



**Strategic Review of Food and Nutrition  
Security in Myanmar:  
“In support of Sustainable Development  
Goal (SDG) 2 - Roadmap to 2030”**

WFP sponsored this Review, which the Myanmar Institute for Integrated Development (MIID) undertook. MIID fielded the following team of researchers.

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### **An Independent Review Sponsored by the United Nations World Food Programme (WFP)**

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*“Nutrition is the lifeblood of children. According to research, under-twos will see more brain development when they have had better nutrition. Nutrition helps make stronger children and boosts development. Ministries, regional governments and philanthropic organizations help child nutrition programs. But participation is a must for both parents. The government has the responsibility to help parents in developing their offspring.”*

-Myanmar State Counsellor, Aung San Suu Kyi  
25 January 2017 National Coordination Meeting on Nutrition

## LIST OF ACRONYMS

ASEAN	Association of Southeast Asian Nations
CCVFC	Central Committee for the Management of Vacant, Virgin and Fallow Lands
CPI	Consumer Price Index
CSA	Climate Smart Agriculture
CSO	Central Statistical Organization
DHS	Demographic and Health Survey
DOH	Department of Public Health
DOA	Department of Agriculture
DRR	Disaster Risk Reduction
EAG	Ethnic Armed Groups
FAO	Food and Agriculture Organization
FCS	Food Consumption Score
FDA	Food and Drug Administration
FNS	Food and Nutrition Security
FSPES	Food Security and Poverty Estimation Survey
HEB	High Energy Biscuits
IDA	Iron Deficiency Anemia
IDD	Iodine Deficiency Disorder
IDMC	Internal Displacement Monitoring Centre
IDP	Internally Displaced Person
IHLCA	Integrated Household Living Conditions Assessment
INGOs	International Non-Governmental Organizations
IOM	International Organization for Migration
IYCF	Infant and Young Child Feeding
KAP	Knowledge, Attitude, Practices
LBVD	Livestock Breeding and Veterinary Department
LEARN	Leveraging Actions to Reduce Malnutrition
LIFT	Livelihoods and Food Security Trust Fund
LUC	Land Use Certificates
MADB	Myanmar Agricultural Development Bank

MAHFP	Months of Adequate Household Food Provisioning
MDG	Millennium Development Goal
MCCT	Maternal and Child Cash Transfer
MICS	Multiple Indicator Cluster Survey
MIID	Myanmar Institute for Integrated Development
MIMU	Myanmar Information Management Unit
MMK	Myanmar Kyat <sup>1</sup>
MOALI	Ministry of Agriculture, Livestock and Irrigation
MOE	Ministry of Education
MOHS	Ministry of Health and Sports
MOPF	Ministry of Planning and Finance
NCDP	National Comprehensive Development Plan
NGCA	Non-Government Controlled Areas
NLUP	National Land Use Policy
NPAFN	National Plan of Action for Food and Nutrition
NNC	National Nutrition Centre
ORS	Oral Rehydration Salt
OVC	Orphans and Vulnerable Children
PEM	Protein Energy Malnutrition
PLHIV	People Living with HIV/AIDS
PLwD	People Living with Disabilities
PLW	Pregnant and Lactating Women
PPP	Public Private Partnership
PTA	Parent Teacher Association
RSM	Rapid Situation Monitoring
SAI	State Agricultural Institute
SDG	Sustainable Development Goal
SFP	School Feeding Program
SUN	Scaling Up Nutrition
UMFCCI	Union of Myanmar Federation of Chambers of Commerce and Industry

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<sup>1</sup>The official exchange rate as of 8 March 2017 was 1358 MMK : 1 USD

UNDP	United Nations Development Programme
UNICEF	United Nations Children’s Fund
UNREACH	UN Renewed Efforts Against Child Hunger and Under-nutrition
VAD	Vitamin A Deficiency
VFVL	Virgin, Fallow and Vacant Land Management Law
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization
WFA	Weight for Age
WFP	World Food Programme
YAU	Yezin Agricultural University
YCDC	Yangon City Development Committee

# TABLE OF CONTENTS

<b>LIST OF ACRONYMS</b>	<b>3</b>
<b>FOREWORD</b>	<b>10</b>
<b>EXECUTIVE SUMMARY</b>	<b>12</b>
<b>METHODOLOGY</b>	<b>13</b>
<b>FOOD AVAILABILITY AND ACCESS</b>	<b>14</b>
<b>FOOD UTILIZATION</b>	<b>16</b>
<b>DISASTER MANAGEMENT AND VULNERABLE GROUPS</b>	<b>18</b>
<b>INSTITUTIONAL RESTRUCTURING AND COORDINATION</b>	<b>19</b>
<b>1. INTRODUCTION</b>	<b>21</b>
<b>METHODOLOGY</b>	<b>22</b>
<b>COUNTRY CONTEXT</b>	<b>27</b>
GEOGRAPHY, DEMOGRAPHICS AND HISTORY	27
THE ECONOMY	29
<b>THE MILLENNIUM DEVELOPMENT GOALS AND THE ZERO HUNGER CHALLENGE</b>	<b>30</b>
<b>THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT</b>	<b>32</b>
<b>2. THE STATE OF FOOD AND NUTRITION SECURITY IN MYANMAR</b>	<b>35</b>
<b>2.1. AVAILABILITY OF FOOD</b>	<b>36</b>
<b>2.2. ACCESS TO FOOD</b>	<b>41</b>
AGRICULTURAL WORKFORCE	44
RURAL INCOMES	49
CROP PROFITABILITY	50
CROP DIVERSIFICATION, RICE INTENSIFICATION & AGRICULTURAL EXTENSION	53
NATURAL DISASTERS AND CLIMATE CHANGE	56
INFRASTRUCTURE AND ACCESS TO MARKETS	58
RICE PRICE VOLATILITY & INFLATION	62
MONTHS OF ADEQUATE HOUSEHOLD FOOD PROVISIONING (MAHFP)	63

FINANCING FOOD WITH DEBT	64
<b>2.3. FOOD UTILIZATION</b>	<b>66</b>
DIETARY INTAKE	67
CARE PRACTICES	72
DISEASE	75
<b>2.4. NUTRITIONAL OUTCOMES</b>	<b>80</b>
ANTHROPOMETRIC MEASUREMENTS	80
MICRONUTRIENT DEFICIENCIES	86
THE DOUBLE BURDEN	89
<b>2.5. VULNERABLE GROUPS</b>	<b>89</b>
INTERNALLY DISPLACED PERSONS (IDP)	95
<b>3. INSTITUTIONAL ENVIRONMENT &amp; RESPONSE</b>	<b>98</b>
<b>3.1. FOOD AVAILABILITY AND ACCESS</b>	<b>98</b>
GOVERNMENT	98
DEVELOPMENT PARTNERS	105
ROLE OF THE PRIVATE SECTOR	109
<b>3.2. FOOD UTILIZATION</b>	<b>113</b>
GOVERNMENT	113
DEVELOPMENT PARTNERS	121
ROLE OF THE PRIVATE SECTOR	125
<b>3.3. COORDINATION MECHANISMS</b>	<b>126</b>
<b>3.4. DISASTER MANAGEMENT</b>	<b>130</b>
<b>3.5. VULNERABLE GROUPS</b>	<b>133</b>
INTERNALLY DISPLACED PERSONS	133
<b>4. CONCLUSION</b>	<b>139</b>
<b>5. RECOMMENDATIONS</b>	<b>145</b>
INSTITUTIONAL RESTRUCTURING AND COORDINATION	145
FOOD AVAILABILITY AND ACCESS	146
FOOD UTILIZATION	148
DISASTER MANAGEMENT AND VULNERABLE GROUPS	150



<b>WORKS CITED</b>	<b>152</b>
<b>DATASETS</b>	<b>159</b>
<b>APPENDIX 1: SUSTAINABLE DEVELOPMENT GOALS</b>	<b>161</b>
<b>APPENDIX 2: SIGNIFICANT SURVEYS FOR FOOD AND NUTRITION SECURITY IN MYANMAR</b>	<b>162</b>

### List of Maps

Map 1: States and Regions Visited During Fieldwork	25
Map 2: Poverty and Food Poverty by State and Region	44
Map 3: Landless Rate in Agricultural Population by State and Region	47
Map 4: Rural Households with Inadequate Diet	68
Map 5: Stunting, Wasting and Underweight Prevalence for Children Under Five Years by State and Region	85
Map 6: Agricultural Activities by Township	107
Map 7: Nutrition Activities by Township (blue)	122
Map 8: Wash Activities by Township (blue)	123
Map 9: DRR Activities by Township (blue)	131
Map 10: Food Assistance Activities by Township (blue)	135

### List of Charts

Chart 1: Agricultural Production	37
Chart 2: Production of Animal Products	38
Chart 3: Balance of Food Trade (000,000 USD)	39
Chart 4: ASEAN Food Supply (kcal/capita/day)	40
Chart 5: Chart 5: Distribution of Farm Size (Hectares)	45
Chart 6: Road Density (6 km road/100 km <sup>2</sup> land)	59
Chart 7: Freight Cost (1 USD/mt/100km)	60
Chart 8: Food Group Consumption by Wealth Quintile	69
Chart 9: Stunting (Children Under 5 Years Old)	82
Chart 10: Wasting (Children Under 5 Years Old)	83

Chart 11: Underweight (Children Under 5 Years Old)	83
<b>List of Boxes</b>	
Box 1: Becoming Landless	48
Box 2: Properly Interpreting Food Consumption Scores	71
<b>Tables and Figures</b>	
Table 1: Crop Profitability in Myanmar	51
Figure 1: Nutritional Outcomes Framework	66

## Foreword

Why do food insecurity and malnutrition still exist in a country that produces enough food for its entire population? This is the question at the heart of the Strategic Review of Food and Nutrition Security in Myanmar.

The Sustainable Development Goals (SDGs) have provided countries around the world with a broad global framework for development through the year 2030. National governments are aligning their development strategies around the 17 SDGs. For SDG 2 – Zero Hunger – Strategic Reviews have been carried out in dozens of countries across the world with the aim of providing a strong evidence base to enhance and accelerate national efforts to eliminate food insecurity and malnutrition. The Myanmar Strategic Review is part of this global effort towards Zero Hunger.

Myanmar has shown its commitment to Zero Hunger as one of the first countries in the Asia Pacific region to adopt the Zero Hunger Challenge initiated by former UN Secretary-General Ban Ki-moon. Over the past few years, UN agencies and others have undertaken various initiatives around SDG 2 in Myanmar. The Strategic Review does not aim to duplicate these existing efforts, but is rather a compilation and analytical synthesis of existing evidence, with concrete recommendations on the way forward.

While the Strategic Review report itself provides a wealth of information and analysis, translating this into action is even more important. The report concludes with a set of recommendations for the Government as well as all stakeholders in the food and nutrition arena in Myanmar. This “whole of society approach” includes development partners such as UN agencies and NGOs, as well as other actors including the private sector, legislators, and state/regional governments. I call on all of you to be champions of SDG 2 by communicating the Strategic Review and its findings widely. We hope that the report does not sit on shelves collecting dust, but that the findings and recommendations are taken forward. The publication of this report is not the end of the process, but rather the beginning.

Together, we can achieve Zero Hunger in Myanmar.



Professor Dr. Aung Tun Thet, Lead Convener

## Executive Summary

With the entry of a civilian government in 2011, Myanmar began an extensive reform process spanning both political and economic spheres. This has brought about not only a restructuring of government institutions but also a changing dynamic between the government and the population. The government is currently in transition from an authoritarian, centralized system to a democratic, decentralized system that is more responsive to the needs of its citizens.

In this context food and nutrition security has emerged as an issue of critical importance. Decades of military rule, economic sanctions and internal conflict have resulted in a high level of poverty, under-developed agricultural systems and poor nutritional outcomes. At present, over 29 percent of children under the age of 5 are stunted, and prevalence rates for Iron Deficiency Anemia and other micronutrient deficiencies remain high amongst women and children. Ensuring adequate food and nutrition security will remain a fundamental challenge in the country for years to come, but **the government has identified food and nutrition as a priority** and has set about tackling this challenge with renewed vigor. As of October 2014, Myanmar became the second country in the Asia Pacific Region to join the UN Zero Hunger Challenge. Though gains towards achieving the Millennium Development Goals have been modest, there is considerable impetus within government to work towards developing a national food and nutrition security action plan and achieve Sustainable Development Goal (SDG) 2 and end hunger by

2030<sup>2</sup>. In January 2017, at the country’s first-ever National Coordination Meeting on Nutrition, the **State Counsellor rightly recognized nutrition as “the lifeblood” of Myanmar’s children** and “part of the country’s development program”.

## Methodology

This Review is designed to be an **independent, analytical and consultative** exercise aimed at providing a comprehensive and detailed understanding of the context of food and nutrition security in the country. It seeks to understand the underlying causes of food and nutrition insecurity and to find solutions and develop the strategies needed to make real improvements to the lives of all Myanmar’s citizens. The Strategic Review was undertaken over a seven month period by a team of both national and international experts. In addition to a wealth of background literature, this Strategic Review was informed by numerous interviews and consultations with government officials and subject matter experts from INGOs, LNGOs, CSOs, and UN organizations across the country. Field studies were conducted in 7 of Myanmar’s 14 States and Regions, spanning various climates, agro-ecological zones and ethnic populations. In order to assess food and nutrition security, the Strategic Review employed a conceptual framework consisting of three interrelated variables: food availability, food access and food utilization.

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<sup>2</sup> SDG 2 and its sub-goals are listed in Appendix 1. This review only focuses on the first four sub-goals. It does not address sub-goal 2.5 ‘maintaining genetic seed diversity’.

## Food Availability and Access

At the national level **food is widely available in Myanmar**. With a large agricultural workforce and ample agricultural lands, Myanmar is self-sufficient in food production and also exports substantial quantities of food abroad, particularly pulses (peas and beans) and fish and shrimp products. However, **the agricultural system is both the answer to and cause of Myanmar's food security woes**. While the agricultural system is able to produce more than enough food to feed the population, it does not provide adequate farm-based incomes to ensure access to food for the smallholder farmers and landless laborers who constitute the majority of the rural population. Relatedly, the skewed nature of agricultural production leads to cyclical under-employment for the agricultural workforce and highly volatile prices for staple foods like rice. Food price fluctuations cyclically undercut food access for both the rural and urban poor alike. Simply put, there are **periods in the year where they do not earn enough money to purchase food**. Financing food purchases with debt is a commonly used coping mechanism. While this forestalls immediate hunger, it inhibits asset accumulation and locks many people into a cycle of debt and tenuous food security.

In order to improve food access amongst the rural population and achieve SDG 2.2, **agricultural incomes and farm productivity for small scale farmers and agricultural laborers must increase**. While this review has identified numerous factors affecting agricultural incomes, the biggest gains can be made by ensuring that smallholder farmers and landless agricultural laborers have **secure ownership** or usage rights to land and access to agricultural inputs including quality seed, agrochemicals and agricultural finance. The **rural road**

**network** also needs to be extended and upgraded so that farmers have access to markets where they can obtain agricultural inputs and sell their products. This will serve to incentivize more intensive agricultural investments and the production of **cash crops**. Farmers also require **knowledge of new agricultural techniques and technologies** that not only increase yields and diversify agricultural production but also improve resiliency to climatic shocks, maintain ecosystems and ultimately ensure the sustainability of food production systems, in line with SDG 2.3.

To achieve these goals, the government can provide a **wide-reaching, responsive agricultural extension system**. This system should advise farmers what to grow and how to grow it based on the specific agro-ecological conditions of a given area, agricultural inputs available and prevailing market prices for agricultural crops. Ultimately, the system must be guided by the demands of farmers, providing knowledge and technical skills that they find useful and lucrative. Agricultural research and extension require substantial investment and should be given greater priority both in terms of funding and focus within the Ministry of Agriculture, Livestock and Irrigation. A conceptual shift is also required amongst agricultural researchers and extension workers themselves to provide services based on farmer demands rather than central government policies. **Further legal reforms are needed to establish a legal framework that protects the land rights and land usage rights of smallholder farmers and landless laborers**, recognizes a plurality of ownership systems and agricultural practices and specifically stipulates equal land rights for women. Until the legal system can adequately safeguard land tenure in all its forms, government concessions of land to large scale agri-businesses should be approached with



extreme caution. If properly reformed, the legal system can also **incentivize healthy and appropriate private sector investment in the agricultural sector**, particularly in the production, distribution and testing of quality seed and agrochemicals as well as the extension of agricultural credit.

## Food Utilization

Even if food is both available and accessible, there is no guarantee that it will be utilized effectively. Available data indicate that much of the **poor population do not consume enough protein rich foods like fish or meat**. Anecdotal evidence as well as a high prevalence of micronutrient deficiencies also indicate that they do not consume enough fruits and vegetables that are rich in vitamins and minerals. Rather, diets consist heavily of rice for the simple fact that it is relatively inexpensive. This enables much of the population to ‘fill their stomachs’. They do not feel hungry, but without a balanced diet their bodies are not receiving the necessary nutrients to reach their full biological potential for physical and cognitive development. While a nutritious diet need not be expensive, **nutritional knowledge is poor amongst most of the population**. They have limited knowledge on how to prepare well-balanced, healthy meals with a diverse range of locally produced, nutritious and cheap ingredients. Common practices for food preparation, such as overcooking vegetables, also reduce the nutritional value of the food they consume.

While data is limited on the care practices that govern food consumption within the household, it is clear that they are

dependent upon deeply ingrained cultural and gender-based norms, and anecdotal evidence and indicators for malnutrition suggest that they do not promote nutrition security. Furthermore, that data also indicate that **much of the population does not follow appropriate Infant and Young Child Feeding (IYCF) practices**. Approximately half of infants are not exclusively breastfed for the first six months and many are introduced to semi-solid foods too early. This prevents the infant from receiving the necessary nutrients required to reach full cognitive and physical development. Food utilization in Myanmar is further hampered by a **poor health environment and inadequate care practices related to hygiene and sanitation**. Sanitation is a particularly relevant concern for the urban poor, many of whom live in highly unsanitary conditions in rapidly expanding industrialized areas. The negative impacts of a poor health environment in urban areas are evinced by higher rates of childhood wasting and Iodine Deficiency Anemia in urban compared to rural areas.

In order to end all forms of malnourishment and achieve SDG 2.2, the Department of Public Health (DOH) and development partners should **expand coverage of awareness raising campaigns and trainings for nutrition and appropriate IYCF practices**. Options for bundling these trainings with hygiene trainings and newborn and maternal health programs should also be encouraged. The complementary nature of these interventions can lead to positive cumulative outcomes in nutrition. **Further research should be conducted on the cultural and gender-based factors affecting consumption within the household**. Doing so will allow for the development of effective nutrition awareness raising and training programs that are culturally appropriate and tailored to local gender dynamics. Increasing the nutritional knowledge of an entire

population also requires a long-term perspective. The Department of Public Health should work with the Ministry of Education and other relevant Ministries to develop and implement nutrition classes in the public school system at the primary and secondary levels as well as nutrition degrees at the tertiary level. Government and development partners should also continue to operate much needed vitamin supplementation and deworming campaigns but with a view to gradually **shift away from a reactionary, clinical approach to a proactive dietary approach to nutrition**. This will ensure sustainability over the long-run.

### Disaster Management and Vulnerable Groups

This Review recognizes that within the wider population, vulnerable groups exist that cannot reasonably be expected to attain food and nutrition security without sustained support from either government social safety nets or humanitarian aid. Vulnerable groups such as orphans and vulnerable children (OVC), people living with HIV/AIDS (PLHIV), people living with disabilities (PLWD) and the elderly often **rely on support from humanitarian organizations, development partners and grassroots welfare organizations when and where it is available**. Myanmar also has a substantial population of internally displaced people (IDP), who are highly dependent on food aid due to limited access to livelihood opportunities and productive assets. Improving food and nutrition security for these groups requires the gradual expanding and strengthening of the government social protection system over the long-term. At the same time, the government should work to **coordinate the activities of both international development partners as well as grassroots welfare organizations** to maximize the effectiveness of the existing

non-government resources. Livelihood interventions within IDP camps should be promoted and, where possible, the government should improve access of aid agencies to IDP camps in non-government controlled areas, particularly in the Northeast of the country.

### Institutional Restructuring and Coordination

While the analysis above has separately addressed food security and nutrition security, it is important that policies and interventions be designed in a holistic manner, taking into account the interrelated nature of the two. In Myanmar, the two topics have traditionally been addressed in isolation. The Ministry of Agriculture, Livestock and Irrigation has typically overseen food security, while nutrition security has mainly been viewed as a health issue to be managed under the Ministry of Health and Sports. **A cross-cutting, multisectoral approach is needed.** In terms of policy, this requires the drafting of a **unifying, costed national plan** that consolidates and monitors food and nutrition related activities across ministries and development partners. A **high-level committee** on food and nutrition security should also be established with authority across implementing ministries. In terms of interventions, programmatic steps should be taken to mainstream nutrition into agricultural programs and vice versa. For example, nutritionists from the Department of Public Health can train agricultural extension officers on the importance of nutrition and work with them to develop nutrition sensitive agricultural extension programs.

In summary, improving the food and nutrition security situation and achieving SDG 2 will entail **substantial financial investment,**

continued **legal and institutional reforms** and a **conceptual shift amongst government departments towards a more demand-driven model for the provision of services**. Despite these challenges, the sweeping economic and political reforms undertaken in Myanmar are promising and have shifted the paradigm of what is possible. The path is long, but government intent is firmly pointed in the right direction to address the underlying factors causing hunger and malnutrition amongst its population. Doing so will not only keep Myanmar on the path to achieving SDG 2, but will also lead to multiple positive externalities for the country as a whole, namely a healthier, happier and more productive nation.

## 1. INTRODUCTION

1. The new Government of the Republic of the Union of Myanmar (ROUM) seeks to improve the lives and living conditions of its 52.45 million citizens<sup>3</sup>. Fundamental to achieving this objective is the need to ensure that all Myanmar's people, living in both rural and urban areas, have access to sufficient nutritious food to enable them to reach their full potential in a country that is free from hunger and want. In particular, the Government is fully committed to achieving **Sustainable Development Goal 2 (SDG2) – to end hunger, achieve food security and improved nutrition and promote sustainable agriculture**. SDG 2 and its supporting targets are all consistent with the Government's approach to policy development.
2. Myanmar is emerging from a prolonged period marked by internal conflict, political unrest and international sanctions that has impoverished a large proportion of its people. A potent indicator of the peoples' plight is the poor nutritional situation in so many households. This is evinced by the high rate of stunting amongst children. Myanmar's Demographic and Health Survey (2015-16) suggests that about 29.2% of all children in Myanmar aged five and younger may be suffering some level of stunting<sup>4</sup>.
3. Myanmar is a country in political, economic, and social transition. The National League for Democracy (NLD) came to power in April 2016 with a strong commitment to deepening the economic reforms and creating an economy in which prosperity can be shared by all. In this time of change, there could be no more important issues to be addressed than those related to food and nutrition security and ensuring that all the children of Myanmar have access to the food they need to reach their full potential

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<sup>3</sup> Department of Population estimates (2015-2016)

<sup>4</sup> Myanmar Demographic and Health Survey 2015-2016 Key Indicators - released March 2017 – Implemented by Ministry of Health and Sports

and contribute to the nation's future growth. This is the bedrock that any nation needs on which to base sustainable and inclusive development.

4. This Strategic Review was carried out at the request of the Ministry of Planning and Finance (MoPF) and strategic guidance was provided by the Lead Convener Professor Dr. Aung Tun Thet. It is designed to be an independent, analytical and consultative exercise aimed at providing a comprehensive and detailed understanding of the context of food and nutrition security in the country. In carrying out this review, the Government did not seek to simply measure the food and nutrition situation in the country. This has been done many times previously, and while the results obtained may have highlighted the seriousness of a number of problems, they generally have not identified solutions. This review seeks to understand the underlying causes of food and nutrition insecurity and to find solutions and develop the strategies needed to make real improvements to the lives of all Myanmar's citizens.

## Methodology

5. This Strategic Review has been designed to be as comprehensive and inclusive as possible. Its purpose is to establish a framework of current knowledge on food and nutrition security in Myanmar that will best inform all the stakeholders involved with the task of improving nutritional outcomes for all Myanmar's people, particularly its children. The methodology consisted of the following measures for strategic guidance and data gathering tools.
6. **Advisory Group:** The Review has been developed under the guidance of the Union Government, provided through an Advisory Group consisting of senior Government officials led by the Deputy Minister for Planning and Finance. The senior officials involved include those from: Ministry of Agriculture, Livestock and Irrigation; Ministry of Social Welfare, Relief and

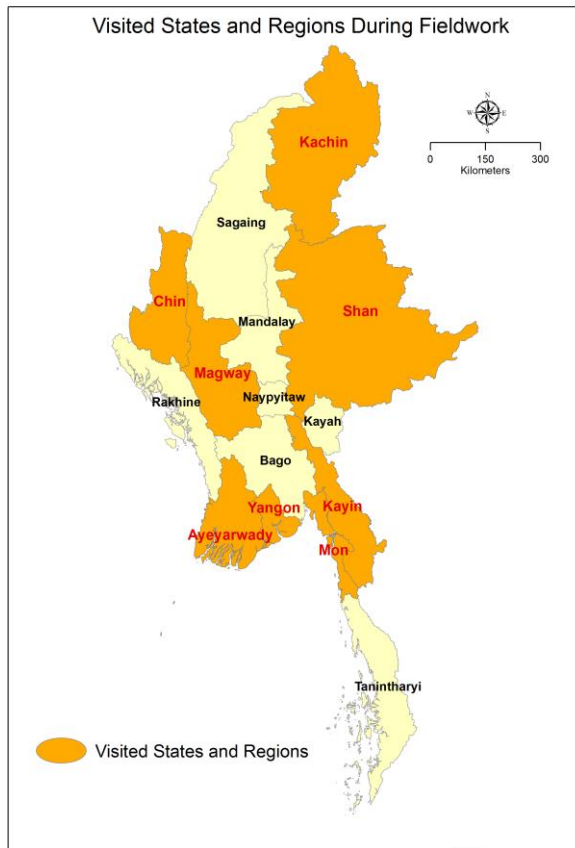
Resettlement; Central Statistical Organization, Ministry of Planning and Finance; Foreign Economic Relations Department, Ministry of Planning and Finance; National Nutrition Centre, Department of Public Health, Ministry of Health and Sports; Department of Basic Education, Ministry of Education; Ministry of Border Affairs; and a representative of the Central Executive Committee, UMFCCI. The chairs of the parliamentary committees on Health and Sports, and Agriculture, Livestock and Rural Development were also invited as participants. In addition, the Advisory Committee included representatives from WFP, UNICEF, FAO and MIID and the Lead Convenor.

7. During the course of the Strategic Review, the Advisory Group met on two occasions:
  - November 15, 2016 to validate the Terms of Reference for the Review and to direct the Research Team;
  - April 28, 2017 to review the findings of the Research Team and instruct the Team on the format and content of the draft Review document.
  
8. **Review of literature and datasets:** The Review was designed to be as comprehensive and inclusive as possible, but it is recognized that there is already a very substantial body of knowledge contained in recently undertaken survey work. The review cites data on food and nutrition security indicators from six sets of surveys. A summary description for each is given in Appendix 2. The surveys vary in both methodology and scope; hence, much of the data is not directly comparable. There are also cases in which the data between the surveys seems to directly contradict one another. However, taken under careful consideration and weighed appropriately, these surveys jointly provide a more holistic picture of the food and nutrition situation in Myanmar.



9. **Field Investigations and Regional Consultations:** Myanmar is a large country, encompassing a wide range of socio-economic, climatic, topographical and agronomic conditions. The Strategic Review needed to take this into consideration to assess the varying food and nutrition conditions pertaining to each of the States and Regions. In addition, the Review recognizes that while the formulation of an overall strategy for food and nutrition security is a Union Government responsibility, implementation will depend heavily on state and regional governments. The Review needed to ensure that any recommendations made were in-line with the capacities, needs and goals of government institutions at this level. The Research Team visited the following Regions and States: Yangon, Ayeyarwady, Magway, Chin, Mon, Kayin, Kachin, and Shan. The States and Regions were selected to take into account Myanmar's main agricultural production systems, its diverse climate and topography and a range of ethnicities. It also examined the nutritional situation in areas where civil unrest was disrupting production and creating groups of internally displaced households. While much of the work focused on the rural areas, the Review also examined the situation in urban areas. In particular, the review examined the health and sanitation environment in Yangon's burgeoning industrial areas, and how this impacts nutrition security of households in these areas.

**Map 1: States and Regions Visited During Fieldwork**



10. Preceding the field work, the Research Team developed structured questionnaires to cover specific types of stakeholders. In the States and Regions the team met with: key political leaders (Chief Ministers, Ministers and parliament representatives); senior officials and technicians from the Department of Agriculture; senior officials and nutrition

specialists from the Department of Public Health; representatives from regional offices of the UN agencies (WFP; IOM; UNDP); and a range of international and national NGOs/CSOs dealing with nutrition and related programmes. Data was collected on agricultural production and nutrition-related health conditions.

11. **Stakeholder Consultations:** The poor nutritional condition of Myanmar's children has raised considerable concern among development partners, and as a result many of these organizations have established offices and are operating programmes in Myanmar. They include civil society organizations (CSOs), both national and international non-governmental organizations (NGOs) and UN agencies. As much as possible, the Research Team consulted with all of the main organizations dealing in any way with food and nutrition security. In these consultations, the Team gained an understanding of the type of programmes they were sponsoring, their geographical coverage, and the type of programmes that were having the most impact. In addition to bilateral consultations during the development of the Strategic Review report, a national stakeholder consultation was held on May 4th, 2017 to seek feedback on the full draft report.
12. **Meetings with Private Sector Actors:** The Review recognizes the increasingly important role the private sector will play in Myanmar's economic development in the future, particularly in agriculture and in food processing and marketing. The Research Team held consultations with a number of key private sector actors in the commercial food and nutrition sector. In particular, it tried to assess the benefits and the threats that a rapidly expanding private sector might pose for an unsophisticated, smallholder agricultural production system and a highly vulnerable rural population.
13. **Meeting with Key Union Ministries:** Unfortunately, due to procedural requirements the Research Team was only able to meet with the Ministry

of Agriculture, Livestock and Irrigation and the National Nutrition Centre, Department of Public Health of the Ministry of Health and Sports, late in its assignment. However, the advice provided was invaluable to the team in terms of increasing its understanding of the policy environment and the way the new government is approaching the issue of food and nutrition security.

## Country Context

### Geography, Demographics and History

14. With a land area of 676,578 km<sup>2</sup>, Myanmar is the largest country on the South East Asian mainland. Administratively, the country is divided into 7 States (Kachin, Kayah, Kayin, Chin, Rakhine, Mon and Shan) and 7 Regions (Yangon, Mandalay, Ayeyarwady, Sagaing, Magway, Bago, and Tanintharyi). Wide climatic diversity occurs across Myanmar as a result of the country's broad span of elevation, latitude, temperature and rainfall. As a result, it is an extremely diverse country in terms of its agro-ecological zones and farming systems. Myanmar's population is estimated to be 52.45 million and is growing at a net annual rate of 0.88%. Its population density is approximately 76 per km<sup>2</sup>. The most densely populated State/Region is Yangon (739/km<sup>2</sup>), followed by Mandalay (203/km<sup>2</sup>), while the least populated areas are Kachin State (20/km<sup>2</sup>) and Chin State (14/km<sup>2</sup>)<sup>5</sup>. Myanmar has among the lowest population densities in the region.
15. Myanmar is an ethnically diverse country with 135 ethnic groups officially recognized by the government and 108 ethno-linguistic groups. The largest

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<sup>5</sup> MoIP (2014). *Population and Housing Census of Myanmar: Provisional Results*. Ministry of Immigration and Population. Republic of the Union of Myanmar. Nay Pyi Taw

ethnic group is Bamar, estimated to constitute about 68% of the population, followed by: Shan at 9%; Kayin 7%; Rakhine 3.5%; Mon 2%; Kachin 1.5%; Kayah 0.75%; and Chin <0.5%. Minor ethnic groups account for the remaining 9% of the total. The Bamar have traditionally hailed from the center of the country, while the other ethnic groups can be found in the mountainous periphery. The seven ethnic States in Myanmar are named after the seven major ethnic minority groups that have traditionally inhabited those areas. Given its vast ethnic diversity, Myanmar has struggled to achieve national unity.

16. At the time of independence from Britain in 1948, Myanmar, then Burma, was considered the rice bowl of Asia. It also had abundant natural resources: jade, oil, and, enormous mineral resources. It was considered to have the greatest potential to become an economic success out of all the countries in South East Asia. Instead, decades of internal conflict and political instability has undermined the economy to such an extent that Myanmar's people are now among the poorest in the region.
17. Under the previous and current governments, commitments have been made both by government and Ethnic Armed Groups (EAG) to forge a lasting peace. In October 2015 the government and eight EAGs signed a nation-wide ceasefire agreement. Several EAGs have not signed the ceasefire and considerable work is left to be done in the peace process, but hard fought progress has been made and hope for national reconciliation is a shared vision for many. The government has also undertaken major reforms in political, financial and administrative decentralization, stepping away from a centralized form of government to a system more akin to federalism. Ethnic states are slowly but surely gaining greater autonomy, which will help to address many of the underlying tensions fuelling the conflict.

## The Economy

18. Myanmar enjoys a geographically beneficial location within South-East Asia. Having borders with China, India, Thailand, Bangladesh and Laos, Myanmar is located in a central position in the world's largest market place. China and India are the world's most rapidly emerging economies. They are becoming leaders in technical innovation and are now major manufacturing countries. Myanmar is well placed to benefit from its neighbours' economic growth and it should also be able to absorb much of their technical innovation over time. It is the Government's aspiration that Myanmar will rapidly advance in technically sophisticated industries, but to do this will require a better educated and more technically skilled workforce.
  
19. An extremely low cost wage structure is currently making Myanmar an attractive location for *low-tech* garment manufacture. While this may be providing benefits to the economy at large, it is proving to have many unattractive social consequences. The very low pay and relatively high cost of food leave families with limited resiliency to financial shock such as food price volatility or large, out-of-pocket medical expenses.
  
20. Although GDP growth is expected to slow from 7.0% in 2015-16 to 5.7% in 2016-17<sup>6</sup>, Myanmar remains one of the fastest growing economies in the world. Growth is projected to average 7.1% per year over the next three years and inflationary pressures are expected to ease relative to 2015-2016 (*ibid*). The NLD government has carefully navigated a difficult economic and security environment in its first year in office. It has taken steps to maintain fiscal prudence, which has helped ease pressure on monetary growth and is proceeding on important financial sector and

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<sup>6</sup> Planning Department of Myanmar's Provisional Data

business environment reforms. Risks to the economy include the possibility that low gas prices will stay, which could increase fiscal and external imbalances.

## The Millennium Development Goals and the Zero Hunger Challenge

21. At the UN Millennium Summit held in September 2000, world leaders adopted the UN Millennium Declaration and committed their nations to global partnership designed to reduce extreme poverty. The Declaration focused on 8 Millennium Development Goals (MDG) and set targets to be achieved by 2015. Of most relevance to the Strategic Review was Goal 1 – “Eradication of Hunger and Poverty” for which two targets were set: a) “Halve, between 1990 and 2015, the proportion of people whose income was less than 1 USD a day; and, b) “Halve, between 1990 and 2015 the proportion of people who suffer from hunger”.
22. Within Myanmar, progress towards meeting these targets was slow, in part due to the Government’s previously limited access to international development assistance. However, the process received a boost following the November 2010 National Election and in March 2011, with the formation of the Government headed by President U Thein Sein. In May 2011, following the convening of a National-Level Workshop on Rural Development and Poverty Alleviation, the President reaffirmed the new government’s commitment to making developmental gains in priority areas – particularly on reducing poverty. In presenting the Government’s “Policies for Growth and Development of Myanmar”, the Department of Planning placed poverty alleviation at the top of the list.
23. The period of the Government under President U Thein Sein can be seen as one in which household food insecurity and malnutrition became

recognized as national economic and political issues – not just a health issue. While Myanmar’s progress towards achieving MDG 1 targets on poverty and hunger have been modest (see paragraphs 41 and 42), this is understandable, considering the MDG targets had only three years in which to be achieved when the Government came to office.

24. MDG targets aside, due recognition should be given to the real progress that was made by the Government in establishing the institutional foundations from which to address the problems of food and nutrition security. Significant achievements include:

- The formation of the National Nutrition Centre.
- The formation of a National Nutrition Committee, bringing together senior officials from all the relevant Ministries to coordinate the Government’s effort to improve food and nutrition security.<sup>7</sup>
- In February 2013, the National Plan of Action for Food and Nutrition (2011-15) was drafted but not ratified.
- On May 15, 2013, Myanmar joined the SUN Movement with a letter of commitment from the Union Minister of Health. At an official signing ceremony, it was noted by President U Thein Sein, in launching Myanmar’s Poverty Alleviation Strategy, that the Government had identified *adequate nutrition* as the *backbone* of the strategy.
- On 16 October 2014, the National Zero Hunger Challenge (NZHC) for Myanmar was officially launched by Vice-President, H.E. U Nyan Tun. The Zero Hunger Challenge was initiated by UN Secretary General Ban Ki-moon in 2012 at Rio+20.

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<sup>7</sup> Unfortunately, at the end of its parliamentary term, the Government abolished all these committees. At the time of the Research Team’s field visits these had not been re-established by the new State/Region Governments.



Myanmar became the second country in the Asia Pacific Region to launch the programme.

- During the period 2011 to 2015 there was an unprecedented number of surveys and reviews undertaken regarding: a) the incidence and causes of malnutrition in most parts of Myanmar; b) food consumption patterns; c) the economics of the production of rice and other food crops; d) rice price volatility and its impact on poverty and access to nutritious food; and e) the initiation of surveys on micro-nutrient deficiencies across the entire country.
- 2015 June: With support from development partners the government began developing a new prioritized plan for Scaling Up Nutrition and Food Security to be in line with global updates (Zero Hunger Response) and aligned with the 2014-prioritized plan for SUN in Myanmar.

## The 2030 Agenda for Sustainable Development

25. On 1 January 2016, the world officially began implementation of the 2030 Agenda for Sustainable Development, a transformative plan of action based on 17 Sustainable Development Goals designed to address urgent global challenges over the following 15 years. This agenda promoted by the UN is designed to be a road map for nations around the world to follow in building on the success of the Millennium Development Goals. It promotes sustainable social and economic progress worldwide. It seeks to eradicate extreme poverty and to integrate and balance the economic, environmental and social dimensions of sustainable development. Within the 17 SDGs, the importance of Food and Nutrition Security is recognized under SDG 2 – Zero Hunger. The Sustainable Development Agenda aims to end all forms of hunger and malnutrition by 2030. The aspiration is to

ensure that “all people, especially children, have access to sufficient nutritious food all the year round”. It involves promoting sustainable agricultural practices; supporting small-scale farmers and allowing equal access to land, technology, and markets. It will require international cooperation to ensure investment in infrastructure and technology to improve agricultural productivity.

26. The Government of Myanmar has shown strong commitment to the 2030 Agenda for Sustainable Development and particularly SDG 2. Speaking to the United Nations Summit for the Adoption of the Post-2015 Development Agenda in New York on the 26<sup>th</sup> of September 2015, H.E. U Wunna Maung Lwin, Union Minister for Foreign Affairs, committed the Government of Myanmar to the Agenda. *“In line with the people-centred approach, Myanmar will redouble its efforts to achieve sustainable development by mainstreaming the 2030 Agenda and SDGs in its national development agenda and work closely with the development partners”.*
27. The commencement of the 2030 Agenda for Sustainable Development occurred during the transition period between the end of the Government of President U Thein Sein and the coming to office of the new Government of the National League for Democracy. This period of transition has, understandably, involved considerable reorganization within the Government and a period of review and restructuring of the policy environment. To some extent 2016 has been a settling-in period for the new government both at the Union and State/Region level. However, the new Government remains committed to the principles articulated in the 2030 Agenda for Sustainable Development. Tellingly, in 2017 a new nutrition sector coordination group was proposed by the government as one of the 10 sector coordination groups.
28. On 25 January 2017, State Counsellor Daw Aung San Suu Kyi chaired the first ever National Coordination Meeting on Nutrition in Pakokku, Magway

Region of Myanmar. This meeting brought together five Union ministers (Health and Sports, Social Welfare, Relief and Resettlement, Education, Religious Affairs, and Agriculture, Livestock and Irrigation), six donor countries, six UN agencies, the World Bank and various NGOs to discuss how nutrition issues could be tackled with a more coordinated, national approach across sectors. Lack of effective coordination in addressing nutritional problems has been a problem in the past and the recognition that malnutrition is a multi-faceted issue that requires involvement of more than just the Ministry of Health and Sports is a major step forward. In addressing the meeting, the State Counsellor made the following statement: *“Nutrition is the lifeblood of children. According to research, under-twos will see more brain development when they have had better nutrition. Nutrition helps make stronger children and boosts development. Ministries, regional governments and philanthropic organisations help child nutrition programmes. But participation is a must for both parents. The government has the responsibility to help parents in developing their offspring. Today I told the health minister to educate people on how to find affordable protein.”*<sup>8</sup>

29. Progress has been made in promoting food and nutrition security in the past few years, but there are still significant gains to be made. It is a key objective of the Government to eliminate hunger in Myanmar and to ensure that all people in all States and Regions have access to sufficient nutritious food to sustain their health, support their work and allow their children to develop to their full cognitive and physical potential.

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<sup>8</sup> <http://scalingupnutrition.org/news/aung-san-suu-kyi-launches-campaign-to-tackle-malnutrition-in-myanmar/>

## 2. The State of Food and Nutrition Security in Myanmar

30. This Strategic Review has assessed food and nutrition security in Myanmar across three dimensions; food availability, access and utilization. Food availability essentially poses the question, “Is the available food supply large enough to feed the population?” Countries often assess food availability on a national level by calculating a national food balance. This takes into account domestic food production as well as imports, exports, wastage/spoilage and other relevant factors that affect the total supply of available food in the country. It is also important to assess food availability at the local level, particularly in countries with a large rural population living in remote areas.
31. Even if enough food exists in absolute terms to feed the whole population, one cannot assume that it is distributed equally. Access to food at the household level must be assessed. This is dependent upon socio-economic factors, which determine the ability of households to either produce their own food or earn enough income to purchase food. Food access also depends on the price of food and its volatility over time, relative to household income.
32. For food and nutrition security to exist food must also be utilized properly. This requires a biological-based approach, which looks at the biophysical needs of the body for nutrient intake and absorption. Immediate factors affecting food utilization include dietary intake as well as the prevalence of disease. These immediate factors are, in turn, dependent on underlying factors. Dietary intake is essentially the food that is consumed by the body. This is dependent on food security and a variety of cultural and socio-economic factors at the household level which influence the care practices. Disease can inhibit the body’s ability to absorb nutrients. This is

largely a factor of the of health environment, care practices related to hygiene, and access to healthcare.

33. Simply put, when food is available, accessible and utilized appropriately by all members of the population in a conducive health environment, food and nutrition security is achieved and positive nutritional outcomes can be expected. Issues on food security and nutrition should consider the specific needs of men, women, boys and girls as they face varying challenges. The following sections of this Strategic Review unpack these three dimensions of food and nutrition security and assess their impact on nutritional outcomes.

## 2.1. AVAILABILITY OF FOOD

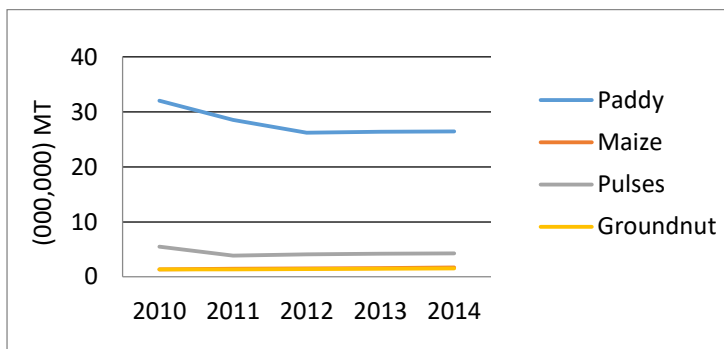
34. The first step in assessing food availability is to look at domestic food production and determine if there is enough food available within the country to feed its population. In this respect Myanmar fairs well. Its broad span of latitude, elevation, temperature and rainfall creates a remarkable agro-ecological diversity. With 12.3 million hectares of cultivated land<sup>9</sup> stretching over a variety of agro-ecological zones and 49% of the rural workforce employed in agriculture<sup>10</sup>, Myanmar is a major producer of agricultural commodities. Rice, pulses (peas and beans), maize and oilseed crops (groundnut, sesame and sunflower) are its main food crops. Rice production far surpasses any other crop with over 26.4 million metric tons harvested in 2014.

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<sup>9</sup> FAO. 2016. AQUASTAT Main Database - Food and Agriculture Organization of the United Nations (FAO). Website accessed on [19/01/2017 11:44]

<sup>10</sup> Labor Force Survey Preliminary Results (2016) Ministry of Labour. Note: This survey defined labor as work done for pay in cash or in kind. Unpaid family workers likely constitute a significant proportion of the agricultural workforce but are not included. Consequently, the proportion of the rural population engaged in agriculture is likely much higher.

**Chart 1: Agricultural Production<sup>11</sup>**



35. Although all of Myanmar’s main crops can be found growing throughout the country, agricultural production is broadly determined by three main agro-ecological zones. The majority of Myanmar’s rice is grown in the coastal/delta area of the country. This area receives up to 5,000mm of rainfall per year and is well-suited for rice production. Beans and pulses are primarily grown in the arid center of the country, often referred to as the central dry zone, where annual rainfall is approximately 600mm.<sup>12</sup> Maize is commonly grown in upland areas of the country, often referred to as the hilly zone. Groundnut is grown predominantly in the central dry zone and hilly zone.
36. In terms of animal products, fish and prawn production far surpass all other animal products and has been climbing rapidly over the past five years, reaching 5.3 million MT in 2014.<sup>13</sup> High levels of fish and prawn

<sup>11</sup> Myanmar Central Statistical Organization (CSO) Myanmar Statistical Information Services (MMSIS) Retrieved 23 November 2016.

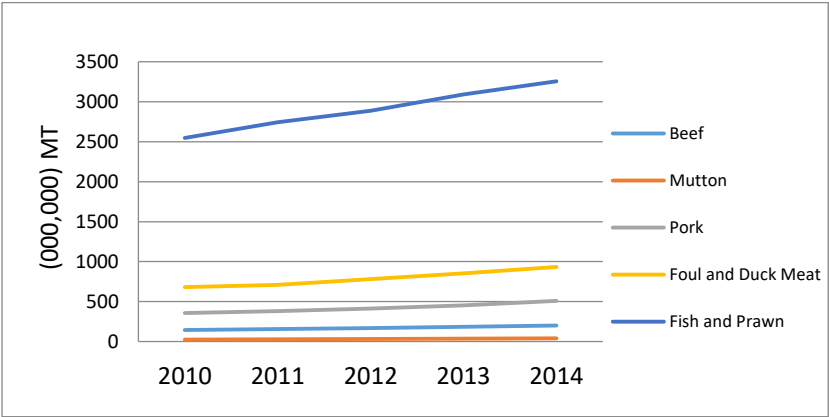
[http://www.mmsis.gov.mm/sub\\_menu/statistics/statDbList.jsp?vw\\_cd=MT\\_ZTITLE#](http://www.mmsis.gov.mm/sub_menu/statistics/statDbList.jsp?vw_cd=MT_ZTITLE#)

<sup>12</sup> Rainfall data from: Baroang, Kye (2013). Burma Bio-Physical Characterization: Summary Findings and Issues to Explore. USAID, Michigan State University, MDRI/CESD.

<sup>13</sup> Myanmar Central Statistical Organization (CSO) Myanmar Statistical Information Services (MMSIS) Retrieved 10 November 2016.

production relative to other animal products is in part due to Myanmar’s extensive coastline and river system.

**Chart 2: Production of Animal Products<sup>14</sup>**



37. Myanmar exports a large volume of food crops and animal products. Pulses (beans and peas) accounted for 79% of Myanmar’s total exports in 2014 valued at 951 million USD,<sup>15</sup> while rice exports totaled 12.6% at 151 million USD.<sup>16</sup> Fish and crustaceans accounted for 78% of animal product exports valued at 323 million USD followed by cow/bovine products at 16% valued at 67 million USD (*ibid*). Myanmar has consistently maintained a trade surplus of both vegetable products and animal products. In 2014 these trade surpluses were valued at 1,058 million USD and 45 million USD

[http://mmsis.gov.mm/statHtml/statHtml.do?orgId=195&tblId=DT\\_YAE\\_0042&conn\\_path=I3](http://mmsis.gov.mm/statHtml/statHtml.do?orgId=195&tblId=DT_YAE_0042&conn_path=I3) Note: figures are given in animal body weight, not carving weight.

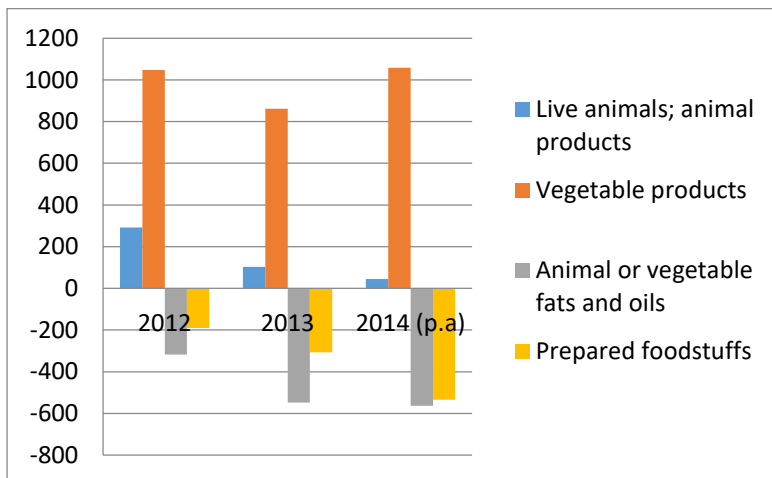
<sup>14</sup> (*ibid*).

<sup>15</sup> Central Statistical Organization, Myanmar.

<sup>16</sup> Central Statistical Organization, Myanmar.

respectively.<sup>17</sup> At the same time it has consistently run a trade deficit in animal and vegetable fats and oils, and prepared foodstuffs.

**Chart 3: Balance of Food Trade (000,000 USD)<sup>18</sup>**



38. While national level production figures point towards a food sufficient nation with an agricultural surplus, this must be interpreted in light of the overall food supply available to the population also known as the national food balance. The national food balance measures the amount of food available in the country at a given time.<sup>19</sup> The national food balance of different food products can also be divided by the population to determine the domestic supply for utilization on a per-capita basis. Caloric values can

<sup>17</sup> Myanmar Central Statistical Organization (CSO) Myanmar Statistical Information Services (MMSIS). Retrieved 23 November

2016. [http://mmsis.gov.mm/statHtml/statHtml.do?orgId=195&tblId=DT\\_YAJ\\_0002&conn\\_path=I3](http://mmsis.gov.mm/statHtml/statHtml.do?orgId=195&tblId=DT_YAJ_0002&conn_path=I3)

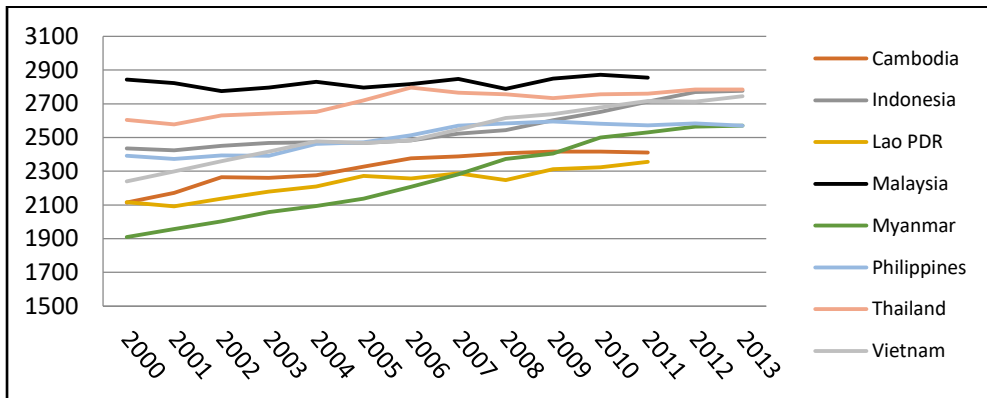
<sup>18</sup> (*ibid*).

<sup>19</sup> This is also known as the 'supply for domestic utilization'. The formula for calculating a national food balance is as follows: Total production + imports – exports + changes in stocks (decrease or increase) = supply for domestic utilization. For more information see: FAO. Definitions and Standards for Food Balance Sheet. <http://faostat.fao.org/beta/en/#data/FBS>



then be assigned to different foods to provide a figure for total available kilocalories, per-capita, per-day (kcal/capita/day).

**Chart 4: ASEAN Food Supply (kcal/capita/day)<sup>20</sup>**



39. Since the turn of the millennia, Myanmar’s supply of kcal/capita/day has improved significantly, with a 26% increase from 1,910 to 2,571 in 2013 (see Chart 4). This places Myanmar firmly in the center of the pack with other ASEAN nations at approximately the same level as the Philippines. According to FAO guidelines 2,100 kcal per-day is the minimum energy requirement for an individual to maintain an active, healthy lifestyle. Although there is enough food produced in the country to feed the population food is not equally distributed. While food is available at the state/region level in Myanmar, food availability is more limited in some states and regions than others, particularly in the hilly periphery of the country. Even within a given state or region, food availability can vary significantly from village to village and across seasons.

<sup>20</sup> Data retrieved from FAO STAT Food Balance Sheet Database. 14 November 2016.

<http://faostat.fao.org/beta/en/#data/FBS> Singapore and Brunei have been removed as they are outliers. Data for 2012 and 2013 was not available for Malaysia, Lao PDR, and Cambodia.

## 2.2. ACCESS TO FOOD

40. The agricultural system has promoted food availability at a national level by the mass production of rice but at the same time it falls short of providing adequate incomes for inclusive household level access to food. The current agricultural system traps much of the rural population in a cycle of low investment, productivity and incomes. Furthermore, the uneven seasonality of agricultural production leads to unstable employment for agricultural laborers as well as substantial volatility in food prices, particularly rice. Increasing access to food will require a substantial increase in the productivity and incomes of small-scale farmers and landless laborers. This is in-line with SDG 2.3 to double the productivity and incomes of small-scale food producers by 2030. The agricultural system is part of a wider food system, which includes the complex networks needed to produce food, transform it and ensure it reaches consumers. The fact that the national food balance indicates sufficient food at the aggregate level, while food access remains a challenge for many suggests that the existing food system may not be functioning in an effective manner, failing to reach the poor and vulnerable. Access issues linked to agricultural seasons and volatility in food prices are also signs of a sub-optimal food system. The concept of food systems links most directly to SDG 2.4 on sustainable food systems, but has implications for the other SDG 2 targets as well. Improving parts of the system that may be broken, while leveraging well-functioning food systems will be key to achieving the SDG 2 targets.

## Poverty

41. Poor households almost by definition have poor access to food due to limited purchasing power. They also have to spend a larger proportion of their income on food than wealthier households, leaving little cushion for sudden economic shocks such as out-of-pocket health expenditures or sudden increases in the price of food. According to the Integrated Household Living Conditions Assessment (IHCLA)<sup>21</sup>, 25.6% of the Myanmar population was below the poverty line in 2010 with a greater prevalence in rural areas at 29%.<sup>22</sup> Due to a large rural population rural poverty is accountable for 87% of total poverty in Myanmar.
  
42. Within the poor population, some extremely poor households are classified as food poor. Food poverty is the point at which all household income is spent on food to meet minimum caloric intake requirements. This group is particularly food insecure because any increase in expenditure will negatively impact their access to food. Furthermore, they cannot save any money to invest in productive assets to improve their situation. The IHCLA estimates that total food poverty in Myanmar decreased from 9.6% of the population in 2005 to 4.8% in 2009-10. Figures for rural areas were 10.9% and 5.6%, respectively. As with many food and nutrition security indicators, both poverty and food poverty vary greatly across Myanmar's seven States and seven Regions. Chin State has substantially worse indicators than the rest of the country, with approximately three-quarters of its population below the poverty line. One-quarter of its population is too poor to afford enough food to cover minimum caloric intake requirements.

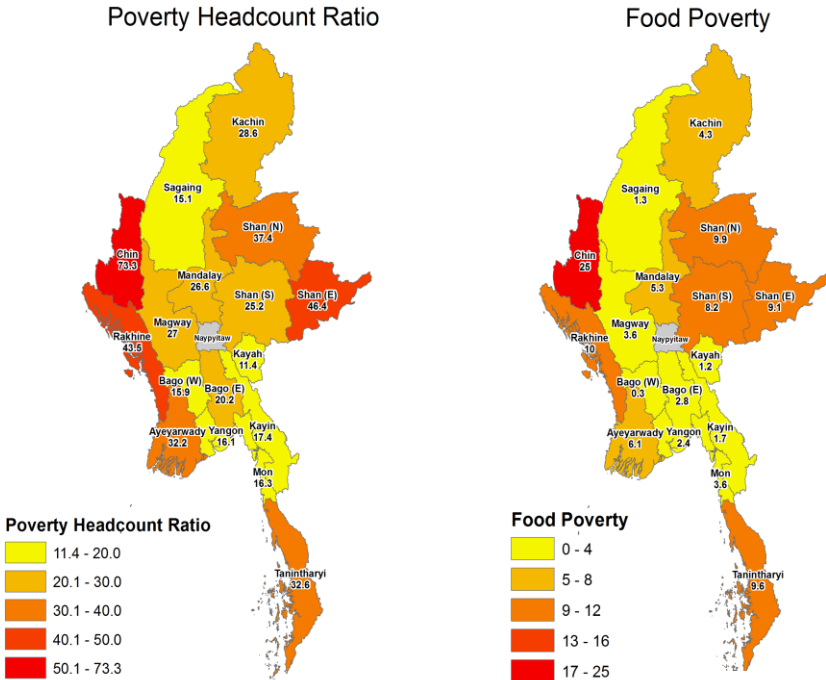
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<sup>21</sup> The IHCLA is a nationally representative survey conducted in 2005 and 2009-10 by the Ministry of National Planning and Economic Development and the Central Statistical Organization with support from UNDP. The dataset for this survey is not publically available, but key figures from this survey which are cited in this Review can be found in the IHCLA Poverty Profile Report (2011).

<sup>22</sup> Reanalysis of the IHCLA data by the World Banks provides a much higher estimated at 37.5%, because it uses a different poverty line. The 2010 IHCLA poverty line is 376,151 MMK per month and food poverty line is 274,900 MMK per month.

43. In addition to Chin State, higher rates of poverty and food poverty can generally be seen in the hilly zone in States such as Shan, Rakhine and Kachin. The same is true for many other food and nutrition-related indicators covered throughout this report. Isolation is the primary cause. Poor infrastructure paired with rugged terrain mean that many villages in these States have limited access to markets, particularly during the rainy season when many roads are impassable. Even when roads are passable, freight costs are prohibitively high, leading to higher food prices in local markets. However, it is important to note that while poverty rates are higher in the hilly zone, the largest number of poor and food poor people live in the delta of the country and the central dry zone due to higher population densities.
44. It is also important to realize the interrelated nature of rural and urban poverty in Myanmar. The country is undergoing a rapid industrialization process, which has brought about substantial net rural-urban migration. Urban populations are expanding rapidly and urban poverty will likely increase in absolute terms. The rural poor and the new urban poor are often one and the same socio-economic group. Even within the immediate family, some members may remain in the countryside as agricultural laborers while some migrate to the cities in search of work in the factories. Many of these migrants move to the cities out of economic compulsion, due to low agricultural incomes.
45. Consequently, the extent to which urban poverty increases in Myanmar is largely dependent upon the migration patterns of the rural poor and the employment opportunities available to them in both the urban and rural economy. In order to unpack this dynamic between urban and rural poverty as well as rural poverty's impacts on food access, it is necessary to determine the composition of the agricultural workforce and the employment opportunities and wages available to them.

**Map 2: Poverty and Food Poverty by State and Region<sup>23</sup>**



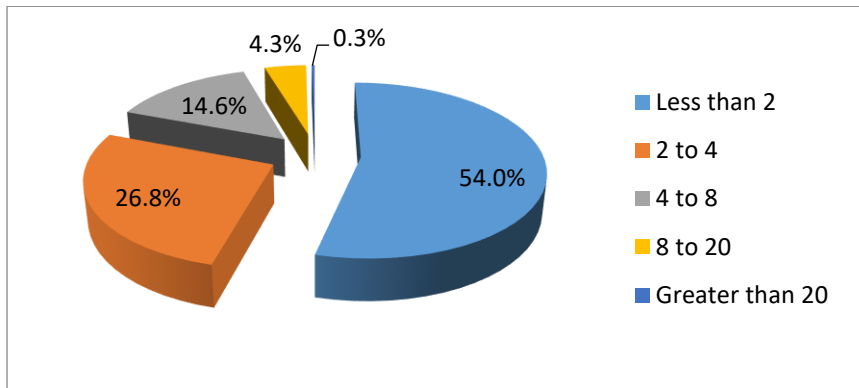
## Agricultural Workforce

46. According to the Myanmar Agricultural Census of 2010, the vast majority of farmers in Myanmar are smallholders. 54% of landholdings are below two hectares and only 0.3% are above 20 hectares. Similarly, IHLCA revealed an average landholding of 3.1 hectares per agricultural household

<sup>23</sup> (2011). Poverty Profile: Integrated Household Living Conditions Assessment Survey in Myanmar 2009-2010. Ministry of National Planning and Economic Development/UNDP.

in 2009-10. The highest average landholdings were found in the delta/coastal zone with Ayeyarwady, Yangon and Bago East regions having average holdings between 3.8 and 3.7 hectares.<sup>24</sup> Landholdings in hilly states and regions are generally smaller, particularly Chin State at just 0.65 hectares on average.

**Chart 5: Distribution of Farm Size (Hectares)<sup>25</sup>**



47. Increases in national level agricultural output in Myanmar have largely been a factor of increasing the area of sown land rather than a result of increased yields.<sup>26</sup> Given the fact that most farmers cultivate less than two hectares, these national increases have likely done little to increase farmers’ incomes. To this end, agricultural policies should focus on increasing crop quality, diversity and yield per acre. Such policies would be

<sup>24</sup> Data in the IHCLA was originally recorded in acres but has been converted to hectares in this report for easy comparison with other data.

<sup>25</sup> MOALI (2013), *Report on Myanmar Census of Agriculture 2010*, Nay Pyi Taw, Myanmar.

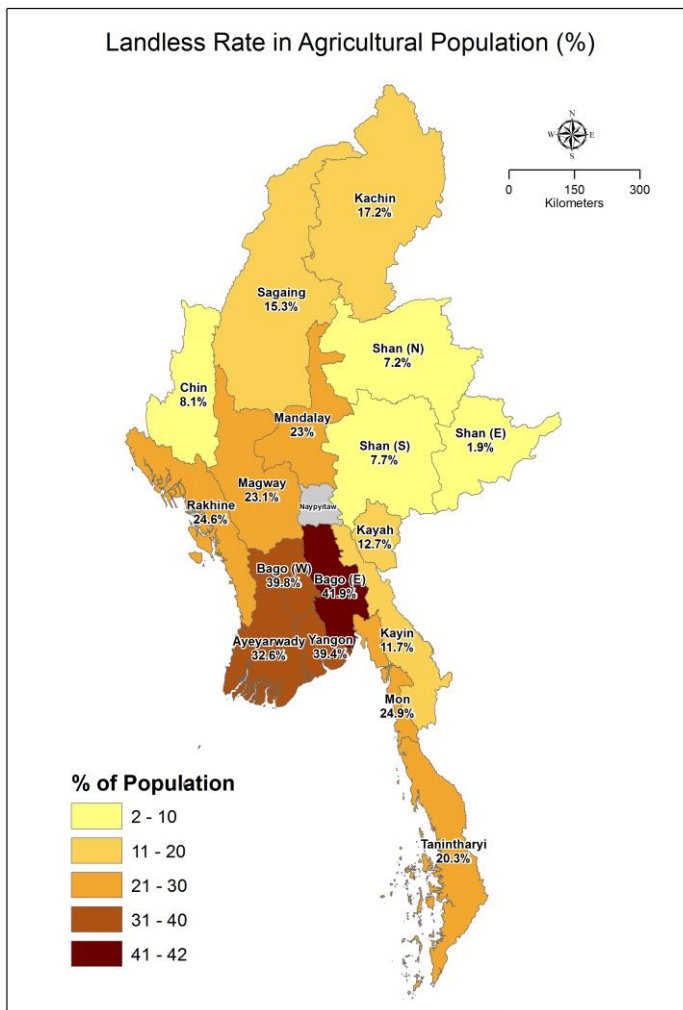
<sup>26</sup> United Nations Development Programme (2004). Myanmar - Agricultural Sector Review Investment Strategy. Volumes 1 and 2. Sector

Review. [http://www.undp.org/content/dam/myanmar/docs/Publications/PovRedu/MMR\\_FA1\\_InvestStrategyReview.pdf](http://www.undp.org/content/dam/myanmar/docs/Publications/PovRedu/MMR_FA1_InvestStrategyReview.pdf)

in-line with SDG 2.3, which aims to double agricultural productivity and incomes of small scale food producers by 2030.

48. In addition to smallholder farmers, landless laborers compose the vast majority of the agricultural workforce. In terms of food security, the landless are more vulnerable than smallholder farmers because they lack the productive asset of land. This leaves them entirely dependent on buying food and exposed to wide swings in food prices. The IHLCA 2009-10 pegs the landless rate among the agricultural population at 23.6% with significant variation across geographic regions. The highest landless rates range between 41.9% and 32.6% for Regions in the country's delta. Conversely, States in the country's uplands have a much lower landless rate (see Map 3).

**Map 3: Landless Rate in Agricultural Population by State and Region<sup>27</sup>**





### **Box 1: Becoming Landless**

In a rural economy landlessness is often synonymous with poverty and landless households are generally exposed to greater food insecurity than households that own land. Not only do they lack the productive asset of land to produce their own food, but they have few other productive assets with which to support their livelihoods. As Myanmar's agricultural system develops, it is imperative that it not only promotes access to agricultural land for landless households but also prevents households from becoming landless.

A 2013 study identified four pathways into landlessness in Myanmar; population growth, indebtedness leading to landlessness, land confiscation in otherwise non-conflict areas, and loss of access to land arising from conflict and displacement.<sup>28</sup> Given limited available data, it is not possible to determine the extent to which each of these pathways contributes to landlessness; however, it is clear that the current legal framework for land ownership in Myanmar is based on laws which are either outdated or contextually inappropriate and do not adequately safeguard land tenure for smallholder farmers.

Under previous governments, much of the agricultural land within Myanmar had not been registered. Rather, land use was organized through informal customary ownership systems. These systems did not adequately safeguard land tenure, and the military, government and large businesses acquired substantial areas of agricultural land from farmers, while providing little or no compensation. Although exact figures for land confiscation vary significantly and are subject to much speculation, Woods (2012) notes a substantial increase in large

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<sup>27</sup>(2011). Poverty Profile: Integrated Household Living Conditions Assessment Survey in Myanmar 2009-2010. Ministry of National Planning and Economic Development/UNDP.

<sup>28</sup> Wilson, Shannon, Naw Eh Mwee Aye Wai (2013). Food and Nutrition Security in Burma. Background Paper No. 4. USAID, Michigan State University, MDRI/CESD

agribusiness investment in recent years with the government providing nearly two million acres in consignments to private sector actors in the last decade.<sup>29</sup> Consequently, government concessions of land for large scale agri-business operations should be approached with extreme caution until the legal system can adequately safeguard land tenure in all of its forms for smallholder farmers.

## Rural Incomes

49. The agricultural system in Myanmar is both the cause of and solution to most of Myanmar's food security concerns. As a supplier of food, the system produces a surplus of cereals, namely rice. However, as an employer, it fails to provide adequate income to make rural household food secure. Myanmar has the highest proportion of agricultural laborers in the labor force in Asia and they are also the lowest paid.<sup>30</sup> In addition, per capita farm earnings stood at 207 USD in 2010, well below other Asian nations.<sup>31</sup>
50. A recent labor market survey (2016) revealed that self-employed agricultural workers earn an average of 133,270 MMK per month with 19% of the sample earning below 51,500 MMK per month.<sup>32</sup> These figures should be understood only as general estimates for two reasons. First it is extremely challenging to accurately calculate the income of self-employed

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<sup>29</sup> Woods, Kevin. 2012. *Emerging Agribusiness Trends in Myanmar: An Overview*. Kunming: Yunnan University Press, in press.

<sup>30</sup> World Bank (2016) *Myanmar: Analysis of Farm Production Economics*. LIFT, World Bank.

<sup>31</sup> (2011). *Poverty Profile: Integrated Household Living Conditions Assessment Survey in Myanmar 2009-2010*. Ministry of National Planning and Economic Development/UNDP.

For a comparison of per capita farm earnings from IHLCA data for Myanmar and WB data for other Asian countries see: Haggblade, S. Khin Mar Cho & et al (2014). *Strategic Choices Shaping Agricultural Performance and Food Security in Myanmar*. *Journal of International Affairs*, Vol. 67 No. 2, Columbia University, New York, New York.

<sup>32</sup> Ministry of Labour, Employment and Social Security/Central Statistical Organization/ILO (2015). *Executive Summary Report: Myanmar Labour Force, Child Labour and School to Work Transition Survey*.

persons who may have a wide range of periods of unstable income sources throughout the course of a year. Second, daily wages for agricultural labor also vary widely according to location. During fieldwork researchers found the daily wage for agricultural labor in the Ayeyarwady Delta was approximately 2,500 MMK for men and 2,000 MMK for women. In contrast, wages are much higher in the uplands of Myanmar where labor is scarcer. Researchers found that the rate for agricultural labor in Kachin State hovers around 5,000 MMK per day. These figures are the estimates of NGO representatives and MOALI officials, and should be understood as broadly indicative.

### Crop Profitability

51. Although Myanmar grows a wide variety of crops, rice is the primary crop grown in all agro-ecological zones.<sup>33</sup> Unfortunately, the net financial returns from rice are lower than almost any other crop. This is in part due



<sup>33</sup> World Bank (2016) Myanmar: Analysis of Farm Production Economics. LIFT, World Bank.

to large inefficiencies in rice production. Relative to other major rice growing countries in Asia, Myanmar uses the most labor days per hectare of monsoon rice and produces the least monsoon rice per man day worked.<sup>34</sup> Consequently, Myanmar averages a net profit of 137 USD/ha of monsoon rice compared to 1501 USD/ha in Thailand, 423 USD/ha in Vietnam and 342 USD/ha in Cambodia.<sup>35</sup>

52. Data from a recent World Bank study of farm production in Myanmar reveal that relative to other crops, rice provides the least attractive net financial return as well as low returns to labor. The highest returns to labor come from green gram and sunflower. Returns on maize are also very attractive (see Table 1).

**Table 1: Crop Profitability in Myanmar<sup>36</sup>**

Crop	Gross margin USD/ha	Net margin USD/ha	Labor prod. USD/day	Total costs USD/ha
Maize	854	759	17.04	450
Green gram	625	581	15.92	355
Sunflower	396	377	15.68	121
Groundnut	356	324	8.32	421
Black gram	296	267	9.29	237
Dry season rice	325	246	9.2	not given
Sesame	275	202	8.54	217
Chickpeas	173	141	6.85	266
Monsoon rice	204	137	4.75	444

<sup>34</sup> (*ibid*) See tables on pages 12 and 36.

<sup>35</sup> (*ibid*) See table on page: 47. Note: Data for Myanmar are for Ayeyarwady Delta only and data for other countries refer only to one key rice-growing area.

<sup>36</sup> Data was extracted from various tables of: World Bank (2016) Myanmar: Analysis of Farm Production Economics. LIFT, World Bank.

53. Average paddy yields per hectare are also low and have managed modest increases in recent history. Over a twenty-year period from 1995/96 to 2014/15 Myanmar rice yields increased at an average annual rate of 3.5% from 2.89 mt/ha to 3.9 mt/ha. This yield compares unfavorably with average yields of 5.8 mt/ha in Vietnam and 6.75mt/ha in China in 2014/15.<sup>37</sup> In the pre-World War II era, Myanmar was the most effective rice producer in Asia and was rightly called the rice bowl of Asia. Clearly, there is potential for Myanmar to increase farm incomes by introducing improved rice technology and rationalizing the rice market.
54. In addition to agricultural work, the fisheries sector is a major provider of income to rural populations in Myanmar's delta/coastal areas and to some extent the central dry zone. Approximately 800,000 people work full-time in fisheries-related occupations while 2.3 million people work part-time.<sup>38</sup> Fisheries work also constitutes the most important source of income for 25% of landless households nationally.<sup>39</sup> Furthermore, fieldwork revealed that landless and smallholder households often rely on fishing as an additional source of income, particularly when demand is low for agricultural labor.
55. Myanmar's fishing industry is vital not only in terms of rural employment but also nutrition to coastal and delta-based populations. Fish is one of the most accessible and inexpensive forms of animal protein with 70% of Myanmar's fish production consumed locally.<sup>40</sup> Fish also contains high concentrations of essential amino acids and essential micronutrients.<sup>41</sup>

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<sup>37</sup> FAO data retrieved from IRRI RICESTAT Database 23 January 2017. <http://ricestat.irri.org:8080/wrs>

<sup>38</sup> Khin MaungSoe et al. (2013). Myanmar Inland Fisheries: Ayeyarwady Delta and Central Dry Zone 2003-2013. World Fish.

<sup>39</sup> LIFT-Fund (Livelihoods and Food Security Trust Fund) 2012. Baseline survey report. LIFT-Fund. Yangon, Myanmar.

<sup>40</sup> Khin MaungSoe et al. (2013). Myanmar Inland Fisheries: Ayeyarwady Delta and Central Dry Zone 2003-2013. World Fish.

<sup>41</sup> Khin Maung Aye, Win KoKo, Somboon Siriraksophon (2006). Inland fishing gear and methods in Southeast Asia: Myanmar. Training Department, SEAFDEC, Bangkok, Thailand.

56. Aquaculture has grown significantly in the last decade, reaching 22% of annual fish production in 2015, but the sector remains heavily dependent on capture fisheries.<sup>42</sup> This has led to a rapid depletion of fish stock both in offshore and inland fisheries. Myanmar's offshore fish stock is estimated to be at only 20% of 1979 levels.<sup>43</sup> Although detailed statistics for freshwater fish stock are absent, existing evidence points towards a rapid reduction in the catch per fisher.<sup>44</sup> In addition, few regulations exist to manage open fisheries, which account for 75% of inland fish production.<sup>45</sup> It is imperative that this natural resource be properly managed to ensure the sustainability of the industry, as it provides a valuable source of both income and nutrition to the rural population.

### Crop Diversification, Rice intensification & Agricultural Extension

57. Increasing the profitability of agriculture for smallholder farmers and landless laborers will undoubtedly improve food access and more broadly, food security in the country. To this end, the government may consider a two-pronged approach. Efforts to increase efficiency and profitability in rice production must be made while gradually shifting the focus from paddy to more profitable crops. This is in-line with SDG 2.3., which aims to double agricultural productivity and incomes of small scale food producers by 2030. This is particularly relevant given Myanmar's vast diversity in agro-ecological conditions. The temperate climate in the hilly uplands provides a comparative advantage in horticulture crop production. Although crop diversification in upland areas is increasing in some areas

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<sup>42</sup> <http://worldfishcenter.org/country-pages/myanmar>

<sup>43</sup> Myanmar Fisheries Partnership.(n.d.).Transforming Offshore Fisheries Governance: *Increasing economic value and social benefits through collective action in Myanmar.*Myanmar Fisheries Partnership.[http://pubs.iclarm.net/resource\\_centre/MFP-02-Offshore.pdf](http://pubs.iclarm.net/resource_centre/MFP-02-Offshore.pdf)

<sup>44</sup> Myanmar Fisheries Partnership.(n.d.).Improving Freshwater Fisheries Management in Myanmar: Options towards a more sustainable and equitable exploitation of inland fish resources. Myanmar Fisheries Partnership.[http://aciarc.gov.au/files/myanmar\\_fisheries\\_partnership-freshwater\\_brief\\_3.pdf](http://aciarc.gov.au/files/myanmar_fisheries_partnership-freshwater_brief_3.pdf)

<sup>45</sup> (ibid).

such as Shan State, it has not reached its full potential. It is also worth noting that a recent study on food security in Myanmar found that an increase in crop diversity positively correlates with an increase in the dietary diversity of a given farming household.<sup>46</sup> This would seem to indicate that small farming households would benefit both financially and nutritionally from greater crop diversity.

58. The government has removed previously existing legal restrictions on crop diversification, and recent legislation grants farmers the freedom to grow whatever crops they want. However, the conversion of paddy field to other agricultural land entails a lengthy administrative process. This, combined with tradition and lack of understanding by farmers and extension workers make conversion slow. Rice production is also



<sup>46</sup> Rammohan, A. Prichard, W. (2016). Social and Economic Context of Food and Nutrition Insecurity in Rural Myanmar. PowerPoint Presentation. University of Western Australia/ University of Sydney.

incentivized over other crops as the Myanmar Agricultural Development Bank (MADB) provides larger loans for rice production.

59. Smallholder farmers are typically risk averse. They do not have the financial capacity to withstand a failed agricultural investment or try a new crop that fails to produce. For crop diversification to be a success, the country's agricultural extension service will need to be properly equipped to provide advisory services and technical support to farmers. This entails substantial agricultural research and strong links between research and extension to ensure that extension officers are advising farmers on suitable crops and cropping systems for a variety of agro-ecological conditions. Some farmers are members of associations such as the Myanmar Fruits and Vegetables Producers Association, Myanmar Paddy Producers Association or the Myanmar Farmers Association. These associations have strengthened their outreach in recent years but the poorest and most isolated farmers lack awareness and the means to become members.
60. In addition, the Government will have to ensure there is a level playing field in the provision of credit for the necessary production inputs and machinery to support the most financially efficient forms of agricultural production.



## Natural Disasters and Climate Change

61. Myanmar has been identified as one of the most vulnerable countries in the world to the effects of climate change, ranking 2<sup>nd</sup> out of 187 countries in the 2016 Global Climate Risk Index.<sup>47</sup> In the past quarter century, the country has experienced 45 natural disasters affecting nearly 14 million people and resulting in asset losses totaling 4.8 billion USD.<sup>48</sup> Flooding is the most common type of disaster and most wide reaching, occurring 22 times and affecting approximately 11 million people over the same timeframe. However, tropical storms account for more loss of life and assets than any other natural disaster in Myanmar. In 2008 Cyclone Nargis alone was responsible for approximately 140,000 deaths and 4 billion USD in asset losses (*ibid*). Although loss of life was not as severe, Cyclone Komen in 2015 and the storms following it led to wide scale flooding across much of the country. This resulted in damage to 20% of Myanmar's cultivated land area, the displacement of 1.6 million people and asset loss equivalent to 3.1% of Myanmar's GDP in 2015/16.<sup>49</sup> Severe climatic events are also expected to increase in frequency and intensity in the future. A UNDP study (2011) estimates that the dry zone will become more vulnerable to not only extreme drought but also storm surges and periodic flooding. Coastal areas will be vulnerable to intense rain, flooding, cyclones and strong winds.<sup>50</sup>
62. At the household level, farmers that are affected by natural disasters can face a severe drop in income and food access as well as substantial losses

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<sup>47</sup> GermanWatch. 2016. Global Climate Risk Index 2016. <https://germanwatch.org/fr/download/13503.pdf>.

<sup>48</sup> Analysis of EM-DAT for Myanmar between 1991-2016. [http://www.emdat.be/country\\_profile/index.html](http://www.emdat.be/country_profile/index.html) Accessed: 23 January 2017.

<sup>49</sup> World Bank. 2015. *Myanmar - Post-disaster needs assessment of floods and landslides: July - September 2015*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/646661467990966084/Myanmar-Post-disaster-needs-assessment-of-floods-and-landslides-July-September-2015>

<sup>50</sup> United Nations Development Program (UNDP). 2011. Project Proposal for Adaptation Fund: Addressing Climate Change Risks on Water Resource and Food Security in the Dry Zone of Myanmar. [http://www.adaptationfund.org/sites/default/files/Submission\\_AF\\_Myanmar\\_8Oct2012.pdf](http://www.adaptationfund.org/sites/default/files/Submission_AF_Myanmar_8Oct2012.pdf)

in productive assets. Furthermore, natural disasters such as floods and drought often occur repeatedly in Myanmar. A 2012 study found that any given township in the dry zone is likely to experience drought at least once within a five-year period.<sup>51</sup> Fieldwork also revealed that flooding is part of the traditional agricultural cycle in the delta, and in fact, needed for rice production. However, the increasing severity and duration of flooding threatens to submerge rice for too long, which can negatively impact yields.

63. The repetitive nature of floods and droughts in Myanmar can make it extremely difficult for farmers to accumulate wealth. It is also a disincentive to agricultural investment. In order to promote food security and livelihoods, the government must further strengthen its disaster response systems and serve as an effective coordination mechanism for humanitarian aid and support from both international and domestic agencies. The disaster response must also be informed by an understanding of immediate needs to restore livelihoods. An assessment of the flooding after Cyclone Komen found that farmers' most important post-flood recovery needs were the replacement of agricultural inputs such as seed and fertilizer. Cash-for-work programs were also identified as a way to provide much needed employment to help agricultural families cope with the loss of income in the short-term.<sup>52</sup> Despite these efforts, the floods and the resulting loss or temporary cessation of livelihoods left many households with little choice but to revert to debt at high interest rates to cover food and other basic expenditures (*ibid*).

64. Climate change manifests itself through not only large climatic events but also gradual changes in temperature and precipitation over time. An assessment of climate data from 1960-2000 by the Myanmar Department of Meteorology and Hydrology identified an upward trend in

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<sup>51</sup> Khin Moe Kyi. 2012. Farmer Vulnerability Amidst Climate Variability: A case study of Dry Zone of Myanmar.

<sup>52</sup> WFP (2015). Agriculture and Livelihood Flood Impact Assessment in Myanmar. WFP/FAO/ MoAI//MLFRD

temperatures, downward trend in rainfall and a shortening of the monsoon season by an average of 0.5 days per year.<sup>53</sup> Baroang and Kyi (2013) also estimate an increase in the average annual temperature between 1-4C in Myanmar by the end of the century. Although gradual changes and localized climatic events are not as visible or receive as much media attention as large-scale natural disasters, their cumulative effects on food security for smallholder and landless households can be just as substantial.

65. The manner in which climate change affects smallholder and landless households will often play out on a micro-scale with significantly different weather patterns and shocks from one valley or watershed to the next. Resilient and sustainable agricultural systems that are able to cope with greater variability in weather are needed as well as a responsive agricultural extension service which is able to advise farmers on the best possible agricultural techniques appropriate for a given microclimate. This is in-line with SDG 2.4, which calls for the development of sustainable food production systems and resilient agricultural practices, which maintain ecosystems, strengthen capacity for climate change adaptation and improve land and soil quality.

## Infrastructure and Access to Markets

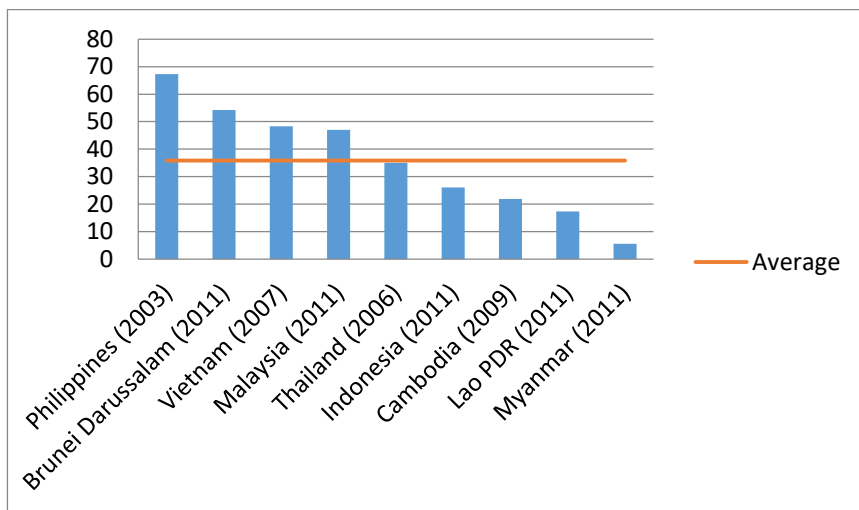
66. At present, Myanmar has an underdeveloped road system, leaving many rural communities with limited access to markets. Myanmar has the lowest road density in ASEAN at 6 km of road per 100 square kilometer of land. It also trails the rest of ASEAN on the WB Rural Access Index (RAI) with a score of 23.<sup>54</sup>

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<sup>53</sup> Ministry of Agriculture and Irrigation of the Union of Myanmar. 2010. Myanmar Country Report on Climate Change and Impacts on Agriculture and Food Security.

<sup>54</sup> World Bank indicators Accessed October 4 2016.

**Chart 6: Road Density (km road/100 km<sup>2</sup> land)<sup>55</sup>**



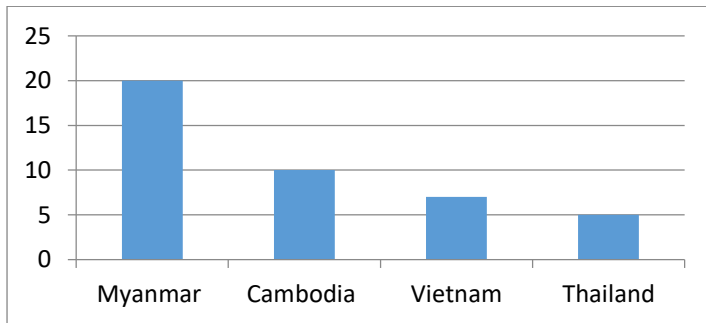
67. Insufficient road infrastructure can constrain food access on a state/regional level and limit food availability at the village level. Much of the rural road network in Myanmar's hilly zone is un-surfaced, making many villages difficult or impossible to access during the monsoon season. About two-thirds of rural people in Myanmar are physically isolated during part or all of the year.<sup>56</sup> Village road infrastructure is the main limiting factor. Current government plans aim to reach out to all villages by 2030 but increased resources are necessary for appropriate planning and delivery. Isolated populations are heavily dependent on the production of food at the village level and less resilient to climatic shocks and poor harvests. Poor infrastructure also translates into high freight costs. It costs 20 USD to transport one ton of freight a distance of 100 km in Myanmar,

<sup>55</sup> World Bank indicators Accessed October 4 2016. Singapore was removed from this chart because it is an outlier.

<sup>56</sup> ADB (2016), Myanmar Transport Sector Policy Note Rural Roads And Access

compared to 10 USD in Cambodia and 5 USD in neighboring Thailand.<sup>57</sup> These costs are ultimately borne by agricultural households. They must pay more for externally sourced agricultural inputs in addition to paying for high costs for transporting their agricultural produce to market. The “midstream” segment of food systems – i.e. the post-farm segment that covers different dimensions of food transformation over space (transport), time (storage), form (processing), and expectations (finance) – accounts for 40 percent of food system costs. Investments to reduce costs and increase mid-stream productivity are equally important as similar investments at the farm level. Efficiency gains in the mid-stream of food systems generate benefits across entire food systems, especially for the hungry poor, who often face extremely high costs when performing or accessing basic food systems functions.

**Chart 7: Freight Cost (USD/mt/100km)<sup>58</sup>**



68. Over the long term, significant investment is required to improve Myanmar’s rural road system and thereby improve food security for much of the rural population. This is particularly critical in the hilly zone where

<sup>57</sup> Freight data is given for the year 2013. World Bank (2016). Myanmar: Rice Price Volatility and Poverty Reduction. Economic and Sector Work, Report No. 89687-MM

<sup>58</sup> (*ibid*).

road density is lower and quality is poor.<sup>59</sup> In the short-term, the lack of connectivity in rural areas must be recognized as an existing constraint that will significantly impact food and nutrition security planning. This is compounded by farmers' lack of access to market information. Farmers only have a partial picture of their value chain and limited means to increase their profitability. Flaws in food systems are linked to several factors. Communication, transportation, and storage facilities are often poor. Commercial markets – which are the primary channels through which most food is accessed – can be sharply segmented, with access restricted for large numbers of people lacking purchasing power. Highly unequal social capital and financial bargaining power is often brought to exchanges between buyers and sellers. The state of food and nutrition security can vary greatly between different geographic areas, especially when those areas do not enjoy good connectivity. Consequently, national blanket approaches to addressing food and nutrition issues will not be effective, unless tailored to fit the local context. To this end, state and regional governments in Myanmar must be empowered to play a leading role in planning and implementing food and nutrition security activities.



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<sup>59</sup> Data retrieved from: MMR\_CSO, Statistical Yearbook 2015\_2015 reveal that state in the hilly zone have lower road density. Anecdotal evidence and first hand observation by the researchers also reveals that many of these roads are in poor condition.

## Rice Price Volatility & Inflation

69. The Myanmar rice market is well-known for its volatility. More than 70% of the country's rice is produced in the monsoon season and is harvested in November and December. The summer rice crop is harvested in March and April in the delta and mid-July in the dry zone, but only accounts for 8% of total production and has little effect on overall prices.<sup>60</sup> Skewed production is a double-edged sword for food security. Limited access to storage as well as an immediate need to pay back agricultural loans means that smallholder farmers are forced to sell their rice when prices are at their lowest. This results in low incomes and also dis-incentivizes farmers from investing in the inputs necessary to increase yields or produce high-quality rice. In addition, rice prices are highest in August and September when rice reserves are low. Findings from fieldwork suggest that this is also the time when smallholder farmers and landless laborers have depleted most of their savings from the previous harvest and must take out loans for food. Rice price volatility has significant implications for a population that depends on rice as a staple food and dedicates a substantial amount of household income towards its purchase. According to a recent World Bank Report:

*“For people spending 50 percent of their income on rice, a 20 percent temporary increase in rice prices would lead to an approximate 10 percent decline in effective income. This is a large shock, often equivalent to households’ spending on health and education.”<sup>61</sup>*

In addition to cyclical price volatility, long-term inflation also erodes the purchasing power of households, thereby negatively impacting access to food. Myanmar has a high rate of inflation, with the Consumer Price Index

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<sup>60</sup> World Bank. Myanmar: Rice Price Volatility and Poverty Reduction Report No. 89687 - October 4, 2014  
Agriculture Global Practice East Asia and Pacific Region

<sup>61</sup> Central Statistical Organization, Myanmar.

(CPI) reaching an estimated increase of 11.4% for the 2015-16 fiscal year.<sup>62</sup> The rate has since decreased but is forecasted to remain high at 8.5% for the 2016-17 fiscal year. According to the World Bank (2016), an increase in food prices has been the primary driver. In the 2015-16 fiscal year, monthly food inflation (year-on-year increase) never dropped below 6% and peaked at 14% in October.<sup>63</sup> With food accounting for over 60% of the consumption basket of the bottom 40% of the population, increases in CPI also disproportionately impact the poor who spend a larger proportion of their income on food.

70. SDG 2.1 requires sufficient access to food all year round. A significant step in achieving this goal is to effectively manage the rice market and other agricultural commodity markets to bring food price volatility to acceptable levels. Crop diversification and the use of hybrid rice varieties with shorter growing seasons will promote this end. Furthermore, improved access to a flexible and efficient agricultural credit system, paired with adequate village-level storage facilities would allow farmers to repay their loans after peak harvest season. It could help to balance the release of rice onto the market, thereby reducing volatility and also providing farmers with higher returns for their product.

### Months of Adequate Household Food Provisioning (MAHFP)

71. At present access to food all year round is difficult for both smallholder farmers and landless households to manage. The LIFT 2013 survey measured Months of Adequate Household Food Provisioning (MAHFP) and disaggregated data according to agro-ecological zones. According to the survey, 15.9% of households in the Coastal/Delta zone did not have enough food for one to three months out of the past year, compared to

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<sup>62</sup> World Bank. 2016. "Reducing Vulnerabilities." *East Asia and Pacific Economic Update* (October), World Bank, Washington, DC. doi: 10.1596/978-1-4648-0991-0. License: Creative Commons Attribution CC BY 3.0 IGO

<sup>63</sup> (ibid)



5.9% and 6.1% for the Hilly and Dry Zones, respectively. The proportion of households that did not have enough food for more than three months out of the year was significantly less at 2.4%, 0.1%, and 1.1% for the Coastal/Delta, Hilly and Dry Zones, respectively. One would expect the Coastal/Delta zone to fare better than the hilly zone as it does in other food security indicators. The Coastal/Delta zone's higher score is likely due to its relatively high level of landless households. The survey also found that 15.4% of landless households experienced at least one month without enough food compared to only 7% of land owning households. Landed households tend to be more food secure because they can grow a variety of off-season crops to balance out their dietary intake. MAHFP also correlates with wealth. 14.5% of households earning under 50,000 MMK per month stated had at least one month of inadequate food compared to 5% for households earning 100,000 MMK per month or more (*ibid*).

## Financing Food with Debt

72. Volatile food prices and seasonal employment result in long periods during which many agricultural laborers do not have the income necessary to purchase enough food. Both quantitative data as well as first-hand accounts reveal that financing food with debt is a commonly employed coping mechanism in these lean periods. According to the LIFT 2013 survey 32% of rural households listed food as their primary reason for debt. This figure increased to 48% for landless households and 46% for households making less than 50,000 MMK per month. Furthermore, 48% of LIFT surveyed households also had to 'borrow food or money for food from relatives, friends or neighbors'. This figure was significantly higher in the delta/coastal zone at 55% than the dry and hilly zones at 49% and 40%. Similarly, 47% of respondents also borrow money for food from money lenders, loan associations, banks, traders or shop keepers. Again this was more common in the delta/coastal zone at 51% compared to 49% and 41% in the dry and hilly zones.

73. The data also indicate that the practice of borrowing is more common amongst the landless with 57% of landless households borrowing from friends or relatives and 53% borrowing from money lenders in order to have enough food (*ibid*). Since the landless do not own land as collateral, their sources for formal credit are limited. Landless are typically left with no option but to take loans from informal money lenders at high interest rates.<sup>64</sup> Financing food with debt is also common amongst the urban poor. In a recent survey of the urban poor in Yangon (2015) more than 50% of respondents had taken out loans for food. Money lenders and pawnshops were common sources of credit, providing short-term loans at 20%-30% interest per month.<sup>65</sup>
74. The common practice of financing food with debt is a clear indicator of poor food security for smallholder farmers, landless laborers and the urban poor. Together these groups constitute the vast majority of the country's agricultural and industrial workforce. They are forced into the untenable position to feed themselves in the short-term at the expense of fundamentally changing their livelihoods or improving their food security in the long-term.

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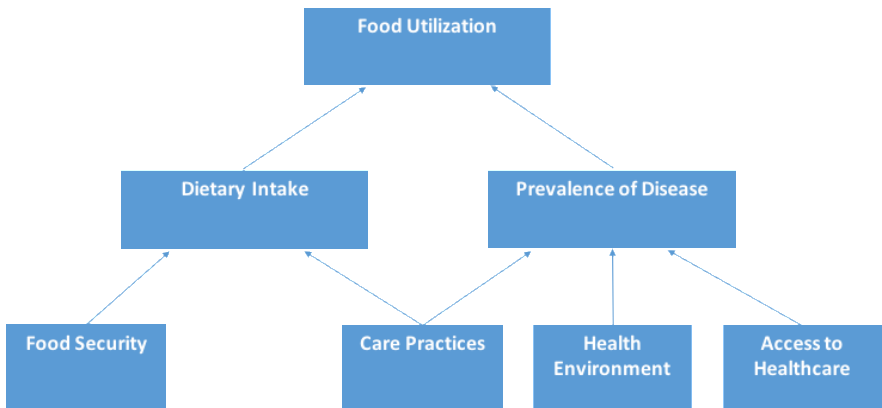
<sup>64</sup> Typical estimates vary between 10%-20% per month (Wilson et. al 2013).

<sup>65</sup> Yangon City Development Committee, Save The Children (2016). Lives on Loan. Extreme Poverty in Yangon.

### 2.3. FOOD UTILIZATION

75. Food and Nutrition Security requires that nutritionally diverse food is not only available and accessible but also utilized effectively. Only then can positive nutritional outcomes be expected. The UNICEF Conceptual Framework for Malnutrition unpacks the immediate and underlying causes affecting nutritional outcomes. It does so by taking a biological approach to nutrition, looking at the physical needs of the body for nutrients. The following framework is based on the causes listed in the UNICEF framework and used to analyze food utilization in the context of this Review.

**Figure 1: Nutritional Outcomes Framework:**



76. Food utilization is dependent upon the food actually consumed by the body as well as the body's ability to absorb nutrients from that food. Consequently, this framework identifies inadequate dietary intake and disease as the two immediate causes that belie positive nutritional outcomes. The underlying causes that affect dietary intake are food security, which has already been discussed, and household care practices,

which relate to deeply ingrained socio-cultural and gender norms. Care practices are also an underlying determinant of disease in addition to the surrounding health environment and access to healthcare.

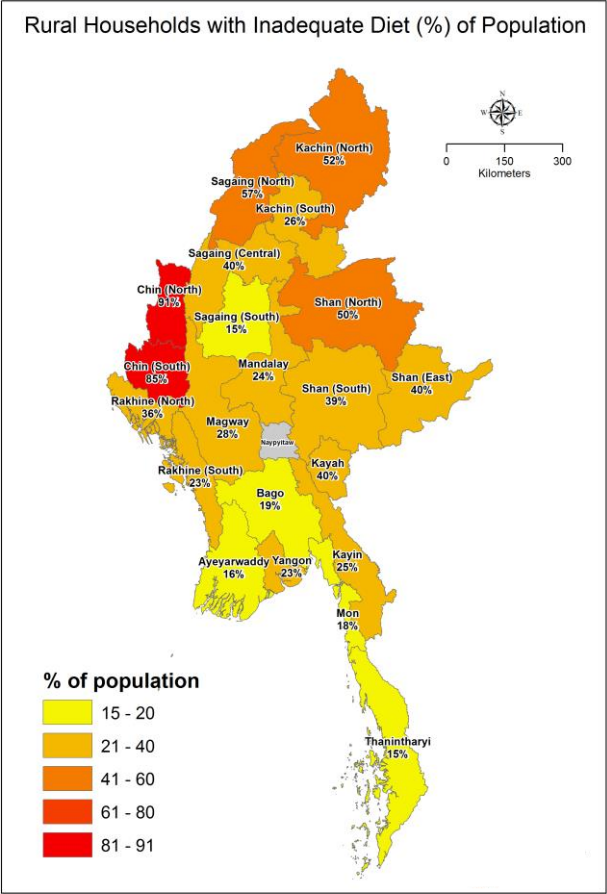
## Dietary Intake

77. In order to properly assess food utilization, it is necessary to first understand what food is actually consumed by the population. Within Myanmar, WFP has worked in partnership with government counterparts and development partners to develop a database on household food consumption and the determinants of hunger and malnutrition. This work is seen as critical to the Government's efforts to eliminate hunger and address the problem of malnutrition and stunting. As part of this initiative, the Food Security and Poverty Estimation Surveys (FSPES) calculated the Food Consumption Scores (FCS) for over 13,000 rural households spread across 278 of Myanmar's 287 rural townships.<sup>66</sup>

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<sup>66</sup> The FCS is a composite score based on dietary diversity, food frequency and nutritional importance. In order to calculate the score, surveyed households are asked to recall the number of days within the last seven days in which they consumed a given food group. A standardized set of weighted values are assigned to each food group according to its nutritional importance. Households are placed in three different diet categories depending on their FCS score: poor, borderline and acceptable.

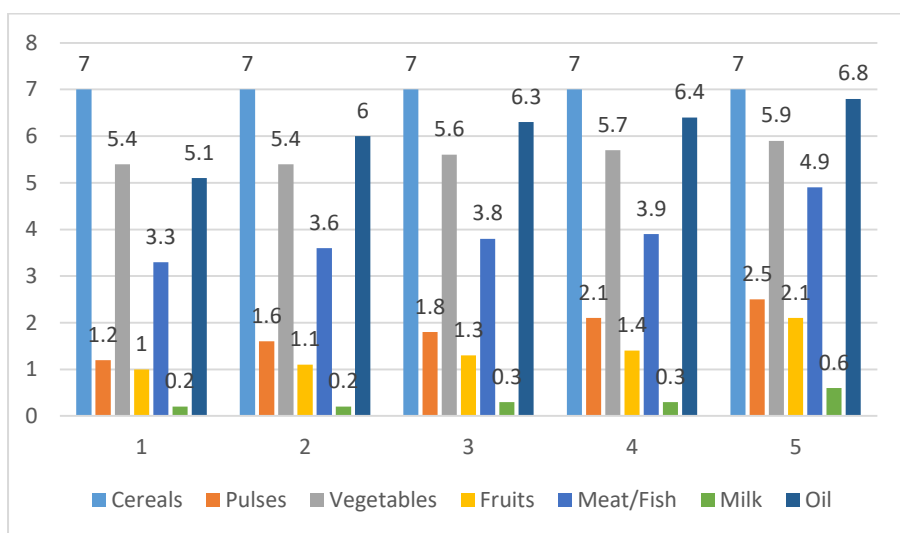
**Map 4: Rural Households with Inadequate Diet<sup>67</sup>**



<sup>67</sup> World Food Programme. (n.d.). Food Security and Poverty Estimation Surveys (FSPES).

78. According to FSPES data, 22.3% of Myanmar’s rural population has an inadequate diet, with significant variation by geographic location.<sup>68</sup> The mountainous uplands and particularly the North West have a significantly lower proportion of the population with an acceptable diet. Chin State North and South fare the worst with only 9.5% and 15.3% of the population having an acceptable diet. Sagaing Region (North), Kachin State (North) and Shan State (North) also fared poorly with slightly less than half the population in these areas having an inadequate diet. Lower consumption scores in the mountainous areas are brought about by a multitude of interrelated factors, the primary one being remoteness.

**Chart 8: Food Group Consumption by Wealth Quintile<sup>69</sup>**



<sup>68</sup> There is no set standard for determining the appropriate scores for each category. This is typically determined on a country-by-country basis according to its specific dietary composition and consumption behaviors, particularly regarding consumption of sugars and fats. Given the Myanmar diet, the government of Myanmar and WFP have determined that 38.5 is the minimal acceptable diet in the country. Everything below this figure is considered borderline or poor.

<sup>69</sup> World Food Programme. (n.d.). Food Security and Poverty Estimation Surveys (FSPES).

79. Breaking down FCS by food group provides insights into dietary composition and the frequency with which different food groups are eaten. Chart 8 displays the food groups eaten in the last seven days according to wealth quintile. Protein intake and wealth have a positive correlation, with the lowest quintile consuming meat 3.3 days out of the week compared to the wealthiest quintile at nearly 5. Conversely, intake of vegetables and cereals stay relatively the same throughout all quintiles. Although food consumption scores have not been taken for urban populations, a recent survey of the urban poor in Yangon found that 37% of households interviewed consumed meat 1 to 2 times per week and 10% ate no meat at all. The most common foods eaten on a daily basis were rice and fish paste.<sup>70</sup>

80. These data and discussions with government and development partners during fieldwork point towards a very clear finding. Myanmar's population is substituting rice for protein in its diet. This trend is more pronounced amongst poor households for the simple reason that animal protein is expensive relative to rice. These findings are in-line with the National Nutrition Centre's statement that the population is suffering from Protein Energy Malnutrition (PEM). While carbohydrates are the body's primary source of energy, protein is necessary for physical growth. The country's high level of stunting (see Nutritional Outcomes section) suggests insufficient protein intake as well as micronutrient deficiencies. Through a mixture of low farm-based incomes and debt, access to inexpensive rice is possible for much of the agricultural workforce; however, access to a variety of more expensive foods, particularly meat-based protein is lacking for many. Incomplete proteins<sup>71</sup> can be found in pulses and many

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<sup>70</sup> Yangon City Development Committee, Save The Children (2016). Lives on Loan. Extreme Poverty in Yangon.

<sup>71</sup> Plant proteins are considered 'incomplete' because they do not contain all 9 essential amino acids which are needed for building cells. However, a mix of incomplete proteins from different plants can provide complete proteins.

inexpensive nuts and seeds, but consumption of these foods is generally low due to limited nutritional knowledge. This leads to a situation of 'hidden hunger' in which people are able to put food in their stomachs to satisfy the immediate urge of hunger but are unable to reach full cognitive and physical potential due to a lack of protein and essential micronutrients.

### **Box 2: Properly Interpreting Food Consumption Scores<sup>72</sup>**

Food consumption scores reveal the consumption patterns of a given population. However, FCS does not provide data on the actual quantity of food that is consumed, nor the manner in which that food is stored or prepared. All of these factors greatly affect the overall nutrient intake, and a nuanced understanding of local food culture and related socio-economic factors is required. For example, Chart 8 indicates that oil is consumed at least 5 days out of the week, regardless of wealth quintile, but it does not specify the quantity or type of oil. Interviews with nutrition experts in Myanmar revealed that as households become wealthier, they use more oil per meal. Furthermore, poor and middle class households have switched from traditionally used oils such as peanut and sesame oil for cheaper, imported palm oil. Palm oil contains high levels of saturated fat and LDL cholesterol, resulting in poorer health outcomes.

Chart 8 also indicates that all wealth quintiles consume vegetables between 5 to 6 days per week, but does not specify how they are prepared. In Myanmar and Southeast Asia more widely, vegetables are typically boiled to the point where they lose much of their nutritional value. Furthermore, the nutritional composition of

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<sup>72</sup> FCS score is a WFP corporate indicator. Interpretation of FCS should be informed by the 2009 CFSVA guidelines found here:

[http://documents.wfp.org/stellent/groups/public/documents/manual\\_guide\\_proced/wfp203208.pdf](http://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp203208.pdf)



vegetables (and fruits) varies widely, from nightshades such as tomatoes and eggplants to green leafy vegetables such as watercress and spinach. A diverse variety of vegetables and fruits must be consumed to provide an adequate mix of micronutrients. From food consumption scores, one cannot deduce the diversity of food consumed within a given food group.

## Care Practices

81. The food a person puts in his or her mouth is determined by that person's cultural identity and relationship with other persons within the family and society. These relationships manifest themselves in a set of activities known as care practices. Relevant care practices affecting dietary intake include but are not limited to: Intra-household food allocation, food purchasing behavior, care given to pregnant and lactating women, breastfeeding and feeding of very young children, and appropriate food preparation and food storage behaviors.
82. **Intra-household food allocation & food purchasing:** Dietary intake within a household is dependent upon how diets vary between household members and how intra-household food allocation changes over time and circumstance. It is important to determine who in a household goes hungry during a lean period and how. What foods do households cut out of their diets? Does everyone reduce food intake equally or is feeding one family member prioritized, such as a child or the household head? It is also important to determine how food purchases are prioritized relative to other goods and who within the household makes those decisions and manages food spending. Sometimes these decisions even occur outside the household. Fieldwork findings suggest that landless agricultural laborers in Myanmar are often provided food directly from their employer. This limits their control over their own dietary intake. Similarly, many urban, industrial workers live in company provided accommodation. In

some cases, cooking is not allowed in employee quarters, because employers are concerned about the fire hazard it poses. This leaves employees more dependent on food from street stalls or processed foods.

83. A significant research gap exists on intra-household food allocation and food purchasing behavior. These practices are highly dependent upon gender dynamics within the household as well as cultural norms, which undoubtedly vary widely across Myanmar's diverse ethnic landscape. A full understanding of food utilization will require further research into these fields. Doing so will allow for the development of effective nutrition awareness programming that is culturally appropriate and tailored to local gender dynamics.
84. **Diet of Pregnant and Lactating Women & Infant and Young Child Feeding Practices:** The 1,000 day window is the period from conception to approximately the child's second birthday. The international health community has recognized this as a critical period in the development of human beings, and failure to provide adequate nutrient intake during this period can lead to irreversible negative effects on cognitive and physical development. During this period nutrient intake is dependent upon the diet and care practices of the mother. Strategic focus and investment in both nutrition specific and sensitive interventions during the first 1,000 days of life shows the highest returns on investment for nutrition.
85. To date, limited research has been conducted on the dietary habits of pregnant and lactating women in Myanmar. The research that does exist is not nationally representative but suggests that nutritional knowledge among PLW is poor, and dietary intake is often dependent upon a multitude of customary dietary taboos.<sup>73</sup> Discussions with officers from

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<sup>73</sup> For more info see: BBC Media Action (2016). Formative Research: Food List in Delta and Dry Zones. BBC Media Action/ (Leveraging Essential Nutrition Actions to Reduce Malnutrition LEARN. <http://www.lift-fund.org/sites/lift-fund.org/files/uploads/BBC%20Media%20Action%20-%20Formative%20Research%20-%20Food%20list%20in%20Delta%20and%20Dry%20zones.pdf>

the Department of Health have revealed that most women still reduce food intake during pregnancy to keep infant birth weight low. This is done out of the traditional belief that a smaller baby will mean an easier delivery. While reducing food intake during pregnancy does, in fact, reduce the size of the infant, it also weakens the mother. This makes giving birth more difficult and can lead to additional health complications. Data from the DHS (see Nutritional Outcomes section) also reveal a high rate of IDA amongst pregnant and lactating women, which can likely be attributed to a combination of an inadequate diet and poor health environment, with particularly high rates in urban areas.

86. Once born, infant and young child health is dependent on not only the diet of the mother but also the IYCF practices. The World Health Organization recommends that breastfeeding is initiated within the first hour of birth, exclusive breastfeeding of infants is continued for the first six months and regular breastfeeding is continued until two years of age or older. Between the age of six and twenty-three months, breastfeeding should be supplemented with semisolid foods at regular intervals throughout the day.<sup>74</sup> In Myanmar, only 51% of infants under the age of six months were exclusively breastfed according to the 2016 Demographic and Health Survey, and only 16% of young children receive the minimum acceptable diet for proper physical and cognitive development.<sup>75</sup>
87. Research into the causal factors of poor IYCF outcomes is limited in Myanmar, though it is likely linked to limited knowledge on appropriate practices amongst much of the population. Socio-economic considerations should also be taken into account. Women's non-income generating activities in the household such as care giving have traditionally been undervalued. They often have to balance their limited time between care giving and livelihood activities. Although comprehensive data into

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<sup>74</sup> WHO (2002). Infant and Young Child Nutrition. 55<sup>th</sup> World Health Assembly. World Health Organization (WHO) [http://apps.who.int/gb/archive/pdf\\_files/WHA55/ea5515.pdf?ua=1](http://apps.who.int/gb/archive/pdf_files/WHA55/ea5515.pdf?ua=1)

<sup>75</sup> Ministry of Health and Sports (2016). Preliminary Findings: Demographic Health Survey.

women's time allocation is largely absent, discussions with nutrition professionals revealed that in rural Myanmar women return to agricultural activities shortly after child birth and leave newborn children in the care of older siblings. This can both inhibit appropriate IYCF practices as well as provide an overall sub-optimal care environment for infants and young children.

88. **Food Preparation and Storage:** Food preparation and storage are highly dependent upon cultural norms and greatly impacts the dietary intake for the whole household. Myanmar households typically overcook vegetables, thereby removing much of their nutritional value. Socio-economic considerations also factor into food preparation. Low income families tend to substitute imported palm oil, switching from more expensive traditional oils such as peanut and sesame. Food preparation and eating behaviors are also changing in Myanmar. Processed foods such as instant noodles are now widely available in both urban and rural markets. These types of food are beginning to replace home-cooked meals, because they are cost competitive and preparation time is shorter. Artificial preservatives also give processed foods a longer shelf-life. The rising popularity of processed foods undoubtedly has negative impacts on nutritional outcomes, but to date limited research has been conducted on this issue. Systematic and wide-scale research should be conducted with the aim to unpack the relationship between household food preparation and nutritional outcomes, with a particular focus on the role that processed and ready-made foods are playing in the Myanmar diet.

## Disease

89. Dietary intake matters little if the ability of the human body to absorb nutrients is inhibited due to poor health or disease. A growing body of evidence has led governments and development practitioners to develop a more holistic view of food and nutrition security, which includes the

wider health environment, care practices within the household and access to health services.

90. **Health Environment:** Poor sanitation leads to a greater prevalence of diarrhea and parasitic infections, which results in poor absorption of nutrients in the gut, particularly iron and protein. According to the Myanmar Demographic and Health Survey (MDHS), 10% of children had experienced diarrhea within the two weeks preceding the survey. The prevalence of diarrhea and other diseases is often the result of hygiene practices as well as the sanitation of the surrounding environment. According to the 2014 Census, 69.5% of the Myanmar population had access to an improved water source. This figure stood at 87% in urban areas and 63% in rural areas, though significant regional disparities remain. Appropriate water treatment is also an important health consideration, which impacts nutritional outcomes. The 2009-10 MICS found that it is common for both urban and rural households to treat drinking water at 81% and 91% respectively. However, the survey found that only 39% of urban households and 33% of rural households use appropriate water treatment methods. Once again, significant variation exists amongst states and regions with 84% of households in Kayah State using appropriate water treatment methods, compared to just 9% in the West of Bago Region. Access to improved sanitation is also a relevant concern. MICS 2009-10 found that 94% and 80% of urban and rural households have access to improved sanitation facilities.<sup>76</sup> Although most States and Regions had rates between 70% and 90%, Rakhine State was a noticeable outlier with only 48% of households having access to improved sanitation facilities. Rakhine State also had the highest proportion of households without access to a toilet at 41%. As noted in the Nutritional Outcomes section of this Review, Rakhine State has the highest rate of childhood wasting of any State or Region. The unsanitary conditions are likely a

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<sup>76</sup> Improved Sanitation facility is defined by MICS 2009-10 as one of the following: piped sewer system, septic tank/pit, ventilated improved pit latrine, pit latrine slab, or composting toilet.

driving factor in this statistic. A strong correlation was observed between wealth and access to improved sanitation with 60% of the poorest quintile having access to improved sanitation compared to 98% for the richest quintile. 26% of the poorest quintile also have no toilet at all and practice open defecation.

91. Although access to ‘improved sanitation facilities’ is a useful indicator, it does not guarantee that the wider health environment is sanitary. Despite the fact that 94% of urban households have access to improved sanitation facilities, poor sanitation is a growing concern in urban centers in Myanmar. The severity of this issue can be deduced from higher rates of wasting and IDA in urban areas (later discussed in Nutrition Outcomes section). As the country continues to industrialize, the urban population is increasing due to net rural-urban migration. Fieldwork and secondary literature indicate that sewage and plumbing infrastructure in rapidly industrializing areas in cities is quickly becoming insufficient to support the swelling population. A recent survey of the urban poor in Yangon found that only 5% of households surveyed had a ‘sanitary’ toilet and many poor households must rely on unclean pond water for drinking purposes.<sup>77</sup> Many live in poorly constructed, makeshift housing near industrial sites. It is imperative that Myanmar successfully prepare its cities to cope with this influx of rural labor. This entails effective urban planning and the construction of adequate public infrastructure for water supply and waste management.

92. **Hygiene and Disease-Related Care Practices:** Care practices related to hygiene, disease treatment and care-seeking affect not only the prevalence of disease and parasitic infection but ultimately the extent to which they impact nutritional outcomes. Findings from a 2011 Knowledge, Attitude, Practices (KAP) survey on WASH indicated that 90% reported

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<sup>77</sup> A ‘sanitary’ toilet as defined by the survey is one where the contents are piped into a concrete tank that is protected from flooding. Yangon City Development Committee, Save The Children (2016). Lives on Loan. Extreme Poverty in Yangon.

washing their hands after defecation, but only 70% use soap.<sup>78</sup> The same survey also found that many caregivers do not properly dispose of infant feces in a latrine. 19% of caregivers for infants under one-year old reported safely disposing infant feces in a latrine, while this number rose to 37% amongst caregivers of infants aged one to two years old. This finding suggests that greater educational knowledge of appropriate WASH practices is needed amongst caregivers in order to improve the health environment of infants and young children. According to DHS data, 10% of respondents had children that had fallen ill with diarrhea in the two weeks preceding the survey. Of that proportion, 54% had sought treatment from a health facility/provider.<sup>79</sup> This indicator had a strong correlation with the mother's level of education and slight correlation with wealth. Due to the low sample size of diarrhea cases, regional variation in care seeking and ORS administration could not be accurately determined.

93. **Food Preparation and Safety:** Food that is prepared in an unsanitary fashion, once eaten can lead to parasitic infections and food borne illnesses. This has been identified as a growing issue in Myanmar, particularly in urban areas where buying prepared meals at restaurants and street food stalls is slowly replacing meal preparation in the home. According to a recent survey by the National Poison Control Centre, one-third of the food sold by street food vendors in Yangon City tested positive for bacteria that can cause food borne illnesses, and almost one-quarter contains dangerous levels of bacteria.<sup>80</sup> Trying to ban street food would likely be counterproductive towards food security, because a large segment of the population depends on it. In many countries across the world, a vibrant street food culture exists, which provides urban populations with cheap, quick and sanitary meals. Therefore, the answer

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<sup>78</sup> MOH (2011). Knowledge, Aptitude, Practice Study into Water, Sanitation and Hygiene in 24 Townships of Myanmar. Ministry of Health (MOH). Republic of the Union of Myanmar/UNICEF.

<sup>79</sup> The term health provider/facility excludes: pharmacy, shop, market and traditional practitioner.

<sup>80</sup> <http://www.mmtimes.com/index.php/national-news/9309-one-third-of-street-food-has-dangerous-bacteria-study.html>

is not to ban but rather to create a licensing system for vendors and properly enforce food safety and hygiene standards.

94. **Access to Healthcare:** Care seeking practices are only part of the equation for addressing disease and ensuring positive nutritional outcomes. A health system which is widely accessible to the population is also needed to treat disease properly and mitigate its negative effects on food utilization. The MOHS's long-term strategy is guided by the Myanmar Health Vision (2000-2030), which aspires toward providing Universal Health Coverage by the year 2030. This is further discussed in the 'Institutional Response' section of this Review. However, at present households must still cover a substantial proportion of healthcare costs. A 2015 World Bank study estimated out-of-pocket private health expenditure in Myanmar to be as much as 60% of total health expenditure.<sup>81</sup> The IHLCA found that healthcare expenditure accounted for 5% of total household expenditure in 2009-10. Physical distance from



health facilities can also pose a barrier to access, though the IHLCA revealed fairly good access in this regard, with 81% of the population living within one hour's walking distance from a

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<sup>81</sup> World Bank (2015) 'Myanmar Public Expenditure Review'. Yangon: World Bank.



hospital or health center. This is a substantial increase from 65% in 2005. This indicator decreased slightly in rural areas to 75%. Shan State East has the poorest access to healthcare with 62% of the population living within one hour's walk from a hospital or clinic, compared to 100% in Kayah State. Although a majority of the rural population lives within close proximity to a health facility, it is important that those facilities are adequately staffed with health professionals that understand the culture and healthcare seeking behaviors of the local community and are equipped with sufficient medical supplies. Discussions with government officials in Chin State revealed that over half the government posts for medical staff remain vacant, particularly in remote areas. Ensuring adequate access to healthcare will require continued health systems strengthening over the long-term.

## 2.4. NUTRITIONAL OUTCOMES

95. The multitude of factors discussed above which affect food availability, access and utilization ultimately culminate into nutritional outcomes. This is best assessed in terms of actual physical measurements of height and weight as well as the direct measurement of micronutrient levels in the body. The ultimate benchmark for success for food and nutrition security policies and programs is improvement in these indicators.

### Anthropometric Measurements

96. Taking anthropometric measurements of children is internationally recognized as an important indicator of the nutritional status of the population as a whole. Children are one of the most vulnerable groups to malnutrition as they have little control over the quantity and content of their diet. Furthermore, poor childhood nutrition in the first 1,000 days

after conception has been proven to greatly inhibit physical and cognitive development over the course of one's life.

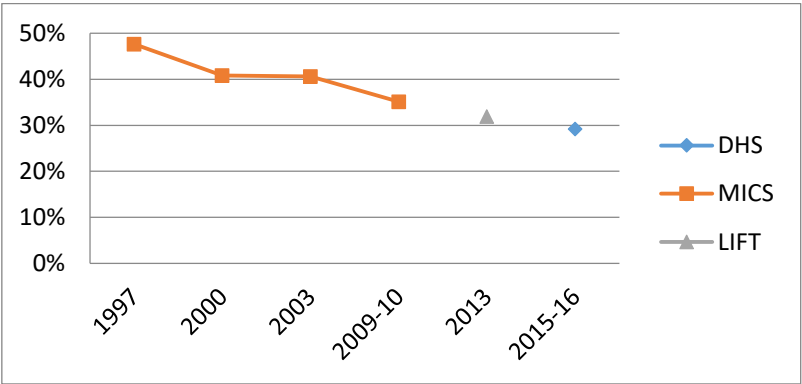
97. Childhood malnutrition is typically assessed through three anthropometric indicators, stunting (low height for age), wasting (low weight for height), and underweight (low weight for age). SDG 2.2 recognizes the importance of these indicators and has set targets for 2025 for countries to reduce stunting by 40% (compared to a 2010 baseline) and reduce wasting to less than 5% of the population. Data suggest that the nutritional status of children in Myanmar has been improving yet remains at unacceptably poor levels.

98. **Stunting** is the occurrence of linear growth retardation brought about by chronic poor nutrition. The chart below contains stunting data from three surveys. This is done to provide a concise view of relevant data. Survey results are not directly comparable due to differing sampling methodologies, and one should refrain from drawing assumptions or trends in data across multiple surveys. The most recent data available for child nutrition comes from the findings of the Myanmar Demographic and Health Survey (MDHS) 2015-6 conducted by the Ministry of Health and Sports. The survey found that 29.2% of children under five years old are stunted while 8.2% are severely stunted.<sup>82</sup> Data from the MICS surveys provide some longitudinal insights indicating a significant decline in stunting from 47.6% in 1997 to 35.1% in 2009-10. The LIFT Survey found stunting at 31.9% in 2013.

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<sup>82</sup> Moderately stunted is defined as two standard deviations below the median WHO Child Growth Standards adopted in 2005. Severely stunted is defined as three standard deviations below the median.

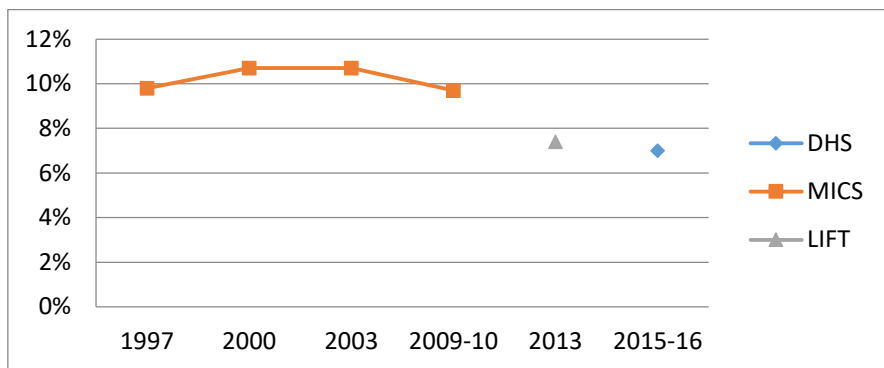
**Chart 9: Stunting (Children Under 5 Years Old)**



99. **Wasting** is indicative of acute under-nutrition which can be brought on by short periods of low energy intake, high nutrient loss or a combination of the two. According to the DHS 2015-16, 7% of children under five years old are wasted while 1.3% are severely wasted.<sup>83</sup> MICS longitudinal data points towards little change, with wasting declining 0.1% from 1997 to 2009-10. DHS data show that wasting is more severe in urban areas than rural with prevalence rates of 8.9% and 6.5%, respectively. Wasting can be indicative of a poor health environment, in which children experience short periods of high nutrient loss through disease. Hence, higher wasting rates in urban areas may be indicative of a poor health environment brought about by growing urbanization as mentioned earlier.

<sup>83</sup> Moderately wasted is defined as two standard deviations below median WHO Child Growth Standards adopted in 2005. Severely wasted is defined as three standard deviations below the median.

**Chart 10: Wasting (Children Under 5 Years Old)**



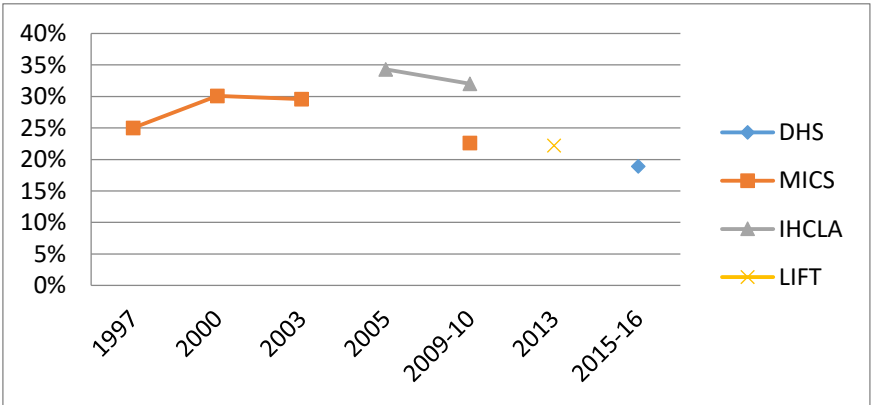
100. **Underweight** is often considered a composite measure of stunting and wasting and therefore cannot be directly attributed to either acute or chronic malnutrition. According to the DHS findings, 18.9% of children in Myanmar are underweight while 3.7% are severely underweight.<sup>84</sup> In the MICS the prevalence of underweight children under five declined from 25% in 1997 to 22.6% in 2009-10, while the same metric declined from 34.3% in 2005 to 32% in 2009-10 in IHCLA data.

101. Gender stratified data from the DHS revealed only a marginal difference in the nutritional status of young boys and girls. In fact, young girls had slightly lower rates for stunting, wasting and underweight than young boys. Geographic stratification revealed that stunting and underweight figures are higher in rural areas than urban. Significant regional disparities also exist, with Chin State having the highest child-stunting rate at 41% and Rakhine having the highest proportion of underweight children at 34% and the highest level of wasting at 14%. Surprisingly, some of the regions with

<sup>84</sup> Moderately underweight is defined as two standard deviations below the median Who Child Growth Standards adopted in 2005. Severely underweight is defined as three standard deviations below the median.

high agricultural production also fared poorly in these indicators. Despite producing a significant surplus of rice, Ayeyarwady Region had a higher than average level of underweight children at 25%. Similarly, Magway Region produces a large surplus of pulses (peas and beans), but underweight figures for children were also above the national average. Findings from fieldwork indicated that although pulses are grown throughout Magway, much is bound for export. Farmers sell their crop and diets remain limited in diversity and lacking in protein and micronutrients. This would seem to dispel the notion that food availability alone equates to positive nutritional outcomes.

**Chart 11: Underweight (Children Under 5 Years Old)**

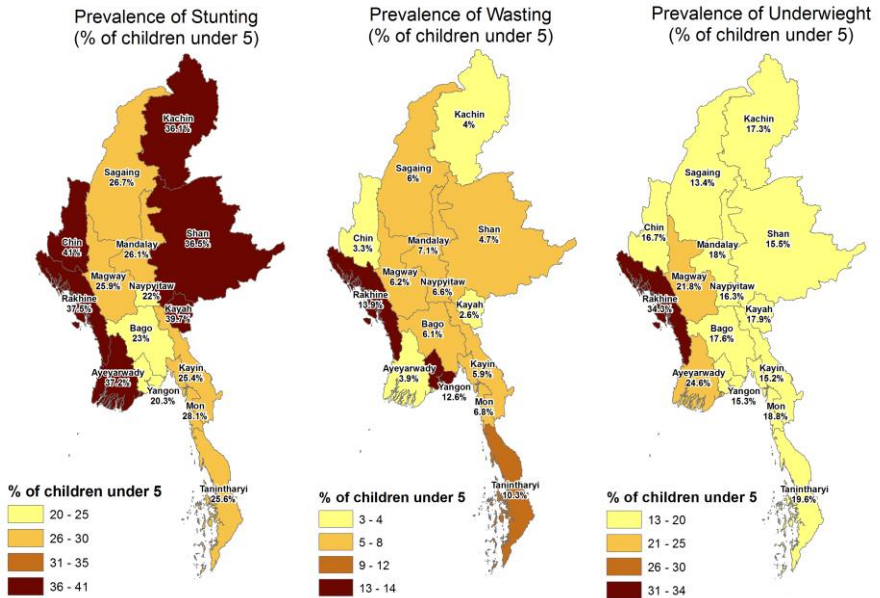


102. As previously mentioned, higher rates of wasting in urban areas may be indicative of a poor health environment. The data above appears to support this narrative. Yangon is the most urbanized of Myanmar’s States and Regions with 70% of its population living in cities compared to the national average of 30%.<sup>85</sup> It also has the second highest rate of wasting at

<sup>85</sup> MoIP (2014). *Population and Housing Census of Myanmar: Provisional Results*. Ministry of Immigration and Population (MoIP). Republic of the Union of Myanmar. Nay Pyi Taw

nearly 13%. This places it nearly on par with Rakhine state at 14%, despite the fact that Yangon is a much wealthier Region.<sup>86</sup>

**Map 5: Stunting, Wasting and Underweight Prevalence for Children Under 5 Yrs by State and Region**



103. Low birth weight is also a commonly used indicator to determine the nutritional health of both the mother and infant as well as the nutrition related constraints the infants may face for long-term cognitive and physical development.<sup>87</sup> It is difficult to accurately estimate the prevalence of low birth weight in many developing countries due to the fact that many

<sup>86</sup> The poverty rate in Yangon Region is 16% compared to 44% in Rakhine. IHCLA 2009-10 data.

<sup>87</sup> Low birthweight is defined as less than 2,500 grams.

children are not born in healthcare facilities and weight is not recorded at the time of birth. Furthermore, those that are born in such facilities and have their birth weight recorded tend to come from wealthier families. This means that recorded birth weights from healthcare facilities likely produce a biased sample and cannot be used to estimate the actual prevalence of low birth weight across the whole population. The MICS 2009-10 provides an estimate on low birth weights by asking mothers to either estimate the child's size at birth or recall the birth weight of their child, which was then recorded. Using this method, the survey estimated that 8.6% of infants in Myanmar are underweight at birth.

## Micronutrient Deficiencies

104. Although not as visually apparent as stunting or wasting, micronutrient deficiencies are also a direct result of poor nutritional intake and can greatly impair cognitive and physical development. The National Nutrition Centre (NNC) has identified five under-nutrition problems in Myanmar. One is a macronutrient problem, protein energy malnutrition (PEM). The other four are related to micronutrient deficiencies.

105. **Iron Deficiency Anemia (IDA)** is defined as an insufficient level of hemoglobin (or red blood cells) in the blood, which is the result of blood loss, decreased hemoglobin production or increased breakdown of hemoglobin. In the case of nutrition, iron deficiency leads to reduced production of hemoglobin. Other causes or compounding factors leading to anemia include micronutrient deficiencies in vitamin B12 or Thalassemia parasitic infections, and acquired or inherited disorders. Anemia due to iron deficiency affects nearly one billion people<sup>88</sup> and led

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<sup>88</sup> Vos, T; Flaxman, AD; Naghavi, M; Lozano, R; Michaud, C; Ezzati, M; Shibuya, K; Salomon, JA; et al. (Dec 15, 2012). "Years lived with disability (YLDs) for 1160 sequelae of 289 diseases and injuries 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010". *Lancet*. **380** (9859): 2163–96. [doi:10.1016/S0140-6736\(12\)61729-2](https://doi.org/10.1016/S0140-6736(12)61729-2). [PMID 23245607](https://pubmed.ncbi.nlm.nih.gov/23245607/).

to 183,000 deaths globally in 2013.<sup>89</sup> While mild anemia may lead to few or minor symptoms in many people, more severe cases of anemia can have a severe toll on the quality of life as well as the productive capacity of individuals. It can also inhibit growth and cognitive development in children.

106. The DHS took direct measurements of hemoglobin in blood and found 57% of children between 6 and 59 months of age to be anemic. This was stratified as 32% mildly anemic, 25% moderately anemic and less than 1% severely anemic. The DHS also measured the hemoglobin of women age 15–49 and found 47% of the sample to be anemic with 38% being mildly anemic, 8% moderately anemic and less than 1% severely anemic. A poor health environment and resulting parasitic infections can also be a cause of anemia. A survey by the NNC (2013) found that 30.8% of children under five and 44.3% of pregnant women were infected by parasitic worms. It is unknown to what extent iron deficiency anemia is a result of dietary intake or a poor health environment, though it is undoubtedly caused by a combination of the two. Anemia figures for children were slightly higher in urban areas than in rural areas at 60% and 57%, respectively. Similar to figures for child wasting, Yangon had higher rates of childhood anemia (67%) than the national average despite having a relatively low poverty rate. Given that Yangon Region's population is largely urban, these findings again point to the possibility that rapid urbanization has led to a poor health environment and has a significant negative impact on nutrition outcomes.

107. **Vitamin B1 Deficiency also known as Beri Beri** is defined as inadequate levels of Vitamin B1 Thiamine for the body to grow and function properly.

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<sup>89</sup> GBD 2013 Mortality and Causes of Death, Collaborators (17 December 2014). "Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990–2013: a systematic analysis for the Global Burden of Disease Study 2013." *Lancet*. **385** (9963): 117–71. doi: [10.1016/S0140-6736\(14\)61682-2](https://doi.org/10.1016/S0140-6736(14)61682-2).



This micronutrient deficiency is more common in countries such as Myanmar that depend on white, polished rice as a staple grain. Thiamine is found within the husk of the rice grain, which is removed during processing. Infantile Beri Beri is a significant contributor to infant mortality. Mothers with insufficient thiamine are not able pass this micronutrient onto their children through breast milk. According to the NNC's Under 5 infant mortality survey (2003), infantile Beri Beri in Myanmar is responsible for 7.12% of deaths for children between 1-12 months. A 2013 NNC document also cites a 2009 NNC study, finding that 6.8% of pregnant women and 4.4% of lactating women suffer from Beri Beri (NNC, 2009).

108. **Vitamin A Deficiency (VAD)** has traditionally been identified by corneal damage known as xerophthalmia or Bitot's Spots. The prevalence of Bitot's Spots amongst children under five has dropped from 0.6% in 1991 to 0.03% by 2000 (NNC, 2013). According to UNSCN (2011), these spots only have a prevalence of 2% amongst individuals with VAD, making them a less than reliable indicator. Consequently, serum retinol concentration is becoming the common method for identifying Vitamin A deficiency. The UNSCN estimates that as of 2007, 30.1% of children 6 to 59 months of age in Myanmar suffer from low serum retinol levels (LEARN, 2016). This is consistent with findings from a 2012 survey jointly conducted by the NNC and the Department of Medical Research (Lower Myanmar). Although the survey only covered 12 townships in Southern Myanmar and is therefore not nationally representative, 38% of children age 6 to 59 months in the sample had low serum retinol levels (NNC, 2013).

109. **Iodine Deficiency Disorder (IDD)** during pregnancy can lead to irreversible brain damage to the fetus, as well as stillbirths, spontaneous abortions and congenital abnormalities (LEARN, 2016). Goiter, the most visible sign of

IDD, fell from 33% in 1994 to 2.2% in 2006 (NNC, 2006).<sup>90</sup> This decline has been attributed to a substantial increase in the proportion of households consuming iodized salt, from 18.5% in 1994 to 91.5% in 2011 (NNC, 2013). However, NNC (2013) also notes that as of 2011 only 68.8% of households were consuming adequately iodized salt.

## The Double Burden

110. Malnutrition includes both under-nutrition and over-nutrition. Like many developing countries, Myanmar faces a growing double burden of both hunger and obesity. A traditionally rice and oil-heavy diet in conjunction with easy access to sugary sweets and a sedentary lifestyle have increased the danger of over-nutrition. According to WHO data<sup>91</sup>, diabetes rates in Myanmar stand at 6.6%, while 25% of all women aged 15-49 are overweight or obese and 33.1% of women in urban areas, according to DHS results. Mainstreaming nutrition education into the public school system will be essential over the long-run to ensure that the generation of tomorrow understands the importance of good nutrition and a balanced diet.

## 2.5. VULNERABLE GROUPS

111. Thus far, this review has addressed Food and Nutrition Security for the population as a whole. In doing so it has identified the large population of smallholder farmers and landless agricultural laborers as most vulnerable in terms of food access due to limited incomes. Likewise, pregnant and lactating women and infants and young children are also vulnerable in terms of food utilization; the former because of taboos on food consumption and the latter due to poor IYCF practices. However, particular

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<sup>90</sup> Ministry of National Planning and Economic Development (MNPED) & UNICEF. (2013). Situation Analysis of Children in Myanmar. Nay Pyi Taw: MNPED & UNICEF.

<sup>91</sup> WHO (2016) Diabetes Country Profile: Myanmar. [http://www.who.int/diabetes/country-profiles/mmr\\_en.pdf?ua=1](http://www.who.int/diabetes/country-profiles/mmr_en.pdf?ua=1)

groups exist within the wider population that are vulnerable in fundamentally different ways and cannot reasonably be expected to attain a sufficient income to ensure access to food. Therefore, SDG 2.1 “access to food for all people, particularly vulnerable groups” cannot be achieved without the sustained support to these groups from either government social safety nets or humanitarian aid. These groups include orphans and vulnerable children (OVC), people living with HIV/AIDS (PLHIV), people living with disabilities (PLWD), the elderly and internally displaced persons (IDPs).

112. The first four vulnerable groups are similar in that their physical and/or mental characteristics have a direct impact on their agency and ability to support themselves. They should ideally receive support from a government-managed social protection system. Efforts to establish such a system are discussed in the ‘Institutional Response’ section of this review. A broad description of the socio-economic situation of each group and how it relates to food and nutrition security is discussed in this section. IDPs represent a fifth vulnerable group that experiences a fundamentally different situation than the other four. The constraints on their situation are the result of external conditions such as war, sectarian violence or natural disasters. They are expounded upon in this section in greater detail.

113. **Orphans and Vulnerable Children (OVC):** As of 2010, approximately 17,000 children were living in 217 registered residential care institutions. Ninety-two percent of these children were living in monastic or faith-based institutions.<sup>92</sup> In addition to registered institutions a large number of unregistered private institutions also exist. Although the exact number of children living in unregistered institutions is unknown, it is important to note that many children living in both registered and unregistered

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<sup>92</sup>Ministry of Social Welfare and Relief & Resettlement and UNICEF. Assessment of the Situation of Children in Residential Care Facilities in Myanmar, 2010–2011, Yangon, 2011.

institutions are not orphans.<sup>93</sup> A 2010 study on Registered Residential Care Facilities found that 44% of children in these institutions have both parents alive. A similar study in 2004-05 of 25 institutions caring for children revealed that this trend is more common in private, faith-based institutions. It revealed that 60% of children living in government institutions under the Department of Social Welfare were orphans. This figure dropped to 20% for faith-based institutions.<sup>94</sup>

114. Both studies note a standard misconception, in which parents believe institutions offer children a better environment than disadvantaged households. Consequently, child reunification with the family is not common, nor is it typically the aim of these institutions. This is particularly the case in monastic and other faith-based institutions where it is expected that the children return to their home communities later in life. However, due to long separation from their family and community, many young adults stay in the cities to find jobs or do religious work.

115. With the data available, it is not possible to determine if children living in institutions have better food and nutrition security than they would have if they remained in disadvantaged households; however, it is apparent that food and nutrition security in their current environment is often tenuous. Many of the private and faith-based care institutions rely on donations to operate and they are often underfunded, understaffed and overcrowded. This leads to a poor health environment, which can negatively impact food utilization. Consequently, children within institutions should still be considered a vulnerable group, regardless of whether or not they are orphans. Coordination is needed between the Department of Social Welfare, the Ministry of Social Welfare, Relief and Resettlement, and the

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<sup>93</sup> 'Orphan' is defined as both parents deceased or the child is abandoned.

<sup>94</sup> Ministry of Social Welfare and Relief & Resettlement, UNICEF and Yinthway (2005). A Study of Institutions Caring for Children Deprived of Parental Care. <http://www.myanmarorphanages.com/wp-content/uploads/2012/11/A-Study-of-Institutions-Caring-for-Children-Deprived-of-Parental-Care.pdf>

Department of Public Health to systematically improve the environment of residential care institutions for children in Myanmar.

116. **People Living with HIV/AIDS (PLHIV):** The exact number of PLHIV within a population is difficult to determine not only because there is a negative social stigma attached with being HIV positive, but also because much of the population is not routinely tested. According to UN estimates, there are between 200,000 and 260,000 PLHIV in Myanmar. Forty-seven percent of this population is currently receiving antiretroviral therapy (ART).<sup>95</sup> The number of estimated new HIV infections per year has decreased from a high of 34,000-41,000 new infections in 2000 to 10,000-12,000 new infections in 2015.
117. Stemming the spread of this epidemic has largely been the result of efforts by the MOHS and development partners to increase public knowledge about HIV/AIDS and safe sex practices, promote regular testing amongst at risk groups such as intravenous drug users and provide ART to PLHIV. However, PLHIV are still highly vulnerable in terms of food security and nutrition security. Social stigma attached to their condition can lead to discrimination in employment, thereby limiting livelihood opportunities, incomes and food access. Discrimination can also isolate PLHIV from their family and wider community, which leaves them without many traditional social safety nets. In addition, paying for ART out-of-pocket is a substantial expenditure for PLHIV. This reduces their expenditure for other items and can negatively impact food access. It is imperative that both the government and development partners strive to support PLHIV, in order to improve not only their food and nutrition security but their overall socio-economic status. Programs for the provision of free or subsidized ART are already underway in Myanmar, and

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<sup>95</sup> UNAIDS (2015). Myanmar Country Fact Sheet: HIV and AIDS Estimates. <http://aidsinfo.unaids.org/>

the government has a long-term plan to provide ART free-of-charge on a national scale.

**118. People Living with Disabilities (PLWD):** According to the 2014 Myanmar Census, approximately 4.6% of the total population is disabled. The Census places the disabled into four categories; seeing, hearing, walking and remembering, which account for 54%, 29%, 41%, and 36% of the total disabled population.<sup>96</sup> In addition to congenital disabilities, many PLWD have been the victims of landmines and unexploded ordnances (UXO). Decades of civil war have left Myanmar with a significant amount of landmines and UXOs, particularly along its border with Thailand. To date, limited social protection measures exist for the PLWD in Myanmar. Apart from a handful of specialized government schools, disabled children are left with few if any education options apart from attending regular classes at public schools. Limited cognitive and/or physical abilities paired with a negative social stigma regarding the disabled can severely limit livelihood options and access to food.

**119. The Elderly:** As a country's economy develops, its population undertakes a demographic transition from high fertility rates and low life expectancies to low fertility rates and high life expectancies. Over time this results in a large elderly population relative to the working age population. Myanmar still has a fairly young population, though it has progressed partially through this demographic transition. The fertility rate has dropped substantially in the last 25 years from 3.20 in 1990-95 to 2.25 in 2010-15, and average life expectancy has increased from 60 to 66 over the same period.<sup>97</sup> In, 2010, only 8% of the Myanmar population was over the age

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<sup>96</sup> One individual can suffer from multiple disabilities, hence, the total of the four disability types is higher than the total number of people disabled. It is not clear how or if the Census included the mentally disabled in any of these categories.

<sup>97</sup> All population data and estimates are provided by the UN Department of Economic and Social Affairs: Population Division. They are sourced from two datasets: United Nations (2015). Probabilistic Population Projections based on the World Population Prospects: The 2015 Revision. Population Division, DESA. <http://esa.un.org/unpd/ppp/>

of 60, but this proportion is expected to increase to 19% by 2050 and 28% by 2100 (*ibid*).

120. In traditional Myanmar society, family support systems have been the modus operandi for supporting the elderly. A high level of respect is given to the elderly, and grandparents are revered and cared for within the household. They also play an important role in raising grandchildren when the parents are occupied with work. However, traditional family support systems only affect those within the family. Elderly persons who are not close to or do not have any immediate family members cannot gain the benefits from this system and are left with few alternatives for support. While family support systems will undoubtedly continue to play an important role supporting the elderly in Myanmar, they will begin to weaken over time as the country develops and socio-cultural norms within the immediate family begin to change. In addition, an increasing old-age dependency ratio will put greater strain on traditional family support systems.

121. Effective social protection systems must be established and wide reaching to ensure that the elderly as a population enjoy food and nutrition security and SDG. 2.1 is achieved. To date, the government has established some social protection measures for the elderly, namely a pension program for government civil servants and a cash transfer system for citizens age 90 and over. Although these provisions do promote access to food amongst the elderly, coverage is currently limited and cash transfer amounts are modest. Significant investments will be required to expand and strengthen government social safety measures in order to support the current elderly population and cope with its expansion in the future.

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United Nations, Department of Economic and Social Affairs, Population Division (2015). World Population Prospects: The 2015 Revision. <https://esa.un.org/unpd/wpp/>

\*Median population estimates from the database were used.

## Internally Displaced Persons (IDP)

122. Although IDPs represent only a relatively small proportion of the overall population in Myanmar, they are undoubtedly one of the most vulnerable groups, not only in terms of food and nutrition security but also a variety of other socio-economic factors. Decades of ethnic conflict as well as recent sectarian violence has led to the displacement of hundreds of thousands of people in Myanmar. The main pockets of IDPs are located in the Northeast, West and Southeast of the country. The following section broadly outlines the food and nutrition security situation of these populations, particularly in regard to their livelihood opportunities, freedom of movement and dependence on humanitarian aid.

123. Since June 2011, on-going conflict has resulted in the displacement of roughly 100,000 IDPs in Kachin and Northern Shan State.<sup>98</sup> Approximately 91% live in camps spread across both government and non-government controlled areas. The other 9% live in boarding schools or with host families (*ibid*). According to Rapid Situation Monitoring (RSM) conducted in September 2016 by WFP, 67% of IDP households surveyed<sup>99</sup> did not earn any income in the week preceding the survey due to a lack of job opportunities. The other 33% of households found work as casual laborers and earned between 3,000-150,000 MMK during the week preceding the survey. Qualitative accounts from IDP camps in urban areas reveal that men find work in mines and on construction sites, while women undertake household work as maids. In rural areas livelihood options are more limited. Raising livestock and small-scale farming are practiced in some camps, but production is very limited due to constraints on land and resources. Due to limited livelihood opportunities, food and nutrition security for IDPs is dependent upon their uninterrupted access to either cash transfers or direct food aid. During fieldwork interviewed IDPs stated

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<sup>98</sup> Shelter, NFI, CCCM Cluster Analysis Report Kachin State September 2016. Myanmar Management Information Unit.

<sup>99</sup> A total of 85 households were surveyed in the RSM exercise.



that their two biggest concerns were an escalating conflict and the cessation of food aid.

124. IDP populations are vulnerable to temporary gaps in aid. These can occur when funding windows do not align or when administrative restrictions or complications arise, which limit aid agencies' access to camps. This can lead to delays in operational response to immediate food needs with serious consequences for the food and nutrition security of the camp population. It is imperative that the military, government, INGOs, LNGOs, CSOs and UN Agencies work to resolve this access issue and ensure food aid is restored to this vulnerable population.

125. A significant number of IDPs also exist in post-conflict areas. The majority of armed conflict in Southeast Myanmar ceased when the government and several ethnic armed organizations (EAO) signed bi-lateral ceasefire agreements in 2012. While this has led to greater stability in the area, many IDPs remain. Over the past three decades large number of civilians from non-government controlled 'black areas' were relocated to government-controlled 'white areas'.<sup>100</sup> This left many individuals dispossessed of land and assets, much of which has since been taken by other parties. Consequently, many of the IDPs are not camp-based and are either integrated with existing communities or are establishing new communities. The most recent figures for IDPs come from the Thai Border Consortium's annual survey of 2012, which counted 398,000 IDPs in southeast Myanmar.<sup>101</sup> This figure is currently cited by the Internal Displacement Monitoring Centre (IDMC) as a high-end estimate. It is possible that the actual number could be substantially lower given the cessation of major conflict. Although some resettlement initiatives are

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<sup>100</sup> IDMC (2014). Myanmar: Comprehensive solutions needed for recent and long-term IDPs alike. Internal Displacement Monitoring Centre (IDMC). Norwegian Refugee Council. <http://www.internal-displacement.org/assets/library/Asia/Myanmar/pdf/201407-ap-myanmar-overview-en.pdf>

<sup>101</sup> This number includes IDP figures for Kayah, Kayin, Mon and Southern Shan State as well as Bago and Tanintharyi Region.

underway, it is evident that a significant number of people in the region are still affected by displacement to varying degrees.

126. Sectarian violence is a significant contributor to displacement in Myanmar. Violent conflict erupted between Buddhist and Muslim communities in Rakhine State between June and October 2012.<sup>102</sup> This resulted in the mass displacement of tens of thousands of mostly Muslim households. As of September 2016, there were approximately 120,000 IDPs in 36 camps across Rakhine State. The overwhelming majority of IDPs (97.4%) are referred to as 'Muslims of Rakhine State'. Due to a lack of citizenship, these IDPs lack protection of basic rights and have restrictions placed on freedom of movement.<sup>103</sup> According to the Centre for Diversity and National Harmony, restriction of movement greatly reduces livelihood opportunities as well as access to education and healthcare. This, in turn, has left this population almost entirely dependent on food assistance (*ibid*).

127. For communities displaced or otherwise affected by ethnic conflict or sectarian violence, the most immediate and significant gains in food and nutrition security would come from a cessation of conflict and reconciliation between communities. Greater freedom of movement is also needed for IDP populations in Rakhine State so that they have improved access to livelihood opportunities, education and healthcare. Government and humanitarian aid agencies must also work together to ensure better access of aid agencies to IDP camps in non-government controlled areas, particularly in the Northeast. Doing so will support SDG 2.1 by improving food access amongst IDPs.

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<sup>102</sup> Final Report of the Inquiry Commission on Sectarian Violence in Rakhine State. 8 July 2013, Republic of the Union of Myanmar.

<sup>103</sup> Rakhine State Needs Assessment: Center for Diversity and National Harmony (2015).

### 3. INSTITUTIONAL ENVIRONMENT & RESPONSE

128. The state of food and nutrition security and its underlying causes has been assessed across the dimensions of food availability, access and utilization. The situation of vulnerable groups has also been assessed. It is important to contrast this analysis against the current institutional environment and response. The following section does this by reviewing government laws, policies and institutions as well as development partner activities in the following thematic areas: food availability and access, food utilization, disaster management and vulnerable groups. Response gaps for each area are also identified as well as the potential role of the private sector. This section of the review also assesses the current coordination mechanisms in place for food and nutrition security and how they can best be strengthened.

#### 3.1. Food Availability and Access

##### Government

129. In early 2016 the Ministry of Agriculture and Irrigation merged with the Ministry of Livestock, Fisheries and Rural Development to form the Ministry of Agriculture, Livestock and Irrigation (MoALI). This is the primary ministry responsible for promoting food availability and access in Myanmar. MoALI is currently guided by the Second Short-Term Five Year Agriculture Policy. The document includes five sub-policies covering the following thematic areas: 1) Right of land ownership, production of crops, livestock and fish; 2) Water resources utilization; 3) Investment and procurement of farm machineries and equipment; 4) Research, technology, inputs and human resources; and 5) Natural environment conservation. The MoALI's commitment to food security is directly stated in the policy's goals and is alluded to throughout the document. While all of the sub-policies are relevant to promoting food security in the Myanmar

context, sub-policy 4) ‘research, technology, inputs and human resources’ is most directly in-line with the findings of this report. This sub-policy states the need to “support sector-wide education and extension programs for the farmers, livestock and fishery workers.” It also highlights the importance of access to quality agricultural inputs such as seeds and agrochemicals supported with training and awareness raising on their appropriate use.

130. Other relevant policy documents for the agricultural sector include the Myanmar Rice Sector Development Strategy, the Myanmar Climate-Smart Agriculture (CSA) Strategy and the Agricultural Development Strategy, that is currently being finalised. These documents outline objectives and programs that are in-line with the findings of this study. Implemented, these strategies would greatly improve the food availability and access in the country. The Myanmar Rice Sector Development Strategy spells out the steps needed to modernize the rice sector to simultaneously boost quality and quantity of production and lead to higher incomes for farmers. Inter alia, the Climate Smart Agriculture Strategy cites the need for improved education to farmers on climate smart agricultural practices via an effective agricultural extension system. It also outlines various CSA systems, which could be implemented across Myanmar’s diverse agro-ecological landscape.

131. **Farmland management:** Food access for agricultural households is highly dependent upon their ability to own land. As their primary productive asset, land is required to not only grow food for self-consumption but also earn an adequate income for food purchases. Therefore, a fundamental first step in ensuring food security is establishing a legal framework for land management that protects the rights of citizens to own or use agricultural land. Agricultural land in Myanmar is managed under two laws, the Virgin, Fallow and Vacant Land Management Law (VFVL) (2012) and the Farmland Law (2012). The Farmland Law (2012) establishes a Farmland Management Body at the township level of government, which

is responsible for issuing land use certificates (LUC). Under the 2008 Constitution, all land and resources in Myanmar belong to the Union government; however, the LUC grants an individual the right to cultivate a given area of land. The land can also be sold, traded, exchanged or inherited. In this sense, the Farmland Law allows for the privatization of agricultural land.

132. The VFVL Law was established to improve the efficiency and productivity of land usage. A Myanmar citizen, government ministry or department, NGO, or foreign-domestic joint-venture investors may submit a request to the Central Committee for the Management of Vacant, Virgin and Fallow Lands (CCVFC) for the right to use vacant, fallow and virgin lands for agricultural projects or several of the other purposes as outlined in Section 4 of the Law. If the request is accepted, the CCVFC grants usage rights in the form of a government land lease.<sup>104</sup>

133. These laws have helped to modernize the market for agricultural land in Myanmar. Issuing LUCs to farmers strengthens their rights to land usage. It also allows them to use the land as collateral for loans or sell it if they wish to exit the sector and advance in other livelihood activities. The VFVL Law also recognizes that in many cases farmers may be cultivating VFV-classified land without formal recognition by the government. The law, in conjunction with the Farmland Law, allows for the government to formally recognize their use of the land by reclassifying the land as farmland and issuing LUCs.

134. **Crop Choice:** In addition to land, food security for smallholder farmers is also dependent upon their access to quality agricultural inputs. The proper application of inputs such as quality seed and fertilizer can result in increased yields and increased incomes thereby promoting both food

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<sup>104</sup> The lease can be up to 30 years for perennial crops and livestock, poultry farming and aquaculture but is indefinite for seasonal crops so long as conditions are not breached. Lease duration for other land uses are not specified in the law.

availability and access. Both the fertilizer law (2002) and the Seed Law (2011)<sup>105</sup> address these issues. The Seed Law establishes a certification processes for individuals and businesses to commercially produce certified seed varieties, import and export seed, and operate seed testing laboratories. Similarly, the fertilizer law (2002) establishes procedures for businesses and individuals to obtain a registration certificate for the production, import or export of fertilizer for commercial purposes.

135. In order to maximize agricultural incomes and thereby promote food security at the household level, farmers must have the freedom to grow whatever crops they choose. As with many ASEAN countries, the Myanmar government has traditionally tried to support national food security by prioritizing the mass production of rice. In doing so, the government kept firm control over the rice market. Farmers were required to grow rice quotas, regardless of its profitability. The government also put in place policies that prevented the conversion of rice paddy land to land for other crops. While this led to a rice surplus, it did not provide sufficient incomes to smallholder farmers to ensure their food security. Significant legal reforms have led to a liberalization of the rice market, and the Protecting Rights and Enhancing Economic Welfare of Farmers Law (2013) specifically guarantees farmers' right to grow whatever crops they choose.

### *Gaps and Considerations*

136. **Policy prioritization and training:** The current agricultural policies directly mention government activities that would address the causal factors related to food security identified in this review, namely poor agricultural knowledge and limited or poor quality inputs. However, these activities exist within a wider policy space and are not currently given a high priority relative to other activities. As of 2003, spending on agricultural research in Myanmar equalled 0.07 USD for every 100 USD of agricultural output

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<sup>105</sup> This law was amended in 2015.

compared to an average of 0.41 USD for Asia.<sup>106</sup> In terms of both scope and budget, the MoALI places a high priority on irrigation infrastructure. In the 2013/14 FY over 90% of the Ministry's capital budget was allocated to irrigation. Conversely, the combined capital budgets for the Department of Research and Yezin Agricultural University were 0.004% of the Ministry's total budget that same year. This increased substantially to 4% of the planned capital budget for 2014/15 FY, but remains low in relative terms.<sup>107</sup>

137. The government institution responsible for extension services, the Department of Agriculture (DoA), is currently underfunded. Findings from secondary literature<sup>108</sup> as well as discussions with township and state MOALI officials reveal that staff have limited budget available to visit farmers in the field. In addition, there is a substantial need for in-service training to equip extension officers and field extension workers to better support farmers in a rapidly changing agricultural economy. The existing policies can support a wide-reaching and responsive agricultural extension system that will help farmers boost yields and incomes and adapt to climate change. What is needed is an adequate allocation of funds and technical support to the DoA for this to come about. However, it is important to note that this system must be demand driven, taking into account farmers' crop preferences. To this end a participatory approach is needed where farmers play an active role in the extension education process. They must communicate their needs and desires to extension

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<sup>106</sup> Haggblade, S. Khin Mar Cho, et al (2014). Strategic Choices Shaping Agricultural Performance and Food Security in Myanmar. *Journal of International Affairs*, Vol. 67 No. 2, Columbia University, New York, New York.

<sup>107</sup> OECD (2014), *Multi-dimensional Review of Myanmar: Volume 2. In-depth Analysis and Recommendations*, OECD Development Pathways, OECD Publishing. <http://dx.doi.org/10.1787/9789264220577-en>

<sup>108</sup> Haggblade, S. Khin Mar Cho, et al (2014). Strategic Choices Shaping Agricultural Performance and Food Security in Myanmar. *Journal of International Affairs*, Vol. 67 No. 2, Columbia University, New York, New York.

officers who, in turn, develop education extension programs in line with those needs.

**138. Linking nutrition to agriculture:** Among its many objectives, the Second Short-Term Five Year Agriculture Policy aims “to ensure food and nutrition security and food safety”, but steps towards achieving this goal are not elaborated upon. The document strongly emphasizes food availability and access but does not link this directly to utilization. Improved nutrition is assumed as a by-product of increased yields and farmer incomes. These are pre-requisites for nutrition security but by no means a guarantee. Nutritional considerations must be thoroughly integrated within agricultural policies and programs. This can take many forms depending on the case specific nature of the agricultural system and how it impacts nutrition. One example would be for the MoALI to work with the Department of Health to train agricultural extension workers on nutrition-sensitive agriculture. Farmers should be encouraged to grow a variety of crops, which will support a more diverse diet for both farming households and the wider population.

**139. Farmland management:** SDG 2.3 requires secure and equal access to land for all members of society including vulnerable groups such as women, indigenous people, family farmers and pastoralists. For this to come about, further legal reform is needed to provide a comprehensive legal framework for protecting land rights. Communal land usage is commonly practiced in rural Myanmar, particularly in the upland areas, but the Farmland Law does not currently provide a system for the registration of communal land. Farming on alluvial lands is also commonly practiced, but these lands cannot be registered under the law. The law also does not explicitly provide equal rights for women in the registration and inheritance of land. Without this guarantee the cultural norms for land ownership can significantly limit women’s access to this vital resource. The VFVL law also falls short of protecting smallholder farmers’ land tenure. Many farmers in Myanmar still practice shifting cultivation in which land is



intentionally left fallow for years at a time to allow the soil to regenerate. Without proper recognition of this traditional farming system, lands are vulnerable to expropriation. In addition to the Farmland Law and VFVL Law, the current legal framework for land acquisition is outdated and does not adequately support land rights, namely the Land Acquisition Act (1894). This colonial-era law remains the *modus operandi* for land acquisition for ‘public purposes.’<sup>109</sup> The law does not provide a clear definition of ‘public purpose’ nor does it provide an adequate mechanism for determining just compensation to those dispossessed of their land or fixed assets.

140. Effective land management and achieving SDG 2.3 requires a legal framework which recognizes a plurality of ownership systems and agricultural practices and specifically stipulates equal land rights for women. It also requires safeguards and due process for land acquisition, complete with an exhaustive appeals system and measures for determining just compensation. The National Land Use Policy (NLUP) (2016) addresses all of these issues in an attempt to harmonize existing land legislation. While promising, the NLUP is a strategic policy document, not a law. It is aspirational in nature, outlining rights and mechanisms that should be included in the upcoming National Land Law and related land legislation. In doing so, it sets forth a strategic vision for a more harmonized legal framework for land management.

141. The existing legal framework for land management as well as government agricultural policies also indirectly limit crop choice freedom. Under the Farmland Law, the conversion of paddy land to other cropland is subject to a lengthy administrative approval process through the Farmland Management Body. State-level and Union Parliaments currently have limited opportunities in the policy-making process to report the challenges faced by their constituencies. Their monitoring and oversight should be

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<sup>109</sup> Section 4. Land Acquisition Act (1894). Republic of the Union of Myanmar.

strengthened. Relatedly, the Myanmar Agricultural Development Bank (MADB) under the Ministry of Planning and Finance indirectly incentivizes rice production over that of other crops because it provides farmers with more financing per acre for paddy than for other crops. However, efforts are made by them, the largest provider of agricultural credit in the country, to work towards providing sufficient and equal terms of credit for a variety of crops. MADB recently increased the credit line to rice farmers and for black gram and green gram farmers. This will help farmers to diversify into other cash crops and, thereby promote SDG 2.3's target of doubling agricultural incomes by 2030.

## Development Partners

142. Prior to 2008, development activities by international actors were fairly limited in Myanmar due to economic sanctions and poor relations between the former military government and the international community. This began to change in 2008, when Cyclone Nargis hit the Ayeyarwady Delta, leaving behind unparalleled loss of life and assets. International humanitarian aid came into the country to address the natural disaster, and the government at the time established aid coordinating bodies to manage the influx. After the immediate disaster response it was apparent that more support was needed to help families regain their livelihoods. Consequently, many of the international organizations that came in response to Nargis began to transition from humanitarian aid to development aid. This led to the establishment of the Livelihood and Food Security Trust Fund (LIFT) in 2009,<sup>110</sup> which serves as a mechanism through which donor countries pool funding. UNOPS administers the funds, providing them to implementing partners which include both international and local NGOs.

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<sup>110</sup> Current donors to LIFT include: Australia, Denmark, the European Union, France, Ireland, Italy, Luxembourg, the Netherlands, New Zealand, Sweden, Switzerland, the United Kingdom and the United States of America. The Mitsubishi Corporation is a private sector donor. <http://www.lift-fund.org/>

143. Over time, increased interaction between government and development partners operating under the LIFT umbrella and other initiatives led to improved relationships and a more conducive operating environment. Development projects spread from the delta to include other parts of the country. The installation of a civilian government in 2011 and the easing of economic sanctions led to further increases in aid and the related expansion in development activities. According to the LIFT website, the fund has now reached more than 3.5 million people - approximately 10% of Myanmar's rural population. Multiple development organizations also conduct work outside of the LIFT umbrella.

144. The rapid post-Nargis influx of international assistance has led to a diverse array of development and humanitarian partners in the country undertaking thousands of activities in coordination with the government. The Myanmar Information Management Unit (MIMU) plays a key role in collecting and disseminating information on the nature and location of these activities.<sup>111</sup> As of December 2016, MIMU reported 95,647 activities currently being implemented by 210 organizations.<sup>112</sup> Activities vary widely across 22 sectors and 154 sub-sectors. Many of these sectors relate tangentially to food and nutrition security, but for the sake of brevity, this review will only assess those directly related to food and nutrition security. According to MIMU data, 14,778 agriculture activities are currently under implementation. The coverage map below shows the geographic location of agricultural activities by township. Townships in

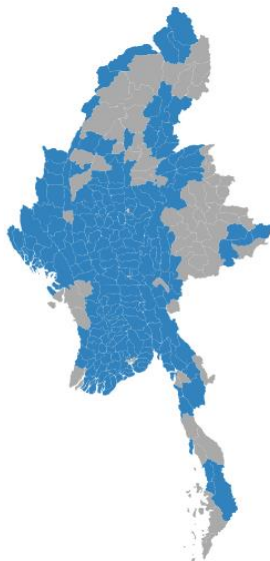
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<sup>111</sup> MIMU was in 2007 established under the management of the UN Resident and Humanitarian Coordinator. It serves as a common data repository for information on development and humanitarian sectors, thereby informing the decision making of government, donors, NGOs and other development partners. <http://www.themimu.info/about-us>

<sup>112</sup> 'Organizations' include: INGOs, NNGOs, CBOs, Border-based Organizations, donors/embassies, UN agencies and Red Cross Agencies. These figures do not include government operations and are not official figures. They are included to provide a general understanding of the numeric and geographic scope of donor activities.

grey do not currently have any agricultural activities under implementation.

### **Map 6: Agricultural Activities by Township**



145. Many of the agricultural activities conducted by development partners are village-based projects. The typical model is to establish or build onto existing village-level institutional structures to manage project implementation within the village. Village-level agricultural projects in Myanmar include farmer field schools, provision of small-scale agricultural equipment, provision of quality seeds and/or seed banks, and livestock and fisheries projects.

146. A meta-evaluation of the effectiveness of agricultural programming by development partners in Myanmar is beyond the scope of this review.

However, it can be said that the modalities for agricultural projects mentioned above have been used in a variety of countries and have shown to positively impact food security when their design and content are contextually appropriate. The effectiveness of these programs is determined in design details rather than the overall modality. A farmer field school can be a useful tool to educate farmers on how to improve yields, but only if farmers are taught techniques that are appropriate to the agro-ecological conditions of their land. Farmers must also be taught how to grow crops that are in demand by local markets and can be grown effectively given the agricultural inputs that are available and cost-effective for the farmer to use. Similarly, providing farmers with agricultural equipment is only helpful if a system for equipment sharing or hiring and maintenance is developed and replacement parts are readily available and easy to install.

### *Gaps and Considerations*

147. **Integration with national plans:** While this review makes no claims as to the impacts or efficacy of particular agricultural projects, findings from the previous section reveal a great need in the country for agricultural education and the provision of quality inputs. This need is most strongly felt in Myanmar's upland areas where food security is most tenuous as indicated by higher rates of poverty, stunting, and under-nutrition. In terms of coordination, many of the agricultural activities operate under the LIFT umbrella. This allows for a common monitoring framework on a program basis. For example, all activities conducted by LIFT's implementing partners in the uplands fall under the common monitoring framework for the LIFT Upland program. This also serves to coordinate activities and goals across sectors such as agriculture and nutrition. While this is beneficial in achieving LIFT's desired program outcomes, integration between donor programming and government activities and policy objectives could be improved. To develop a truly unified,

nationwide approach to addressing food security, government must take the lead role in developing clear goals for food security and agricultural production both at the Union and State/Regional level and require development partner activities to feed directly into them.

### Role of the private sector

148. The recent removal of international sanctions on Myanmar has led to a substantial increase in foreign direct investment and greater integration with the global economy. The agricultural sector stands to gain significantly, having received much attention from both domestic and international investors looking to both modernize and expand it. In this period of rapid change and investment it is important that the government manage private sector involvement with the long-term view of increasing food security. It is important that the groups most food insecure such as smallholder farmers and landless laborers benefit from agricultural modernization rather than being pushed out of the sector or marginalized by commercial agricultural businesses. The current legal framework does not adequately safeguard the land rights of smallholder farmers. Until this framework is improved, the government should be cautious about providing land concessions to large agribusinesses. A gradual, sequenced approach to agricultural modernization is needed. For the time being, owning and cultivating land should be left to the farmers, while large agribusinesses can play a beneficial role in the production of quality agricultural inputs and the processing of outputs.

149. **Seed:** The DoA plays a large role in the seed industry by providing registered rice seed to a network of contract farmers and public-private partnerships known as



Registered Seed Companies (RSC), which grow and multiply the registered seeds. The DoA produced 2,400 mt of registered rice seed in 2011-12, which was grown and multiplied into 15,000 mt of certified rice seed by the RSCs and farmer networks the same year.<sup>16</sup> Despite these efforts it is estimated that improved rice seed accounts for only 10% of the annual national requirement. The rest of the seeds come from what farmers have saved from the previous season.<sup>113</sup> Anecdotal evidence suggests that quality seeds for other varieties of crops are in even shorter supply.

150. The Seed Law (2011) allows private sector actors to undertake commercial seed production; however, the rules and regulations governing its implementation have yet to be approved. More laboratories of an international standard are also needed for seed testing to ensure quality within the industry. It is hoped that the private sector will also play

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<sup>113</sup>Min Aung and Goletti, F 2013, Developing a Competitive Seed Industry in Myanmar, CLMV Project Policy Brief (August 2013).

a role in this regard, as the Seed Law also establishes procedures for the licensing of private sector seed laboratories. The lack of plant variety rights (PVR) in Myanmar poses a challenge to the industry. Private sector companies gain little from developing new genetic varieties of crops if they cannot retain exclusive rights to produce that variety. A Plant Varietal Protection Law has been drafted and, once passed into law will support PVR in Myanmar and hopefully spur private sector investment within the seed industry.

151. **Agrochemicals:** Agrochemical inputs such as fertilizers and pesticides are needed to increase the yields and incomes of smallholder farmers. Myanmar farmers apply only 6.5 kg/ha of chemical fertilizer compared with rates above 100 kg/ha for most other countries in the region.<sup>114</sup> Since 2006-07 the private sector has supplied approximately 90% of the fertilizer in the country, while the remainder has been supplied by government state-owned enterprises.<sup>115</sup> Domestic production of fertilizer remains limited with many companies importing fertilizer from abroad, either through the ports in Yangon or across the Chinese border. At present, organizational structures and procedures for effective monitoring of fertilizer imports are either absent or inadequate.<sup>116</sup> Without proper monitoring, fertilizers can be fake, diluted or contain chemicals that are harmful to both farmers and the natural environment. The packaging of Chinese agrochemicals also poses a challenge. Directions for application are written on the side of the product in Chinese

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<sup>114</sup> Than Tun, Adam Kennedy, and Ulrike Nischan (2015). Promoting Agricultural Growth in Myanmar: A Review of Policies and an Assessment of Knowledge Gaps. Working Paper No. 7.ReSAKSS Asia. Innovation Lab for Food Security Policy. MDRI/CESD.

<sup>115</sup> Hnin Yu Lwin, Theingi Myint, Shwemar Than, Nay Myo Aung, Cho Cho San, Tin Htut 2014 "Role of Fertilizer Policy in Transforming Agriculture of Myanmar" Department of Agricultural Economics, Yezin Agricultural University.

<sup>116</sup> Than Tun, Adam Kennedy, and Ulrike Nischan(2015). Promoting Agricultural Growth in Myanmar: A Review of Policies and an Assessment of Knowledge Gaps. Working Paper No. 7.ReSAKSS Asia. Innovation Lab for Food Security Policy. MDRI/CESD.



language. Without directions in Myanmar language, many farmers are unaware of the appropriate amount to apply, when to apply it or what safety measures to use.

152. Both the health and productivity of farmers in Myanmar are dependent upon improved monitoring and testing of agrochemicals produced both abroad and domestically. As with the seed industry, this will entail significant investment in building new testing facilities and laboratories and upgrading existing ones. These costs need not be entirely borne by the government. Rather, the private sector could play an important role in establishing and operating new laboratories under contractual agreements with and strict oversight from relevant government monitoring bodies. Agro-chemical companies can also educate farmers about the appropriate use of their products to maximize yields and protect farmers' health. This is already being done by some agrochemical companies such as Myanma AWBA, which has its own agricultural extension team of over 1,000 members.<sup>117</sup>

153. **Agricultural Finance:** Despite the dominant role of agriculture in Myanmar's economy, agricultural financing accounts for only 2.5% of all the outstanding formal sector loans in the country.<sup>118</sup> The Farmland Law allows farmers to use their Land Use Certificates as loan collateral, but commercial banks and microfinance institutions have, for the most part, refrained from providing agricultural financing due to limited financial incentives. Myanmar's poor infrastructure leads to higher operational expenses for banks in rural areas. Hence, most formal financial

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<sup>117</sup> Myanma Awba Group: An Overview. (2016) PowerPoint presentation to research team.

<sup>118</sup> Kloeppinger-Todd, R. and T. M. Sandar. 2013. Rural Finance in Myanmar. Myanmar Strategic Agricultural Sector Diagnostic Assessment Background Paper 3. East Lansing, MI: Michigan State University; Yangon, MM; Myanmar Development Resource Institute.

institutions prefer to operate in urban areas.<sup>119</sup> Relatedly, low government interest rate caps on both commercial banks and microfinance institutions make investments in agriculture unprofitable. It is recommended that the government either remove or adjust these interest rate caps upward to incentivize formal financial institutions to provide agricultural credit.

154. Commercial banks can be particularly useful in providing farmers with long-term loans for the purchase of agricultural machinery. The MADB currently provides ‘Term loans’, which can be used for farm machinery and agricultural projects, but this accounts for only 2% of its loan portfolio. The rest consists of seasonal crop production loans.<sup>120</sup> This signals an acute shortage of long-term agricultural financing, which may constrain the uptake of new technologies and agricultural modernization. Ensuring adequate and flexible credit will promote higher incomes for smallholder farmers. This will, in turn, promote food security and bring Myanmar closer to achieving SDG 2.3 of doubling agricultural incomes and productivity by 2030.

## 3.2. Food Utilization

### Government

155. In April 2015 the Ministry of Health and the Ministry of Sports were restructured to form the Ministry of Health and Sports. The MOHS’s long-term strategy is guided by the Myanmar Health Vision (2000-2030), which

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<sup>119</sup> Than Tun, Adam Kennedy, and Ulrike Nischan (2015). Promoting Agricultural Growth in Myanmar: A Review of Policies and an Assessment of Knowledge Gaps. Working Paper No. 7. ReSAKSS Asia. Innovation Lab for Food Security Policy. MDRI/CESD.

<sup>120</sup> De Luna-Martinez and Anantavrasilpa (2014). Myanmar Agricultural Development Bank: Initial Assessment and Restructuring Options. World Bank and Livelihoods and Food Security Trust Fund (LIFT).

aspires toward providing Universal Health Coverage by the year 2030. The National Comprehensive Development Plan–NCDP (Health Sector) (2010-2030) was later drafted and provides strategic guidance and objectives to the MOHS that are integrated with the NCDPs for other sectors and State and Regional Governments. The MOHS also has five-year National Health Plans which fall within the objective framework of the Health Sector NCDP. Its current five-year National Health Plan covers 2017-21. The NCDP sets out the broad vision and goals for the health sector while the five-year National Health Plans provide greater details on programming and implementation. However, it should be recognized that the rapid pace of government reform and restructuring in between and following the drafting of these policy documents may lead to an inherent degree of ambiguity and discontinuity between the different documents.

156. Within the MOHS, nutrition security falls under the purview of the Department of Health, Public Health Division. The National Nutrition Centre (NNC) was established under the DOH with the specific objective of improving nutritional outcomes on a nationwide scale. The Ministry of Health and Sports is also home to the Food and Drug Administration (FDA), which is responsible for ensuring Food Safety in Myanmar. Under the 1997 Food Law<sup>121</sup> the FDA is tasked with enabling the “public to consume food of genuine quality, free from danger, to prevent the public from consuming food that may cause danger or are injurious to health”. The Department has established guidelines and standards for food safety for the production, import, export, storage, distribution and sale of food.
157. Several five-year thematic policy documents exist within the MOHS, which touch tangentially upon nutrition security such as the National Strategic Plan for Newborn and Child Health Development (2015-18), the Strategic Plan for Reproductive Health (2014-18) and the National

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<sup>121</sup> Amendments to the food law have also been made in 2013.

Comprehensive School Health Strategy (2017-2022). The policy documents most relevant to nutrition security include the National Plan of Action for Food and Nutrition (2011/12-2015/16) (NPAFN) and the National Strategy for Infant and Young Child Feeding (2011/12-2015/16). The main goal of the NPAFN is to: “ensure adequate access to and utilization of food that is safe, adequate and well-balanced on a long-term basis in order to enhance the physical and mental development of the people of Myanmar.” The Plan was drafted by the DOH with support from a Technical Working Group, composed of various government ministries, UN agencies, NGOs and CSOs. The document sets forth a systematic approach to address the immediate, underlying and basic causes of malnutrition, and also establishes indicators and targets that include the food system and health environment in their entirety. This wide, systematic approach means that many activities mentioned in the Plan fall outside the purview of the DOH. As such, the Plan rightly notes the current limitations of the existing institutional environment and cites the need for the establishment of a high-level, multi-stakeholder body to see the plan through to fruition (see Coordination Mechanisms section).

158. The Ministry of Education (MOE) also plays an important role in securing improved health and nutrition outcomes by implementing school feeding programs (SFP). School feeding programs are commonly used in developing countries to improve school attendance and increase the nutritional status of children. Several studies have highlighted the effectiveness of SFP in improving the nutritional and health status of participating students.<sup>122</sup> Over the past decade the MOE has been working in partnership with several development partners to implement

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<sup>122</sup> Bundy, D., Burbano, C., Grosh, M., Gelli, A., Jukes, M., and Drake, L., *Rethinking School Feeding: Social Safety Nets, Child Development, and the Education Sector*, 2009, Washington, DC: World Bank/World Food Programme.

Jomaa L.H., McDonnell E., and Probart C., *School Feeding Programs in Developing Countries: Impacts on Children’s Health and Educational Outcomes*. *Nutrition Review*, 2011, 69, 83–98.

SFPs in Myanmar. In terms of policy, the recently developed National Education Strategic Plan includes under component two ‘Support to Inclusive and Compulsory Education’. The National School Feeding Program launched under the Myanmar Social Protection Strategic Plan is being implemented by the MOE. The program receives partial funding from the government budget as well as financial and technical support from WFP and has reached approximately 312,000 children in the 2016-17 school year. The program provides school children with a high energy biscuit (HEB) as a mid-morning snack.<sup>123</sup> The MOE is also working in partnership with the MoALI and several private sector actors on school milk programs, which are currently operating on a relatively small scale. Fieldwork also identified the existence of small SFP across various parts of the country covering only one or a handful of primary schools each. These are run in partnership with the MOE, supported by local benefactors and often organized with the help of the local Parent Teacher Association (PTA).

### *Gaps and Considerations*

159. **Institutional Authority:** The National Plan of Action for Food and Nutrition (NPAFN) provides a holistic view of food and nutrition insecurity and the casual factors behind it. It also identifies project activities to address these causal factors, but implementation will remain a challenge. As previously noted, many of the activities stated in the plan fall outside the purview of the Department of Public Health and will require the support of other ministries and departments, particularly the MoALI. The NPAFN was developed by the Central Board for Food and Nutrition with membership from all relevant ministries and have the authority to ensure participation and coordination by all parties. In the absence of this high-

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<sup>123</sup> Email correspondence with World Food Programme staff: 10 March 2017.

level body in Myanmar, housing the NAPFN under the DOH is a positive step but poses inherent limitations.

160. The recent restructuring of the MOHS has proved a challenge for strategic planning. Some of the aforementioned strategic plans, including the NAPFN are for the previous five-year period but are currently being used. It is important that subsequent versions of these documents are produced for the current five-year period. Indicator targets should also be adjusted to account for both the change in these indicators over the past five years as well as newly available data such as the Demographic and Health Survey 2016 and the upcoming Nutrition stock-taking (2017). It is important that Nutrition is mainstreamed into all Health related policy documents, particularly in regards to health systems strengthening.
161. **Clinical vs Dietary Approach:** Under the existing policy documents, the Department of Public Health implements a number of nutrition interventions. These include nutrition awareness raising and trainings, but there is a particularly strong focus on vitamin supplementation and long-term strategies such as Behaviour Change Communication (BCC), improving proper Infant and Young Children Feeding (IYCF) practices, and implementation of Food Fortification (Fortified Rice). In collaboration with development partners, several nationwide campaigns for vitamin supplementation are conducted. Vitamin A and iron folate acid supplementation amongst PLW and children from 6 to 59 months are the most common. While such interventions are necessary to address the many micronutrient deficiencies affecting a large proportion of the Myanmar population, they should be understood as stop-gap measures. They are addressing the symptoms of micronutrient deficiencies, but they do not address the underlying causes. A gradual shift from a clinical, reactionary approach of vitamin supplementation to a preventative, dietary approach will likely prove to be more sustainable over the long

run. Such a shift would involve more trainings, education and public awareness raising about appropriate diet.

**162. Food Safety Enforcement:** Although the regulatory framework for food safety is sufficient, enforcement remains weak, and food safety in Myanmar remains a challenge for three reasons. First, much of the food in Myanmar is produced by smallholder farmers in the informal sector and then mixed together when it is bought and exchanged between several intermediary private sectors actors, such as rice brokers. If unsafe food is discovered further down the supply chain, it is difficult if not impossible to trace the food back to its exact origin. Second, the responsibility of ensuring the safety of the entire food system is divided between three departments. In addition to the FDA, the Plant Protection Department is responsible for plant health and the Livestock Breeding and Veterinary Department (LBVD) is responsible for animal health. Both these departments exist within the MoALI. Effective coordination between these three departments is needed to prevent risks to public health, and licensing and certification of private sector food producers and distributors must be streamlined between the three departments, lest excessive bureaucratic procedures retard investment in the industry. Third, the FDA, LBVD and PPD lack sufficient laboratories, testing equipment and personnel. According to OECD (2014)<sup>124</sup>, only one internationally accredited government laboratory exists in Myanmar, meaning that much of the food imported into Myanmar does not undergo proper inspection.

**163. Nutrition Education in Public Schools:** Dietary intake for most people in Myanmar is determined more by customary food preferences rather than

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<sup>124</sup> OECD (2014), *Multi-dimensional Review of Myanmar: Volume 2. In-depth Analysis and Recommendations*, OECD Development Pathways, OECD Publishing. <http://dx.doi.org/10.1787/9789264220577-en>

nutritional considerations. DOH nutrition awareness raising campaigns and trainings to target populations are beneficial short-term steps towards promoting a wider understanding of the importance of nutrition. However, it is difficult to change the dietary preferences of the adult population as these are established at a very young age. More people will be informed about nutrition, but not all will change their diet. Raising the nutritional knowledge of an entire country's population and changing their diet at a fundamental level requires a long-term approach in which nutrition education is mainstreamed into the public school system. As the largest provider of public education in Myanmar, the Ministry of Education (MOE) can play a critical role in this regard. Nutrition education is not included in the public school curriculum, but developing nutrition courses at primary and secondary school levels is one of the many goals included in the NPAFN. Supporting initiatives should also be considered such as school gardens and after school nutrition education programs, which include children and their parents.

164. Improved nutritional outcomes on a national scale are also dependent upon having enough technically qualified nutritionists living and working in the country. At present, Myanmar's tertiary institutions offer neither nutrition degrees nor stand-alone nutrition courses. This limits the number of qualified nutritionists and creates bottlenecks in human resources for nutrition related activities by government, development partners and the private sector. The NPAFN calls for the development of nutrition degree programs within tertiary institutions as well as stand-alone nutrition courses. Such programs and courses should be developed jointly by the Ministry of Education and the DOH. Tertiary institutions also exist under other ministries. Yezin Agricultural University (YAU) and the State Agricultural Institutes (SAI) exist under the MoALI and are the only institutions in Myanmar that provide degrees in agriculture. It is imperative that the DOH also work with these institutions to develop courses in nutrition sensitive agriculture. This will help to ensure that



those managing Myanmar's food systems do so through a nutrition-sensitive lens.

- 165. Local sourcing of inputs for school feeding programs:** To date, most of the school feeding programs in Myanmar distribute imported food such as nutrient enriched milk or high energy biscuits (HEB). In the future MOE and development partners should look to source food from inside the country. Doing so will put money back into the local agricultural economy. The program can also be designed to include smallholder farmers and vulnerable groups, thereby providing them with a substantial and sustainable source of income to improve their food security.<sup>125</sup> School feeding programs should also strive to change the dietary behavior of children. HEB and nutrient enriched milk are often difficult to purchase outside of the program and cannot be reproduced in the home kitchen. Although providing them can improve the nutrient intake of children during the course of the program, dietary habits will not change. That means ingredients are affordable, locally available and culturally familiar. Doing so can positively impact not only the current nutritional status of children but also their dietary behavior over the long-term. To strengthen mental and physical health and to improve nutrition for primary school students, the Livestock Breeding and Veterinary Department (LBVD) started a school milk program in 2012 in cooperation with foreign companies (Tetra Pak Co., Nestle Co., CP Meiji Co.), and the Myanmar Livestock Federation. It encouraged local private dairy producers to increase dairy production and dairy industry development in Myanmar.
- 166.** Switching to locally sourced food should be a gradual process undertaken with caution. Participating farmers must be able to consistently provide

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<sup>125</sup> WFP (n.d.) Home-Grown School Feeding: A Framework to Link School Feeding with Local Agricultural Production. WFP

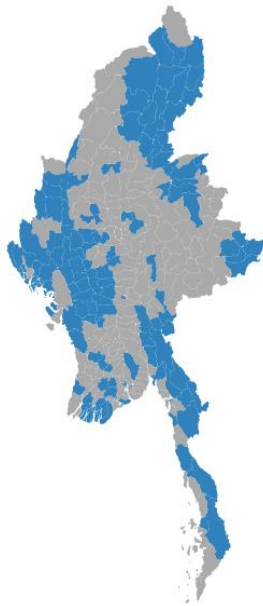
[http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp204291.pdf?\\_ga=1.253229385.157090489.1485748192](http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp204291.pdf?_ga=1.253229385.157090489.1485748192)

the required quality and quantity of food inputs at a reasonable price. This may entail considerable financial and human resource investments in organizing producer groups, providing technical trainings and inputs and establishing quality control measures. While this transition takes place the existing international food pipeline for SFPs should remain intact, while food purchases from domestic farmers increase gradually.

## Development Partners

167. According to MIMU data, development partners currently implement 1,042 nutrition activities and 1,435 Water, Sanitation and Hygiene (WASH) activities in Myanmar. Township coverage maps of these activities are provided below. This review has identified four main modalities through which development partners support nutrition security in Myanmar: Maternal and Child Cash Transfer (MCCT), vitamin supplementation and de-worming, nutrition training and behavior change communication, and school feeding programs. WASH programming generally consists of hygiene training and the establishment of village-level tube wells, ponds, rainwater retention tanks or piped water systems to improve access to potable water.

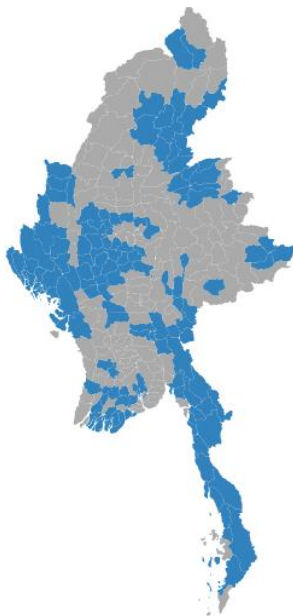
### Map 7: Nutrition Activities by Township (blue)



168. Both school feeding programs and vitamin supplementation/de-worming campaigns are jointly implemented between development partners and government counterparts. In both instances, project inputs are provided by the development partner and distributed through existing government systems. The World Food Programme provides inputs for the vast majority of school feeding programs in the country, reaching approximately 312,000 school children in the 2016-17 school year. If possible SFP should be based on existing food sources within the country. They should provide children with food that is affordable, accessible, seasonal and nutritious in order to positively impact not only the current health of the children but also their dietary behavior in the future. At the moment, most school feeding programs consist of either high energy biscuits (HEB) or nutrient enriched milk, but it is intended that on-site

meal programs will be piloted gradually by the MOE and development partners.<sup>126</sup> Nation-wide vitamin supplementation/de-worming campaigns are jointly conducted by UNICEF and the DOH. According to a UNICEF report, 94% of children under five years old in Myanmar received bi-annual Vitamin A supplementation and de-worming. Iron and Folic Acid supplementation has increased to 83% national coverage (ibid).

**Map 8: Wash Activities by Township (blue)**



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<sup>126</sup> Email correspondence with World Food Programme staff: 10 March 2017.

169. Nutrition training takes on many different forms but it is seldom a stand-alone activity. Rather, it often comes as a part of a larger package of activities addressing Maternal and Child Health. WASH activities are typically included in this package as well. This programmatic bundling of nutrition and WASH activities is consistent with the clear geographic correlation between the two activities in the MIMU activity maps.
170. While trainings in nutrition, IYCF practices and hygiene are essential to securing improved nutritional outcomes, they do not address constraints to food access, namely limited household incomes. Maternal/Child Cash transfer programs address food access for poor families on a temporary basis and are quickly becoming popular amongst development partners. As of 2016, LIFT was providing 14.5 million USD worth of funding to maternal and child cash transfer projects in Myanmar.<sup>127</sup> Cash transfer programs have even been mainstreamed into government policy. The Myanmar National Social Protection Strategic Plan (2014) produced by the Ministry of Social Welfare, Relief and Resettlement envisions a nationwide roll out of maternal cash transfers, though this has not yet come to fruition.<sup>128</sup>

### *Gaps and Considerations*

171. **A holistic view to food systems and food utilization:** While this review will not provide a meta-analysis of nutrition activities by development partners, it is important to note that the modalities used in Myanmar have also been tried and tested in other countries. Bundling nutrition, IYCF, and WASH trainings together with Maternal and Child Cash

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<sup>127</sup> LIFT (n.d.) Policy Notes: Better Nutrition for More Resilient Lives. Livelihood and Food Security Trust Fund. <http://www.lift-fund.org/sites/lift-fund.org/files/uploads/Nutrition%20policy%20note%20EN.pdf>

<sup>128</sup> Myanmar National Social Protection Strategic Plan (2014). Republic of the Union of Myanmar.

Transfers or wider maternal child health initiatives have been proven to have positive cumulative effects in addressing malnutrition. However, the efficacy of these nutrition related activities could be increased if they are integrated into agricultural programs. A conceptual and operational gap exists between food security and nutrition security and few programs in Myanmar by either development partners or government address both simultaneously. Programs that take a holistic view of food systems and food utilization should be promoted. For example, jointly running nutrition sensitive farmer field schools and a maternal and child health package of trainings would generate positive synergies and address food and nutrition security across the whole food system.

**172. Trade-offs between short-term necessity and long-term sustainability:**

As stated previously, vitamin supplementation and de-worming campaigns serve as stop-gap measures to address the immediate effects of malnutrition for large segments of the population. These campaigns are not financially sustainable and should not be understood as long-term solutions. While development partners and the government should continue to provide this vital activity in the short-term, it is important that it does not become a 'crutch' for an inadequate institutional response to nutrition in the long-run. Improved micronutrient indicators due to these campaigns may give false signals to policy makers that malnutrition has been effectively dealt with, but the causal factors still remain. Similarly, vitamin supplementation and de-worming campaigns may allow a government to meet targets for SDG 2.2, but they will have no effect on the food system. SDGs 2.3 and 2.4 will remain unaffected.

### Role of the Private Sector

173. To ensure Myanmar's foods are safe for public consumption both at home and abroad, significant investment must be made in establishing more testing facilities. These costs need not be entirely borne by the

government. Rather, public-private partnerships (PPP) provide a cost-efficient solution. Responsibility for food testing and certification could be undertaken by private sector actors, provided that they do so under the authority and oversight of government counterparts. It is important to note that food safety not only affects local consumers but it also effects Myanmar's export potential for agricultural products and animal products. As noted by OECD (2014), strengthening enforcement of food standards is necessary for Myanmar's exports to meet safety standards of other countries. Doing so will open the doors to new investment in agricultural and livestock production, serving to revitalize and modernize the industry.

### 3.3. Coordination Mechanisms

174. Since the entry of a civilian government in 2011, significant institutional reforms have taken place that have allowed for a more open and progressive relationship with development partners. This has given rise to the recent development of various multi-stakeholder platforms related to different sectors. The Scaling Up Nutrition (SUN) Network was launched by the Government of Myanmar in May 2013. This is part of a larger global movement, which started in 2010 and has since grown to include 58 member countries. The SUN Network's 'Framework for Action' supports governments and development practitioners around the world to form a more consolidated and better organized approach to addressing malnutrition. UN Renewed Efforts Against Child Hunger and Under-nutrition (REACH) has also been active in Myanmar since 2015. UN REACH was originally established as a global initiative in 2008 as an inter-agency partnership in which its members, WFP, FAO, UNICEF, WHO, and IFAD coordinate food and nutrition activities. It was originally designed to consolidate the efforts of UN agencies to achieve the first six Millennium Development Goals (MDG) by ending poverty and extreme hunger. Since 2015, UN REACH continues to play an important coordination role to the

same end, this time under the Sustainable Development Goals (SDG). Coordination between UN REACH and the SUN Network in Myanmar is promoted through a close working relationship between the Government SUN focal point and the UN REACH facilitator.

175. LIFT and its Leveraging Actions to Reduce Malnutrition (LEARN) Project also serves as a coordination mechanism for nutrition related activities. In 2014 LIFT launched the LEARN project in order to provide implementing partners with technical support and guidance on how to best integrate nutrition considerations into project design and implementation.<sup>129</sup> In addition to supporting LIFT implementing partners, LEARN has come to act as a common platform for the promotion and discussion of nutrition related activities. While the SUN Network, UN REACH and LEARN provide valuable coordination amongst government departments, development partners, civil society and other stakeholders, the coordination powers of such arrangements are ultimately limited. Sustained and effective coordination requires the government to take the reins of the food and nutrition security agenda. It is critical that the government of Myanmar establish a clear multi-sector plan to address food and nutrition security.

176. Food and nutrition security is cross-cutting as it is impacted by a wide range of socio-economic sectors falling under the purview of multiple ministries. Issues such as agricultural production, health, infrastructure, education, financial markets, social safety nets, climate change and disaster preparedness all impact food and nutrition security to some degree. From an institutional standpoint, addressing food and nutrition security poses a significant coordination challenge. It requires a unifying, national plan that consolidates and monitors food and nutrition related

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<sup>129</sup> LIFT Nutrition Policy Note



activities across ministries and development partners. Furthermore, the implementation of such a plan requires a high degree of inter-ministerial coordination as well as the establishment of a high-level committee with authority across implementing ministries. It also requires inviting parliaments at Union and State/Regional levels to the discussion.

177. Such a plan and committee do not currently exist in Myanmar; though efforts have been made to this end. A National Committee for Food Security and Nutrition was established under the former government. In early 2016 the current government came into power and shortly thereafter undertook sweeping institutional changes including the merging and restructuring of most government ministries and the dissolution of existing committees, including the National Committee for Food Security and Nutrition. A 'Myanmar National Action Plan for Food and Nutrition Security' was drafted under this committee, but was not enacted before the committee's dissolution. Discussions with both government officials and development practitioners have revealed that there is great interest in creating such a body again and either revising the draft MNAPFNS or drafting a new one. It is imperative that the membership of such a committee be carefully decided and that an appropriate ministry be selected to champion and 'house' the initiative. The MoALI and the MOHS are both potential candidates. Both have long addressed food and nutrition security but each within their own ministry and through their own policies. The Ministry of Planning and Finance provides a third option. As the key ministry for coordination and overall strategic government planning, housing the food and nutrition security agenda in this ministry could promote a more holistic and inclusive approach.
178. In addition to coordinating government operations, such a committee would also be responsible for ensuring that the operations of development partners are directly in line with the objectives and targets

of the National Plan. Since Cyclone Nargis in 2008, overseas development assistance (ODA) and consequently, the number of development projects has increased substantially in Myanmar. To a large extent development partners have managed to coordinate many of their activities to minimize project duplication and overlap. While this has led to improved livelihoods and living conditions for many within the country on a case-by-case basis, development activities have not been strategically selected and leveraged by the government to achieve long-term strategic development goals, let alone food and nutrition security.

179. Amongst many reforms, the Union Government is also undertaking an ambitious decentralization process, with State and Regional governments playing a larger role in passing laws, drafting budgets and oversight of ministry operations. To ensure that any future national-level nutrition plan gains traction on the ground level, state and regional governments must be engaged in the process. A Food and Nutrition Security Committee should be established within each state and region, which reports directly to the Union level committee. State/regional level committees are also necessary to ensure that food and nutrition activities are implemented that are relevant for the local context. Food and nutrition security concerns vary widely across the country, particularly amongst the different agro-ecological zones. Properly addressing them over the long term will require capacity within state/region governments to assess the issues they face, identify appropriate interventions and tie these into the formulation of national level plans. Capacity must be built at the state/regional level as well as the township level to implement food and nutrition related activities as well as gather data and monitor and evaluate results to feed into national level planning.

### 3.4. Disaster Management

180. Myanmar is vulnerable to a wide array of natural disasters and has experienced devastating losses in both human lives and capital assets through floods, cyclones earthquakes and droughts. This, in turn, negatively impacts the food and nutrition security of affected populations. The aftermath of cyclone Nargis in 2008 highlighted the need for a high-level planning and coordination mechanism for disaster management. This gave rise to the National Action Plan for Disaster Risk Reduction in 2009 as well as the drafting of the Disaster Management Law in 2013. The Law provides an institutional structure with which to coordinate disaster management and response. At the top of this structure rests the National Disaster Management Committee. The committee is chaired by the Vice President II, while the Minister of Home Affairs and Minister of Social Welfare, Relief and Resettlement serve as co-chairs. In addition to managing the overall national response to disasters, the Committee is also responsible for developing and managing a Natural Disaster Management Fund. The Law also grants State and Regional governments the authority to form National Disaster Management Bodies as needed.

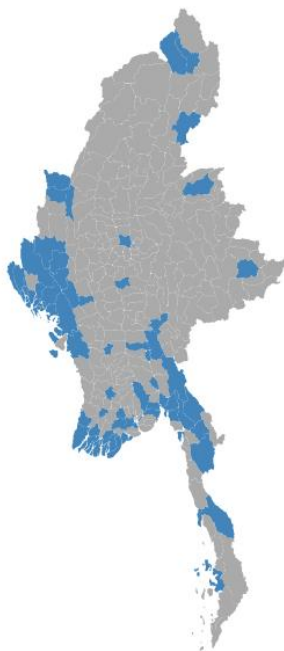
181. Under the 2013 Natural Disaster Management Law and Disaster Management Rules of 2015, all ministries and units are required to prepare disaster management plans to ensure a systematic and effective national response in the event of a natural disaster. The rules have not yet been institutionalized and application of both the law and the rules remains limited.<sup>130</sup> As national level policy around disaster management continues to evolve, development partners are coordinating with the government to strengthen the resilience of local communities through

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<sup>130</sup> Government of Myanmar. 2015. Floods and Landslides Post-Disaster Needs Assessment.

Disaster Risk Reduction (DRR) programming. At present, 1,893 DRR activities are conducted within Myanmar.

**Map 9: DRR Activities by Township (blue)**



182. DRR activities typically entail the establishment of a disaster management committee at the village level. This committee is then tasked with formulating a village disaster management plan in a participatory approach with the rest of the village. The majority of DRR activities in Myanmar are conducted in coastal areas, particularly in the Ayeyarwady Delta in the Southwest. Programming in coastal areas primarily addresses preparation for flooding and cyclone events. Some DRR activities also occur in the upland areas of Myanmar and primarily address flooding and

landslides. Development partners conducting DRR activities established the DRR Working Group in 2008 to coordinate their efforts in the post-Nargis recovery. As of 2013, the Working Group has grown to include 49 member agencies.<sup>131</sup>

### *Gaps and Considerations*

**183. Harnessing the local response:** Significant improvements in disaster management have been made since the landfall of Nargis in 2008, but flooding and landslides triggered by Cyclone Komen from July to September 2015 revealed that coordination in disaster response remains inadequate. Application of the Natural Disaster Management Law remains limited and the rules have yet to be institutionalized.<sup>132</sup> As institutional structures and policies for disaster response continue to evolve, it is important that the Government establish a viable and functioning framework for coordinating support from international donors, domestic aid agencies and grassroots welfare organizations. Recent years illustrate that Myanmar's food system can be disrupted by a range of shocks, including those linked to climate change and economic globalization. Disrupted and broken food systems are early indicators of humanitarian crises, often defining the depth and coverage of the crises, and signalling the locations and sizes of populations requiring assistance.

**184.** Through repeated natural disasters, the people of Myanmar have shown themselves to be extremely resilient, giving, and quick to establish grassroots welfare organizations to respond to disasters. Myanmar is

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<sup>131</sup> DRR Working Group (2013). DRR Working Group Strategic Framework (2013-2018). [http://www.themimu.info/sites/themimu.info/files/documents/Core%20Doc\\_DRR\\_Strategic%20Framework%202013~18\\_DRRWG.pdf](http://www.themimu.info/sites/themimu.info/files/documents/Core%20Doc_DRR_Strategic%20Framework%202013~18_DRRWG.pdf)

<sup>132</sup> World Bank. 2015. *Myanmar - Post-disaster needs assessment of floods and landslides: July - September 2015*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/646661467990966084/Myanmar-Post-disaster-needs-assessment-of-floods-and-landslides-July-September-2015>

currently ranked number one on the World Giving Index (WGI) above the U.S. and other developed countries.<sup>133</sup> Donation is a deeply ingrained social norm within Myanmar that is commonly practiced both in response to natural disasters and as a common everyday event to support poor and vulnerable groups. A recent survey of 1,000 households in eastern-central Myanmar found that contributions to non-state welfare organizations accounted for approximately 8.5% of annual household expenditure. The survey also compared contributions to welfare organizations to formal taxes and found that respondents contributed 2.3 times as much financially to welfare organizations than formal taxes.<sup>134</sup> While not statistically representative for the entire country, the survey points towards the significant role that grassroots welfare associations play. The human and financial resources needed to address disaster response and to support vulnerable groups in Myanmar are onerous in scope, but the Ministry of Social Welfare, Relief and Resettlement (MSWRR) need not shoulder the burden alone. In coordinating the local response, MSWRR could effectively leverage the support that already exists, ensuring that delivery is as efficient as possible and targeted to populations which are most in need.

### 3.5. Vulnerable Groups

#### Internally Displaced Persons

185. Due to on-going ethnic conflict and sectarian violence, Myanmar has a significant number of IDPs within its borders. Providing support to IDPs is the responsibility of the MSWRR; however, the substantial scope of

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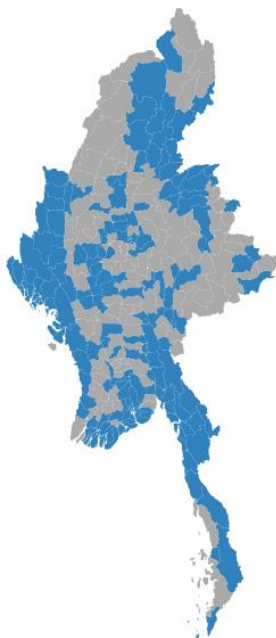
<sup>133</sup> <https://futureworldgiving.org/2016/10/25/2016-world-giving-index-shows-myanmar-is-most-generous-nation/>

<sup>134</sup> McCarthy, Gerard (2015). Building on what's there: Insights on social protection and public goods provision from central-east Myanmar. International Growth Centre. Working Paper: S-53308-MYA-1

needed as well as limited human and financial resources within the ministry means that much of the aid provided to IDPs comes from either international or domestic humanitarian aid agencies under the coordination of the MSWRR. Various kinds of goods and supplies are provided to the IDPs including sanitation kits, shelter kits, potable water, and treated bed nets. Likewise, services such as healthcare are provided by a wide range of aid agencies. This Strategic Review will only discuss food aid in detail, as it is one of the most pressing needs for IDPs and most relevant in regards to food and nutrition security.

186. According to MIMU data, development partners are conducting 2,380 activities involving direct food assistance. The vast majority of food aid in Myanmar is provided by the World Food Programme, under the coordination of government counterparts. WFP also partners with both international and domestic assistance organizations to distribute food aid.

**Map 10: Food Assistance Activities by Township (blue)**



### Other Vulnerable Groups

187. Article 32 of the 2008 Constitution of the Republic of the Union of Myanmar states that “The Union shall...care for mothers and children, orphans, fallen defense services personnel’s children, the aged and the disabled.” To this end the Myanmar National Social Protection Strategic Plan was drafted in 2014 by the Technical Support Group under the MSWRR. The Plan guides the MSWRR and other ministries in establishing a nationwide social protection system. The plan does not cover IDPs or



persons living with HIV/AIDS<sup>135</sup>, but it does contain specific measures to support other vulnerable groups.

188. The Plan aims to provide ‘social protection across the lifecycle’ and sets forth ambitious targets for eight flagship social protection interventions. Flagship interventions include monthly cash transfers of varying amounts to women with young children, the disabled, the unemployed and citizens over the age of 65. It also includes the National School Feeding Program mentioned earlier. The plan provides costs and details for the establishment and scaling up of these flagship interventions to achieve nation-wide coverage.
189. For the time being, government-operated social protection schemes are limited. The flagship interventions mentioned in the plan have not yet come to fruition, though the government has started providing monthly cash transfers to citizens age 90 and above.<sup>136</sup> The government also provides a pension plan for retired civil servants. Unfortunately, limited funding constrains current social protection measures. As of 2014, Myanmar spent less than 0.5% of its GDP<sup>137</sup> on social protection programs and all programs combined covered approximately 5% of the total population.<sup>138</sup> The large majority of spending on social protection can be attributed to the civil service pension scheme (*ibid*).

### *Gaps and Considerations*

190. **Social Safety Net Coverage:** The Myanmar National Social Protection Strategic Plan lays the policy groundwork for establishing an extensive

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<sup>135</sup> The plan does not specify any cash transfer support to people living with HIV/AIDs, but does mention that hospitals will provide them with free antiretroviral treatment under a hospital-based fund to provide healthcare for the poor.

<sup>136</sup> <http://www.mmtimes.com/index.php/national-news/nay-pyi-taw/24599-elderly-pension-payments-to-cont-at-reduced-rate.html>

<sup>137</sup> Myanmar National Social Protection Strategic Plan (2014). Republic of the Union of Myanmar.

<sup>138</sup> World Bank (2015). Building Resilience, Equity and Opportunity in Myanmar: The Role of Social Protection: Strengthening social security provision in Myanmar. World Bank Group Note 7: 97960

social protection system, but pragmatic considerations must be given to budget constraints and the institutional capacities that exist. For the time being, the majority of social safety nets will continue to be provided by development partners as well as informal, welfare groups at the grassroots level. The MSWRR can play an important role in the coordination of these initiatives while the national social protection system gradually evolves and expands over the long-term.

191. **Food Assistance and Cash Transfers:** Humanitarian aid agencies in Myanmar are switching from direct food aid to IDPs to a cash transfer system, often citing greater efficiency and speed in distribution as well as increased dignity and choice for recipients. This is particularly relevant when providing aid in areas that are difficult to access either due to remoteness or government restrictions. Where local food supplies are sufficient, cash transfers can have the added benefit of stimulating the local economy as opposed to importing food from elsewhere. Conversely, cash transfers are not appropriate where the local markets cannot supply a sufficient or stable supply of food. A cash transfer system under such conditions could potentially lead to food shortages and food price inflation in local markets.
  
192. It should also be noted that providing direct food assistance indefinitely is not sustainable, and cash transfers offer a way to gradually phase out humanitarian support and phase in development support. This is most effective when the underlying causes for displacement have subsided, and IDPs have access to resources and livelihood opportunities. This allows them to become more self-reliant as income from their livelihood activities grows to represent a greater proportion of their expenditure over time. From a nutrition standpoint, a cash transfer system also allows IDPs more freedom of choice in determining their own diet.

193. While both modalities have their own benefits and drawbacks it is important for humanitarian aid agencies to carefully consider the effects of switching to a cash transfer system. When considering cash transfer systems, research should be conducted on a camp-by-camp basis to determine livelihood opportunities for IDPs in a given area and the extent to which they can be self-reliant and support their own food expenditure. Efforts should also be made to closely monitor how this switch has affected food and nutrition security within IDP camps, and cash transfer amounts should be reviewed and adjusted on a regular basis to account for food price volatility. WFP conducts market monitoring activities and is adjusting their cash transfer amounts to better reflect market prices and meet sufficient food consumption levels. If cash transfer programs are implemented, aid agencies should also consider providing nutrition training to IDPs. These trainings should teach IDPs the cheapest possible way to prepare well-balanced, healthy meals with locally available products.

## 4. Conclusion

194. **The current situation:** Data on nutrition outcomes indicate that food and nutrition security has improved in Myanmar in recent years. The prevalence of stunting in children under five has decreased and progress has been made in addressing micronutrient deficiencies. Still, food and nutrition security remains tenuous for much of the Myanmar population. The current agricultural system does not provide adequate farm-based incomes to ensure access to food for the smallholder farmers and landless labourers who constitute the majority of the rural population. Natural disasters and climatic shocks are also common in Myanmar and can result in acute, localized food shortages and jeopardize incomes and food access for affected households. Food price inflation and highly volatile prices for staple foods such as rice are also serious concerns. They cyclically undercut food access for both the rural and urban poor alike. As a coping mechanism, financing food purchases with debt has become a common practice. A recent survey found 32% of rural households listed food as their primary reason for debt. While this forestalls immediate hunger, it inhibits asset accumulation and locks many people into a cycle of debt. As it stands, Myanmar has to cover a substantial amount of ground to improve food access and the resiliency of food systems and achieve SDGs 2.1, 2.3 and 2.4.
195. Food utilization is inadequate, and much work is left to be done to achieve SDG 2.2 and end all forms of malnutrition by 2030. The data indicate that much of the poor population do not consume enough protein rich foods like fish or meat. Rather, diets consist heavily of rice for the simple fact that it is relatively cheap. This enables much of the population to 'fill their stomachs'. They do not feel hungry, but without a balanced diet their bodies are not receiving the necessary nutrients to reach their full biological potential for physical and cognitive development. While a

nutritious diet need not be expensive, nutritional knowledge is poor amongst most of the population. Households could benefit from a better understanding of how to combine local ingredients to yield a low-cost, more nutritious diet.

196. Food intake for most people in Myanmar is determined more by customary food preferences than nutritional considerations. While data is limited on the care practices that govern food consumption within the household, it is clear that they are dependent upon deeply ingrained cultural and gender based norms and, anecdotal evidence and indicators for malnutrition suggest that they do not promote nutrition security. Furthermore, data also indicate that much of the population do not follow appropriate infant and young child feeding (IYCF) practices. Approximately half of infants are not exclusively breastfed for the first six months and many are introduced to semi-solid foods too early. This prevents the infant from receiving the necessary nutrients required to reach full cognitive and physical development. Food utilization in Myanmar is further hampered by a poor health environment and inadequate care practices related to hygiene and sanitation. Sanitation is a particularly relevant concern for the urban poor, many of whom live in highly unsanitary conditions in rapidly expanding industrialized areas. The negative impacts of a poor health environment in urban areas is evinced through higher rates of childhood wasting and IDA in urban than in rural areas, despite having a lower rate of poverty.
197. Within the wider population, there are also particular vulnerable groups that cannot reasonably be expected to attain food and nutrition security without sustained support from either government social safety nets or humanitarian aid. The national social protection system is extremely limited both in terms of reach and support services. Vulnerable populations such as OVCs, PLHIVs, PLWDs and the elderly often rely on support from development partners and grassroots welfare organizations

when and where it is available. Myanmar also has a substantial IDP population, which is highly dependent on food assistance, due to limited access to livelihood opportunities and productive assets.

198. **The way forward:** Addressing the aforementioned issues is a daunting task for any government. However, the significant economic and political reforms undertaken in Myanmar have shifted the whole paradigm. Now is a more enabling and crucial time than ever for the government and development partners to jointly address food and nutrition security challenges and achieve SDG 2 and its sub-goals.
199. In order to improve food access amongst the rural population and achieve SDG 2.3, agricultural incomes and farm productivity for small scale farmers must increase. While this review has identified numerous factors affecting agricultural incomes, the biggest gains can be made by ensuring that smallholder farmers and landless agricultural labourers have secure ownership or usage rights to land and access to agricultural inputs including quality seed, agrochemicals and agricultural finance. Farmers also require knowledge of new agricultural techniques and technologies that not only increase yields and diversify agricultural production but also improve resiliency to climatic changes, maintain ecosystems and ultimately achieve SDG 2.3. Doing so will allow farmers to invest surplus income on asset accumulation and education, thereby expanding their economic opportunities in other sectors.
200. Increasing both the resiliency and incomes of smallholder farmers will help support the long-term development of Myanmar's economy as it moves away from an agrarian base towards and industrial one. In this transition, it is important that Myanmar's rural population is not pushed out of the agricultural sector out of economic compulsion to survive.

201. The first step in supporting this long-term transition will be for government to establish a wide-reaching, responsive agricultural extension system. This system should advise farmers what to grow and how to grow it based on the specific agro-ecological conditions of a given area, agricultural inputs available and prevailing market prices for agricultural crops. Ultimately, the system must be guided by the demands of farmers, providing knowledge and technical skills that they find useful and profitable. Agricultural research and extension require substantial investment and should be given greater priority both in terms of funding and focus within the MoALI. A conceptual shift is also required amongst agricultural researchers and extension workers themselves to provide services based on farmer demands.
202. The government can also support increased agricultural incomes and productivity by creating a legal and policy environment which protects smallholder farmers' rights to own land as well as landless laborers' rights to access and cultivate land. The legal system must also recognize a plurality of ownership systems and agricultural practices and specifically stipulate equal land rights for women. While these issues are well addressed in the current NLUP, they must be enshrined in legislation to ensure that their impact is felt. Until the legal system can adequately safeguard land tenure in all its forms, government concessions of land to large scale agri-businesses should be approached with extreme caution. If properly reformed, the legal system can also incentivize healthy and appropriate private sector investment in the agricultural sector, particularly in the production, distribution and testing of quality seed and agrochemicals as well as the extension of agricultural credit.
203. To improve access to food for vulnerable groups and support SDG 2.1, the government should gradually expand and strengthen the existing social protection system over the long-term. Given both capacity and funding constraints in the short-term, the MSWRR should work to coordinate the

activities of both international development partners as well as grassroots welfare organizations to maximize the effectiveness of the existing non-government resources. The government and humanitarian actors should also continue to provide much needed food assistance and cash transfers to internally displaced persons. Livelihood interventions within IDP camps should be promoted and, where possible, the government should improve access of aid agencies to IDP camps in non-government controlled areas, particularly in the Northeast of the country.

204. In order to improve nutrition security and achieve SDG 2.2, the MOHS and development partners should expand coverage of awareness raising campaigns and trainings for nutrition and appropriate IYCF practices. Options for bundling these trainings with hygiene trainings and new-born and maternal health programs should also be encouraged. Further research should be conducted on the cultural and gender-based factors affecting consumption within the household. Doing so will allow for the development of effective nutrition awareness raising and training programs that are culturally appropriate and tailored to local gender dynamics. Increasing the nutritional knowledge of an entire population requires a long-term perspective. The MOHS should work jointly with the Ministry of Education and other relevant Ministries to develop and implement nutrition classes in the public school system at the primary and secondary levels as well as nutrition degrees at the tertiary level. Government and development partners should also continue to operate much needed vitamin supplementation and de-worming campaigns but with a view to gradually shift away from a reactionary, clinical approach to a proactive dietary approach to nutrition. This will ensure sustainability over the long-run.

205. It is important that the interrelated nature of food security and nutrition security is appropriately addressed in the formulation of policy and interventions. In Myanmar, the two topics have traditionally been



addressed in isolation. The MoALI has typically overseen food security, while nutrition security has mainly been viewed as a health issue to be managed under the DOH. A cross-cutting, multi-sectoral approach is needed to address food and nutrition security. This requires the drafting of a unifying, national plan that consolidates and monitors food and nutrition related activities across ministries and development partners. A high-level committee on food and nutrition security should be established with authority across implementing ministries. Such a committee had already been developed, but has since been removed to institutional restructuring within the government. There is significant interest from both government and development partners alike to see the development of a new committee that is appropriately designed to fit the current institutional structure. Over the long-term this holistic approach to addressing food and nutrition security can greatly improve nutritional outcomes in a sustainable way and keep Myanmar on the path to achieving SDG 2.

## 5. Recommendations

206. The analysis and findings of this Review have led to the following set of recommendations, which provide strategic direction to both government and development partners on how to strengthen food and nutrition security in Myanmar and achieve Sustainable Development Goal 2 by 2030. No timeline has been prepared, therefore prioritization is still needed to determine which are the most urgent issues or the easiest to achieve in the short run. The Myanmar government with support from development partners is the best placed to carry out this task.

### Institutional Restructuring and Coordination

1. Establish Food and Nutrition Steering Committee and Working Group according to guidance by the State Counsellor and translate national policies into operational work plans for individual States and Regions.
2. Development partners should invest in research and provide technical assistance on food and nutrition security to new members of the Union and State/Region level committees so that they are knowledgeable about the subject and can draft appropriate policy documents.
3. Establish a national, costed plan for nutrition and food security with prioritized interventions, including high impact interventions targeted to mothers and children during the first 1,000 days of life.
4. Include a Common Results Framework (CRF) in the National Action Plan for Food and Nutrition Security, with clear indicators for national goals. This should be discussed and agreed upon with development partners and aligned with SDG 2.

5. Create a monitoring body that reports directly to the parliament and National Committee on Food and Nutrition Security on the implementation performance of nutrition programs.
6. The government and development partners should work closely together to ensure that agricultural and nutrition interventions are designed to support national strategic policies and objectives for food and nutrition security. This can be promoted through the strengthening of existing platforms such as the SUN Network, UN REACH and FSWG.

## Food Availability and Access

7. Significantly increase funding allocations to both agricultural research and extension services. Links between agricultural research and extension must be strengthened, and the agricultural extension system must not only expand its current reach but also be farmer-demand oriented. This implies substantial retraining of agricultural extension officers. They must be able to advise farmers on agricultural techniques and crop choice, which will maximize both yields and profits in a given agro-ecological environment. At the same time, farmers must also be taught agricultural techniques that are both ecologically sustainable and resilient to climatic shocks.
8. Refrain from promoting rice production in areas where it is not economically feasible. Rather, through a demand-driven agricultural extension system, promote crop diversification where agro-ecological conditions and prevailing market prices make it profitable for farmers. Crop diversification will have the added benefit of lengthening the period in which households have cash available to purchase food and also dampen food price volatility.

9. Expand and improve the quality of Myanmar’s rural road infrastructure to reduce freight costs for agricultural goods and promote better access to markets for rural communities. Improvements in infrastructure and related services should be approached within the context of the broader food systems and with the improvement of these systems in mind.
10. The MADB should consider providing the same terms of credit for a variety of cash crops as they do for rice. This will ensure that rice production is not indirectly incentivized over other crops and farmers can grow what they find to be most profitable.
11. Draft and pass a new land law, which adequately protects the ownership rights of smallholder farmers and recognizes a plurality of ownership systems and land use practices. The law should also specifically provide equal rights for women in the registration and inheritance of land. These points are well covered in the current National Land Use Policy, but must be enshrined in law to truly take effect.
12. Refrain from granting land concessions to large agri-businesses until the legal system can adequately safeguard land tenure in all its forms for smallholder farmers.
13. Thoroughly integrate nutritional considerations in agricultural policies and programs. One example would be for the MoALI to work with the DOH to train agricultural extension workers on nutrition-sensitive agriculture. Farmers should be encouraged to grow a variety of crops, which will support a more diverse diet for both farming households and the wider population. For this, provide the necessary tools to States and Regions to take this nutritious food production planning forward. Such tools may include agro-ecological zoning, crop suitability analysis and rural land-use planning.

14. Strengthen enforcement of regulation over agrochemical trade and production to ensure farmers have access to quality agrochemicals that are safe to use.
15. Establish new testing facilities and internationally certified laboratories for seeds and agrochemicals and food and plant products. Public Private Partnerships should be considered, which allow private sector actors to establish and operate laboratories and testing facilities under the strict oversight from relevant government monitoring bodies.
16. Provide technical support and funding to the Food and Drug Administration so that it has the technical capacity and financial means to enforce food safety standards across the entire food system and in particular food retailers such as restaurants and street food stalls.
17. Either remove or adjust interest rate caps upward to incentivize commercial banks and microcredit institutions to provide agricultural credit.

## Food Utilization

18. In the short-term, continue much needed micronutrient supplementation and de-worming campaigns for PLW and other vulnerable groups. In the long-term nutrition interventions should gradually shift from a reactionary approach of micronutrient supplementation to a preventative, dietary approach. Such a shift would involve more trainings, education and public awareness raising about appropriate diet.
19. Develop and implement a Social Behaviour Change Communication strategy informed by formative research and local evidence, to improve Maternal, Infant and Young Child Feeding practices in Myanmar.

20. Conduct research on the cultural and gender based factors affecting food consumption within the household. Doing so will allow for the development of effective nutrition awareness raising and training programs that are culturally appropriate and tailored to local gender dynamics.
21. Systematic and wide-scale research should be conducted, which unpacks the relationship between household food preparation and nutritional outcomes in Myanmar, with a particular focus on the increasingly common role that processed and ready-made foods are playing in the Myanmar diet.
22. Ensure that Myanmar citizens are better informed about healthy food at household level through country-wide communication and information campaigns and activities targeting children and youth.
23. Leverage mass media such as radio and television to provide education on food safety and personal hygiene.
24. Mainstream nutrition into the curriculum in public primary and secondary schools. Supporting initiatives should also be considered such as school gardens and after school nutrition education programs, which include children and their parents.
25. Establish degree programs in nutrition as well as stand-alone nutrition courses at the tertiary level.
26. Expand coverage of existing school feeding programs. In the future, they should look to source food from inside the country when and where appropriate. Such programs should be designed to include smallholder farmers and vulnerable groups, thereby providing them with a substantial and sustainable source of income to improve their food security.

27. Where appropriate, bundle nutrition, IYCF, and WASH trainings together with Maternal and Child Cash Transfers programs or wider maternal child health initiatives.
28. In order to promote effective food utilization and a sanitary living environment, municipal governments should find practical solutions to provide sufficient public infrastructure, particularly for water provision and waste management. Current infrastructure is not adequate given rapidly expanding urban populations.

## Disaster Management and Vulnerable Groups

29. The Department of Social Welfare, the Ministry of Religious Affairs, and the Department of Public Health should strive to systematically improve the health environment of residential care institutions for children in Myanmar.
30. Government and humanitarian aid agencies should support scaling up social safety nets, which not only protects but helps address food access issues for vulnerable groups, including purchasing power issues, such as the maternal child cash transfers.
31. Government and humanitarian aid agencies should continue to provide funding for direct humanitarian assistance to displaced populations. A gradual shift from dependency toward greater self-reliance should be considered only when these underlying causes have subsided.
32. Government and humanitarian aid agencies must work together to ensure better access to IDP camps in non-government controlled areas, particularly in the Northeast of the country.

33. Government and humanitarian actors should carefully weigh the benefits of both cash transfers and direct food aid modalities and determine which is most appropriate in a given situation. Calculations for cash transfer amounts should take into consideration both existing livelihood options for IDPs as well as food price volatility at the local level.
34. Cash transfer programs to IDPs should be paired with nutrition trainings, which teach IDPs the cheapest possible way to prepare well-balanced, nutritious meals with locally available products.
35. Allow greater freedom of movement of camp-based IDPs so that they have access to healthcare, education and livelihood opportunities. Improved livelihood opportunities will lead to increased and more stable incomes, thereby improving their access to food and lessening their dependence on food aid.



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## Appendix 1: Sustainable Development Goals

### **Goal 2. End hunger, achieve food security and improved nutrition, and promote sustainable agriculture**

2.1 by 2030 end hunger and ensure access by all people, in particular the poor and people in vulnerable situations including infants, to safe, nutritious and sufficient food all year round

2.2 by 2030 end all forms of malnutrition, including achieving by 2025 the internationally agreed targets on stunting and wasting in children under five years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons

2.3 by 2030 double the agricultural productivity and the incomes of small-scale food producers, particularly women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets, and opportunities for value addition and non-farm employment

2.4 by 2030 ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters, and that progressively improve land and soil quality

2.5 by 2020 maintain genetic diversity of seeds, cultivated plants, farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at national, regional and international levels, and ensure access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge as internationally agreed.

## Appendix 2: Significant Surveys for Food and Nutrition Security in Myanmar

**Demographic Health Survey (DHS) 2015-16:** The DHS is a nationally representative survey. The sample included of 13,260 households over Myanmar's 14 States and Regions and 1 Union Territory. A master sample was developed with support of the Department of Population, based on the census frame. The DHS was implemented by the Ministry of Sports and Health with financial support from USAID, 3MDG and technical support from ICF International.

**Integrated Household Living Conditions Assessment (IHCLA) 2005 and 2009-10:** Both IHCLA I and II consisted of a nationally representative sample of 18,660 households across all States and Regions in Myanmar. IHCLA II followed the same format and methodology as IHCLA I to ensure comparable data. Both were conducted by the Ministry of National Planning and Economic Development (Planning Department) with support from UNDP. The datasets for these surveys are not publically available, but key figures which are cited in this Review can be found in the IHCLA Poverty Profile Report (2011).

**Multiple Indicator Cluster Survey (MICS) 1997, 2000, 2003 and 2009-10:** Throughout its four editions, this nationally representative survey has maintained the same methodology and approximately the same format to ensure comparable data. The most recent edition (2009-10) consisted of a 29,238 household sample. The survey was conducted by the Planning Department and Department of Health with the support of UNICEF.

**LIFT Survey 2011 and 2013:** The Livelihoods and Food Security Trust Fund conducted a baseline survey in 2011 covering 252 villages. This was followed two years later by another survey covering 200 villages. Sample villages include project villages in which LIFT implementing partners operate livelihood projects as well as control villages. Although this survey is not nationally

representative, it is broadly indicative of the livelihood situations across the country, particularly as they relate to the three agro-ecological zones; the coastal/delta zone, the dry zone, and the hilly zone. The surveys cover only rural populations.

**Food Security and Poverty Estimation Surveys (FSPES):** These are a series of four surveys that have been integrated into one national representative sample and database. Collectively, the surveys cover rural populations in all 14 of Myanmar's States and Regions and 278 out of Myanmar's 287 rural townships. The surveys combined sample is 13,200 households across 1100 sample villages. Surveys were implemented by the Department of Rural Development with the support of WFP. The surveys took place between June 2013 and August 2015. The surveys cover only rural populations.

**Technical Survey on Urban Poverty (2015):** In 2015, Save the Children in partnership with the Yangon City Development Committee (YCDC) conducted a technical survey on urban poverty covering 300 households across three townships. The survey used 'purposive' sampling in which poor households were targeted. This was done by targeting poor townships in Yangon and, with the help of local officials, identify pockets of poverty in those townships.



