tribal and health departments, and ensuring the availability of HR and good infrastructure in the remotest of areas. In addition, it is recommended that specific need-based solutions be developed for various states to cover the population living in hard-to-reach areas. To monitor the progress of service delivery and improve the system, it is recommended that a joint supervision plan be prepared and implemented between different stakeholders.

It is also recommended that demand generation may be strengthened by improving community awareness and participation using special communication strategies, health promotion through local influencers, better follow-up mechanism, and targeting migratory population.



Chapter 1

# Introduction



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N.B. NO RETURN



India's tribal population forms an integral part of society and is scattered across the length and breadth of the country. According to the Census 2011, around 8.6 per cent of India's population (~104 million) is the tribal population, which is spread across 705 tribes in 30 states and UTs. Almost 89.97 per cent of tribes in India reside in rural areas, whereas 10.03 per cent live in urban areas. They have registered a high decadal growth rate of 23.66 per cent against 17.69 per cent for the entire country (1). Broadly the STs inhabit two distinct geographical areas – Central India and the North- Eastern Area. The states of Madhya Pradesh (14.69%), Maharashtra (10.08%), Odisha (9.2%), Rajasthan (8.86%), Gujarat (8.5%), Jharkhand (8.29%), Chhattisgarh (7.5%), and Andhra Pradesh (5.7%) are home to more than half of the tribes in India. West Bengal, Karnataka, and the North-eastern states (including Assam, Meghalaya, Nagaland, Tripura, Mizoram, Manipur, and Arunachal Pradesh) constitute a majority of the remaining tribes in India.

The tribal population is different from the larger Indian population in terms of their language, size and development of their communities. Some groups have adopted the mainstream way of life, however there are certain groups categorised as Particularly Vulnerable Tribal Groups (PVTGs) which are at the lowest level of development with negative population growth, extremely low levels of literacy, subsistence level of economy and pre-agricultural level of technology, in comparison with other tribal groups.

One of the fundamental characteristics of the tribal population is that they live in isolation and in geographically difficult terrains like hilly, forested areas or far flung desert areas, and have poor connectivity and lack infrastructure and basic amenities, which results in poor implementation of government schemes and programmes. Multiple evidences have documented the poor health status of the tribal population in different parts of India (2–4). The traditional nature of tribal population residing in dispersed and difficult-to-reach areas is a constraint to their accessing government health outreach and referral services. Further, the rapid urbanisation in other areas leads to further demarcation and compounds the difference between tribal and other areas, confining them to limited geographical spaces, failing to explore opportunities outside their habitation and thus they remain cut off from mainstream population.

For many decades, multiple government schemes (for e.g. Special Central Assistance, Scheme for development of PVTGs, Institutional Support for Development and Marketing, Scholarship to students etc.) have been implemented to uplift the socioeconomic, livelihood, and education status, with healthcare being one of the primary areas of focus for development. Despite the special treatment being accorded to them, tribal people, even today, continue to be the most undernourished section of society.

## Health Indicators in Tribal Population

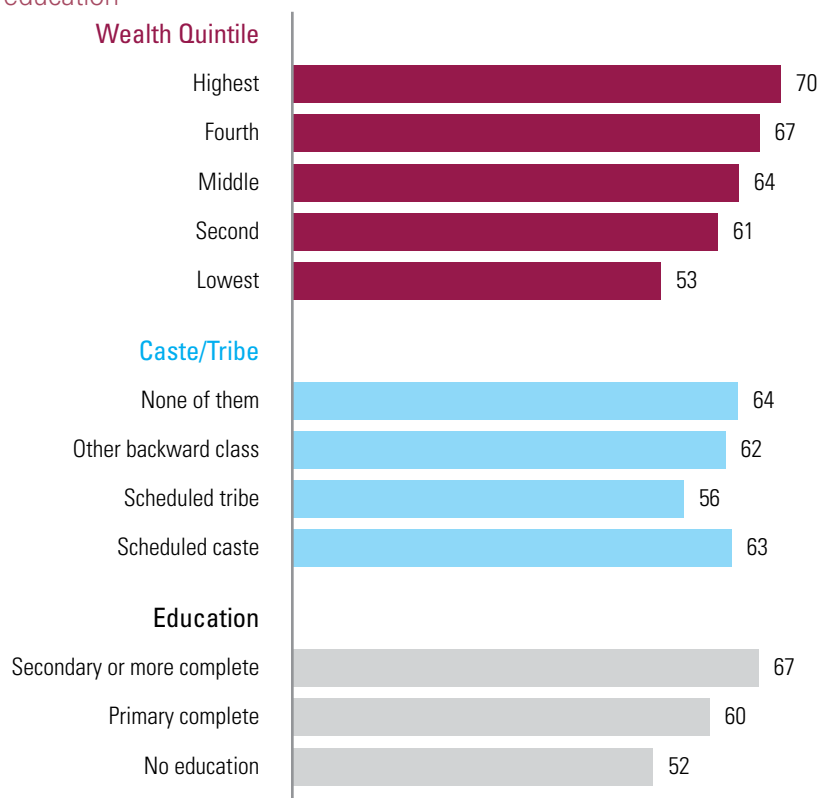
The tribal people have their own traditional ways with different cultural beliefs and perceptions, which affects their health seeking behaviour. They believe in traditional medicine and healing.

Several studies have shown that India's tribal population's health indicators are worse than those of the general population. As per studies on maternal health their nutritional status is poorer, they have higher levels of morbidity and mortality, and lower utilisation of antenatal and postnatal services. The scourge of underdevelopment as well as poor health indicators is confined to certain pockets of the country, especially in tribal areas. About 80 per cent (39 lakh) chronically undernourished tribal children live in just nine states, those of Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Madhya Pradesh, Maharashtra, Rajasthan, Odisha and Telangana (5). Data from the Rapid Survey on Children (RSOC), 2014 shows that the tribal population has the highest percentage of children with low birth weight, 49 lakhs out of 115 lakh tribal children of India suffer from chronic nutritional deprivation affecting their survival, growth and productivity as adults.

Access to health care services is one of the key challenges faced by the community, especially in hard-to-reach and far-flung areas (4). According to the Rural Health Statistics (RHS) 2018, there is a shortfall of almost 19 per cent sub-centres, 25 per cent primary health centres (PHC), and 24 per cent community health centres (CHC) across tribal areas in India against the government norms (1 sub-centre per 3000 tribal population, 1 PHC per 20000 tribal population, and 1 CHC per 80000 tribal population) (6–9).

According to the NFHS-4 data, under-five mortality rates among rural tribal children remained startlingly high, at 57 deaths per 1,000 live births in 2015 as compared with 49 among all children.

Figure 1: Inequities in FIC based on wealth quintiles, caste and education



(Source: NFHS-4)

The report of the expert committee on Tribal Health – TRIBAL HEALTH IN INDIA, also states that, **“Tribal communities in India have poor health indicators, greater burden of morbidity and mortality and very limited access to healthcare services. There is also a near complete absence of data on health situation of different tribal communities.”** According to the report the Schedule Tribes’ IMR was highest in the world among the indigenous population. Indirect estimates based on the Census 2011, the IMR



## TRIBAL HEALTH IN INDIA REPORT also states that

“Tribal communities in India have poor health indicators, greater burden of morbidity and mortality and very limited access to healthcare services. There is also a near complete absence of data on health situation of different tribal communities.”

pertaining to the year 2008 showed that the tribal IMR was 74 as against 62 for the rest of the population in India.

Inequity exists across different socio-demographic determinants predominantly by economic status, caste, tribe and mother's education levels. As per NFHS-4 data, 71 per cent of the population in Scheduled Tribe households are in the two lowest wealth quintiles. In case of immunization, FIC is lowest among the ST population (56%) Over the last decade, there is a consistent 10 per cent gap in immunization coverage between tribal and other population groups.

## Why Special Focus on Tribal Population

India's healthcare system is on a high growth trajectory. The government is taking several steps to reduce child morbidity and mortality; however, reaching all the children for vaccination in the first year of life is still a challenge, especially in tribal areas. Starting immunization right from birth is seen as one of the most effective ways of preventing some of the deadly diseases and thus reducing the morbidity and mortality. This requires focussed intervention but prior to any concrete intervention it is imperative to understand the issues of demand and supply side prevailing in the tribal population.

Immunization coverage in the rural population has significantly increased in recent years due to focussed efforts by the government in routine immunization system strengthening, new vaccine introduction, newer technologies and special drives like Mission Indradhanush. However, the focus on urban slums and the tribal population was relatively less. Recent surveys, such as NFHS-4, also highlighted certain inequities in immunization, such as:

1. Lower growth of FIC in urban as compared to rural areas (Figure 2)
2. Lowest FIC in lowest wealth quintile (Figure 1)
3. Lowest FIC among Scheduled Tribes (Figure 1)
4. Lowest FIC among children with uneducated mothers/primary caregivers (Figure 1)

Full immunization coverage is lowest among the ST population (56%) as compared to the national average (62%) with a consistent gap of 10 per cent over the past decade. However, in addition to the low FIC, it is imperative to focus on tribal immunization to bridge the gaps in equitable access of services.

Figure 2: Inequity in FIC based on Residence

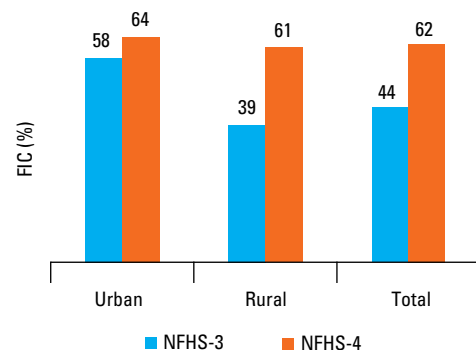


Table 1: Full Immunization Coverage stratified by Castes

Survey	National Average	ST	SC	OBC	Other caste
CES 2009	61%	49.8%	58.9%	60.6%	78.1%
RSOC 2013-14	65.3%	55.7%	61.6%	65.4%	71.6%
NFHS-4 2015-16	62%	56%	63%	62%	64%

The SDG3 aspires to ensure “Health for All”. It also aims to achieve universal health coverage and access to safe and effective medicines and vaccines for all. Reiterating that the tribal population has an equal right to enjoy optimum health outcomes and to remain inclusive, it becomes imperative to bring focus on tribal health particularly immunization. This will also contribute to the government’s ongoing efforts at rapidly increasing FIC.

It is important to realise that India is a country of myriad, innumerable cultural practices, beliefs and languages with the tribal population being at the top of that pyramid owing to the heterogeneity of the tribal population. Therefore, it was felt that the problem in the tribal population was not uniform and had to be dealt with on a case-to-case basis. The immunization programme’s reach among the tribal population has been lower as compared to all other population groups. If India has to rapidly improve the FIC, all areas including the tribal population have to be covered and a one size fits all approach is ill fitted for this vibrant group. However, there was the realisation that the ground realities need to be assessed before devising strategies in this direction. The literature on immunization programme issues in the tribal population was insufficient; therefore, it was imperative to understand the need and demand for immunization services in this population. It is expected that the need assessment will aid in strengthening the immunization programme in the country’s tribal areas.





## Chapter 2

# Objectives and Methodology



Over the years, immunization coverage in the tribal population has remained comparatively low as compared to other categories. It could be due to the practices and beliefs prevailing among these groups that act as impediments to vaccination access or uptake or it could be due to social barriers faced by these groups making it more difficult for them to utilise health care services for their children.

There is insufficient literature on immunization programme issues in tribal population, therefore before devising any strategy for this group, it was imperative to understand the need and demand for immunization services in this population.

The Need Assessment Study has been undertaken to understand the current status of tribal immunization. The aim of the study is multi-fold, which includes in-depth understanding of the challenges in the supply and demand side, an attempt to understand the behaviour practices and best practices prevailing in different areas with large tribal populations.

The Tribal Need Assessment (TNA) Study will further detail the bottlenecks and challenges related to low immunization coverage among the tribal population and identification of opportunities to bridge the gap.

The TNA study is meant to identify key challenges in the delivery of services till the last level, with respect to infrastructure, human resource and training issues, and interdepartmental coordination. It will also provide insight into the myths and beliefs, cultural barriers, language problems, acceptance of immunization by the tribal population, reasons for refusal, prevailing practices and identification of good replicable practices.

The TNA study intends to suggest interventions, help in formulating strategies that will help in ensuring that no child is left-out and will further support the government's efforts in addressing coverage and equity issues.

The TNA study has been designed with the following objectives:

## General Objective

To generate evidence on the community's need for immunization and to document socio-cultural practices and barriers, and to suggest a model for intervention.

## Specific Objectives

To explore knowledge, beliefs and practices of the tribal population towards immunization

To explore the need and concerns of the tribal population, services providers and other key influencers.

To document the existing best practices in the tribal population in India.

To suggest recommendations for intervention based on the findings about the tribal population's need for immunization.

## Methodology

A cross sectional study design with qualitative research methodology was used for the need assessment.

## Geographical Scope

The need assessment study has been carried out in 14 districts of 7 States

- Gujarat (Dahod and Panch Mahal)
- Chhattisgarh (Jashpur and Surguja)
- Jharkhand (Pashchimi Singhbhum and Gumla)
- Maharashtra (Nandurbar and Dhule)
- Madhya Pradesh (Jhabua and Alirajpur)
- Rajasthan (Banswara and Udaipur)
- Odisha (Mayurbhanj and Gajapati)

Figure 3: Sampled States for Tribal Need Assessment 2019



## Sampling Technique

A multi-stage sampling technique was used in the need assessment study.

- Seven states were selected based on the maximum proportion of tribal population (Figure 3).
- Within each state, two districts were selected for the need assessment. In total 14 districts were selected for the study, as detailed in the subsequent section.
- Further, in each district, two blocks, with a tribal population of more than 85 per cent, were chosen using simple random sampling.
- In each block, four villages/areas with a large tribal population and immunization coverage as well as distance i.e. within and outside the perimeter of five kilometres from the sub-centres/health facilities were selected.
- In each village, the household was the unit of study. Households with children more than six months and less than three years of age were selected. A minimum of five households was interviewed in each village.





- At each level, convenient sampling was used to determine the study respondents available for interviews.

## Criteria for State and District Selection

- As per the Census 2011, more than 152 districts have a tribal population of above 25 per cent. Out of 152 districts, 87 are in 10 non-North Eastern States. While the tribal population constitutes a small sub-set of the total population in these 87 districts, the ratio is the reverse in most of the North-eastern states where the tribal population constitutes a major portion of the entire population, requiring a different approach.
- Therefore, this study is focused on the tribal population living in non-North East states and further analysis is limited to non-North East states. The number of partially immunised or unimmunised tribal children in these 87 districts was calculated based on immunization coverage as per NFHS-4 (2015-16); the percentage of tribal population as per Census 2011 data; and birth cohort data of 2015-16 as per HMIS. After this, the average was calculated for these 87 districts and it was found that on average 2,368 tribal children, per district, were either partially immunised or completely unimmunised. This was taken as one of the criteria for selection of districts.
- In sampled states (excluding Odisha), two districts were selected randomly. Districts which had more than 25 per cent tribal population, less than 62 per cent FIC and more than 2,368 partially immunised or unimmunised tribal children were selected. In addition, one district of Chhattisgarh with a tribal population of more than 25 per cent, more than 2,368 partially immunised or unimmunised tribal children and FIC almost near the national average of 62 per cent was also included in the study.
- Odisha was taken as a learning state as almost all the tribal districts except Gajapati (FIC=46.4%) have a FIC higher than the national average i.e. 62 per cent. Selection criteria for districts in Odisha: Mapping of all tribal districts was done and it was found that though Mayurbhanj District has FIC>62 per cent; the number of partially immunised or unimmunised children in the district was more than 2,368. Mayurbhanj (FIC>62%) and Gajapati (FIC<62%) were selected in Odisha State.
- In each of the 14 districts, two blocks with a tribal population of >85 per cent were randomly selected in the sample.

## Study Respondents in Need Assessment Study

Stakeholders from the state government, block/district level officials, partner agencies, locally active non-government organisations, local leaders, key influencers and mothers (of children more than 6 months and under 3 years of age) were the study respondents (Table 2).

Table 2: Stakeholders Interviewed During Tribal Need Assessment Study

Level	Stakeholder/ Participant	Purpose	Type of Interview	No of IDI/FGD	Total No
State District Block	SEPIO, DIO, MO	To know the system related challenges and understand the mechanism of coordination or contacting tribal community Mapping of tribal areas for details of population, infrastructure and manpower.	IDI	SEPIO- 1*7 DIO- 2*7 MO- 4*7	49
State/ District	MoTA/Tribal Research Institutes/ Tribal Department	To understand the mechanism of coordination or contacting tribal community Mapping of tribal areas for details of population, infrastructure and manpower.	IDI	1*7 (state) 2*7 (District)	21
Block	Cold Chain Handlers/ CCO	To know the supply and management related issues	IDI	4*7(1in each block)	28
	ANM	To gather information of the community and to know the challenges at service delivery	IDI	8*7 (2 IDI in a block)	56
Village	ASHA/AWW	To understand the community's perception, beliefs, issues etc.	IDI	16*7 ASHA 16*7 AWW	224
	Key Influencers/ Sarpanch/Village Head/Priest, faith-based leaders, Local/Traditional Healers, Teachers, Eklavya/Ashram schools, etc.	To understand the community's perception, beliefs, issues etc.	IDI	4*7 (1 in each block)	28
	Tribal community/ caregivers	To understand their knowledge, beliefs and practices	FGD	16*7 (4 in a block)	112
Household	Mothers with children less than 36 months	To understand their knowledge, beliefs and practices. Number of fully immunized children with basic socio-demographic characteristics was also determined.	IDI	48*7 (minimum 6 in a village)	350



## Study Tool and Data Collection

A pre-designed semi-structured questionnaire was used for data collection. Data was collected using in-depth interviews (IDIs) and focus group discussions (FGDs).

NIHFW as the lead organisation conducted a one-day workshop with experts for the finalisation of the study tools, and for identification of themes for data analysis and report writing. After the workshop, the tool was further subjected to rigorous pilot testing before being finalised. After finalisation of the study tools, a two-days training programme was conducted at NIFHW for the researchers (28 persons) involved in the study to ensure uniformity in data collection and quality of the study.

Data triangulation was done through interviewing various stakeholders, such as medical officers, health workers and caregivers, to develop a comprehensive understanding of the immunization service delivery in tribal areas.

## Data Analysis

The qualitative and quantitative data were analysed separately.

- Each interview and FGD was transcribed and translated verbatim and data scrutinised to identify the gaps and missing links. For analysis of qualitative data, themes were identified and content analysis was done.
- SWOT analysis was also conducted to determine the internal strengths and weaknesses, and external opportunities and threats for the programme in tribal areas.
- Quantitative data was analysed to determine descriptive epidemiological parameters in the form of proportions using Microsoft Excel 2016.

## Institutional Approvals

The study was duly approved by Academic Committee and Programme Advisory Committee at the NIHFW.

## Socio-demographic and Health Profile

### a. Socio-demographic Profile of Sampled States

Seven states with roughly half of the tribal population in India, namely Madhya Pradesh (14.69%), Maharashtra (10.08%), Odisha (9.2%), Rajasthan (8.86%), Gujarat (8.5%), Jharkhand (8.29%), and Chhattisgarh (7.5%), were included in the study. Table 2 depicts the basic socio-demographic characteristics of seven sampled states.

Table 3: Basic Socio-demographic Characteristics of Sampled States (Source: Census 2011)

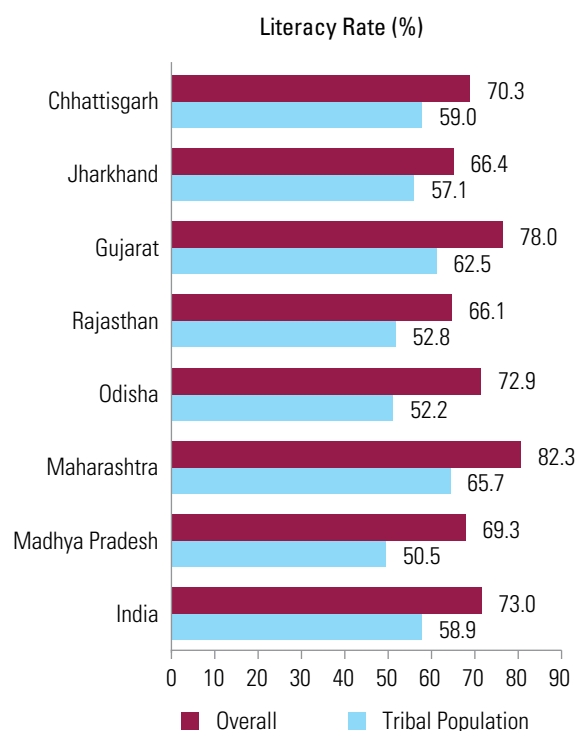
Indicator	India	MP	Maharashtra	Odisha	Rajasthan	Gujarat	Jharkhand	Chhattisgarh	
Total Population (In crore)	121.01	7.26	11.23	4.19	6.85	6.04	3.29	2.55	
Decadal Growth (%)	17.64	20.35	15.99	14.05	21.31	19.28	22.42	22.61	
SC Population (In crore)	20.1	1.13	1.32	0.72	1.22	0.40	0.39	0.33	
ST Population (In crore)	10.4	1.53	1.05	0.95	0.92	0.89	0.86	0.78	
Sex Ratio	940	931	929	979	928	919	948	991	
Child Sex Ratio	919	918	894	941	888	890	948	969	
Literacy Rate (%)	Total	73.0	69.3	82.3	72.9	66.1	78.0	66.4	70.3
	Male	80.9	78.7	88.4	81.6	79.2	85.8	76.8	80.3
	Female	64.6	59.2	75.9	64.0	52.1	69.7	55.4	60.2

Among the seven sampled states, five states had a decadal growth rate above the national average (17.64%), including Chhattisgarh (22.61%), Jharkhand (22.42%), Rajasthan (21.31%), Madhya Pradesh (20.35) and Gujarat (19.28%).

## Literacy

The literacy rate is known to have a direct impact on the quality of life led by people in a community. In addition to a good quality of life, literate and educated communities have better understanding of good hygiene, clean water, sanitation and their approach towards good health. It helps dispel the myths related to disease causation, treatment and prevention, and brings about a change in the community's healthcare seeking behaviour. Literacy among mothers and fathers of young children has a major role to play regarding awareness about vaccines; their role in the prevention of VPD related morbidity and mortality. Investment in education also indirectly saves the families' unnecessary health-related out-of-pocket expenditure.

Figure 4: Literacy Rate in Seven Sampled States (Source: Census 2011)



Among the seven sampled states, Maharashtra (82.3%) and Gujarat (78.0%) were the only two states with an overall literacy rate higher than the national average (73.0%) (Table 2).

In India, despite the government's efforts to increase access to education among STs, the literacy rate (58.9%) is much lower than the national average (73.0%). Lower literacy rates were also observed among the ST population as compared to others in all seven sampled states (Figure 4).

## b. Health Profile of Sampled States

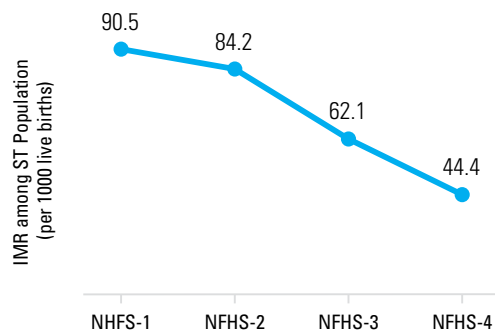
Consequential to the improving healthcare services, RMNCH+A activities and ongoing efforts by the Government of India, the IMR among the ST population has decreased from 90.5 per 1000 live births (NFHS-1) in 1988 to 44.4 (NFHS-4) in 2014 (Figure 5). Despite all efforts, it still remains higher than the overall national average. Certain health and immunization indicators of the seven sampled states are depicted in Table 3. Out of the seven states, four states, namely MP (47), Odisha (44), Rajasthan (41), and Chhattisgarh (39), had an infant mortality rate higher than the national average (34).

Table 4: Health and Immunization Indicators among Seven Sampled States

Indicator		India	MP	Maharashtra	Odisha	Rajasthan	Gujarat	Jharkhand	Chhattisgarh
Health	Infant Mortality Rate*	34	47	19	44	41	30	29	39
	Maternal Mortality Ratio*	130	173	61	180	199	91	165	173
	Total Fertility Rate*	2.3	2.8	1.8	2.0	2.7	2.2	2.6	2.5
	Crude Birth Rate*	20.4	25.1	15.9	18.6	24.3	20.1	22.9	22.8
	Crude Death Rate*	6.4	7.1	5.9	7.8	6.1	6.1	5.5	7.4
Immunization	Full Immunization Coverage# (%)	62.0	53.6	56.3	78.6	54.8	50.4	61.9	76.4
	BCG Vaccine Coverage# (%)	91.9	91.6	90.0	94.1	88.8	87.9	95.8	98.4
	Coverage of 3 doses of DPT# (%)	78.4	73.4	74.9	89.2	71.6	72.7	82.4	91.4
	MCV Coverage# (%)	81.1	79.6	82.8	87.9	78.1	75.0	82.6	93.9

\*Source: SRS 2016 #Source: NFHS-4

Figure 5: Decline in IMR among ST Population (1998-2015)



According to NFHS-4 data, the FIC of two states, namely Odisha (78.6%), and Chhattisgarh (76.4%) was above the national average of 62.0 per cent. Whereas the remaining five states were well below the national average, the lowest being Gujarat (50.4%) and MP (53.6%). According to NFHS-4, BCG coverage is high across all seven states, it is highest in Chhattisgarh (98.4%) and Jharkhand (95.8%) and lowest in Gujarat (87.9%).





## Chapter 3

# Results





The tribal needs assessment conducted across 14 districts of seven tribal predominant states included IDIs and FGDs with the community (including caregivers and key influencers) and health providers at the village, block, district and state level. The results were broadly categorised as: Demand for Immunization and Health Seeking Behaviour, Service Delivery in Tribal Areas, and Possible Solutions in Tribal Areas.

## A. Demand for Immunization and Health Seeking Behaviour

### 1. Health Seeking Behaviour in Tribal Areas

Almost 90 per cent of the tribal population in India lives in rural areas. The tribal population continues to predominantly live in hilly and forested areas. The health and social indicators are generally poor for tribal people as compared to those of other people in most of the countries.

In India, tribal populations have poorer health indicators, a greater burden of morbidity and mortality, and very limited access to healthcare services, as compared to the remaining population. The tribal population in India faces a triple burden of diseases (4).

Limited access to healthcare services due to poor road connectivity, poor availability of health personnel, lack of adequate equipment, language and social barriers, and poverty contribute to lower health seeking patterns among the tribal communities and lower trust on the health care system.



In all seven sampled states, the communities had complete trust in the vaccinator and health system in the immunization of their children. No misconceptions and fears were found among most of the caregivers and members of the society. In most of the places, the trust in healthcare system was strengthened because of the field workers including ASHAs and AWWs.

A FGD with community members in a village in Gajapati District, Odisha, highlighted that none of the community's members refused or disagreed with ASHA workers. The community had full faith in her, and through her, they trusted modern medicine.

However, owing to the lack of access to healthcare services and the community's beliefs, traditional or faith healers or unqualified practitioners were the first points of contact during illness for most of the families.

In Gumla District, Jharkhand, the members of the community primarily visited quacks, underwent incantation, or visited *Sokha – Bhoga*, the local *siddha* person/ local healers, who performed puja or conducted some rituals.

Similar findings were reported from Nandurbar District, Maharashtra, where some of the tribal population believed in traditional healers, and hence they were the first point-of-contact in case a family member was sick.

Based on geographical location, a particular distinction in the healthcare seeking behaviour of tribal communities was noted in Chhattisgarh, where the *Dihari Korwa* (farmers) tribe that had moved downhill into the plains to practice modern agriculture were generally more receptive of a modern lifestyle, including modern medicine. Whereas, the *Pahari Korwa* (hill dweller) tribal population that refuse to give up their traditional lifestyle of hunting and gathering living at higher altitudes and inside deep forested areas, were still resistant to modern lifestyle practices including modern medicine.

## 2. Immunization and Related Community Perceptions

In the communities with limited access to education or media sources, the most common sources of information were the health workers and community members. In all seven sampled states, nearly 100 per cent of the study respondents claimed that ASHA/ANM/AWWs were their source of all information related to immunization. Less than 10 per cent respondents in Dahod (Gujarat) and Alirajpur (MP) reported that mike announcements, television, radio, newspapers, etc. were their sources of information related to immunization.

Most of the respondents believe that the vaccines are good for a baby's health and it helps protect children from diseases. However, the most common fear among caregivers was that the child would fall ill after vaccination.



An ANM in Jhabua (MP) says almost 10 per cent of the mothers were afraid of side effects, and hence require more persuasion during mobilisation. Some of the common myths related to immunization are that vaccines cause impotency, vaccines will make the child sick, and vaccines are not important.

In Mayurbhanj (Odisha), during an FGD, the community reported that they had more faith in traditional beliefs and that modern medicine conflicted with their cultural beliefs. Three of the 12 mothers in the FGD expressed that their mothers-in-law were not completely convinced about immunization. They felt that it caused unnecessary pain and ill health to the child, which could be avoided.



*“Tikakaran se bemari nahi hoti. TV mein batata hai, (ANM) didi boli” Caregiver says in Jharkhand*

The Manjhi tribe in Paige sub-centre, Surguja, Chhattisgarh believed in the traditional way of life, and was apprehensive of the fever following immunization as it led to significant wage loss.

A key influencer (Sarpanch) from Mayurbhanj (Odisha) said that, “Distance to session site and fear of illness among male child are most common causes of resistance to vaccination”.

The decision as to whether the child should be taken for immunization or not is also influenced by the primary decision-maker of the household. In Jhabua, Madhya Pradesh and Mayurbhanj, Odisha, fathers were the primary decision-makers regarding health-related issues, including immunization of children. In both MP and Odisha, fathers as primary decision-makers were seen to have a positive influence on immunization coverage. In Jhabua (MP), 77.5 per cent caregivers reported fathers as primary decision-makers and 82.5 per cent families had their youngest child fully immunised appropriate to age. Mayurbhanj, Odisha, was a good performing district, where the father was the primary decision-maker in 75 per cent of the cases and youngest child was immunised as per age in 87.5 per cent of households. Other states reported that mothers and mothers-in-law were the primary decision-makers of the household.

In Banswara District (Rajasthan), project *Pukaar* has been implemented which can break the barrier in the left-out and drop-out families where the mother-in-law has the power of decision making and sometimes does not allow the mothers to take their children for vaccination. It is a community mobilising initiative, a discussion platform, in which mothers and mothers-in-law are approached one day before the immunization session to discuss immunization and its effects. This initiative also helps mother to remember the date/ time of immunization day.



### 3. Outreach Service Delivery at Session Sites

Children of more than 80 per cent caregivers interviewed were vaccinated as per age, as compared to the national average of 56 per cent among the ST population (Source: NFHS-4). Among the partially vaccinated children, most commonly reported reasons included loss of wages due to AEFI, non-availability of child for vaccination due to migration, and lack of awareness about session site/timing. The MCP cards are issued to the mothers at the time of registration of pregnancy, and duly filled cards with the baby's details are given to them at the time of delivery. For most of the communities, the session was held at the Anganwadi Centre of their village or nearby village. Almost all caregivers travel to the session site on foot, and it takes them about 30-60 minutes to reach there.

The percentage of caregivers that reported receiving the MCP card during discharge from the health facility was 100 per cent for Odisha, 98 per cent for Gujarat, 90 per cent for Chhattisgarh, 87.5 per cent for MP, 85 per cent for Maharashtra, 66 per cent for Rajasthan and 42 per cent for Jharkhand. Overall, more than 90 per cent of the mothers had their child's MCP card when interviewed in the village.

### 4. Past Experiences at Session Sites

In most of the villages, the caregivers and community members reported a good rapport with the health workers. They felt comfortable expressing their concerns to the ASHA, AWW and ANM. The health workers' behaviour was a strong determinant of the community's acceptance of health services, including immunization.

Dahod (Gujarat) reported a good rapport of all three health workers (ASHA, ANM, AWW) with the community and with each other. They were always available for help whenever needed in the community through telephones.

On the other hand, interaction with ANMs was reported to be very limited in a few places due to the language barrier. In Nandurbar (Maharashtra), the ASHA said that the newly appointed ANM had a problem in communicating with them because of the language barrier. Also, a lack of knowledge about (family planning and delivery) incentives can sometimes create a nuisance at the session site. The health worker's impolite behaviour can discourage the members of the community from seeking help when needed.

In Bishnupur (Jharkhand) caregivers during an FGD said that *"ANM (didi) to milti nahi hai bukhar hone se hamein hi sambhalna padta hai, gaav ke doctor ke pass jaten hai.. Didi batati hai bukhar hoga, per aushudh kuch nahi milta"* (ANM is not available when child develops fever, we have to take care of the child and take him to the local doctor. ANM tells that child can develop fever but does not give any medication)



## 5. Challenges Faced by the Community

Despite the presence of trust in the health system among most of the communities interviewed, FIC coverage remains poor in the tribal population compared to other populations in India. Low literacy and poor socio-economic conditions also hamper the health seeking behaviour of the tribal population.

In the 14 sampled districts, most of the community members belonged to the lower socio-economic strata, with an annual family income below Rs. 40,000/-. Most of the families work as daily wage labourers in agricultural fields. Due to limited employment opportunities available, many people migrate to nearby districts/states in search of better wages.

**A key influencer from Jhabua (MP) lists the key challenges faced in the community's participation as** *“Some of the reasons for not vaccinating their child are- difficult to reach the site, apprehension/fear of illness after vaccination, sometime busy in their work, no transportation, wage loss, cultural belief/myths and believe in alternate medicine (faith/traditional/quack healer).”*

Among the caregivers with partially immunised children in Dhule (Maharashtra), 20 per cent reported loss of daily wages and inappropriate time and place of session site as primary causes for missing their child's vaccination.

**In Gumla (Jharkhand), an FGD with caregivers highlighted** *“clashing of vaccination time with the work schedule or migration as major issues, followed by fear of side effects specifically fever and irritability. In addition, hard-to-reach areas or poor weather conditions also act as major hindrances. Some also complained of not having the information regarding immunization session.”*

**Migration** of families in search of better employment opportunities and higher wages is a challenge in most of the tribal areas. The migration is most often temporary, limited to a few months every year. **Though the season for migration varied across states, most of them returned to their homes during peak harvest season and key festivals/wedding months.** The children's immunization remains incomplete because of families migrating in search of better employment opportunities and higher wages. Higher dropouts and left-outs are observed in villages with a higher rate of migration.

Among the interviewed caregivers, 10-30 per cent people reported migration to other places for employment. It was found to be lowest (10%) in Jharkhand and highest (~30%) in Dhule (Maharashtra). The statistics of migration vary from place to place. Most of the migratory population settle in temporary settlements in new places, and roughly 50 per cent prefer taking their child for vaccination at the place they have migrated to.



## B. Service Delivery in Tribal Areas

### 1. Healthcare Services in Tribal Areas

The deficit in infrastructure and human resources posted in tribal areas forms a constraint to accessibility in such areas. In most of the sampled states, the health facilities do not match the population norms.

**Lack of good roads and transportation in hard-to-reach areas was one of the common challenges.** In Gumla District, Jharkhand, an FGD among community members revealed that travelling to the health centre could lead to an **out-of-pocket expenditure as high as Rs. 500/- for transportation** from hard-to-reach areas due to no roads and poor connectivity.

In Maharashtra and Madhya Pradesh, some PHCs cater to more than 50,000 population, whereas certain sub-centres cater to more than 10,000. This puts a burden on the health system and limits the quality of care that can be given to the communities at large.

With human resource (HR) constraints in most of the hard-to-reach areas and a language barrier due to varied dialects across towns/villages; health care service delivery becomes a challenging task. Some states have adopted newer strategies at the local level to cater to the challenges posed by minimal infrastructure and HR.

**Block Medical Officer of CHC Batauli, Surguja District in Chhattisgarh highlighted setting up of *Swasthya Sangathan Kendra* as an extension of the sub-centre. The former District Magistrate introduced the concept for all sub-centres catering to larger areas. The building and land for the *Swasthya Sangathan Kendra* was allotted by PRI with minimum infrastructure and the funds were managed by the respective sub-centres. There are 34 *Swasthya Sangathan Kendras* in his block, which were all functional and managed by the 2nd ANM or MPW of the respective sub-centres.**

The immunization supply chain does not have any separate strategy for tribal and non-tribal areas. The average population covered under a cold chain point varied widely across the seven sampled states, like in Chhattisgarh, the last cold chain point was at the block level, and in Jharkhand, it catered to an average of 90,000 people.

#### a. Shortage of Vaccine and Logistics

The supply of vaccines was made through the alternate vaccine delivery system (AVDS) in almost all areas, most commonly by bike/Scooty, followed by walking, bus and boat in some areas. Though most of the tribal areas received vaccines and logistics in sufficient quantity, yet shortages were seen during the rainy season (when the place gets cut-off due to landslides, swollen rivers, etc.). Dhule District (Maharashtra) reported shortages of Oral Polio Vaccine.



Jhabua reported shortages of MR vaccine and its syringes. District Surguja (Chhattisgarh) reported shortages of BCG, hepatitis B and IPV.

*A significant challenge was noted in Mayurbhanj, Odisha, where the ANM stated that, "the tribal areas faced shortages of reconstituted vaccines and rotavirus vaccine many times. It is because of conducting immunization sessions in the scattered population in tribal areas. Some sessions are conducted for a population of only 300-500 where the injection load is less which leads to high wastage of reconstituted vaccines and RVV (where open vial policy is not applicable and have to be discarded within four hours of reconstitution/opening) which in turn leads to frequent stock out of vaccines."*

## **b. Challenges in Vaccine Management at Cold Chain Points**

Tribal areas are often secluded and are located in hard-to-reach areas of the district. Such areas often lack resources, HR, road connectivity, water and electricity, which pose a challenge in vaccine storage and management.

In Dhule, Maharashtra, a cold chain handler highlighted that electricity was available for an average of seven to eight hours a day. Even though the PHC was powered by solar energy because of low electricity supply, the equipment was non-functional. This posed the risk of vaccine wastage due to non-maintenance of the cold chain for vaccine storage.

Similarly, in Surguja District, Chhattisgarh, the block visited had only one cold chain point. Hence session sites were located at a distance which highlighted the need of creation of new cold chain point.

In Mayurbhanj, Odisha, one cold chain point catered to the major portion of the jungle area and vaccine delivery to the session site was a challenge, especially during the rainy season.

Other than vaccine storage, vaccine delivery to session sites as highlighted earlier was also a challenge. Besides the long distance, bad terrain and poor weather, defunct AVDS mechanisms in some areas posed greater challenges to vaccine delivery.

In many parts of Jhabua District, sessions could not be planned or held during the rainy season. Low payment and hence insufficient AVDS were problems in parts of Madhya Pradesh, Chhattisgarh and Jharkhand.

## **2. Programme and Policy Related to Tribal Immunization**

The tribal population across most parts of the country had restricted access and availability of good infrastructure and developmental milestones. The Ministry of Tribal Affairs (MoTA) is a nodal agency for planning and safeguarding the welfare of tribal communities in India. At the planning and policy making level, the tribal sub-plan is a major instrument of inclusion for the ST population. However, the focus on tribal health, particularly tribal immunization, remains limited.



## a. Tribal Sub-plan and Budget Allocation for Tribal Immunization

The tribal sub-plan (TSP) is a planning strategy focussing on rapid socio-economic growth of the tribal population in different states/UTs. It is a concept, which channelizes the flow of benefits from the Central government for the development of tribal populations in different states/UTs. Though all seven sampled states had a specific tribal sub-plan for the socio-economic development of tribal areas, however, there was no tribal specific sub-plan pertaining to immunization in most of them.

**The tribal sub-plan provides for a budget under the sub-head of health. However, there is no specific budget for immunization under TSP** in any of the seven states, except Madhya Pradesh. In Madhya Pradesh, the tribal sub-plan catered to the training of health workers for capacity building for immunization, and for building communication skills of ANMs, MPWs, and supervisors. The tribal sub-plan also provides for the supervision of immunization activity by the state routine immunization monitor.

For routine immunization, all seven states seek budget approvals and allocations through the Programme Implementation Plan (PIP). However, the budget remains the same for routine immunization activities across the entire state. There is no separate distinction for the tribal population.

## b. Role of Tribal Department in Immunization-related Activities

In all seven states sampled, the tribal department did not play a significant role in routine immunization in tribal areas. The only exception was District Gajapati, Odisha, where the district tribal officials, along with the health department, took part in monitoring outreach sessions held in tribal areas.

However, in Jharkhand, it was reported that the immunization performance was reviewed through a monthly meeting of a programme specific task force with the District Magistrate and WCD department.

In all sampled districts, there was no involvement of tribal department's local members in the mobilisation of beneficiaries for immunization sessions.

## c. Mapping and Identification of Tribal Areas

As the tribal population is dispersed across India, it becomes difficult to engage and impart services to all in an equitable manner. Prior identification and mapping of tribal settlements helps to streamline points of service delivery closer to the communities, thereby mitigating the challenge of reaching out to them. Such mapping requires constant updating to ensure that newer settlements and changing demographic patterns are accommodated to provide various





amenities such as health care delivery, education, water and sanitation, employment, etc. in the deepest and remotest parts of the country.

In all seven states sampled, the mapping and identification of all tribal areas was done by the Tribal Department.

Data from the Census 2011 was the basis of the mapping of tribal areas. However, most of the states updated their records in 2017. Certain districts such as West Singhbhum in Jharkhand reported an entire district to be a tribal district, which did not warrant any specific mapping. In Odisha, the statistical officers at the district level update their records of tribal settlements every year.

### 3. Planning and Conducting Outreach Sessions

#### a. Microplanning

Preparing a microplan for routine immunization sessions requires meticulous planning to ensure that outreach sessions cover all villages/wards and deliver services as close to the community as possible and are accessible. A head count survey conducted in all areas by the AWW and ASHA is the first step towards preparing a microplan. The ANM prepares a microplan for her sub-centre, covering all villages and hamlets.

Among the 14 sampled districts, the District Immunization Officers (DIO) highlighted that all the districts (except Gajapati, Odisha) have a common microplan for tribal and non-tribal areas. Gajapati, Odisha is the only sampled district, which prepared a separate microplan for tribal areas.

*The ANM at Kheda sub-centre, Jhabua District, Madhya Pradesh says that she prepares a separate list of migratory population and temporary settlements for immunization, so that these populations are not left-out. Separate sessions are planned in the microplan for covering the drop-outs.*

#### b. Session Sites

In all seven states sampled, the sessions were most commonly conducted at the Anganwadi Kendra and the sub-centre itself. In Mayurbhanj District, Odisha, immunization sessions were held at **Eklavya schools** for children more than six years of age. Eklavya schools are residential schools in Odisha with hostel facilities for tribal children.

Outreach session sites were located at varying distances from the last cold chain point. Any session site should not be more than one hour away from the last cold chain point. However, difficult terrain and bad weather can make the commute to the session sites longer than one hour. In Gujarat and Chhattisgarh, the maximum time taken is around one hour.



In Jharkhand, one ANM pointed out that the maximum time taken to reach the farthest session site was about five hours (around 55 km) from the sub-centre. In Dhule, Maharashtra, the maximum time taken to cover a distance of 60 kilometres was about two to three hours.

## 4. Vaccine Delivery to Session Sites and its Challenges

In all seven sampled states, the AVDS is the preferred mechanism for vaccine delivery from the last cold chain point to the session site. The AVD person is hired and paid per day for vaccine delivery, who delivers the vaccines to the session sites and returns them back to the cold chain points after the completion of the session. In ideal cases, the vaccines are returned to the last cold chain point on the same day itself.

However, the AVDS mechanism for vaccine delivery can be challenging in difficult terrain and hard-to-reach remote areas. According to the cold chain handler (CCH), the farthest session site and time taken to deliver the vaccines varies across different states and districts. The time taken to deliver vaccines usually increases during the rainy season particularly in forested and hilly areas due to swollen rivers/rivulets, landslides, etc., (Table 5).

Table 5: Farthest Distance and Time Taken for Vaccine Delivery to Session Sites from CCP

S. No.	State	Mechanism	Farthest Session Site from CCP		Are vaccines returned on the same day?
			Distance (in km)	Time (in hours)	
1.	Gujarat	AVDS	10	0.5	Yes
2.	Maharashtra	AVDS*	35	2	Yes, except Kakarda PHC, Nandurbar
3.	Madhya Pradesh	AVDS	30	5	Yes, except in Sondwa Block, Alirajpur
4.	Chhattisgarh	AVDS	20	1.5	Yes
5.	Jharkhand	AVDS	20	2	Some sites from where vaccine could not be delivered and returned on the same day
6.	Odisha	AVDS	35	4	Yes
7.	Rajasthan	AVDS	5	0.5	Yes

*\*In some areas, the ANM takes the vaccine carriers to session sites*

Among the sampled districts and cold chain points in the states of Gujarat and Rajasthan, the farthest outreach session could be reached within one hour from the last cold chain point. The maximum time taken to deliver vaccines was observed in Sondwa Block, Alirajpur, Madhya Pradesh and Mayurbhanj, Odisha.



In Batauli, Chhattisgarh, AVD person did not go up to the session sites in areas that were difficult to reach, they only went half way and the ASHA/Mitanin and the RCHO took the vaccines from there to the session site.

District Immunization Officer, Alirajpur District, Madhya Pradesh: *“The AVD system was not functional in hard-to-reach areas. The main reason being the difficulty in accessing these areas due to the hilly terrain accompanied by frequent swelling of the rivulets en route to the hamlets. Another reason was the insufficient number of AVDs available. There is a need to increase the vaccine focal points from the present 5 to 21 for smoother vaccine delivery.”*

**CCH, Alirajpur, Madhya Pradesh:**  
*“In Sondwa Block, there were 8 session sites where vaccines couldn’t be delivered and returned back on the same day. Mode of transport used to reach these sites comprised of bus, boat and walking.”*

In Jhabua District (MP), the challenges faced in vaccine delivery include far and insecure location of session site, non-availability of transportation or AVDS, etc.

Sometimes, the AVDS mechanism is not well established because of non-payment or low payment (not enough payment) of the AVD person. In Surguja District, Chhattisgarh, the amount paid to the AVDS payment was not enough to cover fuel costs, especially for hard-to-reach areas.

Heavy rainfall and consequent landslides or swollen rivers also pose challenges in vaccine delivery. In Mayurbhanj District, Odisha, no session was conducted at a remote sub-centre for two months in the last year due to the poor condition of the roads, no connectivity and landslides due to heavy rainfall.

Similarly, in Jharkhand, the delivery of vaccines by the AVD to the immunization



Team of the assessors crossing a river to reach the community in a tribal block of Odisha



A muddy road connecting routine immunization session site in the centre of a block of Odisha.



site is difficult because of the lack of proper road and transport facilities. Sometimes, the AVD ensures that the vaccines are delivered to the sub-centre, and the ANM carries the vaccines in a vaccine carrier to the immunization site. It is difficult for her to carry it to the vaccination sites where there are no roads or transport available.

## 5. Mobilisation of Beneficiaries

ASHAs and AWWs are primarily involved with mobilisation of beneficiaries to the session site. The ANMs, particularly those trained in community mobilisation, often supervise ASHAs in community mobilisation.

### a. Challenges in Beneficiary Mobilisation

The challenges in mobilisation of beneficiaries vary across different tribal communities, geographic terrain, weather conditions, myths and cultural beliefs of the community, etc. In Dhule (Maharashtra), Banswara (Rajasthan) and Dahod (Gujarat), mobilisation of beneficiaries was a challenge due to muddy trails and swollen rivulets across difficult geographic terrain in the rainy season. In Gumla District, Jharkhand, the difficulties in mobilisation were more pronounced in hard-to-reach areas where the paths between villages pass through dense forests, crossing over multiple water streams and steep inclines.

**An AWW in Jhabua (MP) stated:** *“In mobilisation, (she) faces some problem like, immunization is not considered to be important by the community, sometimes lack of cooperation from the head of the family, or it’s difficult trying to convince the male members of family. Various possible reasons for non-acceptance/refusal of vaccination of the children are no transportation facility, geographical terrain/ weather conditions.”*

Some of the basic challenges faced in Mayurbhanj, Odisha, was migration among families. Families migrate for about three to five months at a stretch and fail to provide any contact information for follow-up.

**The ANM in Mayurbhanj rightly points out that:** *“there are one or two families which are refusing vaccination because of the misconception that vaccines will make child sick.” “Some of the caregivers also expressed concerns on the child taking multiple injections in one visit.”*

## 6. Health Workers’ Viewpoint: Challenges in Service Delivery

The challenges in service delivery broadly remained the same across the seven sampled states. Though each district comes with its unique geographic terrain, tribal culture and healthcare service delivery mechanism, the accessibility and availability of immunization services remains the main challenge in each state.



Broadly, the key challenges in immunization service delivery encompass:

## a. Migration of Families

The migration of families in search of better employment and better wages appeared to be one of the key challenges in immunization service delivery. As substantiated by caregiver interviews and FGDs with community members, migration was mostly temporary and seasonal. All migratory families returned back to their homes during harvest season and wedding/festivals. Owing to migration, families often miss out on their vaccination due dates, resulting in higher left-outs and drop-outs.

Though migration for work was a common problem in all states, it was deemed a significant challenge by health workers in Maharashtra, Madhya Pradesh, Gujarat, Jharkhand, and Rajasthan.

## b. Lack of Accessibility to Session Sites

The inaccessibility of session sites due to difficult geographic terrain, particularly during the rainy season was a significant problem in the states of Central India. Heavy rainfall in the areas led to swollen rivulets, and when coupled with no cemented roads, made the commute to the session sites very dangerous. Inaccessible session sites were a challenge particularly in Maharashtra, Madhya Pradesh, Chhattisgarh, Jharkhand, Rajasthan and Odisha.

**The DIO, Gumla, Jharkhand says:** *“Difficult geographical terrain, lack of transportation availability, unsafe Naxal areas, long commute, etc. are reasons why people don’t come for vaccination. Sometimes, the immunization teams have to stay overnight at a few session sites due to difficult terrain (dense forests and hilly areas) and long commute times.”*

**In Chhattisgarh, it was highlighted that:** *“sessions are not held sometimes due to rainy season. Major challenges include poor connectivity of villages due to swelling of rivulets in rainy season, lack of transportation...”*

Health workers in Jhabua District (MP) also substantiate the claims of inaccessibility among other reasons for restricted service delivery.

**They say:** *“Various challenges faced while conducting sessions are - bad weather (especially rainy season), difficult geographical terrain, poor working condition, sometimes difficulty in interaction with the community in local language, outsiders not allowed to enter directly inside house, immunization equipment not available in sufficient quantity, non-availability of AVDS in the area and lack of subject knowledge among population.”*



A group of Health Workers & beneficiaries at an AWC, Odisha.



**The Medical Officer in Dhule, Maharashtra says that:** *“there is difficult geographic terrain, long distance and travel time, language barrier, lack of availability of transport facilities and shortage of HR in tribal areas.”*

Accessibility of session sites is a challenge for the scattered populations or smaller hamlets of few households settled deep in the forest or hilly terrains.

### **c. Lack of Awareness and Prevalence of Myths/Fears**

Most of the tribal communities accept immunization, however, some myths/fears persist among the communities. Though health workers are the primary source of information regarding immunization in all communities, certain fears including fear of side effects following immunization, child becoming sick, belief in traditional healers, etc. can pose a challenge to service delivery. Low literacy rates and isolated communities further contribute to the gap in awareness. Lack of awareness is primarily seen in tribes living in the remotest areas such as deep forests and unapproachable hilly terrain. On many occasions, multiple needle pricks were a cause for concern among the caregivers.

**In Banswara, Rajasthan, the DIO states that:** *“some children may develop fever or swelling at the site of vaccination; this leads to fear and anxiety in the mothers and other community members. As a result, they are discouraged from accepting further services.”*

Loss of wages due to fever and fear of side effects following immunization were predominantly found in Maharashtra, Madhya Pradesh, Chhattisgarh, Jharkhand, Rajasthan, and Odisha. In some parts of Jhabua District (MP) it was found that cultural beliefs in alternate forms of medicine were predominant.

**An AWW in Mayurbhanj, Odisha highlighted that the:** *“belief on God is strong. Language barrier, prejudice about injection, fear of injection etc. prevented them (caregivers) from vaccination.”*

Also, in Village Patahatu, Jharkhand, advocacy by an anti-vaccination group, Kripa Sandhu, was highlighted as a challenge to providing immunization services. In some places in Rajasthan, the communities have full faith in local traditional healers, who often discourage the people from getting their children vaccinated.

### **d. Lack of Infrastructure, Resources and HR in Tribal Areas**

Good infrastructure, provision of electricity, telecommunication links, road connectivity, and availability of HR and other logistics are the backbone for immunization service delivery in any community. The lack of HR and infrastructure pose a serious, yet fixable, challenge in immunization service delivery. During data collection, it was observed that the lack of basic



infrastructure facilities like well-maintained Anganwadi Centres, regular supply of safe drinking water, electricity, road networks and necessary bridges over water streams known to flood frequently, contribute to these constraints. **In all seven states, there was a shortage of HR, particularly in hard-to-reach areas, where staff frequently resigned and/or was transferred to other areas. The problem was consistently reported across all fourteen districts sampled for the study.**



Sub-center with poor infrastructure in a tribal block of Odisha.

Though ASHAs and AWWs were well accepted among all communities, a shortage of ANMs was reported mainly from Maharashtra and Jharkhand. Other than ANMs, the insufficient number of AVD persons was an added weak point in the immunization service delivery. This was because the AVD persons were either not paid enough or were not paid at all.

**An ANM in Jharkhand points out that:** *“due to prevalence of Naxal activities, and the frequent transfers and resignation of ANMs, the service delivery in tribal areas gets hampered. Absence of roads and transport, coupled with no electricity adds to the challenges”*

In Mayurbhanj, Odisha, almost all ANMs reported facing difficulty in communicating with communities due to varied dialects across different regions in the district.

According to DIO, Dhule, Maharashtra, a shortage of HR, IEC and MCP cards posed a challenge to service delivery. The lack of electricity in tribal areas was also a problem.

Poor road connectivity and lack of telecommunication links were a significant disability for health workers across most tribal predominant areas. In Mayurbhanj, Odisha, rains, frequent floods, coupled with poor infrastructure in the sub-centre, the lack of electricity, and lack of telecommunications in heavily forested areas hampered service delivery.

## e. Scattered Population

Since most of the tribal population lives in rural areas, families frequently settled outside the village in small clusters for work, which creates problems. At all levels of immunization service, a scattered population poses a challenge to proper delivery.

The chances of missing out small households during the household survey in deeply forested areas and hilly terrains leads to an incomplete microplan. Similarly, most session sites are usually very distant from these scattered hamlets, which pose challenges in mobilisation to session sites. Poor road connectivity coupled with landslides and bad weather during rains also contributes to the challenge.



Smaller hard-to-reach communities have complete faith in traditional forms of healing, and remain hesitant to modern medicine. Scattered populations were a relatively major challenge in service delivery in all seven states.

## 7. Role of ICDS, PRI and other Departments in Immunization

In all seven sample states, the outreach sessions were usually held at the Anganwadi Centre. The coordination between the ANM, ASHA (or *Mitanin* in Chhattisgarh) and AWW was good in all the study sites. The ICDS officials work in close coordination with the Health officials in conducting outreach sessions. The AWW's role in preparing the microplan was limited to only a few districts. In Nandurbar District, Maharashtra, AWWs were involved in mobilisation in only a few villages.

In Chhattisgarh, it was noted that the close proximity of the health centre to the Anganwadi Kendra and schools within the village promoted better coordination between all departments at the grass root level.

In states like Gujarat and Maharashtra, members of the PRI were also involved in the mobilisation of beneficiaries, particularly those families that resisted vaccination. School teachers have also been involved in conducting outreach sessions in the MR campaign, however, they have a minimal role in routine immunization.

In Gumla District, Jharkhand, ASHAs were unable to gather the PRI members' support because they expect certain financial incentives, though there is no such provision under the programme.

In Batauli, Surguja, Chhattisgarh, the BMO approached the sarpanch and other members of the PRI to improve the condition of the roads leading up to the sub-centre, which improved accessibility.

In Gajapati, Odisha, the Block Development Officer, Block Extension Officer, and officials from tribal department were also involved in immunization-related activities.

## C. Locally Adapted Strategies

### 1. Locally Adapted Strategies for Increasing Immunization Coverage

Many states and districts have adapted some local methods to tackle the challenges faced in beneficiary mobilisation, immunization service delivery and improving the coverage in their respective areas. Also, many health workers and programme managers believe that certain strategies may work in reducing immunization related challenges.





## a. Tracking Migrants and Reducing Migration

One of the key strategies to track migratory children is through **TeCHO+**. Gujarat utilises the Technology Enabled Community Health Operations (or TeCHO+), a mobile-based application, launched in 2017, which captures all data at point of service delivery. It includes longitudinal digital tracking of pregnant women and infants' health status and services (Figure 6). It also captures the immunization details of pregnant women and their children. It generates a family ID and child ID for easy tracking of children.

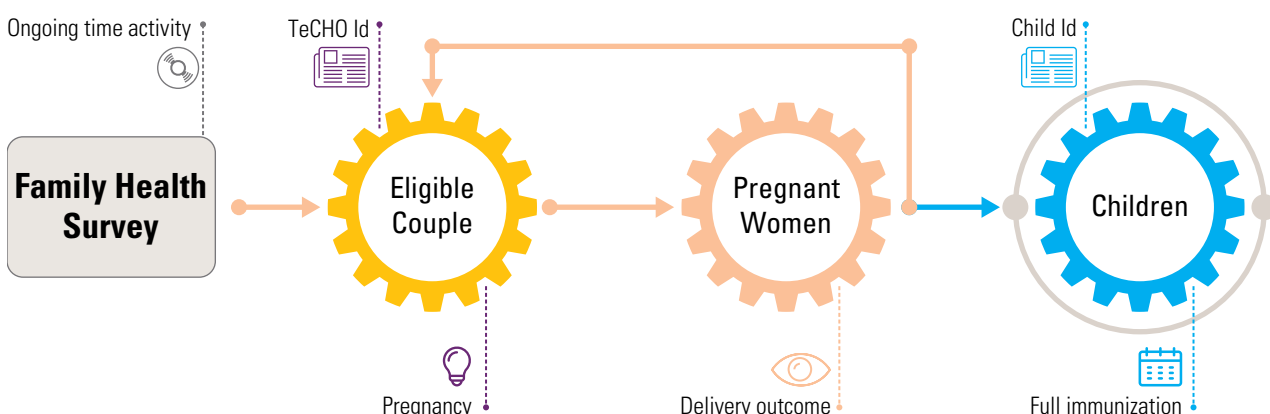
Another strategy highlighted by the District Health Officer (DHO), Dhule, Maharashtra, involves ascertaining the pattern of migration. Based on the place of migration, it includes the preparation and sharing of a migration due list with neighbouring states and districts. He also suggested the use of an online data feeding system or biometric based identification mechanism to identify mothers and ensure data entry even if the MCP card is misplaced or unavailable. The children's complete immunization can be incentivised irrespective of place of obtaining vaccination, especially for BPL families, to ensure vaccination at a new place.

In Maharashtra, an ANMOL tab is given to ANMs for online data collection, which helps to track beneficiaries.

In Alirajpur (MP), a separate session is held when the migrant population returns just before the "Bhagwa" festival. This helps the ANM in ensuring that no beneficiary among the migratory population in the temporary settlements is left unimmunised.



Figure 6: TeCHO application flow process



In Surguja (Chhattisgarh), in case of migration to nearby villages, the ANM telephonically contacts the *Mitanin* (ASHA) of the nearby town (the Manjhi tribe generally migrates to the nearby town of Kamleshwarpur for a few months) to ensure that no child is left-out.

The most common reason for migration is in search of new employment and better wages. Ensuring access to health care services at the new place and tracking of migrant population can improve the immunization coverage and overall health of migrants.

## **b. Increase Accessibility to immunization at Birth**

To increase institutional deliveries and ensure the vaccination of new-born babies with birth doses, *Maa Gruha* or Second home for Pregnant Women Scheme is being implemented in *Odisha*. As the rainy season cuts off access to many hard-to-reach areas in the district, the pregnant woman (with one relative) can move to these maternity waiting homes, 10-30 days prior to the due date, which are established close to the health facility/delivery point. She is given free food, stay and care and regular check-ups and has an institutional delivery at the health facility. The new-born baby's immunization is also ensured after delivery.

Similarly, in Maharashtra, under the **Maher Ghar** scheme, the government gives TA/DA and other funds for hard-to-reach tribal areas, and hardship allowances for medical officers, staff nurses, sub-centre staff, mobile units, etc. to promote availability of HR in hard-to-reach areas of the district.

## **c. Increasing Awareness and Removing Myths/Fears**

All ASHAs and AWWs help in the mobilisation of beneficiaries and also counsel them about the benefits of vaccination. In Dhule, Maharashtra, an ANM believes that an effective mode of communication in the community was the involvement of the *Mahila Mandal*, door-to-door visits, information disseminated through schools, ashrams, self-help groups and NGOs. It was substantiated by the increased use of pamphlets and banners for more effective communication. Door-to-door spread of information was particularly highlighted for scattered populations as an effective means of IEC.

An ASHA in Gumla District (Jharkhand) suggested impactful, visually enriching messages using mobile vans along with one to one interaction as effective communication strategy.

In Jhabua (MP), it was suggested that the sessions be integrated with important events such as weekly *haat bazaars*, the church congregations and gram sabha. The regular meeting of PRI members, the *Panchayat baithak*, could also be utilised to increase awareness about immunization and its benefits to the community.

In Alirajpur (MP), an ANM counselled the mothers and other community members to dispel their misconceptions and make them aware of the benefits of immunization on VHSND and Immunization Day. They also give the example of a completely immunised and healthy child to motivate them to get their child immunised too.



In Rajasthan, the use of traditional methods for spreading information such as *nukkad natak*, puppet shows, magic shows, and harkare for community engagement were suggested for increasing awareness and enhancing community mobilisation.

In communities where traditional healers have a strong influence such as the Manjhi tribe (Chhattisgarh), Bhumij community (Odisha), Sokha-Bhoga (Jharkhand) etc., liaising with traditional healers or those practicing alternative medicine, can be used for promoting immunization.

**In Surguja, Chhattisgarh, a rumour worked in favour of immunization. "Once, a particular skin rash was reported to be prevalent in the Manjhi tribe, which was wrongly identified as 'Khasra' by the community. The ANM took this as an opportunity to promote awareness about Measles vaccination in the community." Apart from this, all of the ANMs reported a rumour about MR vaccine doing the rounds on social media (WhatsApp) groups during the school campaign. When the mothers came for an immunization session, the ANM reassured them that the issue would be addressed.**

In Batauli, Surguja, Chhattisgarh, the *kothwas or mahato* (local announcers) announce the session time and immunization site one day prior to the outreach session at the Anganwadi Centre.

**PVTG-specific Plan:** In Odisha, a special plan has been devised to strengthen healthcare service delivery across 11 PVTGs in 82 blocks of 12 districts of the state. It identifies 8 special strategies, including immunization. The key components include strengthening of HR, identification of local healers, sensitisation of traditional and local healers, formation of database, review of activities performed by traditional healers, social mobilisation and awareness campaigns (*nukkad natak*, road show, wall paintings), provision of funds, and awards and recognition for health workers.

Different performance indicators have been set to track the scheme. One of the performance indicators for traditional healers is full immunization, number of cases referred and attended, number of meetings attended etc. The traditional healers are asked to sensitise the community, send for referrals and give authentic information about health. The traditional healers are used as a medium for the promotion of health and to address myths and beliefs.

#### **d. Availability and Recognition of HR in Tribal Areas**

Since HR recruitment through normal process takes time, a District Collector from Gajapati, Odisha exercised his power for filling posts of additional ANMs through corpus funds. This move has ensured that no sub-centre is vacant now.

In most of the sampled districts, non-cash incentives in form of certificates, awards/ mementoes and recognition were given to ANMs and ASHAs who performed well. Though the rewards and recognition are not limited to the field of immunization, they are considered to be a source of motivation for field workers.



In Madhya Pradesh, there are incentives in the form of institutional rewards and a recognition system for well performing ANMs/ASHAs in special campaigns and District or Block Task Force meetings on 26th January and 15th August.

In Odisha, the **Swasthya Sahay** scheme was introduced where ASHAs were given Rs. 1000 from state funds if they performed five mandatory tasks including immunization. An additional Rs. 3000/5000/10000 as per their level was given as prize money to select ASHAs at functions.

In Chhattisgarh, Assistant Medical Officers (AMOs) were placed to compensate for HR especially the vacant positions of MO at the health centre.

## e. Covering Left-outs and Drop-Outs

To enhance mobilisation of beneficiaries, it was suggested by an ANM in Jharkhand that: *“every month, the Immunization Day should be coupled with Take Home Ration Day to increase attendance at the session site.”*

In Gujarat, a concept of mini-anganwadi (**mini-AWC**) was found, which caters to a sparsely located population of 300-400. They have been primarily established in hard-to-reach areas, where outreach sessions are conducted in the same way as in the Anganwadi Kendra.

In Chhattisgarh, ‘**Sah-Up-Swasthya Kendra**’ are established in a separate building as a functional extension or subsidiary of the sub-centre by the PRI. The ANM/2<sup>nd</sup> ANM look after the logistics and service delivery and the budget for the parent sub-centre is utilised for the same. It can be used for service delivery closer to beneficiaries. Additionally, in Chhattisgarh, the deployment of **AWW at mini-AWC** and **separate ASHAs** at the hamlet level, along with the AWW and ASHA of the main village, was an alternative used for smaller hamlets.

In Odisha, the **Sampoorna** scheme has been implemented to cater to the scattered population and those in hard-to-reach areas. It allows for the provision of incentives, hiring vehicles and other logistics to form mobile teams for conducting sessions.

In Odisha, **Jeevan Samparna**, a collaborative effort of the NGO Kripda, UNICEF, Government, ICDS, and Odisha Tribal Livelihood Programme, was implemented in February 2019 to reduce malnutrition and increase immunization coverage. It helps in the mobilisation of left-outs and drop-outs resulting from seasonal cut offs, vaccine shortages, migration, etc. for immunization.

## 2. Solutions from Stakeholders to Improve Tribal Immunization

### a. Improving Vaccine Delivery

Across most states, CCH clearly demonstrated the need for more cold chain points to reduce the last mile travel time of vaccines to less than one hour in all situations. The need was particularly highlighted in parts of Madhya Pradesh, Maharashtra, Odisha, Rajasthan and Jharkhand.



**In Jhabua (MP), CCH highlighted that:** *“With the help of mobile teams, difficulty in transporting the vaccines to the tribal areas are addressed. Vehicles are provided to every AVD to reach the hard to reach areas.”*

**In Mayurbhanj, Odisha, CCH says that:** *“If more PHCs are designated as cold chain points, then this will help in reducing the distance of the session sites from the cold chain point and will also help in streamlining the stock management and reporting structure.”*

It was also suggested that extra incentives should be provided to health workers for conducting sessions and transporting vaccines to hard-to-reach areas.

In Dhule (Maharashtra), it was suggested that to improve immunization services in the tribal community, certain necessary steps could be taken, such as mobile sessions in the farthest village or hilly areas, tracking the migratory population to cover more people, developing more cold chain points (especially for hard-to-reach areas), on-time repair and maintenance of solar powered systems so that they are functional.

The CCH in Banswara District, Rajasthan suggests that generator sets should be available at each cold chain point for use during power cuts. Also, creating more cold chain points, provision of solar powered equipment, and better tele network connectivity are essential for better vaccine management.

In Maharashtra and Gujarat, a toll-free number has been provided for equipment maintenance and repair to all cold chain points.

## **b. Increasing Accessibility of Session Sites**

Session sites often remain inaccessible in distant hamlets because of poor road connectivity and lack of transportation facilities. An AWW in Dahod, Gujarat felt that if the transport was provided for mothers living far away it would increase acceptance.

It was suggested that two wheelers (or any other form of transportation) should be provided to bring mothers from distant hamlets to the session sites for immunization.

**A Medical Officer from Gajapati, Odisha suggests that:** *“Many a times staff are reluctant to go to these areas because of rainy season, time taken, intensive effort, fear of wild animals and other geographical difficulties. The government should make efforts to shift the tribals to a motorable point or to easily accessible areas. It would help in the provision of better services with less effort, less HR and less financial implications.”* He says that, *“It is difficult to build a school or SC/PHC at the hill top, while it is easier to shift 5-7 households to a motorable well connected area.”*



## c. Enhancing Community Participation

During the FGDs and IDIs with caregivers, community leaders and key influencers, a few common suggestions emerged for improvement in access to and acceptability of immunization services.

The role of key influencers was reported to be variable across different districts. In most communities the most influential person was the Sarpanch, followed by the ward member. It was suggested that key influencers could be involved in promoting immunization and mobilising the most resistant/traditional families in the communities.

Community members from Maharashtra and MP both highlighted a flexible time schedule for sessions and prior intimation by ASHAs through door-to-door message delivery or reminders via phone as the most common and popular ways to improve access to immunization.

It was suggested that community leaders, PRIs, health workers, teachers and mothers-in-law could act as stakeholders in influencing the immunization programme in the community. Besides involving other stakeholders, especially community leaders and religious leaders, it was also suggested that certain other schemes be incorporated for better beneficiary mobilisation.

In Dhule, Maharashtra, practices such as water and sanitation and Amrit Aahar Yojana at the Anganwadi Centre could be adopted along with the immunization programme to improve coverage.

In Jharkhand, an ANM suggested that the immunization session and the Take Home Ration given at the Anganwadi Centre once in a month should be on the same day.

**A key influencer in Jhabua (Madhya Pradesh) stated, “Proper education and awareness camp using local language, wage loss compensation and educating the spiritual healers & other influencers could be possible ways to overcome vaccine hesitancy in the community. Jan Pratinidhi, Panch, Sarpanch, and educated youths are other stakeholders, who can influence the immunization programme in the community.”**

In Jharkhand, tagging immunization with other important events such as monthly *haat bazaars*, *melas*, weekly gatherings, etc. can promote more participation. A need for making health care services accessible was suggested, including the provision of ambulance services for hard-to-reach areas too. The majority of people also suggested that more information on vaccination should be provided through local methods like *nukkad nataks*, drum beating, dance drama, film shows etc, in addition to timely reminders by health workers. It was suggested that the *Mahila Sangathan* in the village be involved for better community participation.

In Mayurbhanj (Odisha), the Sarpanch said that a mobile health unit (which was present earlier) should be re-introduced and if revived, could be a game changer in bringing about 100 per cent FIC in the village.





## Chapter 4

# SWOT Analysis





**A** SWOT analysis was done to assess the strengths and weaknesses of the immunization programme in tribal areas, and to utilise the opportunities and counter threats hampering the programme progress.

Table 6: SWOT Analysis of Immunization Programme in Tribal Areas of India

Strength	Weakness
<ul style="list-style-type: none"> <li>• Health functionaries are receptive and open to suggestions.</li> <li>• Regular review and monitoring system in place.</li> <li>• In the face of non -availability of allopathic MOs, a system of Assistant Medical Officers has been introduced (Chhattisgarh).</li> <li>• Good Coordination between ICDS (AWW) and Health department at the village level.</li> <li>• A good number of trained frontline health workers are in place.</li> <li>• Frontline workers knowledgeable about villages and hamlets, including distantly placed PVTGs.</li> <li>• Most sub-centres are running from government buildings. Workload per sub-centre is catering to a minimum population of 2500 to 3000.</li> <li>• Resistance to immunization was noted only in few tribal communities.</li> <li>• Vaccine distribution through AVDS up to session site in most states.</li> <li>• More number of ASHAs for given population observed in tribal areas.</li> <li>• No prevalent false belief/myth except resistance towards modern medicine among very few PVTGs groups.</li> </ul>	<ul style="list-style-type: none"> <li>• No PHC in some states. CHC is directly overseeing sub-centres. District hospital serves as the FRU (first referral unit).</li> <li>• Hard-to-reach areas with a higher concentration of primitive tribes have vacancies at sub-centres (no resident ANM).</li> <li>• Vaccine delivery from the last cold chain points in many places takes more than the usual time.</li> <li>• The need for refresher training for ASHAs is very high.</li> <li>• Lack of mobilisation of the community one day prior to session.</li> <li>• Mother and Child tracking bag is not used.</li> <li>• Due list registers not updated regularly.</li> <li>• Use of IEC material/activity is deficient.</li> <li>• Latest AVDS financial guidelines have not percolated down the system.</li> <li>• Shortage of vaccines like BCG.</li> <li>• Fewer cold chain points.</li> <li>• Delay in ASHA's incentive payments.</li> </ul>
Opportunity	Threat
<ul style="list-style-type: none"> <li>• Tribal department can be further involved in immunization and better coordination with health department.</li> <li>• Religious institutions like the church and ashrams can be further involved in immunization as they played a positive role in the MR campaign. Involving faith-based healers as immunization advocates can support community involvement under the immunization programme.</li> <li>• Good telecommunication network could allow ASHA/ANMs to connect to mothers over mobile phones.</li> </ul>	<ul style="list-style-type: none"> <li>• Adverse climatic conditions during rains, coupled with landslides and bad road connectivity pose a threat to vaccine and HR transport in hard-to-reach areas.</li> <li>• Hilly terrain with steep slopes and dense forests makes it very challenging to safely carry vaccine carrier on foot and ensure its timely delivery to session sites.</li> <li>• Poor network connectivity impairs contact between health workers and caregivers.</li> <li>• First point of contact following an illness is usually a faith healer, which delays access to healthcare.</li> <li>• Negligible involvement of PRI.</li> </ul>

Opportunity	Threat
<ul style="list-style-type: none"> <li>• Good road network in certain areas can help identify sites for upgrading of sub-centre to PHC.</li> <li>• General acceptance of immunization by community.</li> <li>• The staff and community both value the MCP card. Hence, the retention of MCP card with the caregivers needs to be emphasised.</li> <li>• Involvement of tribal schools such as Eklavya (in Odisha) can increase vaccine uptake among school going children.</li> <li>• Health fund under Tribal Sub-plan can be leveraged for immunization activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-conducive environment for female health workers due to high prevalence of alcohol consumption within the community.</li> <li>• Loss of wage in search of fever (AEFI) demotivates the community from timely immunization of their children.</li> <li>• Irregular electricity supply hampers the functioning of cold chain equipment.</li> <li>• Migration for livelihood is an important cause for drop-outs.</li> </ul>





Chapter 5

# Conclusion



**P**ersistently low FIC among the Scheduled Tribes and limited literature available on their perception and acceptance of immunization called for a need assessment study to determine the socio-cultural practices and implementation of RI in areas with predominantly tribal populations in India. The need assessment also identified the strengths and weaknesses of the immunization programme in tribal areas of seven tribal-predominant non-NE states. In-depth interviews and FGDs were conducted using pre-designed semi-structured questionnaires to collect qualitative data on the socio-cultural perceptions of the tribal communities. In-depth interviews of programme managers and health workers were conducted to ascertain the challenges in supply and demand side of UIP among tribal communities, particularly in hard-to-reach areas.

**Community Perceptions**, as assessed during interviews with key influencers and caregivers, highlighted the acceptance of immunization by most tribal groups, with frequent drop-outs due to loss of wages, poor peer experience (secondary to AEFI), distant session sites, and lack of transportation/connectivity to outreach sessions. Besides the above listed reasons, migration in search of better employment and higher wages for a few months in the year, were also reasons for missing vaccine doses. The frontline health workers in the field were the primary and usually sole source of information related to immunization for caregivers and key influencers. Strong suggestive measures include the role of key influencers in mobilisation, flexible timing of sessions, better connectivity and incorporating/integrating food supplementation or other public health programmes with immunization service delivery.

At the **Policy Level**, there is lack of a separate implementation plan and budget for tribal populations in most areas. Weak and sporadic inter-departmental coordination was reported between the health and tribal departments. Monetary funds for health, as allocated by MoTA, remain underutilised overall, with no specific allocation and/or utilisation for immunization.

To overcome the challenges in predominantly tribal areas, some states/districts have implemented locally acceptable **Good Practices**, such as the *Pukaar* scheme, use of TeCHO+ for tracking children, *Sampoorna* scheme for hard-to-reach areas, covering the scattered population through additional health infrastructure (such as *Sah-up-swasthya Kendra*, mini-AWC), *Maher Ghar Yojana* for promoting institutional deliveries and birth immunization of new-born, etc. Many districts are utilising improved and improvised methods of IEC (Mahila Mandal involvement, door-to-door messages, haat bazaar & church etc.) for better demand generation among tribal communities.

Despite the lack of sufficient HR and adequate infrastructure in most hard-to-reach areas, a motivated and driven health workforce is a major strength for **Immunization Service Delivery** in all sampled states and districts. Most common limitations in service delivery included lack of mode of transportation in hard-to-reach areas, adverse climatic conditions, a weak AVD system for vaccine delivery, absence of a tracking mechanism for migrant families (in search of livelihood), and a gap in awareness and acceptance among some sects of the tribal population.



The frontline workers reported resistance among tribal communities due to the fear of AEFI, loss of daily wages, and non-acceptance of modern medicine.

Vaccines are supplied through a robust immunization supply chain to the last cold chain point, from where the AVD mechanism is utilised for vaccine delivery to session sites. In some districts, vaccines are transported via bike, boat and on-foot, to the session sites. The last cold chain points in hard-to-reach areas of some districts remain cut-off, due to landslides and swelling of rivulets during the rainy season, which leads to non-availability of vaccines at sessions and cancellation of sessions. In addition, there is reported inequity in distribution of cold chain points in some districts, where it can take up to five hours for vaccine delivery to outreach sessions during the rainy season and the vaccines are not returned to the cold chain point on the same day.

Upon **SWOT Analysis** of the UIP in the tribal predominant areas, the key strengths of the system include motivated health functionaries, well-aware communities, strong immunization supply chain, and state-level innovations to overcome challenges in the field. Some weaknesses that were highlighted were the lack of transportation or road connectivity for hard-to-reach areas, limited health staff in some sub-centres, fewer cold chain points, and delayed/incomplete ASHA payments. An in-situ immunization programme is threatened by adverse climatic conditions, poor road and network connectivity, traditional beliefs/resistance of some tribal groups, difficult working environment for female health workers, and loss of child to migration or fear of AEFI. However, this assessment also highlighted an opportunity for developing a strong inter-departmental coordination with the tribal department, providing good road and network connectivity, utilising and strengthening vaccination-acceptance among communities, mitigating their apprehensions, and increasing the involvement of religious and local leaders to enhance the motivation and mobilisation of caregivers for vaccination.

The Government of India is determined to take strong steps to ensure equitable allocation of resources and their utilisation in the country in their efforts to attain 90 per cent FIC. Evidence-based state-specific models need to be developed to strengthen the service delivery and enhance demand generation among vulnerable groups, including the tribal population in the remotest and hard-to-reach parts of India.





## Chapter 6

# Recommendations





The study highlighted the fact that the challenges faced by the tribal population are highly variable and dependent upon their geographical location and vary from tribe to tribe. However, the following common factors were identified as reasons for low immunization coverage in tribal population:

1. Fear of side effects and lack of awareness
2. Loss of wages
3. Inaccessible session sites
4. Scattered population
5. Vaccine hesitancy due to resistance by family members
6. Migration of families
7. Vaccine delivery in hard-to-reach areas
8. Language barrier
9. Lack of proper healthcare facilities
10. Shortage of Human Resources
11. Inter-sectoral coordination

The findings from the study clearly identify the need for a localised and highly customised strategy addressing specific challenges faced by the diverse tribal population. As per the Census 2011 data, 152 districts across the country have more than 25 per cent tribal population within the district. It is, therefore, recommended that all such districts with a large tribal population (more than 25%) should develop a district-specific 'Tribal Immunization Action Plan' identifying the geographical location of the tribal population in their district, in collaboration with the Tribal Department, and detail strategies for service delivery as well as community engagement. Local innovations (technological and non-technological) have potential to provide new direction and treatment for addressing the bottlenecks and challenges to reach and fully immunise every child.

The study also highlights the fact that the immunization programme has reached even the remotest of locations. This opportunity could be utilised to reach and deliver need-based services provided by other health programmes, giving a comprehensive package of services to improve the tribal population's overall health indicators. This will have a synergistic effect by not only improving trust in and acceptance of the immunization programme but will also address tribal health issues as a whole. The key recommendations for improving immunization coverage among tribal children and ensuring quality services, can be grouped under two heads:

1. Ensuring service delivery and quality of immunization services
2. Strengthening community engagement and demand generation

# I. Ensuring Service Delivery and Quality of Immunization Services

- **Package of health services:** The delivery of health services through separate programmes to far-flung and scattered population can be resource intensive in terms of human resources, transportation, capacity building etc. Therefore, a concept of a Health Care Basket that includes a larger number of services is key to enhancing immunization coverage in tribal areas. Mobile clinics providing a package of services, comprising immunization and other available health services, may help to increase the reach and utilisation of services in far-flung and hard to reach areas. This is to be supported with a provision for hiring vehicles and these teams (vaccinator and mobiliser) can be considered for extra incentives.
- **Strengthening infrastructure and availability of human resources:** Quality services cannot be delivered in the absence of well-maintained and well-equipped facilities with adequate staff. There is an urgent need to address the scarcity of health care facilities in tribal areas. The points mentioned below will be helpful in ensuring upgraded infrastructure and human resources in managing the challenges of the tribal community's local customs, rituals and language:
  - Strengthening existing sub-centres through upgradation into *Tribal Health and Wellness Centres* (THWC) in terms of posting mid-level care providers, to cater to the beneficiaries' needs<sup>1</sup>.
  - An efficient road network is the lifeline for development and progress in any geography and contributes substantially to the success of any programme. *Development of agreeable infrastructure* like good road connectivity, electricity, safe water, sanitation measures, medicines and other resources will facilitate the health care service delivery to the tribal community.
  - Serious and consistent attempts need to be made to *attract and retain the health care workforce* against the sanctioned posts in public health facilities in tribal areas. This may require tweaking of the existing human resource policies to better suit and meet the diverse tribal needs. Legislative interventions like compulsory rotational postings and better professional opportunities need to be acted upon. Encouragements in the form of higher salaries, performance-based incentives, and reward mechanisms can be institutionalised. Besides multiskilling of available manpower, other considerations include educational mediation and giving priority for higher education to human resource manpower that serves in these hard-to-reach areas.
- **Addressing specific needs/contextualising services as per need:**
  - For tribal areas, particularly those in deep forests and scattered and hard-to-reach areas it is important to provide two-wheeled vehicles suitable for the area with appropriate *mobility support to vaccinators*<sup>2</sup>.

<sup>1,2</sup> Tribal-Health in-India: Bridging the Gap and a Roadmap for the Future- NHSRC



- Provision of a male *vaccinator* may be a key factor in addressing an unsafe work environment as well as geographical constraints in tribal areas.
  - A *mini- Anganwadi* Centre concept could be made mandatory in scattered hamlets and sparse tribal population.
  - The study showed that some of the session sites are situated at a distance taking up to five hours of travel from the cold chain point, and at some places, vaccines are not returned on the same day. For improving immunization services in terms of reduced travel time of vaccines and better stock management, a *rational expansion of cold chain points*, especially in tribal areas, can be considered.
  - In completely or seasonally isolated areas, such as riverine islands or hilly areas with a lack of roads, a “*satellite cold chain point*” should be established to cater to the outreach service delivery of the communities for the months/duration that these areas are inaccessible. Other options for vaccine delivery are *boat ambulances or drone-based vaccine delivery*.
- **Improving programme governance and delivery mechanisms:**
    - Timely payment of fair *Alternate Vaccine Delivery (AVD) incentives*, which have been rationalised for the geographic terrain and distance covered, should be made to ensure uninterrupted and regular vaccine delivery to session sites. In many cases the ANM has to carry the vaccines herself, which hampers not just her productivity but also affects the session timings. This brings the focus back on the need for well-established AVD mechanisms especially in hard to reach and remote tribal areas. Involving local tribal youth as AVDS will provide support in two ways i.e. ensuring safe vaccine delivery and generating income locally for them.
    - To highlight the importance and continued oversight and review, *tribal immunization* needs to be made a mandatory part of all *Immunization Task Force meetings* at all levels.
    - A particular observation during the study was that at many places the health worker retained the MCP card, which defeats the whole purpose of the card. Further, the information was not completely updated in the MCP cards. There is an immediate need to change the practice of MCP cards being retained by the health/ frontline workers and this message needs to be disseminated and reiterated in review meetings, supervision visits, etc.
    - *Good practices* like Sampoorna Scheme (Odisha) and Maher Ghar (Maharashtra) are good examples that can be used for replication and adapted as per local contexts and need.
  - **Forging intersectoral convergence:**
    - Departments that have *potential reach in the tribal areas* like Irrigation and Water Resources, Tribal Welfare, Public Works Department (PWD), Public Distribution System (PDS), Drinking Water and Sanitation need to be reached out to, to collect information on area mapping, habitations, migration pattern, etc. to ensure

that all the tribal population is being covered in the immunization microplan. These relevant departments might also be tapped for potential *integration of immunization services with their existing schemes* targeting the tribal population/ hard to reach areas.

- Extensive *involvement* of MoTA is the need of the hour in terms of policy decisions as well as planning for integration and alignment of its support to the Health Department in reviewing, planning, executing and monitoring the immunization services in tribal areas.
  - Involvement of departments such as *Education, ICDS and PRIs* should be encouraged to increase community awareness and improve the mobilising of beneficiaries to the session sites. Holding outreach sessions at local bazaars, melas, and festivals in coordination with the PRIs can also increase accessibility and availability of immunization services to the communities.
  - Many of the tribal areas visited during the study were virtually cut off from the mainstream, as there was no telecommunication network, which posed a challenge for the health workers. They were unable to send messages out to the community in case of emergencies or in case there was any change in the session plans. To help improve service delivery, the Telecommunication Department may be reached out to look into the possibility of improving the network in such areas. This also increases the community's access to other programmes or schemes.
  - A joint supervision plan can be created at all health facilities for enhanced accountability, including monitors/representatives from the Government, partner organisations, NGOs and the Tribal Department, to review and oversee activities like outreach sessions, awareness camps, mothers meetings etc. which are held at the villages for improving service delivery.
- **Better utilisation of funds:** Active utilisation of health budget under MoTA needs to be stressed upon as a vital intervention to aid in immunization activities.

## II. Strengthening Community Engagement and Demand Generation

- **Improving community awareness and mobilisation through locally adapted methods:** The study showed that ASHAs and AWWs were the major sources of information in the tribal areas and many of the remotest areas did not have any telecommunication network. Local dialects and language vary with every tribe and over short distances. As the literacy rate is barely 50 per cent in tribal areas, the conventional IEC channels, like putting posters and banners in the common language, is not a perfect medium for information dissemination and will not prove effective. This calls for developing and using customised and locally adapted methods of IEC and demand generation where audio-visual and mid media material should be the preferred medium of awareness generation and mobilisation like wall paintings, nukkad natak, folk dances and songs, door-to-door information in scattered hamlets, Mahila Mandal meetings, awareness camps, magic shows, and local festivals. Designing the communication strategy around the customs, traditions and festivals of



tribal populations and targeting ceremonies around pregnancy and child birth can help in making immunization a part of the cultural practices in the coming years.

- **Special communication strategies for decision makers:** Considering the fact that in Indian society, the mother-in-law and father are the primary decision makers of the family, it may be vital to develop special communication strategies to keep them informed about immunization services. Mothers-in-law can be roped in through immunization awareness and motivation in regular Mahila Mandal meetings, being part of old rituals, customs and addressing their health problems.
- **Health promotion through local influencers:** The study found that the ward member and Sarpanch of the village were the most influential people in the tribal community. Involving such *local influencers for the endorsement and promotion* of the immunization programme can bring in a positive and more sustained change in the community's perception. Identifying locally active members as influencers, including local religious healers, and advocating with them to deliver information related to health and immunization during monthly Mahila Mandal meetings, community awareness meetings or other gatherings and ceremonies will aid in motivating and mobilising the community and increasing the acceptability of vaccination.
- **Improved follow-up mechanism:** Most of the beneficiaries could not recollect the next date for vaccination and were primarily dependent on ASHAs to remind them. The existing mechanism of *Mother & Child Tracking Facilitation Centre (MCTFC)* should be explored for contacting the beneficiaries and *reminding them of the dates of next the vaccination* wherever there is a telecommunication network available.  
*To alleviate the fear of the vaccination's side effects* within the community and to strengthen the current AEFI control measures, a practice can be put in place where the ANM calls the caregivers one day after immunization session to ask them about any side effects and counsel them about how to mitigate the side effects if any, and takes the opportunity to convey and promote the four key messages of immunization. This could also be explored through collaboration with locally active NGOs that can be trained to ensure visits to households on the day after immunization to address any side effects following immunization. The effective rolling out of the paracetamol syrup guideline will also help in alleviating the apprehension of the child getting fever and pain and being irritable thus building confidence.
- **Boosting demand generation and involvement of civil society organisations:** A considerable portion of the tribal population still prefers to go to traditional healers and unqualified practitioners. There should be an effort to involve and sensitise such traditional healers and alternate medicine practitioners to enhance their capacity on the importance of immunization, promotion of healthcare-seeking behaviour and referral to the government health system. Locally active CSOs can be utilised to form a strong link between the health system and community that can actively take part in promoting healthcare seeking behaviour.
- **Focus on the health worker's inter personal communications:** Fear of side effects and myths related to immunization have emerged as important deterrents to immunization. Interpersonal communication (IPC) forms the mainstay of allaying the tribal community's fears and misconceptions. ASHAs in the tribal community generally

have lower literacy levels and were observed to have relatively lower self-confidence as compared to those working in non-tribal areas. Special emphasis needs to be given on their capacity building especially on the four key messages and programme incentives to gain the community's confidence. All field workers (ANMs, ASHAs and AWWs) must be empowered through BRIDGE IPC skills training on routine immunization.

- **Advocacy and sensitisation to counter wage loss:** Planning the sessions to coincide with local holidays may be an alternative so that the family does not fear losing wages. As wage loss due to minor AEFIs emerged as one of the important reasons for missed vaccination, this necessitates advocacy with employers like mine owners/ tea estate owners etc. to sensitise them on the importance of immunization and they will further encourage the workers to avail immunization services, while ensuring there is no loss in wages. As part of inter-sectoral convergence, the Labour Department could be approached to consider sensitising employers or contractors of daily wagers to not deduct the salary/daily wage if the parents take their children for vaccination or any other AEFI management.
- **Ensuring coverage of migratory population:** There is generally a defined pattern, seasonality, month and place of migration where families return home during the harvesting season, local festivals, weddings etc. This information should be utilised for better preparation of the due list, which can be shared with the neighbouring states/ districts where the tribal population migrates to ensure that the children are duly vaccinated. A *Migration Tracking System* may be established to track the migratory population via intra state, interstate and bordering area approach. A special outreach session to cover flagged migrant families during festivals/harvest season will ensure catch-up of all such beneficiaries.
- **Innovations:**
  - Scheduling of outreach sessions in coordination with other health days or holding sessions near ration stores for increasing footfall at the immunization session site.
  - The provision of midday meals in schools has led to an improvement in school enrolment and reducing the number of drop-outs. The study made the suggestion that this could be replicated for the session sites, where food could be provided to attract people for vaccination and thus reducing drop-outs. Community Based Organisations and NGOs can be roped in for carrying out such activities.
  - Presence of the health centre, Anganwadi Kendra and educational institutes in close proximity to each other can promote the mobilisation of children towards both health and education. Creating a "Health Education Complex" or HEC at the village level can be a positive reinforcement in this direction.
  - A database of all families in the district can be readied using information technology, where each family has a unique identifier (number to be provided to the family) with details of all family members, pregnant women and under five children in the family.
  - Centralised Data Input mechanism (similar to ANMOL or TECHO+) may be promoted for tracking and updating the immunization details of children, irrespective of their place of residence and place of vaccination.





Chapter 7

# Annexures



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ଅନୁଜ୍ଞା  
ଶିକ୍ଷା  
ପ୍ରସଙ୍ଗ  
(NSSA)



# 1. State Factsheet: Madhya Pradesh

- Madhya Pradesh has the highest ST population in India (1.53 crores, 14.69%).
- According to the Census 2011, the sex ratio and child sex ratio is 931 and 918 females per 1000 males, and literacy rate is 69.3 per cent (males: 78.7%, females: 59.2%). Literacy among the tribal population is 50.5 per cent.
- Madhya Pradesh has a higher IMR (47), MMR (173) than the national average (Source: SRS 2016), and FIC 53.6 per cent, BCG coverage 91.6 per cent, and MCV coverage 79.6 per cent (Source: NFHS-4).
- Two districts were included in the study: Jhabua and Alirajpur
- The Tribal Department does the mapping and identification of tribal areas based on the Census 2011, and was last updated in 2017.

## Community Perceptions

- The FGDs and IDIs with community members revealed that they had full faith in the vaccinator, and are aware of the benefits of immunization.
- The ANMs/ASHAs/AWWs are the primary source of information regarding immunization, followed by announcements on the mike, TV, radio, newspaper, etc.
- Some of them believe that vaccines cause impotency or sickness, while some believe that vaccines are not important.
- Of all caregivers interviewed, 61 per cent and 39 per cent respondents believed that fathers and mothers, respectively, are the primary decision-makers regarding the child's immunization.
- Challenges faced by the community include distance to site, difficult to reach, apprehension or fear of illness, busy working during session time, no transportation to hard-to-reach areas, wage loss, and cultural beliefs.
- Community participation can be enhanced in many ways such as flexible time schedules, awareness camps in the local language, wage loss compensation and educating the spiritual healers and other influencers.

## Service Delivery

- According to Rural Health Statistics 2018, there is a shortfall of sub-centres (25.5%), PHCs (53.4%) and CHCs (41.6%) in tribal areas. This puts a burden on the health system and limits the quality of care that can be given to the communities at large.
- The tribal sub-plan caters to the training of health workers for capacity building for immunization, building communication skills of ANMs, MPWs and supervisors. The tribal sub plan also provides for the supervision of immunization activity by the state routine immunization monitor.



- No separate budget allocated for immunization in tribal areas.
- Microplan: There is a common microplan for tribal and non-tribal areas. However, an ANM at Kheda sub-centre, Jhabua District prepared separate lists of the migratory population and temporary settlements for immunization, so that these populations are not left-out. There are separate sessions planned in the microplan for covering drop-outs.
- **Session Site and Vaccine Delivery:**
  - Sessions are mostly conducted at the sub-centre and Anganwadi Kendra. Vaccines are delivered through the AVD system and in most places returned on the same day.
  - However, the farthest session site is 20 kilometres away and it takes five hours for the vaccine to be delivered by bus, boat and on-foot. Vaccines cannot be returned on the same day from eight session sites in Sondwa Block, Alirajpur.
  - The AVD system does not function in hard-to-reach areas. In Jhabua District the session sites were found to be insecure and at a considerable distance with no transportation facilities available.
- **Challenges in mobilisation and service delivery:**
  - The challenges were predominantly lack of cooperation from the family's male members, no transportation facilities, difficult geographical terrain, bad weather conditions, lack of awareness regarding importance of immunization, migration of families to neighbouring districts, loss of wages due to fever, fear of AEFI, and a scattered population. Cultural beliefs in alternate forms of medicine were predominantly found in some parts of Jhabua District, Madhya Pradesh.
  - Shortage of HR: In all seven states, there was a shortage of HR, particularly in hard-to-reach areas, where staff frequently resigns and/or gets transferred to other areas. Inadequate pay and hence insufficient AVDS was a problem found in parts of Madhya Pradesh.
  - In many parts of Jhabua District, sessions could not be planned or held during the rainy season.
- **Innovations and Suggestions from Stakeholders for Improving Vaccine Delivery:**
  - In Alirajpur (MP), a separate session is held when the migrant population returns just before the "Bhagwa" festival. This way the ANM ensures that no temporary settlement of the migratory population is left unimmunised.
  - In Jhabua (MP), the CCH highlighted that *"With the help of mobile teams, difficulty in transporting the vaccines to the tribal areas is addressed. Vehicles are provided to every AVD to reach the hard-to-reach areas."*
  - It is suggested that the sessions are integrated with important events such as weekly haat bazaars, the church congregations and gram sabha.



- The PRI members' regular meeting, the Panchayat Baithak, can also be utilised to increase awareness about immunization and its benefits to the community. In Alirajpur (MP), the ANM counsels the mothers and other community members to dispel their misconceptions and make them aware of the benefits of immunization on VHSND and Immunization Day. They also show a fully immunised and healthy child so that the parents are motivated to get their child immunised too.
- Rewards for HR: Incentives in the form of institutional rewards and a recognition system for well performing ANMs/ASHAs during special campaigns, during District and Block Task Force meetings given on 26th January and 15th August.
- The need for more cold chain points has been highlighted.



## 2. State Factsheet: Maharashtra

- Maharashtra has the second highest ST population in India (1.05 crores, 10.08%).
- According to Census 2011, the sex ratio and child sex ratio is 929 and 894 females per 1000 males, and literacy rate is 82.3 per cent (males: 88.4%, females: 75.9%). Literacy among the tribal population is 65.7 per cent.
- Maharashtra has an IMR of 19, MMR of 61 (Source: SRS 2016), but low FIC at 56.3 per cent, BCG coverage of 90.0 per cent, and MCV coverage of 82.8 per cent (Source: NFHS-4).
- The sampling was done in two districts: Nandurbar and Dhule
- Most of the tribal population was located in the hilly and forest areas. Tribal hamlets were located at a distance in some localities and the households were widely scattered. It takes a long time to reach there. Twenty per cent of the tribal localities are easily accessible while 80 per cent are hard to reach making it difficult to provide any kind of health services.
- The Tribal Department does the mapping and identification of tribal areas, which is based on the Census 2011 and was last updated in 2017.
- There is a shortage of public modes of transport like buses to reach these distant hard to reach areas. A major challenge is the lack of awareness among the tribal population regarding the benefits of child immunization.

### Community Perceptions

- The FGDs and IDIs with community members revealed that they had complete faith in the vaccinator, and are aware of the benefits of immunization. The health worker gives the parents their contact numbers so that they can be contacted if any adverse reaction is seen.
- The ANM/ASHA/AWWs are the primary source of information regarding immunization.
- The community did not believe in any myths, such as the vaccine would make their children sick. The community was influenced by the sarpanch and religious leaders, who dealt with any misconceptions regarding the vaccine on VHSN day.
- Of all caregivers interviewed, 61 per cent and 39 per cent of the respondents believed that fathers and mothers, respectively, were the primary decision-makers regarding the child's immunization.
- Challenges faced by community include loss of wages due to side effects (20%), fear of side effects, inappropriate time and place of session site, faith in traditional medicine, lack of awareness about importance of child immunization, language barrier between health staff and community, impolite behaviour of health staff, socio-economic backwardness and lack of education. Almost 30 per cent of the caregivers in Dhule reported migration for a few months for better employment opportunities.
- Community participation can be enhanced in many ways such as flexible time schedule of sessions and prior intimation by ASHAs through door-to-door message delivery or reminders via the phone.



## Service Delivery

- According to Rural Health Statistics 2018, there is a shortfall of sub-centres (31.4%), PHCs (30.0%) and CHCs (40.1%) in tribal areas. Some sub-centres cater to a population of approximately 10,000. This puts a burden on the health system and limits the quality of care that can be given to the communities at large.
- There is a generalised plan for immunization which covers both tribal and non-tribal areas. There is no specific sub plan exclusively for the tribal population in the district.
- At the district level, the Tribal Department is not involved in reviewing the performance of tribal immunization. They are also unaware of any fund that has been earmarked for immunization by the central government for the state under TSP. No discussions are held regarding tribal immunization by the district task force in their meetings.
- There is a budget for routine immunization but no separate budget has been earmarked for the tribal population.
- The Tribal Department monitors the TA/DA given monthly/ bimonthly, funds allocated under Maher Ghar Scheme for areas far (hard to reach) from the PHC, hardship allowances for 13 PHC Medical Officers, 29 Staff Nurse, 79 sub centres, mobile units for two blocks specially Akkalkuwa and Dhadgaon.
- Microplan: There is a common microplan for tribal and non-tribal areas. The ANM prepares a microplan for the sub centre. The ANM is supported by the ASHA in making a list of the drop-out children. Generally, the AWW are not involved, but in some villages AWWs were involved in community mobilisation.
- **Session Site and Vaccine Delivery:**
  - The sessions are held at the Anganwadi Centre. The frequency of outreach sessions in a particular village is once or twice a month.
  - The AVD system is functional in most of the tribal and hard-to-reach areas, but in some places the ANMs carry the vaccines to the session site.
  - The farthest session site is 60 kilometres away and vaccine delivery takes two to three hours. The vaccines cannot be returned on the same day from a session under Kakarda PHC.
- **Challenges in mobilisation and service delivery:**
  - The main challenges faced include lack of accessibility due to poor weather and difficult terrain, no transportation facility, language barrier for the new health staff, shortage of HRs (particularly ANMs), migration of families to neighbouring districts, loss of wages due to side effects, and scattered population.
  - Shortage of HR: There was a shortage of HR (mainly ANMs), particularly in hard-to-reach areas, where staff frequently resigns and/or is transferred to other areas. The ANMs cater to a population of approx. 10,000 tribals, because of this load the ANM is not able to cover the entire area.
  - There was no separate training given to ANMs on community mobilisation. The ASHAs



receive training on immunization during the ASHA training module and also with the induction of new vaccines.

- In Dhule, Maharashtra, electricity is available for only seven to eight hours every day. Even though the PHC is solar powered the equipment is non-functional. This poses the risk of vaccine wastage because the cold chain for vaccine storage cannot be maintained.
- **Innovations and Suggestions from Stakeholders for Improving Service Delivery:**
  - The PRI along with the AWW, ANM and ASHA help in scheduling sessions at the Anganwadi Centre. immunization
  - The most effective modes of communication in the community are through local leaders and by the posters and pamphlets displayed at various places. Door to door information about immunization is also disseminated in sparsely located households. Mahila Mandals, schools, ashrams and traditional healers are also involved in the mobilisation and motivation of the community.
  - In Dhule, Maharashtra, the DIO suggested that the pattern of migration should be ascertained. Based on the place of migration, a migration due list could be prepared with the help of neighbouring states and districts, which could help track migrants and their immunization status. He also suggested the use of an online data feeding system or biometric based identification mechanism to identify mothers and ensure data entry even if the MCP card is misplaced or unavailable. Full immunization of children can be incentivised irrespective of where the vaccination is done, especially for BPL families, to ensure that vaccination is done in their new area of residence.
  - Use of ANMOL tablet for tracking beneficiaries.
  - Under the Maher Ghar scheme, the government gives TA/DA and other funds for hard-to-reach tribal areas, and hardship allowances for medical officers, staff nurses, sub-centre staff, mobile units, etc. to promote availability of HR in hard-to-reach areas of the district.
  - A toll-free number has been provided for cold chain equipment repair and maintenance at all cold chain points.
  - It was suggested that to improve immunization services in tribal communities, certain necessary steps could be taken such as mobile sessions in the farthest village or hilly areas, tracking migration population to cover more population, developing more cold chain points (especially for hard-to-reach areas), on-time repair of the solar powered system so that it remains functional.
  - The need for more cold chain points was highlighted.



### 3. State Factsheet: Odisha

- Odisha has the third highest ST population in India (0.95 crores, 9.2%).
- According to Census 2011, the sex ratio and child sex ratio is 979 and 941 females per 1000 males, and it has a literacy rate of 72.9 per cent (males: 81.6%, females: 64.0%). Literacy among the tribal population is 52.2 per cent.
- Odisha has a high IMR of 44, and MMR of 180 (Source: SRS 2016), but at the same time, a high rate of FIC 78.6 per cent (compared to the other six states), BCG coverage of 94.1 per cent, and MCV coverage of 87.9 per cent (Source: NFHS-4).
- The two districts included in the study were: Mayurbhanj and Gajapati
- Most of the tribal population was located in hilly and forest areas. Tribal hamlets are located at a distance with widely scattered households.
- The Tribal Department does the mapping and identification of tribal areas. It is based on the Census 2011 and was last updated in 2017. The Statistical Officer in the district is responsible for mapping and updation of records of tribal areas.
- There is shortage of public modes of transport like buses. It is therefore difficult to reach these distantly located areas. A major challenge is the lack of awareness among the tribal population regarding the benefits of child immunization.

### Community Perceptions

- The FGDs and IDIs conducted with community members revealed that they have complete faith in the vaccinator, and give due respect to and obey all the ASHA's commands. They are aware of the benefits of immunization. In Gajapati District because of the work done by the ASHA workers, they also trust modern medicine.
- The ASHAs/AWWs are the primary source of information regarding immunization.
- In Mayurbhanj District, the community firmly believes in traditional healers and their cultural beliefs conflict with modern medicine. In some families, mothers-in-law believe that vaccine causes pain and sickness in the child.
- All caregivers interviewed had their MCP cards during inspection.
- Among all the caregivers interviewed, fathers were the primary decision-makers regarding the child's immunization.
- According to a key influencer, the distance to the session site (maximum up to 5 km) and the fear of illness among male children are primary causes of vaccine resistance.
- A sarpanch in Odisha reflected that a mobile health unit (which was present earlier) should be re-introduced and if revived, it could be a game changer in bringing about 100 per cent FIC in the village.



## Service Delivery

- According to Rural Health Statistics 2018, there is a shortfall of sub-centres (9.9%) and PHCs (4.9%) in tribal areas. No shortfall in the number of CHCs is noted.
- There is a generalised plan for immunization, which covers both tribal and non-tribal areas. There is no specific sub plan exclusively for the district's tribal population.
- The district tribal officials took part in monitoring the outreach sessions held in tribal areas only in Gajapati District.
- There is a budget for routine immunization but no separate budget has been earmarked for the tribal population.
- Microplan: There is a common microplan for tribal and non-tribal areas. However, under the Sampoorna scheme, a separate microplan is prepared for the hard-to-reach tribal areas of the district.
- **Session Site and Vaccine Delivery:**
  - The sessions are held at the sub-centre and Anganwadi Centre. In Mayurbhanj District, immunization sessions are held at Eklavya schools for children above six years of age. Eklavya schools are residential schools in Odisha with hostel facilities for tribal children.
  - The AVD system is functional in the tribal and hard-to-reach areas.
  - However, the farthest session site is 35 kilometres away and it takes four hours for vaccine delivery.
- **Challenges in Mobilisation and Service Delivery:**
  - In Mayurbhanj, migration and myths are the challenges faced for mobilisation. Families migrate for about three to five months at a stretch and fail to provide any contact information for follow-up.
  - Some refuse vaccination due to the fear of sickness, or the caregiver's concern about multiple injections being given at once.
  - In Odisha, rains, frequent floods, coupled with poor infrastructure available at the sub-centre, lack of electricity, lack of telecommunications in deep forested areas were the main hurdles to service delivery.
  - In Mayurbhanj District, no session was conducted at a remote sub-centre for two months in the last year due to poor road conditions, no connectivity and landslides due to heavy rainfall.
  - Loss of wages due to fever, fear of side effects, prejudice about injections, belief in God and language barrier were predominant concerns among caregivers.
  - It was observed that the lack of basic infrastructure facilities like well-maintained Anganwadi Centres, regular supply of safe drinking water, electricity, road network and necessary bridges over water streams known to flood frequently, contribute to these constraints. Shortage of staff, especially in hard-to-reach areas, also poses a challenge in service delivery.





- Scattered population and frequently changing dialects across regions create difficulties for ANMs in dealing with tribal communities. Also, it was reported that the staff was reluctant to travel in to deeply forested areas because of the rainy season, time taken, intense effort required, fear of wild animals and other geographical difficulties.
- A significant challenge noted in Odisha was the shortage of reconstituted vaccines and RVV on many occasions. This is specially noted for the immunization sessions conducted in scattered population in tribal areas. Some sessions are conducted for a population of only 300-500 (having lesser injection load) which leads to high wastage of reconstituted vaccines and RVV (where open vial policy is not applicable and the vaccines have to be discarded within 4 hours of reconstitution/opening), which in turn leads to frequent inadequacy of vaccines at sessions.
- In Mayurbhanj, one cold chain point caters to most of the jungle area and it is challenging to deliver the vaccine to the session site, especially during the rainy season.
- **Innovations and Suggestions from Stakeholders for Improving Service Delivery:**
  - To increase institutional deliveries and ensure the vaccination of new born babies with birth doses, **Maa Gruha** or Second home for Pregnant Women Scheme is being implemented in **Odisha**. As the rainy season cuts off access to many hard-to-reach areas in the district, the pregnant woman (with one relative) can move to these maternity waiting homes, 10-30 days prior to the due date, which are established close to the health facility/delivery point She is given free food, stay and care through regular check-ups and institutional delivery at the health facility. Also, the new-born baby's immunization is ensured after delivery.
  - In communities with strong influence of traditional healers such as Bhumij community, a liaison with traditional healers or those practicing alternative medicine could be tried for promoting immunization.
  - In Odisha, a special plan (**PVTG-specific plan**) has been devised to strengthen healthcare service delivery across 11 PVTGs in 12 districts of the state. It identifies eight special strategies, including immunization. The key components include strengthening of HR, identification of local healers, sensitisation of traditional and local healers, formation of database, review of activities performed by traditional healers, social mobilisation and awareness campaigns (nukkad natak, road show, wall paintings), and awards and recognition for health workers.
  - The recruitment of HR though standard procedure takes time; hence a District Collector from Gajapati District exercised his power for filling the posts of additional ANM through corpus funds to address the shortage. This move has ensured that no sub-centre has any vacancies now.
  - In Odisha, the **Swasthya Sahay** scheme was introduced where ASHAs were given Rs. 1000 from state funds if they performed the mandatory five tasks including immunization. An additional Rs. 3000/5000/10000 as per level was given as prize money to select ASHAs at functions.



- The state-run **Sampoorna** scheme is being implemented to cater to scattered population and those living in hard-to-reach areas. It allows for the provision of incentives, hiring vehicles and other logistics to form mobile teams for conducting sessions. A total of Rs. 3000 is given per session from the state fund, including Rs. 1500 for the hiring of vehicles and remaining Rs. 1500 as incentives for the ANM and mobiliser and for logistics.
- **Jeevan Samparna**, a collaborative effort of the NGO Kripda, UNICEF, Government, ICDS, and Odisha Tribal Livelihood Programme, was implemented from February 2019 to reduce malnutrition and increase immunization coverage. It helps in the mobilisation of left-outs and drop-outs resulting from seasonal cut offs, vaccine shortages, migration, etc. for immunization.
- In Gajapati, the Block Development Officer, Block Extension Officer, and officials from the tribal department were also involved in immunization-related activities.
- The CCH highlighted that more cold chain points were needed to reduce the distance between the last cold chain point and session sites. It will also help in streamlining stock management and reporting structure.



## 4. State Factsheet: Rajasthan

- Rajasthan has the fourth highest ST population in India (0.92 crores, 8.86%).
- According to Census 2011, the sex ratio and child sex ratio is 928 and 888 females per 1000 males, and a literacy rate of 66.1 per cent (males: 79.2%, females: 52.1%). The literacy rate among the tribal population is 52.8 per cent.
- Rajasthan has a high IMR of 41, MMR of 199 (Source: SRS 2016), and low FIC 54.8 per cent (compared to the other six states), BCG coverage 88.8 per cent, and MCV coverage 78.1 per cent (Source: NFHS-4).
- The two districts included in the study were: Banswara and Udaipur
- The Tribal Department does the mapping and identification of tribal areas. It is based on Census 2011 and was last updated in 2017.

### Community Perceptions

- The FGDs and IDIs with community members revealed that they have complete faith in the vaccinator. They are aware of the benefits of immunization.
- The ANMs/ASHAs/AWWs were the primary source of information regarding immunization.
- Only 66 per cent of the caregivers received MCP cards upon discharge from the hospital.

### Service Delivery

- According to Rural Health Statistics 2018, there is a shortfall of sub-centres (42.7%), PHCs (51.6%) and CHCs (39.8%) in tribal areas.
- There is a generalised plan for immunization, which covers both tribal and non-tribal areas. There is no specific sub plan exclusively for the tribal population in the district.
- Microplan: There is a common microplan for tribal and non-tribal areas.
- **Session Site and Vaccine Delivery:**
  - The sessions are held at the sub-centre and Anganwadi Centre.
  - The AVD system is functional in the tribal and hard-to-reach areas.
  - However, the farthest session site is five kilometres away and it takes 0.5 hours for vaccine delivery.
- **Challenges in Mobilisation and Service Delivery:**
  - The major challenges include the migration of families for better employment opportunities, inaccessible session sites, bad weather and difficult geographical terrain, loss of wages due to fever, fear of side effects, multiple needle pricks, faith in traditional healers, scattered population, etc.
  - In some places in Rajasthan, the communities have complete faith in local traditional healers, who often discourage them from getting their children vaccinated.



- **Innovations and Suggestions from Stakeholders for Improving Service Delivery:**
  - In Banswara District (Rajasthan), project *Pukaar* has been implemented which can break the barrier in the left-out families where the mother-in-law has the decision-making power and sometimes does not allow the mothers to take their children.
  - The use of traditional methods for spreading information such as *nukkad nataks*, puppet shows, magic shows, and harkare were suggested for increasing awareness and enhancing community mobilisation.
  - In Banswara District, it was suggested that generator sets be made available for each cold chain point for use during power cuts. Also, creating more cold chain points, provision of solar powered equipment, and better network connectivity is essential for better vaccine management.



## 5. State Factsheet: Gujarat

- Gujarat has the fifth highest ST population in India (0.89 crores, 8.5%).
- According to Census 2011, the sex ratio and child sex ratio is 919 and 890 females per 1000 males, and a literacy rate of 78.0 per cent (males: 85.8%, females: 69.7%). The literacy rate among tribal population is 62.5 per cent.
- Gujarat has an IMR of 30 and MMR of 91 (Source: SRS 2016), and low FIC 50.4 per cent (compared to the other six states), BCG coverage 87.9 per cent, and MCV coverage 75.0 per cent (Source: NFHS-4).
- The two districts included in the study were: Dahod and Panchmahal
- The tribal department does the mapping and identification of tribal areas. It is based on Census 2011 and was last updated in 2017.

### Community Perceptions

- The FGDs and IDIs conducted with community members revealed that they have complete faith on the vaccinator. They are aware of the benefits of immunization.
- The ANMs/ASHAs/AWWs are the primary source of information regarding immunization. Less than 10 per cent of the respondents in Dahod reported that announcements on the mike, television, radio, newspaper, etc. were their sources of information related to immunization.
- Of all caregivers interviewed, 98 per cent received MCP cards upon discharge from the hospital.
- Gujarat reported a good rapport between all the three health workers (ASHA, ANM, AWW) with the community and with each other. They were always available on the phone for help whenever needed in the community.

### Service Delivery

- According to Rural Health Statistics 2018, there is a shortfall of eight per cent of CHCs in tribal areas. There was no shortfall observed for sub-centres and PHCs.
- There is a generalised plan for immunization, which covers both tribal and non-tribal areas. There is no specific sub plan exclusively for the tribal population in the district.
- Microplan: There is a common microplan for tribal and non-tribal areas.
- **Session Site and Vaccine Delivery:**
  - The sessions are held at the sub-centre or Anganwadi Centre.
  - The AVD system is functional in the tribal and hard-to-reach areas.
  - However, the farthest session site is 10 kilometres away and takes 0.5 hours for vaccine delivery.



- **Challenges in Mobilisation and Service Delivery:**
  - In Gujarat, mobilisation was a challenge because of the terrain and rainy season.
  - Other major challenges included migration of families for better employment opportunities and scattered population.
  
- **Innovations and Suggestions from Stakeholders for Improving Service Delivery:**
  - One of the key strategies to track migratory children is the use of **TeCHO+** (Technology Enabled Community Health Operations), a mobile-based application, which captures all data at point of service delivery. This was launched in 2017.
  - An AWW in Dahod, felt that if transport were provided for the mothers living far away it would improve acceptance. It was suggested that two wheelers (or any other form of transportation) should be provided to bring mothers to the session sites from distant hamlets for immunization.
  - In Gujarat, there was a concept of mini-anganwadi (**mini-AWC**), which caters to a sparsely located population of 300-400. They are primarily established in hard-to-reach areas, where outreach sessions are conducted similar to those in the Anganwadi Kendra.
  - In states like Gujarat, members of PRI were also involved in the mobilisation of beneficiaries, particularly resistant families. School-teachers have also been involved in conducting outreach sessions for the MR campaign, however they play a minimal role in routine immunization.
  - A toll-free number is provided for equipment maintenance and repair to all cold chain points.



## 6. State Factsheet: Jharkhand

- Jharkhand has the sixth highest ST population in India (0.86 crores, 8.29%).
- According to Census 2011, both the sex ratio and child sex ratio is 948 females per 1000 males, and literacy rate of 66.4 per cent (males: 76.8%, females: 55.4%). The literacy rate among the tribal population is 57.1 per cent.
- Jharkhand has an IMR of 29 and MMR of 165 (Source: SRS 2016), and FIC 61.9 per cent, BCG coverage 95.8 per cent, and MCV coverage 82.6 per cent (Source: NFHS-4).
- The two districts included in the study were: Paschimi (or West) Singhbhum and Gumla
- The Tribal Department does the mapping and identification of tribal areas. It is based on Census 2011. Certain districts such as West Singhbhum in Jharkhand reported that the entire district was a tribal district, which did not warrant any specific mapping of areas.

### Community Perceptions

- The FGDs and IDIs conducted with community members revealed that they have faith in the vaccinator.
- In Gumla District, primarily the community visits quacks, undergoes incantations, or visits *Sokha – Bhoga*, the local *siddha* person/ local healers, who perform pujas or conduct some rituals.
- ASHAs and AWWs were the primary source of information regarding immunization.
- Only 42 per cent of the caregivers could show their MCP cards when interviewed.
- In Bishnupur, caregivers face many challenges including unavailability of the ANM after Immunization Day when the child develops side effects. Hence, looking after the child is a problem and private/traditional healers have to be consulted. No medicine is provided for side effects.
- Other challenges include: clashing of session time with work schedule, migration for better employment opportunities, fear of side effects, hard-to-reach areas, difficult geographical terrain, poor weather conditions, and lack of awareness among caregivers.
- Migration was only reported by 10 per cent of the caregivers interviewed.
- Suggestions for increasing participation included tagging immunization with other important events such as monthly haat bazaars, mela, weekly gatherings, etc. Also, more accessible health care services, including provision of ambulance services for hard-to-reach areas, etc.
- Also, more information should be provided on vaccination through local methods like *Nukkad nataks*, drum beating, dance drama, film shows etc., in addition to timely reminders by health workers. It was suggested that engaging the *Mahila Sangathan* in the village might be done for better community participation.
- In Gumla District, an out-of-pocket expenditure of Rs. 500 occurs because there are no roads and lack of transportation from hard-to-reach areas to the nearest health facility.



## Service Delivery

- According to Rural Health Statistics 2018, there is a shortfall of sub-centres (5.9%), 58 per cent of PHCs, and four per cent of CHCs in tribal areas.
- There is a generalised plan for immunization which covers both tribal and non-tribal areas. There is no specific sub plan exclusively for the tribal population in the district.
- The immunization performance is reviewed through a monthly meeting of a programme specific task force with the District Magistrate and WCD Department.
- Microplan: There is a common microplan for tribal and non-tribal areas.
- **Session Site and Vaccine Delivery:**
  - The sessions are held at the sub-centre or Anganwadi Centre.
  - The AVD system is functional in the tribal and hard-to-reach areas.
  - However, the farthest session site is 20 kilometres away and takes two hours for vaccine delivery. The vaccine cannot be delivered and returned on the same day as the session, from some session sites.
  - In Jharkhand, one ANM pointed out that maximum time taken to reach the farthest session site is about five hours (around 55 km) from the sub-centre.
- **Challenges in Mobilisation and Service Delivery:**
  - Due to the lack of proper roads and transport facilities the delivery of vaccines to tribal areas by the AVD is difficult.
  - Sometimes, the AVD ensures that the vaccines are delivered to the sub-centre, and the ANM carries the vaccines in the vaccine carrier to the immunization site. It is difficult for her to carry it to the places where there is no road and transport facilities to reach the vaccination session site.
  - Insufficient number of AVD persons is a challenge for vaccine delivery.
  - In Gumla District, the difficulties in mobilisation are more pronounced in hard-to-reach areas where the passages within villages pass through dense forests, crossing over multiple water streams and steep inclines.
  - At some places, immunization teams stay overnight, as they are unable to return in the night due to the deeply forested areas and difficult terrain.
  - Other challenges include unsafe Naxal areas, lack of availability of transportation, long commute, loss of wages due to fever, fear of side effects, scattered population, etc.
  - Advocacy by an anti-vaccination group, Kripa Sandhu group, was highlighted in village Patahatu, Jharkhand, as a challenge for providing immunization services.
  - Shortage of ANMs was a challenge in service delivery, also owing to frequent transfers and resignations due to unsafe Naxal areas.
  - ASHAs are unable to gather support from PRI members because of a lack of financial incentives for the PRI members for the same.





- **Innovations and Suggestions from Stakeholders for Improving Service Delivery:**
  - The ANM suggested that the immunization session and the Take Home Ration given at the Anganwadi Centre once in a month should be on the same day.
  - Visually impactful, enriching messages using mobile vans along with one to one interaction could be used for increasing the mobilisation of beneficiaries and for creating awareness.
  - In communities where the traditional healers such as Sokha-Bhoga have a strong influence, a liaison with traditional healers or those practicing alternative medicine, could be tried for promoting immunization.
  - The need for more cold chain points was highlighted to reduce the burden on existing cold chain points.



## 7. State Factsheet: Chhattisgarh

- Chhattisgarh has the seventh highest ST population in India (0.78 crores, 7.5%).
- According to Census 2011, sex ratio and child sex ratio is 991 and 969 females per 1000 males, and a literacy rate of 70.3 per cent (males: 80.3%, females: 60.2%). The literacy rate among the tribal population is 59.0 per cent.
- Chhattisgarh has an IMR of 39 and MMR of 173 (Source: SRS 2016), and FIC 76.4 per cent, BCG coverage 98.4 per cent, and MCV coverage 93.9 per cent (Source: NFHS-4).
- The two districts included in the study: were Jashpur and Surguja
- The tribal department does the mapping and identification of tribal areas. It is based on Census 2011.

### Community Perceptions

- The FGDs and IDIs conducted with community members revealed that they have faith in the vaccinator. Most of the communities accept immunization because of their faith on health workers.
- However, a particular distinction in healthcare seeking behaviour of tribal communities was noted in Chhattisgarh, where the *Dihari Korwa* (farmers) tribe that have moved downhill onto the plain areas to practice modern agriculture were generally more receptive of a modern lifestyle, including modern medicine. Whereas, the *Pahari Korwa* (hill dwellers) tribal population that refuses to give up their traditional lifestyle of hunting and gathering practices living at higher altitudes and inside deep forested areas, are resistant to modern lifestyle practices including modern medicine.
- ASHAs and AWWs were the primary source of information regarding immunization.
- When interviewed, 90 per cent of the caregivers showed their MCP cards.

### Service Delivery

- According to Rural Health Statistics 2018, there is a shortfall of 11.1 per cent CHCs in the tribal areas. No shortfall of sub-centres and PHCs was seen.
- There is a generalised plan for immunization which covers both tribal and non-tribal areas. There is no specific sub plan exclusively for the tribal population in the district.
- Microplan: There is a common microplan for tribal and non-tribal areas.
- **Session Site and Vaccine Delivery:**
  - The sessions are held at the sub-centre or Anganwadi Centre.
  - The AVD system is functional in the tribal and hard-to-reach areas.
  - However, the farthest session site is 20 kilometres away and takes 1.5 hours for vaccine delivery.



- **Challenges in Mobilisation and Service Delivery:**

- The Manjhi tribe in Paige sub-centre, Surguja, believe in the traditional way of life, and are apprehensive of the febrile illness following immunization as it leads to significant wage loss.
- In Batauli, the AVD person does not go up to session sites in hard to reach areas, they only go half way and the ASHA/Mitanin and the RCHO carry the vaccines from there to the session site.
- The AVDS mechanism is not well established due to non-payment or insufficient payment to AVDS. In Surguja District, AVDS payment is not sufficient to meet the fuel costs, especially for hard-to-reach areas.
- Insufficient number of AVD persons is a challenge for vaccine delivery.
- Other challenges include loss of wages, fear of side effects such as fever and swelling at injection site, scattered population, shortage of side effects, etc.
- In Chhattisgarh, the last cold chain point is at the block level. District Surguja reported shortage of BCG, hepatitis B and IPV.

- **Innovations and Suggestions from Stakeholders for Improving Service Delivery:**

- In Batauli, there is a new concept of setting up of **Swasthya Sangathan Kendras** as an extension of the sub-centre. The concept was introduced by the former District Magistrate for all sub-centres catering to larger areas. The building and land for *Swasthya Sangathan Kendra* was allotted by PRI with minimum infrastructure. The funds were managed by the respective sub-centres. There are 34 *Swasthya Sangathan Kendras* in the block, which were all functional and were managed by the 2nd ANM or MPW of the respective sub-centres.
- In Surguja, in case of migration to nearby villages, the ANM contacts the Mitanin (ASHA), of the nearby town (Manjhi tribe migrates to nearby town of Kamleshwarpur for a few months) telephonically to ensure that no child is left-out.
- In communities where the traditional healers have a strong influence such as in the Manjhi tribe, a liaison with traditional healers or those practicing alternative medicine could be tried for promoting immunization.
- **Kothwas or Mahato** announce the session time and site one day prior to the outreach session at the Anganwadi Centre.
- In Surguja, a rumour worked in favour of immunization. "Once, a particular skin rash was reported to be prevalent in the Manjhi tribe which was wrongly identified as 'Khasra' by the community. The ANM took this as an opportunity to promote awareness about Measles vaccination in the community." Apart from this, all of the ANMs reported a rumour about MR vaccine doing the rounds on social media (WhatsApp) groups during a school campaign. The ANMs reassured the mothers who came for the immunization session, about this issue.
- In Chhattisgarh, Assistant Medical Officers (AMOs) were placed to compensate human resource especially at the vacant positions of Medical Officers at the health centre.



- In Chhattisgarh, establishing the '**Sah-Up-Swasthya Kendra**' in a separate building as a functional extension or subsidiary of the sub-centre by the PRI. The ANM/2nd ANM maintain the logistics and service delivery and the budget for the parent sub-centre is utilised. It can be used for service delivery closer to beneficiaries. Additionally, in Chhattisgarh, the deployment of **AWW at mini-AWC** and **separate ASHAs** at the hamlet level, in addition to the main AWW and ASHA in the village, was an alternative for smaller hamlets.
- Close proximity of the health centre to Anganwadi Kendra and schools within the village promoted better coordination between all departments at the grass root level.
- In Batauli, Surguja, the BMO approached the sarpanch and other members of PRI to improve the condition of roads leading up to sub-centre. This has increased its accessibility.
- Need for more cold chain points was highlighted to reduce the time of vaccine delivery to session sites.





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