

## LINKING TRADE WITH THE ENVIRONMENT IN THE CONTEXT OF WTO: WHY IS THIS OPTION GOOD FOR BHUTAN?\*

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Those formulating Bhutan's development strategy have begun to recognize the benefits of globalization and increased participation in international trade. Over the past 30 years, Bhutan's interaction with the outside world at the bilateral and multilateral levels has increased intensively. Today, the country not only aims at building up a strong export oriented economy to compete in the regional market, but also aspires to join the WTO in future. However, Bhutan continues to face constraints in developing a niche market. The present paper argues that the post-Rio world has provided an opportunity, not only for increased trade but also for a diversified trade. This is likely to come about by linking trade with environment and following WTO-conforming product standards. Bhutan is in a better position to pursue this option. At this stage, Bhutan cannot afford to ignore the 'new possibility' of trade expansion and diversification in the areas of natural resource based primary products, food processing, mineral products and other manufacturing. While the potential for trade expansion through linking it to environment exists for Bhutan, there are limiting factors, which will keep on undermining its capacity to do so. These factors are related to manpower development, acquisition of technical knowledge, mobilization of funds, creation of database and inventories and furthering cooperation and trade etc. These are also the areas where exists the potential role of international organizations to assist Bhutan. Regional forums like SAARC are extremely important for Bhutan. It is in the SAARC that Bhutan can address problems related to trade and environment and gain advantages. Meanwhile, it is in the interest of Bhutan to keep a close watch on the latest trends in liberalization and the issue of 'green trade', particularly from the point of view of developing countries, and for its own interest.

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## Section One

### Introduction

Of late, the debate on trade liberalization has incorporated the element of 'environment', especially in the context of WTO policies. This suggests the use of environmental standards in trade. The argument is that mutually supportive trade and environment policies are necessary to achieve the goal of sustainable development. The 1992 Rio Earth Summit fully endorsed this view:

"An open multilateral trading system makes possible a more efficient allocation and use of resources. It thus provides additional resources required for economic growth and development and improved environmental protection. A sound environment, on the other hand, provides the ecological and other resources needed to sustain growth and underpin a continuing expansion of trade". (Chapter 2, Agenda 21)

Further, Principle 12 of the Rio declaration warns the countries on unjustified trade policy measures for environmental purposes (UNCED 1992). There is a clear-cut understanding on the issue that expansion of trade is necessary for bringing about the required expansion of the economy. Liberalisation and openness bring more opportunities for trade expansion. More trade would mean more resources to be channelled into the social sector and environmental protection. In turn, a better environment quality would facilitate more trade opportunities. Thus, the twin goals of trade enhancement and environmental protection would not remain mutually exclusive. This is called for because the expansion and deregulation of international trade will have a number of potentially threatening environmental implications, especially for developing countries. However, the growing evidence of inconsistent approaches for environment management has questioned the very usage of trade as a tool for environment management (Roberts, Josling and Orden 1999). Based on the experiences of the post-WTO trade regime and particularly the debate that followed in the post-Doha meetings, there have been two contrasting views advocated in this regard.

It has been pointed out that sanitary and phyto-sanitary environmental standards and requirements such as harmonization of national and international standards are difficult for developing countries, and their exports have been negatively affected due to new trade norms. The idea of 'green trade' is in fact turning out to be 'green

protectionism'. They have been observed as non-tariff barriers (NTBs) against trade. Developing countries also lack Environmentally Sound Technologies (ESTs) to compete with others in the global market. It is argued that since developing countries have mostly weaker environmental laws and /or lax enforcement, the removal of barriers for investment will lead to the relocation of hazardous industries or toxic technological processes in these economies. Further, developed countries are of the view that low environmental standards are a sort of subsidy (equivalent to the amount needed to comply the upgraded standards) on the product, and that needs to be corrected by appropriate countervailing measures.

Once appropriate environmental standards and other measures are successfully effected, they will enhance trade opportunities and help in achieving sustainable development. Such products have comparative advantage over other products in the market. The global market for environmentally friendly products is increasing at a faster rate and it is expected to touch US\$600 billion by 2002. In such cases, studies suggest that the higher environmental standards in developed countries have not adversely affected the trade of these countries.

Developing countries are vulnerable to the negative effects of environmental policy on trade, and are facing difficulties. Bhutan's experience with linking trade with the environment is limited. It does not provide evidences either to support or reject the current debate on trade liberalization involving the issue of linking trade with environment. Nevertheless, the issue is crucial for Bhutan.

Bhutan has committed to the Rio Declaration on Environment and Development, as it is a signatory to both the Rio Convention of Biological Diversity and the United Nation's Framework Convention on Climate Change. Today after ten years when Bhutan found itself in the Johannesburg World Summit along with other nations of the world, who were either reiterating the same issues in different tones or lamenting the failure to commit to the declaration, Bhutan could boast of its share of contribution to uphold the spirit of Rio, within resource constraints, through its efforts in environmental protection and conservation. Some of the obvious accomplishments are the creation of the Bhutan Trust Fund for Environment Conservation, strengthening of conservation-oriented organizations like National Environment Commission and Nature Conservation Division and establishment of several national parks and sanctuaries and a National Biodiversity Centre. Above all, the basic concept of sustainable development has been incorporated in all governmental plans and programmes, giving impetus to the spirit of conservation and sustenance, which is befitting the concept of middle

path, a strong and practical principle of Buddhism. The Royal Government's Millennium Development Goal (MDGs) No.7 clearly states: The goal is to—"Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources" (MDGs Bhutan 2002, p.41).

On the other hand, Bhutan's development strategy has gradually started recognizing the benefits of globalization and increased participation in international trade. Over the past 30 years, Bhutan's interaction with the outside world at the bilateral and multilateral levels has increased intensively. Today, the country not only aims at building up a strong export oriented economy to compete in the regional market, but also aspires to join the WTO, for which pre-accession conditions (more precisely pre-accession climate in terms of putting in place the WTO conforming regime in areas like TRIPS, TRIMS etc.) are being met, albeit slowly.

Nevertheless, while a fully open economy and milestones like WTO membership are unlikely to happen in the near future, Bhutan continues to face constraints in creating a niche for its products. The items for exports and imports are limited. Exports are mainly electricity, mineral products such as cement, ferro-alloys, calcium carbide and coal, particleboard and fruits, such as oranges and apples. Imports include capital goods, petroleum products and a large number of consumer goods. The value of Bhutan's imports continues to outweigh exports, reflected in the overall trade deficit of about 15 % of GDP in 1999-2000. This represents the widening of the trade deficit gap in comparison to 6% and about 14 % of GDP as witnessed in the years 1997-98 and 1998-99 respectively. Enhancement in the value of imports occurred mainly due to imports for new hydropower plants and related service payments. This has resulted in widening of the current account deficit gap to 26.7% of GDP in 1999-2000. Undoubtedly, the production of hydropower forms the most important area of comparative advantage; it also points to the country's crucial dependence on this single source of export earnings. At this stage Bhutan cannot afford to ignore the possibility of trade expansion and diversification in the areas of natural resource based primary products, food processing, mineral products and other manufacturing.

The paper argues that the opportunity to have an environmental conservation policy deeply rooted in Buddhist tradition and culture, and production units working under a well regulated Environmental Impact Assessment (EIAs) system, incorporating the import of environmentally sound technology exist for Bhutan. However, generating technical assistance in understanding how to establish a system for internalizing

the external environmental costs would be needed. Finding out the ways in which environmental standards can provide with trading opportunities, especially outside the South Asian region would be another key area to be explored.

The paper is divided into eight Sections. Section two provides a theoretical perspective on trade and environment. This section also covers a review of important studies undertaken in this regard. Section three presents GATT/WTO provisions with regard to the environmental standards and other measures to be followed in trade. Section four reviews the development experiences of Bhutan during the planning period. Section five covers a discussion on country's trade situation. Section six deals with Bhutan's environmental protection philosophy, policy and instruments. Section seven analyses the challenges and prospects for Bhutan in the face of processes such as liberalization and linking trade with environment. The last Section presents concluding remarks.

## **Section Two**

### **A Perspective on Trade and Environment**

#### *The Development Debate*

The intersection of trade and environment has been the growing concern of policy makers in the 1990s. The task at hand is to balance environmental and trade concerns and determine the changes necessary in the existing trade regime. Historically, however, the evolution of market system started with the entrepreneurial efficiency in developing and improving innovations in the field of textiles, coal and steam power in England in the late 18<sup>th</sup> century, which focussed mainly on production. The spread of railways and iron and steel production marked the entry of United States, Germany, France, Central and North European countries into market oriented industrialized country. In the mean time, England suffered a set back in the form of 'Long Depression' (Patel 1967) and by the time the 19<sup>th</sup> century closed the United States, Sweden, and Germany emerged as the industrial centre of the period. Following this, Japan, Canada, Australia, New Zealand, Italy, Finland and the ex-Soviet Union emerged as the expanded industrial centres of the world. The annual growth rates of these newly industrialized countries were nearly twice as high as in the established centre (Patel 1986, p.539). Industrialization was considered synonymous with prosperity. Trade had a major role to play. It was not surprising that the model followed by the emerging developing nations in the 1950s and 1960s was a mere duplication of the path followed by the then 'successful countries'. Economic efficiency was

the name of the game. Enhancement of output and growth were the targets to be achieved.

The early 1970s, in some cases mid-60s, exposed the weaknesses of the “trickle-down approach” adopted in developing countries. The growing number of poor in these countries led to a change in the development paradigm towards distributional objectives. The concern for equity was treated as important as that for growth. The onset of 1980s, however, witnessed an overwhelming concern for protection of the environment as an additional objective of economic development. There has been “market failures” as well as “policy failures”, resulting in massive loss of the environment. Throughout 1980s, the concept of Sustainable Development gained remarkable currency. Three important documents (*World Conservation Strategy* 1980; *Our Common Future* 1987 and *Caring for Earth* 1991), spanning the years between the UN Conference on the Human Environment in Stockholm in 1972 and the conference on Environment and Development in Rio de Janeiro in 1992, formed the mainstream thinking on sustainable development. There is little doubt that sustainable development has become the development phrase in the 1990s, providing much needed green counterpoint to both ‘blue’ (market economy) and ‘red’ (socialist economy) development strategy.

#### *A Brief History*

The 1970s marked the beginning of real attempts to integrate environmental considerations into trade policies at the global level. The 1972 Stockholm Conference and the preparatory study entitled “Industrial Pollution Control and International Trade” focused primarily on ‘green protectionism’. The group on Environmental Measures and International Trade (EMIT) could not address the issue much and proved more or less sterile. The Tokyo Round (1973-1979) of GATT negotiation did little for an explicit discussion on trade and environmental policies. The round concentrated more on ‘obstacles to trade’ issues and negotiated for TBT, the technical barrier to trade.

The Uruguay Round (1986-1994) of GATT negotiation effected modifications in the TBT Agreement and discussed Trade in Services, Agriculture, SPS, SCM and TRIPS. This resulted into a long drawn out protest and concern from developing countries. On the other side, the 1982 Ministerial Meeting of GATT Contracting Parties decided to examine the export of ‘prohibited goods’ and ‘hazardous substances’, which kept increasing over the years. Finally in 1994, EMIT group was replaced by a Committee on Trade and Environment (CTE). The CTE

started exploring the relationship between trade measures and environmental measures in order to promote sustainable development.

The post-Rio understanding of UNCTAD and UNEP aimed at working together on the issue of trade and environment. These two institutions failed to affect the international policy in a way GATT could do. The GATT's negotiations culminated into the Marrakesh Declaration. In 1995, GATT gave way to WTO. Since then, the CTE of WTO has been the main body for the integration of trade and environmental issues.

### *Theoretical Underpinning*

Enhanced trade would mean more earnings. The surplus generated in this process can have number of welfare effects. It would not only help the social sector, but would also enhance the country's capacity to tackle the potential environmental problems. Ripetto (1994), for example, finds no inherent contradiction between trade and environment. There have been attempts during 1970s to explore and emphasize the relationship between trade and environment (Baumol 1971; GATT 1971; Markusen 1975 and Walter 1976). This represented the recognition to the fact that free trade might lead to adverse environmental consequences and therefore there is a need to reconcile the principles of trade with the environmental outcome. It has been pointed out that trade theorists have failed to focus on the issue of environmental externalities emanating in the process of trade, which get accentuated with free trade. The 1990s seem to have focused more on the complementarity of trade and environmental policy measures (Anderson and Blackurst, 1992; Sorsa, 1994; Carraro, 1994; Beers, 1996 and Bhagwati and Srinivasan, 1996). The link between free trade and environmental diversity is extensively explored by Bhagwati and Srinivasan (1996). The theoretical underpinning to treat environment as a global good has also been developed.

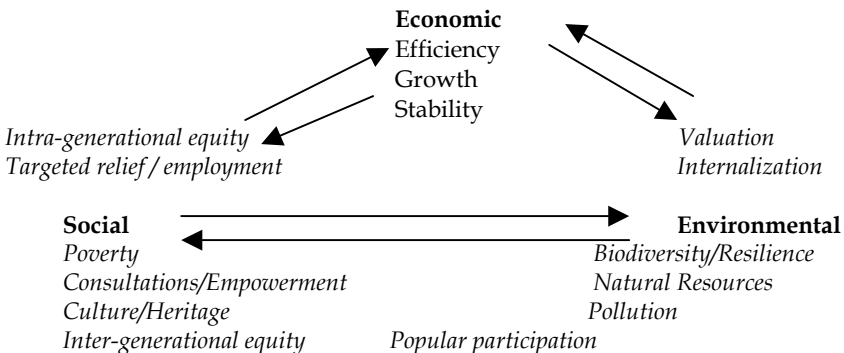
Daly and Cobb (1994) and Goodland and Daly (1995) provide evidences as to how the current modes of production prevailing in most parts of the world economy have depleted natural capital such as top soil, ground water, tropical forests, fisheries and biodiversity. Such depletion of natural resources, along with degradation of land and atmospheric quality, are reducing future potential bio-physical carrying capacities. Such arguments reject current patterns of development and go against trade. These concerns led them to conclude in favour of linking trade to local and regional ecosystem changes as well as to global environmental degradation.

Trade produces negative externalities, if environmental considerations are not attached to it. The solution lies in internalization of

such externalities. There have been two issues in this regard: one whether the necessary changes in the policy required at the domestic, regional and global level are enforced and followed; and two, whether such internalization of externalities are going to hamper trade due to increased costs of production. The question of minimizing the conflict between trade and environment would rest finally on how the developing countries would go about addressing the above two issues.

### *Theory of Sustainable Development*

In terms of development theory, it is not very clear whether Sustainable Development offers a new paradigm or it is simply a green wash over business-as-usual. However, a quick adoption of the term by the beginning of 1990s by agencies like World Bank (1992), OECD (Davidson, Myers and Chakraborty 1992), and UNDP (ESCAP 1991) have contributed a great deal in making Sustainable Development, the development catch phrase in the post-1990 world (David 1993, pp.4-7). Munasinghe and Cruz (World Bank Environment Paper, No.10) provide a brief outline of how sustainable development provides a linkage between the environment and economywide policies. The concept is evolved to encompass three major points of view – economic, social and environmental. Munasinghe’s diagram represents the basic interactive framework of sustainable development.



It is clear that sustainable development necessitates that an appropriate environmental policy evolve at the national level. The required synergy becomes achievable in the presence of a good environmental policy.



*The EKC Hypothesis*

The Environmental Kuznets Curve (EKC) hypothesis suggests that environmental indicators display an “inverted U-shaped” relationship with per capita income. There is a ‘turning point’ of the level of income at which the marginal change in indicator of environmental quality is zero as income increases. Therefore, environmental deterioration is a growing up problem and it will go away automatically with economic development. The hypothesis presupposes that as industry’s share in GDP changes, environmental degradation changes. As this leads to a change in income, the associated technological change brings more efficiency and less environmental degradation. Further, environmental quality is a luxury good, which is demanded more as income increases. Panayotou (1992) tends to suggest the inevitability of environmental degradation with a country’s economic development in the early stages and then the significant improvements at a later stage. Therefore, economic development is a cause as well as a remedy for environmental degradation.

Barbier (1997) provides a review of the various estimation of the ‘turning point’, which suggests that in air pollution for SO<sub>2</sub> and SPM it takes place between US \$3000-10,000 and for NO<sub>x</sub> it, is between US \$5000-22000. In the case of deforestation, the turning point takes place between US \$800-5000. EKC generally seems to hold for pollutants such as sulphur dioxide, nitrogen oxides and carbon monoxides, which impact local air pollution. It seems that developing countries are way behind the ‘turning point’ level of per capita income. If these connotations are to be accepted, developing countries seem to have less chance of reaching beyond the tuning point. However, Panayotou (1997) has suggested a reduced form approach to income-environment relationships emphasising the role of policy intervention. This suggests that economic growth is not sufficient to stem environmental degradation. There is a clear need for good environmental policies without which environmental quality will continue to decline.

The theory of SD and EKC both point to the need of a good environmental policy. Herein lies the chance of developing countries to achieve higher environmental quality even with relatively low economic development. It is in this context that the policy discussion on linking trade with environment becomes significant.

*New Instruments for Addressing Market Failures and Policy Failures*

Market alone does not provide a solution to and account for environmental damage. Market works through price signal. The equilibrium price merely suggests that the market will be cleared. When

dealing with the environment, such equilibrium price may send a wrong signal. This quite often results into massive environmental damage which is not accounted for in such price. Market failure occurs because of externalities in space and time. This happens when the equilibrium price fails to reflect the true social costs and benefits of resource use. For example, resource extraction may give rise to external costs. Timber exploitation may contribute to soil erosion and affect farmers downstream. In this case, market price may not accurately reflect resource scarcity and resources are used inefficiently and are misallocated. Further, when certain values are not included in prices or are ignored, prices do not send correct messages about the true value of resources. For example, ignoring the carbon sequestration benefits of increased tree planting will result in too few trees being planted.

Policies failures occur when the policies are implemented for very good reasons, but creates unintended and usually negative environmental side effects. For example, in order to encourage rice production, government policy of subsidizing fertilizer and pesticides may result in higher rice production, but also pollution of water by agricultural chemicals, thereby negatively affecting both ecosystem and people's health.

Institutions have an important role to play in setting the rules of natural resource management and to ensure that they are followed properly. They also have an important regulatory role. Such roles must be clear and well defined. Dixon (2001) is of the opinion that in all institutional functions (such as pollution control and emission standards, licensing and permit laws, concession terms, tenant arrangement etc.) transactions should be minimized for markets to function properly. Institutional failures would otherwise result in market failure.

Thus, a wide range of measures are needed to address the environmental problems and to achieve the desired results. Prohibitions, emission standards, environmental quality assessment requirements, monitoring and reporting, testing, packaging and labeling are now seen as components of an environmental policy. Market based instruments and definition and enforcement of property rights also form part of environmental policy. *Externalities* in time and space and *valuation* of non-market resources should be addressed for correct policies and market signals, which do not cause damage to environment. This is a tentative shift to address market and policy failures of the past in new ways (Shaw and Hanson 1996, p.137).

### Section Three

#### GATT/WTO Provisions on Trade and Environment

##### *Environmental Provisions*

The preamble of WTO states:

“...relations in the field of trade and economic endeavour should be conducted with a view to raising standards of living, ensuring full employment and a large and steady growing volume of real income and effective demand, and expanding the production and trade in goods and services, while allowing the optimal use of the world’s resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and enhance the means for doing so in a manner consistent with their respective needs, and concerns at different levels of economic development.” (GATT 1994).

‘Environment’ has not been an agenda in either GATT or WTO. There have been provisions with environmental implications. Some of the main provisions in the WTO agreements dealing with environmental issues are:

- GATT Article I: Most Favoured Nation (MFN) treatment.
- GATT Article III: National treatment.
- GATT Article XX: General exceptions, policies affecting trade in goods for protecting human, animal or plant life or health are exempt from normal GATT disciplines under certain conditions.
- TBT: Standard codes, products and industrial standards, Sanitary and Phytosanitary (SPS) measures and recognition of some environmental objectives.
- Agriculture: Environmental programs exempt from cuts in subsidies.
- Subsidies and Countervail: Allows one time subsidies, up to 20% of firms’ costs for adapting to new environmental laws.
- Intellectual Property: Governments can refuse to issue patents that threaten human, animal or plant life or health, or risk serious damage to the environment (TRIPS Article 27).
- GATT Article 14: Exceptions in trade in services.

The main guiding principle of WTO in regulating the multilateral trading system is the tenet of ‘non-discrimination’ of like-products. This ensures that a national environmental policy does not discriminate

between foreign and domestically produced like-products. However, critics argue that different process and production methods (PPM) may result in the production of 'like-products' and as such PPMs may lead to environmentally damaging consequences. There is no provision in WTO based on PPM standards. Further, countries having their own environmental regulations and standards are not allowed to address the global concerns as this has been ruled in the famous 'tuna-dolphin case' between Mexico and the USA. Unilateral measures are out of the purview of GATT.

*Article XX on general exceptions*

"Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures...

(b) necessary to protect human, animal or plant life or health...

(g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption."

Article xx has been designed also to ensure that the GATT inconsistent measures do lead

to arbitrary discrimination or disguised restriction on international trade.

*Article XIV on general exceptions*

This Article was negotiated during the Uruguay Round. Like Article XX, Article XIV (b) allows WTO members to adopt GATT inconsistent policy if this is "necessary to protect human, animal or plant life or health". However, such measures should not result in arbitrary discrimination or disguised restriction on international trade.

*The Agreements on TBT*

The Agreements on TBT tend to ensure that technical regulations and standards, as well as testing and certification procedures, do not create unnecessary obstacle to trade. However, the individual countries' rights to adopt discriminatory measures for the protection of human, animal or plant life or health has been recognized under the agreement. The *conformity assessment procedure* is designed to allow the members to take measures to ensure that their own standards of protection are met. There has to be non-discrimination in the preparation, adoption and application of such technical regulations, standards and conformity assessment procedures. The agreement provides for the requirement of

transparency of these measures through their notification to the WTO Secretariat and the establishment of national enquiry points.

#### *The Agreements on SPS*

Sanitary measures deal with food safety and animal health aspects. Phytosanitary measures deal with plant life. Article Two (Basic rights and obligations) para 2.1 of the SPS Agreement says, "Members have the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health, provided that such members' measures are not inconsistent with the provisions of this Agreement". The Agreement recognizes members' rights to adopt the SPS measures, but stipulates that they must be based on science. Article Two para 2.2 states—"Members shall ensure that any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health, is based on scientific principles and is not maintained without sufficient scientific evidence, except as provided in paragraph 7 of Article 5".

The adoption of SPS measures should not lead to arbitrary or unjustifiable discrimination between members where identical conditions prevail. Such measures should also not be applied in a manner which would constitute a disguised restriction on international trade. The Agreement also talks about possible harmonization of SPS standards based on international scientific organizations such as the Codex Alimentarius Commission and International Plant Protection Organization.

#### *The Agreement of TRIPS*

The TRIPS Agreement related to environment is dealt with in Section 5 on Patents. Article 27 (2) and (3) of Section 5 provides for the exclusion of members from patentability whose prevention within the territory is necessary to protect, among other objectives, human, animal or plant life or health to avoid serious prejudice to environment. Under the agreement, members must provide for the protection of plant varieties either by patents or by an effective *sui generis* system or by a combination of the two. Therefore, under the agreement members can refuse the patenting of inventions which may endanger the environment, provided their commercial exploitation is prohibited as a necessary condition for the protection of the environment.

#### *Agreement on Agriculture*

The Agreement on agriculture seeks to reform trade in agricultural products and provides the basis for market-oriented policies. This provides for agricultural reforms, which protect the environment. Under

the Agreement, domestic support measures with minimal impact on trade (known as *Green Box* policy) are excluded from reduction (e.g. subsidy) commitments, contained in Annex 2 of the Agreement.

### *Agreement on SCM*

The Agreement on subsidy and countervailing measures (SCM), specifies certain subsidies to meet new environmental requirements and also research and development activities as 'non-actionable'. Such subsidies are permitted by the Agreement (Article 8). Article 8(c) provides for 'non-actionable' subsidies to promote the adaptation of existing facilities to new environmental requirements imposed by law and/or regulations which result in greater constraints and financial burden on firms. Some of the non-actionable subsidies such as those on R&D are limited to a one time allowance of 20% of costs of adaptation of facilities and equipment to new environmental laws.

### **Product Standards**

The existing WTO norms are related to the standards of the final product and not the process through which it has been produced. This is because of the non-recognition of the unilateral measures under WTO. Process and production methods (PPMs) are extremely important from an environmental point of view. PPMs can differ across countries. A major concern in this regard is that even a product standard compliant output can be obtained through environmentally damaging PPM. This is known as non-product related PPMs (NPR-PPMs). Developed countries are insisting that such NPR-PPMs should be incorporated in the WTO measures, while developing countries have opposed it for its potent protection intent. Meanwhile, there have been multiplicity of standards incorporating the quality assurance provisions which are akin to the PPMs.

Some of the product related environmental measures are:

- *Prohibitions*: Ban on the production, use and import of environmentally damaging products. For an importing country prohibition applies to the damaging consequences of consumption and after consumption disposal of packaging material or the waste.
- *Regulations*: Environmental regulations are to be complied for sale in the domestic market, equally applicable to the import of like products.
- *Recycling*: Measures for re-use or re-cycling of certain waste products or material.

- *Taxation*: Charges on products with possible environmental stress.
- *Eco-labeling*: Voluntary labels informing the consumers about environmental friendly nature of the product.
- *Mandatory labeling*: Mandatory labels on environmental-related information.
- *Controlled substances*: Related to Montreal Protocol on substances that deplete ozone layer. (UNCTAD 1996)

### **Eco-labeling**

The 1992 Rio Earth Summit endorsed the idea of eco-labeling (Agenda 21) for making the environmentally friendly commodities popular and identifiable. This will have the potential to change consumption patterns in favour of eco-friendly products (UNEPD 1992). An eco-labeling program is based on 'life cycle approach' in which PPM plays an important role. At present only a few developing countries have their own eco-labeling program. Most of such programs all across the globe are voluntary in nature. Manoharan, Pandey and Khan (2000, p.18) have reported the following selected eco-labeling program in the various countries:

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|----------------------|---|
| • Germany:           | <i>Blue Angel</i> (1977)                |
| • Canada:            | <i>Environmental Choice</i> (1988)      |
| • Japan:             | <i>Eco-mark</i> (1989)                  |
| • United States:     | <i>Green seal</i> (1989)                |
| • Sweden:            | <i>Good Environmental Choice</i> (1990) |
| • India:             | <i>Eco-mark</i> (1991)                  |
| • Australia:         | <i>Environmental Choice</i> (1991)      |
| • Republic of Korea: | <i>Eco-mark</i> (1992)                  |
| • Singapore:         | <i>Green Label Singapore</i> (1992)     |
| • France:            | <i>NF-Environment</i> (1992)            |
| • Netherlands:       | <i>Stitching Milieukeur</i> (1992)      |
| • European Union:    | <i>European Flower</i> (1992)           |

The system of eco-labeling has raised a number of issues which are of critical significance for developing countries. First of all, there is a question of local verses global environmental problems. Environmental problems may differ in nature and magnitude across countries. The specific PPM related criteria covers the domestic condition and reflects the priority of the producing country, whereas the priority of the importing country may differ a great deal. Therefore, eco-labeling developed in one country may not be very suitable to the needs of the importing country. Secondly, there has been conflict in ascertaining the

legal validity of eco-labeling with the provisioning of WTO. The attempt of extending the coverage of eco-labeling to non-related PPMs is in conflict with the product based rules of WTO. In this circumstance, the possibility of using eco-labeling as a non-trade barrier by developed countries against developing countries cannot be ruled out. Nevertheless, it is always advisable for developing countries to come up with their own eco-labeling at the earliest opportunity.

### **Harmonization**

There is not only the issue of setting the environmental standards but also to bring cross-country intra-industry parity. Environmental standards differ widely across countries. WTO has not been able to come up with a single standard acceptable to both developed and developing countries. While developing countries' standards are usually lower than that of developed countries, they have quite often experienced a ban on exports. Developing countries argue that developed countries standards are quite stringent and they are far above the 'necessary' requirements to address the concerned environmental problems. At the same time, developed countries are not ready to lower their standards. They argue that these have been evolved after a long struggle and lowering would mean 'racing to bottom' for them. Environmentalists argue that harmonization is simply a euphemism for levelling-off, generally downwards. This means searching for the Lowest Common Denominator (the LCD effect). Instead, developing countries should raise environmental standards so that producers can compete on a level playing field. Such production should include environmental costs. However, developing countries argue that they do not have adequate technical expertise to develop, and resources to maintain, the same environmental standards of developed countries. Further, too much raising of standards in developed countries has also resulted into relocation of dirty industries to developing countries. Developing countries find themselves ill equipped to deal with such cases of relocation.

The idea of imposition of trade related environmental standards and other measures have been discussed widely in literature, more recently by Bhagwati and Srinivasan (1996). Economists seem to differ on the issue of advantages arising out of harmonisation of standards. Johnson (1968), for example, points out that benefits from trade liberalization are not dependent on harmonisation of general social policies. Once internalisation of environmental costs is done, harmonisation may not remain an issue (Ostry 1990). Meanwhile, developing countries are



constantly under pressure to set and raise the environmental standards of their products.

## Section Four

### Development Planning in Bhutan

*Bhutan's economy has undergone structural transformation*

The Kingdom of Bhutan is no longer a 'hidden and forbidden land'. Over the last four decades of planned economic development, the country has undergone a considerable transformation and is opening up. It has also achieved a fair amount of self-sufficiency over time. The structural transformation of the domestic economy is reflected in the basic socio- economic indicators, sectoral shares to GDP and the progress in Human Development Index.

*Improvement in the Basic Socio-Economic Indicators*

In 1961, when the First Five Year Plan was launched, Bhutan's GNP per capita of US \$ 51 was, perhaps, the lowest in the world. An examination of Table-1 below, however, suggests that in 1999, the observed GNP per capita of US \$ 556 was one of the highest in the South Asia region; moreover a metamorphosis has taken place in the field of health and education. There has been dramatic improvement in the life expectancy at birth and a substantial reduction in infant mortality rate. Life expectancy of 66 years in 1999 is a comparable achievement in the sub-region. Even though the impact of overall socio- economic development in bridging the gap between birth rate (recorded at 39.9 per thousand in 1999) and death rate is yet to come about, the expansion of primary health services has brought down the crude death rate to an internationally comparable level (from 205 per thousand in 1977 to 9 per thousand in 1999). In the field of education, from just 400 students in 11 primary schools in 1961, the country has progressed to a level of starting engineering degree course of its own. A fully operative National University is to come up by 2007 (The National University of Bhutan has already come in to being on June 2, 2003). The overall adult literacy rate has picked up to 54% in 1999 with the primary school enrolment rate reaching 72%.

**Table 21 : Selected Socio-Economic Indicators of Bhutan**

Indicator	1961	1970	1980	1999
Crude birth rate (per thousand)	n.a	n.a	43.6(1977)	39.9
Crude death rate (per thousand)	n.a	n.a	20.5(1977)	9.0

Indicator	1961	1970	1980	1999
Life expectancy (years)	35	45	46.1	66.1
Infant mortality rate(per 1000 live births)	203	158	142(1984)	70.7
Number of schools	11	98	150	354(2000)
Primary school enrolment rate(%)	n.a	n.a	n.a	72
Adult literacy rate (pilot)(%)	n.a	10	17.5	54
Rural population with access to portable water (%)	n.a	n.a	31(1977)	58
Rural population with access to safe sanitation (%)	n.a	n.a	n.a	80
Number of villages electrified	n.a	n.a	363(1997)	552(2000)
Electricity consumption (MU)	n.a	n.a	366.4 (1997)	445.6 (2000)
Telephone connection per 1000 population	n.a	n.a	n.a	23.34
GNP per capita (US\$)	51	n.a	116	556

Source : i) CSO, Planning Commission, Royal Government of Bhutan.

ii) Bhutan at a Glance 2001, accessed at <http://www.pcs.gov.bt/> on 7-6-2003.

With 79% of the population living in rural area and most of them eking out their livelihood from agriculture and forests, Bhutan is still a predominantly agrarian economy. Nevertheless, the basic facilities and amenities in rural areas have been added a great deal over time. In 1999, as high as 58% of the rural population had access to portable water and 80% had access to safe sanitation. Rural infrastructure and services in terms of road, postal facilities and telephone services have increased tremendously. The number of villages electrified has gone up to 552 in 2000 with almost all of them having either a primary school or a community school. The rise in energy consumption is reflected in use of electricity which has touched 445.6 MU in 2000. There were 23.34 telephone connections per 1000 population in 1999.

#### *Changes in Sectoral Shares to Real GDP*

Table-2 presents the share of major sectors to real GDP at factor cost. It indicates that the percentage share of primary sector as a whole to GDP has been declining since 1980, whereas the shares of secondary and

tertiary sectors have been rising. In 2000, the share of primary sector to GDP stands at 33.9% while the secondary and tertiary sectors contribute 30.9 and 35.1% respectively. In the early 1980s the whole of the primary sector, along with trade, accounted for about two-third of GDP, while their contribution declined to about one half in 1990 and to a little more than one-third in 2000. This is projected to drop further to just over one quarter of GDP by the end of the 9<sup>th</sup> Five Year Plan (*Ninth Five Year Plan 2002*, Planning Commission, pp.55-56). Over time the significance of electricity, manufacturing and construction increased tremendously.

**Table 22: Sectoral Shares to Real GDP of Bhutan**

Sectors	Percentage share to Real GDP (at 1980 prices)			
	1980	1990	1999	2000
Primary sector	56.4	45.0	35.1	33.9
Agriculture	27.8	23.6	16.8	16.2
Forestry & logging	15.5	11.1	9.6	9.2
Livestock & fishing	12.5	9.4	7.3	7.1
Mining and quarrying	0.6	0.9	1.4	1.4
Secondary sector	11.3	22.2	29.7	30.9
Manufacturing	3.2	7.0	9.6	9.4
Electricity, water, gas	0.2	9.1	10.4	10.6
Construction	7.9	6.1	9.7	10.9
Tertiary sector	32.3	32.9	35.2	35.1
Wholesale & retail trade, restaurants and hotels	10.9	6.0	6.1	6.0
Transport, storage and communications	4.3	7.6	10.0	16.6
Financing insurance & real state	6.3	9.4	8.7	8.4
Community, social & personal service (Govt)	10.8	9.9	10.4	10.1

Source: i) National Accounts Statistics Report 1980-1999, CSO, Planning Commission, Royal Govt of Bhutan  
 ii) Selected Economic Indicators, June and September 2001, Royal Monetary Authority, Royal Govt. of Bhutan

During the 1980s the potentiality of the southern watershed of the Himalayas was gradually tapped with the help of Indian technical and financial assistance. This resulted in the first major hydropower project at Chukha entering into production and export in 1986. As a result, the contribution of electricity to real GDP increased from a meager 0.2% in 1980 to 9.1% in 1990, 10.4% in 1999 and 10.6% in 2000.

The growth of the electricity sector has also brought about an expansion of manufacturing and construction activities. While the share of manufacturing to real GDP increased substantially, from 3.2% in 1980 to 9.4% in 2000, the enhancement in the construction sector's contribution to GDP was the direct result of construction activities carried out by Kurichu, Tala and Basochu hydropower projects. With the introduction of water meters in urban areas like Thimphu and Phuentsholing in 1996, and to other towns later on, the contribution of water to GDP has increased by 0.7% between 1998-99 (*National Accounts Statistics 1980-99*, CSO). The expansion of hydropower potential has proved to be the 'prime mover' of economic growth and the 'vehicle of change' in Bhutan. Even though the agriculture sector is still the largest contributor to GDP, with its value addition equivalent to the aggregate of electricity, construction and manufacturing, Bhutan seems to have transformed from a 'hermetically sealed', rural based barter economy to a relatively modern structure.

#### *Improvement in Human Development Index*

The qualitative dimension of this transformation has been reflected in the continuous improvement witnessed in the Human Development Index (HDI). The Planning Commission's estimate suggests an improvement in HDI from 0.325 in 1984 to 0.581 in 1998. Remarkably, a larger contribution to this improvement in HDI has come from health and education indexes rather than the income index. Between 1984-98, while health and education indexes have improved by about 30 and 40%, respectively, income index improved on a comparatively lower side by about 10% (see Table 23 below). Since health and education are largely public goods in Bhutan, the contribution of these two sectors in HDI reflects upon the large externalities in terms of social returns they are generating in the society. In terms of budget allocation, the government spends more than 20% of its total expenditure on health, education, water supply and sanitation (*Bhutan NHDR 2000*, p.46). These sectors are at the

core of country's development strategy, which emphasizes on the maximization of Gross National Happiness rather than the Gross National Product.

**Table 23: Human Development Index of Bhutan**

Year	Life Expectancy Index	Education Index	GDP Index	Human Development Index
1984	0.373	0.235	0.367	0.325
1991	0.517	0.345	0.420	0.427
1994	0.683	0.447	0.433	0.521
1998	0.683	0.600	0.460	0.581

Source: Bhutan National Human Development Report 2000, *Planning Commission, Royal Government of Bhutan*

However, in comparison to the Planning Commission's estimates, the UNDP estimates presented in the *Human Development Report* puts Bhutan's HDI on the lower side. The differences lie in the value of indicators used by these two estimates. For example, *Bhutan National Human Development Report 2000* acknowledges the following differences pertaining to the year 1998.

**Value of indicator used by  
Global Bhutan**

**Indicator**

	HDI	NHDI	
Life expectancy at birth (years)	60.7	66.1	
Adult literacy (%)	44.2		54.0
Combined enrollment ratio	12.0		72.0
Real GDP per capita (PPP\$)	1,467		1,534
HDI	0.459		0.581

*Bhutan NHDR 2000* clearly spells out that the source of the above differences lies in the use of demographic variables. While the RGoB estimate is based on the most recent demographic survey carried out in Bhutan, the UN's estimate is based on demographic projections and the use of the population total of 1.9 million instead of 0.636 million for various calculations (*Bhutan NHDR 2000*, p.55). However, such differences are bound to occur in the absence of a systematic population

census, which is long overdue in the country. It would not be out of place to mention here that the status of data and its availability in Bhutan has only recently become relatively authentic and systematic. The system of national accounts in Bhutan started as late as 1987. Backward interpolation has been done for the period 1980-86. It is imperative that these data are to be used carefully. However, in ascertaining the trend analysis, the available data should not be insufficient for the purpose they are to be used. Nevertheless, the scope for contesting the reliability of existing data can not be ruled out.

### **Bhutan's Development Strategy is Holistic in Nature**

The development strategy of Bhutan seeks to strike an appropriate balance among social, economic, political, cultural and environmental goals. While mapping the future development course, *Bhutan 2020: A Vision for Peace, Prosperity and Happiness* (Planning Commission, Royal Government of Bhutan) clearly brings out these goals under the 'Normative Architecture for Change and Development' (p.49). The various elements of this 'architecture' are put under the following broad categories.

<b>Social</b>	<b>:Human Development</b>
Economic	:Self-Reliance, Sustainability, Flexibility, Balanced and Equitable Development
Political	:Independence, Sovereignty and Security of the Nation- State and Governance
Cultural	:Identity, Unity and Harmony, Preserving and Promoting Culture and Heritage
Environmental:	Preservation through Environmentally Sustainable Development

The development strategy places human development at the centre stage. A holistic approach to development has been designed to take care of material as well as spiritual needs of individuals. Health and education have been considered as priority areas for basic capacity development towards the generation of human capital. This is to be achieved within the framework of traditional values and ethics so that the "society in transformation" keeps on taking inspiration from the nation's cultural heritage (*Bhutan 2020*, pp.47-48). While flexibility has been explained in terms of the country's ability to adapt and respond effectively to changes in order to assimilate the positive ones, sustainability is required in the fields of social, finance, economic, culture and environment alike. Sustainability is essentially because an untenable proposition in any field

is likely to have impact on the sovereignty and security of the nation (*Bhutan 2020*, p.45).

### **Environmental Conservation is an Integral Part of the Development Strategy**

Bhutan's environmental conservation strategy is deeply rooted in the Buddhist philosophy and religion, which Bhutanese people have cherished and nurtured over centuries. In rural Bhutan, for example, nature is interpreted as a living system rather than just a resource base to be exploited for material gain. People consider themselves as a part of the whole of the living system. This kind of outlook is the result of the fusion of Tantric Buddhism and animistic Bonism, which is further assimilated into the mainstream beliefs and values. *Bhutan 2020* says:

“Bhutanese society is one that has evolved in terms of relationships with the environment that have given rise to a complex of institutions, rules, customs and folklore governing the use of natural resources. Bhutan is a country that has been practicing environmental conservation long before it was referred to as such” (p.23).

Places are identified with deities, divinities and spirits, and a large part of the landscape is mapped in such terms in the minds of Bhutanese people (*Bhutan 2020*, p.87). However, in the pursuit of development and the emerging need for environmental protection, keeping such mysticism alive will be a real challenge. Bhutan's conservation strategy, while taking special note of this fact, recognizes a clear link between environmental conservation and the conservation of cultural heritage. In fact, environmental conservation is a part of the larger concern for maximizing the Gross National Happiness, and cannot be seen in isolation with the other segments of the general policy.

### **Theory of GNH Provides a Broad Umbrella and an Essential Bottom-line**

The national development vision puts the Gross National Happiness (GNH) as the central development concept, an umbrella term encompassing goals, principles, objectives and the direction of development. The GNH as a “single unifying concept of development” (*Bhutan 2020*, p.47) does not essentially reject material progress, rather it takes it as a precondition for enlarging self-reliance, opportunities and choices. At the operational level, the theory of GNH would mean that every policy and every project is to be planned and evaluated, not simply

in terms of the enhancement it makes to GNP and the material basis of society, but also by its contribution to the total well-being of individuals and society (*Development Towards Gross National Happiness* 2000, p.22), including the impact it will make on environment. The GNH is, therefore, “Bhutan’s bridge over the gap between values and development” (Ibid., p.23).

It would not be easy to quantify as to how much the country has progressed on the yardstick of GNH. There has been question raised on the measurability of GNH, though scarcely any fruitful attempt has been made to quantify it. Namgyal and Wangchuk (1998) tried to provide a framework for the measurement of GNH without actually attempting to measure it. The merit of their predictive model, which follows the path analysis tool for setting the variables, is that it considers population as a resource which includes the ecosystem-stressor impacts of people (Pankaj 2003, pp.20-21). This takes place through the consumption behaviour of people. It, therefore, necessitates the monitoring of population status and changes. The provision of sustenance, basically food, potable water, energy and shelter, appears in the model as a central and collective challenge. Once again, the model adds to the explanatory strengths of the GNH without throwing much light on quantification.

It seems that the debate surrounding the measurement of GNH is not so productive and it is rather sterile. It would be an attempt fraught with dangers as there could be innumerable way of measuring happiness. Instead, it would be more beneficial to view GNH as a buffer against the negative impact of global changes. By putting the well being of the people and their holistic development before a mere economic growth of the country, the idea of GNH rejects the conventional theories of the 1960s and 1970s that economic growth is all that is required (Remenyi and Hancock 2000, p.33). GNH protects the natural resources from being exploited at the pretext of earning more and in favour of ‘divisive projects’ (in particular, environmentally). It provides a bottom-line for minimizing the policy failure, found most frequently leading to market failure. GNH, therefore, essentially is an attempt to maximize the positive externalities and to minimize the negative externalities during the course of economic development. For a value-laden country like Bhutan, the doctrine of GNH has not only allowed the development process to emanate from the cultural roots, it has also provided a cautious and rational defence against the impoverishing and detrimental impact of global changes (Pankaj 2002, p.4). The UNDP Joint Donor Database Report 2000 says “...Gross National Happiness...also embodies the guiding principle that has been identified as being of decisive importance in ensuring the future independence, sovereignty and



security of the country” (p.VIII). Therefore, the idea of GNH places Bhutan on a better footing, where it can exercise options and obtain judicious benefits from the process of liberalization and globalization. It is the overarching philosophical underpinning and the ultimate guideline of country’s future development proceeds (*Ninth Five Year Plan 2002-07*, p.6).

### **Five Year Plans is a Tale of Streamlining Priorities and a Move Towards Decentralization**

The formulation of initial plans in Bhutan was constrained by the availability of information and data on the country’s resources and potential. The *Second Five Year Plan 1966-71* made it clear in the very beginning – “As no census has been taken nor has any detailed statistical information been collected so far, it is difficult to assess the resources and potential of the country and to formulate a coordinated development plan” (p.1). The decade of 1960s, covering the first two plans (1961-71), may be seen as preparatory plans as they basically tried to create the building blocks in terms of infrastructure which could pave the way for future development. The first priority was assigned to the construction of road network. Pommaret (1994, pp.69-72) looks at the first plan as little more than an agreement between India and Bhutan to focus on infrastructure development. Similarly, UNDP’s Joint Donor Database Report (2000, p.VII) mentions that the first plan provided a framework for the allocation of Indian assistance, mainly in the form of road construction as a way of linking Bhutan internally as well as to India. The allocation on the establishment of a road network kept on increasing up until the Third Five Year Plan (1971-76). The resultant expansion of the road network in the country generated two parallel impacts:

First, there was a diversion of manpower towards development activities, mainly towards construction, which resulted in a labour shortage in agriculture. This affected agricultural output, at least in the short period. The situation worsened further with the influx of large number of workers connected to construction activities. Though food supply was counter balanced, partially from the quota of 200 tonnes of grain a month provided by the Government of India, which could fulfill the cereal need of 7,000 workers at a time (*Second Five Year Plan 1966-71*, pp.1-3). The creation of wage-employment increased the cash inflow and thereby the demand for petty consumer goods. The prices of such goods tended to increase several times.

2. Before the closure of the Tibetan boarder in 1951, Bhutan was supposedly self-sufficient in cereal production. It also enjoyed a small surplus, which was exported to Tibet. The decline in the demand for food

grain in the post-1951 period was compensated by a rise in the domestic demand due to increased construction activities. The post second plan period witnessed a further rise in the domestic production of food grains. This was also when informal trade inflow from India, especially in food and other consumer items, started picking up. As a spill over to increased road network there was a tremendous rise in trade. This was the opportunity for farmers to go for specialized production. The construction of education and health infrastructure also started coming up in a big way.

The second impact ultimately proved stronger and accordingly the *Fourth Five Year Plan* (1976-81) aimed at education, health and forestry as priority sectors. Industrial development received attention during this plan. Therefore, by the end of 1970s, the foundation for a concerted socio-economic development of the country was already laid. The *Fifth Five Year Plan* (1981-87) proved a real beginner of the process. The priority got shifted towards internal revenue generation and achieving self-reliance. Hydropower development was rightly identified as the source for generating revenue and an initiator of growth impulses. By the beginning of the *Sixth Five Year Plan* (1987-92), Bhutan was able to meet two-thirds of the development budget from internal revenue generation. The decade of 1980s put the economy on a higher growth path. With the commissioning of the Chukha hydropower project, the real GDP experienced a quantum jump of 18% over 1986-87. This resulted in a consistently good performance of the economy over the second half of the 1980s, and produced a strong growth average of 8% for the whole of decade.

The goal of self-sufficiency and less dependency on foreign capital and labour was further emphasized in the *Seventh Five Year Plan* (1992-97). The decade of the 1990s also witnessed a real move towards decentralization. The *Eighth Five Year Plan* (1997-2002) crystallized the idea of sustainable development. At the same time, the need for expanding the public sector has been felt and measures initiated for its development. The spill over of hydropower development resulted in a strong growth of the industrial sector in the country. However, the average growth of 1990s could not match with that of 1980s; the average real GDP growth of 6% achieved during 1990s is much lower in comparison to 8% of 1980s. However, the growth performance over the decade of 1990s has been much more stable and consistent, appears to have consolidated a great deal in the second-half of the decade. Table 24 presents the average annual growth rate of real GDP and some major sectors for the decade of 1990s. It suggests that growth rate of real GDP

has been affected mainly because of the variations witnessed in sectors like electricity, manufacturing and construction.

**Table 24: Average Annual Growth Rate (%) of Real GDP and Major Sectors of Bhutan**

Year	GDP	Agri.	Mini. & Quarry	Manft.	Elect. & gas	Const.	Wholesale & Retail Trade	Trans. & Com.
1990	6.6	3.1	(-)11.1	22.4	(-) 8.2	0.4	0.8	20.9
1991	3.5	2.6	42.0	18.1	(-)1.8	(-)15.1	7.7	5.8
1992	4.5	2.0	(-)14.2	11.8	4.8	45.0	10.8	5.7
1993	6.1	1.5	11.5	4.9	10.5	5.7	1.9	22.0
1994	6.4	2.6	24.8	6.4	11.6	24.4	3.9	2.9
1995	7.4	1.1	6.4	15.8	25.6	9.7	4.6	1.6
1996	6.1	2.5	32.8	16.4	5.4	0.1	14.1	11.9
1997	7.3	3.3	(-)5.4	3.6	3.2	6.6	7.4	14.0
1998	5.5	1.1	16.2	5.7	3.9	14.1	2.9	12.3
1999	5.9	2.5	8.3	6.3	8.4	25.3	3.3	9.0
2000	6.1	2.3	6.4	4.0	8.0	19.7	4.5	11.8
1980s	8.0	-2.2	-8.7	-7.5	-7.1	-15.6	-5.1	-11.2
1990s	6.0							
1990- 1992	4.9	2.6	5.6	17.4	(-)1.7	10.1	6.4	10.8
1993- 1997	6.6	2.2	14.0	9.4	12.2	9.3	6.4	10.5
1998- 2000	5.8	2.0	10.3	5.3	6.8	19.7	3.6	11.0

Source: i) National Accounts Statistics Report 1980-1999, CSO, Planning Commission, Royal Government of Bhutan

ii) Selected Economic Indicators, June and September 2001, Royal Monetary Authority, Royal Government of Bhutan

#### *Hydropower growth has generated strong linkage-effect*

An examination of Table-4 above reveals three periods in growth, recovery and slow down -

- 1) Slow down between 1990-92,
- 2) Recovery and growth between 1993-97, and
- 3) Slow down between 1998-2000

During the period 1990-92, the growth rate suffered mainly because of the negative growth witnessed in the electricity sector and a slow down in mining and quarrying activities. The real GDP growth picked up between 1993-97, and reached a peak of 7.4% in 1995, mainly due to

strong recovery of electricity and mining sector. It came about with the commissioning of a ferro-alloy plant and a cement plant. One of the important contributory factors was the capacity expansion of the Chukha hydropower project and the enhancement in export tariff from Nu. 0.20 to Nu. 1.50/kwh. Once again during 1998-2000 with a slow down in electricity, mining and manufacturing sectors, real GDP growth suffered and averaged to 5.8% in comparison to 6.6% observed over 1993-97. Hydropower generation seems to have initiated development waves in the country. It has also caused the simultaneous growth of manufacturing, trade and other sectors, demonstrating a strong linkage-effect of investment. The construction sector, for example, has been largely affected by the pre-commissioning stage of hydropower projects. This is why it has demonstrated average growth trends of slowing down over 1993-97 (the post-commissioning stage of Chukha project) and a strong recovery between 1998-2000 with the massive construction work taken up towards the installation of Tala hydropower project in 1997-98 and other projects at Kurichu and Basochu.

*The Ninth Plan provides a broad context to development in Bhutan*

With more decentralization through delegation of financial power at the grass root, the *Ninth Five Year Plan* (2002-07) sets to provide the development in the country a broad context. The Ninth Plan prioritizes to focus on improving the quality of services and life, emphasizing more on rural sector. Sustainable development and poverty alleviation are some of the major concerns.

### **There Are Still Major Tasks Ahead**

*The share of private sector in the economy is not picking up*

While the total investment in the economy has increased tremendously, the share of private investment has not picked up. Today, almost all the major financial institutions suffer from 'excess liquidity'. Private investment in manufacturing is extremely low, and is mostly channelised into residential dwellings. The government's policy of divestment is ending up in 'distributing profits' of viable units rather than encouraging *complementarities of investment*. Despite host of initiatives and encouragements provided by the Government, a viable private sector is still a major task (For a detail analysis of present situation, problems and initiatives on private sector see *Development Towards Gross National Happiness 2000*, pp.83-86 and *Ninth Five Year Plan 2002-07*, pp.61-65).

### **There is Unemployment Amidst Labour Shortage**

With the expansion of education, the rise in population and the small size of private sector, the problem of unemployment has surfaced in the economy. As per the official estimation, the present unemployment rate stands at 1.4% (*Development Towards Gross National Happiness 2000*, p.11). During the Ninth Plan, approximately 14,000 off-farm jobs every year have to be created in order to match with the growing labour force in the country (*Ninth Five Year Plan 2002-07*, p.49). This presents a unique situation of *unemployment amidst a labour shortage*, though the planners believe it to be “more fractional than structural” (*Ninth Five Year Plan 2002-07*, p.50). While the realization that government can not be the sole provider of jobs is gradually catching up, addressing this ‘new problem’ of unemployment in an adequate manner forms another major task of future economic management.

*Price stability of essential commodities would go a long way in addressing the problem of poverty*

Even though the prices of non-food items have changed at a rate faster than the food-prices, there have been major fluctuations found in the market price of essential items (Pankaj 1998). The study suggests that the sensibility of the variability of inflation to price level is smaller in Bhutan (pp.45-46). This becomes more pressing given the fact that as high as 72% of the total expenditure is spent on food items by general consumer in Bhutan (*Household Income and Expenditure Survey 2001*, CSO). Also, the expenditure elasticity of food items, calculated on the basis of field data collected in a family budget survey of Trashy Yangtse town and Pangthang village in Eastern Bhutan, was found positive and high (see Pankaj and Wangchuk 2000). A high variability despite low level of price changes, most probably, cater to the notion: i) of structural constraint in the domestic supply of food, and ii) large informal inflow of essential items from neighbouring regions of India, sometimes able to balance the demand with supply and sometimes not (Pankaj 1998, p.48). Maintaining stability in the prices of essential items would be necessary to protect the interest of the poor and would go a long way in addressing the problem of poverty in the country. In this endeavour, removing the supply bottleneck would play a crucial role. Vulnerability to food shortages has been recognized as a more pressing contemporary issue for Bhutan than the other dimensions of food security like access, availability and utilization (*Ninth Five Year Plan Main Document*, pp.171-72).

*Environmentally sound technology is needed to realize the goal of sustainable development*

The Bhutanese economy has recently witnessed the introduction of computers and Internet and has developed an IT master plan in an urge to modernize and globalize the economy. The post-technology society has started experiencing tremendous benefits in terms of productivity and income enhancement. This has also been helpful in overcoming the difficulties posed by the rugged, hilly terrain. At the same time, their impact has also been felt on the changing facets of everyday life, which might have cultural implications. The related issues like 'digital divide' (See *Development Towards Gross National Happiness* 2000, pp. 72-73; Editorial, *Knensel*, June 9, 2001) and 'exclusion' (Pankaj 2001) are being talked about. Today, Bhutan finds itself at a crossroad of technological advancement and a transition is underway. In accordance with Bhutan's present macroeconomic structure, the suggested pattern of technological change which is revenue generating and import substituting and export promoting (Munro 1989), may be correct, while the fact remains that in order to realize the goal of sustainable development there must be Environmentally Sound Technologies (ESTs). The future challenge lies in the adoption as well as the management of such technologies.

*Bhutan's development philosophy vs. globalization*

Since Bhutan aspires to achieve economic development along with the preservice and strengthening of traditional values and culture, pursuing its development philosophy in the face of globalization has been recognized as "the greatest challenge in the country's modern history" (*Development Towards Gross National Happiness* 2000, p.63). This task becomes even more formidable considering Bhutan has been adjudged as a 'highly vulnerable' country on the yardstick of vulnerability index (*Small States: Meeting challenges in the Global Economy*, Report by Commonwealth Secretariat/World Bank Task Force, 1998; quoted in *UN: Country Presentation for Bhutan* 2001, p.37).

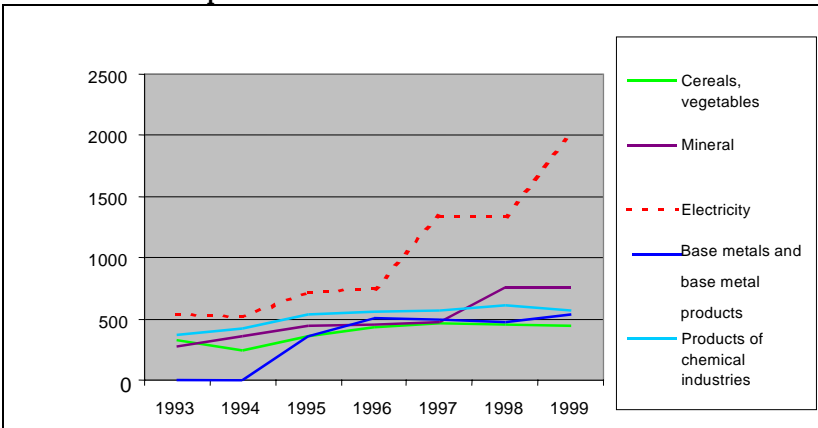
## **Section Five**

### **Bhutan's Progress in Foreign Trade**

An examination of Table-5 suggests that Bhutan is no longer an exporter of merely traditional, agricultural and forest based products. Today the list of exported items includes manufacturing, mining and novel items like philatelic products and coins. In 1999, according to the value of items exported to India and their percentage share in total exports, the top listed items are electricity (43%), mineral products

(14.8%), products of chemical industries (12.1%), base metals and products (11.4%) and wood & wood products (6.3%). For countries other than India, Bhutan's major exports are vegetable fats & oil (63.8%), mineral products (21.9%), textiles (5.8%) and processed foodstuffs (2.9%).

### Growth of Exports



Source: National Accounts, CSO, 2001 (taken from Ninth Five Year Main Document)



**Table 25: Bhutan's Exports Composition with India and Other Countries (Millions of Ngultrum)**

Items	1993	1999	Percentage Share in 1999		India	Other Countries
	India	Other Countries	India	Other Countries		
LIVE ANIMALS AND ANIMAL PRODUCTS	0.01	0.00	0.70	0.00	0.0	0.0
VEGETABLES, FRUITS, NUTS, COFFEE, TEA & SPICES	139.72	0.00	261.83	0.00	5.6	0.0
VEGETABLE FATS & OIL	0.01	182.13	0.00	176.67	0.0	63.8
PREPARED/PROCESSED FOOD STUFFS	135.78	4.41	222.13	8.05	4.7	2.9
MINERAL PRODUCT	267.67	6.93	695.37	60.70	14.8	21.9
ELECTRICITY	537.3	0.00	2018.36	0.00	43.0	0.0
PLASTIC AND RUBBER PRODUCT	6.17	0.00	12.73	0.70	0.3	0.2
RAW HIDE & SKIN	1.74	0.00	2.34	0.00	0.0	0.0
WOOD AND WOOD PRODUCT	328.68	2.36	297.47	6.60	6.3	2.4
WOOD PULP PRODUCTS	0.17	0.05	0.10	0.31	0.0	0.1
TEXTILES	0.16	0.14	1.44	16.20	0.0	5.8
FOOTWEAR, HEADGEAR & CLOTHING ACCESSORIES	0.01	0.00	0.00	0.00	0.0	0.0
STONE PLASTER, CEMENT AND ASBESTOS PRODUCTS	1.70	0.00	6.26	0.00	0.1	0.0
BASE METAL & PRODUCTS	0.88	0.00	533.19	0.00	11.4	0.0
MACHINERY & MECHANICAL APPLIANCES	0.29	0.00	6.49	6.59	0.1	2.4
TRANSPORTING EQUIPMENT	0.02	0.00	.84	0.00	0.0	0.0
OPTICAL, PHOTOGRAPHIC AND MEASURING EQUIPMENT	0.00	0.00	0.00	0.00	0.0	0.0
MISC. MANUFACTURES ARTICLES	0.13	0.00	66.23	0.00	1.4	0.0
PRODUCTS OF CHEMICAL INDUSTRIES	365.55	0.00	565.75	0.00	12.1	0.0
1785.98	136.87	4691.23	276.75	100.0	100.0	

Source: i) Selected Economic Indicators, September 2000, Royal Monetary Authority, RGoB

ii) Selected Economic Indicators, June 2001, Royal Monetary Authority, Royal Govt. of Bhutan

Hydropower generation being the most important area of comparative advantage and with the advantage of bilateral ties with India on its production and sales, Bhutan will continue to depend largely on this source for export earnings. However, significant improvements seem to have taken place in the field of manufacturing and mining. The linkage effect of investment in hydropower generation has been able to generate comparative advantages in the development of natural resource based industries, basically oriented towards the sub-regional market. In 1989, there were 168 manufacturing units in the country, and 486 in 1999. While the production of particle board and agro-based industry have increased considerably, the performance of power driven units like calcium carbide, ferro-alloys and cement have been impressive.

Third country exports in vegetable fats and oils have picked up tremendously, accounting for 63.8% of total third country exports in 1999. In value terms, it stands at Nu. 176.77 million. The market for processed foodstuffs has also expanded. Mineral products are another important component in third country exports, constituting about 22% of the total export.

### **The Triple Gem of Bhutan's Industrial Economy**

Table-6 presents the exports by major industries of Bhutan. It reveals that BCCL's exports have increased consistently to reach Nu.448.01 million in 2000 from Nu.356.13 million in 1993. The BCCL recorded an impressive return on investment and have witnessed dividends of more than 100% since 1997 (*UN: Country Presentation for Bhutan 2001*, p.15). Another success story is that of ferro-silicon exports by Bhutan Ferro Alloys Ltd., which recorded an impressive increase in exports from Nu.369.99 million to Nu.428.36 million from 1995 to 2000. Perhaps the achievement of Penden Cement Authority Ltd. in terms of exports has been most impressive; it has grown up from Nu.98.02 million in 1993 to Nu.236 million in 2000. These three performing industries can be termed as the *Triple-Gems* of Bhutan's industrial economy. Among the forest product based industries the performance of Bhutan Board Products Ltd. and Bhutan Fruit Products Ltd. has been quite impressive. Another upcoming unit in this regard is Bhutan Agro Industries Ltd., whose exports have picked up to Nu.11.30 million by 2000 (*Selected Economic Indicators*, June 2001, p. 10).

**Table 26 : Bhutan's Exports by Major Industries**

Industry	1993			2000		
	India	Third Country	Total	India	Third Country	Total
Army Welfare Project (Alcoholic Beverages)	45.45	0.00	45.45	55.75 (64.57)	0.00	55.75 (64.57)
Bhutan Board Products Ltd. (Particle Board)	165.86	0.00	165.86	213.88 (247.58)	0.00	213.88 (247.58)
Bhutan Carbide And Chemicals Ltd. (Calcium Carbide)	355.58	0.55	356.13	448.01 (546.76)	0.00	448.01 (546.76)
Bhutan Fruit Products Ltd. (Squashes, Jam, Juice, Pickle, Canned Fruits & Processed Vegetables)	81.10	4.40	85.50	89.16 (104.90)	7.35 (7.76)	96.51 (112.66)
Bhutan Polythene Company (High Density Polythene Pipe)	6.24	0.02*	6.26	8.64 (0.96)	0.00 (9.06)*	8.64 (10.02)
Penden Cement Authority Ltd. (Cement)	95.92	2.10	98.02	236.00 (433.67)	0.00	236.00 (433.67)
Bhutan Ferro-Alloys Ltd. (Ferro-Silicon)	339.20 (1995)	30.70 (1995)	369.99 (1995)	428.36 (534.73)	0.00	428.36 (534.73)
Eastern Bhutan Coal Ltd. (coal)	24.24 (1996)	14.47 (1996)	38.71 (1996)	10.53 (41.41)	56.15 (26.67)	67.68 (68.08)
Druk Satair Corporation Ltd. ( gypsum dust and gypsum boulders)	38.79 (1996)	0.00 (1996)	38.79 (1996)	79.74 (62.32)	7.13 (1.56)	86.87 (63.88)

Source : i) Selected Economic Indicators, September 2000, Royal Monetary Authority, Royal Govt. of Bhutan

ii) Selected Economic Indicators, June 2001, Royal Monetary Authority, Royal Govt. of Bhutan

- \* deemed export
- Note : Figures within bracket pertain to 1999.

Clearly the spillover of hydropower production in the country has helped to expand the production possibilities into hitherto untouched areas, which are not only catering to the ever-growing internal demands, but also becoming the second best source of exports after electricity. Bhutan's experience points out that a major new resource-based industry could be established within 24 months of cheap power becoming available (*Bhutan 2020*, p.57). This suggests that once the niche market is identified for such products, export is less likely to be affected by the 'production-lag'.

### **Bhutan Depends on Outside World for a Wide Range of Products**

Bhutan depends on India and other countries for a wide range of products, from consumer items to intermediary goods and to the capital goods (see Table 27). According to the percentage share of items in total imports, machinery, mechanical appliances, base metals and electronic items top the list of imports in 1999, both from India (31.8%) and the other countries (83.8%). While the value of these imports from India has increased from Nu.406.74 million in 1993 to Nu.1861.90 million in 1999, it was Nu.1667.87 million (in 1999) from Nu.654.48 million (in 1993) for countries other than India. The other significant items of import from India, according to their share in 1999, constitute mineral products (14.4%), cereals, vegetables, fruits, nuts, coffee, tea, spices and seeds (11.9%), prepared foodstuffs (6.7%), transport equipment (9.9%) and the products of chemical industries (5.5%).

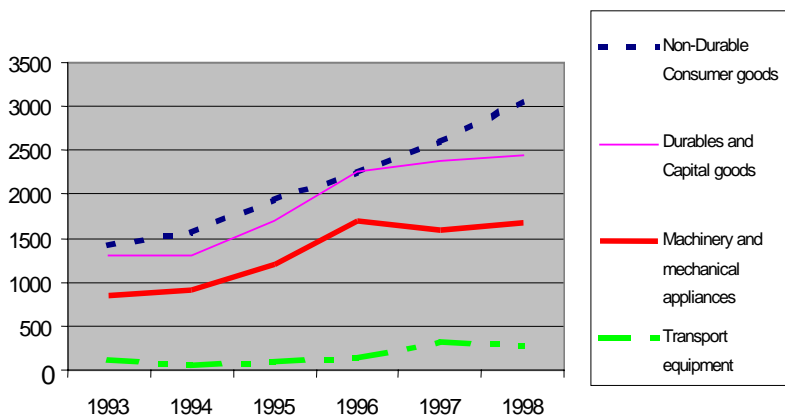
**Table 27: Bhutan's Imports Composition with India and Third Countries**  
(Millions of Ngultrum)

Items	1993		1999		Percentage share in 1999	
	India	Other Countries	India	Other Countries	India	Other Countries
Live animals and animal products	54.16	14.40	171.85	0.99	2.9	0.0
Cereals, vegetables, fruits, nuts, coffee, tea, spices & seeds	254.96	11.88	697.43	12.22	11.9	0.6
Vegetable fats & oil	78.49	19.82	167.59	13.22	2.8	0.7
Whiskies & prepared/processed food stuffs	154.59	9.54	388.64	34.92	6.7	1.7
Mineral product	283.46	0.00	840.45	56.86	14.4	2.9
Products of Chemical industries	147.91	63.30	318.34	7.45	5.5	0.4
Plastic and rubber product	83.37	3.81	177.57	70.26	3.0	3.5
Raw hides & skins	3.23	0.00	4.29	0.00	0.1	0.0
Wood and wood product	40.98	0.00	110.57	7.00	1.9	0.3
Wood pulp products	59.80	15.47	117.59	26.34	2.0	1.3
Textiles	80.58	6.07	157.05	35.94	2.7	1.8
Footwear, headgear, clothing accessories & carpet	28.91	2.13	44.56	7.60	0.8	0.4
Stone plaster, cement and asbestos products	83.79	0.00	86.70	0.00	1.5	0.0
Precious and semi-precious metal products	0.10	0.00	0.18	7.75	0.0	0.4
Machinery & mechanical appliances, base metals & electronic items	406.74	654.48	1861.90	1667.87	31.8	83.8

Items	1993		1999		Percentage share in 1999	
	India	Other Countries	India	Other Countries	India	Other Countries
Transporting equipment	132.41	0.00	579.11	0.00	9.9	0.0
Optical, photographic and measuring equipment	14.67	0.00	63.75	0.12	1.1	0.0
Misc. manufactures articles	22.04	0.00	63.70	9.10	1.1	0.5
Works of arts, antiques and special transactions	0.11	0.00	0.01	0.00	0.0	0.0
Medicines and pharmaceuticals	0.00	10.17	0.00	19.56	0.0	1.0
Ceramic & melamine products	0.00	3.91	0.00	3.14	0.0	0.2
Tobacco & Cigarettee	0.00	0.00	0.00	6.40	0.0	0.3
Goods of personal effects	0.00	0.00	0.00	3.34	0.0	0.2
<b>Total</b>	1930.33	814.98	5845.28	1989.58	100.0	100.0

Source: i) Selected Economic Indicators, September 2000, Royal Monetary Authority, Royal Govt. of Bhutan

ii) Selected Economic Indicators, June 2001, Royal Monetary Authority, Royal Govt. of Bhutan

**Growth of Imports**

Source: National Accounts, CSO, 2001 (taken from Ninth Five Year Main Document)

Bhutan also imports several items other than machinery and electronic goods from countries other than India. However, this does not constitute a significant proportion in total imports. The most significant of all such imports is medicines and pharmaceuticals, constituting about one% of total imports from other countries. Significantly, there has been no import reported from India of medicines and pharmaceuticals over the period 1993-99. Imports of textiles (1.8% of total imports in 1999) and mineral oils and fuel (2.9%) have also picked up recently. It seems that while Bhutan is dependent on India for her requirements of capital goods, raw materials and basic consumer goods, it has been able to develop import ties with the countries other than India for the import of capital goods, medicines and pharmaceuticals and items of personal care.

**Bhutan's Trade is Slowly Expanding Outside the Sub-region**

Bhutan's trade is mainly directed towards India. Table-3.4 reveals that the Indian share in Bhutan's total exports increased from 86.39% in 1990 to 91.91% in 1995 and to 94.45% in 1999. The proportionate import from India is on the lower side in comparison to exports. Bhutan received 82.31% of its total imports from India in 1990, which has gone down to 74.61% in 1999. In the area of exports, the country has been able to identify potential market for horticulture products in Bangladesh during the 1980s, which was consolidated a great deal during the 1990s. The value of exports to Bangladesh has increased from Nu.127.75 million in

1990 to Nu.209.45 million in 1999. However, as a proportion to total exports, it has gone down from 10.46% in 1990 to 4.20% in 1999, due to increased volume of exports to India. Exports to countries other than India and Bangladesh are taking place mostly outside the sub-region, but have yet to pick up in a significant way. The value of such exports has gone up moderately from Nu.38.50 million in 1990 to Nu.67.29 million in 1999, down sharply as a proportion to total exports from 3.15% in 1990 to 1.35% in 1999.

**Table 28: Bhutan's Direction of Trade  
(Percentage)**

	1990	1995	1999
<b>Export</b>			
India	86.39	91.91	94.45
Bangladesh	10.46	6.00	4.20
Others	3.15	2.09	1.35
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>
<b>Import</b>			
India	82.31	72.22	74.61
Japan	5.16	11.31	3.32
Germany	1.60	1.94	0.00
United States	1.23	0.35	0.29
United Kingdom	0.61	1.58	0.40
Singapore	0.98	5.33	12.74
Others	8.11	7.27	8.65
<b>Total</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

Source : Selected Economic Indicators, June 2001, Royal Monetary Authority, Royal Government of Bhutan

In the total imports of Bhutan, other than India, Singapore was at the top of the list in 1999, with a share of 12.74%. This indicates that the imports from Singapore have picked up significantly during the 1990s, with percentage shares of 0.98 and 5.33 in 1990 and 1995 (see Table-3.4). The other countries with whom Bhutan has developed import ties are Japan, Germany, United States, United Kingdom, Thailand and the Netherlands. However, imports are often seem to be done on 'as and when required' basis rather than a continuous one, the way it has been taking place with India.



### **The Syndrome of Dependency Amidst Plenty**

The external sector is very crucial for Bhutan's economy. The socio-economic development of the country has been affected by and depended on the contribution of the external sector. At the same time, it presents a paradoxical situation. The two major sources of growth: hydropower production and exports earning from there and foreign aid, also point to the vulnerability of the national economy in terms of excessive dependence on them. Moreover, the exports of electricity represent 'one commodity-one country' case for Bhutan. The moot point here is - what if India becomes self-sufficient in electricity generation after tapping the equally abundant water resources available in the northeast, particularly Arunachal Pradesh? While the proposition can be rejected for being hypothetical and the argument of income elasticity of electricity demand would stand, in all probability a change in the economic environment or policy in India is likely to affect the Bhutanese economy a great deal. For example, mid-90s industrial slackness in India most probably affected the exports of Bhutan, which had gone down by the end of 1990s. Particularly, between 1999-2000, there was a declaration in the export values of almost all major industries, except Bhutan Polythene Company and Druk Satair Corporation Ltd. for which there was acceleration.

Further, with the completion of each hydropower projects, there is going to be a big addition to GDP. Since Bhutan has the advantage of small population base and the growth rate of population sliding down, there will be a faster increase in per capita income. In the face of the country's dependency on imports, enlargement of *hydro-Ngultrum* is likely to create the paradox of *increased dependency amidst plenty*. For example, the commissioning of the Tala hydropower project of 1020 MW by 2004-05 is expected to increase the GDP growth to 18.1% by 2006-07, which is likely to induce the real GDP per capita further by 40% with an expected population base of 0.792 million. Since the share of manufacturing is expected to reach 30% of GDP only by 2012, this newly generated *hydro-Ngultrum* will further increase the demand for imports.

Thus, while Bhutan's economy has gained strength on account of certain advantageous factors, this has also constrained the competitiveness of other sectors (UN: *Country Presentation for Bhutan 2001*, p.38) and has undermined the diversification of the industrial sector.

## Section Six

### **Environmental Conservation in Bhutan**

*Water, Forests and Minerals have basically steered Bhutan's growth profile over time*

Located in the eastern Himalayas, the kingdom of Bhutan has a unique natural set up with its young and fragile mountains. The country represents almost all major climatic zones of the world, viz. from tropical and sub-tropical to temperate and alpine, with various intermediate and small micro-climate conditions. Bhutan is one of the ten global 'hotspots' for the conservation of biological diversity. The country is endowed with abundant water and forests resources. In the course of development various mineral deposits have also been discovered and exploited. In fact, the three natural resources – water, forests and minerals (WF&M) have basically steered Bhutan's growth profile over time.

However, WF&M has also exerted tremendous pressure on the environment. The continuous exploitation of natural resources for development has caused environmental degradation. This has called for a judicious and delicate balancing between environment and development.

### **A Wide Range of Factors Have Contributed to the Increasing Pressure on the Environment**

Pressure on the country's pristine environment has already started surfacing. This is because of the close and constant interaction of the people with the natural environment, which has sharpened their insight into adaptive and alternative resource use strategies. The process of planned economic development has set in motion a great many changes in the socio-economic sphere of the country. These changes in the beginning affected only the larger settlements; however, over time they permeated into the remotest areas, where the traditional ways of life and livelihood are affected. The process over time, tends to affect the overall environmental and ecological balance between people and the environment. For example, in some parts of the country, there is increased use of marginal, easily eroded land and over grazing of fragile upland pasture areas (Karan 1990, p.119). Clearing of forests for agricultural purposes is a reality. Field studies near Mongar and Tongsa suggest substantial loss of forested areas due to farming. This farming unfortunately has produced low crop yields (Karan 1990, pp.120-21).

A whole range of factors have been responsible for exerting pressure on the environment. These include factors mainly related to population growth and economic development. A part of the pressure has also come

from outside influences and some other factors, including attitudinal. A summary presentation of possible factors includes:

1. Population Pressure
  - i) Migration of population
  - ii) Housing demand
  - iii) Sewage and Waste disposal
  - iv) Competition for available land
  - v) Poverty
  - vi) Shifting-cultivation
  - vii) Fire wood demand
2. Economic Development
  - i) Hydropower development
  - ii) Mineral extraction
  - iii) Industrialization
  - iv) Road construction
3. Outside Influences
  - i) Tourism
4. Attitudinal
  - i) Tendency to regard natural environment as a free resource
5. Others
  - i) Forest fire
  - ii) Over grazing

The growth of the population has put pressure on land and as the environmental conditions in the highlands deteriorate, many people have migrated to the lowlands and to the urban centres. With the urbanization picking up in the country, the migration of population from rural to urban areas has gone up considerably. Such migration has been prompted by pull factors like better health facilities, better infrastructure, employment opportunities, and relatively 'modern' life and business avenues. As the number of contacts in urban areas and the aspiration of being in the 'mainstream' will grow, there is likely to be more migration from rural to urban centres. This migration has created housing problems in the towns and has accelerated the destruction of the lowland forests. In rural areas, the pressure on shifting-cultivation (*tseri*) has resulted in the contraction of the average cycle. Even though Bhutan does not have the problem of absolute poverty, the changing and growing requirements of the rural poor will keep on putting pressure on the natural environment. As a direct off shoot of the rise in population, there has been tremendous increase in the fuel wood demand in the country. Though factors like enhancement in agricultural residue, technological change (eg.

introduction of fuel saving stoves) and a rise in the opportunity cost of collection time have put some positive impact, the demand for fuel wood is likely to increase with increased per capita income.

Factors associated with economic development are basically related to the exploitation of natural resources like water, forests and minerals. They are necessarily utilized for hydropower development, mineral extraction and industrialization. Road and other infrastructure have also claimed a substantial forest cover in the country. The outside influence on Bhutan's environment is mainly due to the arrival of tourists, requiring the development of destination/spots and the associated facilities. Since Bhutan is committed to globalization, the process of meeting the requirements and encashing the benefits is unlikely to go without possible impact on the environment. Bhutan's fragile Himalaya forest is also subject forest fire, which often causes a substantial loss of forests. Bhutan's high livestock population, compared to that of wild life, has exposed it to the risk of overgrazing, particularly of loose forests.

All these present a "complex array of forces" (*Bhutan 2020*, p.38), posing pressure on the natural environment. Although the country has been able to avoid any serious damage to environment so far, the pressure in the future may become formidable. For example, problems such as soil erosion due to deforestation, pollution especially in major and budding towns and depletion of fresh water due to a decrease in the level of the ground water table and subsequent drying of springs have already been reported as some of the more recent concerns. The task of the future policy for safeguarding the environment while still pursuing the goal of development becomes more difficult in the face of the general attitude which is often inclined to regard natural environment as a free resource (*Bhutan 2020*, p.38).

### **Bhutan's Environmental Conservation Strategy is Deeply Rooted in Buddhist Philosophy and Religion**

Bhutan's environmental conservation strategy is deeply rooted in the Buddhist philosophy and religion which Bhutanese people have cherished and nurtured over centuries. In rural Bhutan, for example, nature is interpreted as a living system rather than just a resource base to be exploited for material gain. People consider themselves as a part of the whole of the living system. This kind of outlook is the result of the fusion of Tantric Buddhism and animistic Bonism, which is further assimilated into the mainstream beliefs and values (*Bhutan 2020*, p.23). Places are identified with deities, divinities and spirits, and a large part of the landscape is mapped in such terms in the minds of Bhutanese people. However, in the pursuit of development and the emerging need for

environmental protection, keeping such mysticism alive for all time to come would be a real challenge. Bhutan's conservation strategy, while taking special note of this fact, recognizes a clear link between environmental conservation and the conservation of cultural heritage. In fact, environmental conservation is a part of the larger concern for maximizing Gross National Happiness, and cannot be seen in isolation with the other segments of the general policy.

Bhutan's first strategy towards environmental conservation is to maintain 60% of forests for all time to come (National Forest Policy 1974). This limits deforestation. With an extensive afforestation programme, such a limit provides sustainable space to exploit natural resources for economic development. This is part of the overall *middle-path* philosophy (*The Middle Path: National Environment Strategy for Bhutan*, NEC, 1998), pursued for environmental conservation.

Environmental conservation includes the maintenance of rich biodiversity of the nation. However, in case the twin goals come to contradict each other, the emphasis has to be on environmental conservation, even if this means loss in bio-diversity. For example, the government has taken a decision to eliminate shifting-cultivation practices in the country. Such a decision is taken on environmental ground, though this amounts to a loss of several species of millet and *sorghum* that only grow in conditions associated with shifting cultivation (*Bhutan 2020*, p.88). While such decisions have to be taken only in limited cases, a simultaneous strategy of forests regeneration and bio diversity conservation is followed.

An effective watershed management is considered as a key component of a conservation strategy towards sustainable development. There are five main watersheds identified for future management, which are going to be crucial in maintaining the environmental and ecological balance in the country. These are related to hydropower development, farming, livestock, settlement and the exploitation of timber and logging.

The environmental conservation strategy has "deliberately chosen to forgo immediate economic gains from the indiscriminate development of sectors like tourism and mineral quarrying" (*Bhutan National Human Development Report 2000*, p.49). In order to ward off the negative effects of mass tourism, Bhutan has consciously followed a high value tourism policy and promoted cultural tourism, eco-tourism and adventure/sports tourism. As a part of the development strategy, a guideline for Environmental Impact Assessment (EIAs) has been developed. Under EIAs, all projects are to be assessed for their impact on the environment.

While Bhutan is consciously forgoing economic gains by refusing to fully exploit resources, on the other hand the cost of maintaining and

managing the environment and of capacity development has been rising. Moreover, Bhutan lacks technical knowledge and manpower for the effective implementation of these conservation goals. In view of this, foreign collaboration is sought in the area of knowledge sharing and manpower development. Over time, Bhutan's idea of conservation will be substantiated and made amenable for practical implementation through a series of policy instruments that include passing of necessary legislation, capacity development for EIAs, idea of the greening of national accounts, and entering into collaborative arrangements.

### **Effective Policy Instruments Have Been Developed Over Time**

The foundation for the conservation of the environment and the preservation of bio-diversity was laid formally at the Paro Workshop in 1990, which prescribed the concept and strategies of sustainable development based on the middle-path philosophy for all development plans in the country. Forest is seen as the base line requirement for environmental sustenance and the central theme of sustainable development. The Division of Forest with its various governmental and semi-governmental wings has assumed the responsibility for protecting and promoting forests, wild life, and the sustainable use of resources. The Division carries out its tasks mainly through forestry management units, maintenance of national parks and protected areas. Similarly, the Renewable Natural Resource (RNR) sector or 'green sector' is the domain of the Ministry of Agriculture, which implies an integrated approach to the farming and technological change in agriculture.

Environmental legislations has been enacted to provide legal framework and support to the conservation activities in the country. One of the earliest legislation was passed as far back as 1969 in the form of Forest Act of Bhutan. However, not much was done during the 1970s and 1980s. During 1990s, there was a resurgence of support for conservation and several attempts are made to fill in the gaps. The Forest and Nature Conservation Act was passed in 1995, and a National Forestry Master Plan for the period 1996-2010 was made. The decade also witnessed the upgradation of the National Environment Committee of 1989 to the status of National Environment Commission. The National Biodiversity Action Plan was brought into operation. While the National Environment Strategy was further consolidated in 1998, for the articulation of long term visioning, the Environmental Assessment Act was passed in July 2000. Some related legislation such as the Inheritance Act, the Land Act and the Livestock Act are already put in operation. All this legislation covers a lot of ground in safeguarding the national interest; still the need for a comprehensive legislation incorporating the latest environmental

concerns like pollution and border problems is being felt. The proposed National Environmental Action Plan and National Environment Protection Act can be expected to cover a lot of ground in this regard.

The system of Environmental Impact Assessment (EIAs) is one of the most important enforcement measures developed towards environmental management. The EIAs are made compulsory for the establishment of all projects in the country. The EIAs are designed to ensure:

1. Development projects are environmentally and economically sound in the long run.
2. Development projects have minimum environmental, economic, cultural and social impact.
3. A prior evaluation of environmental impact on ecologically fragile systems is undertaken,
4. There is a systematic assessment of the effects of development pressures on the natural resource base as well as communities and culture.
5. Project benefits are optimized. (*Bhutan 2020*, p.89)

The EIAs are made an integral part of the planning process and are expected to go a long way in environmental management. However, a lot of ground is yet to be covered in the field of institutionalizing of capacities for EIAs. Efforts are required to develop the EIAs 'tools' which are sound, contextual and enforceable in local conditions. While the EIA legislation is in the pipeline, enhancement of technical knowledge in this field is called for.

Another novel attempt in the field of environmental management towards sustainable development is the 'greening' of national accounts in the country. It is proposed to introduce the 'environmental satellite accounts' in the existing UN based national accounts system. Such a system will provide an edge for strengthening the institutional capacity. It can be helpful in developing a system whereby the process of internalizing the external environmental costs is initiated. The 'greening' of national accounts is also expected to contribute to the quantification of Gross National Happiness (*Bhutan 2020*, p.88).

Among the five watershed management areas identified, the action plan has already begun in the field of water management, expected to ensure fully elaborated water quality standards by 2002. The plan for the management of Wang Chu river is completed and the plans for other major rivers like Puna Tsang Chu, Mangde Chu, Kuri Chu and Dangme Chu are being prepared. While the master plans for the watershed areas like farming, livestock, settlement and logging are still pending, there is a

need for the revision of related laws in the light of new requirements. An elaborate land-use plan is also called for.

Some instruments in the form of pricing policy have also been introduced in the country. Two prominent examples in this regard are the introduction of water and sewerage charges in selected urban centres and the use of a high tariff and pricing system in tourism. The introduction of water meters has resulted in the reduction of water wastage (from 50-75% to 24-30%), reduction in per capita consumption of water (from 210-300 lt to 103-178 lt a day) and a marked improvement in water supply (UN: *Country Presentation for Bhutan 2001*, p.21). High priced tourism has been successful in restricting 'mass tourism' in the country. The total earnings from tourism has increased from US \$ 1.91 million in 1990 to US \$ 10.49 million in 2000, representing the policy of 'high value - low volume' tourism (*Bhutan National Ecotourism Strategy 2002*). Another example of the indirect use of a pricing instrument to ward off the negative environmental impact in the country can be cited in the recently effected heavy reduction in import tariffs on electric rice-cookers, being imported mainly from Thailand. By making the electric rice-cooker cheaper by 40-50%, it is expected to bring down the demand for fuelwood in the country.

A major impetus to the environmental management in Bhutan comes from foreign assistance and collaboration. Bhutan became a signatory to the global Biological Diversity and Climate Change convention in 1992, and entered into a Sustainable Development Agreement with the Netherlands in 1994. This has helped in strengthening the country's capacity for environmental management. For example, the Gedu Wood Manufacturing Corporation, the largest logging operator in the country, was closed down and the debt obligation, thereof, was met with the assistance of the Netherlands, under *debt-for-nature* swap scheme. Bhutan's First National Inventory of Greenhouse Gas Sources and Sinks to the United Nations Framework Convention on Climate Change, with the baseline of 1994, shows that Bhutan sequestered 3,321 kilotonnes of carbon. Therefore, at the global level, Bhutan remains a net sequester of greenhouse gases (*Ninth Five Year Plan Main Document*, p.40).

The Bhutan Trust Fund, a major funding agency for launching of programmes and undertaking research towards strengthening of environmental conservation, is based on the involvement of donors and the government. While Bhutan will keep on requiring such collaborations, these should also be extended in the field of technical knowledge sharing for capacity building.



## Section Seven

### **Bhutan's Option of Linking Trade with Environment**

#### *The Background*

At present the major exports of Bhutan are related to or based on primary products and the environmental impact of trade is currently mainly focused on the natural resource sector. In the future, some manufacturing can be expected to increase in importance and the environmental implications will broaden to include pollution, energy efficiency and waste disposal. These environmental problems, however, have already started surfacing as recent concerns, though not as a result of expanding manufacturing and exports. Such problems have arisen due to urbanization, population increase and migration of people from rural to urban centers. Perhaps, Bhutan does not truly represent a typical case of developing countries. Some of the most pressing problems such as poverty, unemployment and inequality which most developing countries are suffering from do not constitute a major concern for Bhutan. With a relatively small population base, Bhutan also has the advantage of 'starting late'. This has helped in learning from the experiences of other countries and in following a 'cautious approach'. The *Bhutan National Human Development Report 2000* mentions in clear terms - "To prevent over-exploitation of Bhutan's natural resources, the Government has deliberately chosen to forgo immediate economic gains..."(p.49). Therefore, environmental values are not invoked in support of more human centred but 'divisive projects', as has been the case of most developing countries.

In fact, Bhutan has been able to minimize the impact of economic growth upon the environment, which is largely intact and is expected to continue to be so as a matter of policy. Bhutan's stand on the balance between economic growth and environment is more akin to the concept of 'ecological modernization', whose central proposition is that economic growth can be adapted to meet environmental goals. Importantly, the experience of Bhutan suggests that such an adaptation to achieve the 'green goals' such as sustainable development has not proved incompatible with the objective of attaining a high standard of living through trade, which is crucial in raising the per capita income and in bringing about better health and education standards. Nevertheless, a lot of ground is yet to be covered, especially towards self-sufficiency, economic diversification, modernization, social sector and equity. In the pursuit of achieving these goals, trade will continue to play a vital role. With environmental concerns gradually becoming more and more

pressing, the issue of linking trade with environment will be of utmost significance for Bhutan. It can subserve the twin objectives of raising exports earning, and, more importantly, an additional tool for effective environmental management.

#### *Bhutan's Trade in Environmentally Sensitive Goods*

Bhutan has been trading in Environmentally Sensitive Goods (ESGs), consisting of about 90% and about 98% of total exports to India and other countries in 1999. The main items of exports with both obvious and possible environmentally degrading effects are mineral products, hydropower, wood & products, plastic and rubber products, cement and chemical products. Bhutan also exports prepared/processed food stuffs and horticulture products in large quantities, which may be associated with product labeling and packaging standards.

Hydropower is the single most important item of exports of Bhutan. It produces 'clean electricity' at least cost, as the production is undertaken through "run-on-the-river" type projects. Although hydropower is a renewable form of energy, it is not completely free from environmental problems. The main issues concerning hydroelectric development relate to the threat of watershed degradation, loss of forests and ecological disturbances. This can also have effect on wildlife because of disturbances in their seasonal migration routes etc. While watershed management programmes are already under way, a compensatory afforestation may be required. At present, Bhutan does not have an alternative to hydropower exports. If the exports of wood or mineral products are stepped up as an alternative the magnitude of environmental damage will be much more. Therefore, it is in the interest of Bhutan to continue tapping water resources for power generation. However, Bhutan should keep on watching for the associated dangers. In order to capture a rough idea about the export potentiality of electricity, it would be imperative to have an estimation of income elasticity of electricity demand in India as well as in the domestic economy.

Another major export of Bhutan constitutes forestry products. Logging operation for exports has caused deforestation. Timber and other woods have been the items of major exports to India. The government identified this area quite early and regulated the logging operations to a large extent. The largest logging operator in the country, Gedu Wood Manufacturing Corporation, was closed down. As a result, the value of wood and wood product exports to India has declined from a peak of Nu.614.48 million in 1995 to Nu.297.97 million in 1999.

Despite strict regulations, the possibility of illegal logging can not be ruled out. The use of market instruments such as high license fees, export

tax on wood and an excise tax on domestic saw mills may work effectively via reducing the profitability and hence incentives to cut forests. Such a system can help in internalizing the costs of regenerating the forests into logging costs.

Another source of environmental degradation in Bhutan is the export of mineral products and manufacturing items like cement and products of chemical industries. Since industrial development is at an early stage in Bhutan and these sectors are small, no serious damage is reported to have been caused by them. However, some concerns over water and air quality have been raised recently. Fumes emitted by vehicles are gradually polluting the air in urban centers. Sewage from residential quarters and some factories are causing water pollution. These have been taken up seriously in the policy circle and a fully elaborated water and air quality is targeted to be achieved by 2002 and 2007. However, the problem seems to be associated with the adoption of standards and the use of instruments. A single standard may not be justifiable for all industries because the marginal cost of reducing pollution will differ from industry to industry. At the same time, high standards for air and water quality, especially those adopted by some developed countries, may not be appropriate for Bhutan. Due to largely intact environment, the pollution absorptive capacity of environment in Bhutan is much higher and in this case locally suitable standards can be adopted, which also do not compromise the social costs. As far as economic instruments are concerned the use of pollution taxes based on a fully conceptualized polluters-to-pay principle (PPP) may not make sense in Bhutan because of already existing high ambient air and water quality. At this stage, a warning system for all types of polluters and pre-guard measures in the form of charges (as has been adopted in some urban centers in the form of water and sewage charges) may serve the purpose.

The issue with regard to the exports of prepared/processed foodstuffs and horticulture products will be more associated with labeling, packaging and sanitary and phytosanitary standards. Bhutan has not faced any serious problem so far in the exports of these items arising due to environmental standards. However, this could happen because most exports in this category are vegetables, fruits, nuts and spices (processed/prepared foods constitute 3-5% of the total exports), and are often directed towards the countries in the sub-region where the practice of 'green-purchasing' is yet to pick up. However, Bhandari (1997, p.106) quotes an isolated example related to quality control when some resistance took place over the packaging of apple exports to Bangladesh. This happened when the previous practice of using wooden boxes was replaced by cardboard boxes for the purpose of promoting the shelf life

of apples and decreasing the use of timber in Bhutan. This move also brought the packaging practice nearer to the internationally accepted ones. The resistance was basically because of the belief that wooden boxes are more durable and survive better during their rough handling and transportation.

### *Exploring Possibilities*

Even though Bhutan's small industrial economy has not provided much opportunity to interact in a multilateral trading environment, the country has an urge to move gradually towards realization of this goal. Bhutan has an observer status in WTO and intends to become a member by the end of Ninth Plan (*Ninth Five Year Plan*, 157-58). Finding out the possibilities for trade expansion through linking trade with environment may prove beneficial for Bhutan in moving towards this goal.

Bhutan must explore the possibility of identifying niche markets within the sub-region and also outside the region. The potential for diversification exists in the areas of agricultural products, traditional handicrafts, manufacturing, beverages, herb-based pharmaceuticals and products based on bioprospecting and genetic engineering. By incorporating the environmental standards in production and packaging, Bhutan can expand the market of some of the currently produced/processed food items such as red and black-rice, cheese, honey, mushrooms and beverages. The future possibility in the production of organic agricultural products (OAPs) for export market can also be explored. Studies suggest that the market for OAPs have expanded tremendously, especially in the developed countries (UN 2001). With chemically intensive commercial farming yet to gain ground, Bhutan's natural soil conditions provide enormous opportunity to use the heritage of ancient wisdom towards the production of OAPs. This would need compliance with product standards. Bhutan has already expressed its urge to comply with the *Codex* standards in order to explore the market for agricultural product in the west (*Ninth Five Year Plan*, pp.177-78). An attempt to develop indigenous eco-labeling based on the study of product life-cycle can be initiated.

Several types of useful herbs grow in the Himalayan environment and the potentiality of trade in such herbs does exist (Aryal 1993). The Eastern Himalayas of Bhutan hold enormous possibilities in the export of medicinal and other herbs. It is to be noted that Bhutan has an indigenous medicinal system, known as *So-Wa-Rigpa*, which is being promoted actively by the government. The service is offered through the indigenous hospital in Thimphu and 11 indigenous dispensaries spread all over the country (*Bhutan NHDR 2000*, p.27). This traditional medical

system uses Himalayan herbs and flora having medicinal values. Such products can be standardized and explored for export possibilities.

Similarly, export markets can be explored for *dyesho*, the Bhutanese paper with tremendous aesthetic value. Traditional handicrafts, textiles and ethnic designs form another advantageous area for Bhutan. Perhaps, the most promising area in the future development of Bhutan will be the use of its rich biodiversity as a development asset. The development of environmentally clean industries based on bioprospecting and genetic engineering can “place Bhutan in the vanguard of scientific advance” (*Bhutan 2020*, p.88).

#### *Bhutan's Strong Points*

Today, Bhutan is in a position to go for trade diversification and in the process also utilize the emerging new environmental norms in trade to its utmost advantage. There are certain strong points in favour of Bhutan, which can make the task little easier.

First, environmental conservation and promotion towards sustainable development is an integral part of the main development strategy and therefore the objectives of economic development and environmental protection are mutually compatible. Evolving a synergy between environmental protection and economic development may not be difficult for Bhutan. This can provide keys to making trade and environment policies mutually compatible.

Second, the prime mover is government, which helps in providing a broader context than is usually provided by environmental policy alone, such as the central development concept of Gross National Happiness emanating from the traditional, cultural and spiritual legacy of the nation. This means the creation of new products and services can have the potential to demonstrate improved environmental and economic performance rather than cause its deterioration.

Third, the mental gap of the society, including producers and businessmen, for understanding and effecting this synergy is at a minimum. Today environmental education and management activities have taken root in the country with formal and informal education reaching across the various strata of society, viz., school children to general population and civil servants to business community.

Fourth, necessary policy and legal framework, which can be moulded to provide support to link trade with environment, are already developed. They simply need to be strengthened, and, fifth, poverty is not a formidable problem in Bhutan.

### *Major Thrust Areas*

The pursuit of linking trade with the environment does not require a change in Bhutan's development strategy, rather the government must continue along the paths pursued in recent years. A lot of progress has already taken place in making the system transparent, flexible and sustainable. The policy makers are aware of further improvements which will be taking place in time. Nevertheless, it underscores the fact that most imperatives for development still come from the government. Further, while Bhutan's trade is likely to continue on a similar line in the near future, attempt can meanwhile be made to fill in gaps in certain areas for further strengthening of the economy. These areas are basically related to manpower development, acquisition of technical knowledge, mobilization of funds, creation of a database and inventories and enhancing further cooperation and trade.

A major area of concern is the development of manpower and the acquisition of technical knowledge. Studies can be initiated on development of environmental and trade policies, which are supportive of the principle of sustainable development, including studies on programme evaluation and impact assessment. While the government is committed to bringing out a list of inventory in bio diversity by 2002 (*Bhutan 2020*, p.91), there is a need for promoting studies in bio diversity, database generation on the status of flora and fauna and identification of economically useful natural resources and the possibilities of their sustainable utilization (*Bhattarai 2003*, pp.37-43). There is also a need to establish mechanisms which will enable the government, researchers and private sector to interact with each other. This will establish necessary information linkage and promote informed decision making.

For developing countries, while the potential opportunities for improved trade access exist in the wake of liberalization and 'greening of trade', apprehensions have also been raised for its possible negative impact. It has been indicated that environmental standards introduced in trade can actually hamper the trade of developing countries and that these policies have protectionist intent. While it is difficult to follow the environmental standards due to multiplicity of stringent norms and lack of technical knowledge, it is important that the developed standards are also in conformity with social, cultural and development goals of the country. Bhutan has been able to develop its own polices related to process and production methods (PPMs) based on social, cultural and development goals. However, a simultaneous attempt can be made to incorporate the possible elements from international standards set in this regard. Developing its own eco-labeling, which will be based on

sustainable production of commodities, may prove helpful in searching a niche market.

While the potential for trade expansion through linking it to the environment exists for Bhutan, there seems to be an urgent priority for achieving the goals of expansion and diversification of the domestic economy. Once this is achieved, it will also contribute to trade diversification. There are, however, limiting factors inhibiting such diversification. Small size of the population deters the growth of manufacturing especially for consumer goods. Since most activities become unviable due to the small size of the market within the domestic economy, it does not allow the private sector to grow despite favourable government policies. However, Bhutan has the advantage of a huge market in India and other South Asian countries, which can be tapped for manufacturing and other products. Some of the items of imports can be identified, e.g., basic consumer items to begin with, and produced within the country, to be directed towards domestic consumers as well as towards exports. Such an 'export-oriented production, based on import-substitution' may prove helpful in achieving the goals of self-sufficiency and export earning. This can also prove vital for the expansion of the private sector. However, this dual strategy of 'import substitution-led-export' will have its own problems and limitations, which need to be addressed in detail.

Nevertheless, in developing the institutional capacities for realizing the goal of sustainable development and making headway for 'green trade', the role of international organizations in assisting Bhutan will be important. Such assistance can come about in the areas of capacity development on EIAs, environmental information, education and training, and management of environmental problems such as soil erosion, pollution and waste management.

Further, regional cooperation forums such as SAARC are extremely important for Bhutan, as its major trade is likely to take place within the South Asia region in the near future. It is in the interest of Bhutan to become an active partner on environmental related issues within SAARC. In fact, Bhutan has the potentiality to spearhead the context of environmental management towards sustainable development in South Asia. Meanwhile, Bhutan can sort out problems related to trade and environment in the regional forum of SAARC.

#### *How Can Bhutan Pursue this Option?*

1. Bhutan can start identifying niche markets within and outside sub-region for 'compliant products'. This can be done for the currently produced/processed products to begin with. In order

to do so, it would be necessary to follow standards in products, labeling and packaging.

2. Since Bhutan already has obtained *codex* membership, it can closely follow the development and arrange for its compliance. In the beginning, a minimum possible compliance can be followed, to be strengthened gradually. For example, the latest 26<sup>th</sup> meeting of *Codex Alimentarius* adopted 50 new safety measures and quality standards related to the risks to consumers from foods derived from biotechnology, including GMFs and irradiated products. This covers an assessment of DNA-modified plants such as maize, soya, potatoes and DNA-modified micro-organisms, including cheese, yoghurt and beer. Most of these products are of direct significance to Bhutan from the point of view of exports under the new possibilities. A close look at the outcome and the method suggested at this meeting should help develop a compliance process in the country.
3. Bhutan must start thinking about Organic Agricultural Products (OAPs). The agricultural sector has to be looked into carefully, as this is going to be very crucial for the country. As the level of subsidy given to agriculture would go down under the WTO agreement, this eventually will pose problems for net food importing countries. This might cause food insecurity due to an increase in global food prices. While farmers are going to benefit as subsidies go down and international prices move up, this might impair the food importing capacity of a small country. Therefore, the lesson for a small and landlocked country like Bhutan is that it must have an Agricultural Perspective Plan designed to pre-empt any such situation (Acharya and Pankaj 2003). The production of OAPs is one golden chance for Bhutan to come up in the international market. Bhutan can enter into negotiations with developed countries for marketing of OAPs and processed food products.
4. It is time for Bhutan to start developing its own eco-labeling, based on sustainable production of commodities.
5. Bhutan can seek for international assistance in the areas of capacity development on EIAs, environmental information, education and training, and management of environmental problems such as soil erosion, pollution and waste management.
6. Bhutan can start thinking about 'export-oriented production based on import-substitution', taking advantage of the huge market in India.



7. The issue of TRIPS is particularly sensitive for a country like Bhutan. As Bhutan would go for opening up and trade liberalization, in the absence of adequate measures, TRIPS might come on its way as a hurdle. Bhutan should gear up to avoid any possible bio-piracy. The need is to enforce legislation aimed at protecting biodiversity, farmers' rights and rights of indigenous people and communities. Further, there is also a need for their documentation and/or registration. Bhutan should be looking at the issue of 'geographical indications' for products like traditional knowledge, the informed consent of local communities for the use of their plant and animal genetic resources, and the sharing of benefits. Strengthening of G-21 plus group with India, Brazil and China would be beneficial for Bhutan.
8. Establishing a good link between academic and industrial research and policy would be necessary. It would not be a bad idea to create a research wing to explore the industry-environment linkage.
9. A regional cooperation forum like SAARC would be extremely important for Bhutan for sorting out problems related to trade in the new circumstances. Therefore, it would be in the interest of Bhutan to strengthen SAARC through active participation and initiatives.

## **Section Eight**

### **Concluding Remarks**

Bhutan has made considerable progress over the past four decades of planned economic development. It has achieved a fair amount of self-sufficiency and has undergone structural transformation. The progress is reflected in the basic socio-economic indicators, sectoral shares to GDP and the progress in HDI. Bhutan follows a development strategy which seeks to strike an appropriate balance among social, economic, political, cultural and environmental goals. A holistic approach to development is followed designed to take care of material as well as spiritual needs of individuals. A unique concept of Gross National Happiness has been evolved as the central development concept.

The growth of hydroelectricity is the main driving force of development in the country. It has also generated a considerable linkage effects, resulting in a simultaneous growth of manufacturing, trade and construction sectors. While Bhutan's current revenue generation is in a position to meet current expenditure, it keeps on depending on foreign

aid and loans for capital projects. The changes in CPI in the country have tended to be fairly more stable during the second half of 1990s and are generally on the lower side.

The external sector is extremely important for Bhutan. It provides the two most important sources of growth – exports earning and foreign aid. The top listed items of exports are electricity, mineral products, products of chemical industries, base metals and products, wood & wood products and processed foodstuffs. Bhutan is dependent on imports for its requirements of capital goods, raw materials, basic consumer goods and medicine and pharmaceuticals. Bhutan's trade is mainly directed towards India and the sub-region. Some trade ties are also developed with countries outside the sub-region. Imports continue to outweigh exports, reflected in trade and current account deficits. Bhutan receives foreign capital mostly in the forms of ODA and concessional loans. While the economy has gained strength on account of certain advantageous factors, these have simultaneously constrained the competitiveness of other sectors, reflected in the 'dependency amidst plenty' paradox.

Bhutan is endowed with extremely rich natural resources and biodiversity. While Bhutan's natural environment is largely intact, the pressure has begun to surface. The factors affecting environment in Bhutan are related to population pressure, economic development, outside influences, attitudinal and others. Bhutan's environmental conservation strategy is aimed towards sustainable development. It is based on *middle-path* philosophy deeply rooted in the Buddhist tradition. Various policy instruments have been developed, including legislation, environmental impact assessment (EIAs), greening of national accounts and entering collaboration and treaties. Some market-based measures have also been adopted.

Linking trade with the environment is very crucial for Bhutan. It is likely to result in improved trade performances. Simultaneously, it can also prove vital in setting environmental standards in pursuit of achieving the goal of sustainable development. However, Bhutan's experience on the issue of linking trade with the environment is only brief and limited. It does not provide evidences either to support or to reject the current debate on trade liberalization involving the issue of linking trade with the environment. Meanwhile, Bhutan seems to continue with trade in several environmentally sensitive goods (ESGs), though they have not resulted into any major environmental damage so far. However, some concerns like soil erosion and pollution have gradually started surfacing.

Bhutan must explore the possibility of identifying niche markets within the sub-region and also outside the region. The potentiality of

such an expansion will be more if Bhutan gives a consideration to the emerging environmental standards. It is in the interest of Bhutan to develop its own standards based on sustainable production of commodities. The potentiality can be explored in the areas of organic agricultural products (OAPs), traditional handicrafts, manufacturing, beverages, herbs based pharmaceuticals and products based on bioprospecting etc.

While the potential for trade expansion through linking it to environment exists for Bhutan, there are limiting factors which will keep on undermining its capacity to do so. These factors are related to manpower development, acquisition of technical knowledge, mobilization of funds, creation of database and inventories and furthering cooperation and trade etc. These are also the areas where the potential role of international organizations in assisting Bhutan exists. Regional forum like SAARC is extremely important for Bhutan. Meanwhile, it is in the interest of Bhutan to keep a close watch on the latest trends in liberalization and the issue of 'green trade', particularly from the point of view of developing countries and for its own interest.

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