



Executive Summary of

**Primary Study report on Floriculture in the State of Sikkim
and
Suggested strategies for development of Floriculture in the State**

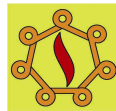
Draft for review only

Implemented by



H.N. – 19, Flyover link, Rajgarh Road, Chandmari, Guwahati – 03
Tele-fax: 91-0361-2461593, E-mail:farmerneindia@gmail.com

Tier II partner under:



**Centre for International Trade in Agriculture and Agro-based Industries (CITA)
&
Agricultural and Processed Food Products Export Development Authority (APEDA)**

**A Trade Related Capacity Building (TRCB) Project sponsored under:
United Nations Conference on Trade and Development (UNCTAD)
Ministry of Commerce-Government of India and DFID Project
“Strategies and Preparedness for Trade and Globalization in India”**

Draft for review only

Space for notes:

Executive Summary

The present primary study on floriculture in the Indian state of Sikkim was planned for initiation of Trade Related Capacity Building Program under the aegis of United Nations Conference on Trade And Development, under the project "Strategies and preparedness for trade and Globalization in India".

This document on primary study on floriculture in the Indian state of Sikkim outlines analysis and interpretation of findings of primary data collected from 300 numbers of growers from three different districts of Sikkim.

Socio-economic profile of the growers

Comparatively younger age group (21-40 years) of people is involved in floriculture in the state of Sikkim with one-third of the growers being women. Participation of all the three major castes, Scheduled Tribe (ST), Other Backward Caste (OBC) and Most Backward Caste (MBC) is almost equal in the floriculture activity in the state. Education level of maximum percentage (38.66%) of the growers is up to high school (10th standard on 10+2 education system) level. Maximum percentages (94.3%) of the growers have land ownership with landholding size 1-5 acre. About 72.33 percent growers have white goods at their house. Accessibility of government run scheme on floriculture is almost 91 percent.

Growth pattern in floriculture

Growth of floriculture unit was highest (81%) during the year 2005-2007 after it has experienced a static growth of 6 to 7 percent till the year 2004. About 63.3 percent of growers have started their floriculture business for last 6 months to 2 years. South Sikkim has comparatively more percentage (7.7%) of growers engaged in floriculture business for more than five years.

Business profile of the growers

Total of 82.9% percent of the respondents under the study are involved solely on production of floriculture products especially cut flower and bulb production. Only 7.1% of the respondents act as market intermediary besides floriculture crop production.

Growth of the floriculture in the state of Sikkim could be termed as cluster growth with 218 numbers out of 300 is being either member of producers or cooperative body.

Unit holding size

Majority (65%) of the growers in the state of Sikkim are growers with small unit holding with unit size holding up to 500 Sq mt, followed by growers with medium unit size (1000-5000 Sq mt) which is the second highest group (20%) of grower in the state.

System of cultivation and availability of individual infrastructure

A total of 64.9% of growers are doing floriculture under controlled or semi-controlled environment especially for rose and orchids. Most of the permanent greenhouses are constructed under government schemes under Technology Mission where as low cost poly house / shade houses are constructed under active support of the state government. A significant percentage (19.4%) of the growers has irrigation system in their green house, especially with the growers of rose, which is comparatively new in the state.

Employment status

About 637 (on an average of more than 2 numbers per unit) people are employed directly by the 300 numbers of floriculture units under study in the state. Out of which, more than one third (33.43%) is women, indicating encouragement of women folk towards this sector.

Business growth trend in last two years

Individual overall business is in increasing trend for 47.33 percent of respondents, where as a remarkable 46 percent could not reply to the query as they are new grower and their crop s under gestation period.

Overall business trend of floriculture in the state of Sikkim is increasing as per perception of 97.67% percent of the respondents. Where as per perception of 54 percent of the respondents overall all exports in the state of Sikkim have increased over the last two years.

Awareness level on recent policy changes

Overall awareness level of the growers regarding recent policy changes like introduction of VAT system, removal of quantitative restrictions on imports, preferential trade agreements, including regional / free trade agreements are at

Out of which maximum 37 (i.e. 12.3% of total respondents) of the growers keep their produce at shade house before sending to market. Only 15 (5% of total respondent) growers keep their produce at cold storage facilities. There is inadequate knowledge of practice of standard packaging by the growers.

Perception of growers on impact of recent policy changes and other developments on their business

There has been no impact of recent policy change like VAT system, removal of quantitative restrictions on imports, preferential trade agreements, including regional / free trade agreements on the floriculture business as per the perception of majority of the respondents.

Nature of interaction with government and industry bodies and sources of information

Interaction with government functionaries is found to be highest amongst other alternatives for growers as far as obtaining information on floriculture business and / or discussion on livelihood issues are concerned.

Production

Maximum percentage of growers doing mono crop cultivation with maximum of the growers having units of cymbidium orchids (56%) followed by rose (23%) with majority of units with the objective of cut flower production. Other varieties of flower under cultivation are Liliium, Gladiolus, Gerbera, Alstroemeria and Anthurium. Stocks of the current planting materials / seedlings under production are relatively new. There is inadequate awareness regarding per ha productivity of the crops cultivated in Indian condition for maximum percentage of the growers.

Floriculture crop production is ancillary income for maximum (83.75%) of growers with approximate average contribution to their annual income ranging from Rs.1350.00 to Rs. 47056.00.

Post harvest management and practice of packaging

Only few growers market their product directly in the local market. There is inadequate knowledge of practice of post harvest management as evident from the finding that only 56 out of 300 resort to some kind of post harvest management of their produce.

Out of which maximum 37 (i.e. 12.3% of total respondents) of the growers keep their produce at shade house before sending to market. Only 15 (5% of total respondent) growers keep their produce at cold storage facilities. There is inadequate knowledge of practice of standard packaging by the growers.

Prevalence of diseases and pest and their management

There is prevalence of a variety of diseases and pests affecting floriculture crops of the growers. These disease ranges from viral, bacterial, fungal and those pertaining to nutritional deficiency and through effects by a variety of pests. Management of this is done through chemical methods.

Marketing of produce and local market

Marketing of the small quantity of produce are either through local aggregator or through local market intermediaries. There are only four markets within and at the vicinity of the state accessed by the growers.

Input procurement

Source of availability of input (especially planting material) is state government department for most percent of the growers. Growers procure inputs specially those required for crop husbandry practice (viz. chemical fertilizers, antibiotics etc) from open market, especially from Siliguri of North Bengal. This is because Sikkim is a declared organic state and sale of chemical fertilizer within the state is restricted.

Rejection of produce by market and awareness regarding quality up keep

There is inadequate awareness regarding quality up keep of produce by the maximum percentage of the growers. There are instances of rejection of produce from the market due to inadequate quality up keep

Human resource in floriculture

Growers are being given training on cultivation method by the state government officials. Few growers have been facilitated for exposure visits also. There is adequate training and awareness on standard package of practice on post harvest management. Government is providing literatures / promotional materials on package of practice. Few guidebooks are available with the growers published by either private or other development agencies. General understating of floriculture business most of the growers fall under beginner stage with a significant percent of growers who have already graduated from beginner stage.

Constraint of expansion of floriculture business by individual growers

“Immediate market size” of the floriculture produce rated as most prominent constraint for expansion of present business. Least prominent constraints are land and labor for the growers of the floriculture in the state of Sikkim. Availability of credit facility is also an important constraint for remarkable size of the growers.

Relying on guidance for floriculture business

Most of the growers rely on government functionaries for guidance related to floriculture business. Most of the growers are also aware of the state initiative on marketing support system / guidance.

Use of common infrastructure by the growers

There are only four cold storage in the state of Sikkim namely, cold storage at Mainaam Garden, Cold storage at Majiter, Cold Storage at Saramsa Garden and cold storage at Sikkim Flora. Though a remarkable number of the growers are aware of the availability of these cold storage facilities, only few of the growers have utilized the service of this cold storage till the time of study.

End of Executive summary

Suggested strategies for development of floriculture export from Sikkim in the light of findings of the study

Strengthening effort towards organized activity

The study revealed encouraging progress in expansion and organization of the sector for economies of scale through cluster growth which is one of the prerequisites for export oriented production of quality produce. To sustain the effort, attempt should be made to develop a dynamic grower / infrastructure / market information database for ensuring focused planning and effective monitoring of interventions by various agencies in the years to come. The present study can be a referral document for such a database development. A management information system (MIS) based on such database should also be developed for informed decision making.

Capacity building of individual grower association should be done to maintain the database as stated above. A revenue model should be worked out to ensure fund required for regular updation of data base and to enhance the human component of the database.

The initiative should be taken for formation of government supported apex marketing organization. However, care should be taken to enhance the scope of competition. Growth of private agencies for export oriented contract growing, aggregation and post harvest management should be facilitated for such competition.

The study recorded inadequate business orientation of majority of growers which may seriously affect the sustainability of enterprises in long run. As the sector is getting organized day by day, there exists need for building capacity of growers as far as entrepreneurial qualities are concerned.

Infrastructure

The study revealed steady growth of infrastructure, though utilization of such infrastructure as of now is nominal. Infrastructure development should not necessarily wait for volume to come for capacity utilization. In most of the developed countries and in countries like China, infrastructure was given first priority before augmenting production for reaching required volumes. Time required between harvesting and packaging besides availability of controlled environment like cold storage is a crucial element that can affect quality and seriously jeopardize any export attempt. This point is immensely relevant for the state of Sikkim.

Infrastructure development and their utilization are again closely related to communication facilities. Resources need to be mobilized for better road communication within the clusters and for ensuring air connectivity from state capital with cargo handling capacity.

Technology, Environment, Breeding and Input supply

Availability of low cost technologies for shed construction and regular supply of quality input at right price is essential for involvement of large number of growers for whom investment is a constraint. Entrepreneurs needs support in terms of information on least cost production methods e.g. Wooden / Bamboo Green Houses, Hydroponic planting system etc. Developments indicate that some crops can also be cultivated with shed nets thus minimizing investment on green houses. Banks are to be sensitized on these issues as most of the failures are due to improper allotment of resources at entrepreneurs' level.

The study recoded increased emphasis and popularity on commercial cultivation of orchids in the state of Sikkim. The same is the core competency for the state with distinct season related export market advantage. The study recorded limited growth of breeding related activities in the state. Availability of good planting material is crucial for productivity, better product mix and export quality. In India it is recorded that domestic cost of production of bulb is Rs.3-4 per bulb where as import cost of same is around Rs.10/-. Intensive project aimed at domestic breeding is therefore can be explored. However, the state also needs to facilitate licensing and contractual agreements with foreign collaborators.

A crucial observation is the control on availability / use of fertilizers and other chemical agents required for crop husbandry practice as the state has declared itself as organic. Technology development / dissemination that will allow floriculture growers in the state to reduce their dependency on chemical fertilizers can work wonder and state can aptly promote its flower as organic in the export market in long run.

Technologies should also necessarily focus on organic means of insect control (Countries do make absence of living insect in flowers a mandatory criteria for import) , soil fertility and ground water preservation to sustain productivity of clusters having intensive floriculture operation.

Land development for floriculture is another crucial point considering topography of the state. There is a scope of study on total cultivable area which can be brought under commercial floriculture and corresponding impact on production of other agricultural crop.

Product Mix

Another important observation of the study is cluster growth with predominant mono cropping by growers with small unit size. The variety of floriculture crop is also limited. In this system growers are always vulnerable to market risk. In this context careful selection of market oriented product mix (including variety) is essential. The state can also focus on commercial breeding and production of foliage e.g. ferns etc. The need is to identify indigenous foliages, ensure breeder protection (IPR) and explore means for their commercialization. As foliages can be cultivated under open air hence there will be less fixed expenses on the part of growers who would like to diversify his / her product mix with cultivation of foliages.

Promotion of flower crops with longer vase life or where value addition e.g. Oil extraction is possible are also crucial for the state considering time requirement to reach the consumption point from point of production.

Quality orientation for export

The study recorded inadequate quality orientation of majority of producers in the state. The growers in the state should be provided with exposure on use of modern methods of harvesting with minimum spoilage, post harvest care, use of approved methods for enhancing vase life, packaging etc.

Use of common laboratory facilities for testing vase life is shall be additional infrastructure support to growers. Special emphasis should be given for testing of vase life of various orchids found in the state.

There is a need to record / understand Non Tariff Barriers (NTB's) associated with floriculture export more particularly the orchids. Focused extension activates aimed at dissemination of information regarding standard package of practice amongst grower should be undertaken at farm level.

Marketing

There are fast changes in the ways the flower is traded in India and abroad with emergence of auction houses. Logistic review of economic flower trading route for the state needs special mention in this regard. There is a need for trade related capacity building of grower leaders and institutions for floriculture trade understanding, analysis and communication.

Considering well connected cluster growth and high level of awareness pertaining to organized marketing initiative as observed in the current study, efforts should be directed for joint grading and branding opportunities where possible involving small growers. Industry associations can take lead in forming consortium of stakeholders for market related policy advocacy and brand promotion.

Efforts should be made to augment direct marketing by individual growers / associations as it gives better remuneration, minimizes middleman and provide flexibility to position in niche markets. Direct marketing also helps in avoiding the risk of excessive concentration on a single market. The use of information technology for trading should be promoted.

Entrepreneurship development amongst youth for innovative organized retailing of flowers including electronic transactions through internet is a possibility which the state can explore.

Investment

In India, it can be roughly estimated that investment requirement to set up a unit floriculture cluster farming project is 25 lakh. The cost is around 1.5 crore for a medium scale project targeted to local market and indirect export. For independent export oriented unit the investment can go up to 8 crores.

Besides investment in terms of larger production unit as mentioned above, mobilization of long term private investment for breeding as well as export oriented post harvest infrastructure development is crucial for the state. To attract such investment endeavor should be made to develop a one point dynamic web information source highlighting parameters such as percent of different flower crops against total cultivable area under floriculture, state of production of crops across season, production potential and proximity of the production areas to market / post harvest facilities etc. Such information can provide crucial inputs for preliminary risk assessment for the investor or agencies engaged in aggregation or trading. Matching of this information with climate profile and soil quality of the concerned state is another value addition. The current primary study can be considered as a referral document for a more focused GIS based study to address this issue.

Human Resource

The study recoded numerous parameters pertaining to people analysis for assessment of likely social impact of floriculture growth, growers' ability of technology absorption, growth trend and financial stake on growers. High literacy rate amongst the growers and their willingness for advance learning as observed during the study can be linked to smooth technology adoption in the years to come. A focused and continuous attempt to augment skill of growers is crucial and can provide the sector with leaders needed to sustain development.

The study recorded predominant government service delivery mechanism. With the growth of high technology large volume floriculture enterprises in the years to come the need is obvious for human resources for manning an alternative (beyond state) client centric service delivery system. The requirement of skilled labor and supervisory staff or intermediary service provider (ISP) is another important issue in this regard.

End of the report

INVITATION OF OBSERVATIONS / SUGGESTIONS

Dear participant:

We welcome your valuable observations / suggestions so as to reach us latest by *March 17, 2008* to be included in the final report. Name(s) of the sender(s) of observations / suggestions shall be duly acknowledged in the final report.

Please send your observations / suggestions through post or E-mail or by fax to:

**FARMER
H.N. – 19, Flyover link, Rajgarh Road, Chandmari,
Guwahati – 781003, Assam
Tele-fax: 91-0361-2461593
E-mail: farmerneindia@gmail.com**

Format for sending observations / suggestions

1. Name (In Full capital letters):
2. Occupation / designation:
3. Address:
4. PIN code:
5. Telephone no. / mobile no.
6. E-mail (if any):
7. Observations / Suggestions:.....
.....