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Integrating Gender and Nutrition within Agricultural Extension Services

NEPAL
Landscape Analysis

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INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

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Landscape Analysis

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Acronyms

ADB	Agricultural Development Bank, Asian Development Bank
AICC	Agricultural Information and Communication Center
AEP	Agricultural Extension Project (Agricultural Extension Support Activity)
AES	Agricultural Extension System
AIC	Agricultural Input Corporation
AICP	Avian Influenza Control Project (AICP
APP	Agricultural Perspective Plan
APROSC	Agricultural Project Service Centre
CADP	Commercial Agricultural Development Project
CDCS	Country Development Cooperation Strategy
CEPREAD	Center for Environmental and Agricultural Policy Research, Extension and Development
CGIAR	Consultative Group for International Agricultural Research
CIA	Central Intelligence Agency, USA
CIMMYT	Centro Internacional de Mejoramiento de Maïs y Trigo/International Maize and Wheat Improvement Center
CBS	Central Bureau of Statistics
CIP	Centro Internacional de la Papa/International Potato Center
CLDP	Community Livestock Development Project
CMIASP	Community Managed Irrigated Agriculture Sector Project
CP	Cultural Practice, LLC
CRSP	Collaborative Research Support Program
CSISA	Cereals System Initiative for South Asia
CTEVT	Council for Technical Education and Vocational Training
DAE	Department of Agricultural Extension
DFID	Department for International Development
DoA	Department of Agriculture
DoC	Department of Cooperatives
DoI	Department of Irrigation
DFTQC	Department of Food Technology and Quality Control
DLS	Department of Livestock Services
EAS	Extension and Advisory Services

EIG	Education for Income Generation
FHI	Family Health International
FORWARD	Forum for Rural Welfare and Agricultural Reform for Development
GCC	Global Climate Change
GHI	Global Health Initiative
GoN	Government of Nepal
HDI	Human Development Index
HICAST	Himalayan College of Agricultural Science and Technology
HKI	Helen Keller International
IAAS	Institute of Agriculture and Animal Science
ICT	Information and Communication Technologies
IDA	International Development Agency
iDE	International Development Enterprises
IOE	Independent Office of Evaluation
IFAD	International Fund for Agricultural Development
IFDC	International Fertilizer Development Center
ILO	International Labor Organization
INGENAES	Integrating Gender and Nutrition within Agricultural Extension Services
INGO	International Non-Government Organization
INP	Integrated Nutrition Program
IWRMP	Irrigation and Water Resource Development Project
LARC	Lumle Agricultural Research Center
LFL	Leasehold Forestry-Livestock
MEDP	Micro-Enterprise Development Program
MoAC	Ministry of Agriculture and Co-operatives
MoAD	Ministry of Agricultural Development
MoFALD	Ministry Of Federal Affairs and Local Development
MoHP	Ministry of Health and Population
MoI	Ministry of Irrigation
NARC	Nepal Agricultural Research Council
NARDF	Nepal Agricultural Research and Development Fund
NARSC	National Agricultural Research and Services Centre
NDHS	Nepal Demographic and Health Survey

NDRI	Nepal Development Research Institute
NEAT	Nepal Economic, Agriculture, and Trade
NFRP	Nepal Flood Recovery Program
NGO	Non-Governmental Organization
NLSS	National Living Standards Survey
NPC	National Planning Commission
NPNL	Non-pregnant, non-lactating
PACT	Project for Agricultural commercialization and Trade
PARC	Pakhribas Agricultural Research Center
RDC	Rural Development Center
REDC	Rural Environment Development Center
RIMS-Nepal	Resource Identification and Management Society Nepal
RRN	Rural Reconstruction Nepal
SFDP	Small Farmers' Development Program
SPRING	Strengthening Partnerships, Results, and Innovation in Nutrition Globally
SSNP	Social Safety Net Project
UCD	University of California-Davis
UF	University of Florida
UIUC	University of Illinois at Urbana-Champaign
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
WEA	Women's Empowerment Activity
WEAI	Women's Empowerment in Agriculture Index
WFP	World Food Programme
WHO	World Health Organization
WUA	Water Users Association

Contents

Introduction

The Integrating Gender and Nutrition within Agricultural Extension Services (INGENAES) project is funded through the Bureau for Food Security (BFS) of the United States Agency for International Development (USAID) to support the Presidential Feed the Future Initiative, which strives to increase agricultural productivity and the incomes of both men and women in rural areas who rely on agriculture for their livelihoods.

This landscape study provides an overview of Nepal's agriculture and the status of the country's extension system. It also provides information on the prevalence of poverty, nutrition and gender related issues in the country with special focus on rural areas. It summarizes Nepal's current agricultural and nutrition policy and details the strategic goals and objectives of USAID and other donors in the country. This report provides a summary of on-going projects by the USG and other donors in the country related to agriculture extension, and gender and nutrition impacts.

INGENAES supports the development of improved extension and advisory systems (EAS) to reduce gender gaps in agricultural extension services, increase empowerment of women farmers, and improve gender and nutrition integration within extension services by directly or indirectly assisting multiple types of stakeholders within a country, such as farmers, producer groups, cooperatives, policy makers, technical specialists, development NGO practitioners, and donors.

INGENAES efforts will strengthen the capacity of key stakeholders and providing the fora and networks for them to coordinate and reach agreement on policies and strategies to implement improved EAS that better meet the needs of men and women farmers. While INGENAES project will not directly monitor beneficiary impact, it will focus on changes in institutions that directly impact men and women who access agricultural information, training, technologies and nutrition information. Improved services empower women and engage men.

INGENAES will strengthen institutions by identifying their needs and strengthening their capacity to effectively integrate gender and nutrition sensitive information and activities into agricultural extension systems with the aim to promote gender equality, improved household nutrition, and increased women incomes and, subsequently, household food security. Based on the identification of four main gaps in extension services in terms of gender and nutrition integration, INGENAES activities can be divided into the following action areas:

- Build more robust, gender-responsive, and nutrition-sensitive institutions, projects, and programs capable of assessing and responding to the needs of both men and women farmers through extension advisory services (EAS);
- Identify and scale proven mechanisms for delivering improved EAS to women farmers;
- Disseminate technologies that improve women's agricultural productivity and increase household nutrition; and,
- Apply effective, nutrition sensitive, extension approaches and tools for engaging both men and women.

Indicative activities of the INGENAES project include: learning exchanges, assessments, curricula development, training into action, mentoring relationships, internship experiences, and networks that focus on identifying gender-responsive and nutrition-sensitive innovations that can be promoted by EAS organizations, and adopted by men and women farmers. Developing these outputs collaboratively with agricultural extension experts and other partners will transform extension-relevant institutions working directly with men and women farmers.

In each country INGENAES needs to examine the relationships, identify the key change actors, build their capacity, and provide them the incentives to make changes (e.g., set new policies, employ new management

practices, modify organizational structures, make changes in practice, adopt innovations). The key actors will vary from country to country, although policy makers, the Ministries of Agriculture and Health, NGOs and the private sector, and of course, women farmers, are likely to be involved in most countries. Key actors will be identified as part of the needs and scoping assessments. Thus, and in preparation of country level activities, the consortium gathers information and key contacts to develop a landscape study of the agricultural sector in that country, a simple description of the pluralistic extension system, nutrition related initiatives, and gender issues. As such, the landscape study is intended as a preparatory tool and handy reference document for work in country. Each landscape study will be updated periodically as INGENAES continues to engage in that country and identifies new key contacts, organizations, and initiatives.

1. Country Background

Nepal, landlocked between India and China in South Asia, is one of the poorest countries in the world. However, partly due to rapid growth in remittances inflows, National Living Standards Survey (NLSS) reveals that the poverty rate has fallen from 42% in 1995/96 to 25% in 2010/11 (International Labor Organization (ILO) 2014)[1]. Nepal ranks 145th out of 187 countries on the Human Development Index (HDI; United Nations Development Programme (UNDP) HDI 2014)[2], and continues to struggle to overcome the socio-economic development challenges of a decade-long Maoist insurgency that ended in 2006. With an area of about 54,363 square miles (Central Bureau of Statistics (CBS) 2011)[3], it is only slightly larger than the state of Arkansas. Nepal's population was estimated to be 30.98 million in 2014 (US Central Intelligence Agency (CIA) World Factbook 2015)[4] (see Map 1 in Annex C) with more than 80 percent living in rural areas and more than 70 percent employed in the agriculture sector (USAID 2015)[5].

Geographically, Nepal can be divided into three main regions (see Table 1, and Map 2 in Annex C): The Terai region to the South, the Hill region in the middle, and the Himalayan Mountain region to the North. According to the Food Security Atlas of Nepal, produced jointly by the United Nations (UN) World Food Programme (WFP) and the Nepal Development Research Institute (NDRI), the Terai covers 17% of the total land area with 48% of the country's population and 56% of total cultivated land. The Hill Region has about 44% of the total population and 37% of cultivated land while the Mountain Region has about 7% of the total population and only 7% of cultivated land (WFP and NDRI 2010). The level of poverty, development, and agriculture involvement varies across these geographical regions. For example, a higher level of poverty is found in the rural mountain areas, especially in the Mid-West and Far-West regions. This is because these remote regions lack basic infrastructure and amenities and the population is mainly self-employed in subsistence agriculture with little cultivable land (DFID 2013).

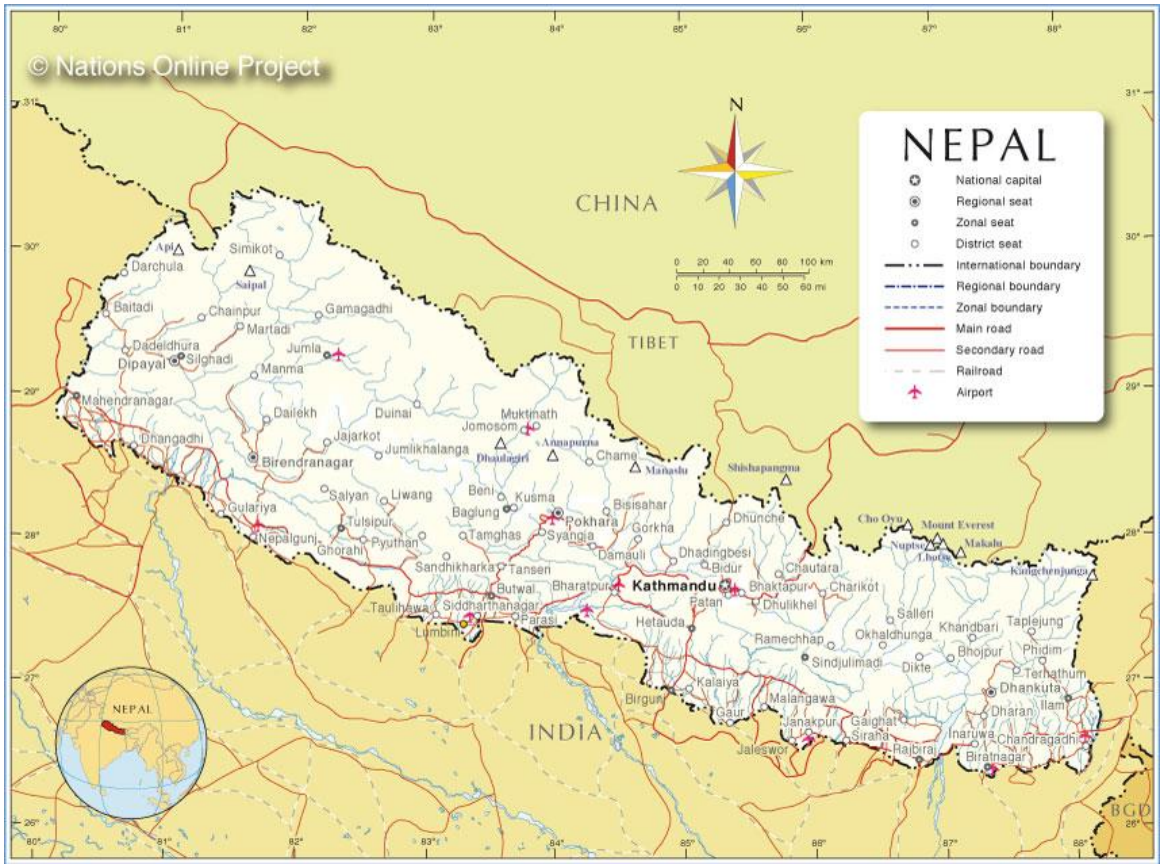
[1]Poverty line provides a level of expenditure required by an individual to fulfill basic needs of both food and non-food items

[2] http://hdr.undp.org/en/countries/profiles/NPL

[3] http://2001-2009.state.gov/g/drl/rls/irf/2008/108504.htm

[4] https://www.cia.gov/library/publications/the-world-factbook/geos/np.html

[5] http://www.usaid.gov/nepal/agriculture-and-food-security



Map: www.nationsonline.org

Table 1: Agricultural Production in the Agro-ecological Domains of Nepal

Agro-ecological domain	Altitude (meters)	Local names for the region	Agricultural importance (% of total cultivated land)	Population cover
1. Terai, and river basin	80–600	Terai, Tar, Bensi, Phant, Khonch, Kachad	Most important (56% of total cultivated land)	48.40%
2. Hills			(37% of total cultivated land)	44.30%
2.1 Low hills	600–1,000	TalloPahad	Third most important	
2.2 Middle hills	1,000–1,600	Deurali, Hatiya, Madhya Pahad	Second most important	
2.3 High hills	1,600–2,300	Lekh, Kharka	Fourth most important	
3. Mountains	>2,300	Himal	Least important (7% of total cultivated land)	7.30%

Data Source: Vaidya and Floyd, 1997; WFP and NDRI, 2010.

1.1 Agriculture Sector in Nepal

Agriculture is one of the dominant economic sectors, accounting for 35% of the country's gross domestic product (GDP) and 13% of the total foreign trade of the country in year 2013/14 (CBS 2014). According to the Independent Office of Evaluation/International Fund for Agricultural Development (IOE/IFAD) 2013 report, cereals contribute about 46% of agricultural GDP, livestock 24%, vegetables, fruits and spices 24%, and forestry about 6%. Although agriculture is the largest source of livelihood, with more than half the working population employed in this sector, the total household income from this sector has been gradually declining in recent years. The share of farm income in total household income decreased from 61% in the 1990s to 28% in 2010/11 (Figure 1, Annex A), and currently stands at 32.6% of total economic output (CBS 2014). Non-farm activities are mostly in the trade sector in the urban Terai region and manufacturing sector in the rural areas. As shown in Figure 2, value-added growth in agriculture increased to an annual average growth of 3.5% in the 1980s, declined to 2.5% in the 1990s, presumably due to the civil unrest at the time, and then gradually began to improve since the 2000s. Therefore, improvement in the agriculture sector, through technological development, holds high potential to have relatively wider impact on poverty reduction and food security in the nation.

Agriculture production in Nepal is primarily rainfed, subsistence focused, with labor-intensive traditional methods of farming. Summary agriculture statistics of the three major crops (rice, wheat and maize) across the agro-ecological zones are illustrated in Figure 3. Rice, the dominant cereal crop, accounts for 35% of total cultivated area and 46% of cereal area (Ministry of Agriculture and Co-operatives (MoAC) 2009), followed by maize (about 20%) and wheat (about 17%) (Karkee 2008). Other cereal crops produced for subsistence include millet, barley and buckwheat (Figure 4). The contrasting climatic zones across the three major geographical regions (Terai, Hills and Mountain region) define the types of crops grown. The sub-tropical lowlands of Terai is the most agriculturally productive region where rice is the main crop, but wheat, maize, barley and oilseeds are also grown. The Hill region, with both subtropical climate in the lowlands and temperate climate in the highlands, favors rice and maize in summer, with wheat, barley and vegetables in winter. In the sparsely populated colder mountain regions, potatoes, barley and buckwheat are grown in the summer months (Sharma 1999).

In recent years, agriculture has intensified to meet the increased demand for food, mainly through the promotion of cash crops, like potatoes, tomatoes, mustard and garlic (Brown and Shrestha 2000), as well as high value horticulture crops, like mango, pineapple and banana (Food and Agriculture Organization (FAO) 1997)[6]. The increased demand for food is mainly in response to increasing population and the need to improve farm income. This gradual shift from subsistence cereal farming agricultural system to an intensive vegetable-based farming system have improved farm income and food security mainly among poor households in the mid-Hills region of Nepal (Raut et al 2010). However, increasing intensification of agriculture on limited available arable land has led to increasing dependence on chemical fertilizer, pesticide and micro-nutrient additions (Gharti et al 2014, Raut et al 2010).

Agricultural GDP growth, yields for major crops and labor productivity, all reveal that there has been little change in the productivity of the agriculture sector in the overall economy (Basnett and Pandey 2014). Nearly two-thirds of agricultural GDP is contributed by cereal crops, which account for over 75% of annual cropped area (Prasad et al 2011, Karkee 2008). However, the yields from these crops have not been enough to attain

[6] List of horticulture crops grown in Nepal found here:
http://www.fao.org/docrep/004/ab985e/ab985e09.htm and
http://www.moad.gov.np/downloadfile/yearbook2012_1363677455.pdf

overall food security in Nepal. Population growth, rapid urbanization, and changing consumption patterns are increasing demand for food. Challenges include poverty, gender inequity, inequitable intrahousehold distribution (Gittelsohn 1991) seasonal fluctuations in yields, limited arable land, and limited access to improved seeds, fertilizer, new technologies, and market opportunities (Joshi et al 2012, USAID 2015, Prasad et al 2011).

1.1.1 Gender Roles in the Agriculture Sector

Review of the literature on linkages between agriculture, gender roles, and improved health and nutrition outcomes suggests these linkages are dynamic and multifaceted (Gillespie 2001; Headey 2012; Hoddinott 2011). These studies indicate agriculture as a direct and indirect (via income) source of food at the household level, and that the sector is an entry-point for enhancing women's control over resources, knowledge and status (Webb 2013). Despite Nepal's highest livestock population per capita and per unit of cultivated land among Asian countries (Shrestha 1992; Shakya 2004; MoAC 2005), women's participation in livestock programs is very low (Singh et al 2002). Gender blind trainers, teaching materials, seasons and time for the trainings are some of the reasons for low participation rate of women (Paudel et al 2009). As in many low-income countries, the role of male and female farmers in Nepal's agriculture sector is determined not only by gender-specific constraints such as land, labor and access to inputs (i.e. fertilizer, seeds, machinery and credit) and extension services, but also by socio-cultural discriminations (i.e. wealth and caste or ethnicity disparities) and government policies (i.e. ownership laws and property rights).

Studies have shown how the gender and caste division of labor in Nepal have been historically linked with practices of social hierarchy and land distribution (Cameron 1995, Allendorf 2007, Thapa 2009). Furthermore, involvement of women in agricultural activities varies by socio-cultural parameters such as caste and wealth, and also across the geographical regions. For example, highest involvement is observed in the small and marginal households of the Hill and Mountain regions, while women among high caste groups in the Terai region are the least involved (FAO 2010). Women farmers are generally more involved in "land preparation" activities such as removal of vegetation and crop residues while men plough and irrigate the lands (Allendorf 2007, Raut et al 2013). Women tend to be more involved in labor-intensive work such as seed selection, planting and weeding (Thapa 2004). Upadhyay (2005) found that women had a high preference for allocating their time and labor (90% of their labor time) in growing vegetables such cauliflower, tomatoes, cabbage, cucumbers, bitter gourds, bottle gourds and beans, both for household consumption and as cash crops. However, this type of vegetable production commonly referred to as "kitchen gardens" or "homestead food production" are rarely documented in official production statistics (Rocheleau and Edmunds 1997). In addition, women have limited access to land ownership and other household assets that may limit investment decisions and innovations in the agricultural sector (Thapa 2009). Other constraints include labor and time due to their triple role[7], and less access to credit and extension services (FAO 2011a).

Nepal is a traditional patriarchal society where women have limited decision-making power in the household (World Health Organization (WHO) 2009), and men generally have the responsibility of providing for their family. However, in the last few decades, Nepal has been undergoing "feminization" in the agriculture sector (Allendorf 2007, Gartaula et al. 2010, Kollmair 2011). The overall decline in the proportion of labor force and high involvement rate of women is caused by the change in the share of the male workers. Men have been steadily migrating to urban areas and abroad in search of improved employment opportunities (Cameron 1995, FAO 2010). This trend results in an increased role for women in the agriculture labor force. According

[7] According to the International Labor Organization (ILO), gender planning recognizes that in most low-income societies, women have a triple role of reproductive, productive, and community managing activities.

to the census data by CBS, although the proportion of labor force in the agriculture sector fell from 76% in 1998/99 to 74% in 2008, women workers occupied a majority 84% of that share (CBS 2011). This trend also indicated that Nepal had the highest female labor force participation rate in South Asia (ILO 2014) (see Figure 5).

This trend of the feminization of agriculture has implications for agricultural productivity and household food security (Kelker 2009, Tamang et al 2014). With the additional burden of productive and reproductive work, women are constrained with their time, energy and resources. As women take on additional responsibilities of managing household, agricultural production and marketing (Gartaula et al 2010), the ongoing lack of legal ownership of land and restricted access to agriculture resources (FAO 2010) has contributed to declining agriculture production (CBS 2014). These gender-specific constraints not only reduce the agricultural productivity of women and limit their contributions to agricultural production, but also involve broader economic and social costs. Closing this gender gap in access and use of productive resources, such as land, inputs and services, could increase the productivity potential of women and improve household welfare (FAO 2011b).

Furthermore, the existing agricultural policies and extension services fail to fully accommodate this feminization trend. For example, the Agriculture Perspective Plan (APP) (1996-2015) that was prepared by the GoN to accelerate agriculture growth, focused on women's access to credit, training and extension activities. However, due to lack of gender mainstreaming[8], the plan failed to improve women's access to resources (FAO 2010, Tamang et al 2014). Similarly, the National Agricultural Plan (NAP), 2005, and the Three-Year Interim Plan (TYIP), 2007-2008, was formulated to modernize and commercialize the agriculture sector (NPC 2007). While both plans sought to incorporate concerns of ethnic minorities and women, they were not effective for smallholder farmers in resource poor areas as the programs focused on a Pocket Package Strategy (PPS)[9], where activities were concentrated in only a few high-potential production systems (example dairy pockets) in the more accessible areas of Terai and low Hills (Joshi et al 2012b).

1.2 Nutrition Issues in Nepal

The important factors contributing to food insecurity and malnutrition in Nepal are diverse and include limited arable land, seasonal fluctuations in yields, the recently ended civil war, inappropriate sanitation and hygiene practices, suboptimal infant and young child feeding practices, and the sexual division of household labor, which places women in a disadvantaged position (Fang et al. 2007, Joshi et al. 2012a, USAID Feed the Future 2011, Smith et al. 2003, Haddad et al. 1996). Food insecurity win a household can reduce dietary diversity, nutrient intake and nutritional status of its members, and in instances of inequitable intra-household distribution carries particularly onerous implications for vulnerable groups including infants, young children, and women. This in turn can negatively affect the nation's productivity and economic development by reducing work capacity, cognitive development, academic performance, and contributing to disease and mortality.

According to the 2011 Nepal Demographic and Health Survey (NDHS)[10] and Ministry of Health and

[8] Gender mainstreaming is a concept of assessing the different implications for women and men of any planned policy action.

[9] PPS is an operational plan of the Agricultural Perspective Plan (APP) that emphasizes that agricultural production efforts should be concentrated in a geographically defined pocket where supporting activities needed to boost production are made available to farmers in those areas (Suvedi and McNamara 2011).

[10] NDHS data provides the most comprehensive assessment of nutrition outcomes available for Nepal (Shively 2011). The NDHS data are available for five survey years, 1987, 1996, 2001, 2006, and 2011. The

Population (MoHP), 41% of children under five years were stunted[11], 16 percent severely stunted, 29% underweight[12], and 11% were wasted[13] (Nepal MoHP 2012)[9], with substantial regional variations (see Figures 6 and 7). In addition, the NDHS survey found that 46% of Nepalese children in this category are anemic and that this figure declined by only two percentage points in the past five years. The intensity of poverty, food insecurity and malnutrition varies depending on the geographical region of the country. Children morbidity, mortality and stunting are also linked with rates of breastfeeding and feeding practices after 6 moths of age. Although the prevalence of children age 0-5 months exclusively breastfed was just 53% in 2006, that rate increased to 70% in 2011but breastfeeding of children from 6 to 23 months was only at 24% in 2011(Khanal et al. 2013, USAID 2014, Pries et al. 2016).

The regional variations in health and nutrition outcomes are caused by socioeconomic, demographic, cultural, gender, and ethnicity/caste factors. For example, the prevalence of stunting is highest among the Dalits in the Hills and Terai; and lowest among the Newars (National Planning Commission 2013). The Dalits and other socially excluded ethnic and religious groups face unique disadvantages (Nepal MoHP 2012, Nepal Global Health Initiative Strategy 2010; Joshi et al. 2012a; USAID Feed the Future 2010)[14]. For example, there is income inequality across these vulnerable groups and they have limited knowledge regarding nutrition and appropriate hygiene and caring practices (Fang et al 2007). Figure 6 illustrates the nutrition disparity across ethnic and caste groups in different ecological zones. Similarly, stunting of children, under the age of five years, is more common in the Mountain and Hill regions while wasting (thin for height) and underweight were more prevalent in the Terai region (UNICEF 2006, and Nepal Ministry of Health and Population 2009).

Comparable to other developing nations the micronutrient of concern in Nepal are iron, vitamin A, zinc and iodine among other nutrients (USAID 2014, Muller and Krawinkel 2005). In Nepal 35% of women who are considered to be of the childbearing age (15 - 49 years of age) and 46% of children under age 5 years are iron deficient (Nepal MoHP 2012)). Just 24% of children consume iron-rich foods, and only half of pregnant women take iron supplementation during pregnancy (USAID 2014). Iron deficiency anemia may result in several major deficiency disorders, infant low birth weight, and affect negatively maternal and infant survival rates (Bhandari and Banjara 2015). A similar trend exists for vitamin A. Eight and a half percent of children and 7% of pregnant women are vitamin A deficient (Jiang et al. 2005, Schulze et al. 2014). Consequently, the rates of proper functioning of the visual system, optimal cell growth, adequate producing of the red blood cells, impaired immunity, and reproduction are all impacted due inadequate dietary of vitamin A (Akhtar et al. 2014).

In case of zinc, which is responsible for pregnancy outcome, proper growth and prevention of stunting,

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most recent findings found here: http://dhsprogram.com/pubs/pdf/SR189/SR189.pdf

[11] Children whose height-for-age-Z-score is below minus two standard deviations (-2 SD) from the median of the WHO reference population are considered short for their age and defined as stunted.

[12] Children whose weight-for-age-Z-score is below minus two standard deviations (-2 SD) from the median of the WHO reference population are classified as underweight.

[13] Children with weight-for-height-Z-scores below minus two standard deviations (-2 SD) from the median of the WHO reference population are considered thin and define as wasted.

[14] Additional information on caste, religion, ethnic and socially disadvantaged groups in Nepal can be found in the following World Bank report.
http://siteresources.worldbank.org/EXTSOCIALDEV/Resources/3177394-1168615404141/NepalGSEASummaryReport-part1.pdf

prevention of genetic disorders, and optimal immunity rates of deficiencies are very high. It is estimated that in Nepal 61.0% in pregnant women and 87.3% of children lack the adequate level of the mineral (Jiang et al. 2005, Akhtar et al. 2014, Bhandari and Banjara 2015). The numbers are not precise and very between sources but it is estimated that between 22 and 27.9% of Nepalese experiences iodine deficiency. Inadequate iodine may result in impaired cognitive function, increased prenatal morbidity and mortality and consequently reduces household economic potential and national productivity (Joshi et al. 2006, Gelal et al. 2009, Bhandari and Banjara 2015, WHO 2017).

Despite overall progress in poverty reduction, food insecurity and chronic under-nutrition, over the last 15 years, 25% of households are considered food poor (i.e., the total value of their food consumption is insufficient to ensure a basic diet), and nearly 50% of children under five years of age suffer from chronic under-nutrition (National Planning Commission 2013). The 2013 Nepal Thematic Report on Food Security and Nutrition found that one in five households had an inadequate diet based on the Food Consumption Score[15], and one in four households were considered food poor[16] (National Planning Commission 2013). In addition, the study found no significant difference in average dietary energy intake between urban and rural areas. The report also found that household vegetable consumption has almost tripled as compared to 2003, and consumption of meat and fish has more than doubled. This may have been the result of urbanization and remittance income that have helped reduce overall poverty and improved nutrition and food security across the country.

To help address nutrition challenges, Nepal joined the Scaling Up Nutrition (SUN) movement on May 5, 2011 (SUN 2017). Embraced by the Nepalese government, the country organized a comprehensive planning initiative under its National Planning Council. The objectives are decentralized, and executed by district and village development levels, with the goal of engaging the government in a race toward sustained food security and availability. On the policy and government side, a new Right to Food Act and Food Safety Policy are being drafted to be set into motion for the future of food safety and availability in the country, part of an overall Multi-Sectoral Nutrition Plan (MSNP). A new Demographic and Health Survey is ongoing, and will be made available for future initiatives carried out by the government. Overall, the MSNP seeks to reduce prevalence of stunting, underweight, and wasting among children under 5 years of age. The budget for these activities is allocated to the 16 MSNP districts, made available by government and non-government stakeholders (SUN 2017).

1.2.1 Gender Roles in the Nutrition Sector

A growing body of literature emphasizes the importance of gender roles in relation to increased food availability, improved nutrition, and increased income within the household (Arimond et al. 2010, Meinzen-Dick et al. 2012, Gillespie, Harris, and Kadiyala 2012). Malapit et al. (2013) assessed WEAI[17] indicators to

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[15] FCS measures food diversity (the types of food consumed), food frequency (the number of days each food group is consumed), and the relative nutritional importance of different food groups. More details: http://www.wfp.org/content/nepal-thematic-report-food-security-and-nutrition-march-2013

[16]Food Poor is a food poverty indicator that reflects those who consume a diet with a value below the cost of a basic adequate diet (regardless of the source of food). More details: http://www.wfp.org/content/nepal-thematic-report-food-security-and-nutrition-march-2013

[17] The study uses Women's Empowerment in Agriculture Index (WEAI) and its component indicators (Alkire et al. 2013), to assess women's empowerment in agriculture and nutritional outcomes in rural Nepal.

investigate motivations behind women's decision-making in agricultural production in Nepal and they found a highly significant and positive correlation between women's autonomy in agricultural production[18] and improved maternal and child health and nutrition outcomes. Women's role in decision-making influences whether gains in income translate into nutritional improvements, while gender division of labor in agriculture influences the amount of time women have to take care of themselves and young children (Gillespie et al 2012). A study on the effect of Vegetable and Fruit Cash Crop Program (VCP)[19] in a sample of 264 households in the Mid-western region of Nepal found that while men and women spend roughly the same average time in cereal and livestock production, women spend more time caring for children younger than five, while men spend more time in fruit and vegetable production (Paolisso et al 2002).

Despite contributing to more than 80% in the agriculture labor force (ILO 2014), 24% of women in Nepal have low body mass index (WFP and NDRI 2010). This is because they are unable to consume sufficient and nutritious food for a healthy diet (Adhikari and Bhole, 1999). Gender biases and discriminations in the sharing of food within society and household, such as women eating last or leftovers and discouraged from eating certain nutritious food when pregnant or lactating[20] etc., have been the major cause of their food insecurity (Messer 1997, Shively 2011, Bishokarma and Amir 2014). In addition, females from poor and socially excluded groups of the society were more vulnerable to malnutrition than others (Adhikari and Ghimire, 2006). A study on gender and food insecurity in resource scare areas of Nepal found that gender based food distribution discrimination practices during the menstruation cycle had more impacts on high caste women, while eating last had more impacts on the Dalit women (Bishokarma and Amir 2014).

Factors that contribute to childhood under-nutrition in Nepal include food insecurity, inadequate consumption of nutrient-dense foods, poor access to safe drinking water and adequate sanitation (World Bank, 2010), suboptimal breastfeeding practices, and low birth weight (LBW) due to poor maternal nutrition (Shively 2011). At the household level, mother's education, rather than economic well-being, is the main determinant of nutritional status and food security (Sah 2005; Nyyssöla 2007). NDHS data from 2006 showed that children of uneducated mothers, across all wealth and caste status, are more likely to be underweight than their cohorts (UNICEF, 2010). Many studies have found that an integrated approach to improve the overall socioeconomics condition of the families, maternal education, and awareness of optimal nutrition practices can help improve household food insecurity and malnutrition among women and children (Pant 2008; Osei et al 2010; Bishokarma and Amir 2014).

Many studies highlight the positive role of women on their child's health and nutritional status (Malapit et al. 2013; Bloom et al. 2001; Brunson et al. 2009; Desai and Johnson 2005). Despite efforts21 from various

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[18] According to Malapit et al (2013), autonomy in agricultural production includes decisions on what inputs to buy, what crops to grow, what livestock to raise, etc. reflects the extent to which the respondent's motivation for decision-making reflects his or her values rather than a desire to please others or avoid harm.

[19] The goal of the VCP was to increase commercial production of fruits and vegetables in farm households of 22 communities in five districts of Rapti, in the Mid-western region of Nepal (Paolisso et al 2002).

[20] Read about Suaahara project success story on this here: http://ccp.jhu.edu/improving-nutrition-nepal-world-food-day/

[21] The Government of Nepal (GoN) has made several interventions with different degrees of success to introduce gender sensitive policies and also to address the problem of under-nutrition in Nepal (for example, establishment of a nationwide program for mid-day meals (Shively 2011)).

governmental and non-governmental organizations to empower Nepalese women, there has been very little improvement in the socio-economic status of women (Mahat 2003). Since women are predominantly in charge of household food preparations and allocation, and child rearing, targeted interventions22 aimed at women's groups, while including men's participation, could impact household behavioral changes associated with positive nutrition outcomes.

2. Agricultural Extension System (AES) Institutional Framework

Although agricultural extension in Nepal officially began in the 1920s with the inception of the Department of Agriculture (DoA) (Suvedi and McNamara 2011), formal agricultural extension services did not begin until the early 1950s with the import of foreign technologies (MoAC 2010) and the introduction of community development programs (Suvedi and Pyakuryal, 2001). The DoA was responsible for both agriculture research and extension in the country until the Nepal Agricultural Research Council (NARC) was established in 1991 (NARC 2010; http://narc.gov.np/about/index.php). NARC was previously located within the Ministry of Agriculture and Cooperatives (MoAC), which recently transitioned to become the Ministry of Agricultural Development (MoAD; http://www.moad.gov.np/en/). The main goal of NARC is to utilize institutional, human and financial resources from government and stakeholders with a focus on food security and sustainability of agricultural systems (Gauchan, Joshi, & Biggs, 2003). According to MoAC (2010), NARC focuses on crop research to enhance productivity, but high-value production systems such as livestock, horticulture, fisheries and medicinal plants have not received adequate research priority.

As of July 2010, the extension service coverage provided by the government was around 15% of agricultural households nationwide, with very few female extension workers (MoAC 2010). Nepal has pluralistic extension services with various government and non-government organizations offering education and training to farmers. In 2010, government agencies under MoAC (now MoAD) that delivered extension services included the DoA, Department of Livestock Services (DLS, now the Ministry of Livestock Development, http://www.mold.gov.np/index.php), and their network of regional and district offices, service centers, training institutes, farms, and farmers groups (MoAC 2010). Currently, a Directorate of Agricultural Extension is located within the DoA (http://agriextension.gov.np/; see Annex E for other directorates and offices located within the DoA).

Up until 2010 (and possibly currently), the DoA and DLS followed the Pocket Package Strategy (PPS) approach and provided trainings to farmers' groups, cooperatives, and community-based organizations within the prioritized "pockets" of areas. As of 2007, DoA and DLS had mobilized approximately 22,000 farmers' groups and 1,564 dairy cooperatives (DLS 2010). Over the years, these agencies practiced different extension approaches such as the Integrated Rural Development Projects, Training and Visit System, Block Production Program, Farming System Research and Extension, Groups Approach, and the Lumle Agricultural Research Center and Pakhribas Agricultural Research Center (Suvedi and Pyakuryal 2001). Although these systems were implemented with varying degrees of success, the lessons learned from these initiatives have not been institutionalized largely due to budgetary limitations (MoAC 2010).

In addition, the MoAD operates an Agricultural Information and Communication Center (AICC;

[22] Examples of targeted interventions include credit programs to help rural women purchase improved farm inputs, and nutrition education programs that address vitamin A deficiency. Also see Suaahara project for examples on targeted nutrition interventions. http://www.usaid.gov/nepal/fact-sheets/suaahara-project-good-nutrition

http://aicc.gov.np/) which, according to its website, is "entrusted to produce agricultural information relevant to farmers, traders, entrepreneurs and professionals and to communicate the information through radio, television and print media. The Center also bears the additional responsibility and challenge of managing and using digital information generated recently by the growing application of personal computer, internet and mobile telephone in modernizing agricultural development in the country" (AICC, 2016).

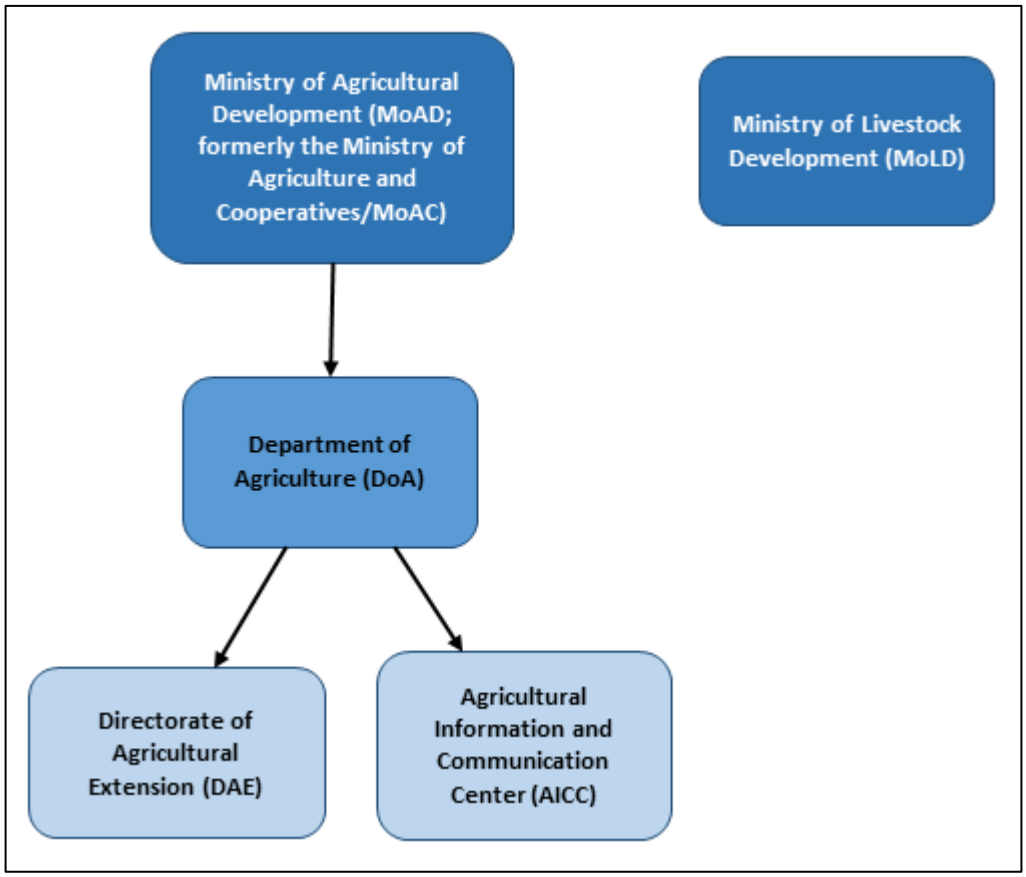


Figure 1: Structure of selected agriculture-related agencies in Nepal. Note that this diagram is incomplete and is simply meant to depict the structure of certain agencies that may be relevant to the INGENAES initiative. See Annex E for more information. (Diagram by E. Poulsen)

Table 2 below lists the timeline of institutional organizations that were adopted for the planning and delivery of agriculture research and extension programs in the country. The list reveals that agricultural research in Nepal has been a public sector activity with a top-down approach and frequent changes in the organizational structure as political instability continues in Nepal. According to the MoAC (2010), several attempts were made to create a "one-window" extension service but failed to materialize. Furthermore, these frequent changes in organizational structure demonstrate a constant source of uncertainty that further contributes to the slow growth of agriculture development in the country (MoAC 2009). Furthermore, the civil service personnel working in these departments operate under tremendous pressure from their affiliated political parties (Suvedi and McNamara 2011).

Table 2. Timeline of various institutions for agriculture development in Nepal

1921 Office of Agriculture within Singh Durbar, Kathmandu
1924 Department of Agriculture (DoA)

1937 Agriculture Council and Vocational Agriculture School
1952 Tribhuvan Village Development Program
1953 Department of Cooperatives (DoC)
1955 Research Stations
1957 School of Agriculture (now Institute of Agriculture and Animal Science)
1961 Department of Food Technology and Quality Control (DFTQC)
1965 Agricultural Input Corporation (AIC)
1966 DoA split into five departments: Department of Agricultural Extension
1968 Agricultural Development Bank (ADB)
1968 Lumle Agricultural Research Center (LARC)
1972 Five Departments merged to form single DoA
1975 Agricultural Project Service Centre (APROSC)
1975 Pakhribas Agricultural Research Center (PARC)
1977 Small Farmers' Development Program (SFDP) started
1979 DoA and Department of Livestock Development and Animal Health formed.
1985 National Agricultural Research and Services Centre (NARSC)
1989 LARC and PARC handed over to NARSC
1990 Department of Horticulture
1991 Departments merged again into DoA
1991 Nepal Agricultural Research Council (NARC) established
1995 Department of Livestock Services (DLS) and DoA split from DoA
2000 APROSC liquidated
2001 Nepal Agricultural Research and Development Fund (NARDF) established

Source: Suvedi and McNamara 2011, FAO 2010; Suvedi and Pyakuryal 2001

Suvedi and McNamara (2011) note three types of NGOs involved in extension activities for farmers, and commercial producers, and agribusiness operators in Nepal:

1. International NGOs (or INGOs): For example, Winrock International-Nepal [23], Heifer International-Nepal[24], Asia Network of Sustainable Agriculture and Bio-resources (ANSAB)[25],

[23] Additional information available at: http://www.winrock.org.np

[24] Additional information available at: http://www.heifer.org/ending-hunger/our-work/countries/asia/nepal.html

[25] Additional information available at: http://www.ansab.org

Helvatas[26], and Helen-Keller International-Nepal[27]

2. National NGOs: For example, the Center for Environmental and Agricultural Policy Research, Extension and Development (CEPREAD)[28], Rural Reconstruction Nepal (RRN)[29], and Forum for Rural Welfare and Agricultural Reform for Development (FORWARD)[30]
3. Local NGOs operating within a district or Village Development Committee (VDCs) through District Agriculture Development Officer (DADO), Local Agricultural Resource Persons (LARPs), and Village Animal Health Workers (VAHWs).

All the above organizations have helped form cooperatives and farmers' groups for production and marketing of farm products. The sustainability of these time and budget constrained services relies heavily on the availability of external funds. Many of these NGOs are financed by donors such as USAID, the European Union (EU), the Japanese International Cooperation Agency (JICA), the Swiss Agency for Development Cooperation (SDC), the Department for International Development (DFID) etc. The UN agencies actively funding projects in Nepal include FAO, ILO, UNDP, UNICEF, UNEP, WHO and WFP.

Many of the INGOs in Nepal continue to actively work with the GoN in providing extension services to improve the agriculture and nutrition sector (See Annex C). As the government increasingly accepts that a gender dimension should be added to extension and training services, "enhancing integration of gender in agriculture" has been selected as one of the important components of National Agriculture Sector Development Priority (NASDP) plan (MoAC 2010). The following Table 3 lists some of the on-going INGO projects with gender sensitive objectives that have partnered with various departments within the GoN.

Table 3: Gender-sensitive INGO projects implemented with GoN

Gender Sensitive Projects/Programs	Duration	Executing Government Agency	Development Partners / Institutions/INGO
1. Project for Agricultural commercialization and Trade (PACT) • *Gender integration:* enhance access of women and disadvantaged groups to project's resources; hire women in managerial positions, construct separate toilets for women to promote hygiene and safety, provide training and orientation so that they can enhance their access to and control over market resources	2009 - 2018	MoAC	World Bank (WB)/International Development Agency (IDA)

[26] Additional information available at: http://nepal.helvetas.org/en/

[27] Additional information available at: http://www.hki.org/helen-keller-international-nepal#.VabJOYvBybU

[28] Additional information available at: http://www.ceapred.org.np

[29] Additional information available at: http://www.rrn.org.np

[30] Additional information available at: http://forwardnepal.org

• *Results*: Women participation rate increased by 43% *More information:* http://pact.gov.np/?option=home			
2. Social Safety Net Project (SSNP) • *Gender integration:* Ensured that about half of the beneficiaries were women, many of whom were of reproductive age; and that pregnant or nursing women participated in light public work programs and received access to food/cash • *Results*: Project benefited 185,934 households against the target of 170,000 and of these 58% were women. Promoted nutritional education among pregnant and nursing women. More information: http://documents.worldbank.org/curated/en/2015/05/24481713/nepal-social-safety-nets-project	2007-2013	Department of Agriculture (DoA), Ministry Of Federal Affairs and Local Development (MoFALD), and MoHP	WB/IDA
3. Community Livestock Development Project (CLDP) • *Gender integration:* support poverty reduction through small livestock development and microcredit for women, and increasing agricultural income • *Results:* Nutritional intake of children under 6 years of age increased by 19.1%, compared with the target of 20%. The project achieved 62% female participation in farmer groups, against the target of 35%. More information: http://www.adb.org/sites/default/files/publication/30141/nepal-community-livestock-development-project-brief.pdf	2003-2010	Department of Livestock Services (DLS)	Asian Development Bank (ADB)
4. Community Managed Irrigated Agriculture Sector Project (CMIASP) • *Gender integration:* targeted women, landless, poor, vulnerable to provide them income generation training. • *Results:* promoted participatory approach by mobilizing communities through the organization of 111 Water Users Associations (WUAs) with representation of about 30% women More information: http://adb.org/projects/details?page=details&proj_id=33209-013	2006-2010	Ministry of Irrigation (MoI), DoI	ADB

5. Commercial Agricultural Development Project (CADP) • *Gender integration*: ensure fairer benefits to poor disadvantaged communities and women in commercial agriculture • *Results*: Increased participation rate of women in farmer groups and cooperatives More information: http://adb.org/projects/details?page=details&proj_id=34308-022	2009-2011	MoAC	ADB
6. Leasehold Forestry-Livestock (LFL)[31] • *Gender integration*: support government's capacity to implement leasehold forestry in a gender-sensitive way. Recruit and train women group promoters and village livestock assistants • *Results*: Women represent 38% of all members and holds key positions in Leasehold Forestry Users Groups More information: http://www.forestrynepal.org/project/2906	2005-2010	Department of Forests, Ministry of Forests and Soil Conservation	International Fund for Agricultural Development (IFAD)

Despite ongoing efforts of the NGOs and INGOs to actively provide extension services, the government of Nepal has also realized the need for reform (MoAC 2010) but efforts towards it seem lacking and less comprehensive (GAFSP 2010). Delivery of gender-responsive services (e.g. training, extension and credit services) needs to be improved across all sectors and regions. Some of the challenges include lack of rural infrastructure for farm to market movement of agricultural products, political instability or too much political interference, weak linkages among extension, research and education sub-systems, and inadequate or inconsistent funding etc. There is an urgent need for efficient coordination of public sector, private sector and INGO extension efforts in order to address the needs of poor and marginal groups living in the remote areas with equal treatment to all (MoAC 2010). While private firms and NGOs can offer timely delivery of agricultural inputs such as improved seed, pesticides, fertilizer, and farming equipment; the cost, timeliness, and quality of these services must be monitored by MoAC units, such as DOA and DLS (Suvedi and McNamara 2011). Furthermore, there is a need for aligning agricultural research, education and extension services with priorities and demands of both men and women farmers (MoAC 2010, GAFSP 2010.

3. Feed the Future Multi-Year Strategy, Nepal

Nepal is one of 19 focus countries of President Obama's Feed the Future Initiative, designed to combat hunger and poverty.[32] The overall goal of Feed the Future Nepal is to reduce poverty by increasing agricultural sector

[31] Additional information available at: http://www.forestrynepal.org/project/2906

[32] Overview of Nepal Feed the Future programs can be found in the following video: https://www.youtube.com/watch?v=-GheYkUq6fI and this presentation.

growth and to improve the nutritional status of women and children (USAID Feed the Future 2011)[33]. In order to reach this goal, Feed the Future Nepal aims to help an estimated 165,000 households focusing on the poor and vulnerable Nepali women, children and family members. Feed the Future focuses its investments on 16-20 districts in the Terai and lower Hills in order to reach vulnerable population in the Far-Western, Mid-Western, and Western Regions (see Maps 3 and 4, Annex B). The proposed Feed the Future project districts are Baitadi, Dadeldhura, Kanchanpur, Doti, Kailali, Achham, Dailekh, Jajarkot, Rukum, Surkhet, Salyan, Rolpa, Phuthan, Banke, Bardiya, Dang, Kapilbastum, Palpa, Gulmi, and Arghakhanchi (See Annex D).

Despite high poverty in the proposed regions, the large population size increases the potential for return on investments. One of the main functions of the Feed the Future project is to coordinate the communication between government organizations (such as DOA, DLS and NARC) and the various NGOs in order to strengthen the pluralistic extension system and to scale-up extension activities (See Annex D). To meet this objective, Feed the Future seeks to strengthen the Agricultural Information and Communication Center (AICC)[34], expand use of LARPs/VAHWs, provide AgroVet[35] training for qualified youths, and support internship programs for students in agriculture institutions[36] to work in Feed the Future project districts (Suvedi and McNamara 2011). In addition, the programs will be able to build on USAID/Nepal's experience in Economic Growth programs in these regions, such as Education for Income Generation (EIG) and Nepal Flood Recovery Program (NFRP) (USAID Feed the Future 2011).

The following Chart 3 outlines the core investments that are envisioned to reach vulnerable households with up to 1 million beneficiaries.

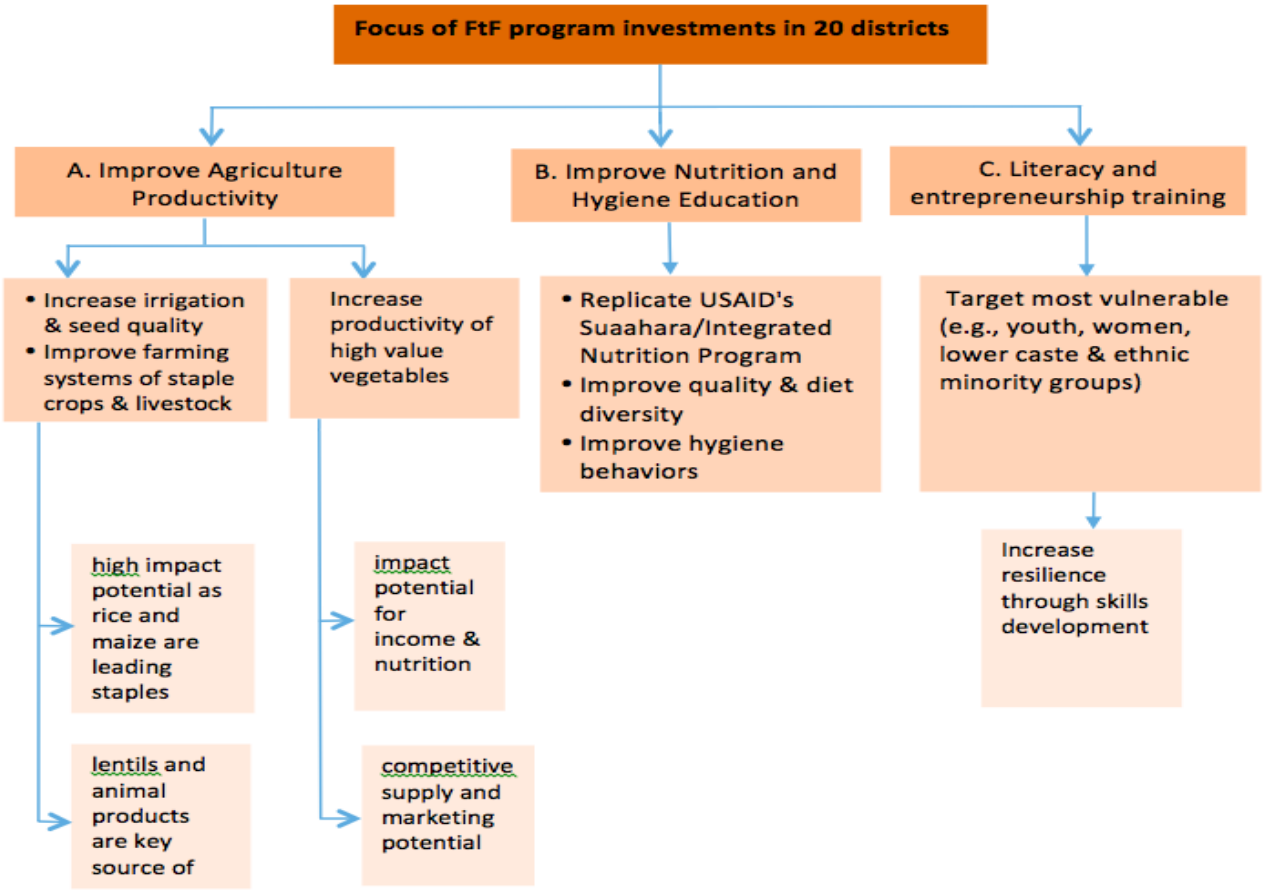
[33] Recent document available at:
http://www.feedthefuture.gov/sites/default/files/country/strategies/files/NepalFTFMulti-YearStrategy.pdf

[34] The AICC Unit was formed in 2000 in order to disseminate agricultural technologies and techniques through mass media, such as radio, video and publications (Suvedi and McNamara 2011).

[35] AgroVets are private livestock technicians providing fee-based services (such as Artificial Insemination services, basic veterinary services, and diagnostic services) to farmers who are willing and able to pay for privately provided services.

[36] Institutions offering agriculture education and trainings in Nepal include Agricultural Information and Communication Center (AICC), Institute of Agriculture and Animal Science (IAAS), Himalayan College of Agricultural Science and Technology (HICAST), and Council for Technical Education and Vocational Training (CTEVT).

Chart 3: Feed the Future Program Investments in Nepal



The four broad intermediate results from the Feed the Future initiative is outlined in chart below (USAID Feed the Future 2011).

Improved Agricultural Productivity	• Supply equipment and improved seed • Extension agents to advise and train farmers on best management practices • Assist GoN on agriculture policies, micro-credit issues • Improve irrigation, farming practices and techniques, and storage facilities • Develop and disseminate appropriate technologies for female farmers
Increased Agriculture Value Chain Productivity	• Improve seeds, post-harvest handling and storage facilities • Build domestic, regional, and international private sector alliances • Establish food safety standards, improved packaging, and SPS certification
Improved Diets and Nutrition	•Surveys and mass media to generate awareness of nutritional and health benefits •Food preparation training and enhance demand of processed nutritious foods •Engage schools, hospitals, hotels, and food service markets
Increased Resilience of Vulnerable Groups	•Integrate disadvantaged youth, women, and ethnic groups •Provide income generating activities and improve access to savings •Improve farming systems and capacity building to adapt to climate change and cope in emergency situations such as droughts or floods

Main U.S. Government agencies that are currently active in Nepal implementing various projects and programs include:[37]

1. USAID/Nepal: Health and Family Planning (particularly Integrated Nutrition Program (INP), Democracy and Governance, Economic Growth programs (Nepal Economic, Agriculture, and Trade (NEAT), Education for Income Generation (EIG), Global Climate Change (GCC), Nepal Flood Recovery Program (NFRP))
2. USAID/Washington: Collaborative Research Support Program (CRSP) research and Cereals System Initiative for South Asia (CSISA) adaptation and dissemination of improved agriculture technologies and management approaches
1. USAID/NASA SERVIR program: Glacier melting, early warning system, and response
2. Department of State: Political and policy reform on trade and agriculture issues
3. Food for Peace: Support to WFP for emergency programs in remote mountain areas
4. U.S. Department of Agriculture (USDA): McGovern-Dole International Food for Education and Child Nutrition school feeding program (planned).
5. Peace Corps

[37] Source of this list:

http://www.feedthefuture.gov/sites/default/files/country/strategies/files/NepalFTFMulti-YearStrategy.pdf

3.1 USAID Nepal Feed the Future Projects

Active USAID projects in the country as of December 2012 is illustrated in Maps 4 and 5, Annex B. As of March 2014, key USAID Nepal Feed the Future projects and activities are listed below.[38]

1. SUAAHARA

   Suaahara, which means "good nutrition" in the local language, is a five-year, $46 million comprehensive community-focused and nutrition based USAID project. The project is currently being implemented in 20 districts of Nepal and works in consultation with the Ministry of Health and Population (MoHP) and relevant partners in the country. It focuses on the nutritional status of women and children and aims to improve: nutrition; maternal, newborn, and child health (MNCH) services; reproductive health/family planning services; water, sanitation and hygiene; and home-based gardening. The project employed Female Community Health Volunteers (FCHVs) and other extension workers, Suaahara took a comprehensive approach to improving maternal and child health services, reproductive health and family planning awareness, food security, and even sanitation guidelines and access to clean water. The project, building on communication campaigns, nutrition education workshops, and established trust, contributed to an increased prevalence of children 6-23 months of age receiving a minimally acceptable diet from 23 to 59% in 2015 (USAID, 2016c). It also helped increase the prevalence of minimum dietary diversity (foods from >4 food groups) from 47 to 60% in children age 6-23 months of age in 2015. Additionally, Suaahara increased the prevalence of exclusive breastfeeding of children under 6 months from 46 to 69% in 2015 (USAID, 2016c). The snapshot below gives a brief overview of the project.[39]

The next phase of Suaahara, Suaahara II, also a five-year project that was launched in 2016 (USAID 2016). Suaahara II is a targeted, multilateral effort to improve the nutrition and health of mothers and children in their first 1000 days of conception until the child reaches age of 24 months. Building off of the work established in the first phase of the project, this initiative seeks to address anemia, reproductive health, dietary diversity, and, new to the project, social conceptions toward delayed marriage and pregnancy. Integrating men, mothers-in-law, and adolescents to the work, this program will be led by Helen Keller International, and implemented with the help of CARE, FHI360, Equal Access, Environment and Public Health Organization,

SNAPSHOT - SUAAHARA

Life of Project: August 2011 to August 2016

Goal: The health and well-being of Nepalis is improved and sustained.

Implementing Partners: Save the Children, in coordination with Helen Keller International, Jhpiego, Johns Hopkins Bloomberg School of Public Health Center for Communication Programs, the Government of Nepal Ministry of Health and Population, NEWAH, NPCS, and NTAG

Geographic Focus: 20 districts of Nepal.

[38] Most of the projects in this list is from the following document: http://agrilinks.org/sites/default/files/resource/files/USAID%20Nepal%20FtF%20Overview%20for%20Innov%20Lab%20Meeting%20March%2010%202014.pdf

[39] More information available at http://www.usaid.gov/nepal/fact-sheets/suaahara-project-good-nutrition

SNAPSHOT - SUAAHARA II

Life of Project: April 2016 to March 2021

Goal: Improved and sustained nutritional status among women and children

Implementing Partners: CARE, FHI 360, Nepali Technical Assistance Group (NTAG), Equal Access, Environment and Public Health Organization (ENPHO), Vijaya Development Resource Center (VDRC).

Geographic Focus: 40 districts and 1.5 million beneficiaries.

Nepali Technical Assistance Group and Vijaya Development Resource Centre (USAID 2016).

2. Knowledge-based Integrated Sustainable Agriculture and Nutrition Project (KISAN)

KISAN is a five-year Feed the Future Initiative in Nepal that focuses on increasing agricultural productivity and improving nutrition outcomes. The snapshot below gives a brief overview of the project. [40] The project, a five year (2013-2017) endeavor, works with local farmers and agricultural extension workers to increase the efficiency of local markets and access to markets. This multi-pronged approach will pair increased access to quality agricultural inputs such as seeds and irrigation systems, with trainings on business literacy and efficient harvesting practices. Integrating a wide range of public and private stakeholders, KISAN aims to increase business literacy and market productivity to a stated potential outcome of $220 million for the people of Nepal (USAID 2016b).

SNAPSHOT - KISAN

Life of Project: February 2013 to February 2018

Target:

- 1 million Nepalis
- 160,000 rural households
- 20 DISTRICTS IN THE WEST, MID-WEST AND FAR-WEST REGION

Goal: Sustainably reduce poverty and hunger in Nepal by achieving inclusive growth in the agriculture sector, increasing the income of farm families and improving the nutritional status of pregnant and lactating women, children under five and their families.

Implementing Partners:

- Winrock International
- Center for Environmental and Agricultural Policy Research, Extension, and Development
- Development Project Service Center
- Nutrition Promotion and Consultancy Services
- Nepal Water for Health
- Antenna Foundation Nepal

[40] More information available at: http://www.usaid.gov/nepal/fact-sheets/kisan-project

3. Integrated Pest Management Innovation Lab (IPM IL)

   IPM IL, is a $500,000 USAID-funded project, that promotes integrated pest management practices in select horticultural crops in order to reduce pesticide use and crop losses to pest and plant diseases. It focuses on vegetable crops such as tomato, eggplant, gourd, cauliflower, cabbage, radish, broccolli and cucumber. The project also works in collaboration with the KISAN project across 20 districts in the hills and Terai of the Mid-West and Far-West regions. The snapshot below gives a brief overview of the project.[41]

SNAPSHOT – IPM IL

Life of Project: March 2013 to February 2016

Goal: Demonstrate technology packages for eliminating pesticide use in select high value vegetable crops

Implementing Partners: Virginia Tech and sub-award to International Development Enterprises (iDE Inc.)

Geographic Focus: 2 districts (Banke and Surkhet)

4. Business Literacy Project

   The Business Literacy project is a USAID funded project that builds on previous efforts and expand on integrated trainings that empower women and marginalized communities. The Nepal HC3 (Health Communication Capacity Collaborative) Project is four-year, $5 million project that focuses on youth, adolescents, migrants and marginalized and disadvantaged groups. The project will work closely with National Health Education Information Communication Center (NHEICC), in the Ministry of Health and Population, and Family Health Division (FHD) in order to support comprehensive, targeted Social Behavior Change and Communication (SBCC) campaigns and advocacy among these groups. Nepal HC3 will also develop the overall institutional and technical capacity of NHEICC with the ultimate goal of improving reproductive health outcomes in Nepal. [42]

SNAPSHOT – BUSINESS LITERACY PROJECT

Life of Project: October 2013 – September 2017

Goal: To strengthen the capacity of the NHEICC, the Family Health Division (FHD), other Ministry of Health and Population entities, and private and NGO partners to design, implement and evaluate high quality strategic family planning SBCC interventions, with the aim of improving health outcomes in Nepal.

Implementing Partners: A consortium of John Hopkins University, Centre for Communication program (JHU-CCP) and local NGOs.

Geographic Focus: National focus with intensified program in districts to be determined in coordination with NHEICC and FHD.

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[41] Additional information available at: http://www.usaid.gov/nepal/fact-sheets/integrated-pest-management-innovation-lab-project

[42] Additional information available at: http://www.usaid.gov/documents/1861/usaids-business-literacy-program-nepal

5. Initiative for Climate Change Adaptation (ICCA) Project

   The ICCA project is a $2 million USAID project (duration 2012 to 2017) that will be implemented to aid the poor and rural communities of Nawalparasi, Rupandehi, Kapilbastu, Syangja, Kaski, Parbat, Dang and Rolpa districts, to plan and adapt to climate change impacts and increase incomes from climate-change-resilient opportunities. Implementing partners include International Development Enterprises (iDE) and Nepali partners: Rupantaran, and Resource Identification and Management Society Nepal (RIMS-Nepal). The project aims to benefit over 100,000 people by supporting climate change programs of the GoN. It supports the USG's Feed the Future initiative as it helps develop sustainable livelihood opportunities for over 20,000 smallholder families through sustainable use and management of non-timber forest products, high-value vegetable crops, coffee, and essential oils. [43]

6. Ghar Ghar Maa Swasthya (Healthy Homes) Project[44]

   The Ghar Ghar Maa Swasthya, or Healthy Homes project, is a USAID funded project that works with the GoN in order to expand the depth, reach, and impact of the private sector in social marketing and provide affordable, high-quality maternal and child health, family planning, and HIV prevention products and services. The project builds on the successes of previous USAID-funded projects and contributes to increasing and improving Nepal's modern contraceptive prevalence rate, reducing the mortality rate among mothers and children under the age of five (including newborns), and reducing the incidence of HIV/AIDS. USAID funds and assists the Nepal CRS Company[45] to efficiently expand access to quality, affordable health care underserved communities, by increasing and improving Nepal's modern contraceptive prevalence rate, reducing the mortality rate among mothers and children under the age of five (including newborns), and reducing the incidence of HIV/AIDS.[46]

SNAPSHOT – HEALTHY HOMES PROJECT

Life of Project: 2010 to 2015

Goal: Establish the Nepal CRS Company as a profitable corporate leader in health products and increase the accessibility and availability of these products throughout Nepal, especially in hard-to-reach rural areas.

Implementing Partners: Nepal CRS Company and Family Health International

Geographic Focus: National focus

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[43] Additional information available at: http://www.usaid.gov/nepal/fact-sheets/initiative-climate-change-adaptation-icca-project

[44] Complete updated list of USAID-funded projects in the Health sector can be found here: http://www.usaid.gov/nepal/global-health

[45] Nepal CRS Company, a social marketing organization, plays a key role in developing markets in Nepal for: condoms as a family planning and HIV/AIDS prevention product; contraceptives like oral pills, injectable Depo-Provera, intra-uterine contraceptive devices and implants; and maternal and child health products like oral rehydration salts, clean delivery kits, and water purification liquid.

[46] Additional information available at: http://www.usaid.gov/nepal/fact-sheets/ghar-ghar-maa-swasthya-healthy-homes-project

7. Health For Life (H4L) Project

   H4L is a 5-year, $18.2 million, project (duration 2012 to 2017) that works with the MoHP in 14 districts in the Mid-Western and Western regions to plan, manage and deliver high-quality and equitable family planning, maternal, newborn, and child health services. The project addresses the following areas: local health systems governance, data for decision making and evidence-based policy development, human resources management, quality improvement systems, and knowledge and behavior change. Similar to other USAID funded projects, H4L is expected to build on the successes of past USAID programs and contribute to improvements in Nepal's neonatal mortality rate, maternal mortality rate, modern contraceptive prevalence rate, health information system performance index, disparity between richest and poorest quintiles in use of specific services and participation in governance-related activities at the local level.[47]

SNAPSHOT – H4L

Life of Project: December 2012 to December 2017

Goal: To strengthen Government of Nepal capacity to plan, manage and deliver high quality family planning and maternal, newborn and child health services at the district and local levels.

Implementing Partners: RTI International, Jhpiego and local NGOs

Geographic Focus: National focus plus district focus in the following: Argakhanchi, Kapilbastu, Dang, Rolpa, Pyuthan, Rukum, Jajarkot, Salyan, Banke, Bardiya, Surkhet, Daliekh, Kalikot and Jumla

8. Red Book Support Program

   The Red Book Support Program is a USAID funded program that works directly with MoHP to improve maternal and child health services to marginalized and vulnerable communities. Project activities include training MoHP officials to improve the availability, accessibility and quality of voluntary family planning services, and strengthen short-term and permanent family planning services at health facilities. The program also supports regional performance review and planning meetings and refresher trainings for MoHP and Female Community Health Volunteers. [48]

SNAPSHOT – RED BOOK SUPPORT

Life of Project: 2013 - 2019

Goal: Support MOHP to provide sustainable, accessible and quality family planning/reproductive health, maternal, neonatal and child health, and nutrition services to the Nepali people, particularly the poor and marginalized, and to strengthen systems to ensure achievement of Nepal's 2015 Millennium Development Goals for health.

[47] Additional information available at: http://www.usaid.gov/nepal/fact-sheets/health-life-h4l-project

[48] Additional information available at: http://www.usaid.gov/nepal/fact-sheets/red-book-support-program

9. Saath-Saath Project

The Saath-Saath Project is a $27.5 million, five year project, that works with the GoN and builds on the successes and lessons of the highly successful Advancing Surveillance, Policies, Prevention, Care and Support to Fight HIV/AIDS (ASHA) Project – USAID's previous activity to combat HIV and AIDS in Nepal. The main aim of Saath-Saath is to reduce the transmission and impact of HIV/AIDS and improve reproductive health among selected key populations.[49]

SNAPSHOT – SAATH-SAATH

Life of Project: October 2011 to September 2016

Goal: To reduce the transmission and impact of HIV and AIDS and improve reproductive health among selected most-at-risk populations in a manner that supports the Government of Nepal's services at the district and local levels.

Implementing Partners: FHI 360 Nepal, in partnership with Association of Medical Doctors of Asia and more than 40 local implementing partner agencies.

Geographic Focus: 33 districts nationwide

10. School-Led Safe Water, Sanitation and Hygiene Improvement (Su-SWASTHA) Project

The Su-SWASTHA project is a $312,000 USAID funded project that supports school- and community-led total sanitation efforts. Under this program, schools will receive improved, child-friendly (with appropriate heights of water taps and urinals) and gender friendly (separate toilets) water and sanitation improvements to promote hygienic behavior. The aim is to declare Swastha ("healthy") communities, where all households not only have permanent toilets but also use household water treatment systems and improved cooking stoves, and practice good personal and food hygiene behavior. [50]

SNAPSHOT – SU-SWASTHA

Life of Project: January 2011 to January 2014

Goal: To improve the health and well-being of poor people in mid-western Nepal through an integrated approach that improves access to safe water, sanitation and hygiene in a sustainable manner.

Implementing Partners: Nepali NGO Environment and Public Health Organization (ENPHO)

Geographic Focus: Surkhet district, mid-western region

[49] Additional information available at: http://www.usaid.gov/nepal/fact-sheets/saath-saath-project

[50] Additional information available at: http://www.usaid.gov/nepal/fact-sheets/school-led-safe-water-sanitation-and-hygiene-improvement-su-swastha

11. Sustainable Action for Resilience and Food Security (SABAL)

Targeting populations in 11 Districts of Central and Eastern Nepal, the Sabal program seeks to help these communities reduce food vulnerabilities specifically improving health status of pregnant and lactating women, and children under 5. This program will use existing Village Development Committees to improve access to hand-washing stations and sanitation awareness, risk management guidance, and through women support groups.

SNAPSHOT – SABAL

Life of Project: 2014-2019

Goal: Increased resilience of targeted vulnerable communities in Nepal

Implementing Partners: Save the Children, Helen Keller International, CARE, Action For Enterprise, Action Against Hunger/ACF International, Tango International, Alliance for Social Mobilization (Alliance Nepal), Development Project Service Centre (DEPROSC), Local Initiatives for Biodiversity, Research and Development (LI-BIRD), Nepal Water for Health (NEWAH), Nepali Technical Assistance Group (NTAG)

Geographic Focus: Makwanpur, Sindhuli,Udaypur, Khotang, Okhaldhunga, Ramechhap, Dolakha, Sindhupalchok, Kavrepalanchowk, Rasuwa, and Nuwakot

Total Award Amount: $59 million

CONTACT INFORMATION

- Address: Airport Gate Area, Shambhu Marg Kathmandu, Nepal GPO Box: 3394
- Telephone: (977-1) 4468130/4464803
- Fax: (977-1) 4468132
- Email: post.nepal@savethechildren.org

3.2 International Non-Governmental Organizations Working in Nepal

The organizations and projects listed below provide nutrition-focused and nutrition-sensitive activities and may be involved in improving food security initiatives.

1. Heifer International Nepal

Heifer's Community Managed Animal Assets Security Program enables farmers to form a community managed fund, where 10% of the seed money is provided by Heifer and the rest is based from premium payments by the insured. Heifer also organizes Community Forest User Groups to bolster self-reliance in agribusiness decisions.

CONTACT INFORMATION

- Address: Heifer international Nepal, Hattiban, Lalitpur-15. G.
- Telephone: (977-1) 5250554 / 5250841,
- Email : heifer.nepal@heifer.org.
- Website: heifernepal.org

2. Group of Helping Hands (SAHAS) Nepal

Formerly associated with the United Mission to Nepal, SAHAS is non-governmental social development organization that provides orientations, trainings, and capacity building measures through over 1000 community based organizations in outlying regions of Nepal. Among other initiatives, it works toward agriculture, livestock, and on-farm and off-farm income generation activities.

CONTACT INFORMATION

- Address: Group of Helping Hands-Nepal P.O. Box 8975 EPC 1590, Lalitpur
- Telephone: (977-1) 5523776,
- Fax: (977-1) 5523303
- Email: sahasnepal@wlink.com.np
- Website: http://www.sahasnepal.org.np/current-projects.php

3. Swiss Agency for Development and Cooperation

Funded by Swiss Agency for Development and Cooperation, Secure Nutrition recently completed its third phase (2009-2013) of family nutrition objectives through integrated home garden systems in Nepal. Since 2009 this initiative has scaled up to 16 districts, with commitments to scale the effort by the Nepal Department of Agriculture.

CONTACT INFORMATION

- Address: Ekantakuna, Jawalakhel**,** P.O. Box 113, Kathmandu, Nepal
- Telephone: (+977-1) 5524927, 5524928
- Fax (+977-1) 5525358
- Email: kathmandu@sdc.net

4. Cereal Systems Initiative for South Asia (CSISA)

   CSISA was established in 2009 to promote South Asia's cereal-based cropping systems. It focuses on improving cropping systems, resource-conserving management technologies, new cereal varieties and hybrids, livestock feeding strategies and feed value chains, aquaculture systems and policies and markets. CSISA Nepal supports USAID's KISAN project, and focuses on the mid-hill and Terai districts, which also fall within USAID's Feed the Future target areas. CSISA Nepal's focus crops are maize, wheat, lentil and rice.[51]

   CSISA works in collaboration with the following five CGIAR partners:

   1. The International Maize and Wheat Improvement Center (CIMMYT)
   2. The International Food Policy Research Institute (IFPRI)
   3. The International Livestock Research Institute (ILRI)
   4. The International Rice Research Institute (IRRI)

[51] More information available at: http://csisa.org/csisa-nepal/

5. WorldFish

5. International Food Policy Research Institute (IFPRI)

   IFPRI, established in 1975, seeks to provide sustainable research-based policy solutions to reduce poverty and malnutrition in developing countries.[52] The Agricultural Science and Technology Indicators (ASTI) initiative comprises a network of national, regional, and international agricultural R&D agencies and is managed by the International Service for National Agricultural Research (ISNAR) division of the International Food Policy Research Institute (IFPRI). Primary funding for the ASTI initiative's survey round in Asia was provided by the CGIAR Finance Committee/World Bank (Stads and Shrestha 2006).

6. Peace Corps

   Peace Corps Nepal is one of the oldest development programs in the country that focuses on agriculture, nutrition and hygiene education. Since its initiation in 1962, more than 3,705 Peace Corps volunteers have served in Nepal.[53]

3.3 Academic Programs for Nutrition in Nepal

The programs listed below provide education and practical training of professionals in nutrition and dietetics. For additional information about accreditation and available degrees, refer to comprehensive list of academic programs in Nepal: http://www.nutritioninnovationlab.org/wp-content/uploads/2013/04/RBP9_Nutrition_Programs_Nepal_FINAL.pdf

1. Institute of Medicine, Tribhuvan University

The Instutitute of Medicine at Tribhuvan University offers Bachelor of Public Health (BHP) and Master of Public Health (MPH) degrees. Tribhuvan University's Institute of Medicine, Maharajgunj, through the Department of Public Health and Community Medicine, also offers a master's degree in Public Health requiring a year for completion, with an emphasis on national health policy. For more information follow the link here: http://tribhuvan-university.edu.np/about-us/. The following colleges affiliated with Tribhuvan University also offer BPH degrees:

- Manmohan Memorial Institute of Health Sciences, Nakkhu, Lalitpur
- Om Health Campus, Chabahil, Kathmandu (previously affiliated with Purbancha University)
- Chitwan Medical College, Bharatpur, Chitwan
- SANN Research Institute, Kathmandu

CONTACT INFORMATION

- Address: Maitighar Height, Kathmandu, Bagmati, 44600, Nepal
- Telephone: (997-1) 422488
- Website: http://www.ntag.org.np

[52] Additional information available at: http://www.ifpri.org/publication/nepal

[53] Additional information available at: http://nepal.peacecorps.gov

2. Padma Kanya Campus (Women's College), Tribhuvan University

The Padma Kanya Campus at Tribhuvan University also offers BS, MS and PhD in nutrition and dietetics. Padma Kanya Multiple Campus, through its Central Department of Home Science & Women's studies, offers a Bachelor of Arts degree with courses on food and nutrition, diet therapy, and community nutrition. The food and nutrition course provides a background in food, organic chemistry, food science, nutrition, nutrition and disease, medical nutrition therapy. There is also a Master of Arts degree with a two year's specialization course in Food and Nutrition, which is the only Nutrition specialization course offered in Nepal. For more information contact Dr. Manasa Thakurathi (Email: manasathapa@yahoo.com or (977-9) 841-351749).

CONTACT INFORMATION

- Contact Name: Dr. Manasa Thakurathi
- Telephone: (977-9) 841-351749
- Email: manasathapa@yahoo.com

3. School of Health and Allied Science, Pokhara University

The School of Health and Allied Scient at Pokhara University offers a BPH degree. Formerly the the School of Pharmaceutical and Biomedical Sciences at Pokhara City, the name was changed in 2016 to the School of Health and Allied Science. Pokhara University, School of Health and Allied Science, Faculty of Science and Technology offers a 4-Year Bachelor of Public Health (BPH) degree. Food and Nutrition offered in the fourth semester and Food and Nutrition II offered in the fifth semester. For more information check out the following link: http://pu.edu.np/university/faculty-of-health-science/. The following colleges affiliated with Pokhara University also offer a BPH degree:

- National Open College, Sanepa, Lalitpur
- LA Grande International College Simalchaur, Pokhara (formerly known as Pokhara College of Technology)
- Nobel College, Sinamangal, Kathmandu
- Central Institute of Science and Technology College (CIST), Naya Baneshwor, Kathmandu
- Palpa College of Medicine, Palpa, Lumbini

4. B.P. Koirala Institute of Health Sciences

The School of Public Health at the B.P. Koirala Institute of Health Sciences offers a master's degree in Public Health designed to take 2 years. While there is no free-standing nutrition course, a section in the family health module delves into nutrition.

5. Purvanchal University

Offers a three-year designed BPH. The first year of the BPH does include a specific course on food and nutrition. In 2015, Purvanchal University, Faculty of Science and Technology, a MS program in Nutrition and Dietetics was opened.

3.4 Nepal Government and Nongovernmental Resources

The organizations and programs listed below provide nutrition focused, nutrition sensitive activities and may be involved in improving food security initiatives to support nutrition activities

1. Nepali Technical Assistance Group (NTAG)

Established in 1993, this non-governmental organization lends support to the Ministry of Health and Population to bolster its programs on vitamin A, School to Family Health, Community Based Integrated Management of Childhood Illnesses (CB-IMCI), deworming, and iron intensification, among others, to help Nepal reach its Millennium Development Goals. NTAG mobilizes over 49,000 Female Community Health Volunteers in its Endowment fund.

2. Nutrition Promotion and Consultancy Services (NPCS)

A successor to the UMN Nutrition Programme, NPCS is primarily involved in Nutrition trainings and demonstrations for community groups, nutrition classes for students in schools, identification and referral of malnourished and micronutrient deficient children, as well as baseline and enplane surveys to assess attitudes and behaviors.

CONTACT INFORMATION

- Contact Name: Miss Sharada Manandhar,
- Telephone: (977-1) 4102286
- Email: npcs@npcs.org.np
- Website: http://www.npcs.org.np/about.html

3. Department of Health Services

One of Three Departments under the Ministry of Health. The DoHS identifies itself as a central referral hub for the female community health volunteers (FCHVs) and traditional birth attendants (TBAs). It assists the Ministry of Health in directing foreign aid where it is best used, and provides the technical support necessary to develop and expand health institutions in line with evolving government policies on nutrition.

CONTACT INFORMATION

- Address: Department of Health Services Teku, Kathmandu
- Telephone: (977-1) 4262063
- Website: http://dohs.gov.np

4. National Planning Commission

The advisory body of the Government of Nepal, the NPC directs and advises foreign development aid and serves as an intellectual hub for proposals from scholars, the private sector, and development partners. The NPC also houses the National Development Volunteer Program, providing technical support.

CONTACT INFORMATION

- Contact Name: Honorable Member Dr. Prabhu Budathoki
- Email: pbudhathoki@npc.gov.np

5. Seed Vision 2025

An FAO sponsored initiative that aims to increase crop productivity, raise income, and engender employment

opportunities by creating autonomy for households in Nepal. It is a long term commitment (2013-2025) run through the Ministry of Agricultural Development.

CONTACT INFORMATION

- Address: Government of Nepal, Ministry of Agricultural Development, Singhadurbar, Kathmandu, Nepal.
- Telephone: (977-1) 4211905, 4211950.
- Fax: (977-1) 4211935
- Email: info@moad.gov.np
- Website: http://extwprlegs1.fao.org/docs/pdf/nep147056.pdf

6. Nepal Agricultural Research Council (NARC)

Developing inbred lines and supplying to seed companies and NGOs for seed multiplication of national hybrids. Produces breeder and foundation seeds, as well as research on hybrid seed production technology. NARC also performs research and field testing of GMOs/LMOs for future sustained use in Nepal for agricultural targets. Application of modern techniques including bio-technology in crop breeding.

CONTACT INFORMATION

- Address: Nepal Agricultural Research Council (NARC), Singhadurbar Plaza, Kathmandu, Post Box No. 5459, Kathmandu, Nepal,
- Telephone: (977-1) 4256837, 4262650, 4262567,
- Fax: (977-1) 4262500,
- Email: ednarc@ntc.net.np
- Website: http://narc.gov.np/narc/index.php

7. Department of Livestock Services (DLS)

Seeks to increase Livestock productivity and sustainable practices to eliminate disease and improve agribusiness conditions in Nepal. The DLS produces vaccines and conducts surveys for surveillance of animal diseases. It also ensures food safety practices and organizes trainings and workshops on Livestock.

CONTACT INFORMATION

- Address: Department of Livestock Services, Hariharbhawan, Lalitpur, Nepal,
- Telephone: (997-1)-5522056 / 5521610 / 5525478,
- Telephone (Toll free): 1-660-0167890
- Fax: (997-1) 5542915
- Email: dgdls@ntc.net.np
- Website: http://www.dls.gov.np/content.php?id=9

8. Nepal Youth Foundation

Under its Malnutrition Prevention and Treatment Program, NYF built 16 Nutrition Rehabilitation Homes exclusively built to treat malnourished children. Hosts Diet Management Training for healthcare providers,

NGOs, and school staff at its headquarters in Kathmandu. Hosts Nutrition Outreach Camps in remote village and urban slums, which provide nutrition education for households, nutritional screenings, and referrals for critical cases.

9. Nepal Agricultural Research and Development Fund (NARDF)

NARDF works in tandem with government, nongovernment, educational, and private institutions to provide grants and technical support for agricultural research to aid with development initiatives. Most of the research conducted by NARDF deals with Horticulture, followed by Livestock and Poultry and Agribusiness.

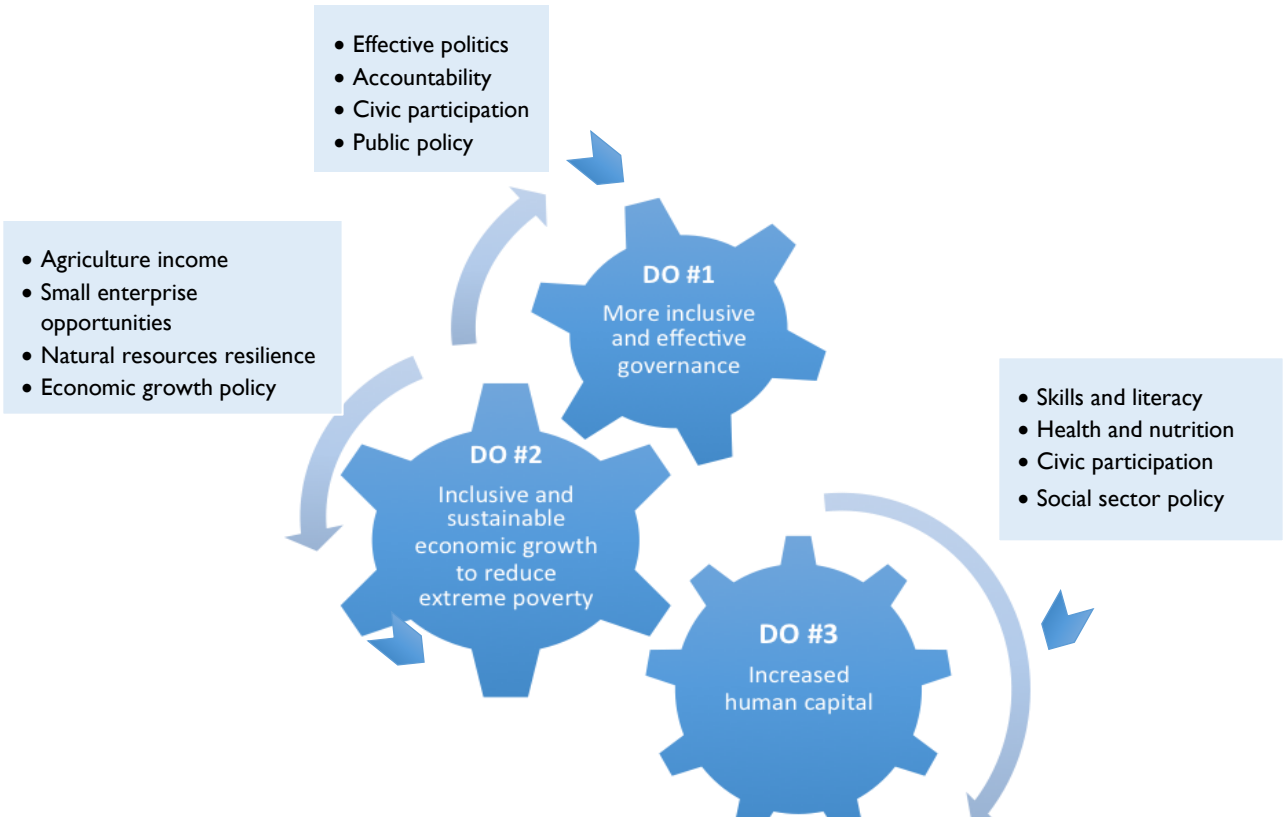
CONTACT INFORMATION

- Address: Singha Durbar Plaza, Kathmandu, Nepal.
- Telephone (Member Secretary): (997-1) 4257278
- Telephone (Program Branch): (997-1) 4216804
- Telephone (Administration Branch): (997-1) 4221595
- Telephone (General inquiry): (997-1)-4265081
- Email: enquiries@nardf.org.np
- Website: http://www.nardf.org.np/english/article/ouputs

4. USAID's Country Development Cooperation Strategy (CDCS), Nepal

The overarching goal of USAID's Country Development Cooperation Strategy (CDCS) over the next five years (2014-2018) is to foster "a more democratic, prosperous, and resilient Nepal."[54] The aim is to combat extreme poverty, build resilience, and lift the country out of its "Least Developed" status. The strategy is aligned to support the Government of Nepal's (GoN) Three-Year Development Plan (2013-2016) to – Increase agricultural productivity, diversification and commercialization; Improve basic education and health, drinking water and sanitation; Promote good governance; and, Promote the tourism, industry and trade sectors (USAID 2015). The chart below outlines the three mutually reinforcing Development Objectives (DOs) that contribute to achieving the CDCS's goal. The DOs are interconnected because of the integration of cross- sector development and governance to achieve sustainable results.

[54] Summary of USAID's CDCS provided in this report.
http://www.usaid.gov/sites/default/files/documents/1861/CDCS%20summary_Final.pdf



5. Conclusions

Despite being a predominantly agricultural country, agriculture development has failed to keep up with the increased demand from a growing population. Literature portrays this as a result of weaknesses in the poor linkages between agricultural research and extension services and indicates urgent need for agricultural extension reform. Incorporating past lessons and integrating modern concepts and theories through trainings on improved agricultural technologies are some of the ways to reform the agricultural extension process. However, this cannot be done without effective and comprehensive coordination between the government institutions and the various NGOs and INGOs already operating in the country. Educating, strengthening and motivating the farmers' groups and their networks are vital for project success along with inclusion of women farmers as project participants. In the context of time bound nature of different NGO projects involved in agriculture and nutrition, linking the project participants with government and local extension institutions is an important factor for the post-project sustainability of these projects.

The overall socio-economic status of women in Nepal lag far behind that of men, mainly in education, politics, economic rights, and in household decision-making process. Although women are actively engaged in farming and more so in current years, due to migration of male workers to urban areas and abroad, front-line extension workers are mostly men. Therefore, there is an urgent need to train and recruit female extension workers. In order to encourage gender integration in agriculture and nutrition projects, there is a need to actively recognize, reward and fund national and local projects and extension workers who perform gender-sensitive work.

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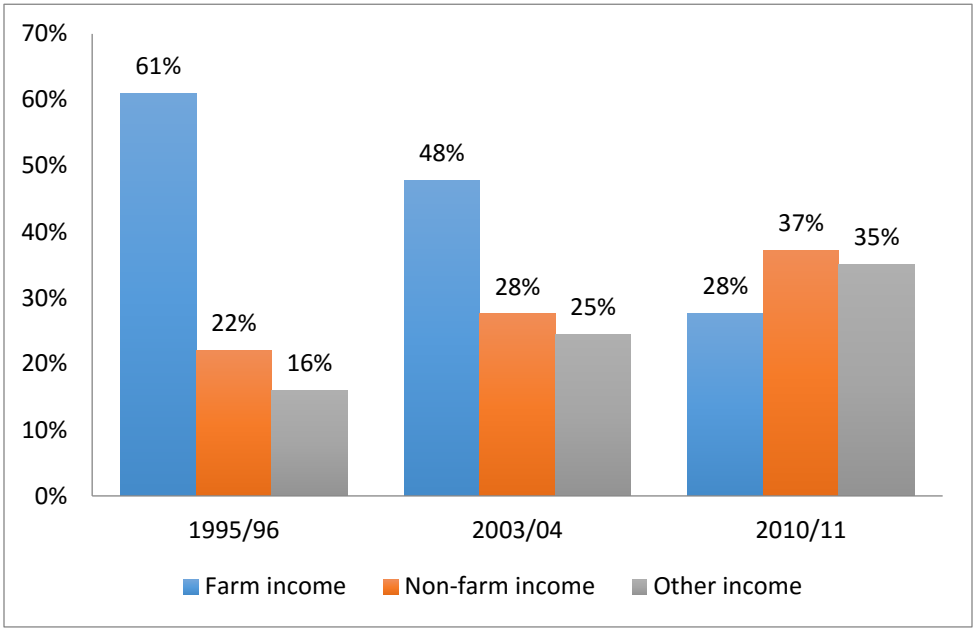
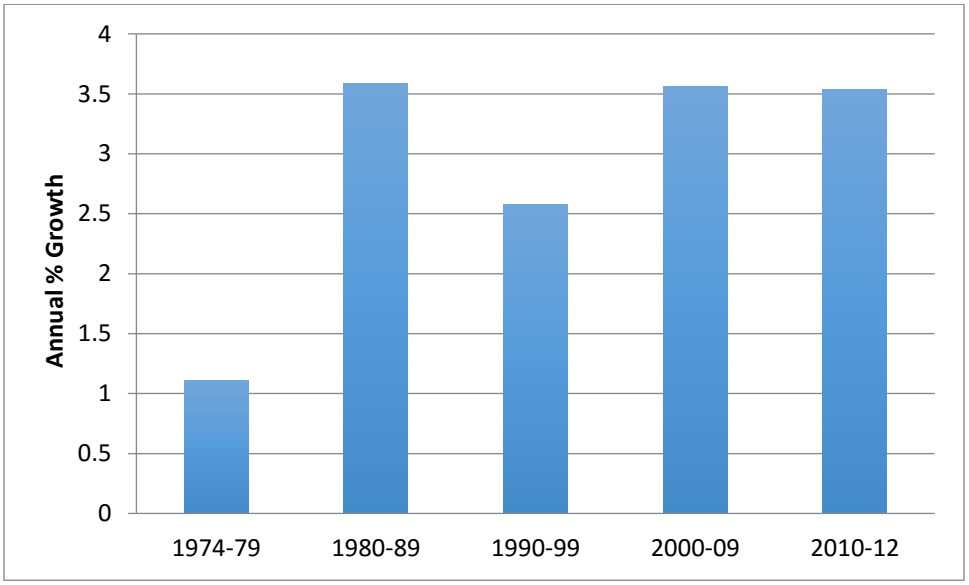
Annex A: Graphs



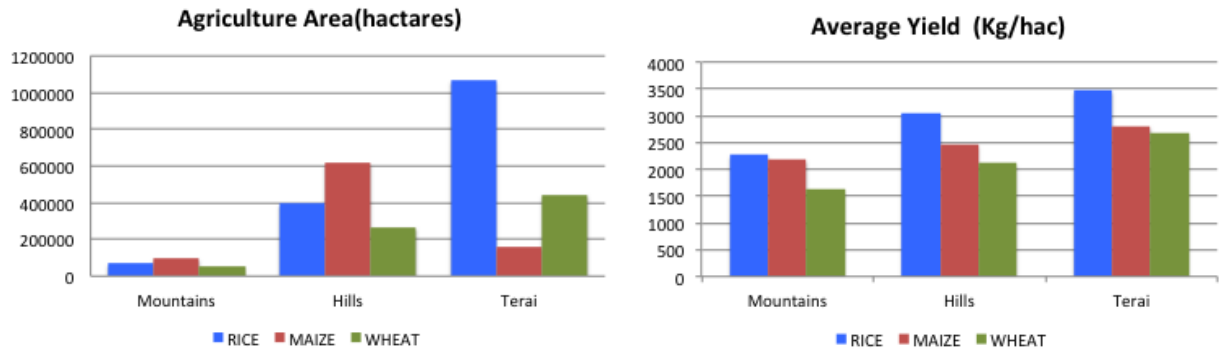
Data source: CBS 2011

Figure 1: Household Income Share (1995-2011)



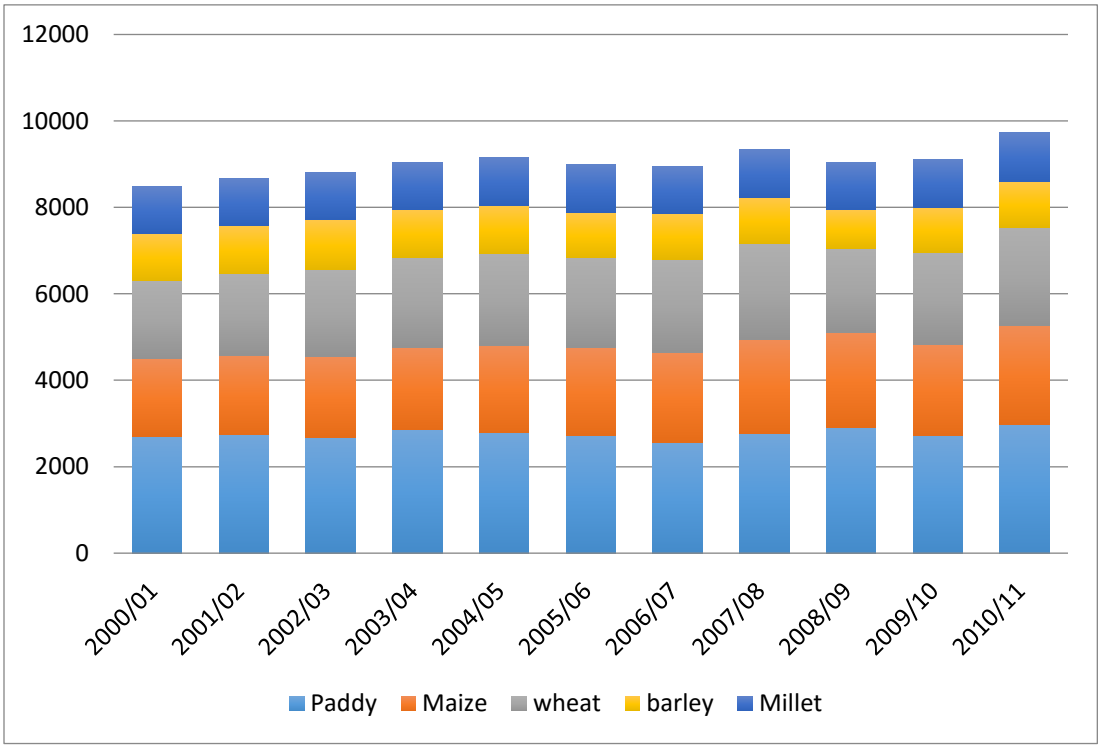
Data source: Basnett and Pandey 2014

Figure 2: Value-added growth in agriculture



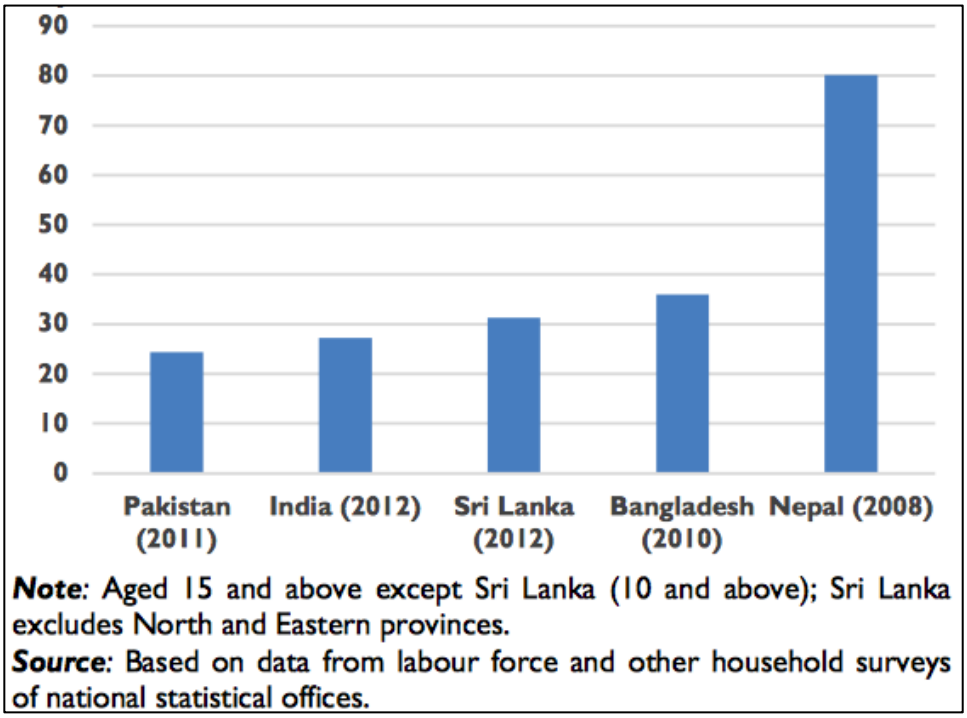
Data source: MoAD 2012

Figure 3: Crop distribution across agro-ecological zones of Nepal



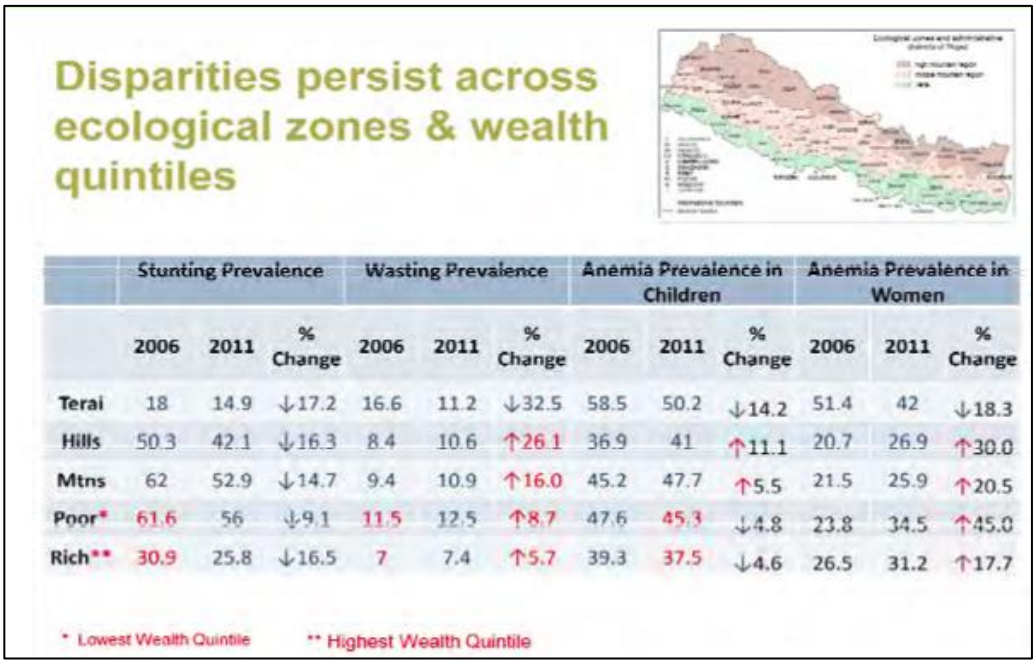
Data source: Ministry of Agriculture and Cooperatives (MoAC), Nepal, 2011; and Deshar 2013

Figure 4: Staple cereal crops of Nepal



Source: ILO 2014

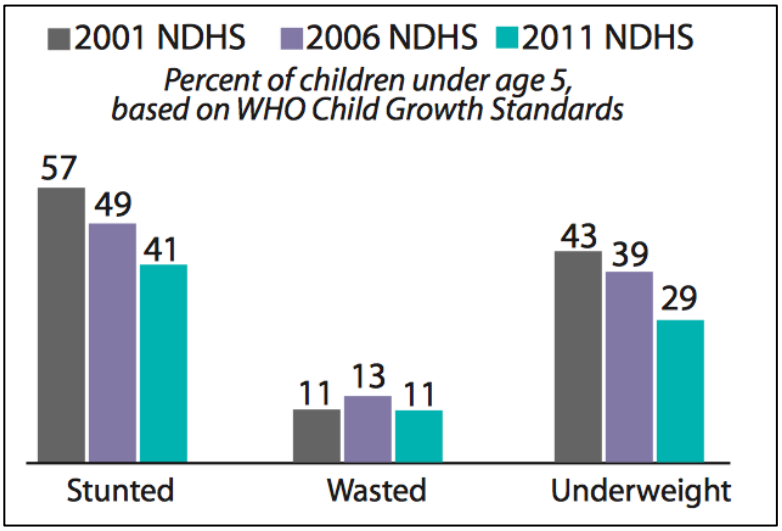
Figure 5: Female labor force participation rate (%)



	Stunting Prevalence			Wasting Prevalence			Anemia Prevalence in Children			Anemia Prevalence in Women		
	2006	2011	% Change	2006	2011	% Change	2006	2011	% Change	2006	2011	% Change
Terai	18	14.9	↓17.2	16.6	11.2	↓32.5	58.5	50.2	↓14.2	51.4	42	↓18.3
Hills	50.3	42.1	↓16.3	8.4	10.6	↑26.1	36.9	41	↑11.1	20.7	26.9	↑30.0
Mtns	62	52.9	↓14.7	9.4	10.9	↑16.0	45.2	47.7	↑5.5	21.5	25.9	↑20.5
Poor*	61.6	56	↓9.1	11.5	12.5	↑8.7	47.6	45.3	↓4.8	23.8	34.5	↑45.0
Rich**	30.9	25.8	↓16.5	7	7.4	↑5.7	39.3	37.5	↓4.6	26.5	31.2	↑17.7

* Lowest Wealth Quintile ** Highest Wealth Quintile

Figure 6: Nutrition disparities across ecological zones and wealth quintiles, Source USAID, 2012[55]

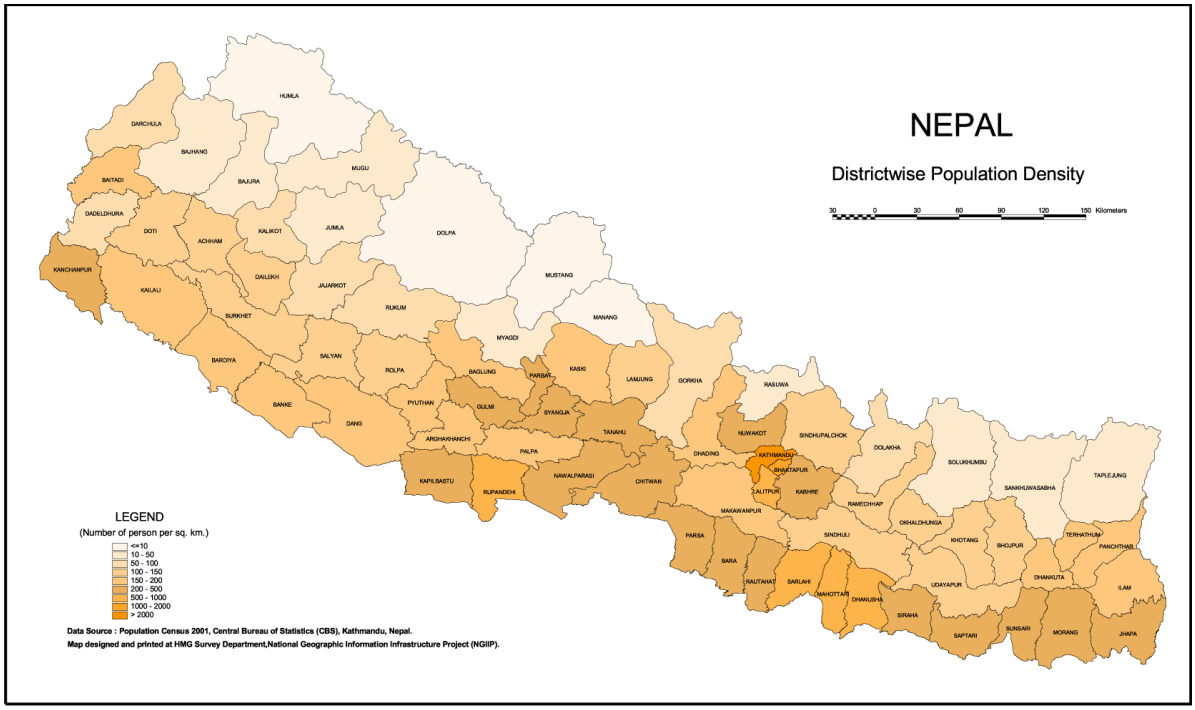


Source: NDHS and MOHP 2011

[55] Proceedings from the symposium can be found here: http://pdf.usaid.gov/pdf_docs/pnadz843.pdf

Annex B: Maps

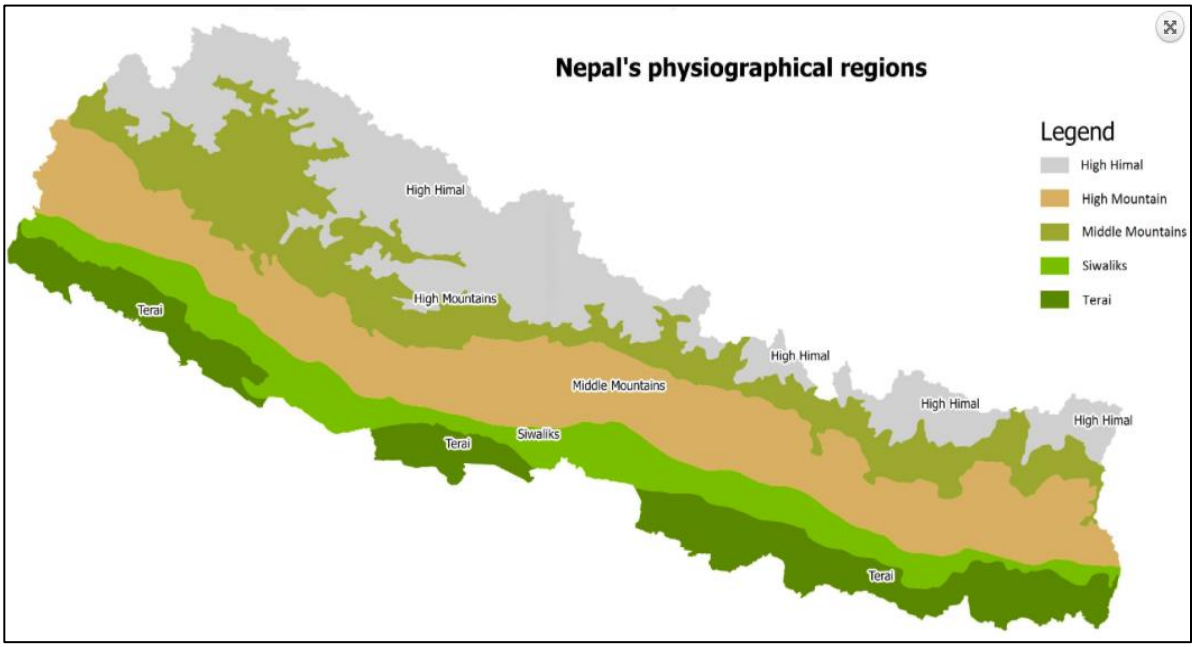
Map 1: Population Density by Districts of Nepal



LEGEND
(Number of person per sq. km.)
<=10
10 - 50
50 - 100
100 - 150
150 - 200
200 - 500
500 - 1000
1000 - 2000
> 2000

Data Source : Population Census 2001, Central Bureau of Statistics (CBS), Kathmandu, Nepal.
Map designed and printed at HMG Survey Department,National Geographic Information Infrastructure Project (NGIIP).

Map 2: Agro-ecological Domains of Nepal

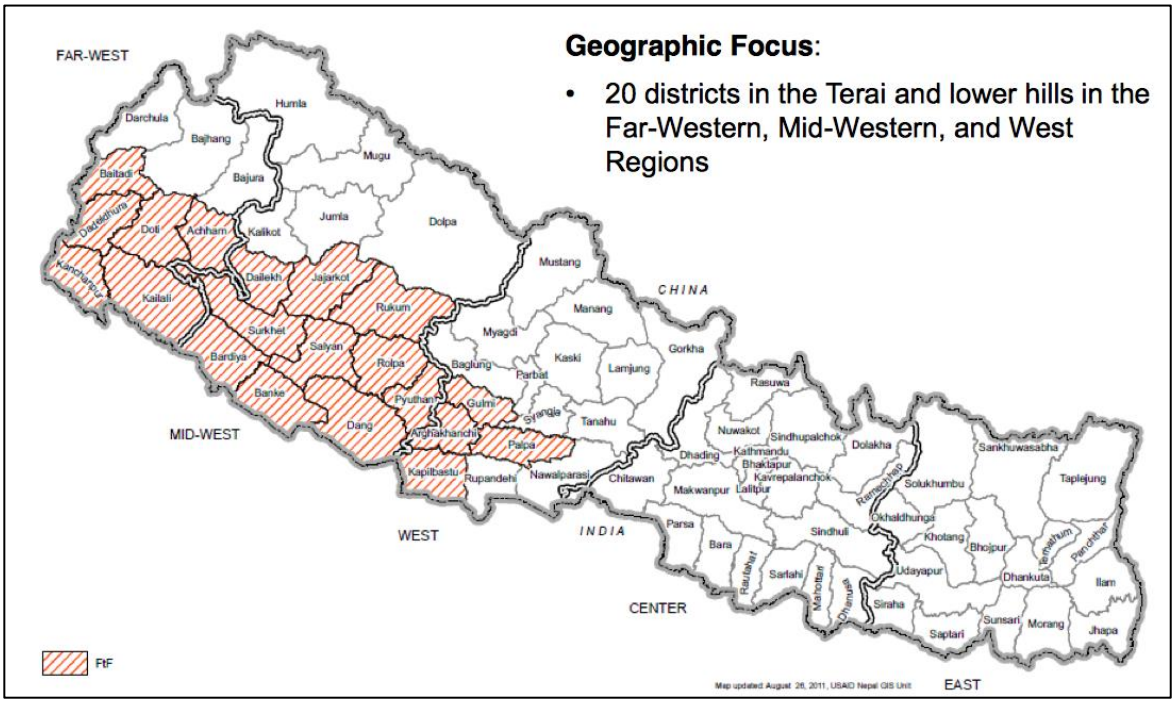


Source: http://lt.umn.edu/earthducation/expedition6/geography/

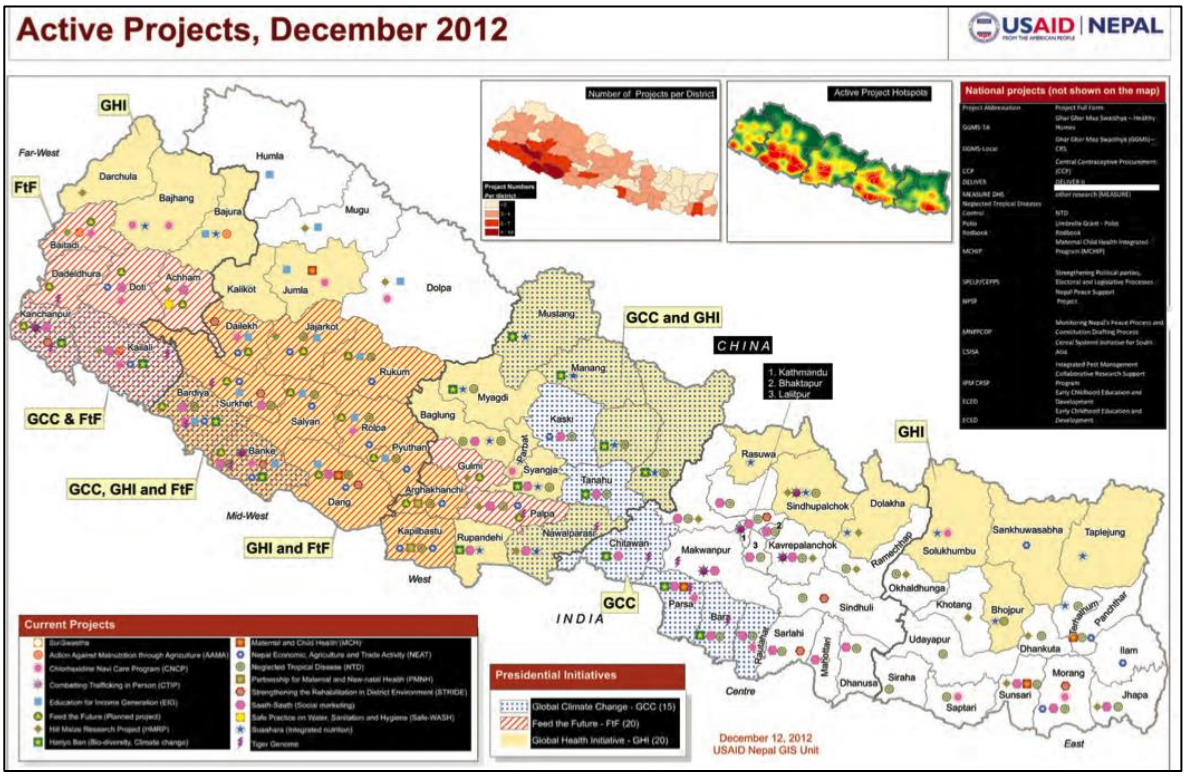
Map 3: Districts and Regions of Nepal

Source: http://lkamal.com.np/blog/image-map-of-nepal-with-marker-on-highlighted-district/#Kaski

Map 4: USAID Feed the Future program districts in Nepal (Source: USAID 2011)



Map 5: Active USAID projects in Nepal as of December 2012



Source: www.usaid.gov/sites/default/files/documents/1861/USAID_Nepal_calendar_2013_downsized.pdf

Annex C: INGO Projects with the Ministry of Agriculture and Cooperatives

	Projects/Programmes	Duration	Amount of Assistance (NRs in million/Annum)	Development Partners / Institutions	INGOs
1	Nepal Nutrition Intervention Project: Sarlahi	2003 - 2010	42,931	USA	John Hopkins University
2	Poverty Eradication (32 Districts)	2004-2009	372,554	UK	Action Aid Nepal
3	Food Security, Water, Sanitation and Nutritional Assistance				
4	Poverty Alleviation via Housing and Micro-Finance (Jhapa, Morang, Mahottari, Kailali, Kaski, Surkhet, Dhanusha, Kabhre, Lamjung, Bara and Ilam districts)	2005 - 2010	16,730	USA	Habitat for Humanity International
5	Mainstreaming people with disabilities into disaster management (Kathmandu, Kanchanpur, Dang, Baglung, Gorkha, Palpa, Nawalparasi, Sarlahi and Morang districts)	2005 - 2011	77,070 (for three projects)	France	Handicap International
6	Improving Livelihood Security of Socially Excluded Communities in Nepal, Integrated Approaches to Improving the Urban Environment in Asia, Main streaming Livelihood- Centered Approaches to Disaster Management (Doti, Kailali, Surkhet, Banke, Rupandehi, Nawalparasi and Chitwan districts)	2006 - 2010	92,690 (for three projects)	UK	Intermediate Technology Development Group
7	Access to Opportunities and strengthen Local Capacities in Integrated Sustainable Waste Management in Small and Medium Municipalities of Nepal (Gorakha, Achham, Kalikot, Chitwan, Tanahun, Surkhet and Banke districts)				
8	Sustainable Agriculture with market for Advancing Livelihoods of Conflict Affected Poor people (Doti, Kailali and Achham districts)				
9	Terai Arc Landscape Program, Himalayan Landscape Program and Northern Mountains Conservation (36 Districts)	2006 - 2011	10,000	USA	World Wildlife Fund

10	Community Based Multi Hazard Risk Reduction Program (Kabhre, Udayapur, Sindhuli, Lalitpur, Kathmandu and Bhaktapur districts)	2007 - 2009	16,473	Denmark	Danish Red Cross Society
11	Disaster Preparedness and Sustainable Livelihood Development Project (Chitwan district)	2007 - 2009	3,617	Japan	Shalpa Neer
12	Poverty Reduction through the organization of Farmers (Saptari, Siraha and Dhanusha districts)	2007 – 2010	6,377	USA	International Development Enterprise, Nepal
13	Increasing Access of Poor Nepali Communities to Biogas Technology to Strengthen Livelihoods and Enhance Environment Management (Dailekh, Surkhet, Salyan, Gorakha, Sindhupalchok and Dolakha	2007 - 2010	1,114	USA	Winrock International
14	Karnali Support Programme (Water and sanitation, long-term food security and capacity building) (Mugu and Humla districts	2007 - 2012	3,478	Denmark	Mission East
15	Community Based Management of Acute Malnutrition Project (Surkhet, Dailekh, Mugu, Kalikot, Jumla, Dolpa, Humla, Jajarkot and Bardiya districts)	2008 - 2009	115,231	Ireland	Concerned Worldwide
16	Rights Based Safe Migration and Disaster Risk Reduction Program : 15 Districts	2008 - 2010	7,668	Denmark	Dan Church Aid
17	Forestry Extension Service in Central Terai (Dhanusha, Mahottari and Sarlahi districts)	2008 - 2010	6,408	Denmark	Danish Forestry Extension
18	Fostering Health and Livelihoods of Conflict Affected People in Nepal (11 districts)	2009 - 2012	2,824	UK	The Britain Nepal Medical Trust

Source: Global Agriculture and Food Security Program (GAFSP) (2010)[56]. Statement of Technical and Other Assistance, FY 2009/10, Ministry of Finance, Government of Nepal.

[56] Table assessed from: http://www.gafspfund.org/sites/gafspfund.org/files/Documents/Nepal%204%20of%209%20Country%20Investment%20Plan.pdf

Annex D: NGOs Providing Agricultural Extension and Service in Proposed Feed the Future Districts[57]

District	Major NGO/CBO in the district	Implementing Partner	Links
Baitadi	Rural Environment Development Center (REDC)		https://www.facebook.com/redc.dadeldhura1999
	Center for Environmental and Agricultural Policy Research, Extension and Development (CEAPRED)		http://www.ceapred.org.np
	Environment, Culture, Agriculture, Research and Development Society (ECARDS) Nepal		http://www.ecards.org.np
Dadeldhura	CEAPRED		
	Micro-Enterprise Development Program (MEDP)	UNDP, Australian Aid	http://www.medep.org.np
	Fintrac	USAID	http://www.fintrac.com
Kanchanpur	Rural Reconstruction Nepal (RRN)		http://www.rrn.org.np
	Support Foundation		
	Local Initiatives for Biodiversity, Research and Development (LIBIRD) Nepal		www.libird.org/
Kailali	Lutheran Nepal	WFP, United Nations High Commissioner for Refugees (UNHCR)	https://nepal.lutheranworld.org
	CEAPRED Nepal; ECARDS Nepal		
Doti	Center for Disease Control and Prevention (CDC) Nepal		http://www.cdc.gov/globalhealth/countries/nepal/
	CEAPRED		
	CYMMIT/Hill Maize Research program	Swiss Agency for Development and Cooperation (SDC)	http://hmrp.cimmyt.org

[57] Table modified from Suvedi and McNamara 2011.

Achham	CEAPRED, Sebak Nepal, ECARDS Nepal		
	Rural Development Center (RDC)	UNICEF, UNDP, ILO	http://www.rdcnepal.org
Bardia	PLAN International Nepal		https://plan-international.org/where-we-work/asia/nepal/
	RRN		
	Education for Income Generation Project (EIG) Nepal	USAID, Winrock International	http://alliance.com.np/usaidnepals-education-for-income-generation-eig-program-in-nepal/
Surkhet	CEPREAD, EIG/USAID, RRN, MEDP		
Dailekh	Everest Club, SEBAK Nepal		
	Hospital and Rehabilitation Center for Disabled Children (HRDC)		http://www.hrdcnepal.org
	Forum for Rural Welfare and Agricultural Reform for Development (FORWARD)	USAID, Winrock International, ILRI, UKAID, IFAD, World Bank	http://forwardnepal.org
	Link Helvetas	HELVETAS Swiss Intercooperation	http://nepal.helvetas.org/en/our_projects/link.cfm
Jajarkot	GTZ Poverty Alleviation in Selected Rural Areas (PASRA), Nepal		
	Link Helvetas, CEPREAD, Nepal		
Banke	FORWARD Nepal, CEAPRED, PLAN International		
Salyan	MEDP, EIG, CEAPRED	USAID	
Rukum	United Mission to Nepal (UMN) Rukum Cluster		
	CEAPRED		
	Nepal Economic, Agriculture, and Trade Activity (NEAT)	USAID	http://borgenproject.org/tag/neat/

Dang	LIBIRD Nepal, EIG, NEAT	USAID	
	Rural Women Development Association		
Kapilbastu	FORWARD Nepal, LIBIRD Nepal		
	Green Savings and Credit Cooperative Ltd.		
Palpa	Rural Economic Development Association (REDA)		https://www.facebook.com/pages/Rural-Economic-Development-Association-Nepal/298601956870298
	Society for Research in Child Development (SRCD)		http://www.srcd.org/about-us
	International Development Enterprise (IDE) Nepal	USAID, UKAID, UNICEF	http://www.idenepal.org
Gulmi	IDE, Nepal LIBIRD Nepal		
	Naba Prabhat Youth Association		
Arghakhanchi	Sustainable Community Development Center (SCDC)		
	District Coffee Producers Association (DCPA)		
	CEPREAD		

Annex E: Organizational Description of the Department of Agriculture

Source: http://agriextension.gov.np/page/organizational-description-of-doa.html

The department is headed by the Director General (DG). There are three Deputy Director Generals (DDGs):

DDG - Planning and Human Resource

DDG - Monitoring, Evaluation and Management

DDG - Technology Transfer and Coordination.

There are different Program Directorates, National Programs, Regional Directorates, Farms/Centres, Labs, Quarantine Check Post and other offices under DOA.

Program Directorates:

Directorate of Vegetable Development, Khumaltar, Lalitpur

Directorate of Fruit Development, Kirtipur, Kathmandu

Directorate of Crop Development, Harihar Bhawan, Lalitpur

Directorate of Plant Protection, Harihar Bhawan, Lalitpur

Directorate of Agri-business Promotion and Market Development, Harihar Bhawan, Lalitpur

Directorate of Agricultural Extension, Harihar Bhawan, Lalitpur

Directorate of Fisheries Development, Balaju, Kathmandu

Directorate of Industrial Entomology Development, Harihar Bhawan, Lalitpur

Directorate of Agricultural Engineering, Harihar Bhawan, Lalitpur

Directorate of Post Harvest Management, Shreemahal, Lalitpur

Directorate of Agricultural Training, Harihar Bhawan, Lalitpur

Directorate of Soil Management, Harihar Bhawan, lalitpur

National Programs:

National Industrial Crop Development Program, Harihar Bhawan, lalitpur

National Citrus Development Program, Kirtipur, Kathmandu

National Potato Development Program, Khumaltar, Lalitpur

National Spices Development Program, Khumaltar, Lalitpur

National Natural Water and Inland Fisheries Development Program, Balaju, Kathmandu

National Agri-businss Promotion Program, Harihar Bhawan, Lalitpur

Research and Statistics Management Program, Harihar Bhawan, Lalitpur

Agri Commodity Export Promotion Program, Harihar Bhawan, Lalitpur

National Plant Quarantine Program, Hahihar Bhawan, Lalitpur

Pesticide Management and Registration Division, Harihar Bhawan, Lalitpur

Sericulture Development Division, Khopasi, Kavre

Bee Keeping Development Division, Godawari, Lalitpur

Raj Nikunja Bee Keeping Office, Gokarna, Kathmandu

Tea and Coffee Development Division, Kirtipur, Kathmandu

Regional Agricultural Directorates:

Eastern Region: Regional Agricultural Directorate, Biratnagar

Central Region: Regional Agricultural Directorate, Lalitpur

Western Region: Regional Agricultural Directorate, Pokhara, Kaski

Mid Western Region: Regional Agricultural Directorate, Surkhet

Far Western Region: Regional Agricultural Directorate, Dipayal, Doti

Regional Agricultural Training Centres

Jhumka, Sunsari

Naktajhij, Dhanusha

Lumle, Kaski

Khajura, Banke

Sundarpur, Kanchanpur

Regional Seed Labs

Jhumka, Sunsari

Hetauda, Makawanpur

Bhairahawa, Rupendehi

Khajura, Banke,

Sundarpur, Kanchanpur

Regional Soil Labs

Surunga, Jhapa

Jhumka, Sunsari

Hetauda, Makawanpur

Pokhara, Kaski

Khajura, Banke

Sundarpur, Kanchanpur

Regional Plant Quarantine Offices

Kakadvitta, Jhapa

Birganj, Parsa

Bhairawa, Rupendehi

Nepalganj, Banke

Gaddachouki, Kanchanpur

Horticulture Farms/Centers

Solukhumbu

Janakpur, Dhanusha

Nawalpur, Sarlahi

Bonch, Dolakha

Kirtipur, Kathmandu

Daman, Makawanpur

Palpa

Mustang

Godawari, Lalitpur

Trisuli, Nuwakot

Aanpchour, Gulmi

Satbanjh, Baitadi

Vegetable Farms/Centres

Fikkal, Ilam

Sindhuli

Khumaltar, Lalitpur

Panchkhal, Kavre

Nigale, Sindhupalchowk

Musikot, Rukum

Dolpa

Humla

Dadeldhura

Fisheries Farms and Training Centres

Fattepur, Saptari

Padariya, Siraha

Janakpur

Indrasarobar, Kulekhani

Hetauda, Makawanpur

Beltari, Shyangja

Balaju, Kathmandu

Bhandara, Chitwan

Bhairahawa, Rupendehi

Shamserganj, Nepalganj, Banke

Geta, Kailali

Quarantine Check-posts

Biratnagar, Morang

Bhantabari, Sunsari

Jaleshwar, Mahottari

Malangawa, Sarlahi

Airport, Kathmandu

Tatopani, Sindhupalchowk

Kerung Bhanjhang, Rasuwa

Lomangthang, Mustang

Krishnanagar, Kapilvastu

Jhulaghat, Baitadi

Sericulture Offices

Dhankuta

Itahari, Sunsari

Chitapol, Bhaktapur

Bhandara, Chitwan

Dhunibensi, Dhadhing

Bandipur, Tanahun

Pokhara, Kaski

Syangja

Projects

Janakpur Zonal Agriculture Development Project, Naktajhik, Janakpur

Raising Incomes of Small and Medium Farmers Project, Nepalgunj, Banke

Integrated Water Resources Management Project, Hariharbhawan, Lalitpur

Community Managed Irrigated Agriculture Sector Project, (Additional Financing), Hariharbhawan, Lalitpur