Fighting Hunger: The Right to Food Way[1]

Right to Food Assessment in Bhutan: Looking at policies, legal framework and institutions

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1 The views expressed in this paper are strictly personal and in no way represent the views of the Royal Government of Bhutan and the Food and Agriculture Organization of the United Nations. The authors wish to express deep gratitude to Marco Knowles and Dr. Kinlay Dorjee for their valuable comments, feedbacks and guidance. Many thanks to Ms. Federica Di Marcantonio for her excellent research assistance.

Table of Contents

List of Tables

List of Figures

List of Boxes

List of abbreviations and acronyms

2SLS	Two-stage least squares
ACA	Anti Corruption Act
ACC	Anti-Corruption Commission
ADB	Asian Development Bank
ADG	Assistant Director General
AIDS	Acquired Immune Deficiency Syndrome
APL	Above Poverty Line
BAFRA	Bhutan Agriculture Food and Regulatory Authority
BHU	Basic Health Unit
BLSS	Bhutan Living Standard Survey
BMI	Body Mass Index
BPL	Below Poverty Line
BNFSSP	Bhutan National Food Security Strategy Paper
CBNP	Community Based Nutrition Programme
CEDAW	Convention on Elimination of All Forms of Discrimination Against Women
CESCR	Committee on Economic, Social and Cultural Rights
CGI	Corrugated Galvanized Iron
CNFPS	Comprehensive National Food Security Programme
CRC	Convention on the Rights of the Child
CSO	Central Statistical Organization
DHDP	Dzongkhag Horticulture Developmental Plans
DOP	Department of Planning
DPT	Druk Phuensum Tshogpa
DYT	Dzongkha Yargey Tshogchung
EPI	Expanded Programme on Immunization
FAO	Food and Agricultural Organization of the United Nations
FCB	Food Corporation of Bhutan
FIAN	Food First Information and Action Network
FIVIMS	Food Insecurity and Vulnerability Information and Mapping System
FPS	Fair Price Shops
FNS	Food and Nutrition Security
FYP	Five Year Plan
GC	General Comment
GDP	Gross Domestic Product
GG	Good Governance
GOI	Government of India
GNH	Gross National Happiness
GNHC	Gross National Happiness Commission
GNI	Gross National Income
GYT	Geog Yargey Tshogchung
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
HRC	Human Rights Committee
ICCPR	International Covenant on Civil and Political Rights
ICDS	Integrated Child Development Scheme
ICERD	International Convention on All Forms Racial Discrimination
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICS	Informal Civil Society
IFPRI	International Food Policy Research Institute

IGWG	Intergovernmental Working Group
IT	Information Technology
MDGs	Millennium Development Goals
MOA	Ministry of Agriculture
MT	Metric Ton
NCWC	National Commission on Women and Children
NDMP	National Disaster Management Programme
NEC	National Environment Commission
NGO	Non-Governmental Organization
NFQC	National Food Safety and Quality Commission
NIP	National Irrigation Policy
NLAAC	National Land Acquisition and Allotment Committee
NPAG	National Plan of Action for Gender
NSB	National Statistical Bureau
NU	Ngultrum
NWAB	National Women Association of Bhutan
NWFP	Non Wood Forest Products
OACC	Office of Anticorruption Commission
OAG	Office of Attorney General
OECD	Organization for Economic Co-operation and Development
OGZ	Office of Gyalpon Zimpon
OLS	Ordinary Least Squares
PAR	Poverty Analysis Report
PDP	Peoples Democratic Party
PDS	Public Distribution System
PPD	Policy and Planning Division
PRSP	Poverty Reduction Strategy Paper
RAA	Royal Audit Authority
RBP	Royal Bhutan Police
RENEW	Respect Educate Nurture and Empower Women
RGOB	Royal Government of Bhutan
RNR	Renewal Natural Resources
RTF	Right to Food
RRIA	Rapid Rural Impact Assessment
SAARC	South Asian Association for Regional Cooperation
SARS	Severe Acute Respiratory Syndrome
SPFS	Special Programme for Food Security
TLU	Tropical Livestock Unit
UN	United Nations
UNCT	United Nations Country Team
UNDP	United Nations Development Programme
UNDHR	United Nations Declaration on Human Rights
UNICEF	United Nations International Children's Education Fund
VAM	Vulnerability Assessment Mapping
WCPU	Women Child and Protection Unit
WFP	World Food Programme
WFS	World Food Summit
WFS:*fyl*	World Food Summit: *five years later*
WTO	World Trade Organization
WUA	Water Users Association

Glossary of Terms

Chhatrim	Rules, constitutional law for the Cabinet
Chimi	Elected member of the National Assembly of Bhutan representing his or her constituency
Chupon	A village messenger
Chukhor	Rota system for sharing water resources during agricultural activities
Dungkhang	Larger districts are further divided into sub-districts known as a *dungkhag*
Dungpa	Civil servant heading the administrative territory called *dungkhag*
Droyner	His Majesty's Secretary
Dzong	Traditionally used as a fortress; now the structure is utilized for holding government offices and as a residential place for the monks.
Dzongkhag	District
Dzongdag	Chief executive of a district or any official for the time being exercising the functions of the office of district magistrate. Closest literal translation is understood as 'fort-masters'.
Dzongkhag Yargey Tshogdu	The highest decision making authority at the district level empowered by the and constituted under this DYT Chhatrim
Geog	Provincial administrative unit at the block level represented by village headmen known as a Gup. There are 205 Geogs in the country.
Geog Yargey Tshogchung	The highest decision making authority at the block level empowered by the GYT Chhatrim
Gup	Head of the Geog elected as per the provisions of this Chhatrim
Gyalpon Zimpon	Royal Chamberlain
Kharang	Milled maize most popularly eaten in the eastern districts of the country
Kidu	A unique State welfare grant provided by His Majesty the King
Mangmi	An elected representative of the Geog, usually functioning as a deputy to the Gup
Nu	Bhutanese currency with fixed exchange rates with the Indian rupee
Shangri-La	The idyllic place on earth is called Shangri-la, a Chinese word meaning heaven on earth
Sokshing	Government owned forestland earlier given collection rights to farmers to gather leaf litter in the under growth
Tshogpa	A representative of a village, or a cluster of villages
Tsamdrok	Registered natural pasture land with only grazing rights
Zhung Kalyon	Royal appointee and directly answerable to His Majesty the King

Executive Summary

Bhutan has always accorded high priority to poverty alleviation with pro-poor development activities as evident in the past five-year development plans. In addition, food security has been an explicit and formal objective of the Royal Government of Bhutan (RGoB) since 1994, when it developed the Comprehensive National Food Security Programme (CNFSP). The 9th Five Year Plan (FYP) also highlighted food security as one of its main objectives. However, a holistic approach to building food security was missing since the approach taken by RGoB under the 9th FYP mainly focused on achieving food security by increasing self sufficiency in food grains; other related non-farm or non-agriculture sector elements were not addressed adequately.

During the 9th FYP implementation period, following close consultation with multiple stakeholders, RGoB's approach to food security was broadened in the formulation of the Bhutan National Food Security Strategy Paper 2006 (BNFSSP). Most of the interventions promulgated in BNFSSP were based on a detailed analysis of the Renewable Natural Resources (RNR) Census 2000 data. With the availability of more recent data - the 2007 Bhutan Living Standards Survey (BLSS) - it is now possible to update the BNFSSP.

The Right to Food (RTF) broadens the concept of 'food security' by adding a legal dimension. Every individual has the right to feed him or herself in dignity. This right has complementary obligations for the State: governments have the duty to protect individuals from more powerful individuals or entities that threaten to infringe on a person's RTF. Governments should also use the maximum of available resources to create an enabling environment that allows every person to produce or procure safe and nutritious food for its consumption. Only if an individual, for reasons beyond its control, is unable to feed itself, shall the State provide food.

The concept of the RTF is no deviation from FAO's support to the RGoB on food security, but should rather be viewed as a continuation. It encompasses all the components of food security such as availability, accessibility, utilization and stability but as a human rights approach, it goes further by making food security a basic rights obligation, and not simply a preference, policy choice or an aspiration. This additional element will further strengthen accountability of the RGoB to its citizens and will thereby increase the efficiency of eradicating hunger in the country.

At the international level, RGoB ratified a number of binding treaties in which the human RTF is enshrined (e.g. the Convention of the Rights of Child, the Convention on Elimination of All Forms of Discrimination Against Women and the International Convention on All Forms of Racial Discrimination). Regarding national level objectives, a wide array of laws, policies and programs on food safety, access to natural resources, good governance, and welfare have been instituted to successfully serve the realization of the RTF (e.g. The Constitution of Bhutan, Food Act of Bhutan, the Land Act, Consumer Protection Act and the Forest and Nature Conservation Act, DYT and GYT *Chhatrims* and the Local Government Act). This is congruent with RGoB's attitude as a member of the Food and Agriculture Organization, which promotes human rights-based approach to food security. In fact, Bhutan was among the countries that, in 2003-04, negotiated the Voluntary Guidelines on the Progressive

Realization of the Right to Adequate Food in the Context of National Food Security (Right to Food Guidelines for short) – a set of recommendations that provide practical steps towards progressively implementing the RTF. The Guidelines are a practical tool reflecting the consensus among FAO members on what needs to be done in all of the most relevant policy areas to promote food security using a human rights based approach. As reflected in the Guidelines, the right to food builds on, and underpins, the four pillars food security – availability, access, stability of supply and utilization – with human rights perspectives.

Right to Food Assessment

Bhutan faces an exciting but challenging period. With the decision to change from a monarchy to a democratic State, the entire system of Governance has to be revisited. This also changes the parameters for food security. Are new and better institutions necessary to enhance inter-ministerial cooperation on food security? Is there a need to craft new laws or amend the related legislature? Are the food security policies and programs adequate to respond to the underlying root causes of food insecurity in the country?

To find answers to these and other questions, FAO, in collaboration with the Ministry of Agriculture of RGoB, set out to conduct a RTF assessment in Bhutan. Over the course of nine months, FAO used recent data to obtain a better understanding of the food security situation in the country. It then looked at the institutional, legal and policy framework.

Following an introduction, background information about Bhutan and a summary of the essential elements of the right to food concept, chapter 4 of the report provides an analysis of household level food security status and its driving factors, primarily using the Bhutan Living Standard Survey (BLSS) 2007 and supplementing that data with the Rapid Impact Assessment of Rural Development. The analysis contains the latest information on undernourishment in the country (at Dzongkhag-level), as well as dietary diversity, food insufficiency, ownership of assets, sources of income and access to health, education and public infrastructure.

Chapter 5 provides an analysis of the policy, institutional and legal framework relevant to food security governance and accountability mechanisms at national and sub-national levels including civil society participation in planning and satisfaction with government services. Analysis also verifies whether existing institutions, policies and legal instruments are adequate in responding to the root causes of hunger. The recommendations under chapter 6 are made based on the analysis undertaken for the previous two points and will answer some of the important questions for improving food security programming and governance.

Main Findings and Recommendations

The assessment on household level food security showed that per capita expenditures are positively correlated with caloric intake, and negatively with undernourishment in the descriptive and regression results. In both urban and rural areas, households with higher wealth levels also tend to be better off in terms of food consumption. Market access is strongly associated with energy consumption in kilocalories as well as stability in access to food. Caloric consumption is lower, and undernourishment higher, with increasing distance to the food market. In urban areas, where markets are usually available and services clustered, remoteness (or proximity) does not emerge as a key factor influencing food

insecurity. The notion of proximity versus remoteness is manifested in other indicators related to infrastructure that impact food security and are linked to household wealth, namely, access to piped drinking water and improved sanitation (flush toilets in the dwelling). Better-off households are more likely to have these infrastructure items in their dwelling, while poorer households reported more limited ownership of those items. Taken together with the relationship between remoteness and wealth, remote households are worse off in terms of their access to certain services, which are fundamental to food security. Across both urban and rural areas, the importance of assets also came through in the descriptive and multivariate analyses as being strongly tied to wealth status and food security status. Although education was identified as a key asset for all households, its significance with respect to caloric intake was larger in urban areas, where the returns to education are likely to be greater. For rural households, which rely more on agriculture, land is the more important asset in improving kilocalorie consumption.

Overall, the fact that human and natural capital is each a relevant factor in influencing household food security indicates the importance of livelihood strategies in improving food security. Results from the regression analysis reveal that different livelihood strategies (participation or specialization in agriculture, or diversification) are related in different ways to outcomes in terms of dietary energy intake. This may be explained by both the different levels of earnings different activities generate and by the stability in earnings (and hence in access to food) that can be associated with a diversified set of income sources.

To further the work of the BLSS 2007 food security analysis, the ongoing, regular collection of food security data at household, Geog and higher levels is essential and will allow for setting benchmarks and tracking the evolution of food security in Bhutan. Indicators for that purpose should be based on data collection on anthropometrics, food consumption, health practices, agricultural production, income levels, price shocks, food shortages, and coping strategies. The existing set of food security indicators should be incorporated into the Geog-level profiling being undertaken by the GNHC and UNDP so to continue to improve food security profiling and deepen the understanding of the underlying root causes of food insecurity across socio-economic groups, particularly the most vulnerable and marginalized populations.

Analysis under the policy, institutional and legal framework revealed, that although RTF is recognized, it has not been articulated explicitly in any of the legal instruments. It only remains implied in much of Bhutan's legislature, which could lead to ambiguity in achieving its implementation and enforcement. However, the right to life, intrinsically linked to the RTF, has been granted and protected by Article 7.1 of the Constitution of Bhutan. Thus affirming the individual's right to food as a necessary corollary of the fundamental right to life; acknowledging the close nexus between the Right to Life and the Right to Food. Within the DYT and GYT legal framework, a wide range of policies and programs are in place to address food insecurity and malnutrition, mostly elaborated and financed by the government and implemented by the Dzongkhags, although these programs have not been explicitly articulated around Bhutan's obligations towards the RTF. The DYT and GYT *Chhatrims* have provided the legal basis for the assignment of powers, functions and finances to the Dzongkhag and Geog level.

Under the legal framework, RGoB may consider the explicit recognition of the RTF within the Bhutan Food Act to eliminate ambiguities regarding its interpretation. Adequate advocacy, awareness and capacity building should be carried out to ensure that all individuals are knowledgeable of the processes that can guarantee their RTF and are empowered to utilize those processes.

Within the institutional framework, RGoB could expand the mandate of the Gross National Happiness Commission (GNHC) at the national and sub-national level to (1) streamline food security-relevant policies and programs across sectors and (2) assume responsibility for the monitoring of food security targets throughout the realization of the 10th FYP and beyond. Furthermore, RGoB may consider the need to expand the mandate of the Parliamentary Committee on Poverty to encompass Food Insecurity, such that it will receive regular reports from the GNHC on the achievements in attaining food security. Under policies and programs, it is recommended to utilize the findings of this RTF assessment to update the BNFSSP and the 10th FYP so to then officially endorse the BNFSSP and take steps towards its implementation.

The need to strengthen the technical and human capacity of the GNHC to effectively undertake its expanded mandate is also necessary. It is critical to train civil society and government representatives at Geog and Dzongkhag levels on the RTF and the food security concept to ensure that these issues are adequately integrated into sub-national development plans.

Finally, the United Nations Country Team (UNCT) should provide guidance and technical support on how to mainstream food security and the RTF into government action and promote capacity building of government officials and civil society representatives on food security assessments and planning at Geog and Dzongkhag levels. The UNCT should also function as a mentor to newly established civil society organizations and advise on strategic planning, leadership and management, financial transparency, fundraising, and media interactions.

I. INTRODUCTION

Bhutan has always accorded high priority to poverty alleviation with pro-poor development activities as evident in the past five year plans. In addition, food security has been a formal objective of the Royal Government of Bhutan (RGoB) since 1994, when it developed the Comprehensive National Food Security Programme (CNFSP). The 9th FYP too highlighted food security as one of its main objectives. However, a holistic approach to building food security was missing since this mainly focused on achieving food security by increasing self sufficiency in food grains and the other non-farm or non-agriculture sector elements were not addressed adequately.

Following close consultation with multiple stakeholders, RGoB's approach to food security was broadened in the formulation of the Bhutan National Food Security Strategy Paper 2006 (BNFSSP). Most of the interventions promulgated in BNFSSP were based on a detailed analysis of the RNR Census 2000 data.

The Right to Food broadens the concept of 'food security' by adding the notion of rights and obligations and the human rights principles[2]. Every individual has the right to feed him or herself in dignity. The right to food offers a coherent framework to address critical governance dimensions in the fight against hunger and malnutrition: it provides voice to a wide array of relevant stakeholders and establishes principles that govern decision-making and implementation processes, as participation, non-discrimination, transparency and empowerment. In addition, it provides a legal framework, the concepts of rights and obligations, as well as mechanisms for increased accountability and the rule of law.

This right has complementary obligations for the State: A government should take no action that diminishes or interferes with an individual's current enjoyment of the Right to Food (obligation to respect). Governments have the duty to protect individuals from more powerful individuals or entities that threat to infringe on a person's Right to Food. Governments should also use the maximum of available resources to create an enabling environment that allows every person to produce or procure safe and nutritious food for its consumption. Only if an individual, for reasons beyond its control, is unable to feed itself, the State shall provide food.

The concept of the Right to Food is no deviation from FAO's support to the RGoB on food security, but should rather be viewed as a strengthening. A human rights approach not only rests upon all the elements of food security such as availability, accessibility, utilization and stability but also goes further by making food security a basic rights obligation, and not simply a preference or policy choice or an aspiration goal. Thus further strengthen accountability of the RGoB to its citizens and thereby increase the efficiency of eradicating hunger in the country.

The RtF approach adds value to food security interventions through the process of policy formulation and implementation as well as through the contents of food security work. Regarding the process, the approach contributes to strengthen relevant public institutions,

[2] The human rights principles can be remembered by using the acronym PANTHER, a shorthand for Participation, Accountability, Non-discrimination, Transparency, Human dignity, Empowerment and the Rule of law

integrates partners such as civil society organizations, human rights commissions, parliamentarians and government sectors other than those dealing with agriculture, and provides further justification for investment in hunger reduction. It contributes to create and maintain political will. Furthermore, it provides means of coordination of food security initiatives aiming at increased policy coherence.

Regarding the contents of food security work, the right to food concept introduces additional – mainly legal - instruments that ensure access, in particular by the most vulnerable people, to income earning opportunities and social protection. It uses the power of laws to strengthen the means of implementation. It enhances governmental action by introducing administrative, quasi-judicial and judicial mechanisms to provide effective remedies, by clarifying the rights and obligations of rights holders and duty bearers, and by strengthening the mandate of the relevant institutions.

Chapter 1 of the report presents a general country background highlighting the governance system and political scenario, and recent socio-economic developments. Chapter 2 lays down study objectives and rationale behind the research undertaking. An overview of concepts, definitions and legal basis of Right to Food are presented under Chapter 3. Considering the specific needs of the Royal Government of Bhutan, Chapter 4 stresses on analyzing household-level food security status and its driving factors, including a profile of food insecure households by first identifying of the most vulnerable population groups and the underlying root causes of food insecurity and seasonal hunger. In order to underline duty bearers' accountability to right holders, Chapter 5 presents an analysis of policies, laws and regulations and institutional mechanism relevant to food security governance and accountability at national and sub-national levels including civil society participation in planning and satisfaction with government services. And finally, conclusions and policy recommendations are outlined under Chapter 6.

1.1 Country Background

A tiny Buddhist Kingdom with a population of 672,425[3], Bhutan is situated in the eastern Himalayas landlocked between world's two most populous nations; China to the north and India to the south. The country has a total area of 38,394 square km with elevations extending from 160 meters of the southern foothills to 7,500 meters of the northern awe inspiring icy peaks on the boundary of Tibet China. The country is dominated by high mountain passes with the northern range consisting of glaciated mountains, marshland and steep rocky outcrops. However, the country overzealously maintains an impressive 72.5 percent forest cover with 4 percent classified as pasture land and only 7.8 percent (109,073 hectares[4]) suited for agriculture practices[5].

Bhutan is ranked 133 out of 177 in UNDP's Human Development Report 2007/2008. Adult literacy is at 56 percent with literacy among males 66 percent as compared to 46 percent among females. Life expectancy is 65.5 years[6] with an unemployment rate of 3.7 percent.

[3] PHC (2005)
[4] Renewal Natural Resources Statistics 2000, Vol. I, Ministry of Agriculture, Royal Government of Bhutan.
[5] NSB (2007), Bhutan at a Glance 2006.
[6] According to https://www.cia.gov/library/publications/the-world-factbook/geos/bt.html

The country's HDI value has similarly been rising steadily with the 2006 HDI value assessed at 0.600 as compared to 0.583 in 2003 and 0.550 in 1998[7].

The country's climate is as varied as its altitude experiencing all four season with temperature varying from 14 to 31 degree Celsius in summer months and minus 3 to 14 degree Celsius during the winter season. Annual precipitation averaging around 1,000 millimetres in the temperate belt is common with some sub-tropical zones registering 7,800 millimetres.

Food security situation in Bhutan is an issue of access to resources and economic opportunities. For the rural households who make up about 69 percent of the population, it is particularly a matter of stable access to land and water as the basic resources from which to produce their own food. For the urban and non-farming rural population and the landless households, it is about economic opportunities to earn a living through productive employment. Therefore, the strategic approach to food security starts by identifying the size and location of the population and defining the various population groups in terms of their capacity to cope with food insecurity dilemmas (Tobgay, 2008). Food availability in Bhutan is varied among different Dzongkhags and Geogs and influenced by associated factors common to their location.

1.2 Governance and Political Scenario

Bhutan best known for its fiercely protected environment; the last Shangri-La[8] to the outside world has catapulted itself to the 21st century with unprecedented political and economic changes taking place. Along with rising social and economic indicators, political changes have been slowly but steadily forthcoming, representing a cautious but perhaps determined move away from rule of absolute monarchy to a democratic system. At the time of writing, Bhutan is going through a transition process from the old to a new era of parliamentary democracy. The first democratic election was held on March 24, 2008 with two parties[9] contesting for majority seats in the National Assembly. The Constitution has been adopted in a joint sitting comprising of the National Assembly and National Council members and signed on July 18, 2008. Unlike the experience of many countries where such far-reaching political changes were often brought in with tumultuous social upheaval and violence, the democratization processes in Bhutan was solely ushered in under the enlightened, selfless and benevolent leadership of His Majesty the Fourth King. Remarkably, these historic political changes were also introduced at a time of unprecedented peace, economic prosperity, improved social conditions and general well-being for the nation and its people. Under the new system, the nation will be primarily governed by the Parliament of Bhutan comprising the King, the National Assembly and the National Council. The parliament will ensure that the government safeguards the interests of the nation and fulfils the aspirations of the people through public review of policies and issues, bills and other legislation.

Since the late 1990s, His Majesty the Fourth King Jigme Singye Wangchuck instituted a series of political reforms that would reduce the powers of the monarchy, including the right to

[7] Draft 10th FYP document, GNH Commission, 2008.
[8] The idyllic place on earth called Shangri-la, a Chinese word meaning heaven on earth.
[9] On March 25, 2008, the Chief Election Commissioner declared Druk Phuensum Tshogpa (DPT) has the ruling party securing 45 seats out of the 47 in the National Assembly and People's Democratic Party (PDP) securing two seats as the opposition party.

impeach the monarch and drafting of a written constitution. Then, in December 2006, at the age of 51, His Majesty the Fourth King abdicated his throne in favour of the Crown Prince Jigme Khesar Namgay Wangchuck, as part of a process of adopting a new constitution which would transform the country from an absolute monarchy to a parliamentary constitutional democracy.

Even in the past, Bhutan has been implementing components of democracy with the establishment of the National Assembly in 1953 and the election of people's representatives and the launching of the decentralization programme in the early 1980s. But when combined with age-old democratic practices at village level, they provide Bhutan with strong elements of a democratic culture. Hence, although democracy is not new to Bhutan, the transition to a parliamentarian democracy will entail a lot of social, institutional and legal adjustments. For instance, the country being largely dependent on subsistence agriculture, food security concerns have to be borne in mind when creating new or fine-tuning existing institutional and policy mechanisms. The transition also constitutes a unique opportunity for introducing new aspects to Bhutan's political programme, e.g. adding a legal dimension to food security.

Under the present system, the nation is primarily governed by Cabinet Ministers in consultation with the heads of the Ministries who oversees the formulation of national policies and other important decision-making of national significance. The National Assembly is the highest decision-making authority while the National Council continues to be a check and balance body to the Government. To meet the requirements of a decentralized administration and developmental activities, the country is administratively divided into twenty districts each headed by a district magistrate or Dzongda[10]. Larger districts are further divided into sub-districts known as dungkhag and managed by a Dungpa[11]. Districts and dungkhags are further sub-divided into Geogs or blocks and headed by people representative or the Gup. There are 205 Geogs in the country.

1.3 Economy

Bhutan's development has been guided by its own distinctive approach, which rests on the overarching notion of Gross National Happiness (GNH), emphasizing the importance of balancing material, spiritual, emotional, and cultural well-being as elements that together bring happiness to the individual. The government has translated this philosophy into a series of national objectives, emphasizing human development, cultural heritage, equitable development, good governance, and environmental conservation.

Over the last many decades of planned economic development, the country went through substantial transformation. Starting from the first five year plan (1961-1965) period till the ninth five year plan (2002-2007), Bhutan has achieved considerable progress in its socio-economic development (Tobgay, 2005). This can be exhibited with the per capita gross

[10] Closest literal translation is understood as 'fort-masters.

[11] Dungpa is the civil servant heading the administrative territory called *Dungkhag*. In 1746, for example, the country was divided into 126 *dungkhags,* a territorial layer between *Geogs* and D*zongkhags*.

domestic product soaring US$1,514 in 2007 as compared to US$835 in 2002[12]. The country recorded a real growth rate of 6.5 percent during 2005, mainly fuelled by investments in construction and hydropower projects. Bhutan's gross national income (GNI) is estimated at Nu. 35,019.7 million during the time of writing; amounting to US$ 837.1 million under current prices[13] (RGoB Annual Report June 2007).

Yet despite such impressive progress, Bhutan still faces challenges on several issues: for instance unemployment rates increased to 3.1 percent in 2005 as compared to 2.5 percent in the previous years. Further, the commitment to halving poverty by 2015 as part of the Millennium Development Goals (MDG) effort, growing inequality[14] of income and wealth concentration, the regional disparities at household level, food insecurity and seasonal hunger are still some of the issues that need to be addressed.

In addition to Bhutan's hydropower potential, tourism is another most important sector for hard currency revenue earnings with a record high tourist visits totalling 21,094 in 2007 as compared to 17,344 in 2006 marking an increase of 21.6 percent over the 2006 figure. Total revenue generated accumulated to US$ 23.95 million in 2006 and US$29.85 in 2007 respectively. The government accrued US$ 18.44 million as royalty earnings in the lat two years[15].

Agriculture share contribution to GDP has declined from 25 percent in 2003 to 22 percent in 2005. In its foreign trade relations, Bhutan depends predominantly on India. About 88 percent of the imports come from India, while some amounts are derived from Japan, Great Britain, USA, and Germany. Similarly, 97 percent of Bhutan's exports go to India of which 60 percent are covered by electricity. The Bhutanese currency, Ngultrum, is linked 1:1 to the Indian Rupee. Therefore, Bhutan has very little scope for an independent foreign currency politics. The government pursues a very prudent fiscal policy by limiting successfully the annual deficit to a maximum of 36 percent[16].

II. STUDY OBJECTIVES and RATIONALE

2.1 General objective

Right to Food Guideline 3.2 stipulates that countries interested in drafting a Right to Food strategy should conduct "(...) a careful assessment of existing national legislation, policy and administrative measures, current programmes, systematic identification of existing constraints and availability of existing resources. States should formulate the measures necessary to remedy any weakness, and propose an agenda for change and the means for its implementation and evaluation."

The objective of the Right to Food assessment thus is to provide Government with a deeper understanding of the cross-cutting nature of the Right to Food thereby contributing to

[12] Annual Report of the Royal Government of Bhutan presented by the Prime Minister at the National Assembly on June 2007, Annexure page 1.
[13] Nu. 44.10 ratio a US$; at prevailing market exchange rates at the time of estimation
[14] The Gini-coefficient at the national level is estimated at 0.35 as compared to 0.32 for urban areas and 0.32 for rural areas due to the inequality in consumption between urban and rural areas (PAR 2007).
[15] International Tourism Monitor, Annual report 2007, Department of Tourism, Ministry of Economic Affairs
[16] Royal Monetary Reports, undated.

improved laws, institutions and programs that respond to the root causes of hunger in Bhutan.

The assessment report is guided by the Voluntary Guidelines on the Progressive Realization of the Right to Adequate Food in the Context of National Food Security (Right to Food Guidelines for short) – a set of recommendations that provide practical steps towards progressively implementing the RTF. The Guidelines are a practical tool reflecting the consensus among FAO members on what needs to be done in all of the most relevant policy areas to promote food security using a human rights based approach. Bhutan was among the FAO member states that approved these Guidelines in 2004.

2.2 Specific objectives

- Identify and characterize the food-insecure, vulnerable and marginalized groups that experience access and availability difficulty to enjoy the right to adequate food;

- Contribute to the design of food security interventions by producing a detailed quantitative and qualitative analysis of the characteristics and driving factors of food security;

- Recommend concrete steps to strengthen implementation of Bhutan National Food Security Strategy Paper (BNFSSP) by integrating the aspects of rights and obligations and the human rights principles (rule of law, good governance, civil society participation, accountability);
- Contribute to empowering food insecure households to influence the processes of formulation and implementation of food security policies and programmes and how a rights-based approach can increase accountability and civil society participation in food security decision making; by assessing mechanisms for accountability and participation;

Expected outputs of the Right to Food assessment report will include;

i) An analysis of household-level food security status and its correlating factors, including a profile of food insecure households;
ii) An analysis of the institutional and legislative framework relevant to food security governance and accountability mechanisms at national and sub-national levels including civil society participation in planning and satisfaction with government services;
iii) Policy recommendations;

2.3 Rationale of the Study

One of the main challenges facing Bhutanese planners and administrators has been the operationalization of the Gross National Happiness (GNH) philosophy in a globalizing world that pursues diverse values. A related challenge is now emerging with regard to unprecedented changes taking place both on the political and economic fronts and how the Bhutanese especially the peasantry sector will adjust to these rapid developments. On the political front, the first parliamentary elections took place on March 2008 based on a written

constitution, thus witnessing a gradual transition from a monarchy to a democratic system. While on the economic front, Bhutan has expressed its interest in the multilateral trading system by having begun the accession process to join the World Trade Organization (WTO), since 1999.

The research proposes assessing the policy, institutional and legal framework of the country, bearing in mind the changes described above and considering the overarching development objective of achieving GNH. The dramatic changes in Bhutan will have to be assessed through the lens of the Right to Food. The impact of these changes on the vulnerable and marginalized population groups has to be highlighted and recommendation to mitigate or eliminate those negative effects formulated.

The goal of the study is to recommend how the Right to Food in Bhutan can be fostered especially among the food insecure population groups. These recommendations can then be considered into the elaboration of the 10th Five Year Plan (2008-2013). Conducting a Right to Food assessment in Bhutan is topical given that a national food security strategy has been formulated and adopted for the 10th Five Year Plan. The results of the assessment will be useful for strengthening the implementation of the food security strategy by placing emphasis on institutional and legal concerns and human rights principles.

III. OVERVIEW OF THE RIGHT TO FOOD

3.1 Definition, Contents and Obligations

In order to use the Right to Food effectively to fight hunger and malnourishment it is crucial to fully understand what does the right mean and entail and the obligations of the States under the right. Food, along with water, housing and healthcare, is one of the necessities of daily life, and probably the most essential. Food is indispensable in sustaining the minimum survival of an individual, and with that constitutes a basic human asset of livelihood.

The Right to Food is recognized by the International Covenant on Economic, Social and Cultural Rights (ICESCR) and other international treaties[17], underpinning the legitimacy of the Right to Food in international law and signatory States' obligation to realizing this right[18]. In its General Comment No. 12, the Committee on Economic, Social and Cultural Rights, the monitoring body of ICESCR, stipulates that "The right to adequate food is realized when every man, woman and child, alone or in community with others, has physical and economic access at all times to adequate food or means for its procurement."[19]

In a nutshell, the Right to Food specifically obligates governments to ensure, without discrimination, the capability of all individuals within their borders to produce or procure adequate quantities and quality of food for an active and healthy life. A human rights-based approach to development therefore empowers individuals and civil society to participate in

[17] The Right to Food is also recognized in the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), and the Convention on the Rights of the Child (CRC).
[18] Art. 2 of ICESCR
[19] United Nations, 1999. Committee on Economic, Social and Cultural Rights. *General Comment 12: the right to adequate food (art.11).* (E/C.12/1999/5). Para. 6.

decision-making, to claim their rights and to demand recourse, by holding public officials and governments accountable for their programmes and policies. It is no contradiction to the traditional understanding of food security with its four dimensions of availability, access, utilization and stability, but merely strengthens it by adding the notion of obligations and accountability.

Further, Right to Food is a multidimensional right and its realization depends on many factors. In a normal situation, for the majority of persons, the Right to Food is realized primarily through their own efforts, by producing or procuring the food they need. This depends on access to land and other productive resources and on access to paid employment. Some people are unable to provide for themselves, for reasons beyond their control, and their food entitlements depend on transfer of food or cash from their families, communities, countries or international aid organizations. The right to adequate food also implies that the food obtained must be of adequate quality. This entails that food purchased on the free market or given as food aid must fulfil minimum safety standards.

The Right to Food in Bhutan is closely linked to the concept of 'food security' and therefore entails an obligation of the government to respect, protect and fulfil the access to adequate food of its entire people at all times. Important notions linked to the idea of food security are also included in the definition of the Right to Food, including the notions of sustainability and adequacy (cultural and consumer acceptability) of the availability of and access to food. However, the Right to Food not only includes all the elements of food security such as availability, accessibility, stability and utilization but also goes further than this, by making food security a basic rights obligation, not simply a preference or policy choice, or just an aspiration.

According to the General Comment Number 12 of the CESCR, the Right to Food encompasses the following obligations on the part of the State;

> Obligation to respect requires the State to ensure that every individual has permanent access at all times to sufficient and adequate food, and not to take any measures that would result in preventing individuals from having access to adequate food. The State should, at the primary level, respect the resources owned by the individual and the individual's freedom to find a job of preference, to make optimal use of her or his own knowledge and to take the necessary actions and use the necessary resources alone or in association with others to satisfy his or her own needs.
>
> Obligation to protect requires the State to ensure that third parties do not deprive people of existing access to adequate and sufficient food. Therefore, State obligations include active protection against other, more assertive or aggressive subjects, in particular against more powerful economic interests. This requires governments to prevent poor conduct by non-State actors, such as profit maximizing corporations, from interfering in any way with the enjoyment of the Right to Food or hinder people from acquiring adequate and safe food.

Obligation to fulfil/facilitate means that government must take positive steps to ensure that everyone is, at a minimum, free from hunger. This does not imply that government must feed everyone, since most people have the resources to feed themselves. Rather, it requires the State to an enabling environment where people can provide for themselves. This requires the State to adopt the necessary measures to achieve the full realization of the Right to Food. For example, identifying vulnerable groups and designing policies to improve their access to food-producing resources or income. When no other possibility exists, for the elderly or the disadvantaged, when unemployment sets in, or for those who are marginalized by structural shifts in the economy, for example, State must fulfill/provide direct subsidies of food or resources to procure food.. The obligation to fulfill by the State directly providing what is needed is treated as a kind of residual category, becoming operational when respect, protect and facilitate prove inadequate.

To recapitulate, in pursuing the Right to Food, it should be emphasized that this right is more than the freedom from hunger. The Right to Food, similarly as food security, implies that food must be available at all times; that all people must have access to it; that it is nutritious, safe, affordable, adequate and culturally acceptable. This right also entails the responsibility to ensure that food supply is economically and environmentally sustainable. And that the Right to Food therefore moves beyond the concept of food security as it includes an element of accountability where the State is held accountable if it violates its obligations to respect, protect and fulfil the Right to Food. In addition, the application of human rights principles (PANTHER) strengthen traditional development practices. It therefore has the potential to be a very powerful tool in advocacy for the elimination of food insecurity in the country.

IV. ANALYSIS ON HOUSEHOLD FOOD SECURITY SUB-PROFILES

4.1 Introduction

Data from the Bhutan Living Standards Survey (BLSS) 2007 is used to analyze some key features of food security in Bhutan. In doing so, the report aims to contribute useful information to the RGoB, which is engaged in implementing the 10th Five Year Plan, the principle objective of which is poverty reduction, but the policies of which are highly relevant for achieving the goals set in the BNFSSP. This assessment also forms an integral part of the Bhutan Right to Food (RTF) assessment.

The BNFSSP was prepared by the Ministry of Agriculture as a framework for guiding food security planning. The BNFSSP sets the reduction of stunting, anaemia, poverty and undernourishment as key objectives for food security in Bhutan, under the policy principles of promoting pro-poor growth and employment generation, maintaining environmental sustainability and considering economic viability.

It is important to note at the onset that while the BLSS 2007 provides a wealth of information for the analysis of poverty (NSB, 2007), its coverage of the multiple dimensions of food insecurity and nutrition is much more limited. Consequently, the analysis presented in this report is limited in scope and will need to be integrated in the future with additional

analytical work. Recognizing those data limitations, this report looks primarily at the undernourishment objective posed by the BNFSSP and highlights key data gaps that need to be filled by future data collection exercises in order to achieve a more comprehensive picture of the food security situation of the country that can lead to better informed policy actions. Filling these data gaps is essential in assisting the RGoB in operationalizing the BNFSSP.

This chapter is structured as follows. The first Section that follows proposes a conceptual framework for the analysis of food security and explains how it is related to the analysis made in this chapter, including by providing a brief description of the main indicators used. The remaining two Sections contain respectively a descriptive analysis and an effort at providing a profile of the food insecure, using the indicators available in the BLSS. The last Section within this Chapter concludes by summarising the main findings and suggesting some key actions for policy and for further analytical work.

4.2. Food Security Analysis: Indicators and Limitations

4.2.1 Limitations

It is important to highlight that the analysis performed focuses to a large extent, for what concerns the household-level outcomes, on "energy intake" as an indicator of food consumption. The BLSS 2007 data is limited in the conclusions it allows one to draw regarding health and nutritional status outcomes. It is also important to emphasise that food consumption data in terms of caloric intake alone are difficult to interpret without reference to the specific dietary requirements of each individual, and that certain components of the information to accurately calculate such requirements is also missing, such that we can only provide a very crude estimate of the actual requirement, which should be interpreted with caution[20].

In terms of correlates, we are able to relate the observed energy intake to factors related to household incomes, livelihoods, assets, and access to markets. However, due to the data limitations mentioned earlier, we cannot extract conclusions on fundamental issues such as feeding and care practices. The BLSS also provides very limited information on the variability over time (annual or seasonal) of the conditions of food availability and access. It is very important that the results presented in what follows are always interpreted with the above limitations in mind.

Further, the analysis in this paper is limited to the factors that can be investigated using household-level data. Factors that, albeit important, relate to the macro-economy, the dynamisms of agriculture or other sectors, labor market conditions, international price trends and similar are not considered in our analysis for the nature of the data we use. But their exclusion from the analysis does not imply that they should not be considered when assessing the overall food security situation of the country, and how they impact the food security and nutritional outcomes of household and individuals.

[20] We are also not considering any possible issue related to the distribution of food within the household, and assuming an equitable distribution of (food) resources among household members.

Box 1: Food security and malnutrition terminology

Anthropometry - Use of human body measurements to obtain information about nutritional status.

Body mass index (BMI) - A ratio of weight for height often used to estimate body fat. It is obtained by dividing the weight (in kilograms) by the square of the height (in meters). BMI is not appropriate for assessment of growing children, frail and sedentary elderly individuals, or women who are pregnant or breastfeeding.

Dietary energy requirement - The amount of dietary energy required by an individual to maintain body functions, health and normal activity.

Dietary energy supply - Food available for human consumption, expressed in kilocalories per person per day (kcal/person/day). At country level, it is calculated as the food remaining for human use after deduction of all non-food consumption (exports, animal feed, industrial use, seed and wastage).

Kilocalorie (kcal) - A unit of measurement of energy. One kilocalorie equals 1,000 calories. In the International System of Units (ISU), the universal unit of energy is the joule (J). One kilocalorie = 4.184 kilojoules (kJ).

Malnutrition - An abnormal physiological condition caused by deficiencies, excesses or imbalances in energy, protein and/or other nutrients.

Minimum dietary energy requirement - In a specified age/sex category, the amount of dietary energy per person that is considered adequate to meet the energy needs for light activity and good health. For an entire population, the minimum energy requirement is the weighted average of the minimum energy requirements of the different age/sex groups in the population. It is expressed as kilocalories per person per day.

Overweight and obesity - Body weight that is above normal as a result of an excessive accumulation of fat. Overweight is defined here as BMI >25-30 and obesity as BMI >30.

Stunting - Low height for age, reflecting a sustained past episode or episodes of undernutrition.

Undernourishment - Food intake that is insufficient to meet dietary energy requirements continuously.

Undernutrition - The result of undernourishment, poor absorption and/or poor biological use of nutrients consumed.

Underweight - Low weight for age in children, and BMI <18.5 in adults, reflecting a current condition resulting from inadequate food intake, past episodes of undernutrition or poor health conditions.

Vulnerability - The presence of factors that place people at risk of becoming food insecure or malnourished, including those factors that affect their ability to cope.

Wasting - Low weight for height, generally the result of weight loss associated with a recent period of starvation or disease.

Source: FAO, *The State of Food Insecurity in the World 2000*

4.2.2 Indicators

As mentioned earlier, the multi-dimensionality of the concept of food security requires a suite of indicators for its assessment. Box 1 presents an extensive list of indicators that can be used to evaluate and monitor household food security. As expressed in the previous section, data limitations constrain this food security analysis to indicators that can be estimated at the household level. Therefore, the main food security indicators analysed in this paper include the following:

Caloric Intake - The consumption of food measured in kilocalories is the base indicator of food security. This indicator was constructed using the detailed food consumption module of the BLSS 2007 survey, which collected the quantity and value of purchased and home produced food consumed by the household for a list of 137 items over three reference periods: the previous 7 days; the previous 30 days and the previous 12 months. Though the consumption was reported at the household level and calories are also estimated at that level, we then take into consideration the household size and its age composition to express caloric intake in adult equivalent units.

Undernourishment - This indicator is a revealing sign of food insecurity in an area. It is defined as the share of the population that consumes below a given daily energy requirement (DER)[21], taking into account the population sex and age structure. The threshold daily energy requirement was set at 2,124 kilocalories per day in accordance with the BLSS methodology stated in the 2004 and 2007 Poverty Analysis Reports. Undernourishment is an outcome indicator that illustrates limitations in food accessibility, availability and/or stability. Households that are not undernourished consume a number of calories that is at or above the given threshold. For more details on the undernourishment indicator, refer to the methodology notes in Box 2 below.

Dietary diversity - is an indicator of dietary quality, which is an essential determinant of nutritional outcomes. Many studies have shown it to be closely associated to food security outcome indicators[22]. Several approaches exist to measure dietary diversity. The most common is the simple food count indicator, which counts the number of food items consumed by the household over a given reference period. This indicator is often used in nutrition surveys with short recall periods (one to three days in most cases). For this analysis, the reference period was the previous 30 days, the same reference period used for the estimation of the caloric intake.

Other indicators, such as the **Simpson** index, add greater depth to those simple counts by taking into consideration other aspects of diversity. The Simpson index can convey information about the proportional abundance of food. It ranges from 0 to 1, higher values indicating greater diversity.[23]

[21] Naiken, L. (2003). FAO methodology for estimating the prevalence of malnourishment. ROME, FAO: 7-47.
[22] See (1) Hoddinott, J. and Y. Yohannes, 2002 "Dietary Diversity as a Food Security Indicator," FCND Discussion Paper No. 136, IFPRI Food Consumption and Nutrition Division; and (2) Ruel, M.T. (2003). Operationalizing Dietary Diversity: Conceptual and Measurement Issues. *Journal of Nutrition Supplement* 133; 3911S-3926S.
[23] Peet, R.K. 1975. Relative Diversity Indices. *Ecology*. 56: 496-8.

The extent of dietary diversity is further understood through food shares, such as the share of food consumption in total household expenditure and the distribution of food expenditure over the twelve different food groups. These indicators express the role of food in a household's budgetary allowance, as well as how that food budget is then allocated.

The Distance to the Food Market - enables the analysis to capture several aspects of food security. The presence and proximity of food markets has implications for food accessibility, dietary diversity, and the stability of a household's food consumption.

Instability in Food Intake - The use of subjective, self-assessments of food security provides additional information when evaluating a household's vulnerability. In the case of the BLSS, this is captured through a question that asks for how many of the previous twelve months the household did not have sufficient access to food. This information has the potential to convey knowledge about transient food insecurity.

Box 2: Methodology for Estimating Undernourishment

In order to identify undernourishment among Bhutanese households, this paper uses the data available from the BLSS 2007 on household-level consumption of food items based on the previous month (one of three consumption reference periods identified in the survey), supplementing missing or inconsistent data with information on household-level consumption from the week prior to the survey and/or the twelve months prior to the survey. This data is annualized, assuming regular consumption patterns, and quantities consumed for each food item are converted to kilocalories using conversion factors specific for Bhutan (obtained from the 2007 Poverty Analysis Report), supplementing these with Nepalese and Indian conversion factor whenever necessary.

Total daily household food consumption is the aggregation of the kilocalorie intake of all food items reported as consumed by each household, divided by 365. Adult equivalent units are estimated taking into account the age and sex composition of each household, and these are applied in order to obtain the total daily adult-equivalent consumption. The households which fall below a pre-determined daily energy requirement (DER) threshold, which was set at 2,124 kilocalories per day for this study as it corresponded with the caloric equivalent of the food poverty line to identify subsistence poverty in Bhutan (PAR 2007), were identified as undernourished.

It should be highlighted that this methodology is different from the undernourishment estimation methodologies employed by the FAO Statistics Division and described in Sibrian et al. (2008) and ESS (2008). Given these methodological differences, the estimates of undernourishment in this report should not be compared with those generated by the FAO Statistics Division.

ESS, 2008, "FAO Methodology for the Measurement of Food Deprivation: Updating the minimum dietary energy requirements," FAO Statistics Division, October.

Sibrian, R., S. Ramasawmy and J. Mernies, 2008, "Measuring Hunger at Sub National Levels from Household Surveys using the FAO Approach: Manual," FAO Statistics Division Working Paper Series ESS/ESSGA/5, March.

4.3 Descriptive Analysis

4.3.1 Caloric Intake

In terms of caloric intake, the average daily adult equivalent consumption for Bhutan is 3,112 kilocalories, a level of consumption that varies little over urban and rural areas, for which kilocalorie consumption is, respectively, 3,130 and 3,104 per adult equivalent per day. These national averages mask wide regional variations and differences across wealth groups.

Over expenditure quintiles, we see that consumption rises with increasing wealth for both urban and rural households, but that the urban poor consume more than the rural poor: the poorest twenty percent of urban households, based on the per capita expenditure distribution, consume 2,318 kilocalories per day per adult equivalent, whereas the poorest 20 percent in rural areas consume only 1,982 kilocalories per day per adult equivalent.

Table 1 - Caloric consumption by expenditure quintile (kilocalories/adult equivalent/day)

	Per Capita Expenditure Quintiles (9798 Obs)					Bhutan
	Poorest	2	3	4	Richest	Average
Daily Caloric Consumption per Adult Equivalent						
Urban	2318	2713	2998	3241	3939	3130
Rural	1982	2585	2927	3248	4084	3104
Total	2115	2701	3039	3310	3826	3112

When dividing the country into four macro-regions,[24] and subsequently by urban and rural, the areas with the lowest kilocalorie intake are the East-Central and West regions. Individuals (in adult equivalent units) in those regions consume 2,890 and 2,861 kilocalories per day, respectively, and though urban households in those regions have slightly higher consumption, they also fall below the average caloric intake for Bhutan.

Table 2 - Caloric consumption by macro-region (kilocalories/adult equivalent/day)

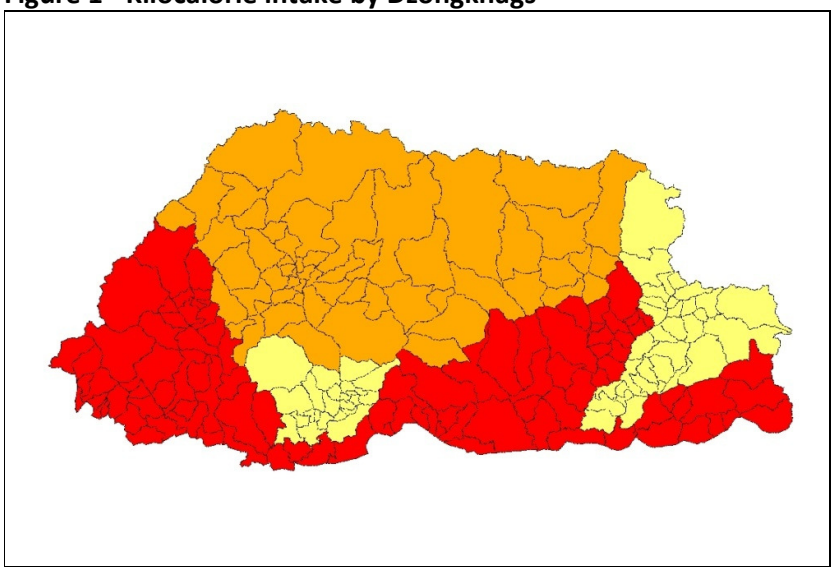
	Macro Regions				Bhutan
	East	East-Central	West-Central	West	Average
Daily Caloric Consumption per Adult Equivalent					
Urban	3175	3086	3445	3095	3130
Rural	3341	2890	3254	2861	3104
Total	3315	2940	3280	2971	3112

Error! Reference source not found. Figure 1 below presents the concentration of low, medium and high caloric intake across the twenty Dzongkhags of Bhutan. Red areas denote those with the worst ranking; light orange areas around the average range; and yellow areas

[24] The Dzongkhags were divided into the four macro-regions as follows: East contains Lhuentse, Mongar, Pemagatshel, Samdrupjongkhar, Trashigang, and Trashiyangtse; East-Central contains Bumthang, Sarpang, Trongsa, and Zhemgang; West-Central is composed of Dagana, Gasa, Punakha, Tsirang, and Wangduephodrang; and West contains Chhukha, Haa, Paro, Samtse and Thimphu.

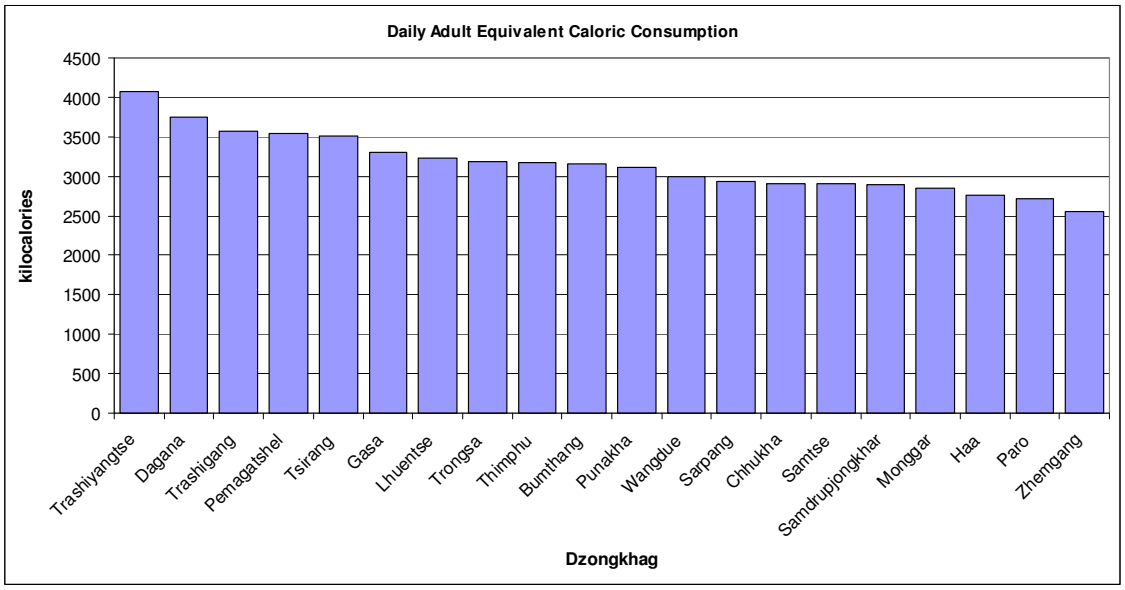
are those for which the indicators are above average. The map of caloric intake reveals high food insecurity in the Southern areas of each of the four macro-regions of the country.

Figure 1 - Kilocalorie intake by Dzongkhags



The variability in energy intake is observed by looking at the kilocalorie consumption of the specific Dzongkhags. With an average caloric consumption of 2,555, Zhemgang has the lowest consumption of all the Dzongkhags. Haa and Paro also have below-average consumption levels with the average household taking in just over 2,700 kilocalories per day, per person, in adult equivalent units.

Figure 2 - Caloric consumption by Dzongkhag (kilocalories/adult equivalent/day)



4.3.2 Undernourishment

Setting a threshold for an adequate level of caloric intake allows the incidence of undernourishment to be identified. In principle this threshold is specific to each individual and is determined by her age, sex, height and level of physical activity. While we are able to control for age and sex, we do not have information on the other two parameters. Also, since we only have data on household level food purchases, we make the heroic assumption that there is no discrimination within the household in the way food is allocated to each individual. Therefore, the results on undernourishment need be interpreted with this important note of caution in mind. Once again, this points to the need for future analysis to look more carefully into issues that with the current data can only be looked at very tentatively.

On average, 26.6 percent of Bhutanese households consume below the daily requirement of 2,124 kilocalories per person per day.[25] Rural areas are worse off, with a share of 28.8 percent, compared to the 21.5 percent undernourishment rate of urban areas. The wealth level of a household is negatively related to undernourishment: the bottom urban and rural quintiles register the highest levels of undernourishment at 41.5 and 60.2 percent respectively. In the wealthiest quintiles, undernourishment in urban and rural areas is notably lower at 12.3 and 15.5 percent, respectively.

[25] The team of analysts for the BLSS 2004 originally defined this daily energy requirement by identifying the typical food basket for households in Bhutan and then valuing it in monetary and caloric terms. The caloric requirement to satisfy that basic food basket totaled 2,124 kilocalories per person per day, and is used as the undernourishment threshold for identifying undernourishment through this report.

Table 3 – Undernourishment by expenditure quintile (percentage)

	Expenditure Quintiles					Bhutan
	Poorest	2	3	4	Richest	Average
Undernourishment (threshold: 2124 kcal/day)						
Urban	41.5	27.3	16.5	17.1	12.3	21.5
Rural	60.2	36.0	25.0	21.0	15.5	28.8
Total	54.0	32.7	24.0	19.8	14.9	26.6

It should be noted that since the undernourishment rates are based on a threshold energy requirement that does not take into consideration actual activity levels of household members, the potential systematic differences in requirements across wealth groups may not be captured in the results. Wealthier households may have daily activities that require a lower daily caloric intake than poorer households whose income-generating activities may be more related physical labor. If these differences in activity levels were taken into consideration, it is likely the share of undernourishment would drop among wealthier households; but also that the share of undernourishment in rural areas overall would be higher since rural households are more involved in agriculture than urban ones, an activity that can have greater physical demands, and therefore greater caloric demands.

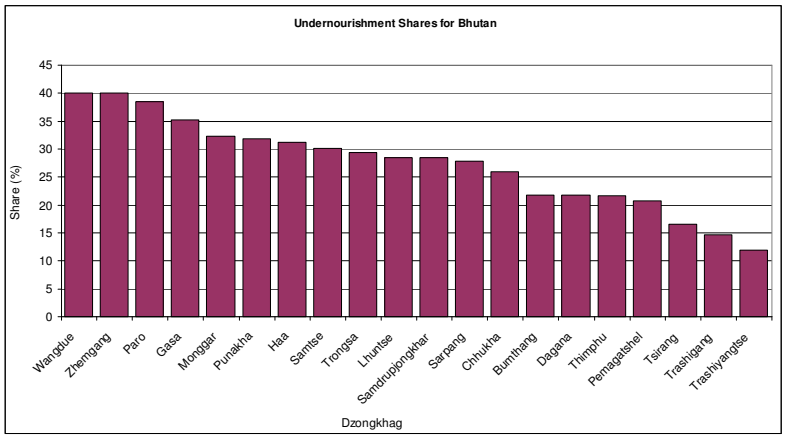
Comparisons of the incidence of undernourishment over macro-regions in Table 4 correspond with the findings of caloric intake over the same set of regions: the rural households of the East-Central and West Dzongkhags have the highest share of undernourishment and the lowest caloric intake.

Table 4 - Undernourishment by macro-region (percentage)

	Geographic Region				Bhutan
	East	East-Central	West-Central	West	Average
Undernourishment (threshold: 2124 kcal/day)					
Urban	22.2	22.8	22.4	21.0	21.5
Rural	22.7	31.8	31.0	32.8	28.8
Total	22.6	29.5	29.9	27.2	26.6

With respect to specific Dzongkhags, Wangduephodrang and Zhemgang have the highest shares of undernourishment at approximately 40.0 percent. Conversely, the areas with the lowest shares of undernourishment are Trashigang, Tsirang and Trashiyangtse, for which undernourishment ranges from 11 to 17 percent.

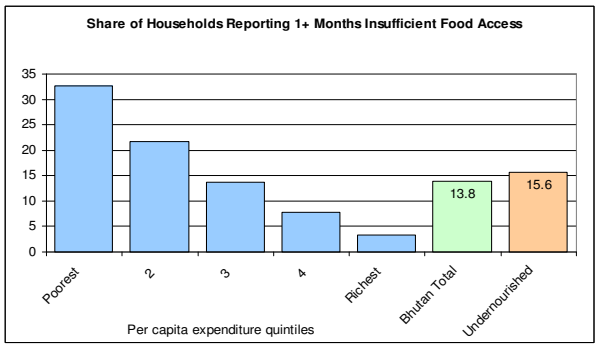
Figure 3 - Undernourishment by Dzongkhags (percentage)



4.3.3 Stability of access to food

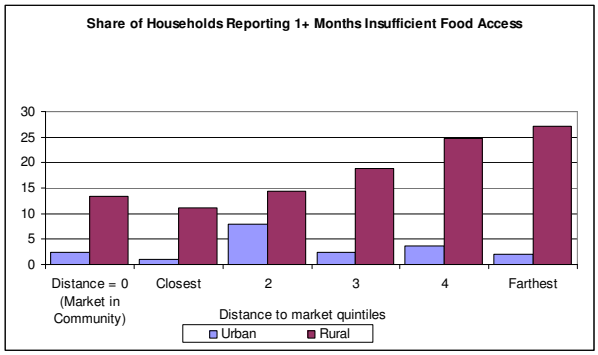
In developing the picture of food insecure households in Bhutan, households suffering from food shortages must be considered as well. Overall, 13.8 percent of Bhutanese households report that they did not have sufficient access to food for one or more months of the previous twelve. Figure 4 demonstrates that 33 percent of the households in the poorest quintile suffer from food shortages but that fewer households in the wealthier quintiles report insufficient access to food. More than 15 percent of the undernourished households had instable food intake. It should be noted that though the relation between wealth and food shortages is strong, it is not absolute. Given that there are poor households that do not suffer from this insecurity, and wealthier ones that do, a need for targeted food security-specific interventions may be necessary for overcoming these shortages.

Figure 4 – Percentage of households reporting food shortages – by expenditure



When the share of households reporting food instability is tabulated over quintiles of the distance to the nearest food market, more remote households experience greater problems accessing food than those with markets in closer proximity. For urban areas, no such trend can be observed; most likely this is due to the clustering of households and services that characterize urban areas, such that market access is not likely to be a major obstacle to obtaining food in urban settings.

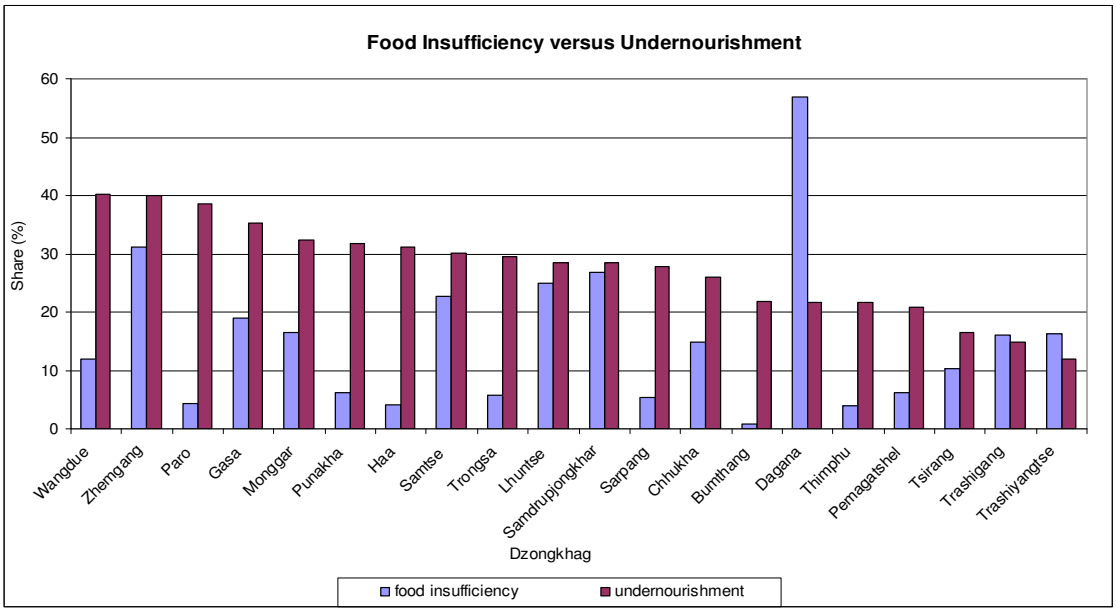
Figure 5 - Percentage of households reporting food shortages – by distance to market



Interestingly, when broken down by Dzongkhags, the BLSS results on household food instability are only partly in line with the results of the caloric intake and undernourishment tabulations, revealing that one indicator captures the situation at the time of the survey, while the other more accurately represents variability over the course of the year. While for some Dzongkhags, undernourishment and food insufficiency results are within a similar percentage range (Lhuentse, Samdrupjongkhar, Trashigang, Trashiyangtse, and to lesser degrees, Samtse, Tsirang and Gasa). In other cases, Dzongkhags with relatively high undernourishment level rank low in the instability indicator and vice versa.

One Dzongkhag that stands out is Dagana, where nearly 60 percent of the households indicated at least a month of food insufficiency during the previous year, but just over 20 percent of the population could be classified as undernourished based on their kilocalorie intake, a result that reflects the importance of the timing of a survey in order to accurately collect information. In other cases, undernourishment is relatively high (i.e. Paro, Mongar, and Punakha) yet relatively few households reported inadequate food access for the previous year. This could indicate that food supply in 2007 was stable for the households in those Dzongkhags; or it could be related to the means used by households in these Dzongkhags to access food. Where markets function relatively well and are used extensively to access food, instability in supply may be lower, whereas when supplies depend on local production they tend to be subject to seasonality and production risks, such as weather. Further, the lower level of food shortages in some areas could reflect the presence and functioning of local, traditional support systems by which households receive within-village support to overcome transient food insecurity. In addition to those factors, the observed differences could also simply reflect differences in individual perceptions of the meaning of 'insufficient food'.

Figure 6 – Undernourishment and instability do not bear a clear association



4.3.4 Dietary diversity

Looking at measures of dietary diversity sheds more light on the food security of households in Bhutan. Indicating food accessibility[26] and serving as a proxy for dietary quality, dietary diversity has been shown to be strongly correlated with adequacy of food consumption and better nutritional outcomes.[27]

We look at dietary using a simple food count, or the number of different foods consumed by the household over the reference period (30 days) over different groups of households. Table 5 demonstrates that urban households consume more food items than rural ones, but that overall, a positive relationship exists between per capita expenditures and the number of food items consumed. When coupled with the trends of Table 1 on caloric intake, this indicates that some component of greater purchasing power may be channelled not only towards higher caloric intake, but also towards greater dietary diversity and hence, probably, more balanced and more nutritious diets.

[26] Hoddinott and Yohannes, 2002.

[27] See: FAO (2007) and Smith, et al (2006). It should be noted, though, that the results of the basic dietary diversity indicators are influenced by the reference period in which the data is collected. Nutrition studies generally prefer the use of short recall periods (24 hours) for estimating dietary diversity since those reference periods are less subject to recall error. In the case of this assessment we need to use a longer reference period, as this is what data allow. For consistency within our analysis, we use the 30-day reference period for the dietary diversity statistics. The main implication of this is that we expect our indicator to have less variability than indicators collected over shorter periods of time.

Table 5 – Dietary diversity by expenditure quintile (number of food items consumed over 30 days)

	Expenditure Quintiles					
	Poorest	2	3	4	Richest	Total
Simple Food Count						
Urban	47.1	51.3	55.2	56.0	56.1	53.6
Rural	39.3	43.1	45.5	47.3	49.8	45.7
Total	40.1	44.5	46.8	50.1	54.0	48.1

Heterogeneity in results is also observed in Table 6 when tabulating the simple food count by quintiles ranking the households by distance to the nearest food market. Though the differences are small, as would be anticipated, those households in rural areas that live far from the food market have a less varied diet than those that live closest to the food market. For urban areas no clear trend is observed, which is to be expected since urban households are all likely to be reasonably close to a market such that it is not a constraint for accessing food.

Table 6 - Dietary diversity by distance to markets (types of food items purchased over 30 days)

	Distance to Food Market Quintiles					Bhutan
	Closest	2	3	4	Farthest	Average
Simple Food Count						
Urban	53.3	54.1	54.9	52.6	54.3	53.6
Rural	47.8	49.0	46.7	45.3	42.5	45.7
Total	51.2	51.4	48.4	45.5	42.6	48.0

Representing dietary diversity by the Simpson index (Table 7) demonstrates similar trends to the food count indicators. This measure considers the share of total kilocalories coming from each food group such that higher values are associated with a more even distribution of calories across the food groups; a maximum value of 1 indicates the highest level of diversity. Wealthier households tend to have more diverse diets than poorer ones, and urban households more so than rural ones, such that one can conclude that dietary quality improves with increasing wealth.

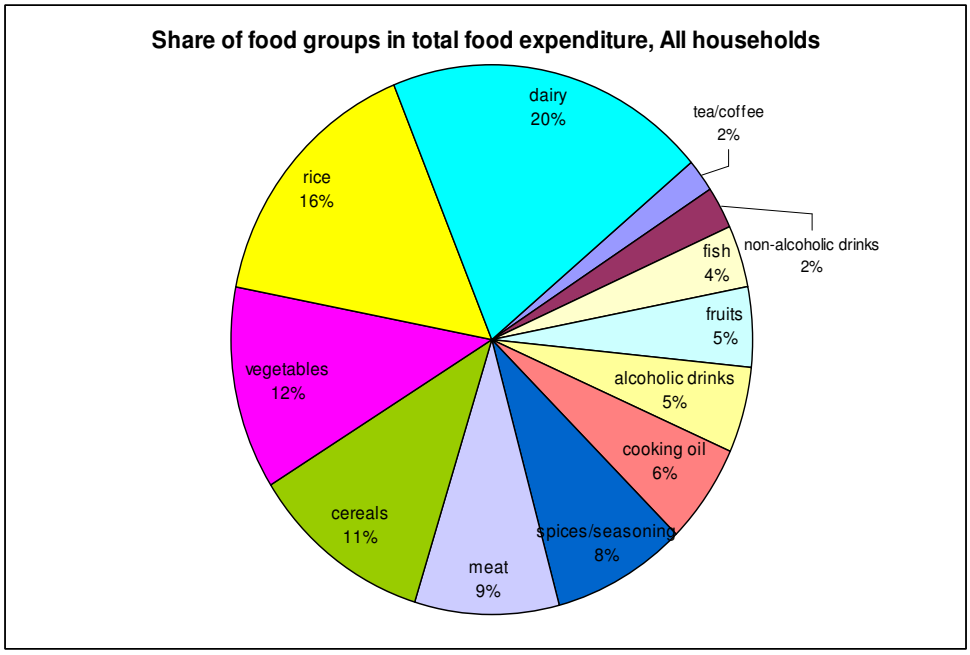
Table 7 - Dietary diversity by expenditure quintile (Simpson index)

	Per Capita Expenditure Quintiles (9798 Obs)					Bhutan
	Poorest	2	3	4	Richest	Average
Simpson						
Urban	0.653	0.673	0.690	0.691	0.697	0.683
Rural	0.587	0.608	0.620	0.639	0.647	0.618
Total	0.588	0.610	0.626	0.654	0.677	0.637

In terms of the allocation of the food budget (Figure 7), there is a relatively even distribution of monetary expenditure on the different food groups, with dairy, rice, vegetables, cereals and meat comprising the bulk of the household food expenditure. In terms of caloric allocation, the shares change substantially as households acquire the largest share of their

calories from rice (50 percent) followed by spices and seasonings[28] (15 percent). Though dietary quality would be best captured by an analysis of the macro and micro-nutrient consumption of the households, the limited caloric contribution of food groups such as fruits and vegetables, and the heavy share of rice, point at low levels of dietary quality and diversity.

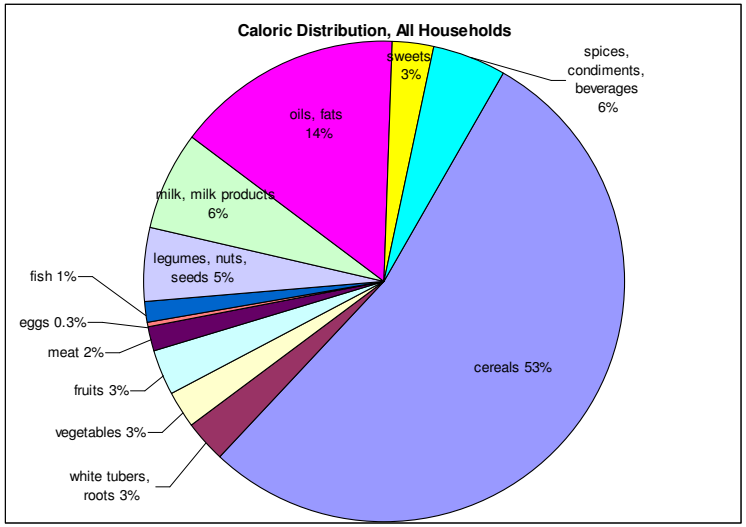
Figure 7 - Share of food groups in total expenditure.

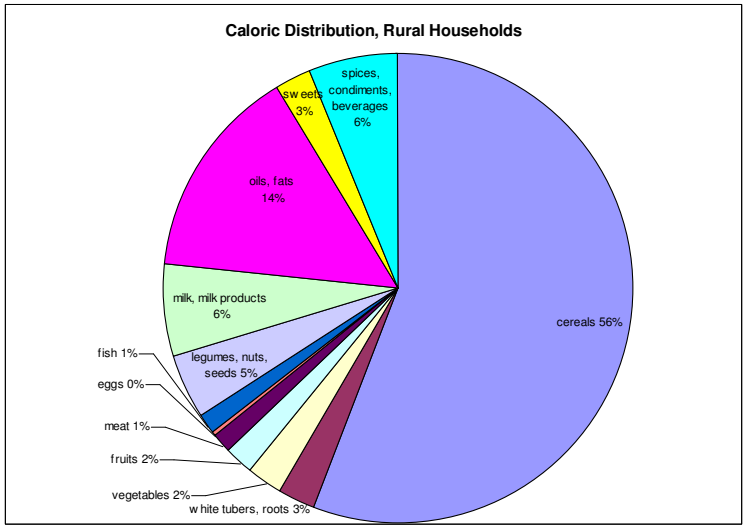


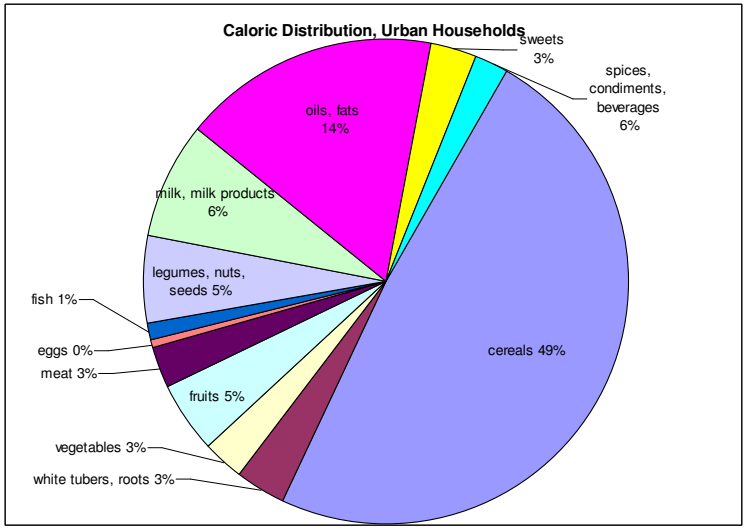
The distribution of rural calorie consumption is not substantially different from that of urban areas, as shown in Figure 8. Rural households consume more rice and spices than urban households, yet fewer fruits, vegetables and oils. In particular, proteins (dairy, pulses and meat and eggs) comprise a notably lower share of the rural household diet than that of urban households: these food groups contribute 12.5 percent for rural areas, but 16.8 for urban areas. Nevertheless, the differences are not so great that fundamental differences are observed; therefore, the main conclusion to be drawn is that of an overall homogenous diet among Bhutanese households that is disproportionately heavy in carbohydrate-rich foods, but less so in those foods containing greater shares of nutrients, such as fruits and vegetables. The true dietary quality must be further analyzed from the micro and macro nutrient perspective to draw more substantive conclusions on those points.

[28] Chillies are widely consumed in Bhutan. Although agricultural statistics for the RGoB identify them as vegetables, the BLSS classifies them as "spices/seasonings" which explains why that category contains a relatively high share of calories.

Figure 8 – Share of food groups in total food expenditure

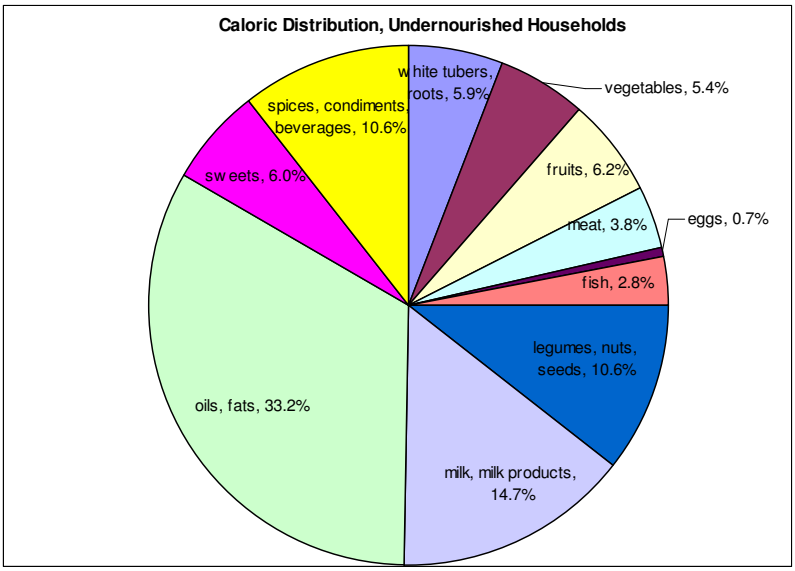






Since cereals (mainly, rice) are the main staple among households in Bhutan and they contributes such a high share to the daily caloric consumption, discounting this food group from the caloric consumption shares can help illustrate how the remaining calories are sourced. Oils, dairy products, spices and legumes contribute significant shares to total caloric consumption. Other groups such as fruits, vegetables and roots/tubers each contribute 5-6 percent of total non-cereals calories. Meat and fish contribute fewer calories at fewer than 4 percent each.

Figure 9 - Share of food groups in total food expenditure (excluding rice and cereals)



4.3.5 Synthesis of Food Security Indicators

The different indicators of food security we introduced in this section are summarized in Table 8; ranking each Dzongkhag based these main indicators.[29] A rank of "1" indicates food security, whereas a rank of "20" points towards insecurity. There is substantial correspondence between the share of undernourished households and caloric intake, however less similarity in the ranking with the other indicators. Wangduephodrang, for example, is the district with the highest incidence of undernourishment, yet the fifth best in terms of dietary diversity, given by the Simpson Index. Similarly, Paro is also highly food insecure in terms of undernourishment, yet is the third district with respect to proximity to the food market. Differences in ranking of caloric intake versus undernourishment may be due to the need to account for daily activity levels in the estimation of the daily energy requirement threshold; they may also reflect a non-normal distribution of caloric intake across the households within Dzongkhags. The distance to food market indicator corresponds relatively well, however, with the share of households with food access insufficiency: districts in which the households have better proximity to the market are on the lower end of the undernourishment ranking, whereas those with more remote households have higher shares of food access insufficiency.

4.4 Profiling the Food Insecure

4.4.1 Multivariate analysis

The first set of descriptive results discussed above indicates a direct and strong relationship between welfare, assessed by per capita expenditures, and food security, as expressed by dietary energy consumption. However, a range of other factors and household characteristics can impact household food security as shown by our conceptual framework. In order to understand the extent to which variables that appear important in the bivariate descriptive results are robust to the introduction of more covariates, and to provide a more precise profile of the food insecure, we undertake a multivariate analysis of the correlates of kilocalorie consumption. The table in Annex 5 provides summary statistics of the variables chosen for the analysis. Significant differences are observed across urban and rural households for all the key variables with few exceptions.

Based on the variables described in Annex 5, it is clear that urban households have an overall higher living standard than those in rural areas. Urban households have higher educational attainment, lower dependency ratios, and are more often employed as regular salaried workers. They are also endowed with more infrastructure, indicated by higher shares of households with flush toilets, piped water, fixed telephone lines, as well as greater ownership of durable assets, given by the asset index.[30] Rural households are more agriculturally oriented, owning more acres of land as well as more livestock. For many indicators, significant differences are also seen within urban and rural areas when comparing undernourished households with those who are not undernourished. The undernourished households tend to have lower per capita expenditures, lower educational attainment, older

[29] Annex 5 summarizes the RRIA results of the food insufficiency Dzongkhag rankings.

[30] Following Filmer and Pritchett (2001), an asset-ownership index is constructed for all households in the BLSS sample using principal components analysis. Filmer, D. and L. Pritchett. (2001) Estimating wealth effects without expenditure data – or tears: An application to educational enrolments in states of India. *Demography* 38(1): 115-132.

household heads, are less often headed by a woman, and live farther from food markets. For rural areas, they also have higher dependency ratios.

Since urban and rural households appear to be different in some fundamental ways, and that we expect the determinants of rural and urban food insecurity to differ to some extent, we conduct the multivariate analysis separately for the rural and urban samples.

The model we estimate is specified as follows:

$$pc\_kcal_i = \alpha + \beta_1 INCOME_i + \beta_2 DEMOGRAPHICS_i + \beta_3 ASSETS_i + \beta_4 DISTANCE_5 + \beta_5 GEO_i + \varepsilon_i$$

where pc_kcal is the daily household kilocalorie consumption (per adult equivalent), INCOME is a vector of variables related to household welfare (as measured by consumption expenditures) and sources of income; DEMOGRAPHICS is a vector of household demographic characteristics (age, marital status and gender of the head; household size; the ratio of dependants in the household); ASSETS is a vector of variables capturing the household asset endowment (education, land, livestock, dwelling characteristics); DISTANCE is a vector of proximity variable given by minutes to the nearest food market (included with a squared term); and GEO is a vector of geographic location dummies. The full list of variables, which varies somewhat between the urban and rural models, is reported along with the results for the regressions in Table 9.

One concern with the estimation of this model via Ordinary Least Squares (OLS) is the potential endogeneity and, perhaps more importantly in this case, correlated measurement error of the per capita expenditure variable. We are particularly concerned with correlation in the measurement error as the variables on expenditures and calorie consumption are both constructed using the food consumption module of the BLSS questionnaire. If that is the case then the coefficients of the OLS regression will be biased.

To obviate this potential problem we also run a two-stage least squares (2SLS) instrumental variable regression. In this procedure, we choose a variable that is uncorrelated with the error term of the estimation of per adult equivalent kilocalorie consumption, but that can be used to explain per capita expenditures. The selected instrument is the index of durable asset ownership. This variable passes the standard text for exogeneity, validity and relevance of the instrumental variables. In the estimation of the model, we apply robust standard errors and control for cluster effects to allow for similarities among households within clusters, but differences for those across clusters. Results from the 2SLS regression are presented in the third column of Table 9, alongside the results of the OLS model and a reduced specification of the OLS[31].

The results of the 2SLS regression are consistent with the results obtained from the OLS specification. We find once again that larger households with more dependents are associated with lower caloric intake, but that female household heads are linked to greater

[31] The first OLS specification uses four variables to identify per capita expenditures: the log of per capita expenditures and three interaction terms of that logged variable with the 2nd, 3rd and 4th quartiles of the expenditure distribution. Those interactions were included to capture the changing relationship between caloric intake and expenditures over the income distribution. The reduced specification of the OLS uses only the log of per capita expenditures and omits the interaction terms. Few significant differences are observed across the two regressions.

calorie consumption. Participation in agriculture is positively related to caloric intake yet specialization in agriculture offsets that positive effect; agricultural specializers have lower caloric intake than those who are diversified (the excluded base category).

The key factors for urban and rural households identified in the OLS model are also still significant, indicating the robustness of those results. Years of education are linked to greater food security for the urban dwellers, whereas land has that effect among rural dwellers. In this regression, though, land ownership is now also significant among the urban households. The negative impact of this variable is weak as it is significant only at 90 percent confidence, but it emerges, and further underscores that urban households involved in agriculture or with agricultural assets, tend to have lower caloric intake than their urban neighbours who agriculturally-oriented.

Demographic and Household Head Factors

As expected from similar analyses in other countries we find that female-headed households tend to have higher caloric consumption, as women tend to spend more of the household resources on food, other things equal. Larger households, those with older household heads, and those with a greater share of non-working age individuals are associated with lower adult equivalent daily caloric consumption, a result that goes along with expectations since a higher dependency ratio indicates there is a disproportionate share of non-working individuals dependent on a few employed members to meet food and non-food expenditures.

Income Factors

As anticipated, greater per capita expenditures are associated with higher kilocalorie consumption in both rural and urban areas. The interaction of the expenditure variable with the quartile of the household in the expenditure distribution highlights that the relationship between expenditures and caloric intake changes with increasing expenditures: it is always positive, but the increase in caloric intake diminishes the more expenditures rise. Conversely, higher expenditures on non-food items have a significant negative impact on caloric intake across the whole sample. The sector from which the household earns most of its income is also significant. Households that participate in agriculture in urban and rural areas are better off in terms of their caloric intake. However, those who specialize in agriculture, instead of diversifying their income sources, have lower caloric consumption. Among rural households, those who specialize in non-agricultural activities also have lower kilocalorie intake; the magnitude of this effect is greater than for specialization in agriculture. This result underscores the importance of agriculture in contributing to household well-being, but highlights the importance of diversifying the household income portfolio.

Assets, Infrastructure and Proximity

Whereas education was demonstrated to be the key asset among urban households, for rural households, the key asset is land, which has a strong, positive impact on kilocalorie consumption, reflecting the productive capacity of this asset for rural agricultural households. Livestock ownership is not significant for rural households, though it is negative and significant for the urban sample. A key trend that resurfaces from the descriptive analysis is the importance of proximity to food markets in the rural space. The distance to

the food market is significant and negatively related to caloric intake, which corroborates earlier findings that market availability is linked to food security and food accessibility.

Table 8 – Comparison of indicator rankings

Dzongkhag Rankings of Food Security Indicators:	*Caloric Intake*	*% Under-nourished*	*% Food Insufficient*	*Simpson Index*	*Distance to Market*	*Poverty*
Trashiyangtsee	1	1	13	6	5	7
Dagana	2	6	20	12	14	15
Trashigang	3	2	12	16	7	14
Pemagatshel	4	4	8	14	15	13
Tsirang	5	3	9	17	8	6
Gasa	6	17	15	7	20	2
Lhuentse	7	11	17	18	12	17
Trongsa	8	12	6	13	9	12
Thimphu	9	5	2	1	2	1
Bumthang	10	7	1	3	1	4
Punakha	11	15	7	4	4	8
Wangdue	12	20	10	5	10	5
Sarpang	13	9	5	2	11	10
Chukha	14	8	11	9	6	11
Samtse	15	13	16	20	13	19
Samdrupjongkhar	16	10	18	15	17	16
Monggar	17	16	14	8	18	18
Haa	18	14	3	19	16	9
Paro	19	18	4	10	3	3
Zhemgang	20	19	19	11	19	20

Table 9 - Regression results

Rural	OLS (1)	OLS (2)	IV
Log of real per capita expenditures	**0.3331**	**0.4513**	**0.3091**
	20.95* **	**36.47*** **	**3.80*** **
Log of real per capita expenditures, 2nd expenditure quartile	**0.0141**		
	8.68* **		
Log of real per capita expenditures, 3rd expenditure quartile	**0.0232**		
	11.26* **		
Log of real per capita expenditures, 4th expenditure quartile	**0.0356**		
	12.88* **		
Household received formal credit	0.0103	0.0136	**0.0253**
	1.0200	1.3200	**1.96***
Share of non-food consumption in total expenditure	**-1.3871**	**-1.3591**	**-1.1212**
	37.14* **	**36.62*** **	**8.19*** **
Female household head	**0.0242**	**0.0266**	**0.0257**
	2.69* **	**2.92*** **	**2.74*** **
Married household head	0.0007	0.0006	-0.0109
	0.0700	0.0600	0.9400
Age of household head	**-0.0039**	**-0.0041**	**-0.0035**
	2.49 **	**2.63*** **	**2.17** **
Squared of Age of household head	**0.0001**	**0.0001**	**0.0001**
	4.22* **	**4.72*** **	**3.11*** **
Educational attainment of household head	0.0004	0.0023	0.0029
	0.0900	0.4700	0.5800
Squared Educational attainment of household head	-0.0003	-0.0004	-0.0003
	0.5600	0.6800	0.5200
Household specializes in agriculture	**-0.0482**	**-0.0591**	**-0.0656**
	3.24* **	**3.88*** **	**4.11*** **
Household specializes in non-agricultural activity	**-0.0603**	**-0.0696**	**-0.0680**
	3.90* **	**4.37*** **	**4.15*** **
Household head participates in agriculture	**0.0341**	**0.0346**	**0.0411**
	3.03* **	**3.05*** **	**3.41*** **
Household size	**-0.0713**	**-0.0796**	**-0.0963**
	26.79* **	**30.40*** **	**9.71*** **
Dependency ratio (# dependents / # working age members)	**-0.0536**	**-0.0922**	**-0.0515**
	6.87* **	**12.94*** **	**2.14** **
Total land owned	**0.0013**	**0.0015**	**0.0017**
	3.44* **	**3.96*** **	**4.44*** **
Total land owned, squared	**0.0000**	**0.0000**	**0.0000**
	3.09* **	**3.57*** **	**3.93*** **
Share of wetland owned and operated in total land owned and operated	-0.0150	-0.0123	-0.0095
	1.1100	0.8900	0.6700
Total livestock units owned (Tropical livestock units)	0.0010	0.0012	0.0011
	1.0500	1.2500	1.1100
Dwelling has flush toilet	-0.0169	-0.0106	-0.0009
	1.1900	0.7600	0.0600
Dwelling has dirt floor	-0.0011	-0.0115	-0.0215
	0.0900	0.8700	1.4600
Dwelling has access to piped water	0.0021	0.0071	0.0114
	0.2200	0.7600	1.1800
Dwelling has metal roof	**0.0212**	**0.0259**	**0.0317**
	2.47 **	**3.00*** **	**3.32*** **
Household has a fixed telephone line	-0.0179	-0.0002	0.0167
	1.4000	0.0100	1.0800

Urban	OLS (1)	OLS (2)	IV
Log of real per capita expenditures	**0.2415**	**0.3176**	**0.6217**
	7.39* **	**13.32*** **	**5.01*** **
Log of real per capita expenditures, 2nd expenditure quartile	**0.0202**		
	2.11 **		
Log of real per capita expenditures, 3rd expenditure quartile	**0.0207**		
	2.15 **		
Log of real per capita expenditures, 4th expenditure quartile	**0.0313**		
	3.14* **		
Household received formal credit	-0.0043	-0.0006	-0.0323
	0.2200	0.0300	1.1900
Share of non-food consumption in total expenditure	**-0.8669**	**-0.8715**	**-1.4715**
	10.77* **	**10.73*** **	**5.89*** **
Female household head	**0.0801**	**0.0880**	**0.0978**
	3.84* **	**4.20*** **	**4.21*** **
Married household head	0.0351	**0.0440**	**0.0762**
	1.5600	**1.96***	**3.06*** **
Age of household head	**-0.0134**	**-0.0135**	**-0.0182**
	3.79* **	**3.79*** **	**3.98*** **
Squared of Age of household head	**0.0002**	**0.0002**	**0.0002**
	4.03* **	**4.06*** **	**4.22*** **
Educational attainment of household head	**0.0085**	**0.0095**	**0.0114**
	1.96*	**2.20** **	**2.43** **
Squared Educational attainment of household head	-0.0004	**-0.0005**	**-0.0007**
	1.5600	**1.73***	**2.36** **
Household specializes in agriculture	**-0.1480**	**-0.1580**	**-0.1472**
	2.08 **	**2.24** **	**1.93***
Household specializes in non-agricultural activity	-0.0360	-0.0405	-0.0598
	0.7300	0.8500	1.1300
HH head participates in agriculture	**0.0317**	**0.0335**	**0.0327**
	2.05 **	**2.13** **	**1.99** **
HH head is casual wage worker	0.0512	0.0452	0.0524
	1.4300	1.3000	1.4400
HH head is unpaid wage worker	-0.0223	-0.0250	0.0038
	0.5000	0.5600	0.0800
HH head is own account worker	0.0188	0.0235	0.0161
	0.8200	1.0000	0.6500
HH head is an employer	-0.0460	-0.0484	-0.0815
	0.2300	0.2600	0.3600
HH head has other employment status	0.0060	0.0082	-0.0049
	0.1900	0.2600	0.1400
Household size	**-0.0837**	**-0.0870**	**-0.0394**
	14.48* **	**14.44*** **	**1.88***
Dependency ratio (# dependents / # working age members)	**-0.0440**	**-0.0702**	**-0.1983**
	2.60* **	**4.49*** **	**3.59*** **
Total land owned	-0.0048	-0.0052	**-0.0074**
	1.1600	1.2800	**1.67***
Total land owned, squared	0.0001	0.0001	0.0002
	0.7400	0.8800	1.4000
Total livestock units owned (Tropical livestock units)	**-0.0048**	**-0.0048**	-0.0001
	3.54* **	**3.69*** **	0.0300
Dwelling has flush toilet	0.0033	0.0061	-0.0006
	0.1900	0.3600	0.0300

Rural	OLS (1)	OLS (2)	IV
Distance in minutes to nearest food market	**-0.0001**	**-0.0001**	**-0.0001**
	1.67*	**2.31****	**2.78*****
Distance in minutes to nearest food market, squared	**0.0000**	**0.0000**	**0.0000**
	2.52**	**3.03*****	**3.39*****
Yield/acre at geog level	0.0000	0.0000	0.0000
	1.0000	1.2300	1.3000
Household located in Bumthang	**0.1252**	**0.1350**	**0.1130**
	2.93***	**3.07*****	**2.53****
Household located in Chhukha	0.0669	0.0318	0.0134
	1.5700	0.7300	0.3100
Household located in Dagana	**0.2371**	**0.2484**	**0.2166**
	5.26***	**5.26*****	**4.29*****
Household located in Gasa	**-0.1959**	**-0.1651**	**-0.1354**
	3.94***	**3.12*****	**2.45****
Household located in Haa	0.0220	-0.0005	-0.0136
	0.5000	0.0100	0.3100
Household located in Lhuntse	**0.0754**	0.0390	0.0214
	1.67*	0.8500	0.4700
Household located in Monggar	**0.0746**	0.0356	0.0018
	1.82*	0.8500	0.0400
Household located in Paro	-0.0291	-0.0385	-0.0513
	0.7000	0.9200	1.2300
Household located in Pemagatshel	**0.1325**	**0.1019**	**0.0965**
	3.09***	**2.32****	**2.26****
Household located in Punakha	0.0489	0.0422	0.0277
	1.1200	0.9400	0.6100
Household located in Samdrupjongkhar	**0.0985**	0.0526	0.0210
	2.36**	1.2200	0.4600
Household located in Samtse	**0.0758**	0.0278	-0.0049
	1.86*	0.6600	0.1100
Household located in Sarpang	**0.0704**	0.0419	0.0300
	1.75*	1.0200	0.7400
Household located in Trashigang	**0.1179**	**0.0728**	0.0616
	2.83***	**1.71***	1.4800
Household located in Trashiyangtse	**0.1496**	**0.1479**	**0.1593**
	3.17***	**3.09*****	**3.37*****
Household located in Trongsa	0.0641	0.0522	0.0472
	1.5000	1.1900	1.1000
Household located in Tsirang	**0.2221**	**0.2162**	**0.2103**
	4.98***	**4.67*****	**4.60*****
Household located in Wangdue	-0.0359	-0.0364	-0.0485
	0.8300	0.8200	1.0900
Household located in Zhemgang	**0.0734**	0.0258	-0.0040
	1.72*	0.5900	0.0900
Constant	**6.1399**	**5.4156**	**6.5114**
	45.79***	**45.35*****	**10.41*****
Observations	6852	6852	6852
R-squared	0.66	0.65	

Robust t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Excluded base categories: Diversified household; Thimphu Dzongkhag.

Urban	OLS (1)	OLS (2)	IV
Dwelling has dirt floor	0.0388	0.0273	**0.1032**
	1.1900	0.8300	**2.05****
Dwelling has access to piped water	-0.0016	0.0021	-0.0198
	0.0700	0.0900	0.8100
Dwelling has metal roof	0.0076	0.0123	-0.0189
	0.2000	0.3200	0.4100
Household has a fixed telephone line	0.0029	0.0079	-0.0115
	0.1800	0.4900	0.6400
Distance in minutes to nearest food market	0.0003	0.0003	-0.0002
	0.5100	0.4200	0.2200
Distance in minutes to nearest food market, squared	0.0000	0.0000	0.0000
	0.1500	0.0700	0.7800
Household located in East Region	0.0310	0.0224	0.0456
	1.1500	0.8200	1.4000
Household located in East Central Region	-0.0117	-0.0192	-0.0041
	0.4300	0.6900	0.1300
Household located in West Central Region	0.0620	0.0625	0.0484
	1.4600	1.4600	1.0000
Constant	**6.7132**	**6.3069**	**4.0236**
	29.05***	**31.80*****	**4.27*****
Observations	2942	2942	2942
R-squared	0.48	0.47	

Robust t statistics in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%
Excluded base categories: Diversified household; Regular wage worker; West Region.

4.4.2 An asset-based typology

The analysis undertaken so far has brought to the fore how some assets are strongly associated with energy consumption. However, there is evidence in the literature that as well as ownership of specific assets, the combination of assets (sometimes referred to as 'asset bundling') may matter even more. The benefits of having access to a specific asset, such as land, may not be that great in the absence of complementary assets (e.g. education and infrastructure), which make the asset in question productive and profitable. In this section we descriptively explore whether the BLSS data show evidence of the importance of asset bundling for calorie consumption in Bhutan.

The importance of assets and the bundling of assets in household food security can be represented through a typology of households, based upon their asset composition. Taking into consideration the results of the empirical and descriptive analyses, which point to education, land and proximity as key correlates of the level of kilocalorie consumption and the probability of being undernourished, we cluster urban and rural households based on the household head educational attainment, the household distance from the food market, and the household ownership of assets, which in the case of rural households is represented by total acres of land ownership, and for urban households by an index of asset ownership. By setting thresholds to separate high and low ownership of each asset,[32] asset bundles were constructed and households characterized based upon those bundles.

The key result that emerges from the typology and that is consistent with the other descriptive and empirical results is the importance of education as a principal correlate of undernourishment. For urban and rural areas, each of the "low education" bundles registers a significantly higher within-group share of undernourishment than the "high education" bundles and notably higher concentrations of the undernourished population. .

Before venturing more in the discussion of these typologies, it is worth emphasising that these groups are not intended to be used as a method for targeting, but merely as an analytical tool for the identification of key policy areas for food security.[33] .

Rural Typology

More than half of the rural population is categorised in a group (RG6) with little land and education but relatively better access to markets (although it should be noted how the average distance from a food market is still a considerable 50 minutes even in this group). The share of undernourishment in the group is 48.9 percent, which is less than its population share, but still substantial. More than 19 percent of the households in this group report insufficient food access in the previous 12 months. Further, the households in that subgroup reported an average of 2.95 months of inadequate food access. Their mean educational attainment was 0.4 years, less than one third of the overall rural average, and they own an average of 2.26 acres, compared to the 5.51 acres reported by all rural households. Further,

[32] The threshold for each asset was set as the average value among the undernourished for each asset. Since Annex 5 demonstrated significant differences between urban and rural households, separate thresholds were set for urban and rural areas. The sensitivity of the typology to the level of the threshold was tested by setting the threshold to different levels of ownership of each asset; as would be anticipated the distribution of the sample over the different typologies changes with different threshold levels, but the overall result- that those in the lowest asset bundles are the most food insecure- remained unchanged.

[33] It suffices to note that neither group has a share of undernourished significantly over 50 percent to realize that using these categories would be an extremely inefficient and inaccurate targeting mechanism for any programme.

with an average of 2.55 Tropical Livestock Units[34], livestock ownership for these households is also 0.19 units below the overall mean.

The group with the next highest number of undernourished (17.5 percent of total, more than its population share; RG8) is the one with the lowest educational attainment (0.27 years), low land ownership (2.61 acres) and considerable remoteness from the food market (539.52 minutes, relative to the average of 150.91 minutes). The per capita expenditure of households in this group is 1,626 Ngultrum, which is half of the rural average expenditure of 2,380 Ngultrum. These households fall below the average by all four measures of dietary diversity and they have the highest share of food insufficiency, with more than 29 percent of the households reporting at least one month of inadequate food access over the previous year.

Remote households with low levels of education, despite higher land ownership should also be considered as one of the more food insecure groups (RG7). These households have the lowest average caloric intake among the eight rural typologies, consuming just 2,809 kilocalories per day per adult equivalent, approximately 300 fewer kilocalories than the rural average. They also have low levels of dietary diversity and high instability in food access with nearly 25 percent of the households reporting food shortages in the previous 12 months. In addition to being poor in assets and in food security, this group of households has less than half the rural average per capita expenditures, indicating an overall high level of poverty within this group.

An overall observation is that the four groups with the higher incidence of undernourishment are all in the "Far from Market" categories. Two of them are extremely small, but the other two (RG7 and RG8) make up 20 percent of the rural population, and 24 percent of the undernourished. This observation substantiates and underscores the earlier results regarding the relationship between remoteness and food insecurity.

[34] In order to create one measure of livestock ownership that accounts for different kinds of livestock, ownership was put in terms of Tropical Livestock Units, which sums all livestock owned by a household and weights larger livestock higher than smaller livestock. The weights vary by world region; for Bhutan, the weights for South and South-East Asia were applied.

Table 10 - Asset-Based Typologies

RURAL	Household Asset Bundle	Number of Under-nourished Persons	Share of Rural Population	Group Share Below Under-nourishment Threshold	% Below Under-nourishment Threshold	Average Household Education Level	Distance to Food Market (Minutes)	Total Land Ownership (Acres)	Total Livestock Units Owned (TLU)	Daily Adult Equivalent Kilocalorie Consumption	Per Capita Expenditure	Num. Months with Insufficient Food	% of HHs Reporting Insufficient Food
RG1	High Education, High Land, Close to Market	4799	2.03	2.44	46.05	4.11	37.82	20.54	3.12	2882	3725.39	2.38	5.85
RG2	Low Education, High Land, Close to Market	17742	8.49	9.49	40.98	0.46	53.51	24.49	4.98	2996	2288.39	3.27	19.90
RG3	High Education, Low Land, Close to Market	23297	14.72	13.45	36.15	4.93	32.85	1.61	1.27	3154	3683.27	2.91	7.60
RG4	High Education, Low Land, Far from Market	3955	1.65	2.13	53.17	4.58	462.56	2.23	2.05	3211	2702.15	2.72	16.34
RG5	High Education, High Land, Far from Market	743	0.29	0.36	46.56	3.52	478.90	23.29	4.46	2989	2613.54		0.00
RG6	Low Education, Low Land, Close to Market	87182	53.11	48.43	36.23	0.40	50.01	2.26	2.55	3175	2237.91	2.94	19.19
RG7	Low Education, High Land, Far from Market	13033	4.77	6.19	51.24	0.31	538.65	24.08	4.41	2809	1568.44	3.13	24.98
RG8	Low Education, Low Land, Far from Market	31769	14.95	17.51	45.35	0.27	539.91	2.61	3.30	2973	1626.54	2.94	29.11
Total		182520	100.00	100.00	39.91	1.22	150.91	5.51	2.76	3104	2379.66	2.97	18.86

URBAN	Household Asset Bundle	Number of Under-nourished Persons	Share of Urban Population	Group Share Below Under-nourishment Threshold	% Below Under-nourishment Threshold	Average Household Education Level	Distance to Food Market (Minutes)	Total Land Ownership (Acres)	Total Livestock Units Owned (TLU)	Daily Adult Equivalent Kilocalorie Consumption	Per Capita Expenditure	Num. Months with Insufficient Food	% of HHs Reporting Insufficient Food
UG1	High Education, High Asset, Close to Market	8404	19.65	17.25	25.27	8.39	5.80	1.03	0.06	3240	7125.94	2.50	0.35
UG2	Low Education, High Asset, Close to Market	10303	12.13	18.51	40.73	2.25	5.62	1.29	0.22	2667	5557.26	2.00	1.12
UG3	High Education, Low Asset, Close to Market	2281	9.42	5.70	20.31	8.56	5.64	0.24	0.05	3658	5633.87	2.69	1.09
UG4	High Education, Low Asset, Far from Market	1762	6.39	4.27	21.54	7.84	26.83	0.21	0.11	3630	5362.10	1.50	2.14
UG5	High Education, High Asset, Far from Market	2892	7.75	5.85	21.12	8.16	25.66	0.63	0.04	3161	7609.86		0.00
UG6	Low Education, Low Asset, Close to Market	10470	22.26	23.42	29.26	1.53	5.71	0.61	0.13	3035	4156.62	2.53	3.00
UG7	Low Education, High Asset, Far from Market	3454	5.10	6.80	34.47	2.22	24.49	1.32	0.26	2764	5423.74	4.52	1.32
UG8	Low Education, Low Asset, Far from Market	8246	17.30	18.20	28.58	1.52	24.99	0.42	0.52	3071	3686.65	2.06	4.95
Total		47811	100.00	100.00	28.75	4.58	12.89	0.72	0.19	3130	5379.22	2.30	2.03

Urban Typology

Among the urban households, those with low levels of education and assets (UG6) represent 23.42 percent of the undernourished urban population. Their mean educational attainment is 1.53 years, just one third of the level of the average across urban households, which may be a driving force behind the household purchasing power since the per capita expenditure of the group is about 1,200 Ngultrum below the average. These households are not far from the food market; however, when taking into consideration the low expenditure level of these households, it is possible to assert that, in the urban space, proximity to the food market is an insufficient condition for assuring food security: households must also have the financial resources by which to procure food.

The households with low education, low asset endowment and remoteness account for 18.2 percent of the total undernourished in urban areas (UG8). Linking their low physical and human capital endowment with the remoteness of these households and their low monetary wealth (measured by per capita expenditures that are just about two-thirds the level of the average urban household) translates into a highly food insecure group for the urban areas. Although food insufficiency is generally low in urban areas at 2 percent, the share reporting at least one month of inadequate food access is 4.95 percent, more than twice the urban average. Those households identifying food insufficiency report an average of 2.53 months per year of such shortages.

There are two other asset bundles representing households with greater food insecurity. These include households with low education (but high assets, and proximity; UG2) and households with low education and remoteness (but high assets UG7). Households in these groups have the lowest per adult equivalent daily caloric intake across the eight urban typology groups and they account respectively for 18.5 and 6.8 percent of the total undernourished urban population, shares that are greater than each group's share in the overall urban population. However, neither of the two groups is poor in terms of per capita expenditures- by this measure, both groups are above average- nor in terms of the share of food in total expenditure, an indicator that decreases with increasing wealth, reaffirming the notion that poverty and food insecurity are issues that may overlap, but are fundamentally different.

Finally, it is interesting to note how all the urban categories that are over-represented among the undernourished (those whose share in total undernourishment is greater than their population share) are the four "Low Education" groups. Also, with kilocalorie consumption below 3,100, these are also the groups with the lowest caloric intake.

4.3 TOWARDS DZONGKHAG-LEVEL PROFILES

So far, this chapter has highlighted major factors —assets, education and infrastructure— that tend to affect food security, analysing in different ways (urban/rural, household typologies) but ultimately looking at an aggregate picture. For more detailed planning and programming purposes, similar exercises could be carried out at the Dzongkhag level.

This subsection attempts to exemplify how one could start exploring the household characteristics by looking at statistically significant differences in characteristics across

undernourished and not- undernourished households in each Dzongkhag.[35] These groups often share similar characteristics, such as low educational outcomes, but often there are Dzongkhag-specific factors at play which should be factored into the development of policies and safety net programs. In particular, certain characteristics (see for instance the discussion related to agricultural and livestock assets below) may be related in different ways to undernourishment indicators in different areas of the country.

Remoteness - Households whose dwelling is situated far from the nearest hospital, tarred road, feeder road, food market and bus station are more isolated from the public infrastructure and services network. Remoteness from hospitals has implications for receiving adequate and timely health care, but also for being linked to a public service that could furnish information on proper nutritional practices. Distance from the food market indicates a barrier to purchasing food, but also for selling home produced agricultural output, and therefore, for income generation. Distance from roads and public transportation could also present an obstacle to the purchase and sale of food, but also to accessing other goods and services that influence the household's livelihoods. For example agricultural production could be limited if the purchase of inputs and/or the receipt of extension services is not close to the dwelling. The ability to learn about and/or undertake dependent work can also rely on the proximity of a household to other employment opportunities.
Relevant Dzongkhags: Bumthang, Chhukha, Dagana, Gasa, Mongar, Paro, Pemagatshel, Punakha, Samdrupjongkhar, Sarpang, Thimphu, Trashigang, Trongsa, Wangduephodrang, Zhemgang.

Employment Status - Given that the household head is typically characterized as being the principal breadwinner for a household, an unemployed head may be an obstacle for a household in attaining food security. The economic inactivity of this household member, as of any working age member, places a greater burden on the other household members to provide for the livelihoods of the overall dwelling. Similarly, an able-bodied household head whose main employment is unpaid is a limitation to improving the household livelihood since work in an unpaid activity forgoes undertaking other productive, remunerated work.
Relevant Dzongkhags: Chhukha, Dagana, Gasa, Lhuentse, Paro, Punakha, Samdrupjongkhar, Samtse, Thimphu, Trashigang, Trashiyangtse, Tsirang, Wangduephodrang, Zhemgang.

Dependency Ratio - Estimated as the share of non-working age household members in working-age household members, this ratio represents the burden borne by the working age members to earn income for the economically inactive share of the household. A greater ratio indicates that the income earned by the working age members must be distributed across a larger group, potentially straining the household economy and its ability to consume an adequate level of kilocalories per day.
Relevant Dzongkhags: Mongar, Thimphu, Trongsa.

Specialization in Agriculture - Participation in agriculture provides a means by which the household can autonomously attain food security, without relying on markets. In certain Dzongkhags, specialization in this activity (deriving all or most of the household income from

[35] If it were to be possible to incorporate information on nutritional outcomes, these would also be factored into the identification of the target households.

agriculture) can be associated with lower caloric intake, and greater food insecurity. In other Dzongkhags, specialization in agriculture is associated with greater food security. This relationship may be due to greater agricultural potential, better developed markets and/or limited alternative off-farm employment.
Relevant Dzongkhags: Chhukha, Dagana, Gasa, Mongar, Punakha, Samdrupjongkhar, Sarpang, Trongsa, Trashiyangtse, Wangduephodrang.

Ownership of Land and Livestock - Ownership of livestock and land are productive assets that can be positively associated with food security; however, for certain Dzongkhags, households with these assets are more associated with food insecurity. Such an outcome could be explained by local conditions, such as the potential productivity of the land (influenced by factors such as the share of wetland; installation of irrigation; altitude; availability of inputs); the quantity of the asset held; and the possibility that holding one of these assets limits the potential for a household to diversify into other activities.
Relevant Dzongkhags: (Land) Chhukha, Mongar, Punakha, Samtse, Sarpang, Trongsa, Wangduephodrang; (Livestock) Chhukha, Haa, Mongar, Paro, Punakha, Samdrupjongkhar, Sarpang, Thimphu, Wangduephodrang.

Access to Water and Sanitation - Access to public services such as these is identified as relevant for food security outcomes and for realizing the Right to Food since it influences food utilization as captured by health status[36] since access to both is demonstrated to be tied to lower incidence of illness among households. They may be closely associated with household remoteness since public services are often clustered around urban areas and town centres. In a country like Bhutan, whose population is primarily rural, remoteness is a challenge to overcome in the provision of public services.
Relevant Dzongkhags: Mongar, Punakha, Thimphu, Trashigang.

Gender of Household Head - Whereas a female household head is more likely to make expenditure decisions that favour the household's nutritional status, a female household head could also be a limitation to improved livelihoods, if the income-generating and domestic responsibilities both fall on the head. This challenge may be even greater if obtaining work outside the household is more difficult for women. Conversely, a male-headed household may be subject to poor decision-making with respect to household food consumption, and possibly also with respect to overall spending patterns. Significantly different outcomes for this factor are observed in several Dzongkhags.
Relevant Dzongkhags: Mongar, Trongsa, Wangduephodrang.

Education and Literacy - One of the most robust results emerging from this analysis is the relevance of educational outcomes in improving food security outcomes. Many studies have identified the positive returns to more education. Higher educational attainment can be a path towards obtaining better remunerated employment, or to diversifying livelihoods, which can translate into better access to food. Literacy can have a similar outcome as education, and may define more specifically the opportunities available to a household in terms of livelihoods. Whereas English literacy may open doors for participating in off farm activities, such as tourism, literacy in any language can help policy-makers identify how easily a household can be targeted for nutritional education. Illiteracy also may present a

[36] Annex 2 in "Guide to Conducting a Right to Food Assessment".

greater challenge for communicating information on utilization such as health and feeding practices.
Relevant Dzongkhags: Samtse, Thimphu, Trongsa, Wangduephodrang.

It is worthwhile to note here that the issues identified for each Dzongkhag denote areas where the undernourished are fundamentally different from the nourished households. It is not to say that these issues are not relevant in all Dzongkhags (particularly education); only that they should be treated as preliminary focus areas for identifying target groups.

Table 11 – Dzongkhag Focus Areas

Dzongkhag	Characteristics of Undernourished Households	
Bumthang	° Remote households (far from tarred road, feeder road)	
Chhukha	° Unstable food access ° Own land ° Own livestock	° Unemployed head ° Agricultural specializer ° Remote household (from bus station)
Dagana	° Unemployed head ° Agricultural specializer	° Remote (from tarred road, food market and bus station)
Gasa	° Unemployed head ° Agricultural specializer	° Remote (from bus station)
Haa	° Livestock owner	° Remote (from hospital, tarred road, food market, bus station)
Lhuentse	° Unemployed head	
Mongar	° Unstable food access ° High dependency ratio ° Male household head ° Land owner ° Livestock owner	° Agricultural specializer ° No access to drinking water ° No access to improved sanitation ° Remote (from food market, bus station)
Paro	° Livestock owner ° Head unpaid worker	° Remote (from hospital, tarred road, food market, bus station)
Pemagatshel	° Remote (from tarred road, food market, bus station)	
Punakha	° Unstable food access ° Land owner ° Livestock owner ° Head unpaid worker	° Agricultural specializer ° No access to drinking water ° No access to improved sanitation ° Remote (from hospital, bus station)
Samdrupjongkhar	° Livestock owner ° Unemployed head	° Agricultural specializer ° Remote (from tarred road, food market)
Samtse	° Unstable food access ° Head not literate in English ° Head has no formal education ° Land owner	° Head unpaid worker ° Remote (from hospital, tarred road, food market, bus station)
Sarpang	° Land owner	° Remote (from hospital, tarred

	° Livestock owner ° Agricultural specializer	road, food market, bus station)
Thimphu	° Unstable food access ° High dependency ratio ° Head not literate in English ° Head not literate in other languages ° Land owner	° Livestock owner ° Head unpaid worker ° No access to improved sanitation ° Remote (from tarred road, food market, bus station)
Trashigang	° Head unpaid family worker ° No access to drinking water	° Remote (from food market)
Trashiyangtse	° Head unpaid worker	° Household not specialized in agriculture
Trongsa	° Unstable food access ° High dependency ratio ° Head not literate in English ° Head not literate in other languages ° Female household head	° Land owner ° Livestock owner ° Agricultural specializer ° Remote (from hospital)
Tsirang	° Unemployed head	
W/Phodrang	° Head not literate in English ° Head not literate in other language ° Head has no formal education ° Female headed household ° Land owner	° Livestock owner ° Unemployed head ° Agricultural specializer ° Remote (from tarred road)
Zhemgang	° Unstable food access ° Unemployed head	° Remote (from tarred road, food market, bus station)

4.4 FOCUS ON RURAL AREAS

Additional information contained in the Rapid Rural Impact Assessment (RRIA) on food insecure households sheds more light on the areas the food insecure believe need to be prioritized in order to improve their food security.[37]

Evidence from the survey indicates that public services are important facilitators of food security. More than 82 percent of the sample households identified sanitation, livestock services and agricultural services as the key public services and infrastructure that would lead to improved food security. Of those who participated in the planning process, the sentiment was even stronger, with more than 85 percent of the sampled participants concurred on this point. Other services that households found to be important in improving food security included: health services (79.3%); water (76.2%); education (73.1%); and roads (64.9%). Access to telephones, electricity, credit and income-generating activities were also considered important, but less so than the other services. Those who did not participate in

[37] Food insecure households in the RRIA were classified as those suffering from food shortages in the previous year.

the planning process prioritized the services in nearly the same order as those who did participate; however, participants in the planning process had significantly more positive opinions regarding the relationship between access to the public services and their potential for improving food security.

Households identified as food insufficient[38] prioritized similar services as food sufficient households (sanitation, agricultural services and livestock services) as contributing to improved food security. It is worth noting that food sufficient households had more positive perceptions of access to many services with relation to food security than food insufficient households. Whereas 75.4 percent of food sufficient households found educational services to contribute to improved food security, only 68.9 percent of food insufficient households shared this opinion. On average, only 37.9 percent of food insufficient households found electricity to improve food security, compared to 55.1 percent of food sufficient households. Further, whereas 14.8 percent of food sufficient households stated that income-generating activities might improve food security, only 7.4 percent of the food insufficient households agreed. The differences in perceptions may be tied to food insufficient households linking their insecure status to specific assets rather than connecting improved livelihoods with food security.

Table 12 – RRIA Factors for Improved Food Security

	Num. Obs.	**Road**	**Water**	**Sanitation**	**Electricity**	**Telephone**	**Credit**
Access Improved Food Security	*1070*	64.9%	76.2%	84.4%	49.0%	56.5%	29.0%
Participated in Planning Process	*802*	64.8%	77.9%	86.2%	49.8%	60.3%	30.8%
Did Not Participate in Planning Process	*268*	64.9%	70.9%	79.1%	46.6%	45.1%	23.5%
Significant Difference (*)			*	*		*	*
Food Insufficient Households	*380*	60.5%	75.3%	81.3%	37.9%	51.8%	21.1%
Food Sufficient Households	*690*	67.2%	76.7%	86.1%	55.1%	59.1%	33.3%
Significant Difference (*)		*		*	*	*	*

	Num. Obs.	**Health Services**	**Educational Services**	**Livestock Services**	**Agricultural Services**	**Income Generating Activities**
Access Improved Food Security	*1070*	79.3%	73.1%	84.2%	82.9%	12.1%
Participated in Planning Process	*802*	83.3%	76.3%	87.9%	85.8%	13.1%
Did Not Participate in Planning Process	*268*	67.5%	63.4%	73.1%	74.3%	9.3%
Significant Difference (*)		*	*	*	*	
Food Insufficient Households	*380*	72.6%	68.9%	83.4%	79.2%	7.4%
Food Sufficient Households	*690*	83.0%	75.4%	84.6%	84.9%	14.8%
Significant Difference (*)		*	*		*	*

[38] It must be emphasized that data in this section are form the RRIA survey, and are therefore not directly comparable to those presented in other parts of the report, which are based on the BLSS 2007.

Table 13 - Sources of Food Shortages

	Num. Obs.	**Land**	*Less Land*	*No Land*	*Unproductive Land*
Reasons for Food Shortage	*380*	68.4%	*42.9%*	*4.2%*	*21.3%*
Participated in Planning Process	*285*	37.9%	*2.8%*	*23.2%*	*11.9%*
Did Not Participate in Planning Process	*95*	46.3%	*8.4%*	*15.8%*	*22.1%*
Significant Difference (*)				*	

	Num. Obs.	**Shortage of Labour**	**Wild Animal Damage**	**Cash Shortage**	**Too Much Debt**
Reasons for Food Shortage	*380*	14.5%	31.1%	2.1%	0.3%
Participated in Planning Process	*285*	34.0%	2.1%	0.4%	0.0%
Did Not Participate in Planning Process	*95*	22.1%	2.1%	0.0%	0.0%
Significant Difference (*)		*	*		

Food insufficient households state different reasons for their lack of adequate food access. More than 68 percent of those sampled households identify land as the key factor influencing food shortages, particularly because the household does not have access to sufficient or productive land. Approximately four percent states they do not have land. On average, 31 percent of the food insufficient households indicate damage caused by wild animals is responsible for food shortages, whereas 14.5 percent claim a shortage of labor as the key factor. Only a nominal share of the households (2.4 percent) identifies liquidity as the responsible factor for their food insecurity. It is interesting to note how the results for land, household labor endowment (which are significant) and credit (which is not here) are also in line with the results from the multivariate analysis presented at the beginning of this section.

4.5 Conclusions

4.5.1 Brief summary and policy remarks

This assessment has revealed many trends regarding food security and the principal factors influencing it in Bhutan. The strong relationship between welfare levels and household level food security emerged throughout the analysis. Per capita expenditures were positively correlated with caloric intake, and negatively with undernourishment in the descriptive and regression results. In both urban and rural areas, not surprisingly, overall better-off households also tend to fare better in terms of food consumption.

A second factor that emerges as strongly associated with both better calorie consumption and stability in food consumption throughout the year is market access. A strong relationship between distance to the food market and food security repeatedly surfaced in the different analyses undertaken. Caloric consumption fell, and undernourishment rose, with increasing distance. The time it takes for households to reach the nearest food market conveys whether roads exist, the conditions faced to reach the market, and the decision to use the market to purchase goods. Therefore, this indicator influences food security as better access to markets reduces transaction costs and food prices, improves availability to

the household of a greater variety of foods, as well as access to food at times when reserves of own-production are low. Though no relationship was observed for urban households, for rural areas, this result is particularly important since markets can be very remote and infrastructure inadequate.

The notion of proximity versus remoteness is manifested in other indicators related to infrastructure that impact food security and are linked to household wealth, namely, access to piped drinking water and improved sanitation (flush toilets in the dwelling)[39]. Better-off households are more likely to have these infrastructure items in their dwelling, while poorer households reported more limited ownership of those items. Taken together with the relation between remoteness and wealth, remote households are worse off in terms of their access to certain services, which are fundamental to food security. Perhaps more importantly, the finding that those who are already more likely to be undernourished also have worse access to basic water and sanitation is of concern in terms of the likelihood that this may result in a greater incidence of diseases that may impair food utilization. While this is something we could not investigate further with the data at hand, it is something that requires careful attention and, possibly, more analysis with appropriate data.

Across both urban and rural areas, the importance of assets also came through in the descriptive and multivariate analyses as being strongly tied to wealth and food security status. Although education was identified as a key asset for all households, its significance with respect to caloric intake was larger in urban areas, where the returns to education are likely to be greater.[40] For rural households, which rely more on agriculture, land is the more important asset in improving kilocalorie consumption, a finding corroborated by the RRIA in which households believed inadequate access to land contributed to food shortages.

Overall, the fact that human and natural capital is each a relevant factor in influencing household food security indicates the importance of livelihoods strategies in improving food security. Results from the regression analysis point to the fact that different livelihood strategies (participation in agriculture, specialization in agriculture, or diversification) are related in different ways to dietary energy intake outcomes. This may be explained by both the different levels of earnings different activities generate and by the stability in earnings (and hence in access to food) that can be associated with a diversified set of income sources.

Based on the results of the preliminary analysis presented in this report, we identify below main areas of policy actions that can be considered important in terms of prioritising actions for the implementation of the BNFSSP in the context of the 10th FYP. It should be emphasised that these considerations are limited to the results that emerged from the household-level analysis carried out in this report, and therefore do not consider all the issues that require analysis for understanding food security and responding to food insecurity, such as nutritional outcomes, health care practices, agricultural growth and productivity, water policy, and the management of macroeconomic and trade issues.

[39] See Table A3.1.
[40] See Table A3.2.

Invest in Public Infrastructure and Basic Services

Remote households in rural areas clearly appear to have lower levels of calorie intake, even when controlling for other factors (such as welfare levels). While in this report remoteness was analyzed with respect to the distance from food markets (which is likely to make households more exposed to seasonal variations and local crop failures), isolation from markets can also indicate detachment from other services that are fundamental to individual welfare, such as health centres or hospitals. Remoteness from these services may have a negative impact on the utilization aspect of food security, which emphasizes household health and overall well-being. It is an obstacle and perhaps a disincentive to seeking care when ill, but also implies a lack of or reduced interaction with the institutions that could serve as vehicles by which to communicate information on health practices and improving household nutrition.

Similarly, the finding that households that are already more likely to be undernourished also have more limited access to basic water and sanitation infrastructure is worrying in terms of the likelihood that this may drive a greater incidence of diseases, impairing food utilization. While this was not possible to investigate with the BLSS data, it does require careful attention and more analysis with appropriate data.

Improve access (and returns) to land and other agricultural specific assets

Firstly, given the importance of land in the rural space, policy must consider how to improve access to arable land. Although our analysis could not investigate this due the nature of the data, it is fair to expect that investments in inputs and services that make land productive such as water, fertilizers, seeds and technical assistance are also likely to generate returns in terms of better income and nutrition, and help mitigate against food shortages, particularly among rural households. This is also one of the top priorities listed by BLSS households: 28.7 urban and 14.1 rural households believe land and resettlement should be principal government priorities. Further, most of the food insecure households sampled in the RRIA identified land constraints as the main factor behind their food insecurity. Improved access and productivity of land can serve as an income-generating activity, but also as a path towards more autonomy from markets in terms of food security, a factor that may be relevant for the households for which access to markets is difficult.

Invest in Education

Although the national average for net primary school enrolment is high at 82.1 percent; substantial heterogeneity in this figure is observed across Dzongkhags, with some reporting rates of less than 65 percent (e.g. Gasa). The drop off in school enrolment beyond primary school is substantial such that the overall net enrolment rates for Bhutan are approximately 51.7 percent, and lower in rural areas at 46.9 percent.[41] These figures by themselves call for the need to urgently invest in education. In addition to that, this report shows how in urban areas education is also positive associated with dietary energy consumption, controlling for other factors. Attaining better educational outcomes requires both supply and demand for education to be improved. On the demand side, the opportunity cost of education should be lowered by providing households with incentives to send children to school, removing the trade-off between school attendance and performing other duties in or outside the home for children of schooling age. School feeding programmes or conditional cash transfers

[41] BLSS 2007 Report.

programmes aimed at improving school attendance may achieve some results in that sense, although it is also likely that other means would have to be considered to make sure that pre-school children are also targeted. Further, although primary schooling in Bhutan is free, requirements such as uniforms and shoes make education unaffordable for the poorest households; targeted policies should be implemented to reduce such costs of attendance for those households.

Of course, for rural areas in particular, supply side factors weigh in on this trade-off. Approximately 20 percent of primary school children take more than one hour to reach the nearest school[42] and the average distance in rural areas to the nearest bus station is 157 minutes while to the nearest tarred road is 178 minutes. Education can be made accessible to households by constructing schools in communities that lack them, and by ensuring the means by which individuals can reach the schools. The BLSS households also recognized this issue as a priority for government action: 17 percent of the households believed school facilities should be an important government objective.[43] In essence, the supply of education is improved by also focusing on the supply of public services and infrastructure, such as public transportation and adequate road networks, which are some of the key factors that offset remoteness and its negative impact on food security. Specifically, consideration should also be given to establishing school transport services or boarding facilities to enable enrolment and attendance of children of the most remote households.

Looking beyond formal schooling, nutritional education has also been shown in many countries to have the potential for cost-effectively reducing nutrition related problems. Though the BLSS data does not allow for specific nutrition recommendations to be offered, the findings of limited dietary diversity highlight, at a first stage, a need for nutritional education, the specific objectives of which would need to be drafted based on the outcome of data obtained from a specific nutritional survey.

Promote Livelihoods Diversification

Addressing access to assets and infrastructure leads naturally to the improvement of livelihoods. However, livelihoods can also be enhanced by fostering the development of and participation in non-farm sources of income by which households can diversify their income portfolio. The results of the empirical analysis pointed towards income diversification as a strategy associated with higher levels of caloric intake.

4.5.2 Opportunities for further work: Analysis and data collection

It is important to reiterate here that this report only touches upon one component of the full picture related to the food security situation of Bhutan. While we were able to analyze indicators related to the main dimensions of food security (accessibility, availability, utilization and stability), there are important data limitations in the BLSS that prevented the undertaking of a fully comprehensive food security analysis that would include conclusions on nutritional outcomes and their determinants.

[42] Ibid.
[43] Ibid.

One piece of the analysis that was left out of this report, but that could be performed with BLSS data, is a broad study of the macronutrient consumption. The type of Dzongkhag level descriptive analysis undertaken in this chapter is a first step towards a more in-depth study of the intra-Dzongkhag issues that could be useful for decentralized policy and planning. Further, given the diversity in agro-ecological conditions across the different regions of Bhutan, a spatial analysis that considers those conditions and links them to food security indictors could be implemented to identify the areas where agricultural and/or market interventions for food security are most viable.

It is vital, however, that future data collection efforts seek to fill the gaps in the current availability of data for the analysis of food insecurity. In particular, the lack of anthropometric data can probably be highlighted as the single most important piece of information that is missing and would be required with urgency. Such data should ideally be collected at a level that would allow relating it to the set of household level characteristics contained in the BLSS and the set of nutritional outcomes illustrated in the conceptual framework.

Regularly collected anthropometric information will allow the government to track the evolution of food security/nutritional outcomes based on the development of children. Monitoring the height and weight of young children will allow for the identification of stunting, wasting and underweight problems and will contribute to the proper targeting of food insecure groups. This will further illuminate the extent to which children are impacted by food security or insecurity, and determine if the targets set in the BNFSSP regarding the reduction of stunting among children are being met.

Detailed information on health practices and outcomes, collected in the context of a living standards or nutrition survey would complement anthropometric data and the household-level BLSS indicators. Such data would go beyond the BLSS questions on knowledge/utilization of contraception and incidence of illness in the previous month to include questions on maternal and infant health, vaccinations, breast-feeding, and illnesses among all family members.

Since the analysis demonstrated that households in Bhutan are affected by different kinds of food insecurity, the collection of data on the seasonality of food shortages will allow for the proper targeting of areas that suffer from transient food insecurity. Doing so requires knowledge on the specific months during which different households suffer shortages in urban and rural areas, and on the traditional and/or informal mechanism used to overcome these shortages. Linking that information to household and community-level factors would help identify the most appropriate interventions for helping households cope and mitigate against periods of food insufficiency. This kind of information falls into a larger category of data collection priorities on shocks to the household. In addition to food shortages, efforts must be made to compile data on exposure to exogenous shocks rooted in natural, economic or societal causes, and the availability of sustainable coping mechanisms.

Finally, in order to better understand the way livelihood strategies impinge on food security, more detailed data on income and employment than those currently available in the BLSS need to be collected. This sort of data would help policy-makers understand which sectors

are most lucrative or have potential to serve for diversified livelihoods as well as identifying areas or household types that disproportionately suffer from under or un-employment so to learn how to best deal with the issue of labor shortages identified in the RRIA.

Prioritizing further data collection efforts and making the point to link new data with existing sources will facilitate the measurement and monitoring of food security indicators in Bhutan. The analysis presented in this chapter highlighted the existence of a broad group of food insecure households; assessing whether the policies and programs of the BNFSSP and 10th FYP effectively address these groups will require periodic monitoring of the indicators analyzed in this report, and those for which data has yet to be collected.

V. RIGHT TO FOOD ASSESSMENT IN BHUTAN

The following section assesses how national legislation, policies, administrative measures and institutional frameworks contribute to increasing or decreasing vulnerability to food insecurity. The section provides an analysis of the institutional and legislative framework relevant to food security governance and accountability mechanisms at national and sub-national levels including civil society participation in planning and satisfaction with government services. Analysis also verifies whether existing institutions, policies and legal instruments are adequate in responding to the root causes of hunger.

5.1 Enabling legal and legislative framework

Right to Food Guideline 7: Legal Framework – (7.1) States are invited to consider (...) whether to include provisions in their domestic law that facilitates the progressive realization of the right to adequate food (...). (7.2) States are invited to consider (...) to directly implement the progressive realization of the right to adequate food. Administrative, quasi-judicial and judicial mechanisms to provide adequate, effective and prompt remedies accessible, in particular, to members of vulnerable groups may be envisaged.

Legal recognition of the Right to Food and empowering people to claim that right is vital. The purpose of an analysis of the legal and legislative framework for the Right to Food is to determine the conduciveness of institutional and legal environment in the country to the progressive realization of the right to adequate food within the context of food security. Examining the specific commitments of the government means that its policies and actions with respect to the Right to Food can then be assessed against its commitments made to legally binding standards at the national and international levels. It can in particular lead to more effective policies and people centred programs to combat food insecurity and poverty and help RGoB to develop policies and strategies to ensure that particular attention is given to the needs and rights of the most vulnerable sections of the population when addressing food issues.

Some of the important legal and legislative instruments that support the progressive realization of the right to adequate food in the context of Right to Food obligations are presented below;

5.1.1 International obligations

Bhutan is party to several international instruments relevant to the right to adequate food. These instruments include the Convention on the Rights of the Child (CRC) (Article 24 and 27), ratified in August 1990, which asserts the right of every child to adequate food and nutrition. The Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) (Article 12 and 14), ratified in August 1981, and the International Convention on the Elimination of All Forms of Racial Discrimination (Article 5), signed in March 1973, commit Bhutan's obligations and responsibilities towards gender mainstreaming. One immediate activity undertaken is the implementation of the National Plan of Action for Gender (NPAG) spearheaded by the National Commission for Women and Children (NCWC). Further, Bhutan was part of the World Food Summit held in Rome in 1996.

The Royal Government of Bhutan is working in close collaboration with multilateral donors to fulfill its obligations and responsibilities to the Convention on the Elimination of All Forms of Discrimination Against Women. Currently, United Nations Development Programme (UNDP) is supporting the recently established NCWC in policy development, gender budgeting, capacity building and the sensitization of its partners and beneficiaries to address gender issues particularly in the areas of good governance and violence against women. NCWC presented Bhutan's Second Periodic Report to the UN Committee on the Rights of the Child in Geneva on September 22, 2008. In all its thrust areas, Bhutan advocates for the protection of basic human rights.

5.1.2 National obligations

Regarding national level obligations, attaining food security objectives and poverty alleviation have been on Bhutan's policy agenda for more than 40 years. As early as 1961, Bhutan's development initiative addressed poverty alleviation and rural development emphasizing the importance of the reduction in poverty and provision of basic needs in each of five year development plans[44]. To make this a reality, a wide array of laws, policies and programs encompassing food safety, consumer protection, laws governing access to natural resources and good governance, and welfare have been instituted to successfully serve the realization of the Right to Food. Some of the key legislative frameworks are discussed below;

5.1.2a Constitution of Bhutan

The Constitution of Bhutan includes provisions that protect economic, social and cultural rights. Article 7 of the Constitution, under fundamental rights principles, lists a series of obligations that are relevant for the Right to Food. The article contains strong commitment to social, economic and cultural rights along with civil and political rights. The Constitution respects and codifies Bhutan's obligations under international law, particularly its treaty obligations. This includes an extensive list of individual fundamental human rights Article 7 drawn from the Universal Declaration of Human Rights, including the fundamental rights of: life, liberty and security of the person Article 7.1, freedom of speech, opinion and expression

[44] The new poverty line is established at Nu.1,096.94 a person/month (approx.US$27.5). At present, roughly 23.2% of the population still lives below the poverty line, a drop from 31.7% in 2004.

Article 7.2 and right to information Article 7.3, freedom of thought, conscience and religion Article 7.4. A natural extension of the Right to Food is "the right to work" which provides the best protection against food insecurity and poverty is provided under Article 7.13. The right to education for all and free basic health are also guaranteed under Article 9.16 and Article 9.21. Under Article 9.22 the State provide security to people in the event of sickness and disability or lack of adequate means to descent livelihood. The Constitution recognizes the right of women and child through Article 9.17 and 9.18 including protection against all forms of discrimination and exploitation. Although the Right to Food is not directly justiciable, its inclusion as a fundamental principle of State policy is important because it serves to guide interpretation of fundamental rights, including the right to life protected by Article 7.1. The ingenuous use of the right to life derives the existence of or amplifying the scope of economic, social and cultural rights.

Some of the instruments for the implementation of the constitutional rights are discussed in subsequent sections along side the discussion of other legal frameworks.

5.1.2b Food Act of Bhutan 2005

Although there is no explicit mention about the Right to Food in the Food Act of Bhutan 2005, its preamble mentions on the protection of human health as one of the main purpose of the act. During food emergency situation, the act empowers the National Food Safety and Quality Commission (NFSQC) to coordinate a national response and identify organization or units responsible for taking immediate relief action. This is usually implemented through the National Disaster Management Committee under the Ministry of Home and Cultural Affairs. Food utilization aspects in terms of hygiene and safety are ensured through the food inspectorate system managed by Bhutan Agriculture Food and Regulatory Authority (BAFRA). Likewise the Department of Public Health under the Ministry of Health facilitates programs and projects to ensure all people in the country receive adequate nutritional intake in their daily food basket. Primary health care is attended through the establishment of Basic Health Units (BHU) in remote villages across the country. As of 2006, there are 176 BHUs constructed and 29 hospitals in the country[45].

5.1.2c Civil Society Act of Bhutan 2007

Under Chapter 3, Article 5 (a) and (b) the Civil Society Act promotes social welfare to improve the conditions and quality of life for the people of Bhutan and ensure a system of public accountability by providing a framework for responsible and effective self-regulation of civil society organizations. It facilitates the delivery of emergency relief services and other types of public services and the effective use of public and private financial resources (Article 5 (c) (i)); to supplement and complement the efforts made by the government to protect human life and health and prevent and alleviate human suffering and poverty (Chapter 3 Article 6 (a) & (b)).

5.1.2d Anti-Corruption Act of Bhutan 2006

[45] Annual Health Bulletin, 2006, Health Information Unit, PPD, MoH.

The Anti-Corruption Act (ACA) of Bhutan has been prepared and reviewed by the High Court, which is the basis for further review by the Anti Corruption Commission (ACC). The review process entails series of consultations with stakeholders, lawyers and law enforcement agencies such as the Royal Bhutan Police (RBP), research on anti-corruption laws and best practices of various countries, reference to domestic laws and review by some external experts. The Act empowers the ACC to fulfill its responsibility of curbing and rooting out corruption through timely and effective checking of the private utilization of public funds and of persons engaged in the unauthorized use of public resources. Towards this end, the Chairperson of the ACC is authorized to carry out investigations on any person in Bhutan, regardless of status or position, in the course of discharging its responsibilities.

Similarly, any person, group of individuals or NGOs has the right to lodge with the Commission a complaint against a public servant, public entity or other person who has committed or is attempting to commit an offence of corruption evoking Article 59 of Chapter 5 of the CSO Act. A complaint can be made orally or in writing, in person or through any means of communication to an officer of the Commission; if made orally it should be reduced to writing and read over to the complainant Article 62. Further an investigation and arrest would be conducted in accordance with the provisions of the Civil and Criminal Procedure Code of Bhutan Article 72 and 79. Prosecution of any case based on an investigation report of the Commission is carried out expeditiously by the Office of the Attorney General or any prosecuting agency in the Court of competent jurisdiction Article 90.

Anti-corruption measures have been generally addressed through the good governance policies of the government and the important responsibility to uphold those measures reside with all agencies. In the late 1970s through the early 1980s, there was an independent body called the Court of Vigilance made up of four members with *Zhung Kalyon* as its chairperson. It reportedly functioned as a special audit and national prosperity hinged on the quality of its governance as an investigation body. Later on, the Royal Audit Authority (RAA) was established in 1977 as an anti-corruption agency within its mandate and an important ally of the Anti-Corruption Commission.

Corruption, however, as an issue was addressed only in 1999 to raise public awareness, to prevent it from taking root in society and to improve the morale of civil servants. The establishment of internal audit units in the (bigger) government ministries in 2003 is also an outcome of the 1999 good governance initiative: “Enhancing Good Governance: Promoting Efficiency, Transparency and Accountability for Gross National Happiness.” Combating corruption as a national agenda featured only in the 2005 GG+ Report, wherein all agencies, public and private are required to implement anti-corruption initiatives.

5.1.2e Local Governments’ Act of Bhutan, 2007

The Local Government Act 2007 was passed by the National Assembly to facilitate direct participation of the people in the development and management of their own social, economic and environmental wellbeing through decentralization and devolution of power and authority, recognizing that local governments are elected bodies to represent the interests of local communities and to fulfil their aspirations and needs. The primary function

of the act is to raise the capacity and quality of local leadership and to facilitate uniform, equitable, comparable and sustainable efforts and activities. The local government is mandated to provide democratic procedures and accountability to the local communities and ensure the provision of social and economic services for the general wellbeing of the residents of the communities in a sustainable and equitable manner (Chapter 2, Article 26). The act encourages the involvement of communities and community organizations in matters of local governance.

In keeping with the decentralization policy, local governments have been empowered through the Local Government Act 2007 to set their development priorities, and to plan and implement their development programs and projects that have direct bearing on their livelihoods and food security initiatives.

5.1.2f Geog Yargey Tshogchung Chhatrim, 2002

The preamble of the act promotes local socio-economic development strategies and initiatives, by empowering the people to make decisions on their plans and programs, enabling them to adopt approaches and practices adapted to local needs. Regulatory powers of the act include, among others, the allocation of safe and clean drinking water from water supply schemes, the allocation of irrigation water Article 8.5, in accordance with the provisions of the Land Act, 1979 Article 8.6; the protection and harvest of edible forest products in the local area in accordance with the Forest and Nature Conservation Act, 1995 Article 8.8; and the depredation of crops by livestock and wildlife, in accordance with the provisions of the Forest and Nature Conservation Act, 1995 (Article 8.11). The Geog is empowered through (Article 9.2) to administer, monitor and review all activities that are part of the Geog plans, including the maintenance of water supply schemes, irrigation channels, footpaths, mule tracks, farm and feeder roads, BHUs and outreach clinics, lower secondary schools and community schools. The act empowers the Geog Yargey Tshogchung with adequate budgetary and financial powers to enable it to effectively carry out its roles and responsibilities under this Chhatrim, for local works not exceeding US$1,200.

5.1.2g Dzongkha Yargey Tshongchung Chhatrim, 2002

The preamble states the delegation of a wide range of powers, authority, resources, responsibilities and functions from central agencies to Dzongkhag Yargey Tshogchung to formulate, approve and implement Geog and Dzongkhag plan activities. Under the first paragraph of the DYT Chhatrim, 2002, decision making on local policies, plans and budgets concerning socio-economic development in the Dzongkhag are vested in the Dzongkhag Yargey Tshogdue (DYT). Article 9.12a requires the Dzongkha administration to ensure that safety standards and prices of dairy and livestock products, where and if applicable, are in accordance with the Livestock Act, 2001 and directives of the Ministry of Agriculture. Under (Article 9.14a) the DYT should ensure that public health facilities and services, such as safe drinking water, sanitation, immunization, and nutrition are given highest importance at all times.

5.1.3 Conclusion

The Right to Food though recognized, has not been articulated explicitly in any of the legal instruments. It only remains implied in much of Bhutan's legislature; which could lead to ambiguity upon execution. However, right to life being intrinsically linked to the Right to Food has been granted and protected by Article 7.1 of the Constitution of Bhutan. Affirming the individual's Right to Food as a necessary corollary of the fundamental right to life; one can thus acknowledge the close nexus between the right to life and the right to food. However, the question remains whether in the future, expansive interpretations would be attached to Article 7.1 by the Courts in the country; making the right to life meaningful, socially, culturally, economically, even to the most marginalized segments of society with dignity of person and in pursuit of individual happiness.

The Right to Food that requires an access to food in a dignified manner is enabled through access to gainful employment as provided by Article 7.13 of the Constitution of Bhutan. This article presents a condition precedent to enabling individuals to command the access to food that they require. To reiterate, although the Right to Food is not directly justiciable, its inclusion in the directive principles of State policy serves to guide the interpretation of fundamental rights, including the right to life, guaranteeing all Bhutanese the Right to Food, water, education, employment and information.

Within the DYT and GYT legal framework, a wide range of policies and programs are in place to address food insecurity and malnutrition, mostly elaborated and financed by the government and implemented by the Dzongkhags, although these programs have not been explicitly articulated around Bhutan's obligations towards the Right to Food. The DYT and GYT *Chhatrims* have provided the legal basis for the assignment of powers, functions and finances to the Dzongkhag and Geog level.

From the above sketch, it is observed that legal provisions supporting the RTF, with special reference to the Constitution, are adequate within Article 7 stipulating all possible fundamental rights aimed at securing each citizen's social, economic and political justice, equality and dignity of life. Likewise, adequate efforts are made by the government to protect human life and health to prevent and alleviate human suffering and poverty under Chapter 3 Article 6.8 of the Civil Society Act, 2007. Similarly, the Anti-Corruption Act of Bhutan 2006 empowers any individual, community or group of individuals to launch complaint(s) against any violation including violations on the Right to Food. In addition, the Local Government Act, GYT and DYT *Chhatrims* empower people at the grass root level with decision making authority for developmental activities, a step towards creating enabling legal environment.

5.2 Enabling Policy Framework

Right to Food Guideline 3: Strategies – (3.1) States (...) should consider adopting a national human-rights based strategy for the progressive realization of the right to adequate food (...) as part of an overarching national development strategy (...). (3.3) These strategies should include objectives, targets, benchmarks and time frames; and actions to formulate policies, identify and mobilize resources, define institutional mechanisms, allocate responsibilities, coordinate the activities of different actors, and provide for monitoring mechanisms. As appropriate, such strategies could address all aspects of the food system, including the production, processing, distribution, marketing and consumption of safe food. (...) These

strategies should, in particular, address the needs of vulnerable and disadvantaged groups, as well as special situations such as natural disasters and emergencies.

Attaining food security through self sufficiency, social justice and alleviation of poverty has been the aim of the RGoB. The government has initiated and refined an array of policies, programs and schemes to fight food insecurity and malnutrition, as well as to attain self sufficiency in food grain production. This section will provide an overview of a wide range of important policies and programs outlining developmental efforts towards the realization of the right to adequate food and reduction of poverty in the country.

5.2.1 Tenth Five Year Plan (2008-2013)

Poverty reduction have been articulated as the main objective and primary theme of the Tenth Plan (2008-2013) with strategic priorities and development targets to be achieved within the broad context of Bhutan's long term development vision and outlook.

Some of the policy objectives of food security are to:

1. Enhance sustainable rural livelihoods through improved agricultural and livestock productivity and expansion of commercial prospects of agriculture and other natural resource endowments;
2. Conserve and promote sustainable commercial utilization of forest and water resources;
3. Promote sustainable utilization of arable agriculture and pasture land resources;
4. Enhance food security through the market;
5. Transform subsistence agriculture to small scale commercial agriculture without compromising food security.

The broad strategy for fulfilling the above objectives will be guided by the Triple Gem concept which emphasizes the importance of enhancing production, promoting accessibility and improving marketing. Production is to be primarily enhanced through development and utilization of best practices and appropriate technology, expanding cultivable land and increasing its productivity. Where techno-economically feasible, consider specialization and monoculture to maximise gains from economies of scale rather than on mixed subsistence cropping with low productivity/volumes. Accessibility will be promoted through the extensive development of farm roads and power tiller tracks in rural areas thus ensuring better access to and from markets and economic and social services, including facilitating the delivery of essential inputs to farmers. Marketing will be improved and strengthened through implementing various mechanisms promoting further commercialization of agriculture, enhancing links with domestic and external markets, boosting value addition, ensuring high quality standards, promoting exportable organic and high-value low-volume produce, etc. Some of these mechanisms will include the promotion of relevant cooperatives and/or marketing boards and establishment of marketing infrastructure. The key sectoral policy objectives outlined earlier are to be attained through the following strategic initiatives:

1. Improving planning and management of programs, information management and dissemination, and research services;
2. Effective provisioning of basic agricultural services;
3. Strengthening the delivery of extension services;
4. Enhancing farm mechanization to improve agricultural labor productivity and efficiency, value addition and specialization in addition to alleviating farm labor shortages and drudgery;
5. Strengthening agriculture marketing mechanisms to expand local markets for primary products and enhance exports of NWFPs and other low-volume and high value niche export products through a higher degree of specialization, standardization and certification;
6. Promoting farmers cooperatives and marketing boards to facilitate domestic and international market linkages and improving supply chains;
7. Developing adequate levels of rural and agricultural infrastructure;
8. Diversifying the economic base of the RNR sector through the promotion of high value niche or organic products and agro and eco-tourism initiatives;
9. Enhancing the integrity of natural resources through improved and participatory management of protected areas, sustainable utilization of forests, land and water resources;

The 10th FYP sectoral development budget allocation is reflected in Table 14. The share of the budget allocation for the agriculture sector in the tenth plan remains the same at around 10 percent as in the Ninth Plan. This is in keeping with the macro-economic policy of sustaining the growth in agricultural sector to help reduce rural poverty to targeted levels. The social sector budget has been maintained at past levels and constitutes around 24 percent of the total outlay. As such the overall pro-poor expenditures of the Tenth Plan continue to be maintained at high levels.

Table 14 - Tenth Plan Development Budget Allocation (in Nu. Millions)

Sector	Current	Capital	Total	%
Economic Services				
Agriculture	6,194.00	7,947.00	14,141.00	9.98
Trade, Industries & Energy	3,748.00	4,810.00	8,558.00	6.04
Transport, Communications & Public Works	12,747.00	16,356.00	29,104.00	20.54
Labor & Human Resources	1,012.00	1,298.00	2,310.00	1.63
Social Services (Health and education)	14,652.00	18,801.00	33,454.00	23.61
General Public Administration	16.204.00	20,792.00	36,996.00	26.12
Others				
Debt Servicing	5,623.00	7,215.00	12,837.00	9.06
Common Public Expenditure	1,880.00	2,413.00	4,293.00	3.03
Total	**620,60.2**	**796,32.013**	**141,692.213**	**100.00**

Source: GNH Commission 2007.

5.2.2 Poverty Reduction Strategy Paper (PRSP)

The PRSP has been a strong government undertaking as part of the broader ongoing efforts to combat poverty and reflects Bhutan's distinctive approach to development, enshrined in the concept of GNH. The PRSP highlights "the need for progressive realization of Right to Food in the shortest possible time", including the realisation of economic, social and cultural rights. The main objective of the PRSP is to sustain the growth momentum and strengthen the strategic framework for poverty reduction, especially by overcoming the challenges of Bhutan's geography to reach the poor in far flung communities. It is a reform undertaken to address the 23.2[46] percent of the population living below the poverty line.

The government's developmental policy since the first five year plan has been geared towards pro-poor leanings as indicated in the expansion of social services and the thrust on rural development and poverty reduction. For instance public expenditure share on education and public health constitutes on average over 25 percent for every five year plan, suggesting the government's concern to improve the welfare of its citizenry, especially the poor.

The overall macro strategy of the PRSP strongly reflects poverty reduction interventions by promoting economic opportunities through broad-based growth and boosting critical sectors such as agriculture and rural industries/enterprises that are important for the poor. The plan has allocated increased resources and investments into developing rural regions to help promote income and employment generating activities, expand access to markets and enhance the quality of rural living conditions through well targeted interventions. This is to be done mainly through synergizing integrated rural-urban development for poverty alleviation. Providing land to the landless is one of the key strategies for poverty alleviation and thereby ensuring Right to Food.

5.2.3 Agriculture and Food Security Policy

While the Right to Food is not articulated explicitly in policy terms, the government expresses strong concerns regarding food supply in Bhutan as a whole with food grain security as the backbone of country's overall food security policy since 1994, when it developed the Comprehensive National Food Security Programme (CNFSP). Since rice and maize are staple food for the Bhutanese, food grain self-sufficiency has become a central element in Bhutan's commitment to achieve food security. As a result, boosting domestic grain production has been placed high on the policy priority list. The means by which localities produce and make food available in the marketplace are significant in ensuring people's Right to Food. Such crucial role played by the government in fostering conditions for food availability and accessibility essentially reflects how the Right to Food is perceived in practice.

In consequence, food security and poverty alleviation are being highlighted as major thrust areas with relevant policy objectives and strategies contained in the 10th FYP document.

[46] PAR 2007 established the poverty line at Nu. 1,096.94 per person per month. The poverty line is obtained by adding the estimated food and non-food requirements of Nu. 688.96 and Nu. 407.98 respectively. This approach estimates the food component of the poverty line as the cost of a food bundle attaining a pre-determined minimum food energy requirement (of 2,124 Kcal per person per day), and then adds some non-food requirements to the food component in order to yield the total poverty line.

These include the sub-sectoral planning documents of the Ministry of Agriculture on arable agriculture, horticulture, forestry and livestock. Each of these volumes has a bearing on food security issues and contributes to the Royal Government's overall food security policy objectives and strategies. Furthermore, food security for the people of Bhutan has long been recognized as a primary objective of the RGoB through broad based macroeconomic interventions focusing on scaling up production, increasing availability of nutritionally adequate and safe food, and improving access to food. Building on this long standing goal, the RGoB has recommitted itself to agriculture's Triple Gem[47] of enhanced production, accessibility and marketing (PAM). Policies have been outlined with respect to improving availability, enhancing accessibility and promoting nutrition

To compliment the triple gem PAM concept, the Ministry of Agriculture set up the Bhutan National Food Security Strategy Plan (BNFSSP), which has strong political commitments to carry out implementation during the 10th FYP, a national policy to fight poverty and improve food security among the Bhutanese. The BNFSSP is organized following the availability, access and utilization dimensions of food security. It focuses largely on rural areas, which is where the largest share of the food insecure and poor live (38.3%). Policies are much focused on increasing agricultural productivity and developing markets while conserving the environment to maintain minimum the forest cover of 60 percent. The BNFSSP outlines the broad areas of intervention to address food security and poverty alleviation concerns. Following this involves a local level food security planning manual to strengthen planning for food security at Geog levels. Among other, as a way of rural income generation for farmers in the eastern region, Dzongkhag Horticulture Developmental Plans (DHDP) have been prepared and incorporated into the strategy document.

Some of the donor driven projects include FAO's Special Programme for Food Security (SPFS) that mirror the concerns, objectives and strategies of the government as expressed in various policy documents. These policies are also consistent with the focus of the Global Anti-Hunger Programme that emerged following the WFS; five years following the summit, they stress the need to enhance sustainable production and improve access to adequate food at all times. The SPFS components of intensification, diversification, water management and constraint analysis also match the government's approach to food security and agricultural development as part of the country's vision for peace, prosperity and happiness.[48]

In efforts to improve access to food at the household level unprecedented results have been achieved with farm road development. With accessibility as one pillars of the 'triple gem' approach, the Ministry of Agriculture, as of June 2006, had completed 484 km of farm roads, 71 km of power tiller tracks and 4,300 km of mule tracks. These works brought Bhutan's road network to 4,545 km, including 1,556 km of national highway and 597 km of farm roads.

The availability of food grains (rice and maize) has improved in recent years, but access to food is still the fundamental problem. The policy recognises that chronic food insecurity is

[47] This in turn builds on the Buddhist principles of the Buddha, Dharma (teachings) and Sangha (community) that guides the spiritual life of the country.
[48] Bhutan 2020: A Vision for Peace, Prosperity and Happiness. Planning Commission, RGoB, 1999.

reflected in severe malnutrition levels, particularly of vulnerable groups constituting women and children. In order to address such groups, focused programmes on poverty alleviation, food security, income generation are initiated and taken up as:

- Cash and food for work programs to support chronically food insecure households.
- Pro-poor/small farmer's agricultural commodity value-chain analysis to identify agricultural commodities being produced by the poor and the constraints to profitable production.
- A comprehensive national food security strategy and formulation of local level measurable production objectives that contribute to the national food security objective.
- To accelerate the growth in agriculture through increased rural road access as a major change factor;
- To alleviate poverty and achieve significant improvement in the standard of living through accelerated growth and expanded non-farm employment opportunities through establishment of small and medium enterprises;
- To transform agriculture from subsistence to commercial orientation through diversification and realization of comparative advantage; and
- To expand opportunities for overall economic transformation by creating rural income generating activities and satisfying other preconditions of agricultural development.

5.2.4 Policies related to Land Resources

One of the important obligations of the State with regard to any right is the obligation to protect. The obligation to respect, protect and fulfil the Right to Food, as stipulated in the ICESCR, would, in the Bhutanese context, have much to do with right to land and security of tenure. The State fulfils and facilitates the rightful ownership of land through a digitized land record database and cadastral mapping, legally acknowledging and registering the boundaries of individual plot owners. Importantly, agricultural land is predominantly privately owned of which nearly 95 percent are in the small and marginal category. However, the State regulates ownership, purchase and leasing in of land through policies and legislations that place ceilings on holding size of large land owners, overviews rental structure and provides security of tenure.

The Government's recognition of private ownership of land and designing a system to ensure small farmers pursuing agricultural activities may be taken as an indication of the State respecting and protecting the Right to Food. The most notable development is the abolition of the serfdoms in the country during the early 1950s by the Third King of Bhutan, which for decades has denied ordinary people access to land. Similarly, maintenance of land record system and its usage by judiciary in guaranteeing ownership rights to marginal farmers, despite its numerous inadequacies, have proved to be extremely important in this context. Furthermore, legislations pertaining to security of tenure have played a major role in protecting access to land.

Against this backdrop, the 87th National Assembly (the highest decision making authority in the country) decided to upgrade the land institution from a departmental status within the

Ministry of Agriculture to an independent non-sectoral Land Commission with a set of specific mandates. The newly formed National Land Commission functions as the competent authority and is governed by the National Land Acquisition and Allotment Committee (NLAAC).

The Land Act of Bhutan 2007 taken from the earlier 1979 version guarantees the right of ownership of land and security of tenure to every citizen in the country. It provides for legitimacy for the inheritance of land and protects the land tenure rights to property. Registration or recording of land with the government by an individual gives credibility to property rights and acknowledges the rights of the individual farmer over land that he had traditionally cultivated. The same law also changed in-kind tax payments to cash. It further sets out a comprehensive framework for regulating tenants' holdings and imposes ceilings on landholdings. The act is envisaged to manage, regulate and administer the ownership and use of land for socio-economic development and environmental well-being of the country through efficient and effective land administration, equal opportunity to land, facilitation of the operation of the land market, effective use of land resources and conservation of the ecosystem.

In the past, a portion of agricultural land was lost to other infrastructure related developmental activities. Now to further curb the loss of agricultural land, the government started working on various aspects of land reform, resource tenure, and swapping of marginal or fragile land, which are likely to be implemented in conjunction with the 10FYP.[49] Furthermore, in order to protect and enhance agricultural production, the first land management campaign has been undertaken starting from the eastern Dzongkhag of Lhuentse, Trashigang in 2005 followed by Trongsa and Mongar in 2006. Such initiative has been undertaken in partnership with local communities and Dzongkhag officials.

The drive for national food security especially with the 60 percent self-sufficiency in major cereals aimed at increasing availability will gradually reduce the risks of seasonal hunger and chronic food security in some of the Geogs as mentioned in the earlier sections. A nationwide cadastral survey has been initiated as an initial step towards meeting that objective in addition to addressing past survey inadequacies to improve and facilitate land administration.

Land holdings are fairly evenly distributed in the country but fragmented with small parcels of land in different locations. The majority of the farmers own limited land with around 33 percent of farming households owning less than three acres. In fact, more than half of the total farming households (55.7 percent) own less than five acres each, accounting for one-third of the total agricultural land (UNDP 2005). The actual operated agricultural area is 104,710 hectares out of which 21 percent is wet land, 43 percent dry land, 27 percent is under shifting cultivation, 8 percent consists of orchards and one percent is cultivated as kitchen gardens. Further, the farming communities have user rights over 7,181 hectares of *sokshing* (forestland) and 171,296 hectares of *tsamdrok* (natural pasture).

While around 59 percent of rural households own and operate wet land, the distribution of wetland is highly skewed with about 71 percent of the total wet land available in Bhutan

[49] United Nations Bhutan, Bhutan Common Country Assessment Report 2006.

being located in the rice growing Dzongkhags of Paro, Samtse, Punakha, Wangduephodrang, Tsirang, Dagana, Sarpang and Trashigang. Furthermore, 65 percent of the total wet land acreage consists of holdings of less than five acres which are spread across the country. About 87 percent of the rural households own and operate 45,200 hectares of dry land. Two-thirds of it exists in Chhukha, Samtse, Tsirang, Dagana, Sarpang, Mongar, Trashigang and Samdrupjongkhar.

The newly formed National Land Commission has been commanded to complete a nation wide cadastral survey rightly measuring farmers land and addressing past measurement deficiencies.

5.2.5 Rural Infrastructure Development Policy

With accessibility as one pillar of the 'triple gem' approach, the Ministry of Agriculture as of June 2006 had completed 484 km of farm roads, 71 km of power tiller tracks and 4,300 km of mule tracks. This brought Bhutan's road network to 4,545 km, including 1,556 km of national highway and 597 km of farm roads (Department of Roads, 2007). Road length has increased by 67 per cent since 1987, with more than 249 bridges and 366 suspension bridges (triple the number in 1987). The main road consists of the east–west highway connecting Thimphu with Trashigang and four north–south highways running from the Himalayas down to the Indian border. Although this network connects all districts, some areas are accessible only by mule, horse or yak (Tobgay and McCullough, 2008).

The RGoB is engaged in improving access to markets and marketing facilities through the construction of farm roads and other marketing infrastructure, such as post-harvest storage, primary processing facilities and weekend markets. Efforts to improve the economic efficiency of production and marketing have included facilitating the formation of cooperatives and farmer associations. Improvements in marketing, the third 'gem', have centered on developing services and capacity. However, many hurdles must be overcome before Bhutanese products can compete more readily in the bigger markets of India and Bangladesh. In general, Bhutanese agriculture is not competitive compared to Indian products, resulting from high production and transaction costs, in part an outcome of the shortage of labor in the rural areas willing to engage in agricultural activities. Bhutan has relatively high labor costs and most labor is performed by contracting Indian laborers at a lower wage rate than the national standard (Ibid).

5.2.6 Bhutan Water Policy

With respect to the legal framework governing water resources, no one Ministry appears to shoulder the responsibility for governing and managing water resources. This is an important lacuna in the administrative and legal framework, particularly given the problems that have arisen with respect to glacial lake outburst and downstream water harvesting and utilization.

Despite traditional water user rights, the legal status of water resources and use is quite unclear with no singular law specifically focusing on water except for the recent Bhutan Water Policy document. The policy document outlines priorities regarding the use of water

including: 1) drinking and sanitation, 2) irrigation, 3) hydropower, 4) industry. Therefore, priority of water for agriculture is next only to human consumption, reflecting the importance of irrigation and food production. In agriculture, one of the main priorities is to increase water use efficiency for higher crop productivity. Not surprisingly, the document emphasizes "more crops per drop" and more efficient field use.

The Bhutan Water Policy (2003) reports that 78 percent of households in the country have access to safe drinking water. Although the State has the right to regulate the use of water resources, the draft Water Act ensures a broad based water management taking into consideration all the stakeholders. The National Environment Commission (NEC) has been given the authority on effective water resources management at the national level.

The draft document seeks to ensure sustainable use of water through uniform and consistent laws with a provision on water sharing rights. However, if such practices result in partial or incomplete exclusion of the needs of some users, the Ministry of Agriculture will redistribute the water rights. Such provision is expected about equity in water use and rights.

The urban coverage of 80 percent is slightly higher than the rural coverage of 78 percent.[50] Variations exist in the coverage of rural water supply among the 20 Dzongkhags ranging from a low of 65 percent to a high of 98 percent for the year 2000. Low coverage occurs in some of the populous districts such as Trashigang, Samdrupjongkhar and Sarpang Dzongkhags and also in some of the sparsely populated remote Dzongkhags such as Gasa, Zhemgang and Dagana.

The 10th FYP recognizes water as an important component for human sustenance with direct linkages to poverty. Within the Department of Agriculture, National Irrigation Policy (NIP) has been formulated since 1992 for a sustainable approach to irrigation involving the active participation of water users and farmers. With NIP, the water user association (WUA) was introduced as a vehicle for the participation of beneficiaries in the construction, renovation and maintenance of irrigation canals (Brand & Jamtsho, 2002).

Traditional water user associations still exist in most parts of the country with farmer households taking turns or agreeing to a rota to irrigate paddy fields using the same water source. This is because all households cultivate their paddy fields at almost the same time and in order to prevent conflicts over use of water from the irrigation channel and to ensure that every household gets its fair share of water. Water equity is monitored by a *Chupon* who initiates and implements the rota system for sharing water rights. In order to prevent conflicts between the groups due to violation of the rota, punishment has been fixed for the violators. In recent times, violators are taken to court and penalties are accordingly passed based on a written law.

[50] UNICEF (2002) pp17-19

5.2.7 Programmes

Right to Food Guidelines 13: Support to vulnerable groups – 13.2 States should (...) undertake disaggregated analysis on the food insecurity, vulnerability and nutritional status of different groups in society, with particular attention to assessing any form of discrimination that may manifest itself in greater food insecurity and vulnerability to food insecurity (...). 13.3 States should establish transparent, non-discriminatory eligibility criteria in order to ensure effective targeting of assistance, so that no one who is in need is excluded, or that those not in need of assistance are included. Effective accountability and administrative systems are essential to prevent leakages and corruption. (...)
Right to Food Guidelines 14: Safety Nets – 14.1 States should (...) establish safety nets to protect those who are unable to provide for themselves.

5.2.7a School Feeding Programs

School feeding programs have been significantly expanded in the past years. Such provision has been made possible from support from WFP and other developmental partners like US Aid, Aus-Aid and the Japanese government. This intervention is of significance not only from the point of view of child nutrition but also as a pointer to the scope for further action in this field. Benefits from providing cooked mid-day meals in schools firstly boost school attendance; second they protect children from class room hunger and also enhance child nutrition, if the meals are nutritious. Thirdly, the mid-day meals contribute to social equity, in several ways by teaching children to share a common meal irrespective of social class and economic status, acting as a form of income support for poor households.
WFP has been actively supporting school feeding programs in Bhutan by providing nutritious meals for school children, particularly those from rural families and vulnerable to food insecurity. It addresses short-term hunger faced by children living far away from schools and reduces the financial burden on poor rural parents, it also assist in alleviating certain micronutrient deficiencies, while contributing to an overall improvement of school enrolment rates and attendance. In 2007 alone, WFP delivered 3,569 metric tons of food to 197 schools located through out all the 20 districts in Bhutan. This provided nearly 11.48 million meals to over 41,000 students (UNDP Development Newsletter of Bhutan, Vol. I Issue III, 2007). Existing WFP programs are directed at improving nutrition of school children in food insecure districts, and food for work for the road workers who live in particularly under harsh physical settings and subsist on low income. WFP is continuing with 42 percent of the Geogs in the country receiving support from the school feeding programme and around 2 percent of road construction workers benefiting from the food for work exchange programme (MoA, 2005b). Gasa, Bumthang, Lhuentse, Mongar, Pemagatshel, Trashigang, Trashiyangtse, and Zhemgang are the districts where 80 percent of the Geogs received food aid through the school feeding programme. Food aid[51] constitutes only a small proportion of Bhutan's current food gap and is not intended to try to close it.

The procurement of local foods has long been seen by WFP, host governments and operational partners as a tool for promoting rural development and alleviating poverty. The government and WFP have identified milled maize (*kharang*), which is presently provided by the school feeding programme, as an item which has great potential to be locally procured from rural Bhutanese farmers. According to the Department of Agriculture, Bhutan has an

[51] The first food aid to Bhutan was received in 1962 from India in association with the establishment of the armed forced services, where the newly recruited soldiers and policemen were the main recipients of food aid.

annual surplus of 1,800 MT of maize and of this, around 400 MT are needed to fulfil the needs of the RGOB/WFP school feeding programme. In 2006, WFP procured 18 MT of local maize for the school feeding programme. Over the next three years, WFP hopes to increase the procurement of local maize before handing over responsibilities to the government in 2010.

United Nations Children Education Fund (UNICEF) is another multilateral agency mostly involved in installing improved rural water supply and sanitation facilities in schools and up-scaling programs to eradicate micronutrient deficiencies among school children. In the last two decades, UNICEF assisted the government to establish 1,760 rural water supply schemes and build 4,000 latrines. Based on past experiences and lessons learnt, UNICEF in its new country programme (2008-2012) aims to support the government in reaching the un-reached population in an effort to wash away water and sanitation related disease, and thus contribute to poverty reduction (Ibid).

5.2.7b Food and Nutrition Programme

Recognizing nutrition as one of the important components of the Right to Food, the State continues to make efforts to ensure that dietary needs of all Bhutanese are adequately satisfied respecting cultural values in different communities. The National Nutritional Manual has been formulated keeping in mind four basic prerequisites that are necessary for adequate nutrition for the population. The basic conditions required are food security, adequate care for children and mothers, access to basic health services, and a healthy environment. Nutrition interventions are based on a national action plan and to reduce levels of moderate and severe malnutrition. Actions and programmes are linked with other national programmes to promote adequate household food security, accessible to health services, a healthy environment and proper child care.

Some of the ongoing efforts listed below are undertaken to improve and promote the health and nutritional status of the Bhutanese population:

To encourage vegetables in the Bhutanese diet, collaborative efforts have been geared together with the Ministry of Agriculture and the country office of the United Nations International Children Education Funds (UNICEF) by demonstrating home kitchen gardens among villagers. Subsidized vegetable seeds are distributed to farmers, community schools, and village health workers through seed commission agents. To protect the right of women to breast feed their children, a breast feeding policy has been approved by the government[52]. As stated in the manual, the policy lays down certain articles which encourage women to breast feed their infants exclusively during the first three month of life.

In order to address issues of poor health and malnutrition in some parts of the country, the Community Based Nutrition Programme (CBNP) was formulated in 1996. The programme aims at targeting communities through assessment, analysis and interventions. It has proven beneficial with remarkable health and nutritional improvements among populations where CBNP has been tested. For instance, in the last five years (2002-2007), infant immunization

[52] National Nutrition Manual 2003. Public Health Division, Ministry of Health.

has reached 90 percent as a result of sustained expanded programme on immunization (EPI), underweight has declined from 19 percent to 9.4 percent and the rate of newborns that have low birth weight has been recorded at 8.5 percent against the target of 12 percent (Health Sector Review, 2007). Likewise, rural water supply scheme coverage reached 85 percent.

5.2.8 Conclusion

The above discussion draws attention on the issue of food security in Bhutan, and frames the issue within the human rights framework, in which food security must be understood at the individual and household level. It is true that the government has made considerable efforts to promote domestic food production, but these efforts are of doubtful sustainability and effectiveness in keeping pace with the change in Bhutan's agriculture sector and increasing food demands not being met through domestic production. Impressive progress has been made in reducing vulnerability, particularly by increasing levels of production to be self reliant; this is clear with the reduction in poverty from 33 percent in 2003 to 23.2 percent in 2007. However, measures to further improve food security and alleviation of poverty to ensure a sustainable and consistent improvement in access to food must carry on, particularly pertaining to agriculture and rural development.

The emphasis on national food security strategies has become a response to ease public fears of not having enough food in the country especially in emergency situations, but the legal right of individuals to food is yet to be addressed in public discourse. The perception of the Right to Food in Bhutan has significant implications. Firstly, without scrutinizing what the Right to Food encompasses, the government's efforts to boost domestic food production or import, address only the element of availability, which does not necessarily imply that each person will secure a fair share of the national food basket. Second, national grain reserves are an important element in ensuring food security and protecting the Right to Food. Given that the national grain reserves are the last resort for emergency food supplies, or to stabilize food prices, it is important to strengthen the institution for effective implementation. This includes the mechanism of the Natural Disaster Management Committee and the distribution networks and storage capacities of the Food Corporation of Bhutan. The government has noted the need to reform the existing stock system especially with the regional SAARC food bank initiative discussed in the recent 15th SAARC meeting in Colombo, August 2008.

5.3 Institutional Framework and Social Inclusion

Right to Food Guideline 5: Institutions – (5.1) States, where appropriate, should assess the mandate and performance of relevant public institutions and, where necessary, establish, reform or improve their organization and structure to contribute to the progressive realization of the right to adequate food (...). (5.2) (...) States may wish to ensure the coordinated efforts of relevant government ministries, agencies and offices. They could establish national inter-sectoral coordination mechanisms to ensure the concerted implementation, monitoring and evaluation of policies, plans and programmes. (...) (5.3)

States may also wish to entrust a specific institution with overall responsibility for overseeing and coordinating the application of [the Right to Food Guidelines] (...)

Enjoyment of the Right to Food by everyone depends on the proper functioning of a great deal of institutions. Breakdown in production, distribution and pricing, information, management and general poverty may all increase the incidence in food insecurity and eventually lead to food insecurity and hunger. Government policies and institutions that influence and control these factors are myriad. It is therefore important to clarify responsibilities and accountabilities. At the international level it is clear that the State is accountable, but international law does not say which ministries or institutions could be held to account at the national level. The only solution to this problem is national legislation that identifies the agency at all levels (i.e. identifies who is responsible at what levels).

The following are some of the institutions that facilitate the progressive realization of the Right to Food in the country.

5.3.1 Dzongkha Yargey Tshogdu (DYT) and Geog Yargey Tshogdu (GYT)

To facilitate local development initiatives and programs, the DYT and GYT were established in 1981 and 1991. Both are community-based institutions and comprise publicly elected office bearers. The district offices along with the central agencies namely the Department of Local Governance provide policy guidance, technical oversight and backstopping to the two grass root institutions. However, national prosperity hinges on quality and effectiveness of governance and it in turn hinges on the quality of leadership.

The country has accorded high importance to the development of institutions and its capacities required to develop infrastructure and services to promote the well being and increase the people's standards of living especially among the less fortunate group. Efforts have been initiated for the establishment of decentralized systems of decision-making that serve to empower local communities such as the DYT and GYT mentioned above. Such institutions have allowed people to assume greater responsibility for the development of their communities, to participate in decisions that have a direct bearing on their lives and livelihoods and the future of their families and communities. Additionally, such initiatives have not only started the democratized processes of decision-making in development but have also significantly enlarged the horizons and opportunities of communities that were formerly isolated and remote from the mainstream of socio-economic development.

The DYT and GYT have been entrusted with the responsibility to ensure the obligations of the basic needs in terms of developmental activities satisfied by providing enabling legislative environments like the DYT and GYT *Chhatrims*. The decentralization process, initiated by His Majesty the King, was conceived and designed by empowering the people to take decisions on their plans and programmes, concerning how their Dzongkhags and Geogs should be developed. Subsequently, the powers of DYTs and GYTs have been significantly expanded with greatly enlarged opportunities for people and households, both directly and through their elected representatives, to influence the decisions that have a bearing on their lives, livelihoods and the future of the nation. This process has empowered local communities to discharge new roles and responsibilities and has given new dimensions to

traditional concepts of representation and democracy. Complaints on any violations including the Right to Food can be directed through the GYT and DYT or directly by filing a law suit in the district court evoking articles of violations from legal instruments such as the Land Act, GYT and DYT *Chhatrim* 2002. All these changes will have been accompanied by the implementation of measures that will have deepened and broadened the system of managerial and financial institutions, with the creation of new mechanisms required to mobilize capital and resources to further the realization of the right to adequate food.

Box 1 - Procedures to launch formal complaint from the village level to highest judiciary authority.

A complaint of any sort can rightfully be lodged to the geog Gup through the Tshogpa in both written and oral. The Gup office working at the people level facilitates mutual settlement(s) of conflict or disagreement between the two parties. If parties do not agree to this mutual and amicable understanding initiated by the Gup, the case is referred to the district court, whereupon the complaint(s) submit a written application to the court registrar. Depending on the case schedules, parties shall be summoned for court hearing – an opportunity to express ones grievances and dissatisfaction against a person(s) or institution(s). If one is not satisfied with the verdict from the district court, he/she can appeal to the High Court.

Any private individual or a group of individuals, community or NGOs that believes itself to have been directly or personally a victim of violations of fundamental rights can directly submit a complaint in the form of a legal case before the local authorities and through them their grievances can be brought before the Supreme Court and after exhausting all complaint remedies it can even be submitted to His Majesty the King via a written application. As an instrumental recourse mechanism, a systematic legal process is institutionalized with the establishment of the GYT and DYT, the District Courts, High Courts and the Monarch.

Box 2 - The Legal Process and Complaint Mechanism

Individual or group of individuals can submit their complaint through the Court Registrar after showing all local remedies have been exhausted except where these do not provide due process or unreasonably prolonged or where access is denied.

If a complaint is deemed admissible, the district court first encourages the parties to reach a friendly settlement through a confidential process. Offers, concessions and communications made in this context cannot be referred to or relied on in any formal court proceedings that may follow. If agreement proves impossible, the Court will proceed to consider the case on its merits. It may adopt any investigative measure it considers would help clarify the facts, including written evidence and public hearings. The back log of cases means that it can take some waiting time before the Court begins to examine a case, although urgent cases (e.g situations of imminent physical danger for an individual) can be expedited.

Depending on the gravity of the case, the decisions and judgements are adopted either by a single member or Division Bench or a majority of sitting judges. A party can request an appeal of the interpretation of the decision within 10 days. Either party can approach the High Court if verdicts passed from the District Court are found unsatisfactory.

For example, a person can invoke legal instruments starting from his community or local authorities. Here, he/she can file a written complaint to the village headmen or Gup, who refers him to the district court if he does not succeed after attempting to solve the case at the community or Geog level. The complainant can be further appealed to the High Court if he/she is dissatisfied with the verdict passed by the district court. The person if unsatisfied with the verdict from the High Court can still appeal to His Majesty the King. The Office of the Drongyer and Gyalpon Zimpon assesses the admissibility of the case based on the application and any further written submissions and documents it may request from parties. Once the parties are deemed necessary for audience, an appeal for audience with His Majesty the King can be channeled through a written request to the Office of the Royal Secretariat.

5.3.2 Gross National Happiness Commission (GNHC)

The Gross National Happiness Commission has evolved since the first socio-economic development plans in 1961. The Commission is entrusted with timely implementation of the country's development plans according to specified objectives and priorities. Unlike the past plans that addressed poverty and food insecurity reduction mainly through broad sector programmes, the Tenth Five Year Plan is better served with targeted poverty reduction programmes, which are soon to be implemented either directly by the government or in collaboration with NGOs and other organizations that have the expertise and mandate to help the poor and the vulnerable. The level of priority to be given to the realization of the Right to Food is higher vis-à-vis other spending. For instance, in the 10th FYP a more focused targeting plan is to be carried out to provide benefits directly to the poor, based on a good understanding of localized poverty and development conditions in the various Dzongkhags and Geogs. The new planning approach also incorporates the principle of allocating local government resources based on a formula that includes various criteria such as resource

endowment levels and poverty incidence. This rationalization of resource allocation is expected to help direct more resources to the poorer and more vulnerable areas and communities in the country. It is with the clear and unambiguous aim of achieving equitable socio-economic development that the 10th FYP has adopted poverty reduction as the overarching theme and primary goal.

Given the rural, pocketed and multidimensional nature of poverty, the GNH Commission has adopted a two pronged strategy to reduce poverty. One strategy is the continual use of conventional poverty reduction programmes implemented at the national level and the other in the form of targeted poverty reduction programme implemented at the local, community or regional levels. The first approach seeks to address the causes and factors contributing to poverty at a national level using mainstream sectoral programmes that benefit the poor through the provision of basic education, primary health care, nutrition and family planning, water and sanitation, and shelter. The targeted approach aims to work directly in partnership with those living in or vulnerable to poverty that faces limitations in reaping the benefits of mainstream development programmes. Both approaches compliment each other in the sense that the targeted programme will make up for the limitations of the conventional programmes. Targeted approaches are in the form of programmes and projects developed in partnership with the people at the grass root levels mainly to identify their problems and seek solutions. However, the main issue at the Geog level is the lack of technical and human capacity to participate effectively in the development activities.

One of GNHC's main responsibilities is the obligation of coordination between and among ministries and donors. Such coordination is also with other parties within the country including NGOs, individuals and other national institutions.

5.3.3 Government Ministries

Efficient delivery of public service is one of the key parameters of good governance, and good governance is one of the important pillars of GNH. In line with this and bearing the official responsibility for 'food security', the MoA continues to provide dedicated efforts towards enhancing progressive realization of the right to adequate food through improved agricultural practices such as increased food crop production in rural areas, research and extension, proper soil management, farmer training, irrigation canal construction and farm road construction. The MoA is working hard towards increasing availability and accessibility of food in remote isolated areas, whilst nutrition and utilization of food is primarily coordinated with the Ministry of Health and Ministry of Education.

As a distinct method to fulfil obligations to provide, the Ministry of Agriculture in collaboration with other stakeholders, ensures adequate distribution of land resources for crop and other agricultural practices. This has been implemented by the newly established National Land Commission Secretariat. The Land Act protects the rightful ownership of land resources. To ensure Right to Food, no individual or organization or institutions are permitted to convert rice growing wet lands to any other land category. The obligation to respect is adequately fulfilled by the Ministry of Agriculture and National Land Commission through the provisions of securing agriculture land for no other use or purpose.

Furthermore, the Land Act of Bhutan 2007 taken from the earlier 1979 version guarantees the right of ownership of land and security of tenure to every citizen in the country. It provides for legitimacy for the inheritance of land and protects the tenure rights to property. Registration or recording of land with the government by an individual gives credibility to property rights and acknowledges the rights of the individual farmer over land that he had traditionally cultivated. It further sets out a comprehensive framework for regulating tenants' holdings and imposes ceilings on landholdings.

5.3.4 Food Corporation of Bhutan (FCB)

A public distribution system in line with the dual track philosophy of the Global Anti-Hunger Programme - an institutional framework concerning food procurement and distribution was set up in 1974. In accordance with good governance principles of ensuring fair and equitable food distribution, the government promotes safety net policies and programmes to ensure that people have access to food at all times. Another reason for setting up FCB was a response to the difficulty in acquiring emergency food supplies for drought-stricken areas in the early 1970s. In addition, the government wanted a body to minimize the problems of price fluctuations by farmers in marketing cash crops and to facilitate the supply of imported food stuffs to increasing number of non-nationals labor force engaged in infrastructure development.

The only parastatal food distribution agency is responsible for four main functions: to procure, secure and maintain adequate flow of essential food reserves for meeting emergencies, the import of food items for marketing at controlled prices, the storage and distribution, and auctioning of cash crops assisting the farmers. FCB's distribution of food increases the quantity supplied but has a vital indirect effect in stemming the prices of similar commodities and keeping the food prices competitive in the open market. However, FCB does not monitor the impact of its food distribution on nutrition or sustainable access to food for vulnerable groups.

FCB a State owned corporation, continues to be a key player in food distribution across the country especially in rural areas through a network of outlets or fair price shops. FCB operates a support price system both for food grains and cash crops while at the same time operating a public distribution system (PDS). At the beginning of each crop-year, FCB sets support prices at which it will purchase any amount of produce offered. It also looks after management and distribution of cereals on behalf of WFP, management of a security reserve of cereals. FCB, with over ninety-nine fair price shop agents retailing FCB products, is the source of food in times of food shortages (UNDP 2005).

FCB is also mandated with maintaining food security reserves and maintains the country's strategic grain reserve amounting to 100 metric tons of rice and 80 metric tons of wheat as its contribution to the South Asian Association for Regional Co-operation (SAARC) reserves, though this requirement has so far not been implemented. In the recent 15th SAARC Summit in Colombo (3-4 August 2008), it was decided to establish a SAARC Food Bank in the region where Bhutan expressed full support. FCB has 56 storage facilities at 24 different locations across the country with a total capacity of about 13,000 metric tons. Many of these facilities have been renovated, and in some cases upgraded. While storage losses have been reported

very high in the past, they have now been reduced to about 0.5 percent of the annual turnover.

Another important function of FCB is the management of auction centres for horticultural exports. Auction yards were introduced to facilitate marketing of farmers' produce and to ensure fair prices to both producers and buyers. FCB is also mandated with the responsibility of meeting food supplies of emergency nature. Food needs to be delivered immediately during the time of crisis and unless supplies are stocked, response to emergencies could become slow. The institute maintains a reserve stock of 1,400 metric tons of rice, 200 metric tons of sugar and 58 metric tons of edible oil to be available for immediate use through the National Disaster Management Committee[53]. In general, the monsoon is a difficult period when food supplies get disrupted due to landslides and road blocks. FCB responds to such crises by holding strategic grain reserves in locations where they are most likely to be needed.

5.3.5 National Disaster Management Committee

The government has set up a Comprehensive Food Security Policy, in collaboration with World Food Programme and Food and Agriculture Organization and also institutionalized the National Disaster Management Committee. This policy is important because it outlines the responsibilities of the government agencies in assuring the different elements of food security: availability, access and utilization. Thus the government maintains public food grains stock with FCB to respond quickly to emergency situations.

The government has been consciously working towards devising an appropriate national disaster risk management framework to secure and safeguard the lives and livelihood and its national development assets. In the light of the above, the government is making systematic efforts to move towards adopting a strategy of holistic disaster management involving and encompassing every administrative wing as well as the common people to inculcate a set of disaster prevention, mitigation and preparedness response capabilities at all levels of administration and among the common people. Institutional mechanism has been established, with the Ministry of Home and Cultural Affairs as the focal agency at the national level. The Department of Local Governance is entrusted to coordinate all disaster management activities and will provide the overall guidance and direction on a regular basis for efficacious implementation of different initiatives. The committee is chaired by the Prime Minister of the country.

Within the overall policy support towards the Right to Food is the national disaster management programme that forms an essential part of planning for food security, given the great risks of seasonal food insecurity. The National Disaster Management Programme (NDMP) has three main components in its framework: institutional, legislative and policy. The objective of this component is to design and implement an appropriate institutional and legislative framework for disaster risk management in the country. The NDMP framework envisages the development of a holistic approach designed to manage disasters in a more proactive basis involving various sectors. It is felt that a strong disaster management system should be in place so that the sectors will be fully accountable in the long run.

[53] Conforms to the directives issued by the Royal Government in 1999.

As a key principle, the national disaster management programme forms an essential part of planning for food security, given the great risks of transitory food insecurity, created by floods, droughts or other disasters. The upcoming 10th FYP has proportioned Nu. 40 million (US$ 0.9 million) to establish an effective and an efficient disaster risk management mechanism in the country.

5.3.6 National Commission for Women and Children (NCWC)

One of the instruments protecting women's Right to Food is through the establishment of the National Commission for Women and Children (NCWC) in 2004. Recently, the Cabinet approved NCWC as an autonomous agency (Bhutan Times, August 10, 2008). This directive was to institute a structure that would spearhead the fulfilment of the obligations towards meeting the Convention on the Elimination of All Forms of Discrimination against Women and the Convention on the Rights of the Child. Considering people's overall access to food is very dependent on the work of women, such initiative indirectly translates to assuring a happy and well-fed society. The Commission also facilitates poor rural women to avail education and employment for assuring their own food security and that of their families.

In line with CRC, Bhutan recognizes the right of the child to the enjoyment of the highest attainable standard of health through prioritizing collaborating efforts with line Ministries such as the Ministry of Health, Ministry of Education and the Ministry of Agriculture. The Constitution under Article 9.16 grants free education to all children of school going age up to the tenth grade.

NCWC is now the premier institution responsible for the overall coordination and monitoring of activities related to women and children, various agencies/committees/focal persons have been given similar responsibilities in the past. A forum of gender focal points in different ministries has been established and the then Planning Commission Secretariat was appointed in 2001 as the focal point for coordinating gender matters in the country. Complaint and response mechanism are institutionalized through the creation and construction of a Women and Child Protection Unit (WCPU) within the Royal Bhutan Police centre, and, training in counselling in women and child friendly investigation procedures services are also provided. For example, complaints that are criminal in nature are dealt by NCWC in coordination with the Royal Bhutan Police through WCPU.

5.3.7 The Anti-Corruption Commission (ACC)

With the rapid pace of economic development in the country, there have been changes in the thinking of the people with the influence of self-interest leading to corrupt practices taking place in both the government and the private sector. Further, with the establishment of parliamentary democracy it has become vital to curb and root out corruption. Keeping this in mind, the establishment of the Anti-Corruption Commission formally came into existence on January 4, 2006. Within this framework, if there are any violations against ones Right to Food in terms of the obligation to provide, protect and respect, the Commission is empowered to bring to justice the perpetrators. The Office of the Attorney General (OAG) is one of the main implementing agencies.

As part of international alliances, Bhutan became the 28th member of the ADB-OECD Anti-Corruption Initiative for Asia-Pacific on September 3, 2007, at its 10th Steering Group meeting in Indonesia. In an effort to support governments in their anti-corruption endeavours, ADB and OECD established the initiative in 1999. It brings together all social partners involved in the fight against corruption in the region and the international community.

Box 3 - Complaint mechanism within the Anti-Corruption Commission

Complaints can be launched through post, email, fax, walk-in or the through the complaint page from the website (www://anti-corruption.org.bt). A complaint may be made orally or in writing, if in writing then it should be signed with proper name and address or anonymously.

The commission thereafter reviews the facts and evidence provided and accordingly, investigations will be carried out as per the provisions of the Civil and Criminal Procedure Code of Bhutan. The Commission ensures the protection of the identity of the informer and his/her identity is safe guarded.

For any query, grievances or complaint, the OACC can be contacted by providing ones correct contact details for enabling a speedy redress. OACC related administrative services grievances are acknowledged on the same day and action taken are communicated within a week under normal circumstances. If the official fails to revert to the complainant within a week, the Commission should be informed at;

Tel. at 00975-2-334863/64/66/67/68/69336407/08, Fax No. 00975-2-334865

Source: OACC website

5.3.8 Kidu welfare office of His Majesty the King

Right to Food Guideline 14: Safety Nets – (14.1) States should consider, to the extent that resources permit, establishing and maintaining social safety and food safety nets to protect those who are unable to provide for themselves. (14.3) (...) States should (...) ensure that they adequately target those in need and respect the principle of non-discrimination in the establishment of eligibility criteria

Kidu is a unique Bhutanese State welfare grant provided only by His Majesty the King to the people. *Kidu* is granted to the landless peasants trapped in dire poverty or to the weak and destitute groups who cannot fend for themselves and others with similar destitute associated vulnerabilities. A person appealing for the *Kidu* welfare must qualify to fit within the criterion of being (i) Disabled, (ii) Landless, (iii) Destitute and needy with zero income, and (iv) unfortunate children with no source of income to attend school.

A three tier approach to *Kidu* is being instituted by the Office of the Gyalpon Zimpon. The first tier provides monthly cash handouts worth Nu. 800 to enable minimum power to purchase food and other necessities. The second tier looks at long term sustainability and provides land to the landless after careful evaluation on the capability of household productivity factors. And the third tier provides educational endowment funds to the destitute children. At the time of writing, a total of 1,100 destitute children received cash transfer and 300 senior citizens receive cash grants. Likewise, plans are proposed to

distribute agriculture land to the landless inhabitants of Sha Beldrog in Wangduephodrang Dzongkhag.

Similarly, in the past, *Kidu* came in many forms such as free allotment of land to the landless, informal livelihood security grants in the form of cash endowments to families or individuals who do not have any other means of survival, subsidized or free timber for house construction, education scholarships including monthly stipend, reassured justice to those who are dissatisfied with the verdict passed in district and high courts, and many more in varying scenarios. At the community level, *Kidu* came in the form of prioritized developmental activities (e.g. road construction, electrification and drinking water infrastructure) through immediate implementation with prioritized financial guarantee.

Kidu welfare system is an important implementation component of the National Disaster Management Committee under the Department of Local Government. *Kidu* welfare is channelled, processed and granted through the office of Gyalpon Zimpon and Zhung Drogyer. The office of the Gyalpon Zimpon works according to the highest standards, ethics and integrity with utmost priority to elevate the weakest and the most vulnerable members of the society, keeping in mind that the poorest population group and most deserving of *Kidu*. The office is headed by the Gyalpon Zimpon along with six Deputy Zimpons. Programme implementation in the Dzongkhags and Geogs are facilitated by the *Kidu* coordinator stationed with the Dzongkhag administration.

According to press reports, (Kuensel and Bhutan Times, May 2008), when a wind storm hit the eastern region of the country, *Kidu* grants were rushed immediately to all the 501 damaged houses in the districts of Mongar, Zhemgang, Trashigang, and Pemagatshel. Rations and tarpaulins were supplied to the affected families including cash compensation worth Nu. 5,000 (US$ 119) as cash *Kidu*. In addition, 30 percent of the cost of damage of the houses unregistered with the insurance company was borne by the government which also shouldered half the cost of the roofing material (CGI sheets) including free transport. In its present form, the Kidu welfare system is an altruistic and benevolent endeavour with more components of charity and social service rather than a legal obligation.

Box 4 – Kidu Welfare Scheme

29 October, 2007 - In the course of His Majesty King Khesar's many tours around the country, His Majesty has granted kidu to the most vulnerable sections of society including, among many others, the disabled, aged, destitute and also students needing financial aid to attend school. In order to ensure the effective delivery of such kidu to the beneficiaries, His Majesty has instructed Their Royal Highnesses the Princesses to constantly travel and work in various dzongkhags. While Ashi Sonam Dechen Wangchuck is based in Thimphu, Ashi Dechen Yangzom Wangchuck lives in Mongar and Ashi Kesang Choden Wangchuck in Bumthang.

Their Royal Highnesses live with the people in order to evaluate and monitor welfare kidu programmes for destitute individuals and students, both from the perspective of improving the well being of the recipient as well as the system as a whole. Their Highnesses undertake regular visits to remote villages in all geogs in the dzongkhags in order to interact with the youth and rural communities on behalf of His Majesty.

Most recently, HRH Ashi Sonam Dechen conveyed His Majesty's kidu of community land to the people of Beldrok, while HRH Ashi Dechen Yangzom travelled to Merak Sakteng and other areas in Trashigang and is presently in Lhuentse. HRH Ashi Kesang Choden has returned from Sarpang, where she oversaw the allocation of land granted as kidu to households, who had lost their lands in the floods of 2004.

5.3.9 Role of Civil Society Organizations (CSO)

The role of civil society is indispensable in eliminating hunger and poverty. CSOs in Bhutan play a major role in promoting the principles of accountability, transparency, empowerment, non-discrimination and participation. Civil societies in Bhutan are all service providers and try to reach the un-reached areas through various initiatives depending on the particular areas of specialization. But one must keep in mind that the un-reached situation has arisen purely due to remoteness arising out of the geographical terrain and inaccessibility bottlenecks and not by intention or exclusions. Civil society in the form of different community associations and organizations forms an integral part of traditional Bhutanese society, not the design of modern Bhutan. They provide the people with opportunities to participate in taking decisions related to different activities that have a bearing on their day-to-day lives. The new and emerging associations formed by the educated people are really only an extension of the traditional associations. Most of the new or contemporary associations are relief-based, and some act as links between the government and the people.

In the past, civil society organizations in Bhutan existed informally and played significant roles in the economic development and management of communal resources by assuring fair and just access to common properties. For instance the Right to Food is arguably protected informally through the collective social wellbeing of such informal communal groups. The communal system villagers shared agricultural produce with neighbours when struck with misfortune like death in a family, crop failure, natural calamities and other associated misfortunes. Similarly, legal mechanisms functioned well with village elders acting

as arbitrator providing justice and settling disputes in the most amicable manner within a short span of time as compared to settling disputes in the courts.

Gradually contemporary associations started evolving with farmer groups working together, corresponding to small themes of interest to the local community. For example, *tshogpas* (farmer groups) for religious festivals, *tshogpas* for water and forest resource utilization, and the like. Subsequently, with rapid development activities taking place in the country and keeping in line with the policy of decentralization, the State has encouraged the establishment of more formal civil society organizations with the passing of the Non-governmental Organization Act and Cooperatives Act. Civil Society Organizations in Bhutan now includes a diverse range of groups such as welfare associations, religious associations, youth and women groups, alumni and sports associations, environmental groups, artistic clubs, industry and private sector chambers and professional associations.

Some of the important civil society organizations that have emerged around the years are listed below.

5.3.9a National Women Association of Bhutan (NWAB)

Established in 1981 NWAB promotes women participation in decision making and generating farm income activities for communities in the rural areas. NWAB's mission is to empower disadvantaged Bhutanese women to gain greater control over their lives and contribute meaningfully to the best of their potential towards the well being, progress and development of their family, community and the nation. NWAB also works towards assuring gender equality between men and women.

NWAB has introduced programmes like non-formal education and group savings and credit schemes in order to provide opportunities for women to develop skills and generate income. Weaving centers have been established in different parts of the country to train rural women in the age old tradition of weaving. Besides, the women's association engages in buy-back arrangements whereby the products woven by rural women are bought. It has installed several fuel-efficient stoves in rural homes, reducing health hazards resulting from inefficient traditional stoves.

NWAB has initiated income generating and poverty alleviation interventions through project specific approaches. Some of the ongoing projects are as follows;

- Telefood – the core objective of the project is to create awareness on income generating activities in rural areas and raise the living standard of people who come from poor background with less or no agricultural land. Beneficiaries are mainly women-headed families who are disabled.
- Children Welfare scheme - provides education opportunities for underprivileged children who are either orphans or whose parents are too poor to pay for their education.
- Rural Credit and Savings schemes - promotes saving habits among the rural women's groups to create a source of revolving fund for the women's groups for self sustainability of the credit programme. The scope for expansion is tremendous

as there are still hundreds of impoverished rural villages which would benefit greatly from the scheme.

- Women Support Centre - provides emergency shelter for women in need of living accommodation. Provides basic education and awareness programmes on women related issues.
- Free distribution of smokeless stoves - one of the most outstanding activities carried out by the organization was the free distribution and installation of smokeless cooking stoves in the remote rural villages. This has not only converted the kitchen area into emitting lesser smoke resulting to improved health conditions but also reduced the consumption of fire wood resulting out of its efficient heat trapping benefits.

5.3.9b Respect Educate Nurture and Empower Women (RENEW)

RENEW was formally established in 2004, in response to the needs of disadvantaged women and adolescent girls in Bhutan. RENEW hopes to forge a better understanding of gender inequalities at all levels of society by providing support and care services for victims on violence and to enable strategic planning and implementation of activities through research. The organization is making strong initiatives to empower disadvantaged girls and women in Bhutan and integrate them back into their own communities as independent, socially and economically productive members of the society. RENEW envisages being the leading institution in the nation for shaping the role of women in Bhutanese society. The main beneficiaries of RENEW are out of school adolescent girls; disadvantaged women who are victims of domestic violence, women and adolescent girls who are victims of rape or sexual abuse, commercial sex workers, women and adolescent girls who are HIV-positive or victims of drug abuse. Services RENEW renders include HIV/AIDS awareness programs, family planning and safe sex through use of condoms and other contraceptives, shelter homes, counselling services, medical care and assistance in getting legal assistance and community based support systems such as addressing gender-based violence.

5.3.9c Tarayana Foundation

Tarayana Foundation was established in 2003 as a non-profit organization working to uplift and enhance the lives of vulnerable communities in rural Bhutan. The Foundation has been established to help these communities achieve self sufficiency through small and targeted interventions.

Despite the pro-poor development strategy of the government, small communities in far flung areas are still lagging behind. Tarayana foundation complements and supplements the efforts of the government in poverty reduction by espousing the national goal of special measures in support of these disadvantaged and vulnerable groups as well as efforts to ensure that those who have been largely bypassed by the benefits of development are drawn more fully into the mainstream of the development process. Moreover, in terms of the potential for stronger advocacy on specific issues such as hunger, Tarayana supports communities through project funding carrying out basic activities related to food, clothing and shelter.

Some of the main objectives of the organization include helping the poor rural communities become self reliant through fostering rural income generating enterprises and through promoting artisan skills with use of modern technology and training. Sponsoring school education and enabling children from disadvantaged and poor families through small grant supports are some of the few undertakings by the organization. The organization attempts to provide life long security for many disadvantaged individuals through monthly stipends, education support in the form of fees, uniforms, supplementary meal contributions and other associated expenses, which would otherwise have to be borne by the parents and medical care through mobile clinics in partnership with external volunteer associations.

VI. Recommendations

Although not explicitly mentioned in the 10th FYP, the Royal Government of Bhutan has made important progress in realizing the Right to Food. A leadership committed to the welfare of the people; the philosophy of gross national happiness and a culture that emphasises compassion and equality are most conducive to the realization of the Right to Food in Bhutan. However in times of fundamental change with the transition from an absolute monarchy to a constitutional one, the country needed to revisit and assess the existing legal, institutional and policy framework. This report has contributed to this request.

The findings were presented to RGoB on September 18, 2008. The following recommendations are the result of this one-day consultation among Government officials, civil society representatives and UN-agencies.

6.1 Recommendations for the Royal Government of Bhutan

a) Food Security Information

Finding: The 10th FYP prepared by the GNHC includes the food production dimension of food security but is silent about other dimensions. In addition, clear indicators are missing to measure success in decreasing the prevalence of undernourishment. This poses difficulties for the monitoring progress. Specific food security indicators, benchmarks and targets should be included in the 10th FYP and the BNFSSP as part of the food security monitoring process.

a.1 - Recommendation: In addition to the poverty-related GNH indicators, identified in the 10th FYP, a set of indicators that can be used to track and analyse food security should be specified for the monitoring of objectives set within the BNFSSP.

Finding: Aggregated food security data at the national or Dzongkhag level is adequate for identifying priority areas, but is insufficient for implementing targeted food security interventions. It is therefore necessary to obtain a better understanding of the socio-economic characteristics of food insecure and vulnerable households. Improved data will allow the identification of people-oriented interventions and facilitate focus on the most food insecure groups.

In addition, efforts to conduct Geog-profiles by GNHC, supported by UNDP and the *Kidu* Welfare system, should feed into one central food security information system.

a.2 - Recommendation: Continue to improve food security profiling to deepen the understanding of the underlying root causes of food insecurity across socio-economic groups, particularly the most vulnerable and marginalized populations, so to identify target groups for food security interventions. Incorporate food security indicators into the Geog-level profiles being undertaken by GNHC in collaboration with UNDP.

Finding: The lack of adequate food security information in the BLSS 2007 implied serious limitations for the analysis of the food security situation in the country and, subsequently, for providing well-founded advice to policy makers.

a.3 - Recommendations:

- *Continue the regular collection of food security data at household, Geog and higher levels, including information on anthropometrics, health practices, agricultural production, income levels, prices, shocks, food shortages, and coping strategies in order to generate the complete picture of food security of households in Bhutan at various levels.*
- *Prioritize the streamlining of data collection efforts so that information can be linked across sources at levels relevant for policy-making.*

b) Legal Framework

Finding: The Right to Food though recognized, has not been articulated explicitly in any of the legal instruments. For example, the Food Act of Bhutan 2005 makes no mention on the Right to Food while the Constitution of the RGoB includes only broad fundamental rights under (Article 7) and the human right to life (Article 7.1) as well as the provision to promote an adequate form of livelihood. However, these articles only remain implied in many of Bhutan's legislature. Such implicit recognition may lend itself to ambiguities in future interpretation of this basic human right. This shortcoming also speaks against the Government's assertion that the Right to Food is recognized as one of the pillars of social development in the country.

b.1 - Recommendation: Explicitly recognize the Right to Food in the Food Act of Bhutan to eliminate ambiguities regarding its interpretation and ultimately strengthen accountability of the RGoB to its citizens.

Finding: The legal framework of the RGoB encompasses a number of acts and bills (i.e. laws in draft-form) of direct relevance to food security. None of these laws mentions or makes reference to the basic human Right to Food.

b.2 - Recommendation: Review the draft bills of relevance to food security, such as the Food Act and the Essential Services Act, to emphasize the government's role in respecting, protecting and fulfilling the basic human Right to Food, so to ultimately increase policymakers' accountability and incentives to formulate policies that ensure people's ability to secure their Right to Food.

Finding: Government representatives, civil society and the general citizenry are often unaware of existing laws and rules, regulations and procedures, hindering the efficient implementation of laws. In addition, the processes by which an individual could claim his or her Right to Food, if he or she experiences a violation of this right, are not developed.

b.3 - Recommendation: Use existing governmental institutions and services as vehicles for information transmission to ensure that all individuals are knowledgeable of the processes that can guarantee their Right to Food and that they are empowered to utilize those processes.

c) Institutional Framework

Finding: The Right to Food is a cross-cutting concept that requires the inputs of many line ministries, the *Kidu* welfare system and non-governmental organizations. The interdependence between access, availability and utilization dimensions of food security means that in order to achieve food security, a multi-sectoral collaboration and coordination is required. As the main, centralized planning institution, the best Government agency to perform this function is the Gross National Happiness Commission at the national and Dzongkhag level. Entrusting an existing institution with the task of coordinating food security activities and monitoring the food security situation, limits the unnecessary proliferation of institutions, councils and committees for which the necessary technical, financial and human resources would be lacking.

c.1 - Recommendation: Expand the mandate of the GNHC at the national and sub-national level to (1) streamline food security-relevant policies and programs across sectors and (2) assume responsibility for the monitoring of food security targets throughout the realization of the 10th FYP and beyond.

Finding: Multi-sectoral commissions are generally more effective if mandatory reporting to the legislative powers is foreseen. In the case of Bhutan, it would be advisable that the GNHC (with its expanded mandate) would regularly inform the Parliament Committee on Poverty on the efforts undertaken to achieve food security for all. The existing Parliamentary Committee on Poverty could extend its Terms of Reference to cover food insecurity.

c.2 - Recommendation: Expand the mandate of the Parliamentary Committee on Poverty to encompass Food Insecurity, such that it will receive regular reports from the GNHC on the progress- achievements and challenges- in attaining food security.

d) Policies and programs

Finding: The BNFSSP acknowledges its limitations due to the lack of up-to-date food security information. The analysis of the BLSS 2007 data helped overcome some of these limitations and could allow policymakers to refine the BNFSSP and inform the 10^{th} FYP.

d.1 - Recommendation: Use the findings of the Right to Food assessment to update the BNFSSP and the 10^{th} FYP.

Finding: The *Kidu* welfare system plays an important role in addressing immediate, short-term needs by providing an allowance of Nu.800 to impoverished elderly and needy students, granting subsidies to vulnerable and marginalized groups to cover the costs associated with school enrolment and by granting land titles to landless farmers. The RGoB to date has no institutionalized, mainstream safety net or social security scheme to support individuals that are chronically undernourished. Any Government response has to ensure not to undermine the efforts made by the *Kidu* welfare scheme and civil society initiatives.

d.2 - Recommendation: Institutionalize the response to chronic undernourishment in a transparent, non-discriminatory and sustainable manner (e.g. safety nets), respecting existing, traditional systems without creating dependencies on the institutional interventions.

With the incorporation of food security indicators, utilize the Geog-level profiles being developed by GNHC in the targeting of food insecure groups for safety nets and other food-security-related interventions.

e) Capacity building

Finding: The GNHC does not hold adequate technical expertise on food security and nutrition. For the successful expansion of its mandate to function as the coordinative body for food security, the technical and financial, and human resources of GNHC should be reviewed and strengthened.

e.1 - Recommendation: Strengthen the technical and human capacity of the GNHC, through trainings supported by UNCT and other expert organizations/institutions, to effectively undertake its expanded mandate.

Finding: To improve planning, the food security data at the Dzongkhag-level, together with the FAO (FNPP) guidelines on decentralized food security planning, can be used for translating the BNFSSP into decentralized plans at *Dzongkhag* and *Geog* level.

e.2 - Recommendation: Train civil society and government representatives at Geog and Dzongkhag levels on the Right to Food and the food security concept to ensure that these issues are adequately integrated into sub-national development plans.

6.2 Recommendations for the UN Country Team

Finding: Despite the Government's statement of prioritizing food security in their strategies and plans, there is little explicit mention of the concept. In fact, poverty and food insecurity are widely viewed as synonymous, particularly in the 10th FYP. The UNCT can play a vital role in stressing the need for explicitly working on eradicating undernourishment, as well as providing training in specific technical areas (e.g. mainstreaming food security into national and sub-national plans; analyzing food security information, etc.)

6.2a - Recommendations:

- *Provide guidance and technical support on mainstreaming food security and the Right to Food into government action.*
- *Promote capacity building of government officials and civil society representatives on food security assessments and planning at Geog- and Dzongkhag-levels.*
- *Advise RGoB on which food security data to collect and how it should be analyzed.*

Finding: Non-governmental actors are of paramount importance in eradicating poverty and promoting the Right to Food. With the Civil Society Organization Act passed in 2007, non-governmental organizations can now register. It can be expected that these new organizations will require training and guidance for fulfilling their role as proactive stakeholders in Bhutan.

6.2b - Recommendation: Function as a mentor to newly established civil society organizations and advice them on strategic planning, leadership and management, financial transparency, fundraising, media interaction, and other relevant issues.

6.3 Recommendations for other non-governmental stakeholders

Finding: Public participation is fundamental to good governance and people-centered development. Involvement of civil society into sub-national development plans is only fruitful if individuals at Geog-level are familiar with the Government's strategies and programmes that concern them. Individuals also need to master the necessary tools to meaningfully participate in planning exercises.

6.3a - Recommendation: Empower civil society to pro-actively participate in sub-national planning.

Finding: Non-governmental and civil society organizations, such as Tarayana Foundation, can play a very important role in addressing immediate needs. Such organizations can undertake small-scale projects and pilot programmes that, if successful, could later on be scaled-up with Government support.

6.3b - Recommendation: Promote small interventions that allow individuals to realize their Right to Food in a sustainable manner.

Finding: There is a need to empower people towards greater purchasing power, addressing the inadequacy of the food distribution and accessibility system; of corruption; and to raise general awareness for Right to Food.

6.3c - Recommendation: Increase awareness of the Right to Food making use of vehicles such as the media (e.g. to mobilize a public information campaign on Right to Food). Formalize national laws that work towards facilitating the Right to Food by strengthening media laws and the Right to Information.

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ANNEX 1. Bhutan National Food Security Strategy Paper (BNFSSP)

Dimension	Main issues	Strategy axes	Interventions
Availability	Low production and productivity of agriculture	Increase and stabilize domestic food production	a. Relax laws preventing culling of non-endangered wild-life pests and predators b. Review legislation to make it more production-friendly c. Promote sustainable soil, nutrient and water management d. Improve technologies and extension support for increasing crop and livestock yields and resistance to pests, drought, flood in low and high potential areas e. Increase mechanization of production and husbandry practices to increase productivity of labor f. Support production and import of nutritionally adequate traditional foods
	Negative fluctuations in food availability	Stabilize food supplies	a. Manage regional, community and household -level emergency food reserves b. Formulate a food import policy, strategy, legislation and monitoring mechanism
Access	Poor access to markets	Increase access to markets	a. Improve road and food distribution networks
	Few employment opportunities in rural areas	Create on-farm and off-farm employment opportunities	a. Create an enabling legislative environment that is conducive to private sector development b. Identify and develop niche industries for small enterprises c. Promote business development services in rural areas through simplified administrative procedures. d. Improve the required infrastructure, services and institutions for HVLV exports e. School agriculture programs to increase primary school enrolment in rural areas f. Education to develop skills required in rural areas, including agriculture g. Identify and promote more sustainable livelihood options for marginal farmers areas that are ecologically fragile and that have low access to markets and basic services h. Improve access to rural credit by the poor i. Improve access to land by the poor j. Introduce payment for environmental services k. Establish umbrella authority to encourage SMEs in rural areas.
	Underdeveloped potential of horticulture and livestock production	Support pro-poor income-generating commodity chains	a. Promote horticultural development among poor farmers b. Pro-poor livestock development programme c. Promote vertical integration of cash and food crop value chains and of new agri-business operators d. Install statutory marketing boards for increasing bargaining power
	Negative fluctuations in food access	Mitigate the impact of shocks on food access	a. Establish a food security information early warning system b. Introduce crop and livestock insurance c. Formulate national and decentralized contingency plans for natural and market shocks d. Introduce safety net programs for addressing seasonal food insecurity e. Reinforce the existing life and house insurance programs
	Chronic food insecurity	Improve immediate food access by vulnerable groups	a. Develop cash/food for work programs

Utilization	Poor feeding practices	Improve micro-nutrient intake and feeding practices	a. Introduce iron food fortification and iron supplementation b. Provide fortified foods for children under 2 years of age and their mothers c. Nutrition education through kitchen gardening and awareness campaigns
	High morbidity rates	Improve sanitation and health	a. Increase access to health services, sanitation infrastructure and combat diseases affecting nutrition
Stability	Inaccessibility	Improve road access	a. Power tiller tracks or farm roads
	Inadequate land resources	Non-farm income generating activities	a. Increase school enrolment b. SME development c. Welfare benefits. e.g. Food aid, subsidies, etc.

Source: BNFFSP, PPD, MoA.

Annex 2. Anti-Corruption Commission case investigation for 2007

Cases	Status	Outcomes
Buli -Tsaidang Farm road, Zhemgang: Forgery, deception and abuse of authority	Case closed	Verdict passed on two contractors and a civil servant by court; administrative action taken on district engineer.
Construction Association of Bhutan: Embezzlement and abuse of authority (RAA report 6500).	Appealed in High Court by the accused	Case registered in Dzongkhag Court on June 8, 2007. Judgment passed by lower court.
Allotment of house plot for Bajo Town: Poor planning and management at Dzongkhag amd Ministry level (leaves room for maneuvers); non enforcement.	Case forwarded to MoWHS on 12 Oct 2007.	Systemic flaws highlighted and recommendations made; Ministry also advised to address ad-hoc allotment of plots to Dratshang at policy level for clarity, transparency & accountability.
YDF: Embezzlement & official misconduct (RAA Report 6829)	Under trial	Case registered in court on October 22, 2007.
Haa: Illegal extraction of timber (commercialization of subsidized rural timber).	Under trial	Case registered in court on September 3, 2007
Widening of Doebum Lam: False and double claims.	Case forwarded to Ministry of Works and Human Settlement (MOWHS) on Oct12, 2007	Action yet to be taken on contractor. Administrative action taken on one official of MoWHS.
Construction of Babythang-Tshangkha farm Road, Dagana: Tampering & official misconduct (RAA report 6459)	Under trial	Case registered in court on Oct 10, 2007
Ministry of Education: Forgery, embezzlement & official misconduct (RAA report 6474)	Under review by OAG	Forwarded to OAG on January 22, 2008
Ministry of Education: Forgery, embezzlement & official misconduct (RAA report 6694)	Under review by OAG	Forwarded to OAG on January 22, 2008
Construction of Mendrelgang MS School, Tsirang: Deception and official misconduct. Dzongkhag Administration Trashi Yangtse Dzongkhag: Embezzlement of government revenue on municipal taxes/fees (RAA report 6721)	Under trial Under review by OAG	Case registered in court on January 7, 2008) Report pertaining to Contract administration sent to Dzongdag. Two officials are on suspension) The work was subcontracted to S T Construction who is also charged by RICBL for fraud. Case forwarded to OAG on January 18, 2007. Besides recovery of funds no action taken by agency.

Source: Anti-Corruption Commission website: www. anti-corruption.org.bt

Annex 3: Additional Tabulations

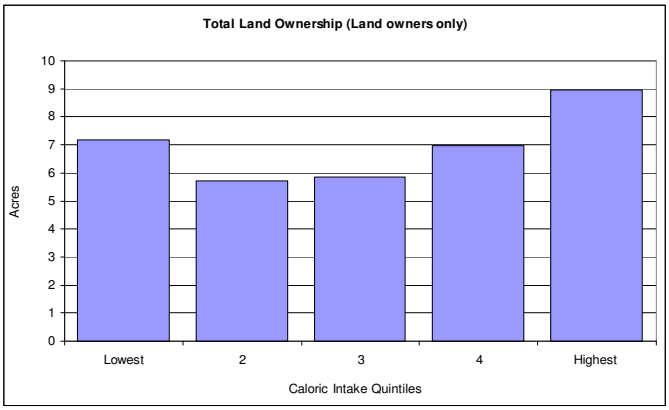
Table A3.1

	Expenditure Quintiles				
	Poorest	2	3	4	Richest
Share of Household with Drinking Water					
Urban	68.7	76.4	83.5	87.3	92.1
Rural	33.8	37.6	44.6	47.1	59.5
Total	33.9	42.8	49.3	64.5	79.8
Share of Household with Access to Sanitation					
Urban	46.8	59.8	65.6	72.1	81.4
Rural	1.9	5.5	7.8	12.3	27.6
Total	2.8	7.8	17.9	36.0	60.3
Distance from food market (min)					
Urban	14.9	14.1	13.1	11.0	12.2
Rural	266.0	186.0	136.0	120.0	98.8
Total	252	147	103	70.2	43.3

Table A3.2

	Expenditure Quintiles (9798 Obs)					
	Poorest	2	3	4	Richest	Total
Household Head Years of Education						
Urban	3.5	4.4	5.4	6.3	8.0	5.76
Rural	0.3	0.5	0.6	1.1	2.3	1.1
Total	0.3	0.7	1.4	2.7	5.5	2.51

Figure A3.1



Annex 4: Asset Index

The following variables were used in the principal components factor analysis to construct the asset index, applied in the urban asset typology.

Table A4.1

Asset Index Component Variables	
nrooms	number of rooms in dwelling
sofa	household owns sofa
bukhari	household owns bukhari
motorbike	household owns motorbike
heater	household owns heater
rice_cooker	household owns rice cooker
family_car	household owns family car
fan	household owns fan
curry_cooker	household owns curry cooker
othvehecle	household owns other vehicle
computer	household owns computer
refrigerator	household owns refrigerator
washing_machine	household owns washing machine
mobile	household owns mobile
stove	household owns stove
sewing_machine	household owns sewing machine
choesham	household owns choesham
boiler	household owns boiler
television	household owns television
microwave	household owns microwave
vcr_vcd_dvd	household owns vcr/cd/dvd
foreing_bow	household owns foreign bow
rice_grinding	household owns rice grinding machine
radio	household owns radio
tractor	household owns tractor
wrist_watch	household owns wrist watch
electric_iron	household owns electric iron
power_tiller	household owns power tiller
other_assets	household owns other, miscellaneous assets

Annex 5: Summary statistics of variables used in the multivariate analysis

			Urban			Rural			T-Tests for Significant Differences		
Summary Statistics of Regression Variables										Rural Nourished/	Urban Nourished/
Weighted averages; Standard deviations reported below the mean		**Bhutan**	**Overall**	**Not Under-nourished**	**Under-nourished**	**Overall**	**Not Under-nourished**	**Under-nourished**	**Rural/ Urban**	**Under-Nourished**	**Under-Nourished**
	Number of Observations	*9795*	*2942*	*2284*	*658*	*6853*	*4866*	*1990*			
Income	Log of real per capita expenditures	8.13	8.66	8.73	8.42	7.91	8.01	7.65	-58.24	-22.69	-11.38
		-0.68	-0.56	-0.53	-0.62	-0.59	-0.56	-0.60			
	Log of real per capita expenditures, 2nd expenditure quartile	1.76	0.47	0.31	1.04	2.32	2.37	2.19	33.49	-1.97	6.70
		-3.26	-1.87	-1.53	-2.67	-3.56	-3.59	-3.48			
	Log of real per capita expenditures, 3rd expenditure quartile	2.14	2.19	1.94	3.05	2.12	2.43	1.37	-0.88	-12.22	6.43
		-3.60	-3.68	-3.54	-4.00	-3.57	-3.72	-3.04			
	Log of real per capita expenditures, 4th expenditure quartile	2.87	5.90	6.45	4.02	1.56	1.89	0.77	-49.66	-14.76	-12.70
		-4.13	-4.21	-3.99	-4.41	-3.33	-3.57	-2.47			
	Household received formal credit	20.60	27.35	26.02	31.99	17.70	16.35	20.98	-10.25	4.39	2.93
		-40.45	-44.59	-43.88	-46.68	-38.17	-36.98	-40.73			
	Share of non-food consumption in total expenditure	50.35	59.42	57.94	64.56	46.44	43.62	53.29	-35.89	21.56	9.35
		-18.07	-15.91	-15.55	-16.11	-17.53	-17.06	-16.76			
	Household specializes in agriculture	38.47	2.06	1.43	4.24	54.15	51.80	59.86	79.34	6.15	3.40
		-48.66	-14.21	-11.89	-20.16	-49.83	-49.97	-49.03			
	Household specializes in non-agricultural activities	55.87	95.94	97.03	92.15	38.63	40.43	34.23	-82.86	-4.87	-4.41
		-49.66	-19.74	-16.98	-26.92	-48.69	-49.08	-47.46			
	Household is diversified	0.06	0.02	0.02	0.04	0.07	0.08	0.06	12.89	-2.85	2.69
		-0.23	-0.14	-0.12	-0.19	-0.26	-0.27	-0.24			
Household Head Characteristics	Female household head	30.68	21.49	22.21	18.99	34.64	34.83	34.19	13.83	-0.51	-1.83
		-46.12	-41.08	-41.58	-39.26	-47.59	-47.65	-47.45			
	Married household head	80.13	85.26	84.06	89.43	77.93	75.86	82.96	-8.91	6.82	3.77
		-39.90	-35.45	-36.61	-30.77	-41.48	-42.80	-37.61			
	Age of household head	45.26	37.41	36.43	40.80	48.63	48.04	50.07	41.09	5.45	8.78
		-14.62	-11.33	-11.16	-11.25	-14.58	-14.92	-13.60			
	Educational attainment of household head (Years)	2.51	5.76	5.96	5.08	1.10	1.22	0.83	-45.84	-5.63	-3.86
		-4.28	-5.19	-5.19	-5.12	-2.84	-2.97	-2.47			
	Household head participates in agriculture	70.68	41.61	41.63	41.54	83.20	83.52	82.42	40.98	-1.09	-0.04
		-45.52	-49.30	-49.30	-49.32	-37.39	-37.10	-38.07			
	Household head has regular salaried employment	32.33	73.39	74.90	68.11	13.11	14.19	10.37	-66.15	-4.51	-3.34
		-46.78	-44.20	-43.37	-46.64	-33.75	-34.90	-30.49			
	Household head has casual wage employment	3.81	2.97	2.83	3.45	4.20	4.04	4.63	3.12	1.09	0.78
		-19.15	-16.98	-16.60	-18.26	-20.07	-19.68	-21.03			
	Household head is unpaid worker	21.48	2.18	1.91	3.10	30.51	28.29	36.19	45.85	6.29	1.62
		-41.07	-14.60	-13.70	-17.36	-46.05	-45.05	-48.07			
	Household head is own-account worker	42.02	21.20	20.06	25.16	51.77	53.15	48.24	31.66	-3.69	2.69
		-49.36	-40.88	-40.06	-43.43	-49.97	-49.91	-49.98			
	Household head is an employer	0.17	0.15	0.15	0.18	0.19	0.18	0.19	0.37	0.02	0.18
		-4.18	-3.90	-3.81	-4.22	-4.30	-4.29	-4.32			
	Household head has other status in paid employment	0.19	0.11	0.14	0.00	0.22	0.16	0.39	1.30	1.54	-1.82
		-4.32	-3.35	-3.80	0.00	-4.70	-3.95	-6.22			

			Urban			Rural			T-Tests for Significant Differences		
Summary Statistics of Regression Variables				Not Under-	Under-		Not Under-	Under-	Rural/	Rural Nourished/ Under-	Urban Nourished/ Under-
Weighted averages; Standard deviations reported below the mean		Bhutan	Overall	nourished	nourished	Overall	nourished	nourished	Urban	Nourished	Nourished
Household Demographics	Household size	5.02	4.40	3.98	5.89	5.28	4.48	7.24	19.03	45.34	21.75
		-2.31	-1.94	-1.68	-2.06	-2.41	-1.89	-2.43			
	Dependency ratio (# dependents / # working age members)	70.23	62.11	61.04	65.83	73.73	71.80	78.41	8.63	3.75	1.89
		-65.71	-57.58	-57.65	-57.23	-68.63	-70.13	-64.61			
Household Assets and Infrastructure	Total land owned (acres)	4.07	0.72	0.62	1.06	5.51	5.16	6.36	19.60	2.23	2.96
		-16.71	-2.93	-2.73	-3.52	-19.72	-19.38	-20.52			
	Share of wetland owned and operated in total land owned and operated	17.00	2.90	2.25	5.15	23.08	21.53	26.85	41.38	5.81	3.47
		-30.40	-15.06	-13.14	-20.21	-33.19	-32.12	-35.39			
	Total livestock units owned (Tropical livestock units)	1.99	0.19	0.10	0.47	2.76	2.43	3.58	38.58	8.59	1.99
		-3.95	-2.32	-0.82	-4.66	-4.24	-3.52	-5.54			
	Asset index	0.00	0.88	0.85	0.99	-0.38	-0.41	-0.31	-68.09	4.08	3.54
		-1.00	-0.86	-0.85	-0.88	-0.80	-0.76	-0.88			
	Dwelling has flush toilet	29.08	66.96	67.45	65.26	12.78	13.31	11.48	-56.64	-2.12	-1.04
		-45.42	-47.04	-46.87	-47.65	-33.39	-33.98	-31.89			
	Dwelling has dirt floor	13.59	4.16	3.96	4.88	17.65	17.65	17.66	22.88	0.00	0.99
		-34.27	-19.98	-19.49	-21.57	-38.13	-38.13	-38.14			
	Dwelling has access to piped water	57.28	82.86	82.55	83.96	46.26	46.00	46.92	-39.80	0.69	0.86
		-49.47	-37.69	-37.96	-36.73	-49.86	-49.84	-49.92			
	Dwelling has metal roof	74.01	89.54	89.59	89.38	67.32	67.56	66.73	-27.79	-0.67	-0.15
		-43.86	-30.60	-30.54	-30.83	-46.91	-46.82	-47.13			
	Household has a fixed telephone line	20.23	38.99	36.58	47.35	12.15	11.75	13.11	-27.33	1.54	4.91
		-40.17	-48.78	-48.18	-49.97	-32.67	-32.21	-33.76			
	Distance to nearest food market (minutes)	109.38	12.89	12.86	13.02	150.91	139.93	177.62	32.81	4.03	0.18
		-297.04	-20.49	-20.27	-21.27	-346.84	-342.92	-354.89			
Spatial Characteristics	Yield/acre at geog level	704.91	0.00	0.00	0.00	1008.35	1006.63	1012.52	..	0.42	..
		-635.44	0.00	0.00	0.00	-521.16	-515.06	-535.84			
Dzongkhags	Household located in Bumthang	2.29	1.96	1.85	2.34	2.43	2.72	1.72	1.48	-2.66	0.74
		-14.95	-13.86	-13.48	-15.12	-15.39	-16.26	-13.02			
	Household located in Chhukha	11.22	16.63	16.27	17.89	8.89	9.04	8.53	-10.08	-0.68	0.96
		-31.56	-37.24	-36.92	-38.36	-28.47	-28.68	-27.94			
	Household located in Dagana	2.78	0.81	0.79	0.91	3.63	4.00	2.73	10.05	-2.75	0.30
		-16.44	-8.98	-8.83	-9.50	-18.70	-19.59	-16.30			
	Household located in Gasa	0.58	0.22	0.14	0.50	0.73	0.69	0.85	3.79	0.70	1.24
		-7.59	-4.71	-3.78	-7.04	-8.54	-8.25	-9.19			
	Household located in Haa	1.89	1.12	1.11	1.17	2.22	2.11	2.49	4.17	0.94	0.13
		-13.62	-10.53	-10.47	-10.76	-14.74	-14.37	-15.59			
	Household located in Lhuntse	2.39	0.63	0.48	1.12	3.15	3.07	3.35	9.85	0.59	1.46
		-15.28	-7.89	-6.94	-10.53	-17.47	-17.25	-18.00			
	Household located in Monggar	5.85	3.27	3.32	3.10	6.97	6.52	8.06	8.23	2.18	-0.28
		-23.48	-17.79	-17.91	-17.35	-25.46	-24.69	-27.22			
	Household located in Paro	5.47	1.50	1.16	2.68	7.18	6.13	9.73	14.80	4.81	2.28
		-22.74	-12.15	-10.70	-16.16	-25.81	-23.99	-29.64			
	Household located in Pemagatshel	3.92	1.43	1.43	1.44	4.99	5.61	3.46	10.38	-4.08	0.02
		-19.40	-11.89	-11.88	-11.93	-21.77	-23.02	-18.29			

			Urban			Rural			T-Tests for Significant Differences		
Summary Statistics of Regression Variables										Rural Nourished/	Urban Nourished/
Weighted averages; Standard deviations reported below the mean		**Bhutan**	**Overall**	**Not Under-nourished**	**Under-nourished**	**Overall**	**Not Under-nourished**	**Under-nourished**	**Rural/ Urban**	**Under-Nourished**	**Under-Nourished**
	Household located in Punakha	3.60	0.87	0.86	0.91	4.78	4.42	5.67	12.65	2.10	0.12
		-18.64	-9.28	-9.22	-9.48	-21.34	-20.55	-23.13			
	Household located in Samdrupjongkhar	5.54	5.34	5.14	6.05	5.63	5.50	5.93	0.57	0.69	0.87
		-22.88	-22.49	-22.09	-23.86	-23.05	-22.81	-23.63			
	Household located in Samtse	9.12	5.87	5.78	6.19	10.52	10.25	11.18	8.15	1.12	0.39
		-28.79	-23.51	-23.33	-24.12	-30.68	-30.33	-31.52			
	Household located in Sarpang	6.47	6.69	6.93	5.86	6.38	6.24	6.70	-0.57	0.70	-1.01
		-24.60	-24.98	-25.39	-23.50	-24.43	-24.19	-25.02			
	Household located in Thimphu	14.92	41.55	42.68	37.61	3.46	2.96	4.70	-40.72	3.27	-2.35
		-35.63	-49.29	-49.47	-48.48	-18.29	-16.94	-21.16			
	Household located in Trashigang	8.17	2.98	3.25	2.08	10.40	12.53	5.23	15.32	-10.59	-1.75
		-27.39	-17.02	-17.72	-14.27	-30.53	-33.11	-22.27			
	Household located in Trashiyangtse	3.00	1.43	1.34	1.76	3.67	4.66	1.27	7.09	-8.65	0.75
		-17.06	-11.89	-11.49	-13.17	-18.81	-21.08	-11.18			
	Household located in Trongsa	2.17	1.40	1.35	1.56	2.50	2.43	2.67	3.83	0.57	0.39
		-14.56	-11.74	-11.54	-12.41	-15.61	-15.39	-16.12			
	Household located in Tsirang	2.91	0.99	1.15	0.44	3.74	4.40	2.12	9.39	-5.22	-2.06
		-16.81	-9.89	-10.64	-6.64	-18.97	-20.51	-14.41			
	Household located in Wangdue	4.98	3.85	3.68	4.45	5.47	4.06	8.90	3.60	6.93	0.86
		-21.76	-19.25	-18.83	-20.63	-22.74	-19.73	-28.48			
	Household located in Zhemgang	2.73	1.46	1.32	1.96	3.27	2.68	4.71	5.88	3.83	1.09
		-16.29	-11.99	-11.39	-13.86	-17.79	-16.16	-21.18			
Regions	Household located in East Region	28.87	15.09	14.96	15.55	34.81	37.89	27.30	22.52	-8.70	0.37
		-45.32	-35.80	-35.67	-36.26	-47.64	-48.52	-44.56			
	Household located in East Central Region	13.65	11.50	11.44	11.71	14.57	14.07	15.80	4.23	1.81	0.19
		-34.33	-31.91	-31.84	-32.18	-35.29	-34.77	-36.49			
	Household located in West Region	42.62	66.67	66.99	65.54	32.27	30.48	36.62	-33.18	4.85	-0.69
		-49.46	-47.15	-47.03	-47.56	-46.75	-46.04	-48.19			
	Household located in West Central Region	14.86	6.74	6.61	7.20	18.35	17.56	20.27	17.64	2.58	0.52
		-35.57	-25.08	-24.85	-25.87	-38.71	-38.05	-40.21			

Persons interviewed

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9. Chencho Norbu, Director, DoA, MoA
10. Karma Dukpa, Director , DoF, MoA
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29. Karma Lhuentse, Senior Legal Council, OAG
30. Karma Rinzin, Attorney, OAG
31. Tandin Dorji, Attorney, OAG
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33. Tashi Gyalpo, Sr. Attorney, OAG
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36. Nima Tshering, Secretary General, National Assembly
37. Tenzin Choden, Assistant Programme Officer, MoHCA
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39. Kunzang Namgyal, Managing Director, Food Corporation of Bhutan

40. Singye Dukpa, General Manager, Food Corporation of Bhutan
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43. Nicholas Rosellini, UN Resident Coordinator and UNDP Res. Rep in Bhutan
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45. Kristine Koosgaard, World Food Programme
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47. Nima Tshering, Deputy Zimpon, OGZ
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62. Phub Sangay, NSB
63. Cheku Dukpa, NSB
64. Nima, NSB
65. Peldon, NSB
66. Rinchen Doma, MOFA