



GOVERNMENT OF NEPAL

NATIONAL PLANNING COMMISSION

KATHMANDU



TOWARDS ZERO HUNGER IN NEPAL

A STRATEGIC REVIEW OF FOOD SECURITY & NUTRITION
2018



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A Strategic Review of Food Security and Nutrition
2018

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2018





DEPUTY PRIME MINISTER
MINISTER FOR HEALTH AND POPULATION

GOVERNMENT OF NEPAL
Ministry of Health and Population
KATHMANDU, NEPAL



Message

Malnutrition is a major public health problem in developing countries. The impact of malnutrition on women, children and adolescent brings long-term and irrevocable physical and intellectual weaknesses, and impaired growth and development. Nepal too, has one of the highest prevalence of stunting among children less than five years of age. In our efforts to combat both chronic and acute malnutrition, the Government of Nepal has put in considerable efforts at both national and international levels, particularly in working together under the framework of the Multi Sectoral Nutrition Plan as one of the countries within the Scaling Up Nutrition (SUN) movement.

The Strategic Review is a timely study to understand the current status and idea of way forward to address the food insecurity and under-nutrition in Nepal. The recommendation of the report emphasises on improved coordination in the planning, policy and its implementation among the stakeholders in agriculture and nutrition sector. This is in line with our recognition of the strong link between poverty, food insecurity and malnutrition. In order to address these issues to achieve the outcomes of Sustainable Development Goal 2, government, development partners and stakeholders should work together, ensuring the agricultural food production, availability of diverse food, and its proper utilisation.

The fundamental right to food for all is now enshrined in our Constitution, and recently endorsed Right to Food and Food Sovereignty Act has given clear mandate for the decentralization

of governance to all spheres of government. It gives us an opportunity to systematically work in improving hygienic nutrition situation in Nepal. While agricultural-led growth and driving down undernutrition are key targets for us, going forward, we must, of course, recognize the many varied causes of food insecurity and undernutrition in our country. This responsibility falls on different sectors, particularly; health, agriculture, education, water sanitation and hygiene, and local development.

This Strategic Review of SDG2 is vital for developing programme, policy and strategies in reducing hunger and to promote access and availability to safe, nutritious and affordable food which we strive to have locally produced. We are committed to eliminating hunger, and this study which draws on a comprehensive task force of work conducted over many years by the food security and nutrition community, will serve to further illuminate the way to a nation without hunger having hygienic food for all.

UPENDRA YADAV
Deputy Prime Minister,
Minister for Health and Population



MINISTER FOR AGRICULTURE AND
LIVESTOCK DEVELOPMENT

GOVERNMENT OF NEPAL
Ministry of Agriculture and Livestock Development
KATHMANDU, NEPAL

Message



I am pleased to launch this strategic review of food security and nutrition in Nepal undertaken by the National Planning Commission. The Government of Nepal is committed to achieving the Sustainable Development Goals (SDGs) by 2030 with SDG2 as one of our key priorities.

In recent years, Nepal has made significant improvements in food security, as demonstrated by global indicators and testament to the strong commitment from the Government of Nepal for ending hunger and improving nutrition for all people. Importantly, the Constitution of Nepal enshrines the right to food and food sovereignty, which is broadly elaborated in the Right to Food and Food Sovereignty Related Act. As we have entered into new era with a federal system, we have opportunity to implement this in all levels of society. Historically, Nepal is known for its diversity in climate and in resources which gives significance for promoting a variety of foods and access to a healthy diet. The socio-economic and environmental changes in recent years have contributed to eroding this associated knowledge, production and consumption patterns. However, with such

potentiality, Nepal can revive these traditional, locally produced nutritious foods by improving awareness of their nutritional value, by promoting indigenous knowledge and improved dietary habits and by creating prime conditions for farmers to produce them.

By ensuring a holistic approach to increase local production that combines traditional food varieties with modern agricultural technologies, we now have the opportunity to improve the way we work together, so that every citizen has access to locally available, affordable and nutritious food and we achieve a nation free of hunger.

CHAKRAPANI KHANAL 'Baldev'
Minister of Agriculture
and Livestock Development



GOVERNMENT OF NEPAL
National Planning Commission
 KATHMANDU, NEPAL



Foreword

On behalf of the National Planning Commission, Government of Nepal, I am pleased to share with you, "**Towards Zero Hunger in Nepal: A Strategic Review of Food Security and Nutrition**".

In 2017, under the stewardship of the National Planning Commission, the Zero Hunger Strategic Review of Food Security and Nutrition in Nepal (ZHSR), was chosen as the mechanism to guide us on achievement of Sustainable Development Goal 2 (SDG2) in Nepal. SDG2 aims to **end hunger, achieve food security and improved nutrition and to promote sustainable agriculture** by 2030.

This study was conducted as an independent, analytical and consultative exercise. It provides us with an up-to-date 'picture' of food security in our country, including agricultural development and the challenges we are facing with nutrition. This process serves to support transformative sustainable development in Nepal by providing best practices and an achievable action plan to achieve SDG2. Importantly, it provides a platform for all stakeholders to anchor our plans together, fostering improved dialogue and collaboration as we move forward into a promising new era for our country.

The research conducted over the past 12 months ensured representation at all levels, across the entire country. Fruitful consultations were held at national, subnational, and community levels, with careful inclusion of all ethnic groups and women. This has provided us with a wealth of information on the current needs and concerns across all members of our society.

I strongly believe that the recommendations from the ZHSR will complement and further strengthen the use of our other national initiatives on food security and nutrition, including the National Zero Hunger Challenge, the Agriculture Development Strategy, the Multi-Sector Nutrition Plan II and the study on Small Area Estimation of Food Insecurity and Undernutrition, among others. I therefore encourage all stakeholders to adopt these recommendations, to guide your policies and programme initiatives and to use this as a 'roadmap' to a country free of hunger.

I would like to thank our partners the United Nations World Food Programme (WFP), the Food and Agriculture Organisation of the United Nations (FAO) and the United Nations Children's Fund (UNICEF), who worked together with the Government of Nepal on this initiative. I extend my appreciation to the technical team of NARMA Consultancy Private Limited for their collaboration in this project. Furthermore, the inputs from key stakeholders such as the District Coordination Committees, local municipal bodies, farmers' groups and women's organisations were invaluable for the study and I thank them all for their contributions.

PROF. DR. PUSPA RAJ KADEL, Ph.D

Vice-Chairman
 National Planning Commission



GOVERNMENT OF NEPAL
National Planning Commission
 KATHMANDU, NEPAL



Message



Government of Nepal is highly committed to ensure Food Sovereignty as one of the fundamental rights of its citizens and this review is an effort to contribute towards this. We are pleased to express few words in this important document.

Nepal is still emerging on the long path towards economic development in which food security and nutrition play a critical role. If children have the right food and nutrition at an early age, they will grow to their full potential. As adults, they will be able to provide for their own children, and thus escape the inter-generational effects of hunger. To achieve this, robust investments are needed in enhancing productive and sustainable food systems and ensuring that people are able to reap the benefits.

An integrated approach ensuring that all Nepalese, especially pregnant, nursing mothers and young children have access to adequate, nutritious food throughout the year, is a vital strategy to achieve zero hunger for Nepal. This should be achieved as much as possible through the promotion of local solutions.

The report of the strategic review of food security and nutrition emphasizes this need and provides a way forward for all stakeholders. We strongly believe that the integrated path recommended by this review, will contribute to achieving the set targets of SDG2 and set Nepal on a sustainable path to freedom from hunger.

In this effort, we highly appreciate the contribution made by the team of experts and stakeholders to bring this document in this shape. We wish to acknowledge the valuable contribution of Dr. Prabhu Budhathoki, former Chair of the SDG2 Advisory Group and former member of National Planning Commission, who initiated and led the process at the beginning. Similarly, team of officials at the National Planning Commission (NPC) put their dedicated efforts to complete this exercise successfully, hence special thanks are due to Joint Secretaries Mr. Tulasi Prasad Gautam and Mr. Biju Kumar Shrestha, Under Secretary Mr. Mahesh Kharel, and Planning Officers Mr. Dhananjay Shah and Mr. Tilak Prasad Rijal.

USHA JHA, Ph.D
 Member
 National Planning Commission

DIL BAHADUR GURUNG, Ph.D
 Member
 National Planning Commission

“

Nepal has the means to face challenges in food security and this is the opportune time to act. The Sustainable Development Goals (SDGs), adopted by 193 countries in 2015, offer a tremendous opportunity for Nepal. The SDGs aim to “transform our world” by achieving 17 goals for people, the planet, and prosperity. The SDGs are an agenda for the world, and for Nepal, to leave no one behind and transform the way the world ends hunger, ensures food security, and tackles malnutrition in all its forms, through an integrated approach.

”

▼ Village women waiting to receive government services.

PHOTO CREDIT
NARMA



▼ Millet has high nutritional value and is usually grown in the Hills and Mountains of Nepal.

PHOTO CREDIT
NARMA

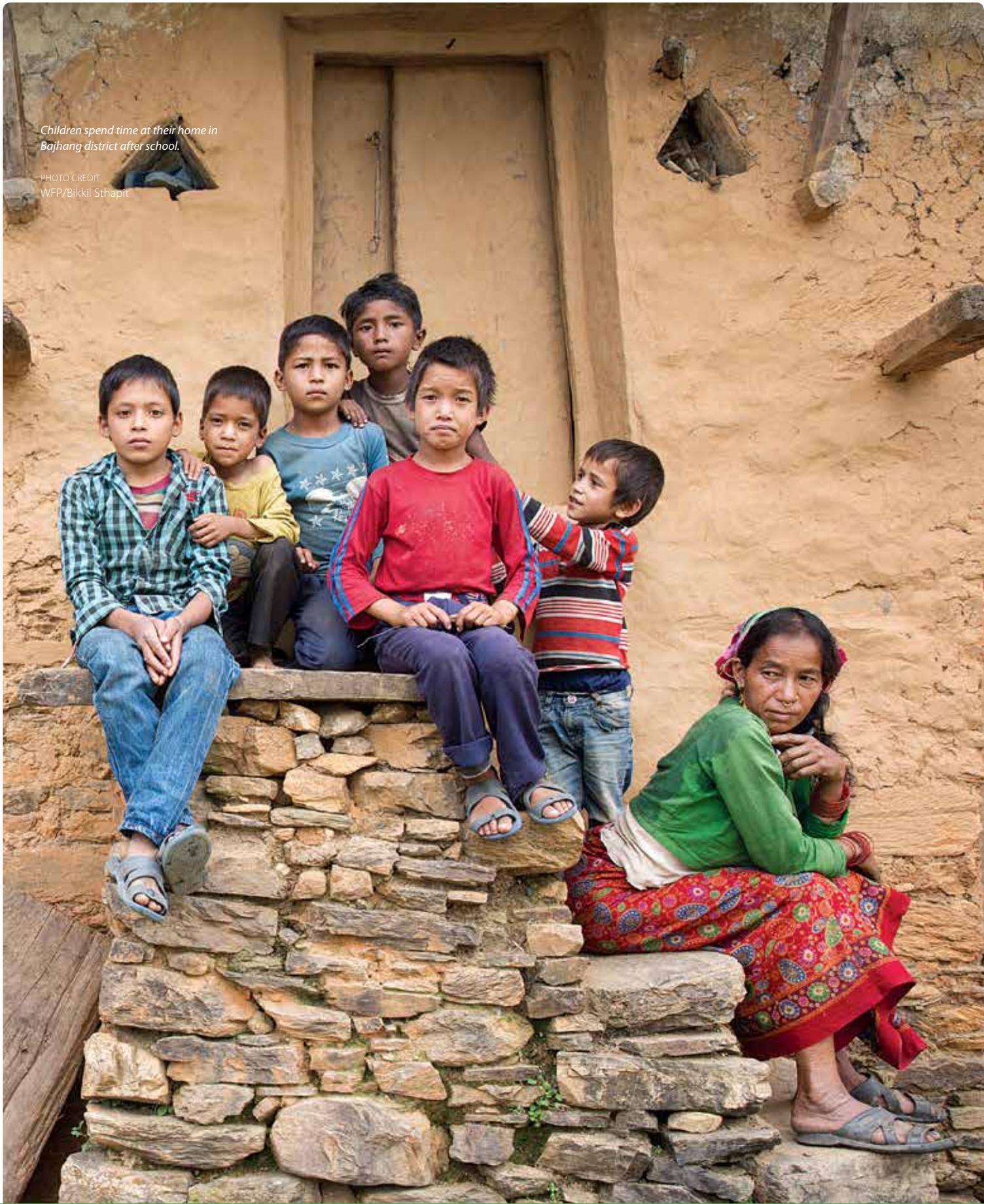
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Children spend time at their home in Bajhang district after school.

PHOTO CREDIT
WFP/Bikkil Sthapit



BACKGROUND

For Nepal, ending hunger and improving nutrition for all its citizens will be a significant task, but one that is within its grasp. The country has already made great strides in reducing undernourishment and stunting. However, the prevalence of both are still high and challenges remain. Out-migration of a young workforce, feminisation of agriculture, difficult geography and poor infrastructure, poverty, significant urbanisation and a nutrition transition paired with shifting diets, and climate change and devastating natural disasters are threats to achieving food security and nutrition (FSN) for the country.

Nepal does have the means to face these challenges and is in an opportune position to act. The Sustainable Development Goals (SDGs), adopted by 193 countries in 2015, offer a tremendous opportunity for Nepal. The SDGs aim to “transform our world” by achieving 17 goals for people, the planet, and prosperity. The SDGs are an agenda for the world, and for Nepal, to leave no one behind and transform the way the world ends hunger, ensures food security, and tackles malnutrition in all its forms, through an integrated approach.

The SDGs have been designed to be a transformational agenda in which each country has the scope to plan, finance, and implement actions towards achieving the SDGs in whatever way they see fit. Part of this transformational agenda is ensuring that ‘no one is left behind.’ What does that mean for Nepal? It means ending extreme poverty and reducing inequalities for women and marginalised ethnic and caste groups. It means prioritising actions for the poorest and most marginalised – the idea of “universality” with no discrimination. Where there is severe food insecurity and a high burden of malnutrition, extra efforts need to be made to close the gap for those who still struggle to meet basic food security needs and ensure everyone has basic human rights and a minimum standard of living. This is Nepal’s social contract with its people for the next two decades.

SDG2, which serves as the main goal of this Strategic Review, is to “End hunger, achieve food security and improved nutrition, and promote sustainable agriculture”. It contains five targets. The first is to end hunger and ensure food access for all, especially the most vulnerable. The second is to end malnutrition, including stunting and wasting in children under five as well as provide sufficient nutrition to adolescent girls, pregnant and lactating women, and older people. The third is to double agriculture productivity and incomes for smallholders, especially indigenous people and women. This should be achieved by increasing access to land and other natural resources as well as to technology and inputs, capital,

and markets. The fourth is for the food system to be sustainable and resilient to climate change and weather-related disasters. The fifth is to maintain genetic diversity in both farmed and wild plants and animals. It also subscribes that this be equitably distributed. These targets are lofty, challenging, and ambitious, but for Nepal, achievable.

Achieving SDG2 will be possible for Nepal if the right policies and legislation, institutional arrangements and partnerships, enabling environment, investments, and implementation paired with data monitoring systems, are put into place. It is hoped that this Strategic Review provides some evidence-based guidance on what are the right choices for the government and its partners.

This Strategic Review consists of three components: a desk review, producing of thematic reports and national and subnational consultations. The objective is to inform the government on how best to achieve SDG2 by 2030 in the context of transformative sustainable development by outlining the FSN landscape, the policy and programmatic environment, and best practices for a cohesive action plan. The Strategic Review serves both as a research exercise designed to give a consolidated picture of the FSN challenges in Nepal and as a mechanism for supporting the government in setting priorities and finding gaps in policies and programmes currently implemented to achieve SDG2. In turn, the Review will allow all stakeholders to anchor their policies and programmes for achieving zero hunger in support of a clear set of government priorities based on the country’s needs.

The Strategic Review provides a set of high-level recommendations related to legislation, policies, and programmes, institutional arrangements and enabling environments. Following this, a set of recommendations across the SDG2 targets are proposed. Finally, a draft action plan is presented as Annex which provides a road map for how to achieve the recommendations laid out in the report.



Farmers using traditional method to till their fields.

PHOTO CREDIT
NARMA

STATUS OF NEPAL'S **FOOD SECURITY** AND **NUTRITION SITUATION**

Nepal has made remarkable progress but still has much to do to end hunger and malnutrition for all. The country faces significant challenges, but these goals are still within its grasp. These challenges include natural disasters; including flooding, landslides, and earthquakes; climate change; poverty; poor infrastructure, especially in remote and mountainous areas; urbanization and outmigration, leading to a feminization of agriculture; volatile food prices; and dietary shifts such as an increase in processed foods high in fat and sugar.

SDG2.1: ENDING HUNGER

Currently, many people in the country suffer from hunger and food insecurity and spend a significant amount of their income on food. However, available literature shows that Nepal has made strides in reducing undernourishment in recent years (Headey and Hoddinot, 2015 cited by Kumar, Kumar, and Joshi, 2017). Data shows overall available food energy increasing from 2,855 kcal/capita/day in 2011 to 2,922 kcal/capita/day in 2013, with the gap between rural and urban populations further narrowing. However, nearly 41% of the population does not have access to minimum calorie intake (NPC 14th Plan).

In a recent report released by the International Food Policy Research Institute (IFPRI), almost two million people are considered undernourished in Nepal (IFPRI, 2017). Additionally, Nepalese in remote areas, especially the Mountains, have less access to food than those in the Terai. Even when food is physically available, it may not be affordable; therefore, poverty and household incomes are directly related to food insecurity. In 2015/16, the average household spent 53.8% of their income on food. Although the average household consumption of urban households (Rs 4,31,337) was almost 1.7 times higher than that for rural households (Rs 2,48,893), food was still the major expenditure item in both urban (44.9%) and rural areas (59.8%).

SDG2.2: ENDING ALL FORMS OF MALNUTRITION

Malnutrition in women and children has long-term consequences for national development by perpetuating the cycle of intergenerational poverty and hunger but Nepal has already made great progress. The percentage of children under five years of age who are underweight fell from 39% in 2006 to 27% in 2016 and stunting amongst children under five decreased from 49% to 36% over the same period (MoH, 2017). Wasting has also fallen – from 13% in 2006 to 10% in 2016 (MoH, 2017). There are many reasons for these successes, with

some evidence suggesting that water, sanitation and hygiene (WASH) and education played a key role (Cunningham et al., 2016; Headey and Hoddinot, 2015), as well as the formulation of several integrated, multi-sectoral legal frameworks and policies, improvements in service delivery, and innovations from government agencies, strong non-governmental organization (NGO) presence and action, and donor support. However, aggregate improvements in measures of undernutrition often mask disparities amongst Nepal's diverse population.

Variations in the prevalence of undernutrition are seen by age, gender, ethnic and caste group, socio-economic status, and region. While stunting is slightly higher in males (36%) than females (35.7%), this is the opposite for wasting and underweight. Wasting is 9.8% in females compared to 9.5% in males and underweight is 27.4% in females compared to 26.7% in males (MoH, 2017). From a geographic perspective, rural areas have a significantly higher prevalence of stunting (40%) than urban areas (32%) (MoH, 2017). More specifically, Nepal's Mountain region has the highest prevalence of severe stunting (19%) and moderate stunting (47%) compared to the Hills and Terai (MoH, 2017). Nepal's Mid-Western region (Provinces 5 and 6) also has a high prevalence of stunting (42%) compared to other regions (MoH, 2017).

Wasting is slightly higher in rural areas (10%) compared to urban ones (9%). Although stunting tends to be the most pervasive in the Mountain region, wasting is more prevalent in the Terai (12%) than in the Hills or Mountains (both 6%) and is highest in the Central and Eastern regions (MoH, 2017). Preliminary research shows that wasting is high in the Terai, associated with poor sanitation and hygiene, whereas in the Mountains, high burdens of stunting are associated with poor access to nutrient dense foods and dietary diversity (Nutrition Innovation Lab, 2017).

Micronutrient deficiency, or "hidden hunger", is most commonly caused by poor dietary diversity and is a pervasive problem in Nepal. Poor dietary diversity is usually due to diets high in staple foods that are calorically dense but low in bio-available protein and micronutrients and lead to deficiencies in essential nutrients such as protein, vitamin A, iron, and iodine. Anaemia is a major health issue in Nepal, especially among infants, children, and pregnant women. About 53% of Nepalese children under five are anaemic; 26% mildly, 26% moderately, and 1% severely, and the prevalence of the disease has increased since 2006 (MoH, 2017). Even more concerning is that 69% of Nepalese children age six to 23 months still suffer from anaemia, which was unchanged since 2006 (MoH, 2017). Anaemia

among women aged 15 to 49 years was 41% in 2016, an increase of 6% since 2006. However, anaemia among pregnant women decreased by 2% over the same timeframe to 46% (MoH, 2017). Although the government has taken measures to address anaemia, including iron and folic acid supplementation during pregnancy, factors such as poor intake of haem iron in the diet, risky pregnancies, hookworm burden, and the lack of adherence to iron supplementation still contribute to the high prevalence of anaemia (Makhoul et al., 2012).

Gender influences household food consumption in Nepal, with women often eating last in the family. This often results in lower nutrient intake for women. These gendered eating habits further contribute to undernourishment and anaemia for women in Nepal.

SDG 2.3: DOUBLING AGRICULTURAL PRODUCTIVITY AND INCOMES

In 2016, agriculture accounted for 29.4% of the country's gross domestic product (GDP) (MoF, 2017) and employed approximately 66% of its workforce (MoAD, 2016). Nepal's gross domestic product from agriculture (AGDP) was the highest among all South Asian countries from 2000 to 2007 with a growth rate of 3.3% per year; whereas its overall GDP was the lowest among these same countries with a growth rate of only 3.4% per year (USAID/IDS/IFPRI, 2010).

Agricultural households with land are mainly concentrated in Nepal's Hill and Terai regions with over 91% of land holdings in rural areas (NPC/CBS, 2011). The average size of agricultural land holding is declining, as is the percentage of agricultural households. The national average size of agricultural

land holding per household decreased from 1.1 hectares (ha) in 1995/96 to 0.7 hectares in 2010/11, which generally produces less than six months of food for an average household (NASDP, 2016). Among all farmers, the proportion of "small" farmers (operating less than 0.5 ha) increased from 41% in 1995/96 to 53% in 2010/11, whereas the proportion of "large" farmers (operating 2 ha or more) decreased from 13% to 4% during the same period (NPC/CBS, 1996 and 2011).

Domestic agricultural production is the main source of food availability in Nepal, although a small proportion is imported. Of Nepal's three regions, the Terai is considered to be the food basket of Nepal in which 57% of major cereal crops (rice, wheat, and maize) are produced. Cereal crops also dominate the cropping pattern and occupy 75% of its total cultivated land. While land productivity measured at 2000/01 constant price shows an increase in productivity between 2006 and 2016, productivity measured in terms of metric tonnes (Mt)/ha showed a decrease from 3.6 to 2.8 Mt/ha between 2015 and 2016 (MoAD, 2017). Between 2006 and 2016, the country's grain production has fluctuated between deficits and surpluses with per capita grain production fluctuating between 189 and 223 kilograms (kg)/capita with an average of 206 kg/capita (MoAD, 2017). In recent years, Nepal's agricultural sector has been diversifying towards high value crops and products such as fruits and vegetables, spices and condiments, and livestock (USAID/IDS/IFPRI, 2010). Nepal has vast water resources and it is estimated that 67% of its cultivated land can be irrigated. While the national objective is to enable year-round irrigation for all irrigable land, at present, year-round irrigation is available to 25.2% of total irrigable land.

▼ Fruit seller from the Terai District.

PHOTO CREDIT
WFP



SDG 2.4: ENSURING SUSTAINABLE FOOD SYSTEMS

An understanding of sustainable food systems is critical if Nepal is to successfully end hunger and malnutrition. Sustainable food systems integrate sustainable food production, processing, distribution, consumption, and waste management in order to enhance the country's environmental, economic, and public health. Improper uses of pesticides as well as increasing reliance on chemical fertilisers have negatively affected soil quality. Likewise, due to limited outreach from extension workers, proper techniques to enhance soil fertility and productivity are not properly demonstrated at the farm level. There is also limited knowledge among extension workers on ways to address the growing risks and vulnerabilities caused by climate change and related disasters. More sustainable food systems will rely on a better combination of risk management, climate change adaptation, and natural resource conservation.

The country is at risk of natural disasters and has experienced significant ones, both in the past and very recently. While the rain that falls during the monsoons is essential for agriculture, too much results in flooding and landslides. The widespread flooding which occurred during 2017 impacted Nepal as well as India and Bangladesh and killed

hundreds and displaced millions in the region (Summers, 2017). The country lacks the resources and capacity to respond to disasters of this scale and post-disaster recovery is a long and slow process. Nepal also faces challenges from climate change. The main impacts expected are rising temperatures and more erratic rainfall patterns, with an increase in intense rainfall events and longer periods of drought. The country has seen an annual temperature increase of 0.06°C (UNFCCC, 2017). The temperature is expected to increase by 1.4°C by 2030 and the number of extremely hot days is expected to increase by 55% and extremely hot nights by 77% by 2060 (NCVST, 2009). Precipitation is becoming more erratic and more extreme, increasing in areas with already high precipitation and decreasing in areas with low precipitation (UNFCCC, 2017).

SDG2.5: GENETIC DIVERSITY

Nepal is tenth in flowering plant diversity in Asia and 31st on a world scale. In 1984, the Agriculture Botany Division started agricultural plant genetic resource (APGR) activities. Since then, the country has also taken steps to conserve their biodiversity, with a focus on unique, rare, and endangered species. The availability of diverse genetic resources is a fundamental requirement for achieving food and nutrition security. Presently, landraces of major food crops (rice, wheat, and maize) provide limited nutrition sources at the national level even though landraces of underutilised crops provide major sources of food and nutrition security, particularly in remote regions of the Hills and Mountains.



In 2016, agriculture accounted for **29.4%** of the country's gross domestic product (GDP) (Government MoF, 2017) and employed approximately **66%** of its workforce (Government MoALD, 2016b).



Nepal has vast water resources and it is estimated that **67%** of its **cultivated land** can be irrigated.



Agricultural households with land are mainly concentrated in Nepal's Hill and Terai regions with over **91%** of land holdings in rural areas (Government NPC/CBS, 2011).



Cereal crops also dominate the cropping pattern and occupy **75%** of its total **cultivated land**.



Underweight is **27.4%** in **females** compared to **26.7%** in **males** (Government MoHP, 2016).



Ganga Maya Sunuwar, cooking dinner for her family at her home in Uhiya, Gorkha. Food prices increased many folds after the 2015 earthquake damaged trails and cut off access to supplies.

PHOTO CREDIT
WFP/Santosh Shahi

LEGAL, POLICY, AND PROGRAMMATIC ENVIRONMENT

The Review highlights the legislations, policies, and programmes directly and indirectly related to SDG2 in Nepal including the country's Constitution, the Zero Hunger Challenge (ZHC), the Agriculture Development Strategy (ADS), the Food and Nutrition Security Plan of Action (FNSPA), the Multi-Sectoral Nutrition Plan (MSNP), and the 14th Plan. The Review also considers the recently approved "Gender Equality and Social Inclusion (GESI) Mainstreaming Strategy" developed by MoALD.

There is no dearth of FSN policies in Nepal. However, policy coherence and implementation present a challenge. It will be important for Nepal to integrate the economic, social, environmental, and governance dimensions of sustainable development at all stages of domestic and international policy making for FSN in the country.

While Nepal should be applauded for finalizing their Constitution, it will not address all of the political economy and programmatic actions that need to be undertaken to achieve SDG2. Implementation of the Constitution requires the formulation and enactment of several laws. In this regard, the government, through the Parliament, enacted the Right to Food and Food Sovereignty Act on September 18, 2018. This Act will ensure the fundamental right of citizens of Nepal to food, food security and food sovereignty. Likewise, the process to promulgate the Land Use Act is also underway. The above-mentioned policies are strong and standalone for improving FSN and agriculture. However, there are redundancies across the policies. Collaboration among the originators could be stronger to avoid confusion across funding lines and monitoring at local levels and make programming more effective and efficient. These policies will also need to be modified in the context of the new institutional arrangements under the Constitution. It will be important to understand to what extent the local government level is prepared to undertake the expanded roles and responsibilities vested on them by the new institutional arrangement. Vertical coordination needs to be done in the immediate term in the context of these policies.

Establishing a truly multi-sectoral, sustained, unified FSN programme to achieve SDG2 by 2030 requires horizontal coordination of programmes with implementing partners. The ADS and MSNP acknowledge barriers to intra-government collaboration between the government and development partners implementing programmes. There are issues of competing priorities and resource availability and allocation. There are also a variety of funding mechanisms and timelines between donors. Implementation will need to be decentralised, but the decentralisation process is just beginning in Nepal. It will be difficult for the province and local governments to implement the various policies without support from the federal level. District agencies currently established under the Provincial Government such as Agriculture Knowledge Centre and Veterinary Hospital and Specialist Service Centres do not yet have full autonomy, necessary human resources and systems for programme prioritisation, sector coordination, or capacity building and training. Nepal's more frequent government staff changes and fluctuation at central and local levels for key positions within each sector is also problematic.

Further, policies and programmes need to be evaluated to ensure that they are "nutrition sensitive" and take a food system approach to implementation. This Review shows that the policies in Nepal fair well on their incorporation of nutrition but less so on food systems. Policies also need to ensure that our food systems and diets are more sustainable. An analysis shows that the ADS contained more actions that were "sustainable" for diets. Lastly, social protection and gender empowerment should be mainstreamed across all SDG2 planning to ensure that no one is left behind and that vulnerable, resource-poor households are prioritised. Although the government has promulgated several policies which contribute to FSN such as the Zero Hunger Challenge, ADS, and FNSPA, a single overarching FSN policy that is aligned with SDG2 and Nepal's federal governance system is lacking.

Women from Rautahat district have access to agricultural services after enrolling themselves in the Rural Women Economic Empowerment programme, a joint United Nations project.

Photo credit: WFP/Santosh Shahi



Strong institutions lead to better service delivery.

PHOTO CREDIT
NARMA



INSTITUTIONAL ARRANGEMENTS

With the Constitution of Nepal having been formalised, new institutional arrangements are now taking place in the country which have implications for the way the country coordinates its FSN activities, both vertically from central to local levels, and horizontally with development partners at respective level. The Constitution has divided powers and authorities among federal, provincial, and local government levels. Constitutionally, they have requisite authorities, powers, and rights for most of the activities related to FSN. Policies such as the Zero Hunger Challenge (ZHC), ADS, FNSPA, and MSNP have proposed several coordination committees and horizontal coordination structures at federal, regional, district, and local levels. However, these arrangements and institutional mechanisms have to be revisited considering the on-going state restructuring processes and legislative, judicial, and executive power and authorities vested to provincial and local level governments. The federal government will have a decisive role in coordinating actions across ministries and government offices down to the local level, channelling donor and civil society efforts, and developing compelling narratives around nutrition as a poverty reduction priority.

VERTICAL COORDINATION

Since the present Constitution has mandated most of the FSN related functions to sub-national level governments (provincial and local levels), strong collaboration and synergistic functioning among the federal, provincial, and local governments will be required. The Constitution has two clear implications for the governance of the food and nutrition sector: (1) devolution of authority and autonomy to the seven provincial governments as well as to the local levels and (2) local level governments functioning under elected executives, who will be able to determine their own policy priorities and plan, implement, supervise, monitor, and evaluate development activities in their areas. Given that the government in the federal set-up cannot

function in the way it did in the unitary set-up, there will be a need to identify areas where reforms are needed. A key issue is to search for an institutional mechanism and process which will result in synergistic results and contribute to the achievement of the SDG2 targets.

Likewise, a strong coordination and collaboration between provincial and local governments is a must for achieving SDG2. A prospective proposal is to establish a provincial level Food and Nutrition Security Steering Committee (PFNSSC) represented in each of the seven provinces with representation from the government, cooperatives, farmers' organisations, private sector, and academia, as a coordinating body. Questions arise such as: How the provincial Ministry of Land Management, Agriculture and Cooperatives

or Ministry of Health will be capacitated? How will the powers and authorities be distributed among the different agencies in the province? What mechanisms will allow them to function synergistically and share the data and information with the centre (federal structure) and local levels?

The Constitution has dissolved the District Development Committees (DDC) by establishing District Coordination Committees (DCC) and giving them the role for coordinating the programmes of municipalities and rural municipalities, monitoring development programmes, providing suggestions for solutions, coordinating with provincial and federal governments for capacity development of municipalities and rural municipalities, and organising annual workshops to review progress in the district. Under the federal governance system, 753 local-government institutions have been established which include Metropolitan city, Sub-metropolitan city, Municipality, and Rural municipality. Given that the Constitution has recognised the local level as the third and grassroots level government with legislative, judicial, and executive powers and authorities, most of the activities which will contribute to achieving the targets set as part of SDG2 are to be performed by these agencies in their respective jurisdictions. Questions arise such as: How to fill in the gaps that could be seen at the district level in the absence of district agencies? Will 753 local governments be able to take on the full

responsibilities currently undertaken by the district level agencies? What institutional arrangement could be conceived at the district level keeping SDG2 at the centre?

As actual implementation takes place at the Ward level and the Local Government Operation Act has delineated roles and responsibilities for the Ward Committee including in the areas of health, nutrition, and agriculture, the coordinating mechanism for FSN should also be extended to the Ward level. The likelihood of SDG2 being prioritized by any local government's plan is low as their highest priority will generally be infrastructure development as exemplified by one of the rural municipalities, which allocated 50% of their total annual budget to infrastructure but only 15% to economic development, which includes agriculture, livestock, industries, commerce, and tourism in fiscal year 2017/18. There will need to be incentives put in place to motivate local governments to act, invest, and champion for FSN.

Clarity in the roles of federal, provincial, and local level government institutions is necessary for better coordination, but more is needed. In addition to clarity, commitment of the concerned agencies is also required. Following clarity and commitment, what is necessary is the capacity to follow through. Therefore, key challenges and gaps which are currently seen with respect to the SDGs are related to the 3Cs:



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local-government institutions have been established which include **Metropolitan city, Sub-metropolitan city, Municipality, and Rural municipality.**

▼ *Home based livestock rearing in Saptari district, not only supports the family food needs but also provide an opportunity for additional income generation.*

PHOTO CREDIT
WFP/Santosh Shahi





The likelihood of SDG2 being prioritized by any local government's plan is low as exemplified by one of the rural municipalities, which allocated **50%** of their total **annual budget** to infrastructure but only **15%** to economic development.

clarity, commitment, and capacity. These should be supported with appropriate incentives which should be tangibly earmarked in performance evaluations and government officials should be held accountable to making progress on reducing food insecurity and decreasing the burdens of malnutrition. At present, none of the local governments (municipalities, rural municipalities, sub-municipalities) have long-term development plans. However, several of them have begun to formulate these either from their own sources or with external assistance. Therefore, it is timely that local governments should be encouraged and assisted to incorporate SDG2 in their long-term plans. If needed, the National Planning Commission (NPC) should be prepared to send guidelines to the local level to incorporate the SDG targets and actions. This should be considered as one of the minimum conditions to receive federal grants.

It is too early to tell how the development partners such as NGOs and the UN will adjust and "fit into" the new government institutional arrangements. It will be important to understand how to reach the most in need, which means understanding how to make things work collectively at the local levels. With the NPC leading the coordination of the three main plans – the MSNP, ADS, and FNSP — mechanisms that will vertically coordinate federal, provincial, district, ward, and local levels must be clarified. At the federal level, the NPC should frequently assess and refocus their efforts by overseeing the allocation of funding, monitoring progress on outcomes, and integrating ministries. For this analysis to be successful, the NPC needs high-level political support and appropriate funding. The national and local governments should create legal frameworks, technical capacities, and incentives to transfer resources, share information, and remain accountable to one another and to development partners.

HORIZONTAL COORDINATION

The sheer number of partners makes it incredibly complex for the government to coordinate activities, resources, and data systems. The funding streams to these partners, with different timelines and different objectives, sometimes not aligning with the government's policies, can make coordination complicated and messy. As SDG2 is multi-dimensional and has multi-sectoral targets requiring engagement of different stakeholders in a coordinated manner, the representation of civil society, the private sector, and academia in the Committees will make SDG2 implementation much easier through enhanced coordination.

The UN, international and local NGOs and Civil Society Organisations (CSOs), academia and researchers, and private sector actors are essential partners in the design, planning, and implementation of Nepal's various FSN plans. The NPC and other government structures must oversee and manage the coordination of multiple layers of organizations working in nutrition-sensitive agriculture and food system approaches. With the many activities proposed, progress tracking platforms and accountability mechanisms must be instilled to ensure smooth implementation. In addition, the three policies have distinct implementation mechanisms that must be coordinated by the NPC, making it unclear if this coordination will streamline activities towards SDG2 or simply create additional complications.



► *Harvesting brings the whole village together.*

PHOTO CREDIT
 NARMA

Children participate in early grade reading activities that form an integral part of their curriculum in the schools of Mid and Far Western Nepal.

PHOTO CREDIT
WFP/Deepesh Shrestha



ENABLING ENVIRONMENT

While policy and institutional arrangements are important for achieving SDG2, challenges of having a coherent enabling environment – one that consists of policy commitment and cohesive coordination, robust capacity, sound data monitoring systems and accountability – are key for Nepal. To achieve the motto of “No one left behind” in the context of FSN, strong partnerships that work in a collaborative, coordinated way will require new cultures and modalities of working together. While the gaps and challenges highlighted in this Review are significant, there is much that Nepal can do in the context of the SDG agenda to build capacity and credibility and improve data monitoring systems. The key is to ensure that actions trickle down vertically and do not just focus on the central level but also on local level accountability and empowerment.



The **MSNP** and **ADS** have built in comprehensive capacity objectives and activities into their overall plans.

POLITICAL COMMITMENT, CONSENSUS, AND COORDINATION

The government must mobilise political commitment to facilitate consensus and cooperation across multiple sectors. To do this, the government will need to improve linkages between the national and local arenas and ensure that the work of civil society, development actors, the private sector, and donors support government officials in sustaining FSN efforts over the long run. To build political commitment, consensus, and meaningful coordination on food and nutrition issues, Nepal could:

- Support existing food and nutrition champions.
- Use relevant platforms and events to promote food and nutrition policies.
- Work with mass media and social media to highlight credible indicators and to promote greater attention to food and nutrition issues.
- Build greater consensus within policy communities on food and nutrition indicators and multi-sectoral approaches.

- Strengthen cohesion within civil society groups that focus on food and nutrition.

CAPACITY DEVELOPMENT

Successful food and nutrition governance will depend on the capacity of various actors to effectively provide a spectrum of services necessary in national agriculture, food security, and nutrition programmes. It is clear that the government understands the dearth of capacity in the country, and many amongst NGOs and within the donor communities are working to help build the capacity that is necessary for the scale up of FSN activities. The MSNP and ADS have built in comprehensive capacity objectives and activities into their overall plans. However, Nepal has room to improve its management capacity across systems, infrastructure, and human skillsets, which would reduce the barriers to achieving SDG2. The lack of FSN-related human resources is an obstacle for implementing FSN interventions. The government, particularly at the local level, lacks the adequate human resources, infrastructure, and institutionalised system to effectively function.

SERVICE DELIVERY

Service delivery is more effective when channelled through decentralised structures and accompanied by active political parties and technical support from government ministries and donors. Having reliable nutrition data and performance indicators also leads to better delivery. Training programmes and salary incentives can also contribute. Those in remote areas are often missed and; therefore, have the worst FSN outcomes. Service delivery needs to focus on reaching the most remote and marginalised people.

RESULTS BASED FRAMEWORKS

When examining the results-based frameworks of Nepal's food, nutrition, and agriculture policies, it is important to ask what is the evidence base for the proposed activities and what outcomes are most practical to collect data on. Some of the indicators in these policies will be difficult to collect due to their vagueness, qualitative nature, lack of validation, or not being "SMART" – specific, measurable, achievable, reliable, and time-bound. The ADS and MSNP five-year targets for nutrition are aligned, which is a great step. However, how can the frameworks across the plans be better synergised?

There are a number of systems and surveys in Nepal that are involved in FSN monitoring and evaluation. All of the ministries are tapping into large information systems but these systems are siloed by sectors and mandates. Thought and time should be taken



to integrate data into one FSN database and build capacity to manage these systems and act on data as opposed to just collecting information.

DATA MANAGEMENT

At present, Nepal's SDG report provides targets, indicators, data sources, level of disaggregation, frequency of data collection, and agencies responsible for data management. This is important for monitoring and evaluation; however, prior to this, it is necessary to identify a lead ministry or agency responsible for achieving a particular target and making it mandatory for the team (lead and supporting ministries) to develop appropriate strategies to achieve a particular target based on their sector-specific long-term strategy or plan. In addition, the NPC is looking at each programme based on their contribution to the SDGs and modelling budget allocations accordingly. Indeed, this will reveal the financial requirements by target as well. This is a commendable task and is necessary but not adequate. Given that most of the targets and indicators require collaborative and synergistic efforts, there will be a need to identify lead and supporting ministries or agencies. Unless the responsible lead and supporting ministries are identified for each target and indicator, achieving the SDGs will be challenging.

Having reliable nutrition data and performance indicators can lead to better delivery. This often means that local ownership of outcome data on the nutrition programmes is important and should be encouraged. However, this ownership requires data collection at regular intervals. Increased frequency of data observations to monitor progress to ensure that accurate and timely data can provide better response times to re-evaluate programmes. Collecting FSN, agriculture, and food system outcome data at regular intervals, especially in highly dynamic and fragile contexts within Nepal, is of critical importance. Why? Because frequent data observations to monitor progress are preferable to the development of detailed indicators that are hard to collect and analyse. Regularly updated and well-collected data is crucial for identifying coverage gaps and for preventing and responding to emerging crises among the most vulnerable, such as with natural disasters and climate change. Collecting data in a frequent and reliable manner is key to expanding political commitment, tracking progress, and allocating needed funding for FSN initiatives. The issue of reliable data availability and management will come to the forefront with the new



Service delivery is more effective when channelled through decentralised structures and accompanied by **active political parties** and **technical support** from government ministries and donors.



The capacities of the **753 local bodies** differ. While some local bodies are highly capable in collecting **data**, others lack the necessary resources.



Unless the responsible **lead** and **supporting** ministries are identified for each target and indicator, achieving the SDGs will be challenging.

◀ *Local vegetable markets offer farmers a venue not only to sell their produce but also interact with other producers.*



When looking at investments towards FSN, Nepal ranks low against **152** other countries and is **low** even for the region. Agriculture is underinvested.

institutional arrangements. The capacities of the 753 local bodies differ. While some local bodies are highly capable in collecting data, others lack the necessary resources. The situation is further aggravated by their inadequate knowledge and skills to collect, manage, and utilise data. Many local government authorities are not even aware what kinds of data are needed to monitor the SDG2 targets. Sensitising responsible local government authorities on the SDG2 targets, along with the importance of reliable data, is urgent. Furthermore, data collectors and processors require robust and practical hands-on training with regards to data type, collection, analysis, and utilisation using the whole “data value chain” approach. In this respect, it is necessary to establish an independent institution that targets five to six municipalities and entrusts them with undertaking data collection, management, and support services in a cluster of municipalities.

that will be required to make progress on SDG2. When looking at investments towards FSN, Nepal ranks low against 152 other countries and is low even for the region. Agriculture is underinvested. The allocation of funding needs to be agreed upon between the main stakeholders and they must ensure that funding is protected in national budgets and effectively and transparently managed. Alternative sources of funding should also be mobilised. Centralised funding mechanisms should be used to generate greater incentives to cooperate in the design, implementation, and monitoring of nutrition and agriculture interventions. By contrast, if line ministries mobilise funding from a wide array of sources, they are accountable to external rather than domestic funding sources. The government has recently established the National Natural Resources and Fiscal Commission and is also in the process of developing a framework for fiscal transfer. In this regard, as suggested by a recent study of the Ministry of Finance (MoF) on foreign aid mobilization in federal Nepal, roles of national and subnational institutions need to be reviewed so that a federal-specific and sector-wide approach could be followed and an aid management platform established to make aid more effective and incorporate the role of the federal states.

FINANCING AND BUDGETING

▼ *Women join in the annual harvesting in Doti district.*

PHOTO CREDIT
 NARMA

Predictable financing sources are so important to sustaining FSN interventions and actions. The country could increase its funding and coordinate its budgets



Smiles abound as children get to practice their learning in basic sanitation and hygiene in the school. Developing water, sanitation and hygiene facilities in schools contribute to continuing efforts at the household level to lower diarrhoeal diseases and combat malnutrition.

PHOTO CREDIT
WFP/Deepesh Das Shrestha



BEST PRACTICES AND LESSONS LEARNED



Social protection and **nutrition** are intrinsically linked by the fact that **poverty** is a key underlying cause of malnutrition.

▼ *More than 600,000 school children receive nutritious mid-day meals in government schools across the country. The national school meals programme represents a significant social safety net, serving as a strong incentive to keep children in school.*

PHOTO CREDIT
 WFP

LESSONS FROM NEPAL

In order to formulate recommendations, taking stock of best practices and lessons learned stemming from Nepal and other countries is necessary. Nepal has seen incredible progress on reducing hunger and improving nutrition during the Millennium Development Goal (MDG) era through its commitment to Scaling Up Nutrition Movement (SUN) and its robust policies and programmes carried out by the government and also key development partners such as the UN, USAID, international and local NGOs, and local CSOs. However, greater gains can be achieved during the SDG implementation phase. While the plans in place for agriculture and nutrition are robust, lessons learned from the last decade show that these will need to be increased coordination between stakeholders and that everyone, including the private sector, will need to be under the same monitoring and evaluation schemes. Policies and programmes need to be scaled up but also need to be localised with involvement of local governments and other local actors. The focus needs to be on the most vulnerable in the most remote areas. With the conclusion of the Agriculture Perspective Plan (APP), progress was

made in improving agriculture but more political will and better organization was needed. The plan also needed better monitoring and evaluation and the flexibility to make changes when needed. Agriculture will need to be ramped up with more private sector investment. The first MSNP was implemented in 30 districts with mixed success. It brought together many actors but there was a need for more ownership among others as well as better coordination and clear assignments of roles and responsibilities as well as commitments of time and funding and sharing of data and other information. To drive down stunting figures further, there will need to be much more targeted implementation reaching the most vulnerable households and thinking beyond traditional interventions to those more nutrition sensitive broader sectors.

LESSONS FROM DEVELOPMENT PARTNERS

Nepal's development partners also call for greater coordination as well as a uniform approach in programme timing, funding, and implementation





among all partners as well as mechanisms to hold these partners accountable. Programmes need to have longer timelines as many of the problems are too complex for meaningful progress to be made in a few years. There also needs to be more thoughtful consideration of the local context to design effective programmes that cover the entire local population and reach the most vulnerable. Often programmes are scaled up by increasing the number of districts covered instead of covering more people in each district so the most vulnerable are left behind. Additional efforts to reach the most remote areas are needed. There also needs to be better planning to prevent duplicating efforts between partners.

LESSONS FROM OTHER COUNTRIES

Lessons from other countries such as Bangladesh, Brazil, and Vietnam, all of which have seen significant reductions in food insecurity and stunting, can be

garnered for Nepal. Sound political commitment, robust financing, vertical and horizontal coordination, and increased service capacity were all success factors in these countries.

For countries to make progress on FSN, they must make a political commitment. Governments must acknowledge the importance of nutrition and prioritise taking action through creating a nutrition agenda, formulating and implementing nutrition policies and programmes, and setting up nutrition-relevant structures. Sufficient and well-organized financing is required for any policies or programmes to succeed and for countries to make progress on FSN. Multi-sectoral action in many areas including health, agriculture, education, and transportation is required. Progress requires consensus building and coordination between government, international organisations, NGOs, CSOs, communities, and the private sector.

Effective and coordinated policies are critical but these also need to be successfully implemented to achieve results. This requires clear delineation of each actor's roles and responsibilities as well as the capacity for each actor to carry out any required actions and reach those most in need, which

▲ *Kamala Devi in Doti district has started goat rearing in her home with money received in exchange for working to build an irrigation scheme in her community.*

PHOTO CREDIT
WFP/Deepesh Das Shrestha

HOME BASED LIVESTOCK SUPPORT FOR RURAL WOMEN

A joint project between UN Women, WFP, FAO and IFAD: "Accelerating Progress towards the Economic Empowerment of Rural Women", has been implemented in Ethiopia, Guatemala, Liberia, Niger, Kyrgyzstan, Rwanda, and Nepal. The project aims to improve rural women's food and nutrition security, increase their incomes, enhance their decision-making power, and encourage policy environments conducive to their economic empowerment. The project leverages each UN agency's comparative advantages and institutional strengths to generate more sustainable and wider-scale improvements in women's livelihoods and lives.

In Guatemala and Rwanda, policies and programmes are being shaped to benefit rural women under Rural women economic empowerment. The Guatemalan Ministry of Agriculture, Livestock, and Food and its gender unit are benefitting from gender best practices identified during the implementation of Purchases for Progresses. These are being utilized to create an institutional gender policy, to deliver capacity development for government staff, and to provide technical support for rural extension staff, as well as to strengthen participation and empowerment of women in farmers' organizations. Similarly, in Ethiopia, government organizations are being supported to reform policy in ways that promote women's rights to land and social protection. In Nepal, the joint programme "RUWEE" has been led by UN Women in partnership with WFP, FAO, and IFAD and has not only improved women farmers' agricultural production and incomes, but also changed gender-discriminatory attitudes of their male counterparts. The programme is currently supporting 3,400 rural women and their families in 30 erstwhile Village Development Committees of the three districts of Sarlahi, Sindhuli, and Rautahat. As more women farmers take up leadership roles, the programme is also helping to break gender stereotypes and change cultural attitudes.

requires capacity at the local levels and community-empowerment. Monitoring and evaluation are also essential to achieve equitable results. Transparency is key to allow for monitoring and evaluation and provide an opportunity to modify programmes to improve their effectiveness and evidence for future efforts and accountability is needed to ensure that policies have the desired effects and are a responsible use of funds.

Social protection is a key strategy to address hunger and malnutrition by protecting the most vulnerable from further risk. Social protection and nutrition are intrinsically linked by the fact that poverty is a key underlying cause of malnutrition. However, social protection can also be made more nutrition sensitive.

Women's empowerment is key to end hunger and malnutrition and has been found to be the most important determinant of food security. A study in

several low- and middle-income countries between 1970 and 1975 found that 43% of the reduction in hunger was due to women's education and 12% was due to increased life expectancy for women, while only 26% was due to increased food availability and 19% due to increased healthcare (Smith and Haddad, 2000).

Water, sanitation, and hygiene (WASH) is an underlying determinant of infectious diseases, especially diarrheal disease. When people suffer from an infectious disease, they have increased nutritional needs and when they have environmental enteropathy, they are also unable to absorb and utilise the nutrients that they consume (Ngure et al., 2014). Therefore, improvements in WASH can lead to large improvements in nutrition. One method of improving WASH is through community-led total sanitation, which gives communities control to determine interventions to improve sanitation.



Expecting a better future...

PHOTO CREDIT
WFP

OPPORTUNITIES AND CHALLENGES

This chapter presents the major opportunities, key issues, and challenges across the five SDG2 target areas to achieve SDG2 by 2030 in Nepal. The opportunities are defined in terms of the enabling environment and implementation aspects. While the enabling environment consists of constitutional provisions, political commitment, and devolution of service delivery to local levels; the implementation aspects are focused on investment and the best practices stemming from the Nepalese experience as well as other country experiences. The opportunities, issues, and challenges summarised in this chapter have been drawn from the review of the contemporary studies, reports, and challenges/opportunities discussions at three national level consultations, seven sub-national consultations and 15 community level discussions, as well as issue-based focus group discussions with professionals from academia and development practitioners.

OPPORTUNITIES

This section deals with the opportunity for Nepal itself to achieve the SDG2 targets.

ENABLING ENVIRONMENT

Constitutional Rights and Directives. The constitutional provision of every citizen's right to food and food sovereignty as well as the right to be protected from a state of hunger creates an enormous opportunity that no one is left behind in achieving food security and nutrition, which is the crux of SDG2.1. In addition, the Food Law 1970, which is about maintaining food safety and quality, requires all food processors to get licenses from the government and maintain the standards as prescribed by the act which makes contributions to SDG 2.2.

The Constitution has also directed the government to make necessary arrangements for (a) protecting and promoting rights and interests of peasants and utilising the Land Use Policy for increasing production and productivity of agriculture and for commercialisation, industrialisation, diversification, and modernisation of agriculture; (b) making proper utilisation of land through regulation and management on the basis of productivity and also by maintaining an environmental balance; and (c) making arrangements for agricultural tools and access to markets with appropriate prices for producers. These directives are critical opportunities for increasing food security and moving towards sustainable food systems while maintaining genetic diversity. These arrangements are critical for achieving SDGs 2.3, 2.4 and 2.5. The Constitution also guarantees social justice and affirmative action for

women, Dalits, indigenous groups, the Madhesi community, Muslims, and other marginalised or excluded groups. This provides opportunities for reaching everyone and leaving no one behind.

A High Level of Policy Support and Commitment from the Federal to the Local Level. The government has begun to take a number of steps to localise and take action towards achieving the SDGs, not only by establishing institutional mechanisms, but also by mainstreaming the SDGs into national plans and programmes, including the 14th Three Year Plan and major sectorial plans (MoF, 2017). The SDG codes are also assigned to all programmes in the national budget. The formulation of the ten-year Zero Hunger Challenge National Action Plan (ZHCN) and Food and Nutrition Security Plan of Action (FNSPA) has added further to these national preparations. The government envisages the FNSPA to become instrumental in reducing the high rates of chronic malnutrition and its outcomes such as stunting, underweight, wasting, and obesity, which will be complimented by the MSNP II (2018-2022). The commitment of multi-sectorial ministries and agencies to the MSNP II reflects a good opportunity for the FSN sector. The government commitment to modernise Nepalese agriculture from subsistence to commercial is reflected in the ADS which was formulated in the face of common challenges such as climate change, food price volatility, low productivity, and water stresses.

In addition to multi-sectorial policies such as the ADS, ZHCN, and FNSPA, several sectorial policies such as the Irrigation Policy, Agro-biodiversity, and Agri-business Promotion Policy are already in place. Initiatives to institutionalise the Nepal Food Security Monitoring System at local levels demonstrates a high-level policy commitment to FSN from the federal to the local level.

Service Delivery Authorities Devolved to the Local Government. Agricultural extension's direct reach to farmers has been surprisingly low despite over half a century of effort. It is estimated that about 15% of farmers are getting services from government extension. This has been recognised as one of the reasons for low productivity of agriculture in general as well as sub-standard agricultural products. With the constitutional provision for agricultural extension and nutrition services as the exclusive responsibility of local government, opportunities for increasing access of this service to the people, particularly small-holders and nutritionally vulnerable groups have increased manifold. The government has already promulgated the Local government Operation Act 2017. Pursuant to this act, many local governments have already started to draft Food and Nutrition Security related policies and strategies for their constituencies. This provides an opportunity for extending integrated food security and nutrition finances and services in remote and hard to reach areas as well ensuring that elected leaders are accountable to their constituencies. This is more likely to be so with the guidance from the local governments and formation of Ward level Nutrition and Food Security Steering Committees as proposed in MSNP II and emphasised in this report.

Open Border Phenomena. The open border between Nepal and India is an opportunity for Nepal in the area of FSN, although it could be a challenge as well. Trade between these two countries takes place both formally and informally, including cross-border sale of agricultural inputs such as seeds and fertiliser as well as agricultural products which include food grains, vegetables, fruits, milk and milk products, eggs, and live animals. Nepal, as a net importer of many of India's products and inputs, and many Nepalese farmers buy inputs from Indian farmers informally using their networks, which goes unrecorded. Although this appears as a crises management strategy to Nepalese farmers to plant and apply seed and fertiliser on time, cross-border phenomena occur whenever the price differences for any inputs and outputs exist between the bordering markets in these two countries. Usually, market prices of both inputs and outputs are low in India due to heavy subsidies and support to Indian farmers by both Federal and State Governments. This has created opportunities for Nepalese farmers to obtain agricultural goods at cheaper prices which contributes to their food security and nutrition.

IMPLEMENTATION

Multi-stakeholder Investment. Although flow of Official Development Assistance (ODA) to Nepal, including grants, loans and technical assistance has nearly tripled in the last 15 years (Nepal SDGs Final Report NPC, 2017), for successful implementation of the SDGs, there will be a need for increased, substantial and sustained investment. According to a recent report, a preliminary estimate of the annual investment requirement for the entire SDG period, 2016-2030, ranges between 42 to 54% of the GDP (Nepal SDGs Sustainable Development Goals, Status and Roadmap, 2016-2030). The average requirement is estimated to be about Rs 1770 billion per year, or 49% of GDP over the entire duration of the SDGs. The preliminary assessment reveals that 55% of the total investment requirement will be shouldered by the public sector. In addition to this, the foremost public sector investment priority goes to sectors like poverty reduction, followed by agriculture and health. Needless to say, increased investment in poverty, agriculture, and health sector essentially reflects increased investment in FSN. This excludes additional investment to be made for National Pride Projects falling under the irrigation sector. Although the ODA investment in agriculture sector was 25% higher in 2016/17 compared to 2015/16, the investment in agriculture is not among the top five sectors in which ODA contributes. The top sectors are education followed by local development, housing, and drinking water. Of the total national budget allocation, 6.44% was allocated to the SDG 2 in FY 2016/17 (MoF 2017) which was slightly low in FY 2017/18 at a tune of 6.05% indicating the need for enhanced political commitment toward the SDG2 (MoF, 2018).

Apart from the public sector investment, the FSN sector has been attracting substantial investments from the private sector as well. Most of the externally assisted projects have included a "matching grant" instrument in their assistance of which farmer groups, private firms, producer associations, and cooperatives invest in small agriculture-related infrastructure and projects



It is estimated that about **15% of farmers** are receiving government extension services

such as small irrigation schemes, collection centres, seeds and grain stores, home nutritional gardens (HNG), dairy and meat processing plants, and poultry production. In addition to this, the government has amended several agricultural related acts and regulations such as the Seed Act 1999, Seed Regulation 2013, Water Resources Act 1992, and Irrigation Rule 2013 in order to attract investment from the private sector.

Nepal has been included as one of 12 countries to receive the second phase of the U.S. Global Food Security Initiative, Feed the Future. The World Bank's Global Agriculture and Food Security Programme (GAFSP)'s assistance has been extended for the Food and Nutrition Security Enhancement Project, as well as UN support from the United Nations Children's Fund (UNICEF), the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO) and the World Food Programme (WFP). WFP's renewed support for programmes like food/cash for work and the Food for Education Programme are indicative of investment opportunities for the SDG2 implementation in general and FSN sector in particular.

Many development partners including but not limited to the Asian Development Bank (ADB), the World Bank (WB), the Department for International Development of the United Kingdom (DFID), the Japan International Cooperation Agency (JICA), Swiss Agency for Development and Cooperation (SDC), WFP and International NGOs (INGOs) such as Oxfam GB, Care Nepal, Hellen Keller International, Good Neighbours International and Mercy Corps are active in Nepal's FSN sector. According to a MoF report, the number of NGOs working in Nepal has grown significantly and a total of 39,759 NGOs and 189 International Non-Governmental Organizations were registered in Nepal between 1977 and 2014 in various sectors, including health, agriculture, poverty alleviation, and good governance (MoF, 2017). The volume of aid disbursement from INGOs' core funding has increased from 168.39 million USD in FY 2015-16 to 186.53 million USD in FY 2016-17. INGOs' contribution in areas like service delivery, advocacy, and awareness raising is remarkable. Increased participation of INGOs across Nepal's development initiatives is an opportunity for Nepal to piggyback on its own commitments towards SDG achievements. The INGOs, however, need to be more transparent in programme and fund channelling and compliance to government regulations. One of the general and crucial issues that Nepal faces is the efficient management of the resources including timely spending of the allocated funds and achieve targeted results. If SDG targets are to be achieved by 2030, Nepal must pay serious attention to the capacity

enhancement of the human resources, especially in the area of resource management, integrity, honesty, accountability, transparency coordination and synergy development.

Country Experience in Food Security and Nutrition.

Nepal has made strides in achieving FSN. Over the years, it has gained invaluable experience and lessons in managing FSN projects and programmes such as MSNP, Agriculture and Food Security Programme (AFSP), Suaahara II, Sunaula Hazar Din, Nepal Innovation Lab, KISAN, and the Prime Minister Agriculture Modernisation Programme. These lessons provide an opportunity for Nepal to make even greater progress and reach the last several miles, especially for the most vulnerable, including women, children, elderly persons, disabled persons, ethnic and caste minorities, the poor, and those living in remote areas, as well as others. Programmes need to reach these people and places, and go deeper with high-quality, sustained actions.

While policy and institutional arrangements are important for achieving SDG2, challenges of having a coherent enabling environment – one that consists of policy commitment and cohesive coordination, robust capacity, sound data monitoring systems and accountability – are key for Nepal. To ensure “no one is left behind” in the context of FSN, strong partnerships that work in a collaborative and coordinated way will require new cultures and modalities of working together.

It is very important to formulate and approve appropriate legislation and programmatic action following the spirit of the Constitution that guarantees food to every citizen of Nepal. While the goal is lofty, real action on the ground will be demonstrated by implementing the goals of the Constitution. Faster the implementation of the Right to Food and Food Sovereignty Act 2018 through the formulation of necessary Regulation as per Section 46 of the Act, greater the probability of achieving SDG2 within the specified time frame.

Enhanced clarity in the roles of federal, provincial, and local government institutions is critical for better coordination, but more is needed. In addition to clarity, commitment of the concerned agencies is also required. This should be supported with appropriate incentives which should be tangibly earmarked in performance evaluations and government officials should be held accountable to make progress on reducing food insecurity and decreasing the burden of malnutrition.

TARGET 2.1: ENDING HUNGER

KEY ISSUES

Poverty, hunger and undernourishment.

Using an international benchmark for extreme poverty (1.25 USD per day), Nepal has made substantial progress in reducing poverty, nationally defined poverty is recorded at 21.6% in 2015 compared to 31% in 2004 (NPC 2017). Improvements have been reported not only in terms of monetary indicators, but also against multi-dimensional measures which are drawn from a wide range of sources: key informant interviews, consultations with academic, civil society, and government leaders; participatory works; academic research, the national development plan, the constitution and the SDGs. According to a recent report, in 2013, Nepal was highlighted particularly for the reduction of the global MPI from 2006-2011. During this period, Nepal reduced acute multi-dimensional poverty, as measured by the global MPI, faster in annualized terms than any other country of the 34 countries covered (NPC 2018). The overall multi-dimensional poverty headcount ratio in Nepal in 2014 was reported between 26.2 and 31.0% of the population, the rural poverty head count ratio is much higher than for urban areas. While 80% of the population resided in rural areas in 2014, more than 90% of them were multi-dimensionally poor. According to a recent State of Food Security and Nutrition Report 2017, nearly 8.1% of the total population (23.2 million) are undernourished in Nepal (FAO, IFAD, UNICEF, WFP and WHO 2017). Despite promising progress in mitigating hunger, as measured by the Zero Hunger Index (ZHI) which reported substantial improvement with 21.9 in 2016, the country is still considered to have a serious hunger and food insecurity issue (ZHI score higher than 20 is considered serious) (IFPRI 2017).

Safe, hygienic and nutritious food supply.

Nepal still struggles in meeting high standards of safe, nutritious diets for the entire population. There are still issues of a lack of dietary diversity, but at the same time, the sale of ultra-processed foods that are high in sugar, fat and salt are increasingly in high demand and sold everywhere, even in remote mountaneous districts such as Humla. The distribution of sub-standard and inedible food has reached the Supreme Court of Nepal. Responding to a case filed by some petitioners, the Supreme court has ordered the government to assist in improving the productivity of agricultural land, to check the quality of food grains supplied by neighbours and the international community before distributing during disasters, to operate regional labs, and to blacklist organisations that commit irregularity in the course of distributing food grains. This reflects the Nepalese people's concerns over the quality of food which is

provided as assistance or which is purchased.

CHALLENGES

Identification of households below the poverty line.

Identifying those who are most food insecure in the country is a challenge because of the lack of disaggregated data of intensity of food insecurity and food security in all communities and constituencies of local government. The government has identified poor households in 26 districts and distributed Poverty Card in 5 districts. It can be assumed that many poor households are food insecure and suffer from hunger, as poverty is directly related to hunger. Yet, there are many more that need to be "counted" and identified in 51 districts. There are several tools that help in identifying the poor households and households with increased intensity of food insecurity such as FAO's Food Insecurity Experience Scale (FIES).

Reaching hard to reach people.

Providing food security and nutrition to every person is a Herculean task for Nepal due to biasness in food distribution not only among provinces, districts, local government constituencies and communities, but also among the members within a household. Quite often, nutritionally vulnerable people can be difficult to reach, and agencies require extra efforts and resources to reach them. However, the tendency of agencies is to work with the people and communities that are easy to approach and can grasp the ideas quickly. Because of the complexity associated with vulnerable populations, they have been left behind by development even with targeted efforts. Therefore, creating employment, including income generating opportunities for the poor and vulnerable, requires business other than the usual and an expansion of the programmes such as food/cash for work or micro-projects at the household level.

TARGET 2.2: ENDING ALL FORMS OF MALNUTRITION

KEY ISSUES

Targeting women and socially excluded communities lagging behind in terms of nutrition.

Nepal's Constitution does not permit discrimination on the basis of sex. It includes special directives to provide equal opportunities to women and men but variations in the prevalence of undernutrition are seen by age, gender, ethnic and caste group, socio-economic status, and provinces. In most of Nepalese households, women are expected to eat last after feeding all the family members. Furthermore, women do not get access to the best nutritious portions of food, though improvement is gradually taking



Nationally defined poverty is recorded at **21.6%** in 2015 compared to **31%** in 2004 (NPC 2017).



Nearly **8.1%** of the total population (**23.2 million**) are undernourished in Nepal (FAO, IFAD, UNICEF, WFP and WHO 2017).

place due to application of instruments related to gender equality and women's empowerment. Gender inequalities are the most pervasive of all inequalities, and interactions between SDG2 on zero hunger and the SDGs on gender equality and women's empowerment along with other SDGs are an essential pre-condition to achieving SDG2. Ending hunger and improving nutrition is not only crucial for women due to their key roles in food production, food preparation and childcare, but also because of their special vulnerabilities related to reproductive health.

Promotion of multi-sectoral approach.

The causes of nutritional deficiencies are multiple and are interrelated. Therefore, addressing underlying causes of all forms of malnutrition requires multi-sectoral approaches in nutrition as has been envisaged by the MSNP. But sectoral ministries championed to work with sectoral focus guided by disciplinary bias often undermine to integrate nutrition-sensitive actions into the Annual Work Plan and Budget (AWPB). Lack of capacity of sectoral ministries is an issue which needs to be responded to swiftly and appropriately.

CHALLENGES

Scaling-up nutrition-sensitive training in remote and to vulnerable communities.

Importance of nutrition training have been realised at all levels by all stakeholders. However, nutrition training generally targets women, whereas the underlying cause of women and children's

undernutrition lies with men as well. In addition, training hardly reaches to the remote villages and vulnerable communities, and instead is generally organised in accessible areas, market centres and road heads. Thus, training must include not only women, but men, as well as in hard to reach remote places of the country.

Training is necessary but not adequate.

As discussed earlier, training is necessary but a weak instrument to change behaviour. Underlying causes of malnutrition in Nepal are not solely lack of awareness and ignorance. But poverty, political instability, and country's geographical conditions contribute to maternal and child malnutrition in Nepal. The power of training increases manifold when it is tied up with income generating activities such as Home Nutrition Gardens (HNGs), popularly known as kitchen gardens.

Existing child nutrition status is unacceptable.

Nepal has made remarkable progress in reducing stunting in under five years children from 57% in 2001 to 37.3% in 2014 and 36% in 2016 (MoH 2016). However, the existing prevalence is unacceptably high (NPC, 2012). The current average annual rate of reduction of stunting needs to accelerate if Nepal wants to achieve the SDG target of reducing the number of stunted children to 15% by 2030. Addressing inadequate maternal, infant and young child feeding (MIYCF) practices, untreated episodes of acute malnutrition, infections, and deficiencies in

▼ *Farmers in Mountain districts often use traditional methods for grain processing.*

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micronutrients, all of which constitute immediate and underlying causes of stunting in Nepal, is of critical importance along with addressing wasting.

TARGET 2.3: DOUBLING AGRICULTURAL PRODUCTIVITY

Of the several issues and challenges to raise agricultural productivity and incomes of small-scale food producers, the following issues and challenges are key to achieving SDG target 2.3 in the context of Nepal. These issues and challenges have remained with Nepal for decades, of which the country has not been able to respond effectively despite country's awareness and commitment to address them.

KEY ISSUES

Increased land fragmentation, conversion of agricultural land to non-agricultural purposes, small farm size and absentee landlordism.

Since the 1950s, when the country was finally free after 104 years of autocratic Rana rule, Nepal has been struggling to resolve land management related issues, particularly increased land fragmentation through land consolidation, removing dual ownership of land, ensuring rights of tenants to land and halting the conversion of agricultural land to non-agricultural purposes. To date, all policies including the "Land Reform Act 1964" and amendments have virtually failed to resolve land issues. Recent years have further witnessed increase in uncontrolled land fragmentation, rampant conversion of arable land to non-agricultural purposes and increase in fallow land (MoLRM 2015). In this regard, the government formulated the Land Use Policy 2015 based on the spirit and letters of sub-Section (e) under Article 51 of the Constitution of Nepal, 2015, Resolution Motion by the Legislative-Parliament, directions from Legislature-Parliament and Parliamentary Committees. Prior to this policy, the government had issued, the National Land Use Policy, 2013, which was replaced by aforementioned Land Use Policy 2015 with the objective to manage lands in a sustainable manner by developing a specific land use system through Land Use Plans (LUPs). Appropriately, the policy commits to enact/frame necessary Acts, Rules and Regulations and Directives Rightly, to effectively execute the LUP, but nothing has happened to date to facilitate the implementation of this policy. The LUP has unambiguously identified problems and challenges related to land reform and management and envisaged to ensure, among others, the use of Land and Land Resources (LLRs) on the basis of LUPs for protection of agricultural land, hygienic, beautiful, well-facilitated settlement and sustainable urbanisation.

Performance of agricultural innovation systems.

The government has accorded autonomy to the National Agricultural Research System (NARS) through the enactment of Nepal Agricultural Research Council Act 1991 and undertaken several rounds of restructuring of the agricultural extension system which include crop, fisheries and livestock services to the local bodies. However, effectiveness and accountability of both agricultural research and extension system remains limited. Access of farmers, particularly small-holder producers to extension service is quite low. A recent study reported that NARC's projects are mostly mono-disciplinary rather than targeted and issue-based multidisciplinary interventions. The report further goes on to add that NARC's projects are broad-based and have had some spill over effects on marginal households. Apart from spill over, the report claims, none of NARC's organisational capital is geared to addressing pro-poor issues in terms of critical mass, teams, policy or flexibility. Investment in agricultural research in Nepal is less than 0.3 percent of agricultural GDP (IFPRI 2017), which is lower than the internationally recommended one percent. Likewise, extension services are poorly organised and weak to deliver



Nepal has made remarkable progress in reducing stunting in children under five years from **57%** in **2001** to **37.3%** in **2014** and **36%** in **2016** (MoH 2016).

▼ *Women from Rautahat district build an irrigation scheme during a joint United Nations project.*

PHOTO CREDIT
WFP/Santosh Shahi





▲ *Community discussions in Humla, help to identify needs and recognise priorities.*

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services. It was said to be devolved in theory but not in practice, controlled by appointed—rather than elected—local government bodies exercising relatively little authority over many aspects of budgeting and employment (Kyle and Resnick 2016). The Constitution of Nepal stipulates that agricultural and livestock development will be a provincial power (Schedule 6), “agriculture and animal husbandry, agro-products management, animal health, and cooperatives” will be local powers (Schedule 8) and “agriculture” is included in the list of concurrent powers at the federal, provincial, and local levels (Schedule 9). But this has created confusion and uncertainties. The status and performance of the already poor agricultural extension service is further eroded due to lack of effective and timely back-up support and services from the expert subject matter services as the District Agriculture Development Offices (DADOs) and District Livestock Services Offices (DLSOs) have been terminated.

allocated to them by the federal government to other non-agricultural activities and physical infrastructure development works.

Increased feminisation of agriculture.

Shortages of agricultural labour in rural areas, due to the mass exodus of men to cities and abroad (gulf countries, Malaysia, India) in search of increased wages and driven by the increase of development, has largely feminised agriculture in Nepal. But a large majority of grassroots agricultural extension workers are male who are hardly aware of strategic and practical needs of women and their farms. Their competency to provide effective transfer of technology services is often questioned. Increasing numbers of grassroots, female agricultural extension workers will be necessary to increase the effective access of women farmers to agricultural extension services and education.

Inadequate irrigation infrastructure.

Irrigation is one of the vital inputs to increase agricultural production and productivity. On the one hand, Nepal’s geographic terrain would allow just around 67% of the cultivated land (17, 66,000 ha) to be irrigated despite the country having vast water resources. On the other hand, year round irrigation facilities are available to only 25.2% of the total irrigable land. Unless year the round irrigation facility will be extended to at least 80% of the total arable land, doubling agricultural productivity by 2030 as envisaged by SDG2.3 is remote. The government’s performance record with respect to irrigation related National Pride Projects needs to be improved.

Climate change.

Nepalese farmers are experiencing adverse effects on agriculture production and productivity due to

CHALLENGES

Local government commitment to invest in food security;

Agricultural extension service is the key responsibility of the local governments (metropolitan city, sub-metropolitan city, municipality and rural municipality), however, current resource constraints with local governments and their development priorities would not permit them to invest appropriately in the agricultural extension sub-sector. Recent evidence coming from the different districts and activities of the local governments reveal that most are prepared to compromise agricultural extension related outlays with the investment in roads and other physical infrastructure development. The increasing demand for physical infrastructure have forced local governments to invest large portions of their agricultural development budget



Since the 1950s, Nepal has been struggling to resolve land management related issues, particularly increased land **fragmentation, dual ownership of land, and halting the conversion of agricultural land into non-agricultural purposes.**

unexpected climate change. Farmers living in the hills and mountains have been losing their crops and livestock due to often and unexpected severe flash floods and resulting landslides. The Terai farmers are losing their crops due to cold waves and heat waves. In addition, many farmers have been reporting the spread of diseases and pests due to weather changes.

Timely availability of key inputs.

One of the key challenges of farmers during the key cropping seasons is shortage of quality seeds, fertiliser and agricultural machinery, as has been evidenced by low seed replacement rates. The agricultural mechanisation rate is also substantially low.

Elite capture of subsidies and grants.

The government has introduced several schemes, subsidies and grants to support smallholder producers and targeted groups in recent years. However, reports coming from the field reveal that a large majority of these inputs are often captured by the elite and resource-rich farmers who can actually afford to pay. Ensuring access of these financial schemes for smallholder producers, as well as the poorest of the poor and most vulnerable to government services and facilities is a challenge in Nepal.

TARGET 2.4: SUSTAINABLE FOOD SYSTEM

KEY ISSUES

Land degradation.

Land degradation is one of the most serious issues for sustainable food systems in Nepal. Cultivable land has been degraded over the years due to improper use of land. The situation is further worsening due to frequently occurring natural calamities such as flash floods, landslides etc. Besides natural disasters, over use of land for agriculture and heavily depended on inorganic chemicals are the major causes for land degradation. Replacing organic manures by inorganic fertilisers for commercial agriculture is increasing land degradation. As a result, land productivity is gradually decreasing over the years.

Distribution of subsidized food.

The Nepal Food Corporation's (NFC) subsidised food and food assistance from other organisations have directly impacted local food systems. Because of the food (rice) they are receiving from different organisations, most of the farmers have gradually stopped cultivating local crops such as Uwa, chiono, millet, buckwheat etc. and leaving productive land fallow. These crops are well adapted to the local conditions. Because of the rice culture, farmers are not interested in growing local, traditional crops

despite these crops having a high nutritional value. If farmers are not encouraged to continue growing these local crops, there is a potential of these crops to be forever lost, not only in fields but also in the genetic material found in local seed banks.

CHALLENGES

Reforming the food supply and distribution system to reach the poor and chronically food insecure communities in remote areas.

One of the key challenges related to sustainable food systems is to make existing food supply and distribution systems effective, strong, capable, contextual and scientific. The supply management is still traditional and has not been able to provide required food items regularly to the poorest and most food insecure. Instead, most of the people who live in the district headquarters have been benefitting from the subsidised food. Diversion of subsidised food from the targeted people and communities to the other non-targeted areas is prevalent due to political pressures. This diversion of limited resources makes for a significant and ethical challenge.

Maintaining emergency food stocks.

The lack of modern storage structures of adequate capacity in all provinces is also one of the major challenges to maintain the buffer stock of food for three months, as indicated in the Strategy and Action Plan to meet the emergency need at local and district levels. The ten years' civil war restricted the NFC's food distribution only to the district headquarters. After the Comprehensive Peace Agreement, NFC has not been able to resume the food distribution from all the depots as several depots are still not operational in the remote areas. Due to increased road connectivity, all non-functional depots might not be required. On the basis of current needs, rehabilitation of some depots is necessary for regular food distribution in the remote food insecure areas.

TARGET 2.5: MAJOR ISSUES AND CHALLENGES IN AGRO BIODIVERSITY CONSERVATION

KEY ISSUES

Agricultural commercialisation.

Agricultural commercialisation involves the replacement of subsistence traditional farming systems by specialised enterprises for crop, livestock, poultry and aquaculture products. Commercialisation of agricultural production is a priority of government to feed the ever-growing population and attain high economic growth along with increased employment in the agricultural sector. During the implementation period, traditional varieties, breeds and wild species of food crops have gradually diminished and instead monoculture systems across large arable areas that



Nearly **40%** of Terai farmers reported **25% decrease** in productivity due to **abnormal rainfall patterns**.



Investment in agricultural research in Nepal is less than **0.3 percent** of **Agricultural GDP** (IFPRI 2017),

► *Farmers in the field just before the summer monsoon begins in Makwanpur district. Erratic rainfall patterns and rising temperatures in recent years have brought about an increasing urgency to adapt to climate change.*

The indiscriminate use of chemical pesticides has resulted in loss of pollinators and predators, pest resistance to pesticides, human health hazards, and environmental degradation.



Unless year the round irrigation facility will be extended to at least **80%** of the total **arable land**, doubling agricultural productivity by 2030 as envisaged by SDG2.3 is remote.

favour the spread of homogenous modern varieties / limited improved breeds have been promoted. This potential loss of genetic diversity creates an amicable environment for insects/ disease epidemics and potential failure of agriculture systems, particularly in the context of climate change. The replacement of genetically diverse farmers' varieties by modern varieties is a serious concern for plant breeders.

Key Weak policy and regulatory framework.

The agriculture policy of the country favours monoculture cropping systems and promotes improved crop varieties and exotic breeds to obtain high agriculture production which contradicts with conservation policies and undermines the maintenance of varietal/breed diversity on farms. Nepal's Seed Act does not prioritise informal or farmer-to-farmer seed management systems. Similarly, the agriculture extension system primarily concentrates on promoting modern technologies with little knowledge on the historical traditional varieties and traditional farming practices.

CHALLENGES

Misuse and abuse of agrochemicals.

Intensive agriculture management with high use of agrochemicals is practiced widely across the country. Misuse and abuse of pesticides in intensive farming are quite common in Nepal. The indiscriminate use of chemical pesticides has resulted in loss

of pollinators and predators, pest resistance to pesticides, human health hazards, and environmental degradation from toxic residues in food, water, air and soil, and disruption of ecosystems. Initiatives on integrated best management / integrated disease management (IPM/IDM) have been undertaken to reduce hazardous effect of these chemicals, but limited success has been achieved yet (Palikhe, 2002). Developing organic/non-chemical technologies and techniques that are environment-friendly and at the same time have production potential equivalent to the chemical-based technologies is a big challenge for agricultural scientists.

Climate change.

The effects of climate change are increasingly impacting agricultural systems in Nepal. Nearly 40% of Terai farmers reported 25% decreases in productivity due to abnormal rainfall patterns. Modern varieties as well as a few traditional rice, wheat, and maize varieties have been severely affected (Bhandari, 2012 and Joshi, 2017b).

Inadequate information on traditional genetic resources.

Limited information is available on total crop species, genetic diversity, levels of genetic erosion, nutrition analysis of genetic resources and agro-ecosystem services, and traditional knowledge and farmers' innovations (Joshi and Gauchan, 2017).





Women farmers of Kaski Rupatal Rehabilitation and Fish Farming Cooperatives putting their opinions to rehabilitate and improve fish farming in Rupatal.

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NARMA

WAY FORWARD AND RECOMMENDATIONS

This chapter presents a 'Way Forward' and was prepared based on the information obtained from the policy, programme, and literature review as well as the national and subnational consultations. This should be treated as a tentative path for achieving SDG2 by 2030. To achieve the "No one Left Behind" mandate of the SDGs, FSN requires resilient collaborative partnerships. This collaboration means a culture of working together; sound, evidence-based investments; and an enabling environment supported by institutions, cohesive working structures, legislation, and policies. This section presents high-level recommendations related to legislation, policies, and programmes, institutional arrangements and enabling environments. Following this, a set of recommendations across the SDG2 targets are proposed. Finally, a draft action plan is presented which provides a road map of how to achieve the recommendations laid out in the report.



Soniya Shrestha from a school in Sindupalchowk, putting her thoughts down on paper for a drawing competition titled "A world without Hunger".

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WFP/Santosh Shahi

LEGISLATION, POLICIES, AND PROGRAMMES: ENSURING THEY ARE MEANINGFUL TO ACHIEVE SDG2

Nepal's Constitution enshrines food as a fundamental right of every citizen. This constitutional provision is highly consistent with SDG2 to ensure food security for all. However, its full application is contingent upon the implementation of the Right to Food and Food Sovereignty Act. As food sovereignty is a precondition of genuine FSN, effective implementation of this Act will contribute to the effective governance for food security, which ultimately contributes to improved nutrition and health of citizens.

As discussed in chapter 4, five multi-sectoral FSN policies make major contributions to the SDG2 mandate. These are shown in Table 1.
Table 1: Five Major FSN Policies of Nepal and their Relation to SDG2

POLICY	GOAL	CONTRIBUTION TO SDG2	REMARKS
Agricultural Development Strategy (2015-2035)	Commercialisation and diversification of agriculture, sustainable agricultural growth, and poverty reduction	End hunger and increase access for all people including poor, vulnerable, and infants to safe, nutritious, and sufficient food (2.1), increase agricultural productivity (2.3), and sustainable food production systems (2.4)	Replaced APP (1995-2015), multi-sector strategy with four outcomes and 13 outputs
Food and Nutrition Security Plan of Action (FNSP) (2013-2022/FNSP20132022)	Ensure national FSN with a specific focus on the agricultural sector	Strategic food security interventions and contribution to all SDG2 targets	Prepared in conjunction with the ADS and MSNP
Nepal Zero Hunger Challenge (2016-2025)	End hunger and enhance rights-based access to FSN	Provide short and long term solutions to achieve sustainable as well as inclusive food system development, contribute to all SDG2 targets	Complementary to ADS, FNSP, and MSNP
Nepal Health Sector Strategy (NHSS) (2016-2021)	Improve health of all people through an accountable and equitable health service delivery system	Contribute to end all forms of malnutrition (2.2)	Adopts the vision and mission set forth by the National Health Policy 2014 and strengthens multi-sectoral plans including the MSNP
Multisector Nutrition Plan 2018-2022	Accelerate the reduction of maternal, adolescent, and child undernutrition	Contribute to end all forms of malnutrition (2.2)	Part of the global Scaling-Up Nutrition (SUN) movement and is committed to improve the nutrition status of its citizens

Apart from the above policies, the government has already developed and approved several long-term, visionary plans related to water, seeds, biodiversity, climate change, school meals, health, gender, and social protection. Therefore, for effective contribution to and achievement of SDG2, it will be necessary to ensure consistent actions as well as monitoring frameworks between the five major policies listed in Table 1 and other long-term policies. In terms of results indicator frameworks (outputs and outcomes), sub-indicators and proxy indicators to measure performance need to be included. This Review shows that there are some overlaps and discrepancies in targets, particularly in their values or their targets measured at each five-year interval. Ensuring consistencies between indicators and their targets will not only remove uncertainties, duplications, and confusion at the implementation level but also support timely monitoring and evaluation and avoid unnecessary costs associated with duplication.

In addition, most of the policies were developed prior to knowing the definite shape, scope, and mandate of the federal, provincial, and local governments or even the SDG2 global goal setting. Therefore, updating these policies so they align with the present changed environment, institutional landscape, and legal provisions (Constitution of Nepal 2015, Local Government Operation Act 2017) will be important.

INSTITUTIONAL ARRANGEMENTS: MAKING THEM EFFECTIVE TO ACHIEVE SDG2

There are already institutional arrangements for coordinating FSN activities such as the Nutrition and Food Security Steering Committees (NFSSC) at national, provincial and local levels. Currently, the structure exists at the federal (national) level and also in some districts, erstwhile VDCs, municipalities, and communities (wards) where the MSNP I (2013-2017) was operational. These committees need to be adjusted as per the new structure of the State. These structures were developed under the unitary system where central orders were carried out by local authority. Under the new context where provincial or local authorities have the right to reject central orders, different approaches are needed to streamline the NFSSC as part of the overall system, not only in the districts of the MSNP, but in all 77 districts covering 753 RMs/Ms and 6743 wards (<http://103.69.124.141/MOFAGA>). Capacity development of provincial and local authorities will also have to be ensured, where needed, by the National Nutrition and Food Security Secretariat (NNFSS) in the NPC.

Additionally, ensuring the right representation in the NFSSC and NFSCC at each level is a critical issue. Currently, representation of government agencies at the central level, such as the NPC

and related ministries such as Ministry of Health and Population (MoHP), Ministry of Agriculture and Livestock Development (MoALD), Ministry of Land Management, Cooperative and Poverty Alleviation (MoLMCPA), Ministry of Federal Affairs and General Administration (MoFAGA), Ministry of Education, Science and Technology (MoEST), Ministry of Women, Children and Senior Citizen (MoWCSC), is clear. However, representation from civil society, the private sector, academia, and farmers' organisations also needs to be included. The composition of the committees at the provincial level could be structured similar to the federal level composition of the NFSSC and NFSCC. After the formation of the Provincial Planning Commission (PPC), these committees could be chaired by the Vice-chair and a related PPC member, respectively. Representation from ministries and other sectors could be similar to what is in place at the federal level. At the district level, as districts are allowed to continue as an administrative unit for parliamentary constituencies, coordinating roles could be given to the District Coordination Committee (DCC). Other members could come from related district level government offices such as Agricultural Knowledge Centres (AKCs) and from the district level network of NGOs, school management committees, private sector business owners, and farmers' organisations. At the local level, the Mayor or Chair or Vice-Mayor or Vice-Chair could chair the NFSSC. Other members could be the Ward Chair; technical staff from the agriculture, livestock, forestry, health, water, and education sectors; members of sectoral-committees of local bodies on agriculture, livestock, forestry, health, school, and social and physical infrastructure; representatives of NGOs, Community Based Organisations (CBOs), or CSOs and farmers' organisations; or representatives of cooperatives, registered businesses, or banks. Similar structures may be adapted for the composition of the Ward level NFSSC under leadership of the Ward Chair. In addition, experts in research and evaluation of FSN programmes will also add value at all levels. Opportunities should be given to respective organisations to select their representatives rather than the NFSSC making selections. Experts could be identified and then invited to participate in the committees.

IMPLEMENTATION AND THE ENABLING ENVIRONMENT: OVERCOMING CHALLENGES TO ACHIEVE SDG2

Implementation of SDG2 should be carried out by related ministries and agencies at respective levels. All implementing stakeholders (government, CSOs, cooperatives, private sector) should make a joint action plan with delineated roles and responsibilities. Activities can be detailed for each indicator and there should be one lead and other related agencies as implementation partners for all activities. Monitoring and review

of implementation could be undertaken biannually. In addition, monitoring can be done on an as needed basis within each quarter using the results based monitoring system. The progress of SDG2 implementation will further be reviewed biannually by the NFSSC. In addition to this, in each two-year period, there should be an evaluation and the findings from that evaluation should be used to make evidence-based decisions for the forthcoming SDG2 programmes.

Capacity development is an integral part of the SDG2 plan. In addition to orientation, workshops should be held to enhance the planning, monitoring, and data collection capacity of the staff working at each level. Furthermore, special workshops should be held to motivate the elected representatives to better plan and monitor the SDG2 programme.

CROSSCUTTING RECOMMENDATIONS TO IMPROVE POLICIES, INSTITUTIONS, AND ENABLING ENVIRONMENTS

There are key political economy recommendations that must occur now and into the future. They are improving coordination and accountability, building human capacity, increasing funding and national investment, and improving data systems. Without these, any of the other recommendations could stall.

CROSSCUTTING RECOMMENDATIONS

1. Formulate the Regulation to implement the Right to Food and Food Sovereignty Act 2018
2. Strengthen political commitment while including SDG2 in all national policies, plans, strategies, and budgets and localizing SDG2 at sub-national levels in order to set priorities and sequencing as well as focus on community engagement in programme development and implementation to promote community ownership.
3. Improve policy coherence across all policies and plans related to food security and food systems, agriculture, and nutrition.
4. Improve the horizontal and vertical coordination of all food security and nutrition actors – government, civil society, international, and private sectors.
5. Improve data collection, management and sharing process including on-line data and information sharing, and monitoring and evaluation results among key stakeholders



Food market in the Terai.

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Giambone

6. Further assist to localise NeKSAP to all 753 local governments and ensure it has timely, reliable, accurate, and useful data and risk-based monitoring for policy decision making and programme redesign and adjustment. This can be done by utilizing the NeKSAP network to support the rollout of further national FSN or FS planning/implementation policies/plans/ service delivery.
7. Conduct a human capacity needs assessment in the areas of food security and nutrition and then address the gaps through formal and non-formal training programmes for frontline workers and formal education programmes in secondary schools and universities for high-level staff including distance learning in both areas to allow training in remote areas in the Hills and Mountains.
8. Presently inactive multi-stakeholder platforms, such as the National Nutrition and Food Security Steering Committee (NNFSSC) and National Nutrition and Food Security Secretariat (NNFSS), should be operationalized and those that are presently functioning should be further strengthened to support a coordinated approach and oversight to proposed provincial and local level FSN coordination mechanisms through replication of these platforms at the provincial and local level.
9. Use equity focused and gender responsive approach to leave no one behind in FSN for planning, monitoring, reviewing, evaluation and using the evidence in decision making.
10. Take whole country approach as FSN is a concern of every citizen, everywhere.

11. Enhance capacity of human resources in the areas of resource management, integrity, honesty, accountability, transparency, coordination and synergy development.

RECOMMENDATIONS AND ACTION PLAN ACROSS FIVE TARGETS OF SDG2

The recommendations for Nepal are grounded in the five targets of SDG2 – which are to end hunger, end all forms of malnutrition, double the productivity of small scale producers, sustainable food system and agro-biodiversity conservation. These recommendations should be implemented in a way that addresses the broader challenges impacting the country that were outlined earlier in this Review. The recommendations were formulated using the latest evidence of what has made an impact on hunger, food insecurity, nutrition vulnerability, and unsustainable food systems. In addition, the recommendations were formulated based on other national or expert reports that have assessed the food security and nutrition situation in Nepal as well as “what has worked” in other country settings.



Rural roads serve as vital access routes to district markets.

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CONCLUSIONS

It is the hope that the findings and recommendations in this report will provide strategic advice on the way forward and will serve as the basis for a SDG2 Action Plan to implement these findings for Nepal. The implementation of the recommendations will need to take a 'whole of country' approach. A multi-stakeholder platform should guide inter-ministerial and partner efforts to address this multi-dimensional problem. It will also be critical to ensure that the Strategic Review and Action Plan serve everyone in Nepal: including the hard-to-reach populations, the most food insecure, and the most nutritionally vulnerable – particularly women, children, elderly people, differently abled persons, ethnic and caste minorities, the poor, the geographically-remote, and those affected by natural disasters.

Satisfied women farmers collect a bountiful harvest, that contributes to improved livelihoods.

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NARMA

Ultimately, addressing hunger and the burdens of malnutrition is a strategic and critical investment in the future of Nepal. If children have the right food and nutrition at an early age, they will be able to grow to their full physical and mental potential. As a result, when they become adults, they will have fuller and more productive lives and will be better able to provide for their own children. These inter-generational effects will allow families to escape poverty, engage in the economy, and fully participate in political processes. Progress towards zero hunger will have multiplier benefits for society as a whole, contributing to significant reductions in national poverty, building the human capital required for long-term economic growth, and supporting broader efforts to achieve stability. The enhanced growth and expanded opportunities will enable the country to invest more in hunger reduction and other development gains, creating a virtuous cycle.

Long lasting change takes time. The nutrition, food, and agriculture plans in the country are ambitious and hunger and stunting have been declining, which should be commended. At the same time, Nepal is on a long path towards sustainable development and economic security. Goals and targets should be aggressive, but also realistic and achievable within appropriate timeframes, and there will need to be sufficient financial resources dedicated to these efforts. Food security and nutrition should be central to the overall development for Nepal. It should not be assumed that development and economic growth will “fix” food security and nutrition on their own. This report emphasizes the need to build on human, natural, and social capitals. Without these, any SDG will be impossible to achieve. Agriculture-led growth and driving down undernutrition will be key for Nepal now, and into the future.



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Migration of male family members often lead to women taking over the added responsibility of farming.

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ANNEXES

ANNEX 1 SDG2 DRAFT ACTION PLAN

Target 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

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
1. Increase employment and incomes of the most vulnerable, disadvantaged, and marginalized Households to increase food purchasing power	(a) Expand/scale up food/cash for work programmes with guaranteed annual minimum employment days targeting vulnerable Households in food insecure communities and hard to reach geographies	Structure (Programme expansion)	Mountain Hills Terai	Food insecure, vulnerable	2018-2030	MoLESS MoLMCPA	MoAL MoCS MoEAP MoHA, WFP, NFC	WFP Government	SDG1.3 SDG 8.1, 8.2, and 8.5
	(b) Scale up passing the gift schemes on backyard livestock operations including goats, heifers (cattle), and poultry that include training and management of those operations	Structure (Programme expansion)	Mountain Hills Terai	Food insecure, vulnerable	2018-2030	Local Government MoALMC	MoALMC	WB ADB GAFSP Government	SDG1.1 SDG3.1 and 3.2 SDG8.1, 8.2, and 8.5
	(c) Assist targeted households to manage year-round home gardens that are nutrition-sensitive and paired with nutrition education	Policy	Mountain Hills Terai	Small holders, vulnerable HH	2018-2030	Local Government MoALMC MoSD	MoALD	WB GAFSP SDC, DFID ADB Government	SDG1.1 and SDG 1.3 SDG3.1 and 3.2, SDG8.1, 8.2, and 8.5
	(d) Promote self-employment through skills based micro-enterprises	Policy	M Mountain Hills Terai	Landless and small farmers	2018-2030	Local Government MoTFE MoLMAC	MoCS MoTFE	UNDP, AusAid GIZ, DFID, GAFSP Government	SDG1 SDG4.4 SDG8.1, 8.2, 8.3 and 8.5
	(e) Facilitate target groups to gainfully engage in contract farming through a package of service (awareness, training, negotiations, linking with the lead firms)	Policy, Implementation support	Hills Terai	Landless	2018-2030	Local Government	Local Government MoLMAC	Private sector	SDG1 SDG8.1, 8.2, and 8.5

to be continued: Target 2.1

to be continued: Target 2.1

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
2. Implement a national scheme/ project to provide basic food stuffs at subsidized prices to Households with a below the poverty line (BPL) identity card	(f) Expand lease hold forestry scheme to generate employment and income generating opportunities	Structure (Expansion)	Hills Terai	Landless	2018-2030	Province Government	MoFE MoITFE	IFAD, WB, ADB, SDC, GIZ, Government	SDG1.1
	(a) Assist local governments to identify Households below poverty	Structure (Expansion)	Mountain Hills Terai	NA	2018-2022	MoLMCPA	MoIAL	Government	SDG 1.3
	(b) Launch a federal, provincial, and local government partnership scheme to increase availability of basic food stuffs such as rice, flour, and pulses at subsidized prices to BPL HH	Policy	Mountain Hills Terai	Vulnerable	26 Districts: 2018-2030 51 Distis- 2019-2030	MoALD	MoALMC Local Government	Government	SDG 1 SDG8.1, 8.2, and 8.5
3. Plan and implement a special food production programme targeted to small holders and vulnerable (Households having both BPL Identity Card and Kisan (Farmers) Card through all 753 local governments	(c) Open fair price shops where Households with BPL cards and food vouchers can buy food items	Policy	Mountain Hills Terai	NA	2018-2030	MoAL Local government	Cooperatives Traders	Government	SDG 5.4
	(d) Establish intensive beneficiary monitoring systems to ensure that neither elite group could capture nor the targeted group misuse the subsidized food stuff	Policy	Mountain Hills Terai	NA	2018-2030	MoALD	MoLMAC Local governments	Government	SDG 5.4
	(a) Formulate Regulation to accelerate implementation of Right to Food and Food Sovereignty Act	Policy	NA	NA	2018	MoALD	MoJPA	FAO, WFP	SDG1 SDG3 SDG8.1, 8.2
	(b) Mobilize/assist local governments to issue Kisan (Farmers) Cards to all farmers in their jurisdiction	Structure (Expansion)	Mountain Hills Terai	Vulnerable	2018-2030	MoALD	MoLMAC Local governments	Government	SDG1.3

to be continued: Target 2.1

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL.	GROUP		LEAD	COLLABORATOR		
	(c) Provide price subsidies on seeds and fertilisers and access to farm machineries including hiring pump sets for irrigation or small schemes to assist a group of farmers	Policy	Mountain Hills Terai	Vulnerable	2018-2030	Local government	MoALD MoLMAC	ADB, WB JICA, GAFSP, DFID	SDG1.3, 1.4
	(d) Provide full insurance coverage for the crops grown by these groups	Policy	Mountain Hills Terai	Vulnerable	2018-2030	Insurance companies	MoALD MoLMAC Local governments	NA	SDG1.5
	(e) Arrange timely and quality participatory technology transfer (extension) services integrated with collateral free agricredit to the service recipients focused on Climate Smart Technologies.	Structure (Expansion)	Mountain Hills Terai	Vulnerable	2018-2030	Local government	MoALD MoLMAC MFIs Development Banks Commercial Banks	NA	SDG 1.4. and 1.5 SDG8
4. Ensure food supply stability	(a) Strengthen market monitoring systems to halt food stuff carteling/syndicating and price volatility	Structure (Expansion)	Mountain Hills Terai	NA	2018-2030	MoHA MoSD	Mo/AL Local governments	NA	SDG 1.b SDG 8
	(b) Maintain buffer stocks of basic food items in strategic locations to use in incidences of severe food shortages or natural disasters	Structure (Expansion)	Mountain Hills Terai	NA	2018-2030	MoCS	Mo/AL Local governments	WFP, JICA, NFC	SDG1.3 and 1.5

Target 2.2 By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in children under 5 years of age, and address the nutritional needs of adolescent girls, pregnant and lactating women, and older persons

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL.	GROUP		LEAD	COLLABORATOR		
1. Improve health and hygiene practices including WASH, healthcare, education, and women's empowerment	(a) Implement and expand community led total sanitation practices	Structure	Mountain Hills Terai	All	2018-2030	Local government	MoSD	JICA, UN-Habitat, Embassy of Finland, UNICEF	SDG3.3 SDG4 SDG6
	(b) Expand ODF declarations and monitor progress	Structure	Mountain Hills Terai	All	2018-2030	Local government	MoHP MoSD	Government	SDG3 SDG4 SDG6
	(c) Construct and rehabilitate drinking water facilities (tap water)	Structure	Mountain Hills Terai	All	2018-2030	Local government	MoUD MoSD	SDC, DFID, UNICEF, JICA	SDG3.3 SDG6
	(d) Awareness of personal hygienic practices, especially women's awareness	Process	Mountain Hills Terai	All	2018-2030	Children, women	MoHP MoSD	JICA, UN-Habitat, Embassy of Finland, UNICEF	SDG3 SDG4 SDG6
2. Mitigate wasting by implementing community-based and integrated management of acute malnutrition programmes	(a) Capacitate community-based health workers to reduce wasting and overweight problems among children under 5 years of age	Process	Mountain Hills Terai	Children, HW	2018-2030	Local government	MoHP MoSD	USAID, EU, UNICEF	SDG3
	(b) Capacitate local government to plan and implement programmes related to acute malnutrition, targeting women and socially excluded communities that are lagging behind in terms of nutrition	Process	Mountain Hills Terai	Vulnerable	2018-2030	Local government	MoHP MoSD	Government, UNICEF	SDG3.3

to be continued: Target 2.2

to be continued: Target 2.2

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL.	GROUP		LEAD	COLLABORATOR	
3. Respond to underlying causes of stunting among children under 5 years of age	(a) Provide support on maternal, infant, and young child feeding (MIFYCF) practices	Process	Mountain Hills Terai	Children, HW	2018-2030	Local government	MoHP MoSD	Government, UNICEF, EU SDG3.2
	(b) Treat acute malnutrition and micronutrient deficiencies	Process	Mountain Hills Terai	All	2018-2030	Local government	MoHP MoSD	Government, UNICEF, EU
4. Implement national fortification programmes	(a) Expand the reach and availability of iodised salt mainly in areas where iodized salt is not yet popularized	Process	Mountain Hills Terai	All	2018-2030	MoHP MoICS	MoEAP MoIAL Local government	Private sector, Government SDG3.1
	(b) Implement food fortification programmes amongst highly malnourished populations	Process/ Implementation	Mountain Hills Terai	Vulnerable	2018-2030	MoHP	MoSD MoIAL Local government	Private sector, Government, UN SDG3.1
5. Tackle the unique nutrition needs of women and girls by focusing on micronutrient deficiencies, especially anaemia	(a) Increase awareness particularly among PLW (Pregnant and Lactating Women) on the need for consumption of iron supplementation	Process/ Training	Mountain Hills Terai	PLW	2018-2030	Local government	MoHP MoSD	EU, USAID SDG3.3
	(b) Encourage production and consumption of green vegetables in HING	Process/ Training	Mountain Hills Terai	All	2018-2030	Local government	MoALD MoLMAC	USAID, EU, JICA SDG 2.3, 2.4, and 2.5
6. Recognize the growing trends of obesity in its early stage	(a) Prevent the spread of obesity through awareness campaigns, promotion of healthy eating practices, and discouraging consumption of processed foods	Process/ Training	Mountain Hills Terai	All	2018-2030	Local government	MoHP MoSD	USAID, EU, JICA SDG3

to be continued: Target 2.2

to be continued: Target 2.2

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
	(b) Undertake cooking demonstrations to educate people on healthy food preparation	Process	Mountain Hills Terai	All	2018-2030	Local government	MoALD MoLMAC MoSD	Government	SDG3
7. Ensure food safety along the food chain	(a) Formulate food safety policies and enact the Food Safety Act	Policy	Mountain Hills Terai	NA	2018-2030	MoALD	MoLIPA	Government	SDG12.3
	(b) Establish the Food Safety Authority and monitor food safety at various levels of production, processing, and distribution	Policy	Mountain Hills Terai	NA	2018 FSA 2018-2030 Monitoring	MoHA MoALD	MoIAL Local government	Government	SDG12.1 and 12c
8. Tackle the nutrition needs of children under 5 by focusing on anaemia	(a) Undertake deworming campaigns	Process	Mountain Hills Terai	Children	2018-2030	Local government	MoHP MoSD	USAID, EU	SDG3
	(b) Encourage consumption of green vegetables in HNG	Process	Mountain Hills Terai	Children	2018-2030	Local government	MoALD MoLMAC	USAID, EU, JICA	SDG12
	(c) Scale up school feeding programmes in early childhood development centres	Process	Mountain Hills Terai	Children	2018-2030	Local government	MoEST	WFP	SDG3

to be continued: Target 2.2

Target 2.3: By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular 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

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
1. Expand irrigation facilities aggressively to cover the full potential of irrigable farm land (80% of the arable land) by using both conventional and non-conventional irrigation	(a) Incentivise private entrepreneurs/cooperatives to build, own, operate and transfer (BOOT) irrigation systems	Policy support	Terai	NA	2018-2030	MoEWRI MoPID, MoALD Local governments	WUAs Cooperatives Private Sector	WB, ADB	SDG 1.3 SDG 8.1, 8.2, and 8.5
	(b) Assure expeditious completion of national pride irrigation projects	<ul style="list-style-type: none"> ■ Implementation support ■ Monitoring 	Hills Terai	NA	2018-2021	MoEWRI	MoPI MoLMAC Contractors Local governments	NA	SDG 1, SDG 8 SDG 9
	(c) Ensure timely repair and maintenance of the irrigation systems in operation including Farmer managed irrigation systems (FMIS)	<ul style="list-style-type: none"> ■ Implementation support ■ Monitoring 	Mountain Hills Terai	NA	2018-2030	MoEWRI MoALD DoI PG, and Local governments, WUAs	Cooperatives Private sector	WB, ADB	SDG 1, SDG 8
	(d) Promote multiple use of water services (MUS) technologies in favour of small holders, women farmers, and the most vulnerable	<ul style="list-style-type: none"> ■ Policy support ■ Implementation support 	Mountain Hills Terai	NA	2018-2030	Local government WUA Farmer Groups	MoALD, MoEWR MoPI	WB, ADB,	SDG 1, SDG 8, SDG 9, SDG 13
	(e) Promote appropriate micro irrigation technologies such as drip irrigation, pond irrigation, etc.	<ul style="list-style-type: none"> ■ Policy support ■ Implementation support 	Mountain Hills Terai	Small-holders	2018-2030	Local governments WUA Farmer Groups	MoALD, MoEWR MoPI	WB, ADB,	SDG 1, SDG 8, SDG 9, SDG 13
	(f) Expand utilisation of small rivers/rivulets for irrigation purposes	Policy support	Mountain Hills Terai	NA	2018-2030	Local governments	MoLMAC, MoALD Local governments	WFP (food for work/cash) FAO (TA)	SDG 1, SDG 8, SDG 9
	(g) Promote lift irrigation, preferably solar energy based	<ul style="list-style-type: none"> ■ Implementation support ■ Monitoring 	Mountain Hills Terai	NA	2018-2030	MoLMAC Local government	MoEWRI, MoALD, MoPID	FAO	SDG 1, SDG 8, SDG 9

to be continued: Target 2.3

to be continued: Target 2.3

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
2. Expand coverage of improved seeds and breeds	(a) Encourage the private sector to produce improved and certified seeds of crops and breeds of livestock	<ul style="list-style-type: none"> ■ Implementation support ■ Monitoring 	Mountain Hills Terai	NA	2018-2030	MoALD MoLMAC Local governments	MoALD NARC	FAO (TA)	SDG 1, SDG 8
	(b) Assist NARC and private researchers/breeders to develop climate resistant varieties of crops and animal breeds	<ul style="list-style-type: none"> ■ Implementation support ■ Monitoring 	Mountain Hills Terai	NA	2018-2030	MoALD	MoLMAC NARC Local governments	FAO (TA)	SDG1 SDG8
	(c) Orient public and private extension services to promote climate smart seeds and breeds	<ul style="list-style-type: none"> ■ Awareness ■ Training 	Mountain Hills Terai	NA	2018-2030	MoLMAC Local governments	MoALD	-	SDG1 SDG8
3. Scale up mechanization, including for smallholder farmers, to address the shortage of agricultural labour in rural areas and to lower the cost of production and attract rural youths to agriculture	(a) Establish custom hiring service centres to enable smallholders to rent costly agricultural machinery at fair prices	Implementation support	Mountain Hills Terai	NA	2018-2030	MoALD MoLMAC Local governments	Develop. Projects, Entrepreneurs	-	SDG1 SDG8
	(b) Develop and assist village agricultural mechanics (Kaligarh) to operate repair service centres/workshops for agricultural machinery	Implementation support	Mountain Hills Terai	NA	2018-2030	Local governments	MoALD MoLMAC	-	SDG1 SDG8

to be continued: Target 2.3

to be continued: Target 2.3

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
4. Ensure farmers' access to high-quality, responsible, and reliable agricultural innovation systems, particularly for small holders, women, and the most vulnerable	(c) Provide training and demonstrations to farmers on appropriate use of agricultural machinery targeting at least 50% women farmers	<ul style="list-style-type: none"> ■ Training ■ Implementation support 	Mountain Hills Terai	NA	2018-2030	Local governments	MoALD MoLMAC	-	SDG1 SDG8
	(d) Develop model villages/rural municipalities to demonstrate the impact of agricultural mechanization	Policy support	Mountain Hills Terai	NA	2018-2030	Local governments	MoALD MoLMAC	-	SDG1 SDG8
	(e) Revitalize Agricultural Tools Factory Birgunj and operate under a public private model	Policy support	Terai	NA	2018-2030	MoALD	MoICS MoF	Private entrepreneurs	SDG1 SDG8
	(a) Reform and reorient the National Agricultural Research System (NARS) that keeps farmers and their needs at the centre	Implementation support	NA	NA	2018-2019	NARC	MoALD NPC MoF	NA	SDG1 SDG8
	(b) Enhance the capacity of the public extension system to deliver climate smart services and technologies	Training	NA	NA	2018-2030	MoLMAC	MoALD Local governments	NA	SDG1 SDG8
	(c) Enhance the capacity of farmers and communities to test, validate, and carryout on-farm technology demonstrations	Training	Mountain Hills Terai	Small Holders	2018-2030	Local government	MoLMAC	NA	SDG1 SDG8
	(d) Initiate and institutionalize a voucher system for Households with Kisan Cards targeting poor and marginalised farmers to receive free technology services from the private extension service providers including veterinary services	Policy support	Mountain Hills Terai	Small Holders	2018-2030	MoALD	MoLMAC Local governments	NA	SDG1 SDG8

to be continued: Target 2.3

to be continued: Target 2.3

RECOMMENDATION	ACTION	INTERVENTION	TARGET GEOGRAPHICAL GROUP	TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
					LEAD	COLLABORATOR		
	(e) Enhance the capacity of the local government to deliver agricultural extension services targeting small holders, women, and disadvantaged groups	Training	Mountain Hills Terai	2018-2030	MoLMAC	MoALD Local governments	WFP, FAO, INGOs SDC	SDG1 SDG5 SDG8
	(f) Empower women on agriculture related decision making and access to extension, micro-finance, and markets	<ul style="list-style-type: none"> ■ Training ■ Implementation support 	Mountain Hills Terai	2018-2030	Local governments	MoLMAC	INGOs NGOs	SDG1 SDG5
	(g) Expand investment in other rural infrastructure, including roads, cold storage, distribution facilities, and "hubs" to connect rural farmers to urban markets	Implementation support	Mountain Hills Terai	2018-2030	MoALD MoLMAC	Local governments	WFP (FW/c), WB, ADB, IFAD, SDC, JICA FAO, INGOs	SDG1 SDG8 SDG9 SDG13
5. Optimize use of fertilisers including balanced use of plant nutrients	(a) Establish a fertiliser factory (urea plant)	<ul style="list-style-type: none"> ■ Capital Investment ■ Policy 	NA (Based on DPR/ feasibility)	2018-2020	MoCS	MoF MoALD	FG, Private entrepreneurs	SDG1 SDG8
	(b) Promote balanced and optimum use of plant nutrients through extension services	<ul style="list-style-type: none"> ■ Awareness ■ Training 	Mountain Hills Terai	2018-2030	Local government	MoLMAC	FAO, JICA, INGOs	SDG9 SDG12
	(c) Introduce a fertiliser targeting scheme in public fertiliser distribution system	Policy support	NA	2018-2020	MoALD	MoLMAC Local governments	FAO, JICA, INGOs	SDG9 SDG12
6. Ensure access to markets and technologies, including through investment in access infrastructure	(a) Finalise the contract farming and agribusiness promotion Act	Policy support Legislation	NA	2018-2020	MoALD	MoLIPA	FAO, JICA, INGOs	SDG1 SDG8,
	(b) Implement effective minimum support price schemes for priority commodities	Policy support	NA	2018-2019	MoALD	MoF, MoEAP	FAO, JICA, INGOs	SDG1 SDG8

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

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
1. Support a sustainable food system by strengthening and expanding extension services to provide education and training in sustainable agriculture (e.g. soil management and pesticide use)	(a) Strengthen farmer capacity on sustainable soil management practices (SSMP)	<ul style="list-style-type: none"> ■ Training ■ Implementation support 	Mountain Hills Terai	NA	2018-2030	Local governments Province Government	MoLMAC	FAO, SDC, INGOs	SDG 12
	(b) Promote integrated plant and nutrient management system (IPNS)	<ul style="list-style-type: none"> ■ Training ■ Implementation support 	Mountain Hills Terai	NA	2018-2030	Local governments MoLMAC	MoALD	FAO, SDC, INGOs	SDG 12, SDG 13
	(c) Incentivize farmers on organic farming practices (OFF)	<ul style="list-style-type: none"> ■ Training ■ Implementation support 	Mountain Hills Terai	NA	2018-2030	Local governments MoLMAC	MoALD	FAO, SDC, INGOs	SDG 12, SDG 13
	(d) Expand integrated pest management practices	<ul style="list-style-type: none"> ■ Training ■ Implementation support 	Mountain Hills Terai	NA	2018-2030	Local governments MoLMAC	MoALD	FAO, SDC, INGOs	SDG 13
	(e) Expand use of bio-fertiliser and bio-pesticides	<ul style="list-style-type: none"> ■ Implementation support 	Mountain Hills Terai	NA	2018-2030	Local governments MoLMAC	MoALD	INGOs	SDG 12, SDG 13
2. Ensure agriculture practices are geared more towards climate-smart agriculture (CSA) by focusing on indigenous crops that are heat and drought tolerant and conservation techniques such as zero tillage and mulching	(a) Promote cultivation of drought resilient varieties in different physio-graphic region of the country	<ul style="list-style-type: none"> ■ Awareness ■ Training ■ Implementation support 	Mountain Hills Terai	NA	2018-2030	Local governments MoLMAC	MoALD NARC	INGOs	SDG 13
	(b) Conserve and cultivate local land races	<ul style="list-style-type: none"> ■ Awareness ■ Training ■ Implementation support 	Mountain Hills Terai	NA	2018-2030	Local governments MoLMAC	MoALD NARC	INGOs	SDG 13
	(c) Promote climate smart farming practices such as zero tillage, mulching, etc.	<ul style="list-style-type: none"> ■ Awareness ■ Training ■ Implementation support 	Mountain Hills Terai	NA	2018-2030	Local governments MoLMAC	MoALD NARC	INGOs	SDG 13

to be continued: Target 2.4

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RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
3. Include climate change mitigation and adaptation actions in all national agriculture and food policies	(a) Build the capacity of government officials (federal, provincial and Local) on climate change issues	<ul style="list-style-type: none"> ■ Training ■ Observation Tour ■ Workshop 	Mountain Hills Terai	NA	2018-2030	MoALD MoLMAC Local governments	NARC	IFAD, JICA, ADB, UN, WB	SDG 13
	(b) Mainstream climate change issues in the sectoral policies and plans affecting agricultural and food policies	Policy support	Mountain Hills Terai	NA	2018-2030	MoALD MoLMAC Local governments	MoLMAC MoLMAC	IFAD, JICA, ADB, UN, WB	SDG 13
	(c) Conduct social audit of sectoral policies and plans affecting agricultural and food policies on their responsiveness towards climate change	Policy support	Mountain Hills Terai	NA	2018-2030	MoALD MoLMAC Local governments	MoLMAC MoLMAC	-	SDG 13
4. Develop a strong database management system in relation to climate through increased coordination with the Department of Hydrology and Meteorology that ensures timely data sharing to undertake smart, adaptive, and disaster responsive planning and implementation	(a) Strengthen capacity of the public sector on climate related data collection and retrieval	<ul style="list-style-type: none"> ■ Training ■ Implementation support 	NA	NA	2018-2030	MoALD	MoLMAC	FAO	SDG 13
	(b) Enhance timely access of the stakeholders on climate related data especially on risk assessment and forecasting	<ul style="list-style-type: none"> ■ Training ■ Implementation support 	NA	NA	2018-2030	MoALD	MoLMAC	FAO	SDG 13
	(c) Build capacity of stakeholders on the use of information on planning climate smart agricultural related plans, policies, and programmes	<ul style="list-style-type: none"> ■ Training ■ Implementation support 	NA	NA	2018-2030	MoALD	MoLMAC	FAO	SDG 13

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RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY LEAD	COLLABORATOR	FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL.	GROUP					
5. Protect natural resources through water conservation strategies, water use in drip and sprinkler irrigation, and soil management in extension services and other farmer training	(a) Reclaim and rehabilitate disaster impacted land	<ul style="list-style-type: none"> ■ Implementation support ■ Capital investment 	NA	NA	2018-2030	Local government	MoFE MoALD MoITEF MoLMAC Local governments	IFAD, Japan, UN Country Team, World Bank Group	SDG 13
	(b) Promote the use of water efficient technologies such as drip/sprinkler irrigation	<ul style="list-style-type: none"> ■ Implementation support ■ Capital investment 	Mountain Hills Terai	NA	2018-2030	Local governments WUA Farmer Groups	MoLMAC	SDC, IFAD, WB, ADB, Norway	SDG 13
	(c) Scale up group and cooperative farming to utilize fallow land	<ul style="list-style-type: none"> ■ Implementation support ■ Investment 	Mountain Hills Terai	NA	2018-2030	Local governments WUA Farmer Groups	MoLMAC MoLMCPA	SDC, IFAD, WB, ADB, Norway	SDG 1
	(d) Expand leasehold forestry programmes in degraded forest patches	<ul style="list-style-type: none"> ■ Implementation support ■ Investment 	Mountain Hills Terai	NA	2018-2030	Local government WUA Farmer Groups	MoLMAC	SDC, IFAD, WB, ADB, Norway	SDG1 SDG13
	(e) Implement integrated watershed management projects in prioritized watersheds	<ul style="list-style-type: none"> ■ Implementation support ■ Investment 	NA	NA	2018-2030	MoLMAC MoITEF	MoFE MoALD MoLMCPA Local governments	IFAD, Japan, UN Country Team, World Bank Group	SDG 13
6. Assist and encourage the production, import, and use of eco-friendly agriculture inputs (green manure, compost, bio-fertiliser, integrated plant nutrition management systems, bio-pesticides, and integrated pest management)	(a) Provide tax incentives for the establishment of a bio-fertiliser production company	<ul style="list-style-type: none"> ■ Policy support ■ Investment 	NA	NA	2018-2030	MoF	MoEAP NPC	-	SDG 13
	(b) Raise awareness of farmers on the use of the eco-friendly agriculture inputs	<ul style="list-style-type: none"> ■ Training and ■ Implementation support 	NA	NA	2018-2030	Local governments	MoLMAC	USAID, EU, SDC, DFID, JICA, ADB, IFAD	SDG 13

to be continued: Target 2.4

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RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
7. Improve early warning systems for seasonal weather changes and extreme weather events to allow farmers to better prepare and react to long-term stressors and short-term shocks from climate change and increase access to agriculture insurance	(c) Introduce Soil Health Cards (SHC) to both teach and prescribe required soil improvement techniques	<ul style="list-style-type: none"> ■ Policy support ■ Investment 	NA	NA	2018-2022	Local governments	MoLMAC	-	SDG 13
	(a) Enhance farmer access to agricultural and livestock insurance schemes	<ul style="list-style-type: none"> ■ Policy support ■ Implementation ■ Monitoring 	NA	NA	2018-30	Insurance companies	MoLMAC MoLMCPA Local governments	-	SDG1
	(b) Develop early warning forecasting systems on likely extreme weather events including seasonal weather changes	<ul style="list-style-type: none"> ■ Policy support ■ Implementation ■ Monitoring 	NA	NA	2018-30	MoFE	MoALD	FAO, WB, IFAD, INGOs	SDG1 SDG13
8. Promote the Local Adaptation Plan of Action (LAPA) as the main instrument to plan, implement, monitor, and evaluate interventions at the local levels	(c) Develop mechanisms for sharing extreme weather events at the local government level, including to farmer groups/agricultural cooperatives	Implementation	NA	NA	2018-30	MoFE	Local governments	INGOs	SDG1 SDG13
	(a) Support local government for the preparation of the LAPA, especially targeting the watershed level	Implementation	NA	NA	2018-30	MoFE	Local governments	INGOs	SDG 13
	(b) Build the capacity of the local governments on implementation of the LAPA	<ul style="list-style-type: none"> ■ Training ■ Implementation 	NA	NA	2018-30	MoFE	MoITFE MoLMAC Local government	INGOs	SDG13

to be continued: Target 2.4

to be continued: Target 2.4

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
9. Ensure effective and timely humanitarian responses to natural disasters including floods, landslides, and earthquakes to meet the immediate food and nutrition needs of everyone affected, with a focus on the most vulnerable, by strengthening the National Emergency Operation Centre and creating District Emergency Operation Centres in every district	(c) Conduct periodic evaluation on LAPA implementation, including its efficacy on reducing climatic threats	Monitoring	NA	NA	2018-30	MoFE	MoITFE MoLMAC Local governments	INGOs	SDG13
	(a) Strengthen the National Emergency Operation Centre and create District Emergency Operation Centres in every district	Implementation	NA	NA	2018-30	MoHA	MoAL	INGOs	SDG13
	(b) Establish revolving funds at each local government level for emergency response and humanitarian assistance to natural disaster victims	<ul style="list-style-type: none"> ■ Policy support ■ Implementation 	NA	NA	2018-30	Local governments	MoFE MoAL MoHA	INGOs	SDG13
10. Develop a strong mechanism within the newly structured provincial and local governments to look into the issues of natural resources management including sustainable agriculture development	(c) Establish grain banks/depots at each district level for immediate supply of food to affected families	<ul style="list-style-type: none"> ■ Policy support ■ Capital investment 	NA	NA	2018-2022	NFC	MoHA MoF MoAL Local governments	FAO, WB, IFAD, INGOs	SDG 2.1 SDG13
	(a) Strengthen a land-unit within local governments to monitor land use practices, especially conversion of agricultural land for other uses	<ul style="list-style-type: none"> ■ Policy support ■ Implementation 	NA	NA	2018-19	Local governments	MoALD MoLMAC MoLMCPA	-	SDG11 SDG13
	(b) Strengthen the capacity of local governments to deliver agricultural services	Implementation	NA	NA	2018-19	MoLMAC	Local governments	WB, ADB, SDC JICA	SDG1
	(c) Encourage local governments to increase investment in agricultural related activities	<ul style="list-style-type: none"> ■ Policy support ■ Implementation 	NA	NA	2018-19	Local governments	MoALD MoLMAC	-	SDG8

Target 2.5 By 2020, maintain the genetic diversity of seeds, cultivated plants and farmed and domesticated animals and their related wild species, including through soundly managed and diversified seed and plant banks at the 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

RECOMMENDATION	ACTION	INTERVENTION	TARGET		TIME FRAME	RESPONSIBILITY		FUNDING SOURCE	LINKAGES OR CONTRIBUTION OTHER SDGs
			GEOGRAPHICAL	GROUP		LEAD	COLLABORATOR		
1. Provide appropriate institutional mechanisms for enabling provincial and local level government and executive offices to plan, implement, and monitor agrobiodiversity conservation and utilisation	(a) Conduct extension and training for household production of high-yield and nutritious varieties including strengthening of traditional knowledge and practices	Policy support	Mountains Hills Terai	NA	2018-2019	MoALD	MoLMAC Local governments	INGO	SDG13
	(a) Conserve and promote crops and identify additional "hotspots" with reliable inventories	Research support	Mountain Hills Terai	NA	2018-2019	NARC	MoALD MoLMAC Local governments	INGO	SDG13
	(b) Collect and characterize crop wild relatives and wild edible plants	Research support	Mountain Hills Terai	NA	2018-2020	NARC	MoALD MoLMAC Local governments	INGO	SDG13
2. Regularly assess the status of already identified high agrobiodiversity "hotspots" then collect and characterize crop wild relatives and wild edible plants followed by site testing to identify high yield and nutritious genotypes followed by conserving and promoting these crops and identify additional "hotspots" with reliable inventories	(c) Conduct site testing to identify high-yield and nutritious genotypes	Research support	Mountain Hills Terai	NA	2018-2030	NARC	MoALD MoFE MoLMAC Local governments	INGO	SDG13
	(a) Strengthen/establish gene banks for varieties of seeds, plants, and endangered animal species, as well as community seed banks, and arboretum and breeding centres for indigenous species	Research support	Mountain Hills Terai	NA	2018-2022	NARC	MoALD MoFE MoLMAC Local governments	INGO	SDG13
3. Maintain the genetic diversity of seeds, cultivated plants, and farmed and domesticated animals and their related wild species									

to be continued: Target 2.5

LIST OF ABBREVIATIONS

ADB	Asian Development Bank
ADS	Agriculture Development Strategy
AFSP	Agriculture and Food Security Programme
AWPB	Annual Work Plan and Budget
APP	Agriculture Perspective Plan
AusAID	Australian Aid for International Development
BOOT	Build, own, operate and transfer
CBS	Central Bureau of Statistics
CSA	Climate Smart Agriculture
DDC	District Development Committee
DFID	Department for International Development
DoI	Department of Irrigation
DP	Development Partner
EU	European Union
FAO	Food and Agriculture Organisation
FG	Federal Government
FIAN	Food-First Information and Action Network
FIMS	Farmer managed irrigation systems
FNSPA	Food and Nutrition Security Plan of Action
FSN	Food Security and Nutrition
FY	Fiscal Year
GAFS	Global Agriculture and Food Security Programme
GDP	Gross Domestic Products
GESI	Gender and Social Inclusion
GiZ	German Technical Cooperation
GoN	Government of Nepal
Ha	Hectare
HH	Household
HNG	Home Nutritional Gardens
HSS	Health Sector Strategy
IDM	Integrated Disease Management
IFPRI	International Food Policy Research Institute
IFAD	International Fund for Agricultural Development
IPM	Integrated Pest Management
JICA	Japan International Cooperation Agency
LAPA	Local Adaptation Plan of Action
LG	Local Government
LGOA	Local Government Operation Act
MDG	Millennium Development Goal
MoAD	Ministry of Agricultural Development
MoALD	Ministry of Agriculture and Livestock Development
MoLMAC	Ministry of Land Management, Agriculture and Cooperatives
MoEAP	Ministry of Economic Affairs and Planning
MoEWRI	Ministry of Energy, Water Resources and Irrigation
MoF	Ministry of Finance
MoFE	Ministry of Forest and Environment
MoH	Ministry of Health
MoHA	Ministry of Home Affairs
MoHP	Ministry of Health and Population

MoICS	Ministry of Industry, Commerce and Supplies
MoITFE	Ministry of Industry, Tourism, Forest and Environment
MoIAL	Ministry of Internal Affairs and Law
MoLD	Ministry of Livestock Development
MoLESS	Ministry of Labour, Employment and Social Security
MoLRM	Ministry of Land Reform and Management
MoLJPA	Ministry of Law, Justice and Parliamentary Affairs
MoLMCPA	Ministry of Land Management, Cooperatives and Poverty Alleviation
MoPID	Ministry of Physical Infrastructure and Development
MoSD	Ministry of Social Development
MoEST	Ministry of Education, Science, and Technology
MoUD	Ministry of Urban Development
MoWCSC	Ministry of Women, Children, and Senior Citizen
MPI	Multidimensional Poverty Index
MSNP	Multi-Sector Nutrition Plan
NA	Not applicable
NARC	Nepal Agriculture Research Council
NDHS	Nepal Demographic Health Survey
NeKSAP	Nepal Khadhya Surakshya Anugaman Pranali
NFC	Nepal Food Corporation
NGO	Non-Governmental Organization
NNFSS	National Nutrition and Food Security Secretariat
NNRFC	National Natural Resource and Fiscal Commission
NPC	National Planning Commission
NZHC-NAP	National Zero Hunger Challenge-National Action Plan
ODA	Official Development Assistance
PFNSSC	Provincial Food and Nutrition Security Steering Committee
PG	Provincial Government
RM/M	Rural Municipality/Municipality
RWEE	Rural Women Economic Empowerment
SALT	Slope Agriculture Land Technology
SDG	Sustainable Development Goal
SINAS	Statistical Information on Nepalese Agriculture
SMP	School Meals Program
SRR	Seed Replacement Rate
SUN	Scaling Up Nutrition Movement
TA	Technical Assistance
TRT	Technical Review Team
UN	United Nations
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VDC	Village Development Committee
WASH	Water, Sanitation and Hygiene
WB	World Bank
WBG	World Bank Group
WFP	World Food Programme
WHO	World Health Organization
WUA	Water Users Association
ZHC	Zero Hunger Challenge
ZHSR	Zero Hunger Strategy Review of Food Security and Nutrition in Nepal



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