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SECTOR STUDY ON FLORICULTURE

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Preface

This sector study is part of the Technical Cooperation Project “*Advisory services on export development of priority sectors of Nepal*” (NEP/A1/01A). The project is implemented by the International Trade Centre UNCTAD/WTO (ITC) and the Trade and Export Promotion Centre (TEPC), and co-funded by the European Union and ITC through the Asia Trust Fund (ATF).

The project is intended to identify products that show good export potential, taking demand and supply side issues into account, and to formulate practical recommendations for the development of Nepal’s most promising exportable products, with a view to develop and diversify Nepal’s export potential. The project consists of two phases. The first phase of the project consisted of a comprehensive Export Potential Assessment, looking into the export potential of 14 non-traditional products. During the second phase the five most promising are studied in more detail, engaging international product specialists.

The results of the Export Potential Assessment were presented to representatives of Nepal’s private sector, Government and donor community in February 2007. Following this meeting it was decided to study the following products in more detail during the second phase of the project: large cardamom, pulses, silk pashmina, cut flowers and tea. The present study must be seen in this context.

The sector study on floriculture was prepared by Mr. Murari P. Gautam (national consultant), and Mr. Chumi N. Yanai (international consultant on floriculture marketing), in collaboration with Mr. Bastiaan Bijl (international trade data analyst).

The sector study builds on the results of a fact-finding and needs-assessment mission conducted in Nepal in May 2007. During this mission, the ITC Consultants entertained a number of meetings with individual companies, growers, traders, government officials, and business associations. The main findings and recommendations of the report were consequently presented to - and validated by - key sector stakeholders during a workshop in Kathmandu on 21 August 2007.

The authors would like to thank Mr. Koen Oosterom, Office for Asia-Pacific, Latin America & the Caribbean (OAPLAC), ITC, for his support. Lastly, the authors would like to thank all enterprises concerned who kindly answered the ITC questionnaire and key sector stakeholders who engaged in meaningful discussions with the team and volunteered their views and knowledge. For further details on the present study, please contact Mr. Koen Oosterom (email: oosterom@intracen.org).

Abbreviations and acronyms

ADB	Asian Development Bank, Manila
ADB/N	Agriculture Development Bank of Nepal
AEC	Agro Enterprise Centre/ FNCCI
AICL	Agricultural Inputs Company Limited
APP	Agriculture Perspective Plan
CAAN	Civil Aviation Authority of Nepal
CBS	Central Bureau of Statistics, Nepal
CITES	Convention on International Trade in Endangered Species
COO	Country of Origin
CTEVT	Council of Technical Education and Vocational Training
DADO	District Agriculture Development Office
DOA	Department of Agriculture
DOC	Department of Customs
EU	European Union
FAN	Floriculture Association of Nepal
FAO	Food and Agriculture Organization
FDC	Floriculture Development Centre Government of Nepal
GON	Government of Nepal
FNCCI	Federation of Nepalese Chambers of Commerce and Industries
FTA	Free Trade Area
FY	Fiscal Year
FYM	Farm Yard Manure
GON	Government of Nepal
Ha	Hector
HDD	Horticultural Development Directorate
HICAST	Himalayan Collage of Agriculture Science and Technology
HRD	Human Resources Development
HS	Harmonized Commodity Description and Coding System
IAAS	Institute of Agriculture and Animal Sciences of Tribhuvan University (TU), Rampur, Chitawan
INGO	International Non-governmental Organization
IPM	Integrated Pests Management
ITC	International Trade Centre, UNCTAD/ WTO, Geneva
JTA	Junior Technical Assistant
Kg	Kilogram
Km	Kilometer
LDCs	Least Developed Countries
m.	Million
mm.	Millimeter
MOAC	Ministry of Agriculture and Cooperative
MOF	Ministry of Finance
MOICS	Ministry of Industries Commerce and Supplies
MT	Metric Ton
NARC	National Agricultural Research Council
NGO	Non Governmental Organization
NPC	National Planning Commission
NSCL	Nepal Seed Company Limited
NTB	Non-tariffs Barriers
PC	Plant Quarantine Certificate
Qty.	Quantity
R & D	Research and Development
RMDC	Rural Micro-finance Development Centre

ROO	Rules of Origin
SAARC	South Asian Association for Regional Cooperation
SAFTA	South Asian Free Trade Agreement
SAPTA	SAARC Preferential Trading Arrangement
SFCL	Small Farmer's Cooperative Limited
SFDB	Small Farmer's Development Bank
SMEs	Small and Medium-sized Enterprises
SPS	Sanitary and phyto-sanitary measures
Sq mt	Square Meter
TA	Technical Assistance
TBT	Technical Barriers to Trade
TEPC	Trade and Export Promotion Centre
TLP	Trade Liberalization Programmes
UNDP	United Nations Development Programme
US	United States of America
VAT	Value Added Tax
WB	World Bank
WTO	World Trade Organization

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1. General context and Executive Summary

1.1 Background

The Government of Nepal requested the support of the Asia Trust Fund to identify products that show good export potential, taking demand and supply side issues into account, and to formulate practical recommendations for the development of Nepal's most promising exportable products, with a view to developing and diversifying export business. This study is in the spirit of a quest to diversify and lift Nepal's exports away from its overdependence on Carpet and Clothing exports. A comprehensive Export Potential Assessment looked into 14 non-traditional product sectors and five sectors were identified as having high potential for further export development. Further in-depth studies were conducted on the five product sectors that included large cardamom, lentils, tea, Chyangra cashmere and silk based products, and floriculture products.

This document covers the study on the floriculture sector. Whilst at a domestic level the flower industry is flourishing, exports of floriculture produce export from Nepal is still at an early stage unlike the other four sectors in this project. Hence, promoting the sector's export cannot start from improving the current situation, but rather from identification of potential producers and potential markets. This dictated this study's approach, which differs from the other studies.

1.2 Purpose and Objective of the study

The objectives of this study are to identify the priorities for export policies, determine the strategies, recommend practical action programmes and provide guidance to the government, the private sector and the donor agencies for the export development and promotion of floriculture products in Nepal.

The study focuses on supply side issues, backward and forward linkages, buyer requirements, trade data, obstacles and shortcomings for export, export support services, implications of regional and multilateral agreements and the recommendations with action plan

1.3 Parties involved

The major parties involved in the study are the Government of Nepal, the European Commission through the Asia Trust Fund (ATF), the International Trade Centre, (ITC), and the Trade and Export Promotion Centre (TEPC). The other responsible supporting agencies for the programme or project implementation are Ministry of Industries, Commerce and Supplies, Ministry of Agriculture and Cooperative, Federation of Nepalese Chambers of Industries and Commerce (FNCCI) Bilateral and Multilateral Donor Agencies, Floriculture Association of Nepal, INGOs, NGOs, floriculture products growers and exporters, etc.

1.4 Key Findings

Whilst Nepal's floriculture sector has been making remarkable progress in recent years on the domestic front, the next step of developing the sector to become internationally competitive will be a tough challenge. Apart from in the bulbs

business, Nepal does not necessarily possess unique natural advantages, qualifying its floriculture sector to automatically become a winning player in the international floriculture market. The country's characteristics are not dissimilar to neighbouring potential competitors like Jammu & Kashmir and Darjeeling of India, Cameroon Highlands of Malaysia, Yunnan Province of China, etc. These neighbouring regions also have the added advantage that they have already started their development, and are already several steps ahead.

There are locations, up on the mountains, where special appropriate microclimates could be found; but these will be difficult to develop because they are not very accessible, and lack the basic infrastructures. It should be noted, however, that this is different when considering flower bulbs production, providing an interesting niche for competitive advantage.

Innovating growers and businesses are coming up in Nepal; but these are not in the best situation to innovate because even the most advanced flower farms are running under the "downward spiral" concept: in response to low prices efforts are made to save costs with the consequence that quality ultimately is affected and hence prices remain low, etc... The smaller motivated growers hardly believe in their capability to cope with the industry's advancement, seeking for the government to provide them with enabling support. The government of Nepal, however, is not creating an enabling environment that would be encouraging for export. In fact some of the trade and tax regulations are discouraging for export. A series of restrictions are serious impediments to export development. Several prior studies and workshops already identified these bottlenecks, but so far no improvement could be reported.

Overall across the sector, product quality awareness is rather low among the local producers. At present many lack the know-how that would be required to develop exports. The high costs involved in developing exports related to required hi-tech cultivation and airfreight also pose a major challenge for Nepalese floriculture businesses. Besides discouraging tax policies, the sector lacks the financial instruments to promote private sector investments.

Land ownership policies in Nepal, and its topographic characters, generally prohibit the development of large-scale producing farms. The sector therefore relies on many small-scale production units. This is also a major consideration when selecting the appropriate marketing organization mode.

1.5 Conclusions

At first sight the foundation for developing floriculture exports do not look in Nepal's favour. However the same was said for other countries that are today very successful. Natural and objective relative advantages are not necessarily the key for success in export-oriented industry. The most successful country in the floriculture industry, The Netherlands, hardly has any natural advantages over its competitors; neither does Israel, compared to its neighbouring countries. The key is in the industry's organizational mode, especially its marketing organization. Experience shows that sometimes a small nucleus of motivated local people, who would take the initiative, might lead a change. With the right enabling environment and improved business situation, the innovating growers and businesses could turn the Nepalese flower business into an export success.

ITC's preferred approach, based on forty years of experience in the trade development business, is the 'pull' approach: *"Take care of the marketing! Once there is demand for the products – the production means would follow"*. This is in

contrary to the traditional 'push' approach, focusing on reinforcing and supporting the production first, hoping to enable export when the product improved.

A realistic strategy that might provoke a shift in Nepal's floriculture industry seems to be the supporting of a small group of well-motivated growers and traders; a 'pilot project'. Once the pilot activity manages to bring this group to successful results – a profitable export activity - this nucleus would 'pull' many other producers to follow.

However, establishing a self-supporting marketing system for just small exported quantities would not be feasible. It would not have the necessary critical mass. In any event, it takes several years until a new industry may produce massive quantities. Therefore, the appropriate solution for Nepal's floriculture export start up phase would be by joining an existing marketing organization in another country. A suitable organization would benefit from the collaboration, by gaining accomplishing assortment and/or qualities, and/or off-seasonal supply. This approach works perfectly with Israel, Kenya, and Ethiopia; they all utilize the Dutch marketing system. The lion share of floriculture produce of these countries is distributed worldwide from this 'hub' in Holland, to the benefit of all parties involved.

Exceptional within the floriculture industry is the flower bulbs sub-sector. It is indeed an ornamental plants' trade, but totally different from cut flowers and potted plants. As mentioned before, Nepal does have some unique relative advantages for growing flower bulbs, mainly in the high altitude mountainous regions. Being less perishable than fresh cut flowers, these products can live with less developed infrastructures. However, in order to utilize natural advantages in international markets one must be connected to the Dutch bulbs industry. They control the international market, and the access to modern varieties. Developing this sub-sector's export requires a standalone sub-project.

1.6 Recommendations

The immediate objectives of the project are divided in two phases:

- ◆ Phase 1 (year one and two): Setting up a pilot value chain of a selected small group that will actually prove the feasibility of profitable export-oriented floriculture industry. The pilot sub-objectives are:
 - Testing the most appropriate agro-technical methods to achieve high quality flowers
 - Trying and practicing the most appropriate export destinations and marketing models
 - Identifying and removing of obstacles to export activities
 - Establishing a knowledge base and demonstrative centres to train future participants
 - Formulating a model for industry-wide value chain organization

- ◆ Phase 2 (years three to five): Based on the lessons learned from Phase 1, setting up of an industry-wide value chain, enabling gradual expanding of the industry. This would include:
 - Growers organization
 - Export promoting organization
 - Long-term export outlets connections
 - Training and know-how transfer network

A) Cut Flowers

The project will set up a 'Steering Committee', comprised of an international expert, government representative(s), local expert(s), and private sector representatives.

- The committee will study the international experience, and work out a detailed work plan for the project, based on this report's recommendations.
- The committee will select a small group of 3-5 flower growers, an export company, and a forwarding agency, to be the project initial direct beneficiaries. Additional participating beneficiaries will be selected for each of the following seasons, according to the project's practical ability to handle larger scale of activities.
- A task force of the Steering Committee will survey the most successful flower marketing organizations in India and in other South Asian countries to locate the most appropriate one to market the project's flower export.
- The Steering Committee, in full coordination with the project's beneficiaries, and in accordance with the selected marketing organization's recommendations, will set up a production and export program.
- In line with the production and marketing program, the committee will formulate a list of means and procedures, needed to implement the program, addressed to the Government of Nepal and the donating organizations.

B) Flower Bulbs

Prior to any planning, the project should act as follows:

- An agency like ITC would use its good contacts in The Netherlands to page potential private sector entrepreneurs, interesting in developing integrated production of flower bulbs in the region. If this attempt failed – the Japanese option should be considered.
- Simultaneously, local experts should locate some potential appropriate locations for flower bulbs in the country, and prepare a detailed characterization for them.
- Once interested parties are identified, the next step entails fields visit by the potential partners, to identify practical options for integrated production and marketing network.
- ITC and GON should play the role of protecting the interests of the local farmers, through the formulation of a fair value chain model.

Consequently, a concept and a structural model would be formulated for this sub-project.

Implementation methodology:

Since the activities related to the project's implementation depended entirely on the nature of products and markets that would be selected, the action plan is to be formulated by the Steering Committee after the selection of participants, and setting up the production and marketing plan. Activities would then consist of:

- Project management procedures, including appraisal criteria and timeline.

- Organizational mode of a 'value chain' nature, with well-defined roles for each of the project's participants, and the inter-relationships among them.
- Priority-actions will be assigned to relevant parties, and include a timeline and estimation of costs concerned. Actions will be identified at four levels:
 - Micro level: For individual enterprises/growers, including improvements the companies can take by themselves, in-house on the basis of the study report.
 - Meso level: For the relevant trade association(s) and (public and private) TSIs offering financing and export services.
 - Macro level: For the relevant government authorities, including import and export authorities, knowledge sharing, and infrastructure.
 - Donating agencies level: For the providing of the relevant international know-how, experience, and market linkages.

Recommended activities, to be worked-out as mentioned above, according to funds availability would include, in the given priority order:

- Markets study tour for a group of selected growers and service providers, to international flower markets, visiting growers, market places, and flower auctions.
- Survey by an international flower-growing expert, to identify the most appropriate varieties for the various locations in Nepal, appropriate to the market survey's findings.
- Seminar for Nepali flower growers, provided by international experts on modern cultivation and post-harvest methods.
- Consultancy mission by an international flower export logistic expert, to recommend on the optimal logistic chain from grower to market.
- Construction of a pilot cooling-chamber for flowers in Kathmandu airport.
- Partly subsidizing flower air shipments, to reduce the actual costs to the level they would be when a critical mass was achieved.
- On-going consultancy on export practices, and value chain organizational affairs.
- On-going consultancy on flower cultivation and post harvest practices.
- Training and salaries of local extension officers, to provide technical support to growers.
- Facilitating exporting flower growers in improving their farm facilities, through partial grants on actual investments, and/or subsidized interest on loans.

2. The Cut Flower Sector in Nepal

2.1 The sector in general

Land use patterns of Nepal show that of the total areas of 147,181 Sq.Km.¹, only 21 % constitute cultivated land. And 33%of cultivated land has access to irrigation facilities (Table 2.1). About 7% of agriculture land is uncultivated. In view of higher returns in floriculture business than in other commercial crops the land availability is not a problem for this industry.

Table 2.1 – Land Use Patterns in Nepal

SN	Description of uses	Area in Ha '000	%
1	Agricultural Land Cultivated	3,091	21.0
	Out of which, Irrigated Land	1,001	33.3
2	Agricultural Land Uncultivated	1,030	7.0
3	Forest (including shrub 1,560,000)	5,828	39.6
4	Grass Land and Pasture	1,766	12.0
5	Water	383	2.6
6	Others	2,620	17.8
	Total	14,718	100.0

Source: Statistical Information on Nepalese Agriculture 2004/05, MOAC, Dec. 2005.

Most of the Nepal's Hill and mid-Mountain regions are at an altitude of between 1,000 to 4,000 Mt and this area covers 42 % of the country's total land surface. These locations having about 1,500 mm rainfall and day temperature 20 to 30°C and night temperature 5 to 20°C are favourable for production as well as trade of native and commercial flower species. These locations have 60 to 80% humidity and soil acidity 5.0 to 6.0 pH that are very suitable for flower and plant production.

Nepal is noted for its exceptionally rich bio-diversity with a wide variety of topographical and climatic conditions within a short distance. As many as 6,500 species of flowering plants² and 380 species of orchids³ are available in the country with the possibility of further innovation, commercialisation and diversification. Currently about 50 cut flowers and 100 varieties of bulbs and plants have been commercialised. The existing conditions offer unique prospects for developing many native as well as cultivable species of flowers, flower bulbs, tubers, and rhizomes, ornamental plants and orchids (Table 2.2).

Commercial species of orchids of herbaceous perennials are in general epiphytic⁴ and terrestrial⁵ in habitat⁶. Eastern Nepal is rich in Epiphytic species, West Nepal in

¹ Out of this 35.2% are mountains, 41.7% are hills and remaining 23.1% constitute Tarai plain land.

² Ministry of Forest and Soil Conservation, Terai Arc Landscape – Nepal, Strategic Plan 2004-2014, September 2003, page 6.

³ In 1989 Dahal and Shakya listed 90 genera and 350 species of orchids in Nepal.

⁴ Natural growth takes in tree.

⁵ Growth takes in land/soil.

⁶ Other two types are Lithophytic (those grow in stones and mountain slopes) and Saprophytic (those grow in rotten and wild leaves).

Terrestrial species and Centre Nepal possesses the both types. Epiphytic species are more attractive, colourful and flowers are larger sized than other species. Orchids having commercial importance are Symopodial and monopodial types. Some of them are exportable and have different flowering periods.

Table 2.2 Flowers and Plants Having Export Potential

SN	Type	Names of Flowers and Plants
1	<u>Seasonal flowers</u>	Inca (marigold), Zinnia, Dahlia, Petunia, Pansy, Verbena, Antirrhinum, Calceolaria, Cineraria, Celosia and Reannucolus, etc.
2	<u>Ornamental Plants (Non-Flowering)</u>	Cycas, Tupidianthus, Phoenix, Aeric Palm (Palm Varieties), Nolina, Phylodron, Dracaena, Dhupi (Dhupi varieties), Ficus (Ficus species), Are curia cookie, etc.
3	<u>Shrubs and Climbers</u>	Rose, Bougainvillea, Bleeding Heart, Begonia, Venista, etc.
4	<u>Cut-flowers</u>	Gladiolus, Rose, Carnation, Gerbera, Tuberose, Cymbidium Orchids (including Pleione, Praecox), Chrysanthemum, Aster, Lily, Anthurium, Bird of Paradise, etc.
5	<u>Bulbs</u>	Gladiolus, Gloriosia spp., Zephyranthus, Hoemanthus (football lilly), Polyanthus (Rosani), Licorisaurea, Eucharis grandiflora (Amazanlily), Achimenes, Kukurma, etc.
6	<u>Tissue Culture</u>	Banana, Bamboo, Orchids, Chrysanthemum, etc
7	<u>Foliage</u>	Asparagus, ferns, Nephrolepis, Cordifolia, Pulmosus, Junipers, Thuja,

There are entrepreneurs that are enthusiastic to invest on the important aspects of floriculture development such as greenhouse, proper plant health management, and modern post harvesting techniques, if the government of Nepal is prepared to provide a favourable policy environment and some temporary fiscal support with tax waivers and infrastructure.

Out of all 75 districts in Nepal, 14 districts with 7 million population (2005 Projection) are identified as having prospects for floriculture production. These districts include Kathmandu, Lalitpur, Bhaktapur, Kavrepalanchowk, Chitwan, Dhading, Makwanpur, and Nuwakot in central Nepal.⁷ International airport in Kathmandu is within one to four hours drive from these districts. Other districts with favourable climatic conditions for flowers are Jhapa, Illam, Mornag, and Sunasari in Eastern Nepal and closer to Kolkatta market⁸ and Dadeldhura and Doti in Western Nepal closer to Delhi market.⁹ The driving distance from these six districts to Kolkotta and Delhi flower markets is around five to six hours.

2.1.1 Production and Availability

The floriculture business has been flourishing in Nepal only since the early nineties. The private sector's enthusiasm and investment in this sector led to growth in consumption in the domestic market and gradual export to overseas markets. The number of small and medium sized commercial growers has increased from four in 1992 to above 500. These growers employing 2,600 persons (60%women) in 34

⁷ Floriculture Association of Nepal (FAN)

⁸ Mr. Yogesh Pradhan, MD, Bodhibrichhaya Nursery, Kathmandu.

⁹ Dr. Umed Pun, Floriculture Expert in Nepal.

districts of Nepal have invested in 87 ha (36 ha covered) and had a turnover of US \$ 3.6 million in 2006¹⁰.

Authentic data is not available on the current national production of these items. However, the recent increase in production volume is indicated by the increase in cultivation area, domestic demand for cut flowers and ornamental plants, growing export to India and abroad and wholesale market turnovers as well as import substitution. Domestic supply of the varieties like gladiolus, roses, tuberose, carnations, gerbera, orchid, etc. which were being imported earlier, has increased substantially.

2.1.2 Nature of Enterprises

Most of the floriculture enterprises are small, traditional, private and domestically owned. The reason for the dramatic growth in the cultivated area within a decade is the positive response received from domestic consumers with steady domestic consumption and strong support of business associations like FAN, AEC/FNCCI to production and marketing efforts. There are many commercial floriculture farms that are interested in exporting and are planning to build infrastructure for export.

2.1.3 Domestic Marketing

FAN has created a wholesale market for the flower growers. Data for the last eight years shows a surge in total volume of stems transacted and a gradual decrease in unit prices of some of the species such as local and Dutch roses, carnations, and tuberose. The turnover of FAN market crossed 1.8 million stems and US\$ 80,000 in 2005. The average unit price of flowers has come down from US\$ 0.095 in 1998 to 0.046 in 2005. And this trend continued until July 2007 indicating production efficiency and prospects of further strengthening of competitiveness in Nepal. Cymbidium orchid, which is produced in low volume and is not imported, shows an upward trend in price together with an increase in volume of production. However, Nepalese suppliers have to develop further to compete in terms of prices and quality in the foreign markets.

Some of the more established growers and exporters don't use the facilities of FAN wholesale market as they have their own market networks. Products of Everest Floriculture are yet to come. However, it has no plan of selling in the domestic market.

2.1.4 Prospects

There is a great potential for expanding production if the internal issues are resolved gradually with public-private partnership. Land under the flower and ornamental plants cultivation can be increased further when private sector entrepreneurs and foreign investors find an investment climate more favourable in the future. In the long run, up to 10,000 ha are easily available for flower and ornamental plant cultivation. Adequate labour is available in the selected districts at daily wage in the range of US\$ 1.10 to 2.20. There is also a possibility of farmers shifting from low value to high value crops like flowers in these districts. There is the possibility to introduce a contract farming system whereby the organized growers and exporters can entrust the production of flowers and plants to the local farmers. FAN has estimated that Nepal can increase flower and plant cultivation to around 1000 ha in the next five years and can achieve competitiveness only if proper agronomic and post-harvest

¹⁰ Consultant's calculation based on the recent study of FAN.

technological arrangements are made with the support from government and foreign investors. According to the entrepreneurs such government support and incentives have to be similar to those extended by the government of neighbouring countries like India¹¹.

2.1.5 Inputs Supplies

Most of the inputs required for the floriculture farms are imported. Major imported inputs are planning materials, seeds, bulbs, chemical fertilizers, insecticides and fungicides, greenhouse equipment, cooling and heating equipment, irrigation equipment, etc. Some of the specialized and highly technical items have to be directly imported by the growers and for general items there are specialized private sector importers in Kathmandu.

Raw materials: seeds and planting materials

Most of the seeds used are imported from breeders abroad. Planting materials for carnations, gerbera, and roses are imported from Spain, the Netherlands and India. Tissue cultured flasks of cymbidium orchids are imported from Australia, USA and Japan. Many of the bulbs are sourced from eastern India and the Netherlands. More than 80% of ornamental plants along with soil are imported from India even though international quarantine rule strictly prohibits soil imports.

Fertilizers, insecticides/fungicides/ herbicides

As a campaign to promote sustainable agriculture, bio-fertilizers¹² such as composts, organic manures and vermin-culture easily collected from farmyard or from local farmers, are in increasing use, particularly for commercially grown vegetables, fruits and flowers. Demand for more organic fertilizers is expected to grow exponentially. Chemical fertilizers imported and supplied by the Agriculture Input Company Ltd. (AICL) and other private sector importers are sold in the local markets. Farmers of flowers and ornamental plants are using DAP, Urea, MOP, Calcium nitrate, Potassium Nitrate and micronutrients.

Neither grower nor the pesticide dealers are aware of specific pesticides/fungicides requirements of some of the flower crops and for some specific conditions. Imports of some of the chemicals, like Methyl Bromide that is required for soil sterilization, are band by state regulations. Some of the chemicals such as Potassium and Calcium Nitrates, which are normally used in making explosives, are subjected to the Home Ministry's special clearance permit at Customs. The growers requiring small quantities of such chemicals occasionally suffer from costly and time-consuming administrative procedural delays and hassles.

Irrigation systems

¹¹ The GOI has developed four schemes for floriculture development. These schemes include provisions of support for research and development (R&D), market development, quality development and infrastructure development. For each schemes separate check lists with detailed procedures have been designed to facilitate the beneficiaries in submitting applications for support, in approving requests and in arranging the reimbursement of the costs of development activities. Apart from the facilities under these schemes GOI also gives 10% subsidy on air-freight spent by the floriculture exporters.

¹² Which includes cow dung, leaf manure (humus), plant waste (saw dust, bark), bone meal, oil cake etc.

Sprinkler irrigation is found sparsely but a few farms are using drip irrigation. Though the operation cost is very low, the growers find it hard to afford the heavy initial investment required for drip irrigation systems and are expecting government support for it.

Some attempts are underway to introduce micro irrigation (sprinkler, drip irrigation) and low cost water saving devices (water storage tanks, hybrid irrigation systems). The Agriculture Development Bank (ADB/N), and USAID have been the agencies promoting mini/micro sprinklers irrigation and drip irrigation methods in a small scale in Nepal in the past. The drip and sprinkler technology promoted have proven to have water application efficiency in an order of 75% or more compared to 20 to 50% in other conventional surface irrigation (IDE, 2002)¹³.

Credit facilities

There are 17 commercial banks, 20 development banks, 5 rural development banks, 59 finance companies, 21 cooperative societies and 44 micro-finance institutions (NGO) in Nepal. In addition, there are more than 26,000 savings and credit grassroots organizations, which provide financial services particularly to people in remote areas. The Agriculture Development Bank of Nepal (ADB/N), with 450 branches across the country, is the major development bank. In the recent years it has invested approximately NRs.10 billion annually in marketing, livestock, agro-industries and cash crop production.

The Small Farmers Development Bank (SFDB), with the support of ADB/N, was created in 2002 under the Development Bank Act of 1996 to provide wholesale funds to Small Farmer Co-operatives Ltd. (SFCL) that make groups of small farmers self-reliant and sustained. Apart from this as the micro-finance apex institution Rural Micro-Finance Development Centre (RMDC) has also been established mainly to extend wholesale funds to the micro-finance institutions (MFIs) and build their capacities. Despite these various initiatives, rural finance is still characterized by weak governance, poor repayment rates, high transaction costs, recurring losses, and high non-performing loans. Credit facilities are concentrated in city centres and the Terai belts that have limited outreach.

In the floriculture sub-sector the ADB/N provides credit facilities with a subsidy of 3% on interest. Very few floriculture entrepreneurs HAVE benefited from ADB loans, as there is also a need to provide collateral security of land and/or building. In view of need for initial high investment new entrepreneurs are reluctant to take risks. At present some of the commercial banks are found less interested to invest in this sub-sector for the fact that there is no crop insurance system in Nepal and recently about four of the commercial banks suffered a huge loss in supporting one of the joint foreign venture entrepreneurs.

Extension and Research and Development Services

The private sector entrepreneurs are developing technological knowledge and technology gradually on their own in a very limited scale. At present Government institutions like DADO and NARC have taken sole responsibility of extension services. But the present extension and research systems are too weak to provide effective services to the commercial growers of flowers basically for the lack of proper programs, technicians, and budgetary provisions. Such services should also

¹³ Surya Nepal Pvt. Ltd. , Roles and Potentials of Agriculture in Nepal, Damodar Prasad Gautam and Murari Prasad Gautam, 2005.

cover support to post-production functions such as input and output marketing, social mobilization, IPM, farm management, business planning, post-harvest handling, processing, resource management, etc. Farmers are found prepared to pay appropriate fees or charges on services of qualified JTA or agriculture specialists.

Human Resource and Training

For the many years the Institute of Agriculture and Animal Science (IAAS) of the Tribhuvan University, Rampur, is involved in agriculture human resource development in Nepal. The IAAS offers a specialization course in floriculture under the Master in horticulture program. It was observed that many students have chosen the horticulture program and several internally and externally funded research projects are also being undertaken. The government run Council of Technical Education and Vocational Training (CTEVT) is also producing JT and JTAs in agriculture. The Himalayan College of Agricultural Science and Technology (HICAST) is the only college in the private sector in Nepal providing academic programs of B.Sc (Hons) Agriculture and B.V.Sc. and Animal Husbandry.

For the human resource development in the floriculture sub-sector, the other stakeholders like Government of Nepal, FNCCI, AEC, FAN, etc., also have occasional programs to provide fellowships/scholarships, organize highly specialized workshops/ seminars/ trainings and recommend donors for studies abroad. In the present context the number of trainings extended is inadequate for the capacity building of the existing entrepreneurs as well as interested individuals. There should be in-built government national programs to extend degree and training for human resources development in the floriculture sub-sector.

2.1.6 Existing Facilities and Support

The Government of Nepal plays a minimum role in the development of the floriculture sub-sector. Some farmers outside the Kathmandu valley are temporarily receiving electricity an subsidy through a project funded by Asian Development Bank. The only support that the government has introduced is to provide credit to the farmers at 3% subsidy on bank interest. This facility is also available through the Agriculture Development Bank of Nepal only. Imports of some of the agricultural inputs, such as greenhouse construction materials are allowed at 1 % tariff. However, implementation of policy is virtually ineffective due to mis-interpretation of the regulatory provisions, cumbersome and non-transparent rules and procedures.

2.1.7 Socio-economic Impact

Overall the socio-economic impact of the floriculture sector is very high. The contribution of the floriculture products in Nepal's total export earnings is negligible. However, if cultivation of flower and other floricultural products is extended in future, it is possible to create employment opportunities with a direct impact on poverty reduction and improvement in women empowerment. If cultivations are extended up to 1000 ha in future, it is possible to create employment opportunities for 25,000 people. Moreover, it will have a positive impact on the environmental situation with increased plantation and vegetation in the cultivated areas of the country.

2.1.8 Sustainability and Environment

About 88% of the population lives in rural areas having agriculture-based economy. Almost 65 % of the economically active population of Nepal is engaged in agriculture

(Population Census of CBS 2001). According to the Ministry of Finance 38.8% of GDP comes from agriculture (2004) with a growth rate of 3.6%. With the availability of suitable land and skilled farm labour the commercialisation of flower and ornamental plants in Nepal is very much sustainable and environment friendly. Flower cultivation will also help to control soil erosion and desertification.

2.1.9 Infrastructure

Infrastructure facilities are mainly available in urban areas and in cities accessible to roads. Presently the entrepreneurs are managing their requirements though the costs are a little higher and qualitywise the facilities are inadequate.

Water and Drip and Sprinkle Irrigation Systems

Most of firms are found employing human labour and hosepipes for irrigation on a regular basis. Water resource is scarce in urban areas. There is need to provide more incentives in rural areas of identified districts in view of water availability. Incentives to use rainwater harvest for this sector may substitute the water scarcity problem. Some of the farmers have already invested a huge amount of money in setting up scientific irrigation systems. For the lack of financial and risk taking capabilities, many medium and small farmers have no access to such a system.

Electricity, Fuel and Oil

At present the government is supplying electricity for irrigation in rural areas at lower tariffs of NRs.3.60 per unit, with about 50% subsidy. Regular, reliable and a cheap source of electricity for those firms adopting high tech production for quality outputs is a must for the future growth of floriculture.

Transport and Airfreight

There is no special arrangement for transportation of the products for the domestic market. In the domestic market the growers transport their products via public buses, mini-trucks, motorcycles and bicycles in small volume. A special van with a refrigerated cooling system is required for transporting products to distant markets to prolong its shelf-life and keeps the quality intact. For the purpose of export marketing, refrigerated vehicles and proper transportation facilities are not available. Organized farmers of cut flowers, plants and bulbs have found it difficult for the reasons of high airfreight charges. Some of the entrepreneurs are ready to invest in production of a huge quantity of cut flowers if airfreight is subsidized at least by US\$1.00 per kg.

Cooling Chamber

Each farm requires cooling chambers of different sizes to retain the post-harvest freshness and treatment, and to minimize losses. Such chambers in large sizes are also required at collection centers and at the Kathmandu International Airport to retain the quality of products while waiting for flights.

Trade facilitation and procedures

According to the FAN floriculture entrepreneurs are seeking trade facilitation support in:

- i. Setting up of wholesale market centres in major markets and production centres.

- ii. Organizing of trade fairs and exhibitions regularly.
- iii. Introducing simplified procedures of providing SPS certificates and customs formalities.
- iv. Introducing cool-chain management system with a facility at Kathmandu International Airport.

2.1.10 Technological supports: tools, equipment and R&D

The NARC, HDD and Department of Plant Resources (Ministry of Forestry and Soil Conservation) are the government responsible agencies for R&D in horticulture and plants. These agencies have not emphasized on market oriented technical research. Therefore, the growers have been conducting their own research based on studies, field visits, training and learning-by-doing and experimenting. The IAAS of Tribhuvan University has also been involved in technical research as a part of thesis work of the students. However, technological support to the growers have never been a part of their programmes.

2.2 An overview of existing studies, strategies, policy papers

A list of studies and key finding and recommendations are presented in the following tables¹⁴:

Ref.	Title	Year	Partner	Sponsor	Pages
1	A Study on Floriculture Development in Nepal	2002	Centre for Policy Research and Analysis (CPRA), Kathmandu	Japan International Cooperation Agency (JICA)	70
2	A Report of Symposium on Prospective of Floriculture Industry in Nepal	2001	Floriculture Association of Nepal	Agro Enterprise Centre (AEC/FNCCI)	43
3	Flower Marketing in Kathmandu Valley	2002	District Agriculture Development Office, Kathmandu	Ministry of Agriculture and Cooperative, Dept, of Agriculture	62
4	An Insight Into Floriculture Scenario of Nepal	2003	Floriculture Association of Nepal (FAN)	Proceedings of Workshops of Floriculture in Nepal	44
5	Identification Mission Report: Flower, Dairy, and Seed Development in the Kingdom of Nepal	2005 June	Centre for International Agriculture Development Cooperation (CINADCO) and Centre for International Cooperation -MASHAV	Government of Israel, Ministry of Foreign Affairs and Ministry of Agriculture and Rural Development	42
6	Trade Competitiveness of the Floricultural Sub-sector in Nepal	2007 Jan.	Floriculture Association of Nepal (FAN)	Agro Enterprise Centre (AEC)/ FNCCI	117

Reference One

A Study on Floriculture Development in Nepal			
	Key Findings		Key Recommendations
1	Nepal has good potential domestic demand and current production, and domestic consumption is growing at a healthy rate.	1	FAN should take lead in the growth of the floriculture industry. It should undertake policy advocacy, information and intelligence services and networking.
2	Western markets for "traditional" cut flowers are huge, sophisticated and fully matured. India, Bangladesh, and Pakistan could also be potential export markets in future.	2	Build a permanent wholesale market complex that is complete with an auction floor, refrigerated system, grading and packaging facilities, good water supply, electricity services, information exchange counter, etc.
3	Nepal is not ready, in terms of scale and infrastructure base, for flowers export to a meaningful level and may not be able to penetrate overseas markets on its own. Foreign collaborations with established players in the importing countries are	3	NARC's research should be market driven. Formal linkages should be established with the private sector for communication and research. RONAST and Do PR should begin concretizing and directing their efforts to the

¹⁴ Please note that corresponding numbers in the tables such as number 1 of Key Findings and number 1 of Key Recommendations have no direct relations.

	essential to achieve success.		research program on promising endemic or exotic plants.
4	Many small entrepreneurs engaged in the nursery business are finding difficulties to adapt and develop export oriented production in the absence of support from stakeholder institutions and government.	4	Horticulture Directorate should create a small Floriculture Unit to be the focal point of floriculture activities at the government level and should launch farmer-focused extension and training programmes.
5	Production is concentrated in Kathmandu Valley. Limited production takes place in the Tarai and other hill districts, mostly for supply to Kathmandu market.	5	Complete construction and operation of cold-storage or cooling facilities at International Airport that has been languished for long despite fund availability.
6	Infrastructure support is virtually non-existent. Lack of diagnostic and research support is costing the development of this industry.	6	Provide over the counter green-channel facility at the Airport for export clearance.
7	FAN with the assistance of AEC has been undertaking pioneering activities including surveys and micro studies to support the business.	7	In general current regulations permit export on advance payment and L/C basis only. It is also very necessary to permit receipt of export payments on consignment basis and provide incentives and policy support to export to India and the SAARC region.
8	The industry is entirely private sector-led, and the government agencies have virtually played no role thus far in the development of this industry.	8	Small and medium growers should form commodity groups (e.g. rose group) and develop cooperative relations to be able to export off-season flowers to India. This is essential to withstand the onslaught of larger players in the market.
		9	Institute of Agriculture and Animal Sciences (IAAS) should be encouraged to produce horticulture with floriculture minor graduates with more business orientation.

Reference Two

A Report of Symposium on Prospective of Floriculture Industry in Nepal			
	Key Findings		Key Recommendations
1	There are commercial nurseries in 18 districts out of 75 districts in Nepal. Most of them are producing roses, carnation, gerbera, cymbidium, liliun, tube rose, African violet, Anthurium, gladiolus, etc.	1	Form a joint committee of government and FAN to initiate efforts for production development of floriculture products for exports.
2	Domestic market turnover is increasing as demand for cut flowers, orchids as well as ornamental plants is growing.	2	Market promotion missions to the major potential markets after identifying interested parties.
3	Constraints: <ul style="list-style-type: none"> • Yet to see this sector organized • Lack of expertise for extension and R&D • No fiscal or market promotion support • Poor quality output • Poor post-harvest handling infrastructure • No solid marketing 	3	Seek domestic and international commercial expertise on production methods and techniques. And carry out commercial trial production with proper market linkage.

	<ul style="list-style-type: none"> partnership No auction centre/wholesale centre Lack of cooling space in the airport and long transit time Limited availability of air cargo space 		
4	Systematic production of cut-flowers has gradually reduced imports.	4	Government lobby to bring foreign investors and provide adequate facilities.
5	Some of the entrepreneurs are looking towards the prospects of exporting to India, Bangladesh and even to Gulf markets.	5	Government commitments on building necessary infrastructures and favourable policy environment
6	Suitable projects for foreign joint ventures are: rose, carnation, orchids, chrysanthemum, ornamental plants, seeds, etc.	6	
7	Agro-climatic condition is suitable, it has got national priority industry status, more enterprises are coming up, international market demand exists and is growing,	7	

Reference Three

Flower Marketing in Kathmandu Valley			
	Key Findings		Key Recommendations
1	Floriculture has become one of the income generating lucrative businesses in Nepal as was identified by the Agricultural Perspective Plan (APP)	1	Import and export regulations of floriculture products should be reviewed and revised in order to make it business friendly.
2	For sometime increase in area as well as production have not resulted into improvement in the living standard of those involved in this business due to the several problems.	2	SPS systems should be practiced to ensure market requirements in Nepal as well as in India. Research and development programmes should be based on the needs of Nepalese growers.
3	Apart from Kathmandu valley other ideal production districts are Chitwan, Makwanpur, Nawalparasi, Rupandehi, Bara, Parsa, Sarlahi, and Dhading. Kathmandu as well as some of the Indian markets is quite proximate to these districts also.	3	Irrigation and market infrastructure facilities should be extended to the growers. Emphasis should be given to the post harvesting practices such as cleaning, grading, packaging, storing, etc. and market information services to the growers.

Reference Four

An Insight Into Floriculture Scenario of Nepal			
	Key Findings		Key Recommendations
1	There are three broad sub-sectors in the floriculture business in Nepal: nurseries, cut flower growers and retailers and tissue culture industry.	1	There should be coordination between the private sector, donor agencies and the government for the R&D activities.
2	Domestic market for floriculture products is flourishing at healthy rates.	2	The role of different stakeholders should be clearly defined.
3	Major problem areas are: government policy and flower export friendly environment, infrastructure, technical manpower, and R&D support.	3	The government should refer to the plan and policies of the neighbouring countries before any domestic policies and plan are formulated to create a favourable policy.
4	A wide range of ornamental and exotic plants and flowers are available in the	4	All entrepreneurs should come under the one umbrella of FAN. FAN should

	country. Commercialisation of such plant species and export to overseas market should be considered.		also work to bring all stakeholders, growers, traders, and exporters together.
		5	A package of incentives including duty free facilities for imported inputs and equipment, subsidized electricity and water, subsidized airfreight, subsidized loans, etc. should be introduced.
		6	Facilities should be extended to build cold rooms and land should be made available to the growers of floriculture products on a long-term lease basis.
		7	Suitable market promotion techniques should be considered by the government for the introduction of Nepal as a floricultural products exporter.
		8	Entrepreneurs should work as one unit by organizing themselves for the overall development of floriculture in Nepal.
		9	Entrepreneurs should specialize in this business and work for the development of their expertise as well.

Reference Five

Identification Mission Report: Flower, Dairy, and Seed Development in the Kingdom of Nepal			
	Key Findings		Key Recommendations
1	The floriculture sector is relatively young and has developed in the light of growing demand in the local market.	1	Perform a market survey in the target countries: India, Bangladesh and the Gulf States
2	The climate of the Kathmandu valley gives a relative advantage over India in the summer, and allows production of high quality flowers in a wide range of crops: Gladiolus, Carnations, Roses, Gerbera, Tuberoses and Marigold.	2	Decide which crops to focus on for export, based on the results for example export of carnations to India in summer should be explored
3	Some of the nurseries have the capacity to produce more than a million seedlings from tissue culture for export to Netherlands and Norway. Items include 10 species of aquarium plants, banana, orchid and Chrysanthemum. Attempts to export to Japan failed due to competition from Chinese cheap seedlings.	3	Efforts to acquire technical know-how, development in propagation materials, planting, growing, irrigation and fertilization.
4	Attempts to export carnations to Japan resulted in a high return per flower, but were not economic due to the high airfreight. Attempts are being made to export to India in summer months (June-Sept), when prices are high.	4	Improve access roads to the farms and develop electricity sources and establish packing houses, cooling facilities etc. in farms as well as in the marketing centres.
5	In June carnation quality was high, while the quality of rose and gerbera was rather poor. There is severe damage by low night temperatures. Gladiolus is not grown during this season as the crop is very sensitive to frost.	5	Organize refrigerated transport facilities and cooling houses at the airport.
6	Main constraints: <ul style="list-style-type: none"> Lack of know-how, 	6	Identify funding for the establishment of infrastructure and training of farmers in

	irrigation, green houses, packing houses, cooling facilities, etc. <ul style="list-style-type: none"> • Lack of electricity infrastructure • Lack of access roads • Lack of cooling facilities at marketing centre and the airport • Limitations in the field of post-harvest technologies • Deficient R & D and Agricultural extension system 	order to achieve high quality floriculture products delivery and to provide suitable conditions for market competitiveness.
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Reference Six

Trade Competitiveness of the Floricultural Sub-sector in Nepal			
	Key Findings		Key Recommendations
1	According to FAN altogether 550 small flowers and plants growers employing 2500 persons (60% women) in 34 districts of Nepal have invested about NRs.375 million in 80 ha of land (32 ha covered) and had turnover of NRs. 230 million in 2006. The study has identified 14 districts with 7 million population having prospects for floriculture production in Nepal. Land under cultivation can be increased to 1000 ha within 5 years if some of the development constraints are addressed properly. This sub-sector is thriving without well-defined and clear government policies, strategies and incentives.	1	The government should launch a clear policy and action programmes with a tailored package of incentives that include A. duty waivers on imports of all foreign inputs and materials required for industry; B. subsidies on air-freight, interest rates, greenhouse construction and related materials, irrigation, electricity, supply of planting materials, land procurement at suitable locations, cooling chamber, refrigerated vehicles, etc.; C. Construction of wholesale market in Kathmandu and cooling storage at international airport; D. Provisions for HRD under the Institute of Agriculture and Animal Sciences for specialized degree programmes, training programme, R&D, extension services, etc.; E. Simplification of procedures applicable on imports and domestic movements of methyl bromide, sulphur, and nitrate required for soil and plant treatments; F. Arrange a special market promotion campaign to boost Nepal's image in foreign markets.
2	A cost-benefit analysis of selected cash crops in Chitawan district show that the farmers make highest return from flower cultivation - 3 times and 13 times as against the returns from radish and beans respectively. A comparative yield analysis shows that in Chitawan district bulb output was 3.5 times more than that of in Hills of Kalingpong (India).	2	Floricultural entrepreneurs should: A. identify matching potential buyers which can import exotic and special types of flower bulbs, live plants, cut flowers and foliage; B. be innovative in product and market selections as there is no need for all to focus on the same product and market; C. take measures not only for standardization of packaging (sizes, materials, logos) and labels but also in reducing the cost components; D. develop cold chain management protocols (and post-harvesting techniques) to increase the storage and transit life of the products.
3	In five years time export of floricultural products grew by 7 times to Rs. 32.6 Million ¹⁵ in 2005/06 as against Rs. 4.0 million in 2001/02 ¹⁶ . The Netherlands, the USA, Italy, Denmark, Japan and India are the major markets for	3	FAN and AEC/FNCCI should A. engage in policy lobbying based on interaction programs with stakeholders; B. Develop linkages with academic and research institutions IAAS (Rampur), NARC, CINAS, HDD, FDC, etc. and organize training and research programs; C. Assist entrepreneurs in

¹⁵ This figure represents an increase of 97 % over the previous year's exports.

¹⁶ Trade Promotion Centre, Nepal Overseas Trade Statistics, Nepal.

	Nepalese floricultural products. Items being exported from Nepal include tissue cultured plants, tree cuttings, cut flowers, bulbs, tubers, rhizomes, foliage, dry flowers and ornamental plants.		identifying innovative ideas for new products and new markets based on marketing research; D. Disseminate up-dated information on market requirements and prospects; and E. assist to take all measures in reducing transportation, packaging, logistic and infrastructure costs.
4	Major constraints are related to absence of government policies and strategies, lack of information on technology and technical experts, inadequate export management system, lack of adequate finance, inadequate infrastructures, high air-freight charges, etc.	4	Donor agencies can assist in: A. developing linkages between Nepalese exporters and matching partners/importers in the major markets; B. providing supports to set up infrastructure like Wholesale markets in Kathmandu and Chitawan, provide information network on such products, and transport supports to exportable products; C. organizing market promotion visits and buyers-sellers meetings for the entrepreneurs having export capabilities; and awarding training to farmers to improve agronomic and post harvest handling practices.

2.3 Trade Overview

2.3.1 Overview of Global Floriculture Supply and Demand

Traditionally the centre of flower production has been in the developed world, with Japan, Western Europe and North America as the major contributors. Within Europe, the Netherlands has been and remains very prominent. The Dutch flower auctions have played a major role in the growth of the Dutch flower industry. Since the mid 1990's, the production focus has shifted to countries where the climates are better and production costs are lower (labour intensive) and flower growers like Kenya, Colombia and Ecuador have emerged to become new centers of flower production. As Figure 2.1 shows, other players are also entering this global industry, Israel is still an important supplier; a series of Asian countries: Thailand, Republic of Korea, Malaysia, China, India, Taiwan and Vietnam; and from Africa: Zimbabwe, Uganda, Tanzania, Ethiopia, South Africa and Zambia. Whilst a production shift has taken place away from the developed world, the Netherlands remains a dominant force in the global flower industry, but here too attention is shifting away from production to trading.

Figure 2.1: Net Exports – Major Cut Flower Exporters

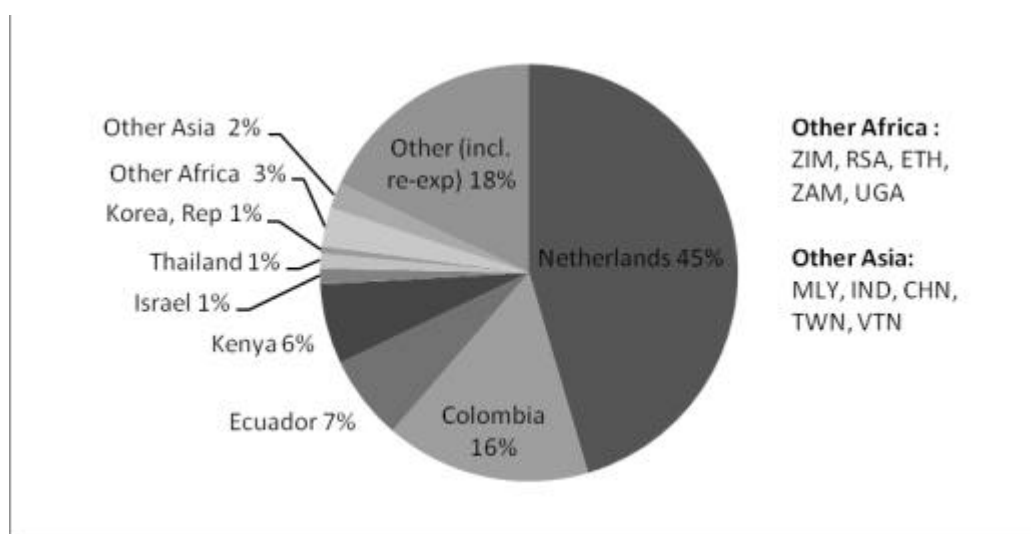
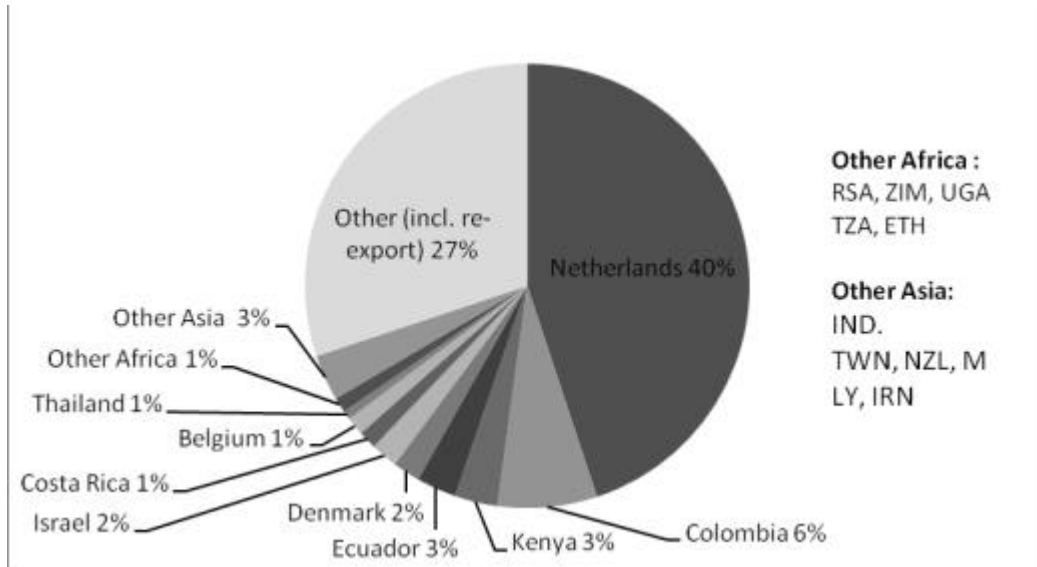


Figure 2.2 shows a similar global overview for all floriculture products, including as well as cut flowers, potted flowering and non-flowering plants and other forms such as bulbs, tubers and cuttings. From this perspective Denmark, Belgium and Costa Rica also play a role.

Whilst there are no signs of a shortage of demand anywhere, the floral industry's current focus is to find new markets. The major international consumer markets being Germany, United States, France, United Kingdom, the Netherlands, Japan, Italy and Switzerland. Experts believe niche markets in these countries hold potential, but the emerging markets in Eastern Europe hold the prime growth prospects. As table 2.1 and 2.2 indicate, rapid growth rates are occurring in countries like Russian Federation, Poland, Hungary, Ukraine and Lithuania for cut flowers and Russian Federation, Romania Turkey, Ukraine and Croatia for potted plants. A very recent (10th Sept 2007) forecast for the next ten years by

Figure 2.2: Net Exports – Major Floriculture Product Exporters



Bloemenbureau Holland (www.agriholland.nl) suggests this trend will change the structure of the European market significantly. It is expected that Poland and Russian Federation will increase so significantly that Germany is expected to lose its position as the leading market in Europe. The forecast also predicts that European growth will remain strong with 36% growth in the next ten years in the cut flower market and 46% in the potted plants market.

Closer to home, the Indian floriculture market is also forecasted to grow significantly in the next five years. According to a study conducted by Media Today group in collaboration with Indian Flowers and Ornamental Plants Welfare Association (iFlora), India's flower and plant market currently valued at INR 10 billion (1,000 crore) has the potentiality to grow to ten fold in the next five years.

Table 2.3: Top 35 Cut Flower Importers, 2005

Importers	Value 2005 US\$ thousand	Quantity 2005 (MT)	Unit value (US\$/MT)	Value Trend 2001- 2005, %, p.a.	Quantity Trend 2001- 2005, %, p.a.	Share in world imports, %
<i>World estimation</i>	5,745,906	1,038,921	5,531	11	5	100
Germany	1,075,911	195,308	5,509	10	4	19
UK	941,525	151,408	6,218	13	8	16
USA	899,605	180,462	4,985	8		16
Netherlands	531,021	132,429	4,010	6		9
France	503,123	76,398	6,586	11	-2	9
Japan	216,114	30,978	6,976	11	12	4
Italy	208,762	31,742	6,577	11	7	4
Russian Fed.	169,477	28,268	5,995	40	17	3
Switzerland	160,639	14,610	10,995	6	0	3
Belgium	122,997	25,219	4,877	9	1	2
Austria	94,074	15,922	5,908	5	-1	2
Canada	91,428	18,341	4,985	8		2
Spain	81,268	13,616	5,969	23	15	1
Denmark	72,116	11,776	6,124	13	12	1
Sweden	70,452	9,285	7,588	15	11	1
Poland	52,467	9,802	5,353	32	-2	1
Norway	43,108	4,396	9,806	15	5	1
Czech Rep.	40,545	7,118	5,696	17	8	1
Ireland	38,511	3,792	10,156	11	-2	1
Greece	24,827	3,911	6,348	27	24	0
Finland	21,367	2,493	8,571	16	6	0
Hong Kong	21,006	4,214	4,985	2		0
Hungary	20,752	3,237	6,411	56	29	0
Portugal	19,071	2,861	6,666	4	-2	0
Singapore	14,638	2,936	4,986	13	-8	0
Ukraine	14,575	3,812	3,823	50	31	0
Slovakia	13,551	2,057	6,588	16	2	0
Slovenia	10,605	1,310	8,095	6	0	0
Latvia	9,097	1,788	5,088	18	0	0
Saudi Arabia	8,982	2,486	3,613	23	14	0
Romania	8,823	5,616	1,571	27	8	0
Estonia	7,580	1,189	6,375	21	18	0
Lithuania	7,241	1,846	3,923	48	17	0
Luxembourg	7,218	633	11,403	11	6	0
Australia	7,151	1,434	4,987	16		0

Source: ITC TradeMap (Calculations from COMTRADE database)

Table 2.4: Top 35 Live Plant Importers, 2005

Importers	Value US\$ thousand	Quantity (MT)	Unit value (US\$/MT)	Value Trend 2001- 2005, %, p.a.	Quantity Trend 2001- 2005, %, p.a.	Share in world imports, %
<i>World estimation</i>	5,488,621	2,849,825	1,926	14	6	100
Germany	1,132,552	577,148	1,962	16	8	20
France	622,034	200,695	3,099	18	6	11
UK	497,338	130,743	3,804	15	-27	9
USA	374,495	128,429	2,916	3		6
Netherlands	373,534	177,103	2,109	20	10	6
Belgium	243,360	102,409	2,376	14	0	4
Italy	235,328	82,529	2,851	9	4	4
Switzerland	193,238	96,015	2,013	9	4	3
Austria	190,604	63,522	3,001	11	3	3
Sweden	153,849	42,233	3,643	13	4	2
Spain	142,723	80,048	1,783	13	13	2
Canada	139,197	55,236	2,520	8	-45	2
Denmark	133,755	42,657	3,136	10	3	2
Japan	88,582	19,805	4,473	5	8	1
Norway	81,139	24,078	3,370	16	4	1
Poland	65,621	91,183	720	19	40	1
Finland	54,387	14,365	3,786	20	5	0
Russian Fed.	53,696	42,437	1,265	26	16	0
Czech Rep.	42,254	35,205	1,200	20	4	0
Korea, Rep.	39,197	33,095	1,184	15	16	0
Portugal	38,994	18,357	2,124	12	7	0
Hungary	34,287	11,575	2,962	19	4	0
Ireland	33,461	10,681	3,133	18	14	0
Turkey	30,664	21,667	1,415	37	17	0
Greece	30,226	22,707	1,331	26	42	0
China	29,132	12,667	2,300	23	22	0
Croatia	27,202	23,135	1,176	30	6	0
Hong Kong	26,757	11,563	2,314	3		0
Mexico	23,430	6,329	3,702	11	6	0
Morocco	20,346	4,634	4,391	23	13	0
Romania	18,217	18,544	982	54	37	0
Luxembourg	17,758	3,236	5,488	16	5	0
Ukraine	17,214	10,969	1,569	38	54	0
Slovenia	16,178	4,532	3,570	15	-13	0
Singapore	15,430	6,959	2,217	-3	-35	0

Source: ITC TradeMap (Calculations from COMTRADE database)

2.4 Overview of Nepal' s Exports and Imports

Whilst shipments of floriculture products to and from India are talked about in the industry formal records are not available, neither from Nepal nor from India. The only record is that of Indian exports to Nepal of very small quantities of dried flowers, 18 tons in 2005.

Looking exports beyond India, as can be seen in table 2.3 Nepal's exports added up to NR32.6 million in 2005/06. Two important products for this financial year arise – unrooted cuttings and slips and bulbs in growth/flowering form. Destinations were United States, Germany and Bangladesh for bulbs and Netherlands, Denmark and United States for unrooted cuttings and slips. Export of these products have significantly increased since the previous financial year and perhaps may be a sign that exports of these products are now taking off. Not much of a trend can be determined from previous years. Sporadic exports of other products like live plants and cut flowers at a larger scale than occurred in 2005/06 in earlier years.

On the import side see table 2.4, a similar pattern of sporadic imports can be seen. Imports dipped significantly in 2004/05, but 2005/06 picked up again, this time reaching almost NRs1.6 million the level 2003/04. The key imported products in 2005/06 were again bulbs in growth/flowering and unrooted cuttings and slips. It is not possible to determine simply from import data whether these were imported for planting purposes or consumer purposes. A best guess would be for the former puprose.

Table 2.5: Nepalese Exports of Floriculture Products 2001/02 - 2005/06

EXPORTS 2005/06		In NRs	Main Dest.
Chapter6	Live trees and other plants; bulbs, roots and the like; cutflowers and ornamental foliage	32,634,275	
0601.20	Bulb, tubers, tuberous roots, corms, crowns and rhizomes, in growth or in flower	15,061,755	USA, GER, BGD
0602.10	Unrooted cuttings and slips	17,367,341	NETH, DEN, USA
0602.20	Edible fruits or nuts trees, shrubs and bushes, grafted or not	125,518	NIGER
0602.90	Live plants	44,256	DEN
0603.10	Cut flowers, fresh	35,405	HK
EXPORTS 2004/05			
Chapter6	Live trees and other plants; bulbs, roots and the like; cutflowers and ornamental foliage	10,504,711	
0601.20	Bulb, tubers, tuberous roots, corms, crowns and rhizomes, in growth or in flower	6,961,592	USA
0602.10	Unrooted cuttings and slips	1,045,549	DEN, NETH
0602.90	Live plants	2,497,570	CHN, DEN, NETH
EXPORTS 2003/04			
Chapter6	Live trees and other plants; bulbs, roots and the like; cutflowers and ornamental foliage	11,204,703	
0601.10	Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant	2,647,237	USA
0601.20	Bulb, tubers, tuberous roots, corms, crowns and rhizomes, in growth or in flower	817,311	USA, JPN, DEN
0602.10	Unrooted cuttings and slips	258,117	QTR
0602.90	Live plants	5,523,627	NETH
0604.99	Foliages, branches and others parts of plant	1,958,411	USA
EXPORTS 2002/03			
Chapter6	Live trees and other plants; bulbs, roots and the like; cutflowers and ornamental foliage	18,259,383	
0601.10	Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant	7,987,070	USA, JPN
0602.90	Live plants	5,708,456	NETH, JPN
0603.10	Cut flowers, fresh	4,175,826	USA, NOR
0604.10	Mosses and lichens	382,371	USA
0604.99	Foliages, branches and others parts of plant	5,660	AUL
EXPORTS 2001/02			
Chapter6	Live trees and other plants; bulbs, roots and the like; cutflowers and ornamental foliage	1,328,162	
0602.10	Unrooted cuttings and slips	601,547	NETH
0602.90	Live plants	261,046	NETH
0603.10	Cut flowers, fresh	465,569	JPN

Source: TEPC

Table 2.6: Nepalese Imports of Floriculture Products 2001/02 - 2005/06

IMPORTS 2005/06		in NRs	Main Origin
Chapter 6	Live trees and other plants; bulbs, roots and the like; cutflowers and ornamental foliage	1,598,385	
0601.10	Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant	15,346	THA
0601.20	Bulb, tubers, tuberous roots, corms, crowns and rhizomes, in growth or in flower	655,491	USA, NETH, SPA
0602.10	Unrooted cuttings and slips	815,245	THA, ITA, NETH
0602.20	Edible fruits or nuts trees, shrubs and bushes, grafted or not	96,795	SPA
0602.90	Live plants	7,633	ITA, NETH
0603.90	Cut flowers, dried, dyed, bleached, impregnated	7,875	THA
IMPORTS 2004/05			
Ch.6	Live trees and other plants; bulbs, roots and the like; cutflowers and ornamental foliage	239,707	
0601.10	Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant	73,000	THA
0602.90	Live plants	34,925	JPN
0603.10	Cut flowers, fresh	131,782	NETH
IMPORTS 2003/04			
Ch.6	Live trees and other plants; bulbs, roots and the like; cutflowers and ornamental foliage	1,338,282	
0601.10	Bulbs, tubers, tuberous roots, corms, crowns and rhizomes, dormant	7,095	NOR
0601.20	Bulb, tubers, tuberous roots, corms, crowns and rhizomes, in growth or in flower	95,918	AUS
0602.10	Unrooted cuttings and slips	182,523	NETH
0602.90	Live plants	481,094	USA, NETH
0603.10	Cut flowers, fresh	425,865	THA, ITA, NETH
0604.99	Foliages, branches and others parts of plant	145,787	NETH
IMPORTS 2002/03			
Ch.6	Live trees and other plants; bulbs, roots and the like; cutflowers and ornamental foliage	393,377	
0602.90	Live plants	6,365	SPA
0603.10	Cut flowers, fresh	147,508	THA
0603.90	Cut flowers, dried, dyed, bleached, impregnated	232,149	THA
0604.99	Foliages, branches and others parts of plant	7,355	TWN
IMPORTS 2001/02			
Ch.6	Live trees and other plants; bulbs, roots and the like; cutflowers and ornamental foliage	1,348,170	
0602.90	Live plants	1,348,170	THA

Source: TEPC

2.5 SWOT Analysis

On the basis of the above, the relative advantages/disadvantages of the sector in the global marketplaces are discussed in the paragraphs below¹⁷.

Strengths

- Involvement of knowledgeable entrepreneurs and established organizations
- Availability of special cultivars and species of plants
- Availability of land and labour force
- Favourable geo-climatic conditions and rich bio-diversity
- Market linkages with neighbouring countries, particularly with India having border trade relationships

Weaknesses

- Lack of adequate technical manpower for high tech farming
- Inadequate financial facility at appropriate cost
- Cumbersome procedures on import of inputs
- Insufficient infrastructure facilities
- Lack of information on world market and trading system
- Inadequate farm management knowledge
- Lack of accessibility to export markets
- Discouraging governmental export policy
- Unstable land policy discourages investment in land
- Lack of enough and capable entrepreneurs in this sector

Opportunities

- Increasing world market demand
- Favourable market access conditions with preferential tariffs under multilateral, regional and bilateral trading arrangements
- Possible use of appropriate technology in bulb and plant production
- Possibility to improve quality for export and gradually develop capabilities to meet buyer's requirements
- Supplying quality flowers to India during the summer, when weather in most of India is too hot for growing quality flowers
- Utilizing Indian railroad transportation to save airfreight costs
- Expanding production to cooler (higher) regions, to produce quality cut flowers in summertime, and to develop flower bulbs production.

Threats

- Government machineries and competing traders in neighbouring countries might try to discourage imports from Nepal.
- Failure in adopting modern technologies and in providing good quality products for export

¹⁷ Major parts of the SWOT analysis are based on the responses of the floriculture entrepreneurs in Nepal. At a later stage International Consultant has added some of the weaknesses and threats from his observations and understanding.

- Non-tariff barriers in destination countries
- Failure of government in creating friendly business environment
- Mismanagement of collective export organization, and/or lack of discipline among the organized growers
- Non-performance of a single factor (e.g. financing instruments) might cause the collapsing of the whole program
- Fast and better subsidized development of neighbouring competitors (e.g. northern Indian states) might reduce the window of opportunities in targeted markets
- Labour union and political instability

3. Bilateral, regional and multilateral agreements

3.1 Background – Market Access: tariff and non-tariff barriers

International market access conditions

Nepal enjoys tariff preferences in most of the target markets. However, non-tariff barriers are applicable to all floriculture products in all of these markets. Market accession conditions are presented in the Table 3 below:

Table 3.1: Market Access Conditions in the Major Markets

	Markets	Tariff Barriers	Non-tariff Barriers
1	EU	Nepal also enjoys the special scheme, “Everything but Arms” that provides duty free access to floriculture products.	SPS control (PC is required for all items), environmental and safety issues, quality and grading standards, packaging and labelling requirements, breeder’s rights, IPRs and CITES.
2	USA	Nepal also enjoys preferential tariffs based on the US GSP Scheme that attract 1.7% tariffs on fresh cut flowers and 0% tariffs on other floriculture products. Other countries face an average tariffs of 4.85% on floriculture products	Plant quarantine control of Animal and Plant Health Inspection Service (APHIS) of USDA and prohibition of imports under CITES, All products must be accompanied by PC. Almost all bulbs being produced in Nepal are under the import permitted list of USDA.
3	Japan	Nepal enjoys Preferential tariffs under the GSP Scheme of Japan attracting 0% duties on all types of floriculture products. Normal tariff in Japan is 3%.	Plant quarantine control is strictly applicable on all items. Imports of items under CITES, and items containing soil, pests, diseases etc. are strictly prohibited.
4	India	Nepal enjoys preferential tariffs on imports of floriculture products under the bilateral trade treaty.	Plant quarantine regulations are strictly applicable. PC is required in all cases. Special permission is required for imports of soil, hay, earth clay, compost, sand, live insects, etc.

3.2 Provisions of the Bilateral Trade Agreement with India

The Trade Treaty of 1991¹⁸ provides a clear provision of unhampered movement of goods between the two countries without being subjected to any quantitative restrictions, licensing or permit systems. A clear list of Nepalese exportable primary products including all agricultural products has been spelt out that are eligible for customs duties waiver and preferential entry into India.

In 1996, protocols with reference to Article 5 of 1991 Treaty were replaced¹⁹. New protocols continued with the provision of customs duties free entry into India for all agricultural products including flowers and it also made the provision for issuing certificate of origin from the designated authority for exports free of customs and auxiliary duties for Nepalese industrial products.

Thus, Nepal enjoys preferential tariffs on export of floriculture products to India under the bilateral trade treaty. However, India’s plant quarantine regulations are strictly

¹⁸ Treaty of Trade between HMG of Nepal and the Government of India done on 6 December 1991 for a period of 5 years with the possibility of renewal for a further period of 5 years.

¹⁹ Letters of Exchange between HMG of Nepal and the Government of India, submitted in Kathmandu on December 3, 1996. In 1996 only processing, “Processed in Nepal” was criteria to determine value addition or origin of product. But in 2002 March protocol was amended whereby provision was made for percentage (30% applicable from 6 March 2003) as well as processed criteria. Currently this treaty has been renewed without major amendments.

applied. PC is required in all cases. Special permission is required for import into India of all types of soil, hay, earth clay, compost, sand, live insects, etc.

3.3 Trade Related Provisions under SAFTA and BIMSTEC

South Asian Free Trade Areas (SAFTA)

The SAFTA²⁰ is considered as one step ahead in the process of regional economic integration in South Asia. With the increase in importance of global economic integration, SAARC members were motivated to set up SAFTA to harness the benefits of "free flow of goods" for the optimum utilization of resources and thereby support to develop their respective national economies.

SAFTA entered into force from the beginning of 2006. Apart from the agreement to follow tariff reduction to products covered by Trade Liberalization Programme (TLP)²¹ the members have also agreed to eliminate all quantitative restrictions in respect of such products except otherwise permitted under the GATT 1994. SAFTA does not preclude Nepal from receiving and giving tariff preferences under the existing bilateral agreements (Article 13).

Trade Liberalization Programme (TLP) - It has been agreed to bring down the tariffs to 0 to 5%(a) within a period of 7 years by non-least developed contracting states (to 20% within the first two years) and (b) within a period of 10 years by least developed contracting states (to 30% within the first two years). Based on the existing provisions floriculture products of Nepal have preferential duty access to all SAARC member countries.

The Bay of Bengal Initiative for Multi-sectoral Technical and Economic Cooperation, (BIMST-EC)

Six core areas of cooperation of BIMST-EC²², are agriculture, energy, fisheries, tourism, trade and transportation. During the Sixth BIMST-EC meeting of Trade and Economic Ministers held in Bangkok on February 8, 2004, Agreement on BIMST-EC Free Trade Area (FTA) was signed and the implementation of the agreement in the area of trade in goods commenced from July 2006.

The FTA Agreement of BIMST-EC aims at total elimination of trade barriers. Currently it has reached to an agreement to reduce tariffs up to 0 to 5 %. From the floriculture products export perspective BIMST-EC is likely to be much more beneficial to Nepal as Thailand and Myanmar, new potential markets for such products. Nepal will have greater opportunities to explore market in these countries in terms of duty free access for its products. Moreover, Nepal can also attract FDI from these countries on products having market viability in the region.

²⁰ Agreement on South Asian Free Trade Area (SAFTA) contains 25 Articles. It was concluded during the 12th SAARC Summit held in Islamabad in January 2004 to promote and enhance mutual trade and economic cooperation among the contracting parties by eliminating trade barriers in and facilitating cross border movement of goods between the contracting parties.

²¹ The Trade Liberalization Programme (TLP) is not applicable to products included in sensitive lists to be negotiated by member states and which subject to review and also examination of the compatibility of such arrangement with relevant WTO provisions by the Committee of Experts (COE) every four years.

²² BIMSTIC, established as a regional economic bloc in June 1997 to strengthen socio-economic cooperation among Bangladesh, India, Sri Lanka and Thailand, admitted to Myanmar in December 1997 and Bhutan and Nepal in Feb 2004.

3.4 Pertinent Provisions under the WTO Agreements

Nepal is a recent member of WTO and acceded on 23 April 2004. It has thereby taken an important step to be integrated with the global economy through the multilateral trading system. It is expected that WTO membership will enhance Nepal's capacity and capability to be more competitive in trade through policy and legislative reforms to attain an overall increase in trade efficiency and effectiveness. As an LDC, Nepal was allowed a transitional period until 1 January 2007, in order to bring its foreign trade regime into full consistency with the WTO Agreements on Customs Valuation, TBT, SPS and TRIPS.

Meeting WTO obligations represents a mayor challenge to Nepal. Its ability to participate fully in the multilateral trade negotiations and make adjustments to their trade policies and rules remains weak. As part of its commitments, Nepal would introduce a WTO-consistent regime with respect to SPS and TBT issues, rules of origin and anti-dumping and countervailing measures.

WTO membership gives a country the legal right not to be discriminated against in its trade with the other members of the organization. The principle of non-discrimination, which is especially important for a country's exports, is laid down in the most favoured nation (MFN) clause and the national treatment clause. In addition, every WTO member is entitled to seek redress against any impairment of its rights by another country through the dispute settlement mechanism, such as Germany's unilateral ban on the woollen carpets on the basis of perceived use of child labour or of azo dyes.

Practically all products and markets are affected by one or several of the WTO Agreements, at least for WTO member countries. Progressive liberalization of trade through successive negotiations has led to lower (or zero) import duties, and thus increased export opportunities, especially in developed country markets. It has also created greater predictability of market access by "binding" reduced (or zero) tariff rates. Most governments impose technical regulations or standards on (domestic and imported) products to protect human, animal or plant life or health, as well as the environment. The Agreements on Technical Barriers to Trade and on Sanitary and Phytosanitary Measures ensure that such requirements do not create unnecessary obstacles to international trade and provide certain rights to exporters. It is up to each exporter to find out about such requirements in the relevant foreign markets.

Governments are understandably concerned about health risks, which can range from salmonella poisoning to foot-and-mouth disease or sugar-plant pests. Under the World Trade Organization (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) to protect human, animal and plant life or health and the Agreement on Technical Barriers to Trade (TBT), member countries need to base their technical regulations and SPS measures on internationally agreed upon standards. The greatest problem for them is that importing countries often impose SPS requirements that are stricter than the international norm.

International norms for plant health so far have tended to relate to definitions, methodologies and administrative procedures for carrying out risk analysis, rather than to control specific pest risks. The International Plant Protection Convention did not establish international standards until the mid-1990s and is still in the early stages of its standards-setting programme. One important international measure — from the perspective of obligations under the SPS Agreement — deals with appropriate pest risk analysis.

With reference to the standards regime, Nepal committed to bring the Nepal Standards (Certification Mark) Act (1980) into full compliance with the WTO Agreement on Technical Barriers to Trade. The 1980 Act stipulates that national certification trademarks can be issued by the Nepal Bureau of Standards and Metrology (NBSM), upon request to any company producing goods for which technical regulations and standards exist in Nepal. These companies are consequently allowed to use a distinctive sign in their products, which means that the product complies with the required regulations or standards. Nepal furthermore committed to enact a new Industrial Property (Protection) Law consistent with the TRIPS Agreement. This new law would also include a provision for geographical indications.

3.5 Implications of these agreements for the sector in Nepal

Though the volume of transaction is negligible, Nepal is meeting SPS requirements of the present markets such as India²³, The Netherlands²⁴, USA²⁵, and Denmark. The export of floriculture products has been growing over the last six years and Nepal is a net exporter of flower products. Currently imported cut flowers and plants constitute only 24 % of total domestic market requirement.. A trial consignment of roses recently made to Japan was reported unable to compete with Chinese exports. Border trade between Nepal and India is very common and goes unrecorded for the reasons of complicated, time consuming and costly trade procedures. Many export consignments are delivered across particularly during rainy and winter seasons when domestic supplies are limited in India.

The 'process' of achieving the common benefits and attaining the objective of increasing welfare of citizens of most of the regional trade agreements, still do not seem to match such encouragement. Protective mind-sets of many member countries backed by lobbies of national private sectors are still strong. Each country is trying to include the export items with most potential of the other member countries within the list of their import sensitive items. Benefits of integration have tended to vanish due to stringent systems of Rules of Origin, subsidies and non-tariff barriers including Sanitary and Phytosanitary (SPS) and Technical Barriers to Trade (TBT). In view of these difficulties, an important issue to be addressed is waiving on non-tariff barriers for items produced under similar conditions and practices in member states.

²³ Cut flowers exported to India are Gerbera, Carnations, Roses, Gladiolus, etc.

²⁴ Tissue cultured plants exported recently to Holland are bamboo, orchid, banana, etc

²⁵ Bulbs and tubers mainly exported to US market include Gloriosa spp., Zephyranthus, Haemanthus multiflora, Polyanthus, Kukurma, Eucharis, etc.

4. Obstacles and shortcomings for export

4.1 Obstacles / Bottlenecks to Export

4.1.1 At the Company Level

a. Infrastructure

The growers and exporters are very small, have no access to appropriate individual and common infrastructural arrangements for post-harvesting process such as treatment, cleaning, grading, packing, cooling room, warehousing, , etc.

b. Access to market information

Entrepreneurs have no access to up-to-date information on market requirements, demand, market regulations, and opportunities.

c. Market promotion programme

Growers and entrepreneurs have limited financial capacity to launch such market promotion programmes in developed country markets.

d. Technical Facilities and Knowledge

Most of the growers do not receive proper technical services and information on agronomic practices from the relevant government authorities. The growers are not able to take preventive as well as curative measures at the right time.

4.1.2 At the External level in public or private

a. Policy, Regulatory and Procedures

- Mis-match in trade regulations – imports of cut flowers and plants (outputs) are absolutely free of tariff and non-tariff barriers, whereas imports of inputs and materials required for production of cut flowers and plants attract duties, VAT and excise duties.
- VAT (13 % on CIF value + import duty) is imposed on all imported green house construction materials and accessories, irrigation equipment and accessories, planting materials, specialized fertilizers, soil treatment chemicals, artificial soil, etc. even if the outputs of the farm are for export.
- Import duties on required inputs and equipment are very high: for example, 165 % on refrigerated vehicle and 5% on media/ artificial soil.
- The government has a Land Ceiling system under the Land Reform Act. There is lack of policy to supply adequate land at reasonable cost to the commercial farmers. There is no system to ensure the guaranteed ownership to the entrepreneurs. Floricultural entrepreneurs are of the opinion that a proper amendment should be made in the Act and this ceiling should not be applicable to export oriented farms.
- Organized farmers or growers involved in export transactions have to come under the tax net whereas other small growers can go without paying any income tax.
- The existing normal customs clearance procedures are also applicable for perishable products. Such procedures are complicated requiring 24 hours cooling period and long verification procedures for documentation and physical checking of products. It is necessary to devise a special procedure that helps expedite clearance of the perishable consignment.

b. Facilities and Services

- The establishment cost of hi-tech floriculture farms is extremely high by the Nepalese standard. Nepalese entrepreneurs find it difficult to invest in such a risky venture. Moreover the cost of capital in Nepal (10 to 15% interest on industrial investment) is relatively high vis-à-vis other countries.
- Lack of proper institutional mechanisms for research and development (R&D) for prevention of diseases and curative measures and on export marketing aspects has also hindered the growth of the floriculture sector.
- After the privatisation of fertilizer import and distribution many farmers are having problems getting a supply of quality fertilizer. Moreover, the fertilizer types required for floriculture are not available in time and in required quantities.
- There is a lack of proper systems to ensure adequate irrigation facilities to the floriculture products growers.
- One of the important problems where the National Flag carrier or government has not been able to intervene for a long time is non-availability of a cargo freight carrier and a lack of adequate cargo space in passenger aircrafts. There are other export products, such as carpets, garments, handicrafts and pashmina that are regularly exported by air.

4.2 Shortcomings / Gaps for Export

4.2.1 At the Company Level

a. Access to Information on Scientific Practices and Market Knowledge

The growers are yet to gain knowledge on scientific growing practices and post-harvesting methods to meet the requirements of the market. Growers have not developed capacity to analyze the information on the market opportunities, and use improved technologies to meet market regulations and requirements.

b. Small Number of Entrepreneurs with Limited Risk Taking Capabilities

The floriculture business attracts a huge initial investment. There are only a small number of entrepreneurs in this business. Commercial houses are reluctant to invest due to long gestation periods and higher risk associated with the business. At the initial stage the Nepalese growers and exporters would find it hard to compete in the global market.

c. Lack of Post Harvesting Facilities

So far none of the growers and exporters have installed proper post harvesting facilities that would be needed to meet market requirements.

d. Improper Packaging Knowledge and Facilities

The existing growers and exporters of floriculture products lack proper knowledge and facilities required for the appropriate packaging of exportable products to overseas markets.

4.2.2 At the External level in public or private

a. Policy, Regulatory and Institutional

The country lacks a national strategic plan and action programs covering support to agronomic and post harvesting practices, HRD, technical services, marketing infrastructure, FDI, and R&D, and transparent policy on trade and tariffs, etc. There is a miss-match on policy and its implementation.

b. Infrastructure

- Lack of chilling/cooling rooms at international airport in Kathmandu.
- Lack of scientific and organized wholesale market facilities
- Non-availability of refrigerated vans
- Non-existence of laboratory for pre-export testing at plant quarantine check posts
- Non-availability of facilities for scientific irrigation systems

c. R & D and Extension Services

There is limited innovative technology use due to the lack of the public sector's support for R&D on agronomic practices; post-harvesting and marketing. There is a lack of proper facilities for crop protection systems. Farmers have limited knowledge of pest and disease control management. Flower growers are seeking transfer of appropriate technologies from other developing countries having experience in exports to advanced countries. There is a lack of government incubation centres with appropriate laboratories to assist small and new growers.

d. Technical Manpower and Services

The growers and entrepreneurs are facing a dearth of qualified technical manpower and floriculture extension services. This is for the reason of lack of government initiative on appropriate training provisions and export market oriented technical services.

e. No crop insurance system

Unlike in other developing countries, so far Nepal has not developed an agriculture crop insurance system.

5. Export Services in Nepal

5.1 Government Policy, strategies and regulatory Supports

For the first time in history the government efforts were initiated for the development of the floriculture sub-sector during the Fourth Plan period (1971-75) with the setting up of Brihat Bagbani Centre (Floriculture Centre) in Sarlahi District in Southern-Central part of Nepal. This farm received technical and financial support from the Indian and Australian Governments. About 600 varieties of roses and 200 varieties of bougainvillea and other seasonal flowers were propagated during one and half decades of its operation.

So far the floriculture sub-sector in Nepal is thriving without a well-defined policy, strategies and any incentives toward strengthening competitiveness. The Master Plan for Horticulture Development (1991-2010) and the Agricultural Perspective Plan (1995-2015) are silent on floriculture aspects. It was only in the Tenth Five Year Plan (2001-2006) a general priority thrust was given to the development of floriculture, as one of the high value products. The document is still ambiguous on the roles of the government including institutions like the NARC and HDD, on R&D, technological upgrading, market promotion, HRD and other supportive measures.

5.2 Institutional Support

5.2.1 The Government Institutional Policy Intervention and Support

The **Department of Agriculture (DOA) and District Agriculture Development Office**, of the Ministry of Agriculture and Cooperative (MOAC) are the implementing bodies of the agricultural plan and policies. These bodies do not have trained human resources in the floriculture sub-sector. The recent policy document, "Agriculture Policy, 2061" also does not speak about floriculture as per se. In addition, for the sanitary and phytosanitary regulations of the agricultural products including floral products, fourteen plant quarantine check posts on the Indo-Nepal and China-Nepal borders and one in Tribhuvan International Airport have been established. These check posts however have not been able to regulate the illegal import of the cut flowers and other products.

Currently the **Horticulture Development Directorate (HDD)** is the only unit of MOAC that is working in this sub-sector. It has initiated propagation and production of selected flower seedlings and saplings for distribution to commercial farms. The Directorate is operating farms at Kirtipur and Godawari for its services. The **Flower Development Centre (FDC)**, Godawari, established in 2004 at 3.72 ha with 17 staff on pay roll is specializing on production of flower saplings, seedlings, bulbs, and plants. In the past two years FDC has conducted number of agronomic and post-harvesting training programs to the farmers in villages like Ramkot, Pharping, Ichangu, etc. The FDC lacks programs and budgetary provision to provide adequate extension services and training to the flower growers.

The **Ministry of Finance** has played a very significant role attempting to encourage floriculture business by extending 3% interest subsidy on the loan. However, this subsidized loan is channelled only through the **Agriculture Development Bank (ADB/N)** against a collateral security of land and building. Similarly, there is a 100 % import tariff waiver in imports of mother plants, rooted plants, bulbs, roots and flower seeds (Arthik bidheyek, 2063, dafa 20 kha). Such tariffs facilities are not extended to

materials required for setting up green houses, irrigation system such as plastics, tools, artificial soil, equipment etc.

The Ministry of Industries, Commerce and Supplies (MOICS) occasionally provides training support in cut flower production, management, and post harvest operation. In addition, MOICS also supported the FAN in organizing two study visits and two exhibitions and extended financial assistance in purchasing mother plants. It also provides a revolving fund for seed/seedling production, and green houses. The MOICS also supported in establishing a Cold Storage Chamber at Tribhuvan International Airport in collaboration with Civil Aviation Authority Nepal (CAAN). The floriculture sector would hope that this service could be extended into a Cooling Chamber suitable for flowers.

In the past the **Department of Botany** conducted demonstration of a few flower species and transferred technical know-how to the commercial farmers. The Department has successfully developed tissue cultured plants of gerbera. From 1999 to 2005 seven exhibitions of Chrysanthemum flowers were held with a view to developing consciousness on the possible growth of its various species for the Nepalese market.

Trade and Export Promotion Centre (TEPC) is a government export promotion agency in Nepal. It is successfully serving the exporters and government by providing trade and market information, assisting in participation in international trade fairs, lobbying government for favourable trade policy measures, etc. It was not possible to trace any substantial and specific contribution of TEPC for the promotion and development of the floriculture sector. However it has undertaken a few market studies and furnished export statistics to the researchers and institutions. In future the Centre should devise mechanisms to focus on selected priority products like floriculture items and provide its services to the exporters effectively and purposefully.

5.2.2 The Private Agencies

The AEC and FAN are the organizations involved in promotion of floriculture products

AEC/FNCCI

The Agro Enterprise Centre (AEC), under the aegis of the FNCCI, has been the most significant private sector agency providing institutional support. The AEC initiated its efforts in the floriculture sub-sector by assisting in setting up of FAN in 1992. It extended logistical and secretarial support to FAN during the initial period. Currently the AEC is continually supporting in launching various programs such as organization of trade fairs, trainings, workshops, trial productions, policy advocacy and lobbying, business plan formulation, etc. The FAN wholesale outlet (1998) and its operation for the successive three years was also a part of AEC's support program. The AEC has also encouraged the participation of women in floriculture (WIF), by supporting the establishment and operation of two retail shops, one in Kathmandu and another in Pokhara.

Floriculture Association Nepal (FAN)

The FAN is an autonomous body working with the sole objective of and supporting overall development of the floriculture sub-sector in Nepal. Activities of the FAN focus on organizing and participating in trade fairs and exhibitions, study tours and observation visits, operation of wholesale outlets, conducting market research and

analysis. It has already organized eleven floriculture fairs in Kathmandu. Development activities of the FAN are more focused in technical aspects such as training, trial productions (gladiolus, chrysanthemum, rose, and tube rose), mother plant distribution (gerbera), production analysis, than in developing business plans and conducting feasibility studies. FAN's publications including reports, souvenirs, and directories are useful in transferring technology and knowledge among the entrepreneurs.

6. Recommendations and Action Plan

6.1 Discussion

As can be concluded from the findings and the SWOT analyses above, apart from in bulbs, Nepal does not necessarily enjoy unique advantages, qualifying its floriculture sector to become a winning player in the international floriculture market in comparison to some of its neighbouring competitors. These neighbouring regions also have already started their development, and they are several steps ahead.

Taking account of the production and logistic costs, one can easily find that they are all more expensive than in India and China. Indeed, these are factors you might be able to change, but at least the start point is not so favourable.

There are locations, up on the mountains, where special appropriate microclimates could be found; but these will be difficult to develop because they are not very accessible, and lack basic infrastructures like electricity, roads, and reasonable plot size. Nonetheless – this is different when considering flower bulbs production, providing an interesting niche for competitiveness advantage.

However, natural and objective relative advantages are not necessarily the key for success for export-oriented industry. The most successful floriculture international industry, The Netherlands, has hardly any natural advantageous upon its competitors; so is Israel, compared to its neighbouring countries. The key is in the industry's organizational mode, especially its marketing organization. Experience shows that sometimes a small nucleus of motivated local people, who would take the initiative, might lead a change. Governments, NGOs, and donors cannot force people to make a change; they can only support them, if and when they really seek for the transform.

Innovating growers and businesses are coming up in Nepal; but these are not in the best situation to innovate because even the most advanced flower farms are running under the “downward spiral” concept: in response to low prices efforts are made to save costs with the consequence that quality ultimately is affected and hence prices remain low, etc... A classical example is of farms that have a cooling chamber for the flowers, but do not operate it, to save electricity, and as a result flowers wilt in an open shed. Flower exports have very limited chance to take off when producers are only price-minded.

The smaller motivated growers hardly believe in their capability to cope with the industry's advancement, seeking for the government to provide them with enabling support.

Overall across the sector, product quality awareness is low among the local producers. At this stage many lack the know-how that would be required to develop exports. Yet, experience in other countries also shows that awareness and motivation are “products” that can be introduced, if properly managed.

The high costs involved in developing exports related to required hi-tech cultivation and airfreight are also a challenge for Nepalese floriculture businesses.

The international market standards require most flowers and foliage grown in greenhouses. Therefore, if Nepal has to penetrate flower and floriculture products to

the world market it has no choice but to gradually develop advanced system of cultivation, post harvesting, and marketing of these products.

Achieving competitiveness in export marketing has conditional feasibility. It is feasible only if the efforts of private sector are backed by the export friendly government policies and incentives. It depends on the creation of positive government strategies and investment promotion for the development of physical and institutional infrastructure that support in strengthening of private sector's export capabilities and supply chains. Nepalese entrepreneurs are seeking agricultural facilities and incentives at least similar to those prevailing in neighbouring countries.

All the floriculture industry success stories have one basic winning-formula: ***Well-balanced collaboration of public and private sectors***

When the starting point is low – none of the sectors can cope with the development of new export-oriented horticulture industry without the active collaboration of the others.

6.2 Conclusions / Strategy Proposal

Typically, the local growers' organization and other stakeholders recommended on strategy to create a successful industry by means to improve production; from research and know-how providing, through subsidized credit and airfreight rates. This is the 'push' approach.

ITC approach, based on long experience, prefers the 'pull' approach:

Take care for the marketing!

Once there is demand for the products – the production means would follow

The realistic strategy that might lead a move in Nepal's floriculture industry seems to be the supporting of a small initiating group of well-motivated growers and traders; a 'pilot project'. Once the pilot managed to bring this group to successful results – a profitable export activity - this nucleus would 'pull' many other participants to follow.

- Once there are many producers and traders interesting in joining the industry – there is a "demand for know-how", and then it is much easier to effectively provide know-how.
- Once there are active users for modern infrastructure – it is easier for governments and banks to take a decision on financing the investments in the needed facilities.
- Once there are a few successful entrepreneurs – their neighbours and colleagues would easily take the risk of investing in their own businesses.
- Once the project has supported private sector companies/individuals, it is justified demanding from them, in return, to play as 'demonstrative centres', open to all, committed to contribute to the training of other private sector players.

Massively supporting a small group of pioneers is not too costly; whilst it provides unlimited prospects for the entire industry if successful. On the other hand, if the project fails – the losses and damages are not too expensive; thus risk minimizing overall.

Nonetheless, establishing a self-supporting marketing system for only small exported quantities would not be feasible. It would not have the necessary critical mass. This

could be the case even if the project did attempt to work in full-scale; it takes several years until a new industry may produce large quantities. Therefore, the appropriate solution for Nepal's floriculture export start-up phase would be by joining an existing marketing organization in another country. A suitable organization would be such that might benefit from the collaboration, by gaining accomplishing assortment and/or qualities, and/or off-seasonal supply.

The best example for this kind of collaboration is the Israeli-Dutch. The Netherlands' flower auctions get Israeli flowers during the seasons these flowers cannot grow in Holland; whilst the Israeli growers gain the efficiency and the market accessibility of the Dutch system. This mechanism is operating successfully for 34 years already; 85% of the Israel's exported flowers are voluntarily channelled through this system. Kenya and Ethiopia followed the same path. The floriculture produce of these countries is distributed worldwide from the Dutch 'hub'.

Exceptional within the floriculture industry is the flower bulbs sub-sector. It is indeed an ornamental plants' trade, but totally different from cut flowers and potted plants. As mentioned before, Nepal does have some unique relative advantages for growing flower bulbs, mainly in the high altitude mountainous regions. Being less perishable than fresh cut flowers, these products may live with less developed infrastructure. In order to utilize natural advantages in international markets one must be connected to the Dutch bulbs industry. The Netherlands controls the international market and control access to modern, most demanded varieties. The only alternatives are either working for Japanese traders, or locating a very special niche for small quantities, for the collectors/hobbies market (as one Nepali enterprise already does). It is clear that developing this sub-sector's export requires a standalone sub-project.

6.3 Recommendations

Objectives

The development objective of the project is to assist Nepal in diversifying its economy through the development of an export-oriented floriculture industry.

The immediate objectives of the project are divided in two phases:

Phase 1 (year one and two): Setting up a pilot value chain of a selected small group that will actually prove the feasibility of profitable export-oriented floriculture industry. The pilot sub-objectives are:

- ◆ Testing the most appropriate agro-technical methods to achieve high quality flowers
- ◆ Trying and practicing the most appropriate export destinations and marketing models
- ◆ Identifying and removing of obstacles to export activities
- ◆ Founding of know-how bases and demonstrative centres to train future participants
- ◆ Formulating a model for industry-wide value chain organization

Phase 2 (years three to five): Based on the lessons learned from Phase 1, setting up of an industry-wide value chain, enabling gradual expansion of the industry. This will include:

- ◆ A growers organization

- ◆ An export promoting organization
- ◆ Long-term export outlet connections
- ◆ A training and know-how transfer network

Project Management and Framework

As mentioned above (6.2 Conclusion/Strategy Proposal), the project should be divided into two sub-projects, differing by their nature: A) Cut Flowers (the main project), and B) Flower Bulbs.

Flower bulbs' marketing, logistics, and technologies are completely different from cut flowers, being an 'input product'/'raw material', and non-perishable products. Hence, recommendations and action plans hereunder are divided accordingly to sub-projects A) and B).

6.3.1 Cut Flowers

The project will set up a 'Steering Committee', comprised of afloriculture trade expert, government representative(s), local expert(s), and private sector representatives.

- ◆ The committee, guided by experienced experts, will study the international experience, and workout a detailed work plan for the project, based on this report's recommendations.
- ◆ The committee will select a small group of 3-5 flower growers to be the project initial direct beneficiaries. Selection criteria to be:
 - Currently active producing cut flowers, at the highest level available in the country
 - Willingness to upgrade production, to take risks, and to become an exporting enterprise
 - Pre-agreement to share knowledge and experience with other colleagues
 - Collaborative and communicative characters, honesty, and reliability
- ◆ The committee will select one export company, and one forwarding agency, which will provide the export services to the project. Selecting to be from the most capable service providers, oriented to develop fresh produce handling, and willing to act in full transparency.
- ◆ Additional participating beneficiaries will be selected for each of the following seasons, according to the project's practical ability to handle larger scale of activities.
- ◆ The Committee, supported by experts, will set up a follow-up and appraisal program, including periodical evaluation sessions, and proceeding modifications, for the entire project's life cycle. Appraisal program to include measurable objectives, and 'success criteria'.

6.3.2 Flower Bulbs

As mentioned above (6.2 Conclusion/Strategy Proposal), the feasible chance to establish a bulb production industry in Nepal is by linking the potential producers to either Dutch or Japanese trading companies. Hence, an agency like ITC should first obtain the potential partners, and then establish a mutual Steering Committee for this

sub-project (most probably as a sub-committee of the Cut Flowers Steering Committee)

6.4 Activities

6.4.1 Cut Flowers

- ◆ A task force of the Steering Committee will survey the most successful flower marketing organizations in India and in other South Asian countries (European and American markets are considered chance-less; Japanese market is too highly quality demanding for new beginners), to locate the most appropriate one to market the project's flower export. Selection criteria would be:
 - Strong international position in floriculture marketing
 - Long-term mutual interests with Nepali producers (expected mutual benefits)
 - Smooth logistic connections with Nepal
 - Transparency in business management
- ◆ The Steering Committee, in full coordination with the project's beneficiaries, and in line with the selected marketing organization's recommendations, will set up a production and export program for the first season, with targets for expanding during the following four years. The program will include assortment, quantities, and harvesting timeline.
- ◆ In line with the production and marketing program, the committee will formulate a list of measures, needed to implement the program, including, inter alia:
 - A training plan for the project's beneficiaries
 - Essential equipment needed in the producing farms, to ensure high quality flowers and appropriate post-harvest handling
 - Essential equipment needed along the logistic chain, to ensure smooth and quick transportation, under protecting conditions
 - Administrative office with appropriate communication equipment

The project management and the Government of Nepal (GON) would then formulate the needed financing support for these needed means.

- ◆ The Committee will put together a list of administrative and procedural measures, needed to implement the program, based on 'Chapter 4. Obstacles and shortcomings for export' of this report, to be addressed to the GON, including, inter alia:
 - Smooth quality control, quarantine inspection, and export certificates issuance
 - Permission to export against consignment terms (e.g. to flower auctions)
 - Friendly import procedures for agriculture inputs and plant material
 - Export encouraging tax regulations

The GON would then ensure the requested procedures for the project's activities. At this phase, the cut flowers project would be ready, with a detailed work plan and the needed budget, and would proceed to the implementation phase.

6.4.2 Flower Bulbs

As mentioned above (6.2 Conclusion/Strategy Proposal), the only feasible chance to establish a bulb production industry in Nepal is by linking the potential producers to either Dutch or Japanese trading companies. Hence, prior to any planning, the project should act as follows:

- An agency like ITC would use its good contacts in The Netherlands, preferably with Governmental institutes or NGOs, to page potential private sector entrepreneurs, interesting in developing integrated production of flower bulbs in the region. If this attempt failed – the Japanese option should be considered.
- Simultaneously, local experts should locate some potential appropriate locations for flower bulbs in the country, and prepare a detailed characterization for them: climate, soil, infrastructure, accessibility, and human resources (meaning: potentially interested farmers, capable to cope with this development).
- As soon as interested parties are identified, and once they show interest based on the characterization findings, the ultimate needed step is field visits by the potential partners, well coordinated by the International Agency and GON, to identify practical options for integrated production.
- The International Agency and GON should play the role of protecting the interests of the local farmers, through the formulation of a fair value chain model. This is a must, because farmers would be entirely dependent on the foreign trading companies. The power of the International Agency and GON to dictate fair terms is derived from the financial support they may offer to such a value chain.

Only then, a concept and a structural model could and would be formulated for this sub-project.

6.5 Implementation

(Relevant for both sub-projects, A) and B)

Given that the activities related to the project's implementation is entirely dependent on the nature of products and markets that would be selected (see previous chapter), there is not much point in planning them now. The action plan would be better formulated by the Steering Committee after the selection of participants, and setting up the production and marketing plan. Activities would then consist of:

- ◆ Project management procedures, including appraisal criteria and timeline
- ◆ An organizational mode of a 'value chain' nature, with a well defined role for each of the project's participants, and the inter-relationships among them, such as:
 - Value chain linkages including breeders/nurseries, growers, input suppliers, logistic service providers, exporters, and buyers/distributors abroad.
 - Product quality standards
 - Product testing and certification
 - Logistic arrangements
 - Market information flow, etc.
- ◆ Priority-actions will be assigned to relevant parties, and include a timeline and estimation of costs concerned. Actions will be identified at four levels:

- Micro level: For individual enterprises/growers, including action/improvements the companies can take by themselves, in-house, on the basis of the study report. Entrepreneurs should invest in introducing appropriate modern growing facilities to produce and deliver quality products that are acceptable to the markets. They should take appropriate measures to develop cold chain management and post-harvesting techniques, to increase the storage and transit life of the products. Packaging, transportation and handling costs are the components of floriculture products exporting. These costs also determine the competitiveness in the global markets. Entrepreneurs should therefore take measures not only for standardization of packaging, but also in reducing the cost components.
- Meso level: For the relevant trade association(s) and (public and private) TSIs offering financing and export services. TEPC, AEC/FNCCI, FAN and Donors should support or get support to handle all market promotion as well as technical aspects of the floriculture development in Nepal. They should, inter alia:
 - i. Organize frequent interaction programs with stakeholders including government and donors to highlight contribution of the floriculture sub-sector and request for continued support through development policy and programs.
 - ii. Develop linkages with academic and research institutions: IAAS (Rampur), NARC, CINAS, HDD, FDC, etc. and support to organize practical training and research programs on agronomic and post harvest handling practices.
 - iii. Assist entrepreneurs in identifying innovative ideas new products and new markets based on the continual product and marketing research.
 - iv. Disseminate updated information on market requirements and prospects for floriculture products and thereby assist entrepreneurs to take measures in reducing transportation, packaging, logistic and infrastructure costs.
 - v. Organizing market visits, and arranging participation in international trade fairs and exhibitions at suitable overseas locations.
 - vi. Provide support to set up infrastructures like wholesale markets, and transport supports to exportable products.
- Macro level: For the relevant government authorities, including import and export authorities, know-how providing and distributing, and infrastructures, such as:
 - i. Formulation of a national floricultural policy, action plan, and strategies, like those successfully exist for some products like tea, coffee, etc.
 - ii. A package of direct or indirect incentives, and a special waiver package.
 - iii. Waiver of ceiling on land holding by the floriculture industry.
 - iv. Adequate provision for R&D, extension services and human resource development for private sector in the field.
 - v. Simplification of import and export customs clearance, export replacement, and export payment procedures.
 - vi. Construct infrastructure like a dedicated cooling storage at the airport, etc.
 - vii. Support airfreight rates to be competitive.

- viii. Support market promotion efforts.
- Donating agencies level: For the provision of the relevant international know-how, experience, and linkages, like:
 - i. Market studies and market information.
 - ii. Expertise in export organization, and value chain modes.
 - iii. Expertise in logistic chain infrastructure and management.
 - iv. Expertise in modern growing and post-harvest technologies, including of 'train the trainers' activities for local extension officers.
 - v. International market linkages.
 - vi. Study tours and seminars by international experts to local growers.

6.6 "If we had a million..."

Based on the strategies mentioned above below are several raw ideas for possible activities that would promote the floriculture industry in Nepal. Activities are ranked according to priorities of financial resources utilization.

#	Activity	Estimated Cost US\$	Accumulated budget US\$
1.	Market survey to identify the optimal partners and destinations for Nepali floriculture products (As per 6.4.1 A) above) 3 persons, 4 countries, 7 days.	20,000	20,000
2.	Markets study tour for a group of selected growers and service providers, to comprehend the international markets. 6 persons, escorted by an expert. 10 days; 3-4 Asian countries; visiting growers, market places and flower auctions.	30,000	50,000
3.	Survey by an international flower growing expert, to identify the most appropriate varieties for the various locations in Nepal, appropriate to the previously carried out market survey's findings.	20,000	70,000
4.	Seminar for Nepali flower growers, provided by international experts, on modern cultivation and post-harvest methods; including field visits. 5 days for 15 persons; two experts.	30,000	100,000
5.	Consultancy mission by an international expert for flower export logistics, to recommend on the optimal logistic chain from grower to market, and elaborate action plans for all stakeholders' levels.	15,000	115,000
6.	Construction of a pilot cooling-chamber for flowers in Katmandu airport; 100 m ³	10,000	125,000
7.	Partly subsidizing flower air shipments, to reduce the actual costs to the level they would be when a critical mass was achieved; two first seasons.	25,000	150,000
8.	On-going consultancy on export practices, and on value chain organizational affairs, by international expert(s). 3 missions of 8 days per year, during the first two years	50,000	200,000

	of export operation.		
9.	On-going consultancy on flower cultivation and post harvest practices by international expert(s). 3 visit of 8 days per year, during the first two years of export operation.	50,000	250,000
10.	Training and salaries of 2 local extension officers, to provide on-going technical support to growers.	75,000	325,000
11.	Repeating of activities No. 2, 4, 7, and 8 during the third and forth years of operation, for a broader group of participants, for implementing Phase 2 of the project.	175,000	500,000
12.	Facilitating exporting flower growers in improving their farm facilities, through partial grants on actual investments, and/or subsidized interest on loans.	500,000	1,000,000

Annex I: Floriculture Sector - Persons Contacted

Trade and Export Promotion Centre

1. Mr. Narayan P. Shrestha, Officiating Executive Director, TEPC
2. Mr. Dinesh Chandra Gupta, Officiating Executive Director, TEPC
3. Mr. Mani Lal Shrestha, Director, TEPC
4. Mr. Mahendra Nath Bhattarai, Deputy Director, TEPC
5. Mr. Bimal Nepal, Chief Officer, TEPC, Nepal
Tel: 977-1-5525348 / 5532643
Fax: 977-1-5525464
E-mail: tpcnep@mos.com.np

Floriculture Entrepreneurs

6. Mr. Chandra Kumar Glochha, MD, Flora Nepal Pvt. Ltd., Tel 4445732-37
7. Mr. Madhu S. Acharya, Everest Floriculture Pvt. Ltd., Tel : 4232800, 9851024500
9. Mr. Yogesh Pradhan, Bodhibrikchhaya Nursery, Tel : 2120043, 9851026819
10. Mr. Lok Nath Gaire, Vice President, FAN, and Proprietor, Annapurna Floriculture, Chitwan Tel : 9841402816
11. Mr. Prakash Pant, Chitwan, Annapurna Flower Farm, Chitwan, Tel : 9855057207
12. Mr. Basanta Shrestha, Proprietor, Dolphin Flowers, Naubese, Tel: 4415702
13. Mr. Prabindra Maharjan, Proprietor, Kumari Flora Farm (P) Ltd, Kathmandu, tel: 4220132
14. Mr. Kabiraj Rai, Director, Rai's Orchid, Badikhel 1, Central Godawari, Lalitpur, Nepal tel: 5532393 M. 9841254673
15. Mr. Mahendra Raj Joshi, and Mr. Bipin Raj Joshi, Nursery Enterprise, P.O.68, Biratnagar, Nepal, Tel: 9841382077, 021 526067, 9842050690
16. Mr. Salim Ansari, Beautiful Nursery, Biratnagar, 9842049762

Other Stakeholders

17. Dr. Dev Bhakta Shakya, Executive Director, AEC/FNCCI
18. Mr. Kiran Raj Pandey, Program Officer, AEC/FNCCI
19. Mr. Shridhar Karki, President, FAN
20. Dr. Umed C. Pun, Floriculture Expert: 9851003113

Annex II: Validation Workshop on Floriculture Sector Study

21 August 2007, Soaltee Crowne Plaza Hotel, Kathmandu.

Attached: Event Programme, List of participants

Chairman: Mr. Chandi Raj Dhakal, President, Federation of Nepalese Chambers of Commerce and Industries

Key Guests: Mr. Lok Nath Gaire, Vice President of Floriculture Association of Nepal, Mr. Dinesh Gupta, Officiating Exec., Director TEPC.

Circulated Document – Print out of the Presentation

The objectives of the study and the purpose of the validation workshop were explained to the participants to focus the discussions and the findings of the study were presented in the form of key facts, obstacles and shortcomings, general views and recommendations of the international expert. The floriculture sector stakeholders and workshop participants did not fully endorse the study, having the following comments. (It should be added here that whilst the study was not fully endorsed, the international expert's recommendation to start with a pilot project with a small select group and then move and then implement the lessons learned to the sector at large in a second phase, was endorsed.)

Comments from the participants

FNCCI President

Mr. C.R.Dhakal, President of FNCCI commended the potential and endorsed the recommendations. He hoped that earlier study of FAN and AEC/FNCCI will be contributory to this study. He stressed on the need to consider "One village one product concept" like in Thailand and Sri Lanka.

ED, TEPC

Mr. Gupta expressed his great pleasure to be partnering be with ITC on this important project for enhancing Nepal's exports. He highlighted his past experience on the floriculture sector and its potentiality in Nepal.

Vice President , FAN

He endorsed the concept of pilot project and hoped that it will guide us to move our products gradually to overseas markets. He mentioned that the FAN has also submitted policy recommendations to the Government of Nepal and requested for action programme of the development of the floriculture sector. He highlighted the following problems:

- Week farm management practices
- Unfavourable rules and regulations
- High air-freight has reduced the competitiveness. Freight subsidies should come from the government as it might not be possible for the donor to subsidise the freight.
- Achievements so far made are based on the efforts of the private sector only. Therefore, the private sector needs support to encourage for further development.

- Separate cooling chambers are required at the international airport for different floriculture items.
- There is a very high cost of capital. Interest should also be subsidized. Moreover, the VAT and Import duties on inputs should be refunded or exempted.

Mr. Suresh Bhakta Shrestha, Past and First President of Floriculture Association of Nepal (FAN)

Please be conscious of the affect that observations and recommendations in a discouraging tone will have on a sector that is currently in very high spirits and proud of its recent achievements. Giving a gloomy picture at the beginning and recommend implementing a pilot project with donor supports seems a controversial.

Dr. Ramesh B. Munankami, National Consultant/ITC

Dr. Munankami stressed on the fact that IC took impression of the sector's development during off-season and in his short mission he must have missed many positive factors. (a) India is itself a huge market for flower growers in the western parts of Nepal, (b) there are niche world markets for different species of flowers having possibilities to grow in Nepal which have not been identified, and (c) we should have program to train the growers on the SPS matters.

Dr. Umesh Pun, Floriculturist / Scientist

Agreed with phase I and asked if specific species and products have been identified.

Producer/Exporter

Please provide more detail on the recommendations, as is, it doesn't seem actionable.

Mr.Chandra Kumar Golchha, MD, Flora Nepal Pvt. Ltd.

Joint venture has bitter experience in Nepal as a case of too much cheating has set an example in the floriculture sector. Obstacles and shortcomings identified should be addressed immediately to encourage the existing flower growers and exporters.

C.K. George

Key for the sector is going into with Joint Ventures with foreign companies to acquire knowledge transfer which is highly needed in such a complex industry. Ignore bitter experiences and focus on the good experiences and find ways to make a joint venture work. Nepal has got right kinds of climate to grow any thing. Moreover, most of the areas are not polluted. Nepal needs a right kind of technology and appropriate marketing approach. Entrepreneurs can gain more knowledge gradually through available information. However, the sector should be backed by government supports and incentives so as the scale of operation remain at an appropriate level for exporting.

Mr. Madhu Achraya, MD, Everest Floriculture Pvt. Ltd

Highlighted the problems of:

- Air freighting: lack of space and high tariffs compared to other competing countries,
- lack of support of national carrier, difficult in transporting from cold room to ramp, normal transportation means might spoil the quality as there are no refrigerated van available so far.
- Cooling facilities at the airport is not suitable for the different types of flowers. It is a fridge room for frozen foods.
- Attitudes of the customs officials are very much discouraging

- Difficult to procure small quantity fertilizers, nitrate, and other inputs in view of strict security related regulations.
- Problems with procuring inputs.
- In due course of time participation in international flower fairs should also be supported that helps us to introduce Nepal as a flower producing and supplying nation.

Official of Plant Quarantine

Nursery should be free from pests and diseases. There are specific SPS requirements in India for Carnations and other products. India has revised the orders relating to import of cut flowers. The exporters need regular and timely feed back information on SPS and other non-tariff measures from the concerned organizations.

If we had a million....

This session of prioritization of costable actions key to the sector's further development within the framework of the international expert's recommendations for the sector, was very well received with lively discussions. The participants were first asked to jointly decide on the importance of each of the items listed by the IE and then asked to add more items of their choice. Hereafter they were asked to rank items at different levels of magnitude.

The IEs recommended costable actions were agreed upon and further refined as follows:

1. Markets study tour for a group of selected growers and service providers
2. Survey by an international flower growing expert, to identify the most appropriate crops for the various locations in Nepal, appropriate to the market survey's findings.
3. Hiring expert for Training on modern cultivation and post-harvest methods.(incl. Packaging)
4. Consultancy mission by an international flower export logistic expert, to recommend on the optimal logistic chain from grower to market.
5. Construction of a cooling-chamber for flowers in Katmandu airport.
6. Partly subsidizing flower air shipments, to reduce the actual costs to the level they would be when a critical mass was achieved.
7. Training of local extension officers, to provide technical support to growers.
8. Facilitating exporting flower growers in improving their farm facilities, through partial grants on actual investments, and/or subsidized interest on loans.

It was not possible to complete the prioritization exercise but the participants were asked to complete the exercise and share their views with Mr. Gautam by email. The first level of magnitude was completed though:

If we had US\$100,000, priorities ranked:

1. Supporting trade fair attendance (despite our insistence that the focus should be at the national level once the sector is fit to take off, and not for meeting the immediate needs of individual companies)
2. Market Studies
3. Technical Studies
4. Logistics Studies
5. Training

If we had US\$500,000, priorities ranked:

1. Subsidizing freight

If we had US\$1,000,000, priorities ranked:

1. Cold Storage (was pointed out that for the first smaller volumes, placing cold containers purchasable in the Netherlands at the airport is also sufficient)
2. Cold Transport System (by e.g. sharing usage, don't forget to budget maintenance and running costs)

In response to request for more detail on recommendations:

Bastiaan suggested that Mr. Gautam send all the stakeholders a full draft so they get to see more detail than was given in the presentation and then they can give feedback on where they require more detail as well as give their views. Mr. Gautam agreed to coordinate this exercise and pointed out that fixed deadlines would need to be applied.