



FFTC Agricultural Policy Platform (FFTC-AP)

Available online at: <http://ap.ffc.agnet.org/index.php>

Policy Note on Integration of Neglected and Underutilized Species in Nutrition Security Agenda of Myanmar

Cho Cho San
Program Officer, Department of Planning
Ministry of Agriculture, Livestock and Irrigation

MALNUTRITION STATUS OF MYANMAR

In the 2018 Global Hunger Index¹, Myanmar stands at rank 68th out of 119 qualifying countries. With a score of 20.1, Myanmar suffers from a level of hunger that is serious although its score improved from 44.4 in 2000 to 20.1 in 2018. Global Hunger Index for Myanmar is determined by 4 indicators in 2016-2017- proportion of undernourished in the population (10.5%), prevalence of wasting in children under five year (7.0%), prevalence of stunting in children under 5 years (29.2%), under-five mortality rate (5.1%). These four are also the indicators of malnutrition while stunting is an indication of chronic undernutrition and wasting is an indication of acute malnutrition.

Myanmar Demographic and Health Survey (MDHS, 2015-16)² suggested that 29% of children under five are stunted or too short for their age. Stunting is more common in rural areas (32%) than urban areas (20%) and ranges from 20% in Yangon Region to 41% in Chin State. It was found that stunting decreases with mother's education and household wealth. Seven percent of children under five are wasted. Almost 19% of children under five are underweight or too thin for their age. Only 1% of children under five are overweight. Most children in Myanmar are mildly or moderately anemic (31% and 26%, respectively). Anemia is common in all regions states and at all levels of education and wealth.

In case of woman nutrition status, MDHS indicated that 16% of women ages 15-49 are thin, and 25% are overweight or obese. Obesity in women is more common in urban areas (33%) than in rural areas (21%) and increases with household wealth: only 15% of women in the poorest households are overweight or obese compared with 35% of women from the wealthiest households. Just under half (47%) of women age 15-49 are anemic; most of these women have mild anemia. Pregnant women are more likely than non-pregnant women to be anemic (57% versus 46%).

The high rates of under-nutrition in Myanmar are the consequence of chronic food and livelihood insecurity, under-investment in rural development, poor health and public infrastructure, poor hygiene, inadequate care practices, remoteness and extreme weather events.

FOOD CONSUMPTION AND FOOD BALANCE SHEET

Malnutrition (undernutrition) is caused by a lack of nutrients in diet, either due to a poor diet or having problems for absorbing nutrients from food. Malnutrition is a serious condition when a person's or household diet doesn't contain

¹ <https://www.globalhungerindex.org/myanmar.html>

² The 2015-16 Myanmar Demographic and Health Survey (2015-16 MDHS) was implemented by the Ministry of Health and Sports of the Republic of the Union of Myanmar.

the right amount of nutrients. Household consumption pattern and food balance determine the overall incidence of malnutrition status at national level.

Myanmar is largely self-sufficient in meeting basic food needs at the national level, with surplus production of rice, pulses and fish. Among cereal crops, rice is the major crop and continuous efforts are being made not only to meet the amount required for domestic consumption but also for export purposes. According to the Economist Intelligence Unit's 2017³ Global Food Security Index, Myanmar stands at rank 80 for overall score and ranks 71 for quality and safety among 113 countries. Food security is not only the availability of food, but also the accessibility and utilization of food at all times, as well as sustainability of the diversify nutrition sensitive production system.

Although custom composition of food plate may differ due to preference of people, agro ecological condition and ethnicity in different states and region across the country, main food items in daily standard meal are rice, edible oil, meat or fish, and pulses. Rice is the main staple food in Myanmar. Rice consumption is still high although per capita rice consumption in kilograms is declining over time. According to the "Per Capita Consumption and Ratio of Rice Cost in Household Expenditure in Myanmar, 2016" survey, per capita rice consumption in urban areas (180 kg/year) is lower than that in rural areas (200 kg/year) in Myanmar and it is still the highest in Asia (USDA, 2015) , and above the recommended daily intake.

According to FAO Food Security Data, the average dietary energy supply adequacy in Myanmar is 109% (2012-2014), indicating that the country's food supply is adequate in terms of total calories. In addition, per capita annual vegetable consumption in Myanmar was 83.0 kg in 2013 which is much lower than neighboring countries such as China (328 kg per Capita), 77.5 kg in India, 131 kg in Laos and higher than Thailand 49.4 kg. Annual fruit consumption per capita reached 23.3 kg which make Myanmar to be ranked 75th within the group of 160 countries in terms of fruit consumption per capita. Fish is major source of protein in Myanmar. The same data source showed that fish consumption per capita was 52.3 kg in 2013 which is higher than neighboring countries and Myanmar has been ranked 10th within the group of 160 countries in terms of fish consumption per capita.

Although, these aggregated figures on the measurement of food balance sheet data, provide an overview of the status of food supply in the country. Food security is not only the availability of food, but also the accessibility and utilization of food at all times, as well as sustainability of the diversify nutrition sensitive production system.

FOOD POVERTY INCIDENCE AND FOOD EXPENDITURES

Some households live under conditions of chronic or seasonal food poverty. Other households are pushed into food poverty because of changes in area food availability and/or in their own ability to secure entitlement to food.

In term of food poverty, 10% of the population of Myanmar are food poor, meaning that their total consumption expenditures are not considered sufficient to cover their food needs. This measure of poverty captures a form of extreme deprivation, where even the most basic of food needs are not being met. Rates of food poverty are substantially higher in rural areas than in urban, with 12.5% of the rural population suffering from food poverty compared to 2.7% of the urban population. Food poverty rates are considerably higher in Hills and Mountains and Coastal areas, consistent also with their higher rankings in the poverty gap and poverty severity measures for both food and total poverty.

Despite a lower share of the population living in Dry zone and Delta areas and they account for 47% of the food poor and 38% of those in the bottom quintile of the expenditure distribution. In the Coastal and Hills and Mountains areas of Myanmar, it was estimated that 1 in 6 still struggle to meet their basic food needs.

Food expenditure dominates the total expenditures of the majority of households in Myanmar. The consumption basket of the majority of the population is dominated by survival items—food and basic non-food necessities. In rural area, food expenditure account for 64% of total household expenditure while urban households spend 46%. Geographically, food expenditure is higher in Delta and coastal are at 60% and 63% respectively, and it is less in hilly& mountains and dry zone at 59% and 56%.

Food consumption behavior determines nutritional adequacy and overall health of the population of a country. Food expenditure is the percentage of expenditure that a household allocates on a particular food category out of its total consumption expenditure. Food expenditure goes a long way in identifying and addressing the needs of vulnerable groups and reducing the prevalence of food insecurity in the country.

³ The baseline Global Food Security Index (GFSI) considers the core issues of food affordability, availability, and quality and safety in 113 countries.

Expenditure for rice, oils and fats in poor households is much higher than that in richer households. Poor households spend on average 538 kyat⁴ per day per adult equivalent on food, compared to 1814 kyat among rich household of the expenditure distribution. The survey stated that share of spending from rice and pulses drops as the food expenditure distribution become higher, while the share of expenditure devoted to more protein and fat intensive foods, such as fish, meat, dairy and eggs, rises. Richer household spend an average of 15% of their total food expenditure on rice, while poor household spend 35%. On average, richer households spend ⁴ times as much per day on meat, diary, eggs, fish, vegetables and fruits.

Self-produced food is also important to fulfil the dietary needs of households in Myanmar. According to the poverty profile by World Bank, 2017, although consumption of self-produced rice, fruits, vegetables and cereals is common, its share is relatively low, suggesting that households are engaging with markets and thereby benefiting from greater dietary diversity than they themselves are able to produce.

The share of consumption expenditures coming from self-production of foods or in-kind transfers is relatively low on average: 12% of total food expenditures come from self-production while 3% come from in-kind transfers. The highest consumption of self-produced food comes from rice and among agricultural households. Agricultural households, the rural poor and those with less access to markets are more likely to consume their own production. The share of food expenditures from self-production is predictably higher in rural areas (16 %) than in urban areas.

MOVEMENT FOR NUTRITION SECURITY AND INTEGRATION OF NEGLECTED AND UNDER UTILIZED CROPS SPECIES

Improving nutrition was recognized as the lifeblood of Myanmar new generation and also part of country's development program. Addressing malnutrition in all its forms requires integrated actions across sectors, including complementary interventions in agriculture and food systems, public health, natural resources and forestry, trade and commerce, environment and education. Moreover, it is imperative that nutrition considerations be explicitly integrated into national agricultural and food system policies, strategies and actions plans, and translated into nutrition-friendly programs and projects; and nutrition-sensitive investment planning becomes imperative. Good governance characterized by political leadership and a shared vision of food and nutrition security for all is also needed. Specifically, there is a need for tackling the underlying multi-dimensional constraints, including policy, regulatory, institutional and technical barriers and to create an enabling environment to strengthen linkages between production, consumption and nutrition, to eradicate malnutrition.

The government has identified food and nutrition as a priority and has set about tackling this challenge. Myanmar joined UN Zero Hunger Challenge in 2014 and afterward there is considerable movement within government to work towards developing a national food and nutrition security action plan and achieve Sustainable Development Goal (SDG) 2 and end hunger, specifically to "end hunger, achieve food security and improved nutrition, and promote sustainable agriculture" by 2030.

To address high prevalence of malnutrition and food poverty incidence through nutrition-sensitive agriculture interventions, it needs a food system approach to promote dietary diversity and production diversity, on the one hand; and it needs to recognize value of agrobiodiversity that has high nutritious value, strong climate resilience and income generation potential, which would contribute to increasing food availability, affordability and stability to a greater extend.

Neglected and Underutilized Plant Species (NUS) offer tremendous opportunities for fighting poverty, hunger and malnutrition. Historically, underutilized plants have often been used for food and other uses on a large scale, and in some countries are still very common especially among small or marginal farmers in the rural areas. They have multiple values: their nutritional value is high, and they are often an essential source of vitamins, micronutrients and protein and thus help to attain nutritional security. As vegetables, they can have considerable commercial value and therefore contribute to increasing household income. Because they are frequently adapted to marginal conditions, underutilized crops can make production systems more sustainable and climate-resilient. Wider use of today's underutilized minor crops provides options to build temporal and spatial heterogeneity into cropping systems and will enhance resilience to both biotic and abiotic stress.

NUS are mostly wild or semi-domesticated species adapted to local environments. These traditional foods were in use for centuries but increasingly became forgotten when more productive (or profitable, or prestigious, or

⁴ MOPF and World Bank (2017 b) all values are spatially deflated and in January 2015 kyat at 1025K=US\$1 on January 1st 2015).

easier to process) crops replaced them in the farming systems. NUS can be named as Future Smart Food when they are nutritionally dense, climate resilient, economically viable, and locally available or adaptable (FAO, 2018).

Myanmar is located at the convergence of four major floristic regions: the Indian, Malesian (Sundaic), Sino-Himalayan and Indochinese. With the wide variation in latitude, altitude and climate, Myanmar supports a high diversity of habitats, and is extremely rich in plant species. More than 18,000 plant species have been recorded in Myanmar. Some underutilized varieties of staple foods play an important role in many traditional diets, but may not be widely known or commercially grown. NUS are often high in micronutrients and found among diverse food groups, including cereals (e.g. millets), roots and tubers (elephant foot yam), legumes (lablab bean), nuts and seeds (linseed), fruits (*amla*) and vegetables (drumstick). Among them, some plants and crop species in Myanmar have their value in cultural aspect (e.g. Namathalay Rice (*Oryza sativa L.*)) in Myanmar. More than 100 species of crops and their wild relatives are being conserved in Myanmar Seed Bank, where, 7729 of rice varieties, 180 legume species, 1577 other cereals, 2222 oil seeds and other edible species of 107.

The lack of market, low profit, unclear price regulation policy for NUS crops, and lack of technology on post-harvest, which eventually resulted to low productivity affects the farmers' decision to grow NUS crops.

POLICY FRAMEWORK AND WAY FORWARD

The government of Myanmar has been formulating and implementing policies, and supportive laws and regulations for food and nutrition security by means of increase production, diversification and poverty alleviation as well. However, most of policies are commodity specific mainly for staple crops and policy for diversification were not clear. The responsible government agencies lack initiatives to explore innovative technologies and invest on researches to improve NUS production and yield. And also only a few people are aware about the concept and values of NUS. For reducing hunger and malnutrition towards 2030, policy priority should include strategies to promote food and agriculture more nutrition-sensitive and climate-resilient. Neglected and underutilized species can be as entry points for addressing malnutrition from a food system perspective.

The utmost objective of the recent Agricultural Policy (2016) is to improve food security and safety and balance diet intake during the period of the second five-year plan. The policy strengthen Agricultural development to create enabling environment to contributes to food and nutrition security through different channels including nutrition behavioural change communication, initiatives such as home economics and backyard gardening, and agricultural diversification and increasing rural household income. The importance of underutilized plant species as valuable and rare genetic resources needs to be emphasized, as well as their value in sustainable agricultural development and in the local economy. The concept of conservation of underutilized species should be incorporated in agricultural policies so as to encourage people in remote areas to conserve the underutilized plant species, popularize traditional knowledge and improve people's knowledge of the value (medicinal, cosmetic, nutritional, cultural) of such species and their cultivation techniques.

The recently launched Agricultural Development Strategy (2018) pointed out that agricultural diversification can offer enormous opportunities for addressing hunger and malnutrition especially in the context of climate change. Diversification is an effective means of closing the production and nutrition gaps. Food and Nutrition was highlighted in the ADS, to be achieved through different channels including increasing farm and rural household income; nutrition behavioral change communication, initiatives such as backyard gardening, and agricultural diversification. Promotion of NUS can be one important option to integrate in agricultural diversification program.

Multi-sectoral National Plan of Action on Nutrition (MS-NPAN, 2018) is to reduce all forms of malnutrition in mothers, children and adolescent girls with the expectation that this will lead to healthier and more productive lives that contribute to the overall economic and social aspirations of the country. Objective for agriculture sector's contribution to nutrition as articulated in MS-NPAN was to ensure regular access and consumption of safe and diverse foods for the entire population. This will be achieved through 3 outcomes:

- Increased availability of nutrient-rich food products at market and household level (Diversification Pathway);
- Increased access to diversified diets through improved incomes (Income Pathway);
- Improved safety along the food supply and value chain to enhance access to safe food, and improved access to potable water (Safety and WASH Pathway).

In this case, promotion of NUS should be integrated in the action plans of MS-NPAN as they have the potential to play a number of roles in the improvement of food and nutrition diversity, for income generation especially for rural poor, to substitute for limited production of major crops and as the opportunity of more safe

foods when NUS can be grown with the lowest input. However, it is indispensable to create enabling environment that supports for NUS initiation in nutrition agenda to address the gap and challenges along the value chain of NUS. The converged actions can be enhancement of investment in researches on NUS, involvement of key stakeholders from different level, promote value-added NUS products and upgrade market, create a supportive policy environment. Policies are the foundation in identifying and strengthening the initiatives on mainstreaming and commercializing NUS. Allocation of budget would also be allotted for these crops. Developing appropriate policies that would encourage local market and expansion to national and international market. Inclusion of NUS to the policies on rural development and extension could boost adaptation to climate change and other stressors.

CONCLUSION

Malnutrition and food insecurity is still remaining in different agro-ecological zones of Myanmar despite overall food security data shows sufficient condition. NUS are healthier foods which could enrich diets. Only if these crops, particularly those locally available and culturally acceptable, would adequately researched, marketed, and utilized, it could help in curbing food insecurity and nutrient deficiency through improving diets with too much refined carbohydrates and fats. The government, researchers, and value chain actors have roles to play in conserving, promoting, and using NUS and make a significant difference to household's economy and livelihood and combat poverty, hunger, and malnutrition. The role of policymakers is also critical in making the promotion and utilization of NUS to address malnutrition issue of the country.

REFERENCES

- IFPRI, 2017. Global Hunger Index, The Inequalities Of Hunger, 2017.
- Integrated Household Living Conditions Assessment (IHLCA). 2011. Integrated Household Living Conditions Survey 2009-10 Myanmar: Poverty Profile. Yangon: United Nations Development Programme.
- Ministry of Agriculture, Livestock and Irrigation, 2016. Agricultural Policy (2016)
- Ministry of Agriculture, Livestock and Irrigation, The Agriculture Development Strategy (ADS) and Investment Plan (IP), 2017
- Ministry of Health and Sport. 2019. Multi-sectoral National Plan of Action on Nutrition (MS-NPAN) 2018/19 – 2022/23, COSTED ACTION PLAN, 2019
- The National Plan of Action for Food and Nutrition-NPAFN (updated 2011-2015)
[https://www.wfp.org/sites/default/files/NPAFN%20-%20National%20Plan%20of%20Action%20for%20Food%20and%20Nutrition%20\(2011-2015\).pdf](https://www.wfp.org/sites/default/files/NPAFN%20-%20National%20Plan%20of%20Action%20for%20Food%20and%20Nutrition%20(2011-2015).pdf)

Date submitted: August 10, 2019

Reviewed, edited and uploaded: September 20, 2019