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Nutrition Determinants and Strategies in Nagaland Summary of Findings

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Health, Nutrition and Population Global Practice
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1. Introduction

A. Background and Objective

The state of Nagaland, with a population of two million, is situated in the North-East region of India. The state's topography is hilly with very poor roads and connectivity. The state has 11 districts, 52 blocks, and 1,500 villages. In 2014-15, per capita net state domestic product was estimated at US\$1,172 (INR 78,526), slightly lower than the national figure of US\$1,297 (INR 86,879).¹ However, the socioeconomic distribution in Nagaland is more equitable than the national pattern — in 2012-13, an estimated 19 percent of the population lived below the official poverty line in the state, lower than the national average of 22 percent.² Tribal communities make up almost 90 percent of Nagaland's population.

Maternal and child nutrition and health outcomes and services, especially among disadvantaged groups, are of serious concern in Nagaland. About 70-80 percent of the population live in rural areas with challenging terrain and poor transport connections, making delivery of health and nutrition services extremely difficult. This is reflected in poor maternal and child nutrition and health indicators. In 2013-14, 29.1 percent of children below five years of age were stunted while in 2012-13, 50.2 percent of women aged 15-49 years suffered from.³ There is significant variation in nutritional status between districts within the state. For instance, stunting rates among under-five children range between a low of 19 percent in Tuensang district and a high of 42 percent in Kiphire district; wasting prevalence ranges between 2 percent in Mokokchung district and 21 percent in Mon district.⁴

Existing data do not provide a clear understanding of the primary barriers and facilitators of nutrition outcomes in the community. For example, rates of undernutrition in Nagaland were lower than states such as Madhya Pradesh and Odisha, but utilization of Integrated Child Development Services (ICDS), the main national government nutrition scheme, in Nagaland was much lower (39.3 percent) than in Madhya Pradesh and Odisha (49.8 and 65.8 percent respectively). Additionally, high levels of anaemia among the community are surprising, given the common perception that the diet of the population in Nagaland is largely non-vegetarian and nutrient-rich. Several questions have been raised to understand these contradictions, such as, were tribal social structures in Nagaland, including the relatively more equitable wealth distribution, protective of the nutrition and health of the poor? Did the extensive use of biomass

1 Database on Indian Economy, 2014-15, Reserve Bank of India.

2 Planning Commission, 2012, Government of India.

3 Rapid Survey on Children (RSOC), 2013-14, Ministry of Women and Child Development, Government of India; District Level Household & Facility Survey – 4 2012-13, Ministry of Health and Family Welfare, Government of India.

4 Nagaland Nutrition Profiles, 2017, International Food Policy Research Institute.

fuel for both cooking and keeping warm during the long winter season contribute to anaemia and undernutrition?

At the same time, the IDA-financed Nagaland Health Project (P149340) provides an opportunity to address nutrition issues at the community level through a component that supports the capacities of communities to improve health, nutrition and population knowledge, practices and services. Under the term “communitization,” in 2002 the state government of Nagaland assigned responsibility for local services to Village Councils and sector-specific Committees. In the health sector, Village Health Committees were made responsible for management of local health services, including salary payment as well as use of small funds transferred by the state government. Some 1,300 Village Health Committees have been constituted and their level of functionality varies widely, with many hardly active. The Nagaland Health Project (2017-23) includes a US\$15 million component to provide technical and financial support to strengthen implementation of the communitization strategy.

The Nagaland Department of Health and Family Welfare (DoHFW) requested technical support for better understanding nutrition determinants and developing strategies that could be implemented at the community level with the support of the Nagaland Health Project. The objectives are to better understand the barriers to improved nutrition and health in Nagaland and to help the state government to develop strategies to address these issues. This involves analytical work (involving both primary and secondary data analysis) to identify gaps and bottlenecks, informing the development of contextually-appropriate and feasible strategies. Technical assistance focuses on supporting the state government in the design of strategies based on the findings of the analytical work.

The development objectives of this advisory services and analytics (ASA) activity are: (i) to improve knowledge about the determinants of malnutrition in North East India; (ii) to identify gaps in maternal and child health and nutrition services for disadvantaged communities; and (iii) to support development of cross-sectoral strategies to combat malnutrition at the community level.

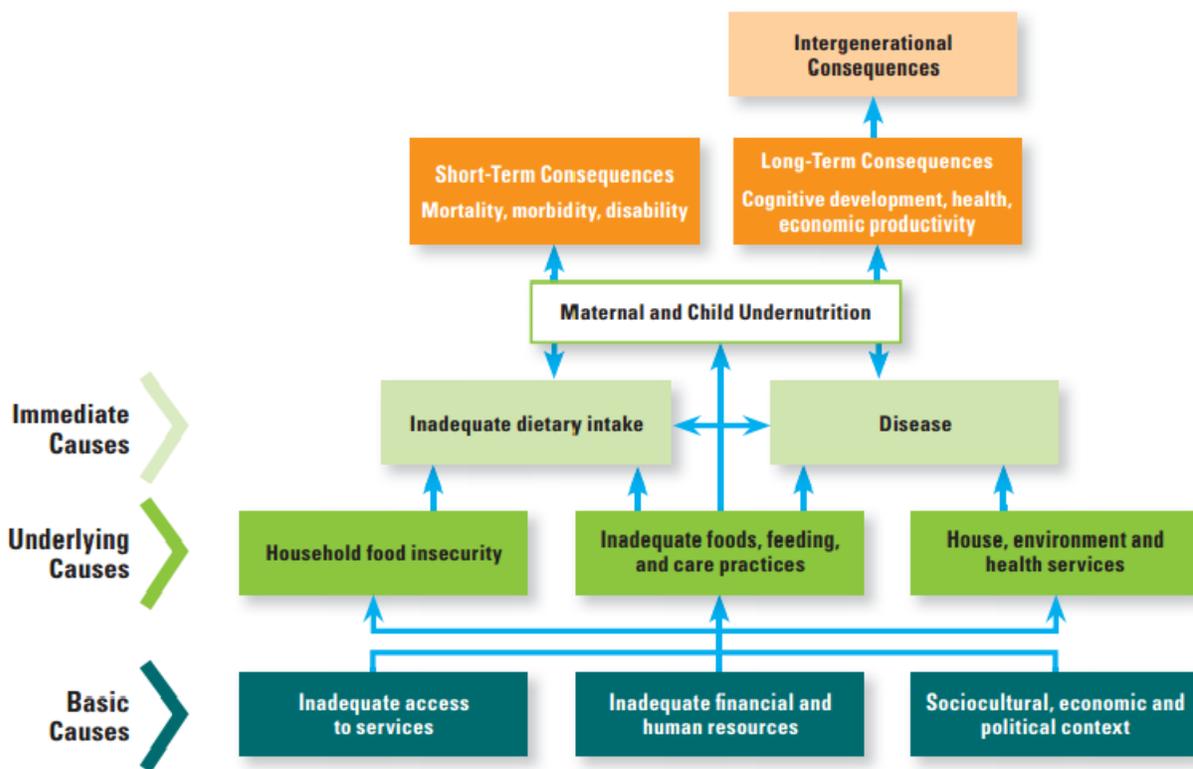
This ASA uses the UNICEF conceptual framework⁵ of the determinants of maternal and child malnutrition (see figure below) as a guide for the study of possible factors contributing to undernutrition in Nagaland. This framework suggests that nutritional pathways are defined not only by perceptions of an individual’s dietary intake and patterns of illness, but also by household constraints relating to the availability of and access to food, healthcare and monetary resources, as well as the physical environment that could increase or decrease the exposure to illness. It

5 UNICEF (United Nations Children’s Fund). 2013. Improving Child Nutrition: The Achievable Imperative for Global Progress. New York: UNICEF.

also situates the individual and household in a larger context, calling for analysis of norms, social structures, and the overarching socio-economic and political environment.

Using mixed-methods, the study design aims to identify the underlying causes of malnutrition among women and children in Nagaland, focusing on understanding the extent and nature of food insecurity, inadequate feeding practices, access to and utilization of health services and other household-level factors pertaining to food preparation, water and sanitation. The ASA is not designed to examine the wide range of issues and strategies in different sectors that have an impact on nutrition (for example, agriculture, intrahousehold gender dynamics and education), but rather to focus on strategies that could be implemented at the community level with the support of Nagaland Health Project.

Figure 1 UNICEF Conceptual Framework of Nutrition Determinants



Source: UNICEF, 2013

B. Implementation

Along with Nagaland, it was originally planned to explore nutrition issues in the North-East states of Assam and Meghalaya. However, an official request for technical support forwarded by the World Bank’s central government counterpart (Economic Affairs Division of the Ministry of Finance) was only received from the Government of Nagaland. Management and the administrators of the South Asia Food and Nutrition Security Initiative (SAFANSI) trust fund

agreed to focus the work on Nagaland, as well as extend its timeframe by one year in order to better assess and support implementation of the Nagaland Health Project (government and Board approval of which was delayed by almost a year). SAFANSI funds were subsequently transferred to a separate ASA focused on Meghalaya and Assam (P168752) after the state governments again expressed interest in support on nutrition issues.

The Bank team, also providing implementation support to the Nagaland Health Project, contributed in detail to the work, leading dialogue with government as well as guiding and contributing to technical design, study instruments, analysis and writing. Data collection and reporting was done by a contracted consultant firm. A series of workshops were held with state government officials and other stakeholders for design, feedback, validation and dissemination of results of the various components of the work.

C. Outputs

Primary data collection comprised of a mix of qualitative and quantitative methods, providing a rich source of various types of information for analysis. An exploratory qualitative study was done between April and July 2017, which informed design of quantitative data collection between September and December 2018. This second phase of work also included qualitative work on the process of implementation of the community component of the Nagaland Health Project. The consultant firm produced a dataset of a quantitative survey of households and health facilities, as well as reports describing and analysing the results of the qualitative and quantitative work. On the basis of this, the Bank team has produced a series of briefs to facilitate dissemination and dialogue with the government and stakeholders.

Exploratory qualitative study

The exploratory qualitative study aimed to understand in depth individual and community practices, habits and norms, as well as socio-economic structures that could be influencing nutrition outcomes in Nagaland. The study also assessed health and nutrition service delivery platforms, particularly to identify gaps and challenges in the initiatives taken by the Nagaland Health Project in several pilot sites. The study was conducted in ten sites across the Nagaland Health Project pilot districts of Peren and Tuensang.

The findings from the study suggested that contrary to popular belief Naga communities were not consuming an adequately protein-rich diet, especially pregnant women and young infants, as the intake of meat, milk, eggs was low. On the other hand, consumption of fermented and smoked products, as well as alcohol and tobacco, was very common. Being a predominantly agrarian society, most of the food consumed by households was produced in their own farms and was prepared using firewood. Among community members as well as frontline health workers, awareness was lacking about symptoms and consequences of anemia and malnutrition and about the practice of exclusively breastfeeding for a duration of six months.

Services for improving nutrition were either not functional or their delivery suffered from significant challenges, including lack of coordination between the different government departments responsible for health and nutrition services. While the introduction of the Nagaland Health Project brought about several structural changes to the pilot health facilities and villages, including construction of new and repair of existing infrastructure, the uptake of maternal and child health services, and some of the associated nutrition services, was in the process of acquiring momentum at the time of this exploratory study

Mixed-methods study

Building on the exploratory qualitative study, the mixed-methods study examined the possible drivers of nutrition outcomes, as well as aimed to identify existing barriers and facilitators for delivering nutrition services in selected sites across all districts in Nagaland. The study also supported an assessment of design and early implementation of the Nagaland Health Project to inform possible approaches to strengthen nutrition delivery through the project. Data collection included a quantitative survey of 728 households and 45 health facilities in 55 villages, direct observation of health facilities, qualitative key informant interviews, ethnographic case studies and analysis of project reporting and monitoring data.

The study corroborated findings from the exploratory qualitative study indicating that common practices, (such as exclusive breastfeeding, age-appropriate complementary feeding, and proper diet for mothers) for improving health and nutrition during pregnancy and infancy were not prevalent. This could be attributed to poor knowledge among pregnant and lactating women about proper diet and on preventive and promotive health, but also to a lack of counselling from healthcare providers and frontline health workers. While healthcare providers and frontline workers mention providing counselling on health and nutrition topics, women report not having received adequate counselling from them, but instead from family members or relatives. The study found that while the frequency of organising the Village Health and Nutrition Day platform has shown improvement across the state, and particularly in the project sites, growth monitoring of children remains one of the weakest services in Nagaland, despite concerted efforts by the project to improve its coverage.

Key findings from the process evaluation of early stages of project implementation suggest that while fidelity to design has been met for many processes, several are yet to achieve their desired results. For example, while the project has trained all target committees within two years, the coverage of training across members as well as the training techniques which can cater to a population with low levels of literacy, need improvement. Although all sampled committees had a woman Co-Chair, non-transparent processes were often followed for their appointment, which undermines their agency in decision-making as committee members. Moreover, there are stark differences in perceived autonomy between (male) Chairs and (female) Co-Chairs, with the latter's role being largely notional.

The process evaluation found that the main delay in implementation could be attributed to the approval of action plans, as committees often included plans which required approvals from various government departments. For subsequent financing cycles, the process of internal verification also resulted in delay due to lack of intuitive and standardized templates used to manage this process. While committees at various levels were reporting their progress routinely, data were collected and collated mechanically and not used at any level to inform further plans or actions. The study also critically examined key indicators used to measure achievement and found several challenges in their operationalization and measurement. More broadly, indicator achievement was found to be inhibited by supply-side constraints such as limited cold chain facilities (for vaccination), lack of health personnel, and poor coordination within the health department (between district and state) as well as across government departments.

Briefs

On the basis of the data and study reports, the Bank team produced briefs covering key areas of policy interest. These will be used for further dissemination of findings and dialogue with government and stakeholders on policy implications, with a particular focus on community-level nutrition strategies and interventions to be supported by the Nagaland Health Project. In addition, one brief summarizes findings of an impact evaluation that took advantage of baseline data available from a household and health facility survey done in 2014 by the state government (with technical support from the Bank) as part of preparation of the Nagaland Health Project. Following is the list of briefs. These are included in this document and will also be published separately:

- Determinants of Nutrition – Maternal, Infant, Young Child Feeding (MIYCF) Practices
- Determinants of Nutrition - Household Access to and Practices pertaining to Food, Water and Sanitation
- Determinants of Nutrition - Maternal and Child Health and Nutrition Services in Nagaland
- Process Evaluation of Community Result-Based Financing for Health and Nutrition in Nagaland: Lessons from Early Implementation
- Impact of a Community Result-Based Financing Strategy for Health and Nutrition in Nagaland, India
- Improving Women’s Leadership for Strengthening Health and Nutrition Outcomes – Lessons from a Process Evaluation of Community Action for Health and Nutrition
- Recommendations for Strengthening Delivery of Nutrition Services through the Platform of Community Action for Health and Nutrition in Nagaland

D. Results

Findings from these studies point to the need of greater effort towards strengthening nutrition services in the state of Nagaland, especially counselling, for increase knowledge and awareness of community members on a healthy balanced diet, appropriate feeding practices for infants, identifying nutritional deficiencies such as anaemia and malnourishment, and routine growth monitoring of infants. Furthermore, the studies suggest that the platform of the Nagaland Health Project could be leveraged to enhance nutrition outcomes through introduction of nutrition-relevant indicators into the set of results-based financing indicators as well as capacity building of healthcare providers and frontline workers for providing relevant nutrition services. The study has provided recommendations for this purpose along with suggestions for improving implementation of the project through streamlining processes. Finally, given the complementary nature of services provided between the Department of Health and Family Welfare and the Department of Social Welfare (implementing the National Nutrition Mission), the study has recommended steps to improve coordination between the two departments.

Given that the Nagaland Health Project is reaching completion of its roll out to all targeted sites, these findings are timely to reflect upon lessons learnt from initial stages of implementation and bring about improvements for future. With support from the World Bank team, the government will deliberate on these recommendations and prepare an action plan to bring about some of the suggested changes to the design and implementation of the project before its mid-term review in 2019. In addition, the Nagaland Health Project will work towards integrating nutrition-specific indicators and interventions within its current design and will pilot their implementation in selected sites before scaling them to all target areas.

2. Determinants of Nutrition – Maternal, Infant, Young Child Feeding (MIYCF) Practices

Knowledge and application of appropriate maternal, infant, and young child feeding practices are lacking in Nagaland. The practice of exclusive breastfeeding for a duration of six months was not prevalent among most respondent mothers.

There is an urgent need to disseminate context-specific knowledge through existing platforms such as the monthly Village Health and Nutrition Days and home-based visits by frontline workers for providing counselling to pregnant and lactating women.

Introduction: Inadequate feeding practices are often a critical driver of poor nutritional outcomes in children. WHO recommends exclusive breastfeeding up to six months of age, after which infants should start receiving complementary foods in addition to breastmilk. The transition from exclusive breastfeeding to complementary feeding is a very vulnerable period and is often the time that malnutrition starts in many infants.¹ Similarly, there is substantial evidence that maternal iron deficiency anemia increases the risk of pre-term delivery and subsequent low birthweight, and may also affect the iron status of infants postpartum.² In addition to micronutrient supplementation, WHO recommends a diet containing adequate amounts of bioavailable iron, especially during pregnancy, for prevention and control of anemia.³

Overall, MIYCF practices in Nagaland need to be improved in order to address a major proximate determinant of malnutrition. The 2015-16 National Family Health Survey found that in Nagaland 53 percent of children were breastfed in the first hour of life as recommended (compared to the national average of 42 percent), and only 44 percent of children under six months were exclusively breastfed (compared to the national average of 55 percent). Further, 19 percent of children aged 6-23 months were fed an adequate diet at appropriate frequency and from an appropriate number of food groups (compared to the national average of 10 percent).⁴ At the same time, a third of all pregnant women in Nagaland were anaemic and about 12 percent of all women were too thin. Within the state of Nagaland, there is significant variation in nutritional status between districts.⁵

1 Pan American Health Organization and World Health Organisation. 2005. Guiding principles for complementary feeding of the breastfed child. Washington, DC.

2 Allen, LH. 2000. Anemia and iron deficiency: effects on pregnancy outcomes. *Am J Clin Nutr.* 2000 May;71(5 Suppl):1280S-4S. doi: 10.1093/ajcn/71.5.1280s.

3 World Health Organization. 2014. WHA Global Nutrition Targets 2025: Anemia Policy Brief. Geneva, Switzerland.

4 International Institute for Population Sciences and ICF. (2018). National Family Health Survey - 4 (NFHS 4) India 2015-16: Nagaland.

5 Kohli, N., Nguyen, P., Avula, R., & Menon, P. 2017. Improving nutrition in Nagaland: Insights from examining trends in outcomes, determinants and interventions between 2006 and 2016. POSHAN Policy Note #28. New Delhi: International Food Policy Research Institute

Methods: The mixed-method study included focus group discussions with mothers and fathers of young children (0-5 years), conducted in selected villages in two pilot districts of the Nagaland Health Project (Tuensang and Peren), followed by a quantitative survey across all districts in the state. The survey was done in 55 villages, which were purposively selected from among those participating in the Nagaland Health Project, and covered 728 households with a woman who had had a pregnancy in the past two years.⁶ From each sampled household, women who had had a pregnancy in the past two years (n=676) and the household head (n=728) were interviewed.⁷

Findings: This brief describes findings on MIYCF practices commonly followed in Nagaland.

Diet during pregnancy: Both the qualitative study and quantitative survey found that, in general, women do not follow any special diet during pregnancy (61 percent of the sampled women (n=676)), with a majority stating lack of awareness while a small proportion reporting financial constraints as the main reason. Among those who did follow a special diet (39 percent of sampled women), most reported eating more fresh vegetables and fruits and meat, and having either a greater quantity of food or more frequent meals. Among these women, about half stated that a family member or relative had advised them to follow a special diet, as compared to medical professionals (under 20 percent) and frontline health workers (under 9 percent). About 17 percent of respondents said that they avoided certain food items during their pregnancy, including yellow or red coloured fruits, red meat, and tobacco and alcohol. Most stated this decision to be theirs alone, with no influence from health providers. In some cases, cultural norms and practices also suggested food items to be avoided during pregnancy.

Women's diet diversity: Over 90 percent of the surveyed women reported to have consumed food made from grains, vitamin A rich fruits and vegetables, any type of meat or poultry and any dark green leafy vegetable at least once in the past week of the survey. The average number of days these foods were consumed varies from daily in the case of grains, to 4.5 days for leafy vegetables, 4 days for white roots and tubers like potatoes, and 3 days for meat and pulses. 27 percent of women reported to have consumed tobacco for at least one day in the past week of the survey, with an average consumption of 4.4 days in the past week.

Infant feeding: It is recommended that infants be exclusively breastfed for their first six months, after which they should receive appropriate complementary foods along with continued breastfeeding up to at least two years. In Nagaland, the study found that only 36 percent of mothers initiated breastfeeding immediately after birth and 45.5 percent started within 2 hours of birth, with 84 percent feeding colostrum to the child. However, 33 percent of mothers stated

6 To detect a population proportion of children under two years of age who received an adequate diet (based on NFHS-4 for Nagaland), with a margin of error of 4.5%, confidence level of 95%, and design effect of 2, the survey would require a sample size of 540 households.

7 A total of 676 women were interviewed as 52 women were not present or available for the interview at the time of the survey.

that they also fed the child something other than breastmilk immediately after birth, namely plain water, other milk and gripe water. Indeed, it was commonplace for mothers to start feeding water to their child early on (within 2-3 months of birth), and providing semi-solid food within 4-6 months of birth. More specifically, over 75 percent of mothers reported giving water to the child at an average age of three months. Additionally, more than half of the mothers reported that they started giving semi-solid foods like soft rice, mashed potato, non-breast milk liquids such as tea, juice to the child under 6 months of age. (Meat, eggs and pulses were started to be given at seven months, as were instant noodles and other salty fried snacks). During the focus group discussions, it was evident that there was both a gap in knowledge about exclusive breastfeeding (water was given to “quench the thirst”), as well as financial constraints where mothers had to resume work (predominantly farming) soon after giving birth, and therefore the infant was fed water and other milk when the mother was away.

Conclusion: Knowledge and application of appropriate MIYCF practices is critically lacking among Naga communities. For example, women in the study sample (either pregnant or lactating) are consuming carbohydrate-based food items frequently as compared to protein and nutrient-rich food. More alarmingly, the practice of exclusive breastfeeding for a duration of six months was not prevalent among a majority of respondents. There is an urgent need to disseminate context-specific knowledge through existing platforms such as the monthly Village Health and Nutrition Days and home-based visits made by frontline workers for providing counselling to pregnant and lactating women. Given the importance of familial bonds and cultural norms in Nagaland, information and counselling should be provided to entire families rather than only pregnant women and mothers. The findings of this study should inform the areas of focus and content of behaviour change communication and counselling interventions.

3. Determinants of Nutrition - Household Access to and Practices pertaining to Food, Water and Sanitation

Hidden hunger is present in Nagaland, especially among lower income groups.

Other factors affecting nutritional status include high consumption of smoked and fermented food, tobacco and alcohol, indoor air pollution and poor hand washing practices.

While improvements in agriculture and access to markets will reduce food insecurity, dietary and hygiene practices may be susceptible to aggressive community and household-level behaviour change interventions.

Introduction: Several household-level factors are associated with better nutrition outcomes. These include food access and availability, practices pertaining to food preparation and consumption practices, and water, sanitation and hygiene (WASH) practices and access. Availability of markets, and access to them, for a diverse range of foods is considered an essential for food security and improving nutrition outcomes. Some practices related to food preparation, such as use of biofuels for cooking resulting in indoor air pollution, have been observed to adversely affect health and nutrition, especially for infants, contributing to respiratory infections such as pneumonia¹ as well as stunting.² Similarly, the UNICEF framework of nutrition determinants highlights the "sanitation-nutrition" nexus, describing three pathways through which poor sanitation adversely affects nutritional outcomes: diarrhoeal diseases, environmental enteropathy and nematode infections.³ A study of five countries found that poor sanitation leads to diarrhoea, which is estimated to account for 25 percent of the burden of stunting in children up to 24 months of age.⁴

Methods: The mixed-method study included focus group discussions with mothers and fathers of young children (0-5 years), conducted in selected villages in two pilot districts of the Nagaland Health Project, Tuensang and Peren. This was followed by a quantitative survey across all districts in the state. The survey was done in 55 villages, which were purposively selected from among those participating in the Nagaland Health Project, and covered 728 households with a woman who had had a pregnancy in the past two years. From each sampled household, the woman who had had a pregnancy in the past two years and the household head were interviewed.

1 World Health Organization. 2016. Ambient Air Pollution: A global assessment of exposure and burden of disease. Geneva, Switzerland.

2 Danaei G., Andrews K.G., Sudfeld C.R., Fink G., McCoy D.C., Peet E., Sania A., Fawzi M.C.S., Ezzati M., Fawzi W.W. Risk factors for childhood stunting in 137 developing countries: A comparative risk assessment analysis at global, regional, and country levels. *PLoS Med.* 2016;13:e1002164. doi: 10.1371/journal.pmed.1002164.

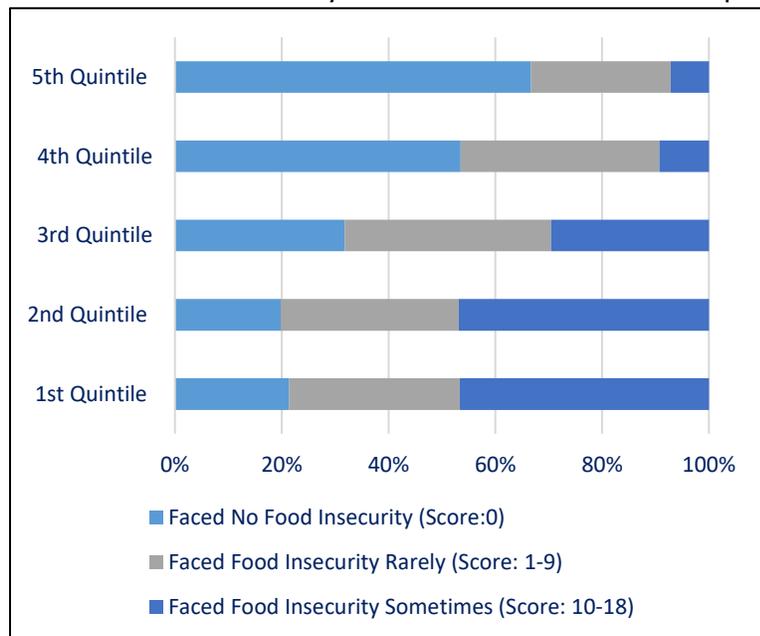
3 UNICEF (n.d.) Policy brief: The impact of poor sanitation on nutrition. SHARE Research Consortium, London School of Hygiene and Tropical Medicine

4 Checkley et al (2008). Multi-country analysis of the effects of diarrhoea on childhood stunting. *International journal of epidemiology*, 37(4), 816-830

Findings: This brief describes findings on household access to food, and practices for food preparation, consumption and WASH that affect health and nutrition outcomes in Nagaland.

Food insecurity: Among the sampled households, 62 percent reported to have two meals daily, while 38 percent reported three meals. Over 80 percent of households ate most meals together.

When asked whether any member of the household experienced an instance of food insecurity,



50 percent of households reported facing none, 43 percent rarely (once or twice in a month) and 4 percent sometimes (three to ten times in a month) over the past month prior to the survey. As depicted in the adjoining figure, those belonging to the lowest wealth quintiles faced a greater frequency of food insecurity⁵ as compared to those among the higher quintiles.⁶

Food sources: Households largely produced vegetables and fruits at home and purchased items such as lentils, meat, milk, eggs, tea, sugar

and spices from the market. Grains were typically sourced equally from home and market. During focus group discussions with community members, many described the consumption of a predominantly vegetarian daily diet due to poor availability and high cost of meat, especially in remote areas.

Consumption of alcohol and tobacco: 67 percent of households (n=706) reported that at least one adult male had consumed tobacco daily while in 42 percent of households one adult male had consumed alcohol in the last 30 days. While 17 percent of household heads reported that at least one adult woman consumed tobacco daily in their household, findings from qualitative interviews with women suggest a higher proportion. During focus group discussions, most respondents considered a disruption to communal harmony or domestic abuse to be the harmful effects of consuming alcohol and tobacco, but not other forms of ill health.

5 The food insecurity index has been calculated using nine questions related to inadequacy of food intake in the past month due to lack of resource availability.

6 The chi2 test shows that the difference is statistically significant with negative association between wealth quintile and food insecurity.

Food preparation: A majority of households (n=728) used wood (75 percent) as a source of biofuel, while a smaller proportion used LPG/natural gas (21 percent). In addition, the cultural food preferences of the Naga community include preparation techniques of smoking and fermenting. Food was mainly cooked in a separate room but on an open fire and usually without a chimney. Cooking was predominantly done by adult/married women of the household.

WASH: 59 percent of households had a piped well connection as the main source of drinking water, followed by 14 percent who used a protected well. Thus, about a quarter of households did not have a safe source of drinking water. However, nearly all households reported treating their water (93 percent), with most stating that they boiled it to make it safer to drink. Water was mainly fetched by the adult woman of the household an average of three times a day, with 30 minutes as the maximum time taken to fetch water. Most households reported having enough water available for all their members.

Almost all (99 percent) households had a toilet facility on their premises. Most used a septic tank inside their dwelling (43 percent), followed by pit latrine inside (38 percent), and flush toilet inside the dwelling (15 percent). Outside facilities were much less commonly used, and open defecation was reported only by 0.5 percent of households. Around 12 percent of households reported sharing the toilet with others, with most sharing the facility with less than ten households. On the other hand, smaller proportions of respondents (n=727) reportedly always washed their hands after urination (19 percent) and defecation (35 percent), and before cooking (15 percent), eating (21 percent) and feeding a child (18 percent).

Conclusion: There is hidden hunger in Nagaland, as almost half of households reported facing food insecurity at least once or twice in a month. The lowest 40 percent of households ranked by wealth were more likely to report instances of food insecurity. At the same time, possibly in contrast with popular perception, most households, especially in remote areas, do not regularly consume meat or other high-protein foods. Among other possible nutrition determinants, indoor air pollution due to the widespread use of wood for cooking is likely to be hazardous to household members' health and nutrition outcomes, especially for the women involved in food preparation as well as children who are more susceptible. High consumption of smoked and fermented food, along with tobacco and alcohol, have short- and long-term nutrition and health effects. More positively, three-quarters of households have an improved source of water, most people treat their drinking water, and most households have adequate toilet facilities. However, poor handwashing practices are likely to have an impact on health and nutrition. Reducing food insecurity will depend on improvements in agriculture and access to markets, and indeed poverty reduction more generally. At the same time, dietary and hygiene practices may be susceptible to aggressive community and household-level behaviour change interventions. The findings of this study should inform the content of such interventions.

4. Determinants of Nutrition - Maternal and Child Health and Nutrition Services in Nagaland

Utilization of key maternal and child health and nutrition services remains weak in Nagaland, suggesting an adverse impact on health and nutrition outcomes.

Improvements in antenatal care, child vaccinations and growth monitoring can be brought about by strengthening the platform of the Village Health and Nutrition Day and enhancing the capacity of frontline workers to act as agents of behavior change.

Introduction: While coverage of key maternal and child health and nutrition services in Nagaland has improved marginally over the last decade, most indicators continue to be low and worse than the national average. According to the National Family Health Surveys (NFHS), the proportion of women who had four or more antenatal care visits increased from 12 to 15 percent between 2005-06 and 2015-16, with the national average at 51 percent in the latter period.¹ Moreover, there is significant variation across districts; with coverage ranging from 1.5 percent in Longleng to 36 percent in Mokokchung.² With 33 percent of all births taking place in health facilities, coverage of institutional delivery remains low in the state (despite an increase from 12 percent in 2005-06), as compared to a national average of 78.9 percent in 2015-16.¹

The proportion of children aged 12-23 months who have received all basic vaccinations³ has improved from 21 in 2005-06 to 36 percent in 2015-16, but is substantially lower than the national average of 62 percent. Moreover, in 2015-16, only four percent of children under five years of age were weighed and eight percent of women received nutrition counselling at an Anganwadi Centre.¹ Provision of supplementary nutrition to women and children⁴ is largely the responsibility of Anganwadi Workers through the Integrated Child Development Services. In 2013-14, only 14 percent of children aged 36-71 months received supplementary food from Anganwadi Centres.⁵

Methods: The mixed-method study included focus group discussions with mothers and fathers of young children (0-5 years), conducted in selected villages in two pilot districts of the Nagaland

1 International Institute for Population Sciences and ICF. (2018). National Family Health Survey - 4 (NFHS 4) India 2015-16: Nagaland.

2 Kohli, N., Nguyen, P., Avula, R., & Menon, P. 2017. Improving nutrition in Nagaland: Insights from examining trends in outcomes, determinants and interventions between 2006 and 2016. POSHAN Policy Note #28. New Delhi: International Food Policy Research Institute.

3 All basic vaccinations refer to BCG, measles, and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth).

4 Women receive supplementary food in the form of dry packets of take-home ration during pregnancy leading up to first six months of breastfeeding while children receive it in the form of take-home ration from six months to three years of age, and in the form of cooked food at the Anganwadi Centre every day from three to six years of age.

5 Ministry of Health and Family Welfare and UNICEF. Rapid Survey on Children. India 2013-14.

Health Project (Tuensang and Peren), followed by a quantitative survey across all districts in the state. The survey⁶ was done in 55 villages, which were purposively selected from among those participating in the Nagaland Health Project, and covered 728 households with a woman who had had a pregnancy in the past two years. From each sampled household, the woman who had had a pregnancy in the past two years (n=676) and the household head (n=728) were interviewed.⁷

Findings: This brief describes findings on utilization of key maternal and child health and nutrition services in selected parts of Nagaland.

Antenatal care: Among the sampled respondents, 88 percent of mothers (n=501) and 81 percent of currently pregnant women (n=175) reported to have consulted a provider for antenatal care, typically at Primary Health Centres (34 percent) and Community Health Centres (29 percent) with only about 3 percent using antenatal care services provided at the Village Health and Nutrition Day. Over 80 percent women reported to have received, on average, three antenatal care consultations. However, only 66 percent of mothers visited a provider for antenatal care within the first trimester of their pregnancy.

Delivery: About 55 percent of mothers reported to have delivered in a health facility, with about 5 percent among them delivering at private clinics. The remaining 45 percent preferred to deliver at home. Findings from qualitative interviews also confirm a strong preference for home delivery due to geographic access and apprehensions about quality of care at facilities, particularly fear of surgical malpractices during a delivery, along with the comfort of delivering within the community in the presence of family members. Over half of all home deliveries are observed among the two poorest quintiles, while private facilities are chosen predominantly by the richest quintile. Only 54 percent of the mothers reported to have received the Janani Suraksha Yojana conditional cash transfer that is designed to encourage institutional deliveries.⁸

Postnatal and newborn care: Of the mothers who delivered at a health facility, all reported that their baby was weighed immediately after birth. While 41 percent of respondent mothers reported to have received a postnatal care consultation, they stated that they were, on an average, checked only once during the first two months. 37 percent reported to have received counselling on breastfeeding after the delivery, with most mothers receiving this counselling from a family member (42 percent) followed by a nurse/auxiliary nurse-midwife (39 percent) and Accredited Social Health Activist (ASHA) (30 percent). Among those who received this

6 To detect a population proportion of children under two years of age who received an adequate diet (based on NFHS-4 for Nagaland), with a margin of error of 4.5%, confidence level of 95%, and design effect of 2, the survey would require a sample size of 540 households.

7 A total of 676 women were interviewed as 52 women were not present or available for the interview at the time of the survey.

8 Janani Suraksha Yojana is an intervention under the National Health Mission, which provides cash incentives to eligible (below poverty line and those belonging to the Scheduled Tribe social group) pregnant women for delivering in a government or accredited private facility.

counselling, 70 percent of the mothers reported that they were advised on exclusively breastfeeding for six months.

Supplementary nutrition: 77 percent of the respondent mothers reported to receive supplementary food from the Anganwadi Centre or Anganwadi Workers, mostly in the form of biscuits (91 percent) and pre-mixed food packets (61 percent). Similarly, 58 percent reported to have received Take Home Ration during their last pregnancy, comprising of rice (48 percent) and pre-mixed food packets (35 percent). On an average, women received such rations four times during their last pregnancy. A substantial proportion (93 percent) of mothers reported that they did not consume the ration by themselves but shared it with their children or other family members.

Nutrition counselling from frontline workers:⁹ Of the sampled mothers who reported to receive services from Accredited Social Health Activists (41 percent) and Anganwadi Workers (62 percent) in the past month of the survey, nutrition counselling constituted only 26 and 10 percent of these services respectively. However, the survey of frontline workers from the same villages showed that over 90 percent reported to provide counselling services for maternal, infant and young child feeding practices. This discrepancy in the reports of mothers and those of frontline workers suggests a critical gap in quality of the counselling provided.

Child vaccination: For children aged 12-23 months included in the survey (n=164), information on immunization status was obtained from vaccination cards for 76 percent while the remaining were based on their mother's recall.¹⁰ Using data from either source, the survey found that only 16 percent have been fully vaccinated,¹¹ and 8 percent have not received a single vaccination. In the case of three-part vaccinations, such as DPT and Polio, there was a stark difference between the proportion receiving the first dose (42 and 60 respectively) and those completing all three doses (31 and 48 percent respectively). About half the respondents reported to have received vaccination for their children at the Village Health and Nutrition Day.

Child growth monitoring: 39 percent of mothers reported that their child's growth (only weight) was monitored in the past six months, with the service being used predominantly at a government health facility, Anganwadi Centre, Village Health and Nutrition Day, and during a home visit. This is further corroborated by the survey of frontline workers, which found that only 25 percent of ASHAs and 40 percent of Anganwadi Workers reported measuring the height and weight of a newborn during home visits. Similarly, qualitative interviews also suggested that they

9 Accredited Social Health Activists and Anganwadi Workers are the main frontline agents of the National Health Mission and the Integrated Child Development Services respectively, and are responsible for outreach services including nutrition counselling.

10 Don't know is counted as not received, and not applicable is counted as missing; only 8 vaccines (BCG, DPT, Polio (excluding polio at age 0) and measles are considered for no vaccination.

11 Implying that they have received their BCG vaccination, 3 injections of DPT, three doses of polio (excluding polio zero) immunization and measles vaccination.

did not consider weighing the children regularly or referring cases of severely malnourished children as a primary responsibility.

Conclusion: Utilization of key maternal and child health and nutrition services remains weak in Nagaland, suggesting an adverse impact on health and nutrition outcomes. The state needs to make concerted efforts for improving antenatal care to at least four visits through the length of the pregnancy, with a special focus on increasing antenatal during the first trimester. Strengthening delivery and quality of antenatal care, along with improving the implementation of the Janani Suraksha Yojana, is likely to increase institutional delivery rates. Vaccination and growth monitoring services for children, at all levels of service delivery, require urgent attention in the state, with a special emphasis on strengthening the platform of Village Health and Nutrition Day for providing these services. Similarly, enhancing the capacity of frontline workers, through competency-based trainings, use of job aides, and better performance incentives, could help to improve the quantity and quality of counselling provided and enable them to act more efficiently as agents of behavior change at the frontline. Through its interventions at the community level, the Nagaland Health Project is well placed to support improvements in these areas.

5. Process Evaluation of Community Result-Based Financing for Health and Nutrition in Nagaland: Lessons from Early Implementation

The community results-based financing component of the Nagaland Health Project has been scaled-up to over 450 sites, supporting formation and operationalization of health committees, and initiating work to achieve targets on selected indicators of key maternal and child health services.

Several key processes require more attention, such as improving capacity and autonomy of health committees, especially the women co-chairs, simplifying the verification strategy, and monitoring through an integrated data management system using a dashboard. Coordination should be improved by more effectively involving state- and district-level health service administrators such as National Health Mission staff and Chief Medical Officers.

Introduction: Under the term “communitization,” in 2002 the state government of Nagaland transferred responsibility for local services to Village Councils and sector-specific Committees. In the health sector, Village Health Committees were made responsible for management of local health services, including salary payment as well as use of small funds transferred by the state government. Some 1,300 Village Health Committees have been constituted and their level of functionality varies widely, with many hardly active. In 2016, the World Bank-financed Nagaland Health Project included a US\$15 million component to provide technical and financial support to strengthen implementation of the communitization strategy.¹ A major focus of the project is on enhancing knowledge and skills of Health Committees at the village and facility levels, as well as engaging other stakeholders including women’s groups and Village Councils. The project uses a result-based financing (RBF) strategy, providing financial incentives to Health Committees for achieving targets for pre-determined indicators.² Health Committees are trained to design a six-monthly action plan to achieve these targets, and use the financial incentives to implement their plans for subsequent cycles. The project was initially piloted in 30 villages in two districts, and has been scaled-up to about 450 sites in all 11 districts in a phased manner since late 2017.

Methods: The process evaluation draws on a mix of primary data sources: a structured survey of Health Committee Chairs and Co-chairs, facility-based health providers and frontline workers, namely ASHAs and Anganwadi Workers from purposively selected committees (n=35) implementing the project across 11 districts;³ a qualitative study including in-depth interviews

1 World Bank. 2016. Project Appraisal Document on a Proposed Credit in the Amount of US\$48 Million to the Republic of India for a Nagaland Health Project. November 28.

<http://documents.worldbank.org/curated/en/719521482375675651/pdf/INDIA-NAGALAND-PAD-11302016.pdf>

2 List of Eight indicators for Village Health Committees, eight for Health Sub-center Management Committees and five for Health Centre Management Committees is available in the full report and the project implementation manual.

3 Committees were selected from villages and facilities included in the sample frame of the project baseline survey which had completed at least one RBF cycle at the time of the survey.

with Chairs and Co-Chairs of 10 committees⁴ and key informant interviews with District Project Management Units and Chief Medical Officers in 5 districts; and ethnographic observations of the workings of 4 committees in 2 districts. The evaluation includes a review of project documents and reports, such as the Programme Implementation Manual, the Project Operations Manual and training materials, and an assessment of routinely-collected project monitoring data including roll-out of the implementation status, target achievement, and action plans and expenditure reports for the 10 committees in the qualitative study sample. The analytical framework involved understanding the design of key processes, actual implementation practices, and challenges faced, along with examining various factors at the committee, health systems and contextual-levels which mediate their implementation.

Findings: This brief presents key findings from the process evaluation of early stages of implementation of the project, documenting achievements, challenges and lessons learnt related to the following implementation processes:

Scale-up: The scale-up of Community Action for Health and Nutrition began in late 2017, with a target of 462 sites, including 77 Health Center Management Committees (HCMC), 90 Health Sub-center Management Committee (HSCMC) and 295 Village Health Committees (VHC). At the time that this study was conducted (early December 2018),⁵ training had been completed in all, but five sites and the initial one-time grant had been disbursed to 232 (50 percent) of the targeted sites. About 20 percent had received at least one RBF payment, most of which had been made by mid-2018. Among the pilot sites, 23 had progressed to the second and 6 to the third RBF payment cycle.

Training: While the project had trained all committees within two years, the coverage of training across members was found to need further improvement. Interviews with the Chairs and Co-Chairs suggested that there was a lack of clarity regarding attendance, resulting in low participation by committee members. While respondents indicated that they gained new knowledge from the training, their recall of training topics was low due to short, one-time training and low literacy levels.

Achievement of pre-conditions:⁶ Although all sampled committees had a woman Co-Chair, committees struggle to fulfil this mandate effectively. Non-transparent processes were followed

4 Ten committees, including three HCMCs, three HSCMCs and four VHCs across five districts, were purposively selected based on their recent performance (timely reporting, strong leadership, innovative action plans, strength of the DPMU) in the project.

5 The evaluation team collected data on roll-out status as of 22nd November 2018 which has been used to analyse the overall roll-out status.

6 Pre-conditions for receiving project support included forming a committee as per the government guidelines and electing a female co-chair, opening a bank account exclusively for this project with designated signatories and preparing an action plan for the first six months.

for appointment of women Co-Chairs, which undermines their agency in decision-making as committee members. Development of the first Action Plans were almost fully led by project staff.

Subsequent Action Plans: Action Plans reviewed were found to follow a set template, with few innovations. Certain items proposed in the plans are consistent across sites, namely awareness camps to cover the following topics: antenatal and delivery care, communicable diseases, family planning, sanitation, drug addiction, HIV/AIDS, birth registration, and improvements in health facilities. Examples of strategies included in Action Plans include: offering nutritional supplements or eggs to encourage pregnant women to seek antenatal care; incentives (INR 100) to ASHAs for reports on delivery care; funds for emergency transport and medicines; repair of health facilities; and distribution of ASHA kits. Key informant interviews with project staff suggested that external facilitation for preparation of Action Plans reduced over time but took at least two or three cycles.

Implementation: One of the main challenges to implementation of the Action Plans was inaccurate estimation of costs which resulted in under- or over- budgetary allocations. Secondly, fund disbursements required the approval of Action Plans for subsequent cycles. This requirement was found to be the main cause of delay in disbursement, thereby reducing the time available for implementation of the plans.

Verification and data use: Project staff reported to be overwhelmed by carrying out verification of the results reported by the committees, often due to lack of adequate guidance, non-standardized templates, and scheduling. The verification exercise was found to be largely mechanical, without significant implications on learning or performance. Similarly, while committees at various levels were reporting their progress routinely, data were found to be collected and collated mechanically and not used to inform further plans or actions.

Committee functioning: While committees met regularly, there was often lack of clarity on roles. Although decision making was seemingly democratic within the committee, there were stark differences in perceived autonomy between (male) Chairs and (female) Co-Chairs. The woman Co-Chair was found to be largely notional, with no real participation.

Health system constraints: Indicator achievement was also constrained by systemic factors outside of the control of the committees, such as limited cold chain facilities (for vaccination), lack of health personnel (for example at Village Health and Nutrition Days), systematic delays in releasing payments for conditional cash transfers for delivery care (through Janani Suraksha Yojana), and inadequate coordination between different government departments and levels.

Achievement of indicators: As described in Figure 1, most of the committees were successful in achieving the targets for indicators on conducting Behavior Change and Communication campaigns, ensuring adequate equipment and water supply at facilities, registration of pregnancies, weighing child at birth, and full immunization for infants age 9-11 months. On the

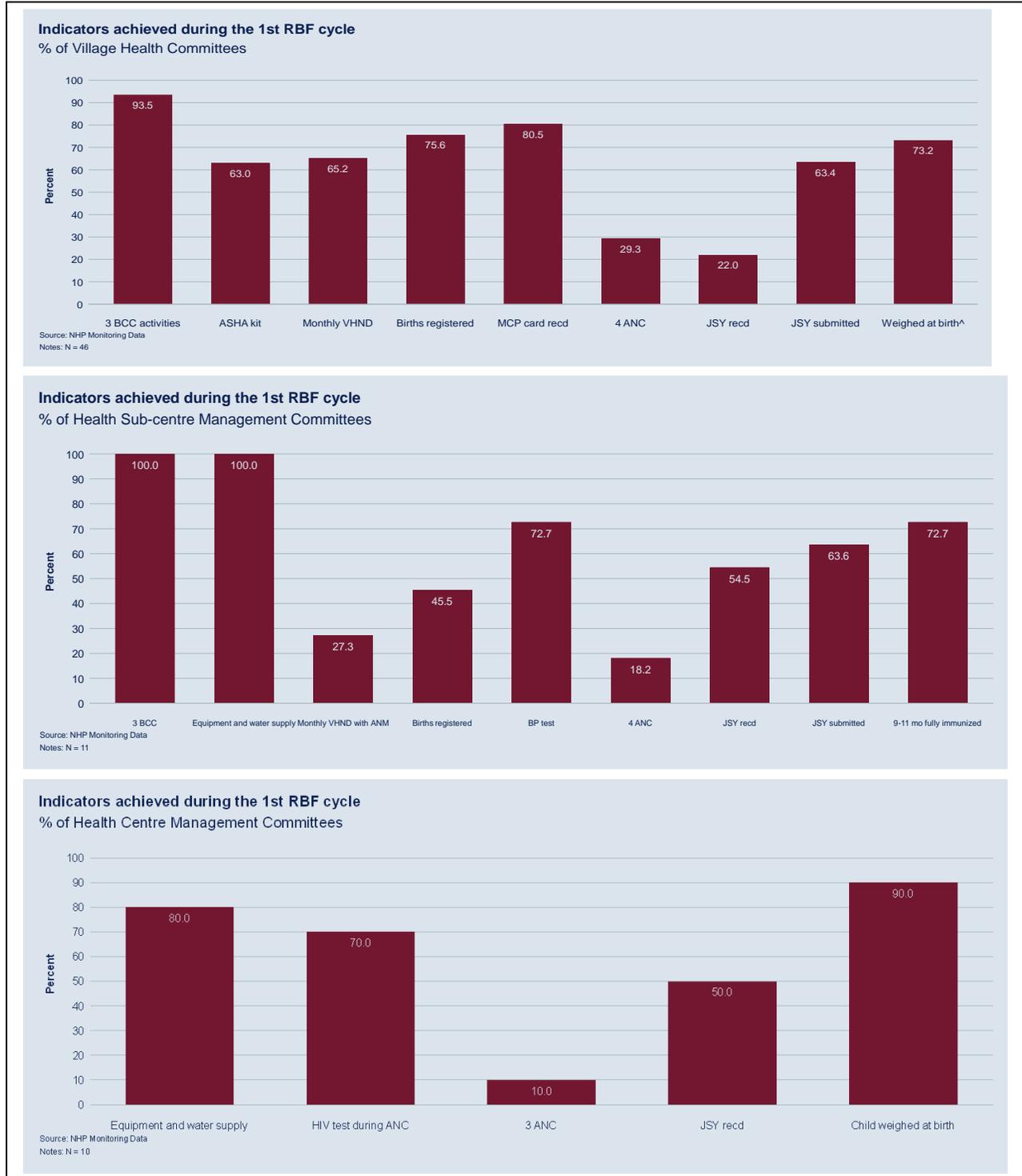
other hand, most committees struggled to meet the targets for indicators on four antenatal care visits, receiving cash incentives through Janani Suraksha Yojana while performance on indicators pertaining to conducting monthly Village Health and Nutrition Days and birth registration was mixed across type of the committee.

Conclusion: The project was successfully able to scale-up implementation to over 450 sites in about two years' time, ensuring fidelity to implementation design to a large extent, including the formation of committees according to government guidelines, opening bank accounts, preparing and implementing action plans, and maintaining records for verification. At the same time, several key processes require more attention to achieve higher fidelity and results for payment. For example, to improve effectiveness of capacity building of Health Committees the project should consider transitioning from knowledge-based to skills- or competency-based training, with introduction of interactive e-learning materials and refresher trainings. Similarly, to improve the development of Action Plans, the project should provide guidelines on common unit costs, establish continuous feedback loops and simplify the process with an annual rather than half-yearly planning cycle. De-linking the release of the funds from Action Plan approval and simplifying the verification strategy with clear objectives (such as course correction and learning) may also enable better implementation. Further, monitoring and learning would be facilitated through integrated data management using a dashboard, as well as data use guidelines and training for effective utilization and analysis of data by project staff as well as the committees.

The role of women Co-Chairs should be strengthened through leadership training and by creating a support group for peer-support. The capacities and motivation of district-level project staff would be strengthened by devolving more substantial responsibilities as well as through training on public health management. Coordination should be improved by more effectively involving state- and district-level health service administrators such as National Health Mission (NHM) staff and Chief Medical Officers. There is a need for improved data convergence between the Nagaland Health Project and the National Health Mission, as well as more systematic coordination between district-level project staff and Chief Medical Officers at monthly National Health Mission district review meetings.

The Nagaland Health Project is in the process of further streamlining several of the above-mentioned processes for better implementation. For example, it has begun the process of carrying out refresher trainings for the committees and is designing competency-based training materials. It has also conducted an orientation to the project for district-level Chief Medical Officers. The project is preparing a verification protocol linked to an integrated dashboard for reducing delays in collating data, carrying out verification and using data for subsequent action plans. Similarly, it has planned for capacity building activities for district-level project staff and frontline workers.

Figure 1: Achievement of Indicators during the First Implementation Cycle



6. Impact of a Community Result-Based Financing Strategy for Health and Nutrition in Nagaland, India

This analysis of baseline and follow-up data indicates that the Nagaland Health Project has had an impact on utilization of delivery care at Community Health Centres as well as on immunization coverage.

As the project matures, continued monitoring and evaluation of implementation and results, including further quantitative and qualitative data collection, will be important to confirm these initial positive results.

Introduction: Under the term “communitization,” in 2002 the state government of Nagaland transferred responsibility for local services to Village Councils and sector-specific Committees. In the health sector, Village Health Committees were made responsible for management of local health services, including salary payment as well as use of small funds transferred by the state government. Some 1,300 Village Health Committees have been constituted and their level of functionality varies widely, with many hardly active. In 2016, the World Bank-financed Nagaland Health Project included a US\$15 million component to provide technical and financial support to strengthen implementation of the communitization strategy.¹ The project aims to support community participation in planning, delivering, monitoring, and evaluating health and nutrition services. A major focus is on enhancing knowledge and skills of Health Committees at the village and facility levels, as well as engaging other stakeholders including women’s groups and Village Councils. The project uses a result-based financing strategy, providing funds to Health Committees if targets in their health and nutrition action plans are met, following verification by project staff. Health Committees use the financial incentives at their discretion to implement their action plans, for example for improving health facility infrastructure and supplies, conducting community campaigns for behavior change, and providing nutrition supplements to pregnant women. The project was initially piloted in 30 villages across 2 districts and has been scaled up in a phased manner since 2017 to about 450 villages in all 11 districts of the state.

Methods: Before the project was launched, a baseline survey was done in 2015 to assess the delivery and utilization of health and nutrition services in Nagaland. Households and health facilities were surveyed in 110 villages across 11 districts. In late 2018, as a part of a study on nutrition determinants and strategies in Nagaland, a follow-up survey was carried out in 55 out of the 110 villages covered by the baseline survey.

To assess whether the project has had an impact on the utilization of maternal and child health services, we compared villages which received training and financial incentives as a part of the

1 World Bank. 2016. Project Appraisal Document on a Proposed Credit in the Amount of US\$48 Million to the Republic of India for a Nagaland Health Project. November 28.
<http://documents.worldbank.org/curated/en/719521482375675651/pdf/INDIA-NAGALAND-PAD-11302016.pdf>

project (treated) and those which received neither training nor financial incentives (control). At the time of the survey, the project had been implemented in 29 out of the 55 villages covered by the follow-up survey. To select a control village with a similar initial level of maternal and child health service utilization as each of the 29 treated villages, we calculated the propensity score based on antenatal care visit rate, institutional delivery rate, and full immunization rate for children under 2 years of age at the village level and applied the method of Nearest Neighbor Matching without replacement.² The descriptive statistics provided in Table 1 show that the socioeconomic variables are not statistically different between the matched control and the treated villages before and after the introduction of project interventions. We used the difference-in-differences approach to evaluate the impact of the project by controlling for socioeconomic variables and using village-clustered robust variance estimation, assuming that the treated group would have followed the same trend as the control group if it had not received the intervention.

Findings: Figure 1 shows that the percentage of mothers who received antenatal care at least four times increased with a similar slope in the control and the treated groups after the start of the project, the percentage of mothers who delivered in Community Health Centres increased in the treated group and decreased in the control group, the percentage of mothers who delivered in District Hospitals decreased in the treated group and increased in the control group, and the percentage of children under two years old who were fully immunized increased in the treated group and decreased in the control group. In our difference-in-differences analysis, the effect of the project is not significant with regard to antenatal care. However, the effect is significant for deliveries in Community Health Centres and full immunization for children under 2 years old. The increase in the log odds of receiving delivery care in a Community Health Centre in the treatment group after project intervention is higher than the control group by 5.6, while the increase in the log odds of being fully immunized is higher by 3.0.

Conclusion: The analysis was limited by sample size and selection constraints imposed by the baseline survey and the phasing of implementation, neither of which prioritized the needs of an impact evaluation. Nonetheless, the data indicate that the project had an impact on utilization of delivery care at Community Health Centres as well as on immunization coverage, while no impact was discernible for antenatal care or delivery care at District Hospitals. At the time that this study was conducted, a majority of the committees (over 70 percent) in the intervention group had achieved the target for and received payment against the indicator on full immunization while less than 30 percent had met the target for antenatal care. These results are encouraging, suggesting that, in this hilly state with poor connectivity, community participation supported by the project has the potential to improve utilization of key health services. The project is currently scaling-up its interventions to over 450 sites, with implementation planned

2 Gertler, Paul J., Sebastian Martinez, Patrick Premand, Laura B. Rawlings, and Christel M. J. Vermeersch. 2016. *Impact Evaluation in Practice*, Second Edition. Washington, DC: Inter-American Development Bank and World Bank. <https://openknowledge.worldbank.org/handle/10986/25030>

over a period of several years, providing more time for evaluation of its impact. Monitoring and evaluation of project implementation and results, including further quantitative and qualitative data collection, will be important to confirm these initial positive results.

Table 1. Descriptive statistics of socioeconomic variables and its comparison between villages with and without project interventions

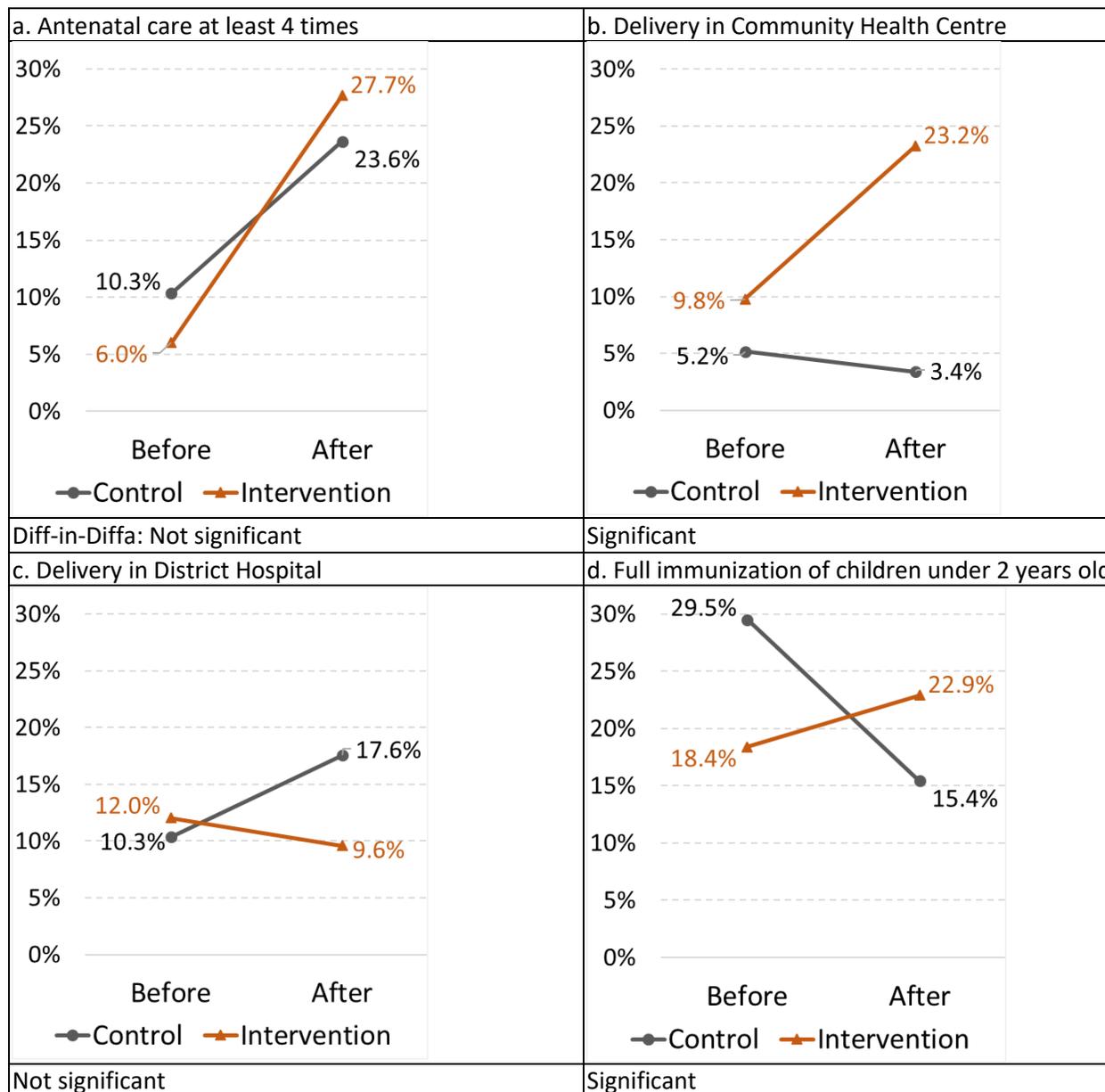
Socioeconomic variables	Baseline (2015)			Change over 2015–18
	Villages without the project (control)	Villages with the project (treated)	control-treated	Δ control- Δ treated
Mother's age (years)	27	27	0	0
Mother has primary education	75%	65%	10%	-5%
Mother has secondary education	25%	21%	4%	2%
Household head's age (years)	36	39	-3	3
Household head is male	95%	94%	1%	-2%
Household head has primary education	74%	74%	0%	12%
Household head has secondary education	34%	21%	13% *	1%
Household religion is Christianity	92%	96%	-4%	7%
Wealth index ^a	-0.21	-0.05	-0.16	0.46
Participation in government health service subsidy programs	21%	13%	8%	-5%

Note 1. Sample is restricted to children under 2 years old. The total sample size is 621 (197 in the control group and 424 in the treated).

Note 2. ***: significant at 1%; **: significant at 5%; *: significant at 1%.

a Wealth index is derived from principal component analysis of data on housing material (finished wall, floor, and roof), assets (radio, TV, cell phone, and refrigerator), vehicle (bicycle, motorcycle, car), land ownership, and livestock (cow, pig, chicken, and goat). Its mean is 0 and standard deviation is 1.69.

Figure 1. Trends in antenatal care, institutional delivery in Community Health Centers and District Hospitals, and childhood immunization before and after project implementation



7. Improving Women’s Leadership for Strengthening Health and Nutrition Outcomes – Lessons from a Process Evaluation of Community Action for Health and Nutrition

While reserving the co-chair position for women in health committees provided some benefit in terms of improving women’s participation in decision-making, other interventions such as better definition of roles and responsibilities, additional leadership training, and support groups for co-chairs, are needed to further reinforce this important first step.

Introduction: Under the term “communitization,” in 2002 the state government of Nagaland transferred responsibility for local services to Village Councils and sector-specific Committees. In the health sector, Village Health Committees were made responsible for management of local health services, including salary payment as well as use of small funds transferred by the state government. Some 1,300 Village Health Committees have been constituted and their level of functionality varies widely, with many hardly active. In 2016, the World Bank-financed Nagaland Health Project included a US\$15 million component to provide technical and financial support to strengthen implementation of the communitization strategy.¹ With the objective of improving participation and leadership of women for planning and managing health and nutrition services in the community, the project mandates that all committees appoint a woman Co-chair, in addition to a Chair (who could be a man or woman). The project was initially piloted in 30 villages across two districts, and has been scaled-up in a phased matter since late 2017 to about 450 sites in all 11 districts of the state.

Methods: This process evaluation of project implementation was based on a mix of primary and secondary data sources. These included a survey of Health Committee Chairs and Co-chairs, facility-based health providers and frontline workers, namely ASHAs and Anganwadi Workers, from purposively selected committees (n=35) implementing the project² across 11 districts. In addition, a qualitative study included in-depth interviews with Chairs and Co-chairs of ten committees³ and key informant interviews with project staff and Chief Medical Officers in five districts². Ethnographic observations of the functioning of four committees in two districts were done. Project documents and reports were reviewed.

Findings: This brief focuses on the findings of the process evaluation with respect to the project’s efforts to improve the participation and leadership roles of women. The brief describes the

1 World Bank. 2016. Project Appraisal Document on a Proposed Credit in the Amount of US\$48 Million to the Republic of India for a Nagaland Health Project. November 28.

<http://documents.worldbank.org/curated/en/719521482375675651/pdf/INDIA-NAGALAND-PAD-11302016.pdf>

2 Committees were selected from villages and facilities that had completed at least one project-supported planning and financing cycle and were also included in the sample frame of the 2014 project baseline survey.

3 Ten committees across five districts, including six at the facility level and four at the village level, were purposively selected based on their recent performance (timely reporting, strong leadership, innovative action plans) in the project.

evaluation's findings on the extent to which the mandate of appointing a woman Co-chair was implemented by the health committees, the challenges associated with creating this position, and the experiences of the female Co-chairs participating in this initiative.

Appointment and training of Co-chairs: Although all sampled committees (n=35) had named a woman Co-chair, committees reportedly struggled to fulfil this mandate effectively. In many instances, this was due to low and aging village populations, as well as low literacy levels among women, resulting in lack of suitable candidates. In the absence of a well-defined appointment process for the Co-chair, often non-transparent processes were followed. As a result, many women Co-chairs were appointed to committees without their knowledge. In many other cases, the appointment was either made during project training sessions or shortly after. Thus, only about 60 percent of Co-chairs received training (as compared to 77 percent of male Chairs) and did not engage with some of the initial decision-making for the project, namely the development of the first action plan.

Responsibilities and perceived autonomy: As per project guidelines, there are no differences in responsibilities between the Chair and the Co-chair. In practice however, Co-chairs were found to be assigned tasks that were secretarial in nature, such as maintaining records and taking meeting notes, while decision-making power rested with the Chair, who was responsible for conducting the committee meetings and managing the bank account. In addition, there were stark differences in self-perceived autonomy between the male Chairs and female Co-chairs, with 85 percent of the Chairs feeling the sense of authority to assign tasks to members of the committee, a sense of agency not shared by 45 percent of the Co-chairs. Although women in Nagaland have historically enjoyed a high social position,⁴ women conform to traditional gender roles, and are expected to perform a range of household tasks including meal preparation, household cleaning and maintenance, and child care. As a result, in some instances the Co-chairs were unable to participate in committee activities due to their existing household commitments.

Perceptions about the role of the Co-chair: The female Co-chairs reported to value their role and experience in the committee, saw themselves as agents of change and believed that their role directly benefitted women, in particular by bringing to the table perspectives, needs and concerns of mothers. Many reported gaining experience and confidence from their appointment. On the other hand, the male Chairs presented a range of opinions on the requirement for female Co-chairs, perhaps reflecting debates around the reservation of political positions for women in the state. Some argued that a woman Co-chair was necessary to raise awareness for improving maternal and child health and nutrition, while some stated that the most capable individuals for the job should be appointed as Chair and Co-chair, regardless of their gender.

4 Shimray, U. A. (2004). Women's work in Naga society: Household work, workforce participation and division of labour. *Economic and Political Weekly*, 1698-1711

Conclusion: The evaluation found that while reserving the Co-Chair position for women provided some benefit in terms of improving women’s participation in decision-making, it is clear that other interventions are needed in order to build on this first step.

Clear and equal set of responsibilities: The evaluation recommends appointing two chairs, rather than one Chair and Co-chair, with clearly defined roles and responsibilities to ensure that both men and women have equal responsibilities.

Leadership training for Co-chairs: To ensure that the reservation of the post of Co-chair is not just notional, the project should aim to strengthen the capacity of the Co-chairs as well as build an enabling environment for them to function in. For example, the project could design and organize additional training and leadership programs, including competency-based workshops for Co-chairs. District-level project staff could also provide additional mentoring to Co-chairs for planning activities based on needs of the community and their implementation.

Support groups for Co-chairs: While additional skills and leadership can be imparted through trainings and workshops, creating a truly enabling environment would be far more complex. However, the project can initiate the formation of support groups of Co-chairs from neighboring committees, such that they could discuss their problems with their peers, collectively brainstorm solutions and generally support each other.

The Nagaland Health Project is dedicated to strengthening leadership of women for improving health and nutrition outcomes and has taken the above-mentioned recommendations under advisement for inclusion in implementation of the project. To begin with, it has committed to work with the State chapter of the National Health Mission to write a clear set of roles and responsibilities for the committee chairs.

8. Recommendations for Strengthening Delivery of Nutrition Services through the Platform of Community Action for Health and Nutrition in Nagaland

Key findings from the assessment of nutrition determinants and process evaluation of early implementation of the Nagaland Health Project, suggest several recommendations for leveraging the existing project platform to enhance nutrition outcomes. These include introduction of nutrition-relevant indicators in the results-based financing design, capacity building of frontline workers and facility-based providers, and strengthening intersectoral coordination.

Introduction: In the state of Nagaland, stunting prevalence among under-five children decreased from 39 to 29 percent over the decade between the National Family Health Surveys done in 2005-06 and 2015-16 and is lower than the national average of 38 percent. During the same period, under-five prevalence of wasting decreased marginally from 13 to 11 percent.¹ However, within the state of Nagaland, there is significant variation in nutritional status between districts.² For instance, stunting rates among under-five children range between a 19 percent in Tuensang district and 42 percent in Kiphire district; wasting prevalence ranges between 2 percent in Mokokchung and 21 percent in Mon. Further, a third of all pregnant women in Nagaland are anaemic and about 12 percent of all women are too thin. Thus, despite improvements in nutritional status by some measures, undernutrition in women and children remains a significant challenge.

Under the term “communitization,” in 2002 the state government of Nagaland transferred responsibility for local services to Village Councils and sector-specific Committees. In the health sector, Village Health Committees were made responsible for management of local health services, including salary payment as well as use of small funds transferred by the state government. Some 1,300 Village Health Committees have been constituted and their level of functionality varies widely, with many hardly active. In 2016, the World Bank-financed Nagaland Health Project included a US\$15 million component to provide technical and financial support to strengthen implementation of the communitization strategy.³ The project includes training committee members on the importance of preventive and promotive care, and on the responsibilities and functions of the committees. The project provides resources to committees to improve service delivery by using a results-based financing mechanism. At present, the project, implemented by the Department of Health and Family Welfare, does not have a substantial focus

1 International Institute for Population Sciences and ICF. (2018). National Family Health Survey - 4 (NFHS 4) India 2015-16: Nagaland.

2 Kohli, N., Nguyen, P., Avula, R., & Menon, P. 2017. Improving nutrition in Nagaland: Insights from examining trends in outcomes, determinants and interventions between 2006 and 2016. POSHAN Policy Note #28. New Delhi: International Food Policy Research Institute

3 World Bank. 2016. Project Appraisal Document on a Proposed Credit in the Amount of US\$48 Million to the Republic of India for a Nagaland Health Project. November 28.
<http://documents.worldbank.org/curated/en/719521482375675651/pdf/INDIA-NAGALAND-PAD-11302016.pdf>

on improving nutrition services (which are the responsibility of the Department of Social Welfare).

Methods: The following set of recommendations are based on a mixed-methods study aimed to examine drivers of nutrition outcomes in Nagaland, as well as identify existing barriers and facilitators for delivering nutrition services. The design also supports an assessment of early implementation of the Nagaland Health Project to inform possible approaches to strengthening nutrition delivery through the current project design and implementation strategy. The study uses a combination of qualitative and quantitative methods. An exploratory qualitative study, including focus group discussions with community members, was followed by a survey of households, health committees and facility staff. The survey was accompanied by key informant interviews with relevant stakeholders as well as an assessment of project monitoring data and documents.

Recommendations: Based on key findings from the assessment of nutrition determinants in the state and a process evaluation of early implementation of the project, several recommendations have been developed for leveraging the existing project platform to enhance nutrition outcomes. Recommendations include introduction of nutrition-relevant indicators in the results-based financing design, capacity building of frontline workers and facility-based providers, and strengthening intersectoral convergence for nutrition.

Nutrition-relevant indicators for results-based financing: At present, the project does not include any indicator solely focused on nutrition services, but instead includes composite indicators that reflect delivery of both health and nutrition services.⁴ New indicators could be introduced to more explicitly tie results-based payments to delivery of nutrition services.

At the village level	<p>Indicator on a specific number of behavior change campaigns that include nutrition topics: for example, at least one campaign on a nutrition topic per quarter.</p> <p>Indicator on organizing group counselling sessions exclusively on nutrition topics at least once a quarter at Village Health and Nutrition Days held jointly by Auxilliary Nurse Midwives, ASHAs and Anganwadi Workers.</p>
At the facility level	Indicator on completeness of child growth data on the Mother-Child Protection card in order to improve growth monitoring and early identification of severe malnutrition.

⁴ Several indicators reflect implementation of Village Health and Nutrition Days that are co-organized by health workers (under the Department of Health and Family Welfare) and Anganwadi Workers (under the Department of Social Welfare), who provide nutrition services such as growth monitoring.

	Indicator on availability of functional infant and adult weighing scales, infantometer and stadiometer at the Sub-centre and Anganwadi Centre to enable routine growth monitoring.
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Building capacity for the delivery of nutrition services: Given the findings on gaps in demand for and inadequate supply and quality of nutrition services, especially counselling and growth monitoring, capacity building should be done for frontline workers (ASHAs and Anganwadi Workers) and facility-based providers on effective delivery of nutrition services. This could include capacity building of ASHAs and Anganwadi Workers by providing nutrition messaging tools in the form of booklets/handbooks with contextualized content and visual aids for messaging at the community level on promotive and preventive practices. Moreover, the project could provide training and mentoring to frontline workers for regular and accurate growth measurement, identifying growth faltering using WHO growth charts, and ensuring completeness of growth measurement on Mother-Child Protection cards. Similarly, capacity building efforts for facility-based providers could aim to improve nutrition counselling as part of antenatal, postnatal and newborn care, as well as growth monitoring and early identification and management of severe malnutrition among children.

Strengthening intersectoral coordination for nutrition: Given the multifactorial nature of undernutrition and the complementarities between services provided by the Department of Health and Family Welfare and the Department of Social Welfare, there is a need for improved coordination. This could be achieved through quarterly meetings between the project team and concerned Department of Social Welfare officials at the state level to discuss, develop and review plans and guidelines for strengthened coordination at the local level. Such coordination of service delivery could be centred on: Village Health and Nutrition Days, home visits, behaviour change campaigns, data sharing, and other activities that could benefit from interdepartmental coordination at the village and block level. Similarly, orientation on the project for district and block-level Department of Social Welfare officials may be beneficial for securing their buy-in and active participation. Finally, a combined effort by both departments for capacity building of Auxiliary Nurse Midwives, ASHAs and Anganwadi Workers, on planning, organisation, and service delivery at Village Health and Nutrition Days, as well as joint field visits for better supervision of and feedback to frontline workers, could contribute to improved delivery of nutrition services.

The Nagaland Health Project has adopted these recommendations and agreed to incorporate them in the design and implementation of the project in a phased manner. It aims to pilot test the inclusion of nutrition-relevant indicators for results-based financing in a selected sample of sites, to understand better data requirements and processes involved in monitoring and verifying these indicators, before scaling them to all sites. It has also agreed to provide combined training to ASHAs and Anganwadi Workers for improving delivery of nutrition counselling services.