

A Conceptual Framework to Assess Development of Smallholder Crop–cattle Farming Systems in Bhutan : Sustainable Development or Gross National Happiness?

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Summary : The objective of this paper is to compare the concepts of Sustainable Development (SD) and Gross National Happiness (GNH) to assess development at various level, especially at the smallholder crop–cattle farming systems level in Bhutan. The concept of SD was conceived about two decades ago, while GNH is a development paradigm that drew international attention in 1998. In this paper the similarities and differences of the SD and GNH concepts and their application to the case in Bhutan are reviewed. The generally cited four pillars of GNH are proposed as “building blocks” of GNH. They are sustainable and equitable socio–economic development, ecological preservation, preservation and promotion of culture and good governance. A conceptual framework to assess context dependent issues of GNH is developed. It is concluded that GNH assessment may be more appropriate at higher systems levels (e.g. district, national level) since it is at these level that the “building blocks” of GNH constitutes a useful framework through which regional and national development can be actualized. At present, for farm level assessment SD could be more appropriate since the indicators for the “building blocks” of GNH such as culture and good governance are still very few, qualitative and rather vague.

Key word : Bhutan, crop–livestock system, GNH, Gross National Happiness, smallholder, sustainable development

Introduction

The Kingdom of Bhutan is a land–locked country bordered by the Tibetan autonomous region of China in the north and India in the south. Bhutan responds to globalization through the concept of Gross National Happiness (GNH), seeking a path of development that takes into account Bhutanese society and culture⁴⁴⁾, rather than conventional approaches that emphasize economic development and ignore national society and culture. Empirical evidence in high income countries strongly suggest that modern economic development has not increased subjective well being,

despite manifold increases of income over just a couple of decades⁸⁾. Rising depression, suicide rates and large scale environmental destruction are typical side effects of the pursuit of economic growth by many of the high income countries⁸⁾.

The search for happiness is not new and neither could be an academic interest in the tropics. But in developed countries like the United Kingdom (UK) there was widespread attention on happiness with the moral philosophy of Bentham (1789)⁴⁾ who voiced that the purpose of politics should be to bring the greatest happiness to greater number of people⁶⁶⁾. A more recent survey revealed that 81% of UK population agreed that the government’s primary objective should be the creation of happiness not wealth²²⁾. According to Marks (2006)³³⁾, the concept of GNH promulgated in

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Bhutan captured the world's imagination and many articles have emerged in newspapers ranging from "The Times of India" to the "New York Times".

The GNH concept when compared with Gross Domestic Product (GDP)^{5,17,58}, the GDP is considered a flawed measure of national progress, as it does not sufficiently reflect the environmental and social degradation that accompanies economic development, and also it includes negative aspects of economies as positive outcomes^{10,58}. To remedy this, Genuine Progress Indicators (GPI) were developed in Nova Scotia, Canada in an attempt to measure whether or not a country's growth, increased production of goods and expanding services had actually resulted in national progress⁹. The GPI values unpaid voluntary and household work as paid work and counts sickness, crime, pollution as costs and not gains to the economy¹⁰. Therefore, while the GDP functions as an "income sheet", the GPI functions as a "balance sheet". The challenge with the GPI is that the neo-classical economists claim that the GDP per capita still serves as a fairly good proxy for economic development⁶⁷. Thailand also argues about the traditional GDP measures and prefers using the concept of Gross Domestic Happiness (GDH)^{6,7}.

The Human Development Index (HDI) of the United Nations Development Programme (UNDP) is the most commonly used well-being index for measuring human well-being of nations⁶⁷. The HDI measures the average achievements in a country in three basic dimensions of human development: a long and healthy life, as measured by life expectancy at birth; knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary and tertiary gross enrollment ratio (with one-third weight); and a decent standard of living, as measured by (GDP) per capita in USD. Thinley (1999)⁵⁶ argues that HDI is an innovative yard stick to compare progress of nations, but that it lacks emphasis on ecological and cultural preservation and good governance which are important pillars in GNH. In 2005,

based on the HDI, Bhutan was categorized in the medium human development category⁴⁸

In terms of motivation, the GNH concept resembles the era when Sustainable Development (SD) was in its conceptual stage about two decades ago⁶⁵. It appears that the elements of SD and GNH bear similarities, it would therefore be interesting to know why the GNH concept has been conceived. As of now the concept of GNH is discussed mainly at national level. But about two thirds of the Bhutanese population are smallholder crop-livestock farmers⁴¹, and the major concern of the government is to address their rural poverty and to improve the livelihoods of its citizens. Therefore, in order to operationalise the GNH concept it is imperative to achieve an understanding of the issues to be addressed not only at the higher aggregate level (national, district) but also at the lower level (farm/household).

The objective of this paper is to compare the two concepts, SD and GNH as frameworks in assessing the social-economic, cultural and environmental (SECE) aspects of the diverse smallholder crop-livestock farming systems in Bhutan. The specific research questions to be addressed are: (i) What are the differences between the concept of SD and GNH? (ii) The application of SD and GNH as a measure of development? (iii) While the concept of SD has been in vogue for several decades, what type of framework is required to assess GNH in Bhutan? (iv) Of the two concepts, which framework could be feasible to assess the development of smallholder crop-livestock farming systems?

Bhutan : an overview

Bhutan is one of the least populated countries in South Asia with a human population of 646,851 in 2006, and a population density of 16 persons per sq km⁴⁰. The population is concentrated in the valleys, while large areas at higher altitudes in the north are virtually uninhabited except for the transhumant herdsmen. Most Bhutanese still live in villages in an extended family system or maintain strong links with their rural families. The

country is divided into 20 districts (dzongkhags) with the city of Thimphu as the capital. The 20 districts are divided into 205 blocks (geogs). Several villages form a block.

Bhutan encompasses an area of 38,394 square kilometres with a forest area of 72.5%⁴⁰. Altitude ranges from 100m asl (metres above sea level) in the south to more than 7500m asl in the north, therefore the topography imposes restrictions on the scope for agricultural development³⁵. Mixed farming systems and their interaction with the forest are the most important type of farming systems in Bhutan. Depending on the agro-ecological zones and topographic features, cropping or livestock take the predominant role. In Bhutan farmers mean both women and men as both are intimately involved in the maintenance of the agricultural land use systems.

In 2001, Bhutan started a series of decentralisation policies to enhance peoples participation in the formulation of development policies and activities, and to strengthen their traditional local institutions⁴⁴. Since 1907, Bhutan has been a constitutional monarchy, and in 2008 it adapted parliamentary democracy.

Sustainable Development and Gross National Happiness : The Concepts

Sustainable Development

The numerous definitions of sustainability produced over the last two decades all emphasise the need to take care of the economic, environmental and social consequences of development choices for the present and future generations^{2,11,65}. The debate about Sustainable Development (SD) was stimulated in 1987 by the Brundtland report which states that sustainable development is “development that meets the needs of present generations without compromising the ability of future generations to meet their own needs”⁶⁵. Perspectives of the concept of sustainable development vary. According to Cornelissen (2003)¹¹, terms like sustainability and sustainable development are fuzzy buzzwords (terms which appear to encapsulate a discrete notion but which actually have multiple interpretations and could

mean different things to different people), which are widely used but rarely defined by consensus.

Sustainability in agriculture is generally described from the perspective of farm productivity (economic) or farm continuity (ecological) or societal continuity¹¹. There is a now a growing consensus that the general definition of sustainable development should encompass all economic, environment and social dimensions (Fig. 1) relevant in a specific context^{3,11,37,47}. According to Bell and Morse (2003)³, the definition of sustainable development by WCED (1987)⁶⁵ comprises of development (to make better) and sustainability (to maintain), and the word sustainable is usually attached to human-centred activities such as agriculture, natural resource management and health care provisions.

Gross National Happiness

The concept of GNH was first articulated in 1980 by the 4th King of Bhutan, His Majesty King Jigme Singye Wangchuk⁶⁰. Priesner (1999)⁴⁶ mentions that the concept of GNH evolved in Bhutanese society before 1959 from the socio-economic system based on Buddhist and feudal sets of values ; after 1959, Bhutan embarked upon the abandonment of isolationism. In 1998 the concept of GNH was first brought to the notice of the international community when Lyonpo Jigme Thinley addressed the UNDP regional meeting in South Korea. This was followed by a seminar on

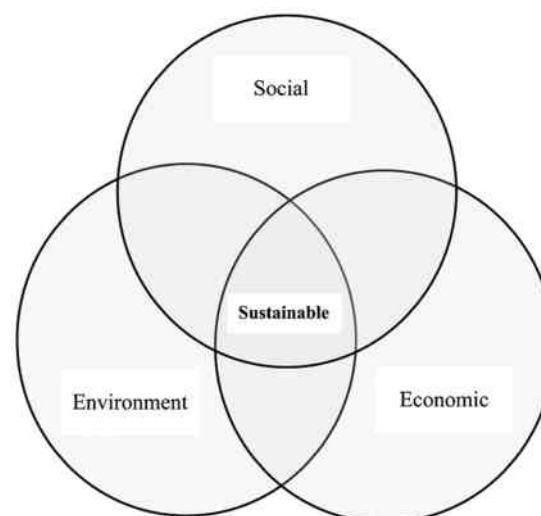


Fig. 1 The three domains of Sustainable Development⁶⁵.

GNH in Bhutan in 1999 and four international conferences on GNH (Bhutan in 2004, Canada in 2007, Thailand in 2007 and Bhutan in 2008), which

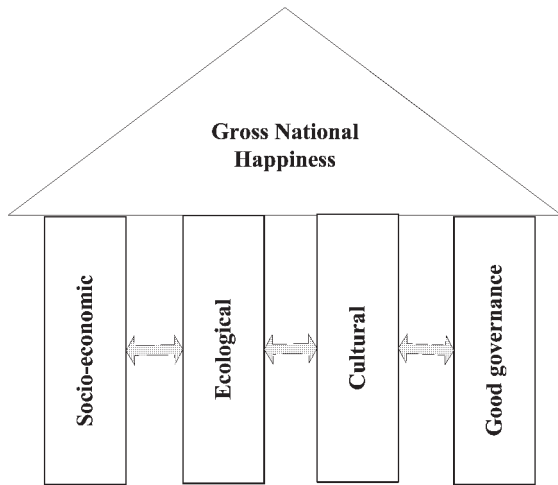


Fig. 2 Pillars of Gross National Happiness⁴⁵⁾.

brought together international and national experts in different fields such as psychology, economics and philosophy to discuss and examine GNH not just theoretically but also from a practical perspective. In spite of these efforts, there was still no accepted method of assessing GNH. More recently, the Centre for Bhutan Studies (CBS) has published a methodology of GNH index construction⁵⁾.

Fig. 2⁴⁵⁾ gives the four pillars of GNH. The pillars are sustainable and equitable socio-economic development, ecological preservation, preservation and promotion of culture and promotion of good governance. Further, the recent publication by CBS (2009)⁵⁾ mentions of 9 domains or dimensions of GNH which are i) Psychological well-being ii) Time use iii) Community vitality

Table 1 Historical perspective of Sustainable Development and Gross National Happiness.

	Sustainable Development	Gross National Happiness
Concept	Food sufficiency for present and future generation without compromising the natural resources base ⁶⁵⁾ .	Relative happiness and contentment after basic material needs are met.
Conceived in response to	Concern about the world's natural resource base ⁶⁵⁾ .	Opposing the conventional economic orthodoxy that equates happiness with increasing material wealth.
International attention	Brundtland report of 1987 ⁶⁵⁾ .	Millennium meeting for Asia and Pacific in Seoul, Korea in 1998 ⁵⁷⁾ .
Gained popularity in	Rio de Janeiro Earth Summit in 1992.	1st International seminar on Gross National Happiness in Bhutan in 2004.
Application	Development concept, indicators used to analyze sustainability of human centred activities e.g., agriculture, health care provisions ³⁾ .	Development goal ^{5,19)} .

Table 2 Differences between Sustainable Development and Gross National Happiness.

Sustainable Development (SD)	Gross National Happiness (GNH)
The three dimensions usually presented as circles with interaction between these dimensions and trade-offs are emphasised between all these three dimensions	Usually presented as four pillars with interactions amongst them to achieve GNH
No separate dimension on culture. The Social dimension is to generalized and sometimes called as Socio-cultural ^{29,63)} .	Emphasis on culture (cultural aspects, spiritual and social conduct)
Good governance is not explicitly addressed, although SD users mention that this could be covered under the social dimension ^{14,63)} .	Emphasis on good governance and is defined as a separate pillar of GNH
Not normally mentioned in literature to be used to measure well being or progress of a nation.	Proposed to be used to measure the well being and progress of a nation.

iv) Cultural diversity and resilience v) Health vi) Education vii) Ecological diversity and resilience viii) Living standard and ix) Good governance.

An overview of the historical perspective and the concepts of SD and GNH are summarised in Table 1. The similarities between SD and GNH are: holistic approaches to development and both emphasise balanced and equitable economic growth, avoid disparities of income and opportunities, equitable access to public services and goods, and stress on ecological sustainability. The differences between SD and GNH are highlighted in Table 2.

Sustainable Development and Gross National Happiness : Application in Bhutan

Sustainable Development and GNH are closely linked since both recognize that economic development, environmental preservation and social development should be in balance. The concept of GNH and the way it has crystallised in everyday policy has been the focus of discussion between Bhutan and the Netherlands since the two countries signed a sustainable development agreement in 1994. As a result, in 1999 the Royal Government of Bhutan (RGOB) established the Sustainable Development Secretariat (SDS) among others its mandate was to pursue whether the challenges related to SD could be addressed with the GNH concept²⁷⁾. In January 2008 a step taken forward by RGOB has been the renaming of the Planning Commission as the Gross National Happiness Commission (GNHC) to emphasis that GNH is embedded firmly into policies and implementation of plans and programmes. GNHC not only took over the mandate of the SDS, but also came under the purview of the Prime Minister²³⁾. Further, all Ministries should constitute a GNH committee to support the GNHC. In due course of time a GNH committee will also be developed at district and block level²³⁾.

Application of SD

Considerable research has been done during the last 2 decades on the concept and operationalisation of SD. Early pioneers who attempted to

operationalise sustainability were de Wit et al. (1995)¹⁶⁾, who proposed certain indicators for sustainable livestock production. More recently, methodologies to assess SD have been proposed at regional level³⁾ and at farm level^{37,61,62)}. Based on these methodologies^{3,11,38)} the following steps were proposed to assess SD: a) describing the problem in a defined context with a conceptual model b) determining the context-dependent issues such as social, economic, ecological and social c) translating these issues into Measurable Indicators (MI) and d) applying the MI to assess SD.

Although, SD is the most widely proclaimed development concept in national and international programmes, its actual implementation to translate the concept from theory into action has been limited. Political commitment seems to be lacking, and the inclusion of sustainability issues and indicators in policy documents for strategic implementation of SD exist only in a few countries e.g., United Kingdom¹⁴⁾, Canada³⁹⁾ and The Netherlands⁶³⁾.

Application of GNH

Bhutan's development goal is GNH and the strategy it has adopted to achieve this goal is the middle-path strategy which encompasses the 4 pillars of GNH⁵³⁾. The application of GNH in Bhutan has particular relevance to the five year planning process and four issues.

Five year planning process. The GNH concept serves as the vision for the Five Year planning process in Bhutan¹⁹⁾, and therefore being able to assess GNH is essential. The five year plan period provides an opportune time to consolidate development gains of the past and forge new responses and approaches towards achieving long term development objectives, in order to achieve the overarching goal of GNH²³⁾. In the recent address of His Majesty the Fifth King of Bhutan he mentioned that today's world demands economic excellence, but he believed that GNH today is a bridge between the fundamental values of kindness, equality and the necessary pursuit of economic growth^{31,32)}.

Relative income and Happiness. The concept of GNH argues that a growing income does not always lead proportionately to an increase in happiness because happiness tends to depend on relative income and not on absolute income⁵⁷⁾. Studies done by Pankaj and Dorji (2004)⁴³⁾ in Eastern Bhutan concluded that income emerged as a weak variable influencing happiness in both rural and urban Bhutan. However, according to Inglehart (2000)²⁸⁾ (based on a World Value Survey from 1990 to 1995 consisting mainly of Western Europe and North America and a few Asian countries without Bhutan) mentions that the relationship between income and happiness was curvilinear with a threshold of US \$10,000 GNP per capita. Similarly, Hagerty and Veenhoven (2003)²⁵⁾ mention that increasing national income does go with increasing national happiness and that quality of life measured by the degree to which citizens live long and happy is highest in nations with economic affluence and justice. However, other studies conducted in industrialized countries show that even though the GDP per capita increased, there was no correlation with happiness and life satisfaction²⁶⁾.

Ecological pillar deeply rooted in spiritual beliefs. The ecological pillar of GNH is rooted in Buddhism, because Bhutanese traditional belief holds that the environment should not be plundered for our own short term gain, but nurtured to sustain sentient beings for generations to come^{10,46)}. Forests are the main natural resource of Bhutan and government policies prohibit indiscriminate and large-scale exploitation for commercial purposes, in order to maintain the watersheds for generation of hydro-electricity and clean drinking water, to control soil erosion and preserve the biodiversity. Currently, Bhutan manages 26% of the forest as protected areas³⁴⁾.

Preservation and promotion of culture is high on the agenda. GNH aims to preserve and strengthen cultural aspects, spirituality and social conduct as these are important in the daily lives of Bhutanese society⁴⁴⁾. The process of globalisation, which

aims at market-oriented economies, endangers original cultures³⁰⁾. Measuring economic development without considering the benefits of culture and life styles could lead to policies that seek to replace the existing system⁷⁾. In monetised economies e.g. USA and Europe, the social cohesion (culture of bonding of individuals as members of extended families and communities) is being threatened⁴⁴⁾. Thinley (1999)⁵⁷⁾ mentions that within Bhutanese culture, social cohesion and inner spiritual development are important. Monks are spiritually involved in daily lives of the people and also contribute to the health and educational programmes. Pankaj and Dorji (2004)⁴³⁾ concluded that in eastern Bhutan, cultural participation and religion were the strongest variables that promoted happiness and the effect was higher in rural than in urban areas.

Good governance is both a National and International concern. Addressing inequitable regional development and the provision of equitable opportunities to avoid wide disparities is also an important national agenda²³⁾.

Further, since the early nineties all major developmental agencies have started to insist that good governance is important for developing countries to achieve real development and to reduce poverty. But so far, many interventions seeking to enhance good governance have been somewhat loosely aimed at the national levels of developing countries¹⁵⁾. In this context Bhutan is a country which still heavily relies on donor assistance for its development programmes, and therefore good governance features in the concept of GNH.

To apply GNH this paper proposes that instead of calling all the 4 dimensions as 'pillars, it is argued that good governance may be considered as a foundation to effectively implement the other three pillars. They are depicted as the "building blocks" of GNH (Fig. 3). Thinley (1999)⁵⁷⁾ also argues that without good governance, none of the other three pillars of GNH are achievable.

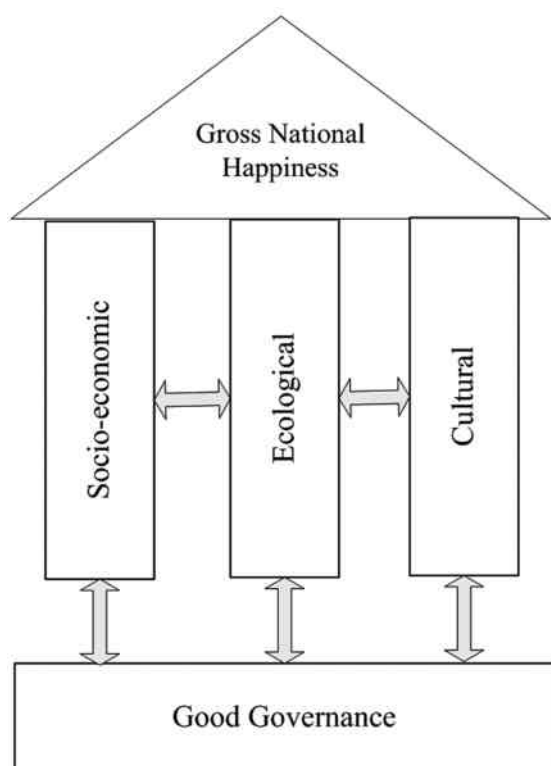


Fig. 3 “Building blocks” of Gross National Happiness.

Assessment of Gross National Happiness : Conceptual framework

According to Marks (2006)³³⁾, attempting to create an index for GNH is very ambitious and goes much beyond the scope of the HDI. Since 2004 the Centre of Bhutan Studies (CBS) was entrusted to operationalise the concept of GNH and to develop a GNH or a Bhutan Development Index to measure progress towards GNH²³⁾. Recently, CBS (2009)⁵⁾ mention that they have methods to construct a single number GNH index which can be broken down into individual component indicators that are useful to different sectors for planning and technical purposes at the ministerial and departmental levels. They argue that the GNH philosophy had to be translated into a metric system for practical application of GNH.

According to CBS (2009)⁵⁾, they had designed a GNH pilot questionnaire and conducted an initial pilot survey of 9 districts covering 350 respondents to test the feasibility and robustness of GNH questionnaires. Subsequently a final survey of 12 districts covering 950 respondents was inter-

viewed from December 2007 to March 2008. The final survey questionnaire included 188 questions and consisted of a mixture of objective and subjective questions. The GNH indicators were then taken from the primary data generated from the final survey. CBS has drafted 69 GNH indicators in nine domains, i) Psychological well-being (11 indicators) ii) Time use (2) iii) Community vitality (16) iv) Culture (9) v) Health (7) vi) Education (4) vii) Ecological diversity (5) viii) Living standard (8) and ix) Good governance (7)^{5,23)}.

The concept of GNH is discussed mainly at national level and the linkages of GNH with other system levels (district and farm) have not received much attention. Given that over two-third of Bhutan’s populations are agrarian³⁶⁾, it becomes imperative that GNH is also discussed at other levels such as district and farm levels. An understanding of the linkages between different system levels and the building block of GNH will be an important step towards operationalising GNH. Fig. 4 gives a conceptual framework to access the different context-dependent issues of GNH at various systems levels.

Context-dependent issues at the national level

Socio-economic issues. According to the Planning Commission (2002)⁴⁴⁾ low per capita income, low literacy, human population increase and unemployment are contributing factors to poverty in Bhutan. In view of this a priority of the country’s 10th five year plan (2008-2013) is to alleviate poverty of smallholder crop-livestock farmers and to improve their living standards taking into consideration the other pillars⁵⁰⁾. In Bhutan, a per capita income of 9,723 Nu* y⁻¹ and less in 2004 is considered as being in the poverty line (the calculated per capita poverty line of 8,976 Nu y⁻¹ for 2000 corrected for the inflation rate¹²⁾, US\$ 1 = Nu 43.8 in 2000 and Nu 45.3 in 2004⁵⁴⁾. The national literacy rate in 2005 was 59.5%, but the literacy rates in the rural areas were 52.1%⁵⁰⁾. Family planning and education of women are intensively promoted in Bhutan to slow population growth.

*Nu : Ngultrum is a currency unit in Bhutan, One Nu. is about 1.9 yen.

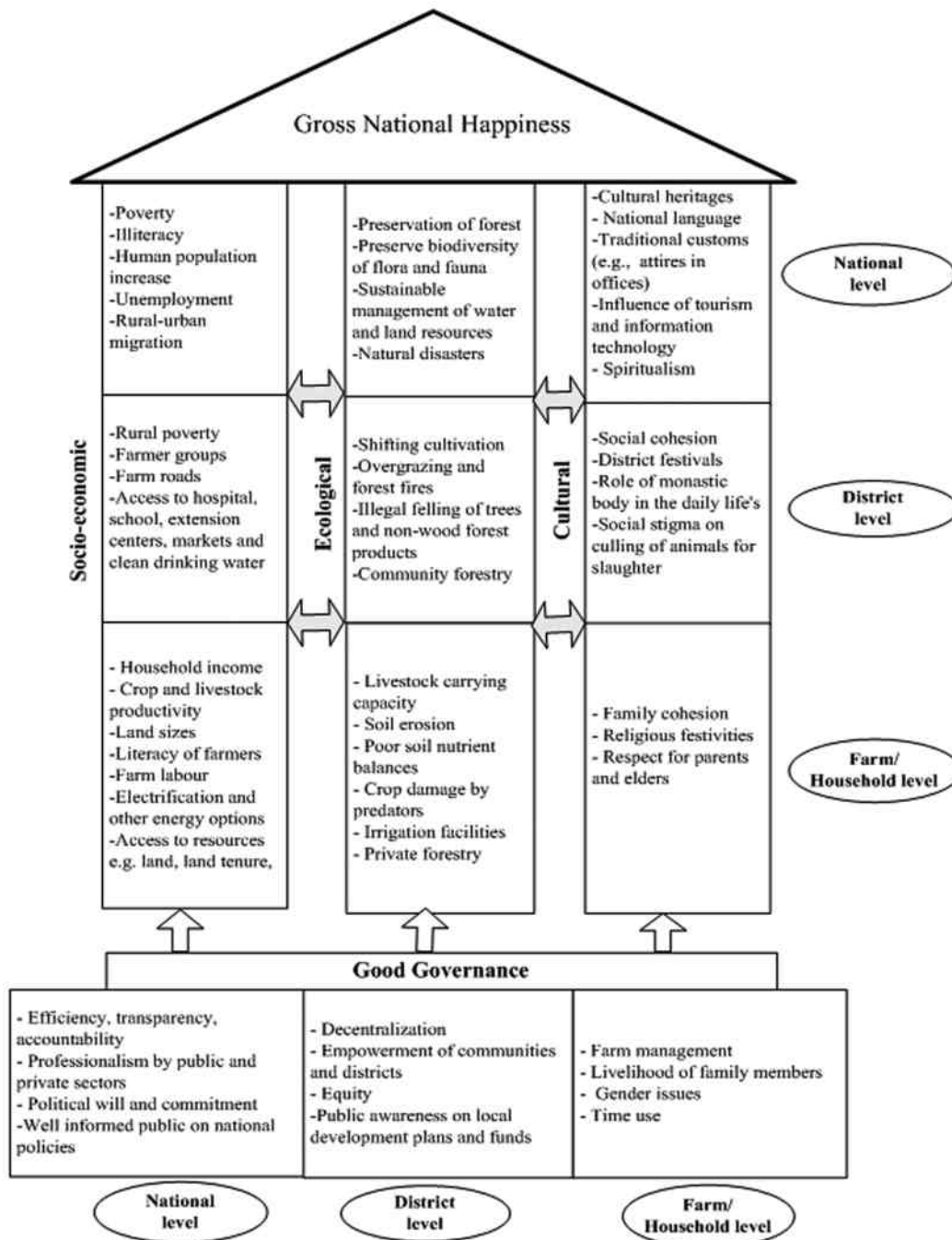


Fig. 4 Conceptual framework to access Gross National Happiness : Context dependent issues at different system levels.

To address emerging issues such as unemployment and rural-urban migration, development of the private sector is promoted to create employment opportunities.

Ecological issues. Keeping the county's forest cover at a minimum of 60% for all time to come is enshrined in the constitution of Bhutan⁵². Preserving the biodiversity of flora and fauna is a

priority of the country³⁵. This is because of the world wide concern on loss of genetic diversity and the local Buddhist beliefs of living in harmony with nature. Such preservation will also be useful in the future, for example, as a potential source of genetic resistance to diseases and new medicines¹⁶. The focus on the forest resources in Bhutan has been more on conservation than exploitation³⁵, therefore the sustainable manage-

ment and use of water and land resources are important issues. Possible natural disasters such as glacial lake outbursts are emerging concerns.

Cultural issues. The cultural heritage is a source of human values and beliefs that is regarded as vital for holistic development of the country⁵⁶, and therefore provision of institutional support for preservation of the traditional customs and cultural heritages are priorities at the national level⁴⁴. This is because cultural values once lost cannot be regained or compensated by other means. The promotion of the national language and traditional attires in offices and official functions is also an important cultural aspect. An increase flow of tourists to the country can have an influence on Bhutanese culture. As of now this is being addressed largely by the national “high value, low volume” tourism policy²¹. The recent introduction of television and internet is having a profound influence on social, economic and political outlook of Bhutanese people leading to a gradual shift in their values, attitudes and expectations of material acquisitions⁶⁴.

Good governance issues. The key ingredients of good governance in the context of GNH are professionalism, accountability, transparency and efficiency of the government’s roles and action with people’s participation in the planning and decision-making process⁴⁹. Political will and commitment is essential at the national level. In 1998, the King voluntarily devolved his executive powers to a council of Ministers elected by the National Assembly. This was followed by the announcement of starting a parliamentary democracy in Bhutan by the King²⁰. In 2007, His majesty and senior government official widely traversed the country and informed all the public in the 20 districts of the proposed parliamentary democracy and the content of the new constitution to be adopted. In 2008 Bhutan became a parliamentary democracy and the constitution was adopted⁵².

Context-dependent issues at the district level

Socio-economic issues. In 2000 the incidence of

rural poverty (41.3%) was about 5 times more than in urban areas (6.4%)⁴⁴. About 28% of the blocks and towns in Bhutan reported food insecurity with about 75% of the poor households being in the eastern and central regions of the country¹⁹. To enhance farm income the government is making renewed efforts to implement and strengthen development programmes pertaining to agriculture and livestock farmer’s groups, so that they can become more competitive in market oriented agricultural and livestock enterprises. The numbers are still low¹³. The need for small roads such as farm roads which can contribute to socio-economic development in the rural areas is a priority²³. Access to societal facilities such as hospitals, schools, extension services (agriculture, livestock and forest), markets and clean drinking water are still needed in many remote areas of the country.

Ecological issues. Shifting cultivation (tseri), a form of slash and burn farming in the sub-tropical regions of Bhutan, is considered an ecological concern as it destroys forest resources and affects soil fertility³⁵. The new land act of Bhutan 2007 has banned such farming practices⁵¹. Overgrazing of forest land and communal grazing areas, large scale forest fires are areas of concern³⁵. Other activities such as tree and fuel wood extraction beyond the permissible limits cause loss of forest cover³⁵. Community forestry is an important programme in the districts³⁵ and concerted efforts are being made to promote such a programme.

Cultural issues. Social cohesion such as providing support to neighbours e.g. in terms of farm labour and lending food to others when their crops fail are mentioned⁴⁴ to contribute to national cohesion and the Bhutanese identity. District festivals exist all over Bhutan and such occasions provide an opportunity for the people to socialise and tourists visiting such festivals provide a good source of income to the rural community. Promoting local traditions wherein the monastic body (Dratshang) plays an important role in the lives of

the people e.g. in religious practices and in social programs wherein they impart health and sanitation messages to the people. In many areas, social stigma on culling of animals for slaughter exists. The paradox is that Bhutanese are consumers of meat, yet when it comes to culling their animals, they are restrained. Many farmers hesitate to cull their animals more out of concerns about what the community would perceive rather than on religious beliefs.

Good governance issues. While the good governance agenda of development agencies has been mostly targeted at national governments, it is argued that good governance efforts should be aimed at the local, municipal level, where the poor, excluded and oppressed live, and where ideally the policies are implemented and national legislation enforced¹⁵⁾. Decentralization is a widely advocated term on the governance agenda and is recommended as a way of empowerment, and it may remove bottle necks in decision making and would make regional and municipal officials more accountable to local citizens²⁴⁾. The administrative and political decentralisation in Bhutan, such as establishment of District Development Committee in 1981 and Block Development Committee in 1991, aimed to strengthen community participation at the grass root levels in the planning and decision making processes⁴⁴⁾. This is in line with the good governance agenda of GNH. There is still a need for strong public awareness on local development plans and funds available for an equitable but prudent utilisation of financial resources for development activities.

Context-dependent issues at the farm level

Socio-economic issues. Generally low household income as a result of low production and productivity of crop and livestock enterprises is an important concern³⁵⁾. The small arable land available per capita is the main cause for low level of food production and productivity³⁵⁾. Low literacy rates are a barrier to the uptake of new farm technologies. Farm labour shortages and lack of efficient technical support services are a con-

straint to socio-economic development³⁵⁾. Landless farmers, the leasing of land, electrification and availability of other energy options for cooking and lighting, especially in remote areas, are areas of concern³⁵⁾. The new land act of 2007 states that landless farmers will be provided land by the government, and that the government grazing land will be leased only to farmers with livestock for up to a period of 30 years⁵¹⁾.

Ecological issues. At farm level the most important interaction between livestock and the environment is the relationship of cattle grazing on forest-land, use of crop residues, pasture and the supply of cattle manure to the soil³⁵⁾. The stigma on culling of animals, especially cattle, results in high livestock numbers exerting pressure on the limited land resources available¹³⁾.

Concerns such as soil erosion of farm land due to excessive rains and poor soil nutrient balances in the smallholder mixed farming systems are rising⁵⁵⁾. The increasing incidence of crops being damaged by predators such as wild boars, monkey are concerns. There is a need to strengthen private forestry programmes at farm level to reduce pressure on government forest reserves for timber and to protect against soil erosion³⁵⁾.

Cultural issues. The traditional age-old adage of honouring parents and respecting elders is inherent in Bhutanese society and this need to be maintained. A strong family cohesion by bonding of individuals as members of extended families is expected to establish a better community, village and block level cohesion⁴⁴⁾. The age-old tradition of family members taking part in annual traditional religious rites and religious festivals are important in the day-to-day lives of most Bhutanese. Sometimes these events interact with the farmer's work, since they will not work on the field on these occasions. Culture varies by society or social groups, understanding cultural norms, values and the specific beliefs associated with agricultural production is therefore important when technical interventions are being implemented to farmer⁴²⁾, so that farmers can successfully

learn and practice. Alhamidi et al. (2003)¹¹ emphasise that consideration of cultural values can make agriculture more sustainable because non-materialistic culture leads to managing natural resources for long-term benefit, not merely for short term economic gains.

Good governance issues. For smallholder crop-livestock farmers, good governance can be translated as farmer's management decisions within his farm system (local governance) that affect the performance of the farm. Such decisions may affect the livelihood of the family members in terms of acquiring the basic human necessities (food, clothing and shelter). It could also affect their relationship with their neighbour's in terms of use of common property resources such as grazing land. At the farm level both women and men share the decision making over use of income and share most of the work. According to DoP (2001)¹⁸, there is no averting gender discrimination in Bhutan.

Discussion

A lot of work has been done on how to assess SD^{11,37,59}. At the same time efforts have been underway are underway in Bhutan for about a decade to capture the essence of GNH and to operationalise it. Recently, the GNH index was developed by the CBS (2009)⁵ and the purpose of the GNH index is to reflect GNH values, set benchmarks and track policies and performances of the country.

The GNH index⁵ prescribes nine domains with a number of indicators for each of these domains. The indicators tend to focus at a personal and subjective level. Only 14% of the indicators are of the continuous type which can be quantified. The GNH index has only four indicators (6% of the total indicators identified for the GNH index) related to the farming community e.g. literacy rate, walking distance to a health care centre, soil erosion and time use. The proposed good governance indicators have no direct relevance to the farming community; rather it focuses on subjective

indicators such as how are central and district governments functioning in terms of reducing income gap, fighting corruption and the involvement of the media.

The 10th Five Year plan documents of the country mentions that poverty alleviation is the main concern²³. About two-third of the population in Bhutan are dependent on agriculture which means that the context dependent issues of the smallholder farmers have to be taken into consideration; otherwise the GNH concept may be more of rhetoric than a practical concept. The conceptual framework (Fig. 4) could be a useful starting point to access: the context dependent issues of GNH at different system levels. More indicators are required especially at the farm level for the cultural and good governance pillars of GNH to make GNH a practical concept.

Amongst the various development interventions at the smallholder crop-livestock farmer's level, livestock intensification is an important strategy to enhance household income at the farm level. This requires an understanding of the implication of intensification from an economic and environmental aspect as well. Understanding the livestock carrying capacity of land resources is important so that grazing pressure on the CPR (common property resources such as forest and grazing land) can be addressed, and nutrient flows from livestock to these CPR and vice versa can be understood. Intensification also requires that farmers manage and integrate their farming systems including land, crops and livestock appropriately. Intensification of farm activities requires extra capital for feed and infrastructure, good market set up and effective support services. Good governance should pursue equitable socio-economic development, however, regions lacking these pre-requisites may not be suitable for intensification and while such facilities are being built, coping strategies for other avenues of socio-economic development are required.

Conclusion

This paper concludes that GNH could be

defined as SD with the added focus on cultural values and good governance. The study of the context dependent issues in the conceptual framework indicates that the concept of GNH assessment may be more appropriate at district and national level. At the district and national level, the building blocks of GNH constitute a useful framework through which regional and national development can be actualized. At the farm level it is felt that at the moment assessing SD will be more appropriate. This is because there is a need for more in depth study to develop quality indicators for the two “building blocks” such as culture and good governance at the farm.. Therefore at the smallholder crop-cattle farming systems level, it may be more useful to first assess SD which constitutes the socio-economic and ecological building blocks of GNH.

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ブータンにおける農畜複合小自作農業体系の発展を評価するための概念構成 —持続的発展度それとも国民総幸福度？—

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要 約

本論文の目的は、ブータンにおける異なるレベルでの発展の評価、特に農畜複合小自作農組織レベルでの発展を評価するために、持続的発展度 (SD) と国民総幸福度 (GNH) の概念を比較することである。SD は約20年前に作られたが、GNH は1998年に国際的な注目をひいた概念である。この論文では、SD と GNH の類似点と相違点およびこれらの概念のブータンにおける適用について検討した。一般的に挙げられる GNH の4つの柱 (構成要素) は、持続的で平等な社会経済の発展、自然環境の保全、文化遺産の保護と振興、良き統治である。GNH は県や国のような高度な組織レベルの評価により適していると結論した。それは GNH の構成要素がこのレベルにおいて有用な骨組みを構成し、それを通じて地域や国の発展が実現されるからである。現在、農民レベルの評価には SD がより適している。なぜならば、このレベルにおいては文化や良き統治などの GNH の構成要素の指標がまだほとんど無く、定量的でなく曖昧であるからである。

キーワード：国民総幸福度, 小自作農, 持続的発展度, 農畜複合, ブータン, GNH