

Scenario and Policy of Decent Nutrition and Food Security in the Post-Covid-19 in Nepal

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Abstract

The Covid-19 has drawn a new debate on the issue of food security and nutrition. The literature suggests a positive relationship between food security and nutrition. For low-income countries, access to nutritious food has been challenging. Literature reveals that Nepal faces poor food security and nutrition for decades and this issue has been more surfaced after the Covid-19. This paper explores the prospect of food security along with nutrition based on secondary data and reviews. Food security has been associated with the production, stock, access, and utilization. The utilization normally refers to the use of varieties of nutrition for the human body that is related to the immunity system. Agriculture is the prime occupation of the country as the two-third population depends on agriculture for livelihood. However, the subsistence form of agriculture has been dominated. Due to the lack of agricultural production, Nepal faces poor nutrition and faces mal-nutrition problems. Many of the districts in the western and far-western hilly regions of the country have been faced with food scarcity and malnutrition has become a common phenomenon. Moreover, Covid 19 has further highlighted the issue of food security and nutrition. As the Covid-19 is related to immunity power and its association is with nutritious food is crucial. The policy of the government has prioritized from grass root level to eliminate hunger and malnutrition though there are still challenges.

Introduction

Nepal is an agricultural country as 65 % of the population depends upon agriculture for livelihood (MoALD, 2020). Nepal ranked 5th position in exporting paddy in 1965, now it ranks in 16th position in rice production (Statista, 2020). However, in Nepal, agricultural production getting lower and food security incidence getting higher. The average food security in Nepal represents 48 % yearly. Nonetheless, there is a little improving situation in food insecurity as it decreases from 16% to 11% at the household level (NDHS, 2016). Poverty, inadequate agricultural technology, and financial constraints are the major impacting factors associating with food security.

Food security includes production, stock, access, and utilization. The utilization is related to the use of varieties of nutrition for the human body that is related to the health and immunity system. Globally, 11% of the total population has been suffered from undernutrition. The Sub-Saharan region of Africa covers high malnutrition as it stands for 15 percent of the total world coverage (UN, 2019), though there still have food security issues despite the improving situation. As of FAO (2020), South-Asia (SAARC) has high undernourishment numbers in Asia as it stands for 22 percent of the total world population, whereas the growth rate is 1.3 and the issue of food security is a concerning issue. Table 1 shows that Afghanistan has the highest prevalence of undernourishment and food insecurity situations and Sri Lanka has the lowest one. According to the Zero Hunger report of the United Nations Food and Agriculture

(UNFA), there are 1 hunger people in 9 (ZHCNAP, 2016). And acute hunger is still becoming a challenge; more than 124 million people have been facing hunger reported in 2018.

Table 1: Prevalence of Food Security and Undernourishment in South Asia, 2017-19

Countries	Prevalence of Undernourishment in the total population, %	Prevalence of Severe Food insecurity in the total population, %
Afghanistan	29.9	22.7
Bangladesh	13	10.6
Bhutan	n.a.	n.a.
India	14	
Nepal	6.1	10.3
Pakistan	12.3	
Sri Lanka	7.6	

Source: FAO, IFAD, UNICEF, WFP and WHO, 2020

In the context of Nepal, health problems due to nutritional deficiencies have highly existed. The nutritional status of mothers and children under five is extremely poor in Nepal (FAO, 2018). Nepal faces low agricultural production and many districts have been faced with food insufficiency. Malnutrition is a common problem in Nepal. It includes fetal growth restriction, stunting, wasting, and deficiencies of vitamin 'A' and 'zinc' along with sub-optimal breastfeeding. According to the World Bank, the prevalence of low birth weight is in Nepal is 21.8 in 2015 while it is found 32% in Sri Lanka among the mothers who were unable to read and write (SLDHS, 2016).

Presently Covid 19 hit hard the developing and low developed countries like Nepal in terms of food nutrition and insecurity. The immunity power has largely been associated with Covid-19. Gundersen (2015) mentioned that there is a relationship between food insecurity and health; the birth defects, anemia, cognitive problem, aggression and anxiety, higher risk of unwanted and unplanned hospitalization because of poor general health, asthma, behavioral problem, depression, suicide ideation, and worse oral health are related to undernutrition. Covid-19 highlighted to rethink about the food security and nutrition situation (FAO, IFAD, UNICEF, WFP and WHO, 2020). The vulnerable people are likely to be disadvantaged further due to the pandemic's socio-economic impacts. The restriction measure exacerbated the food security issue. Nepal has been affected by multiple natural hazards and it resulting in food insufficiency to some extent. Therefore, the issue of food security and nutrition is the major issue for Nepal and needs to give more attention. The policy of the government has prioritized from grass root level to eliminate hunger and malnutrition by 2030, though there are still challenges. This study attempts to assess the food security and nutrition condition using secondary data and reviews of literature.

Literature Review

According to the World Food Summit (1996) food security is defined that “it exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that means their dietary needs and food preferences for an active and healthy life” (FAO, 2006). Similarly, According to Singh & Ram, (2014), food security is correlated with undernutrition as stunting, wasting, low birth weight, anemia, exclusive breastfeeding, and overnutrition at the same time as a child overweight and adult obesity. He found that food insecurity and malnutrition among children whereas, underweight among women compared with WHO BMI reference value. According to the World Bank (2020), the concept of food trade among

different countries has been developed. The UN-WFP figured that there will be more than 130 million people who faced food insecurity by 2020. Karyan & Mo, (2011) mentions the importance of food security and nutrition, and health. The Covid-19 realized that the agriculture sector is more given priority to cope with hunger and malnutrition (Chaudhary, 2020).

Despite the lowest prevalence of undernourishment (PoU) in Nepal (it is 8.1 %), the nutritional status of women and children, especially infants, children, pregnant and lactating mothers are still vulnerable (MoALD, 2018). According to FAO, IFAD, UNICEF, WFP, and WHO (2020), the relation between food security and nutrition is obvious and is a contemporary issue of the world. The Covid-19 created conditional problems on food security and nutrition for many millions of people.

Scenario of Food Security and Nutrition in Nepal

Food Production and stock

Despite agriculture as the mainstay of the country's economy, Nepal faces food insecurity. About 43% of Nepal is covered in forest and 24% (3.56 million ha) is agricultural land but over half of all farmers cultivate on less than a hectare of land. CBS (2011) shows that 60% of farmers failed to harvest sufficient agriculture; food deficit in some districts has been an issue and force farmers to migrate to cities applying for jobs in their farming break season (Chaudhary, 2018). According to Figure 1, provincially, the Karnali Province (province 6) has the lowest level of food security (food-secure households are only 22.5%) and the severely food-insecure households are about 17.5%.

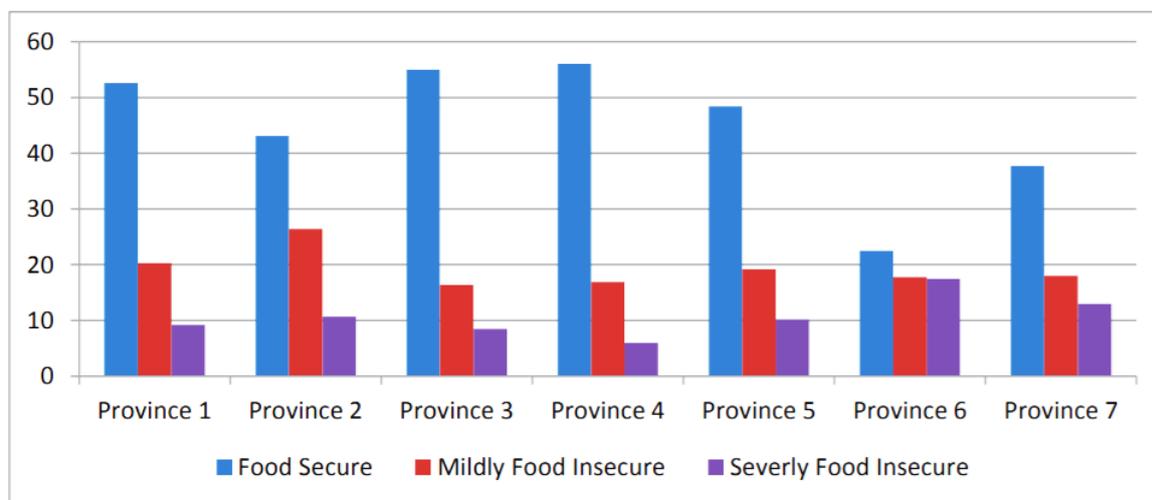


Figure 1. Percent distribution of households' food insecurity by provinces

Source: NDHS, 2016

Literature suggests that the production rate is decreasing compared to 1965. However, the agriculture productions are differing by geography as the Terai region has a surplus in major cereals, though high hill represents low. Despite efforts to increase access to irrigation and fertilizer, Nepal has not been able to meet the demand for rice grain in the country: it has been predicted of deficit of 750,000 tons of rice in 2019, a trend that is projected to continue through 2030 (NPC & WFP, 2019).

Food Utilization and Security Issue:

Nepal has already been facing nutritional problems both in adults and children. Nutritional status in the adult is assessed by Body Mass Index (BMI). BMI includes anthropometric measurements such as height and weight. The Nepal Demographic Health Survey (NDHS, 2016) shows that nutritional status among women is found in the ratio of normal by 61%, thin by 17%, overweight by 17%, and obese by 5%. Similarly, men were found normal (66%), thin (17%), overweight (15%), and obese (2%). The overweight and obese are found more in women than men. These are related to food and its utilization. Similarly, the under nutritional problem in a child is chronic than in adults. The data shows a different form of malnutrition in under 5 years children as wasted 10%, underweight 27%, and stunted 36%.

Nutrition is embedded in food, agriculture, and livestock. According to AHS (2016/17) report, the Nepalese population's food consumption is different.

Table 2. Food Consumption Pattern in Nepal Weekly based

Categories	Energy Yielding Foods			Body Building Foods			Body Protective Foods	
	Cereals & root and tubers	Sugar, Honey & Sweets	Ghee, Oil & Butter	Pulses	Milk & Dairy Products	Meat, Fish & Egg	Fruits	Vegetables
Urban	7	6.0	6.9	6.0	4.3	2.8	2.7	6.8
Rural	7	5.8	6.9	5.7	3.6	1.9	1.6	6.7

Source: NPC (2018)

Table 2 shows the days of food consumption patterns weekly based on rural and urban areas. According to the function of food categorized areas i) energy-yielding, ii) bodybuilding and iii) body protective foods (Swaminathan, 2003). The consumption of energy-yielding foods like cereals, root and tubers, ghee, oil, & butter and sugar, honey & sweets represent calorie-dense food. Whereas the bodybuilding foods (pulses and meat, fish & egg, and milk & dairy products) are semi-complete protein intake food. These pulses contain methionine protein, which works in the presence of a protein called lysine gets from cereals. A combination of cereals and pulses protein lysine and methionine later body metabolism process converts into complete protein. If it intakes separately then it does not work as a complete protein. Among the protective food fruits and vegetables, the amount of fruit consumption is lower rather than vegetables. There are chances of vitamin and minerals deficiency because the nutrients get from fruits are not much destroying as in cooked vegetables.

Table 2 clearly shows that the consumption of milk dairy products, meat, eggs, and fruits is found to be poor. It might be chances of protein deficiency if not properly managed the diet. A single food may not fulfill all the macro and micronutrients. So, multiple foods should be included to fight against diseases, growth & development, and maintenance as well. The data shows the satisfactory consumption of cereals, root & tubers, fat, and sugar. But, high biological availability food amounts like meat, fish, and egg show 2.3 days, and milk & dairy products as 4 days which represent low consumption of calories.

Policies, Plans, and Strategies regarding Food and Nutrition Security

The Constitution of Nepal has a provision that food is one of the fundamental rights. According to Article 36, every citizen shall have the right relating to food. The Right to Food and Food Sovereignty Act 2018 declares the right of all Nepali people to be free from hunger. Similarly, The Agricultural Development Strategy (ADS 2015-2035) emphasizes a competitive commercial agricultural sector, and improving livelihoods, access to food and nutrition in the country. The Multi-Sector Nutrition Plan (MSNP 2018- 2022) brings the health, education,

WASH, and agricultural sectors together to craft nutrition. These strategies are important in the wake of food security and nutritious food. The major policy, plan, strategy, and program-related to food and nutrition security is the followings: (1) Agriculture Development Strategy (ADS), 2015-2035; (2) Right to Food and Food Sovereignty Act 2018; (3) Agro-biodiversity Policy, 2007; (4) Dairy Development Policy, 2007; (5) Trade Policy, 2009; National Agricultural Policy, 2004; (6) Multi-sector Nutrition Plan (MSNP) I & II, 2018-2022; (7) National Seed Policy, 2000; (8) Agri-business Promotion Policy, 2006; (9) Nepal Food Security Monitoring System (NeKSAP); (10) Agriculture and Food Security Project (AFSP) 2013-2018.

Likewise, The Local Government Operation Act (LGOA) 2017 mandates to ensure food and nutrition security. The Government of Nepal has developed National Nutrition Policy and Strategy in order to address food-related issues such as malnutrition, micronutrient deficiency, lifestyle-related diseases, faulty food habit, behavior, and misconceptions rooted in Nepalese society (MoHP, 2004). Nutritional related problem Malnutrition is major among them which is common globally. Nutrition advocacy has been started since the year 2000 in Nepal. The Scaling-Up-Nutrition (SUN) program proposed to establish a 1000 day nutrition program through the Multi-sectorial Plan I. The year 2016- 2025 has been declared as the Decade of Action on Nutrition by the UN General Assembly. Nepal government has continued Multi-sectorial Nutrition Plan II for 2079/80 for the effective action in chronic nutrition (DoHS, 2018). Similarly, in collaboration with many foreign organizations, the Nepal government had launched various programs as Suhara II, Poshanka Lagi Haatemalo (funded by European Union), Nutrition program by UNICEF, World food program, Food, and agriculture organization of the United Nations, Food and Nutrition security enhancement project. UNICEF intently works with the National Planning Commission and Ministry of Federal Affairs and General Administration for the overall leadership (UNICEF). United Nations International Children's Emergency Fund (UNICEF) supports the Nepalese government for the treatment of the severe acute malnourished child as well as emergency action on nutrition. The Ministry of Agriculture and Livestock Development works with the United Nations World Food Programme to monitor household food security in the Mid and Far Western Mountain region of the country, in Karnali and Sudurpaschim Provinces. However, these attempts are also not becoming effective.

Challenges

Sustainable Development Goals (SDGs) have the target to end hunger, achieving food security, and improved nutrition, and promote sustainable agriculture by 2030 (UN, 2019). Hunger is mainly related to food inadequacy but it can be understood by poverty as well. Poverty compels facing various difficulties as inadequate food, low access to quality water, inadequate sanitation and hygiene, inadequate health services, and education. Nepal's Human Development Index score in 2019 was is 0.574 which is not satisfactory. Similarly, one-quarter of Nepal's population lives below the national poverty line on less than the US \$ 0.50 income per day. Malnutrition slows economic growth and feeds a cycle of poverty due to low productivity, poor cognitive function, and increased health costs (MoALD & WFP 2020). According to the Ministry of Agriculture, and Livestock Development (MoALD, 2020), 23 percent of households possessed inadequate food consumption and 7 percent of households had poor dietary diversity. According to Reliefweb (2020), unawareness and poor education, difficult geography and poor infrastructure, poverty, expanding unplanned urbanization, nutrition transition paired with shifting diets, climate change, and natural disaster are major affecting factors in the wake of food security and nutrition.

Furthermore, the Covid-19 crisis has affected the livelihoods of Nepalese households, with 1 out of 10 households reporting a loss of livelihood and 3 out of 10 households a reduction in income. The Karnali, Sudurpaschim, and 2 Number provinces face hard the loss of livelihood comparatively. According to the NPC (2018), 1/3th of the population is below the poverty line and agriculture seems to be the major financial source for the majority of livelihood. Also, hidden hunger is a compatibility form of malnutrition. Hidden hunger is understood as deficiency of micronutrients, whereas hunger is inadequacy and/or severe food insecurity of food to meet daily requirements due to lack of money, lack of access to food, and/or other resources. In the same way, inequality increases impacts on the possibility of severe food insecurity by 20% higher in lower-income countries compared to middle-income countries. The report shows that income inequalities challenge food security and nutrition (UN, 2019). The usage of body-building and body-protective foods (see table 2) is found low in Nepal that is responsible for nutritional deficiencies as well. Similarly, undernourishment and stunting are still great challenges in the path of food security and nutrition. The technology will help to secure food security. The Cloud-based framework may help to mitigate the impact of Covid (Mittal et al., 2020) and food scarcity.

The maintaining of the nutritional status of every age group is critical for life and especially, during the Covid-19 crisis. Good nutrition is crucial for health, particularly in times when the immune system might need to fight back (WHO, 2020 October 21). The low consumption of fruit and fresh vegetables contributes to nutritional disorders i.e. deficiencies in iron and vitamin 'A'. The fruits are considered major sources of micro-nutrients as vitamins and minerals. According to Roth, vitamins are organic non-caloric nutrients. It helps to regulate body processes. Likewise, minerals are important for tissue building, regulating body fluids, and boost various functions (Roth, 2011). Moving to the studies many micronutrient diseases occurred as Anemia from iron deficiency, osteoporosis from calcium deficiency, Beri-Beri from thiamin deficiency, etc. So, micro-nutrients are equally important for a healthy life and immunity build-up.

Finally, Natural disasters and the unpredictable problem like the Covid 19 pandemic created the importance of nutrition food as a value system in Nepal. Literature suggests that the immunity power of the human body can only save from the Corona pandemics. It indicates that balanced nutrition is important for all.

Despite the availability of food, many people are unable to utilize it properly. The majority of people do not know how to take balanced diet. Good nutrition can build up the body's immune system strong and prevents transmitted diseases like Covid-19. This can be only done through diet awareness programs and the recruitment of nutrition specialists in the health sector at the national level. The FAO's "Twin-track Approach" shall be appropriate to make nutritional fulfillment by themselves during a pandemic crisis. It is a Sustainable Global Food Security approach, that requires specific and urgent attention to both short- and longer-term interventions to address food insecurity and malnutrition. It emphasizes both 'short-term' and 'long-term' interventions simultaneously in a coordinated manner in order to successfully fight hunger and preserve adequate food. This approach should first focus on three provinces - Sudurpaschim province, Province 2, and Karnali province where food insecurity status and poor food consumption, and poor dietary diversity are more common. Similarly, food security should be more concerned among daily wage laborers and cash crop producers and less diversified livelihood groups in Nepal.

Conclusion

The policy of the government has prioritized from grass root level to eliminate hunger and malnutrition though there are still challenges. Post-Covid has made to rethink food security; only surplus production or the stock may not be a solution, but also proper utilization of food is needed. The development of agriculture is essential, but the quality of production is the demand for time. A multispectral approach to food security in Nepal is essential. There should be the presence of multi-stakeholders to uplift agriculture activities. Modern technology in the agriculture field should be adopted to increase production. For instance, the kitchen and rooftop garden may also partially help to full fill nutritional needs. The concept of the kitchen garden and rooftop garden can be implemented in urban areas. According to WFO, Vitamin and mineral deficiencies are found widespread and 48 % of pregnant women are anemic in Nepal.

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