

FLORICULTURE IN NEPAL: A NEW AND VIBRANT SUB SECTOR OF HORTICULTURE

Umed Pun and Kalyani Mishara Tripathi
umedpun@gmail.com

ABSTRACT

Floriculture in Nepal began some seven decades ago by palace gardeners. However it developed in a more organized pattern only after formation of Floriculture Association of Nepal (FAN) in 1992. The growth of flower industry is quite satisfactory but the growth of different product and services is different. Some product and services such as seasonal flowers and seeds, ornamental plants and landscaping and gardening are growing more rapidly than other such as loose flowers and exports. This paper highlights significant effort made by private sector while the role of government agencies responsible for research, extension and teaching are not adequate. The approval of Floriculture Policy by government of Nepal in 2013 has paved way for more effective role of government agencies in collaboration with private sector. This collaboration shall largely be responsible for success in taking Nepalese floriculture to the next level.

INTRODUCTION

Floriculture in Nepal began some seven decades ago by palace gardeners but formal floriculture business began only in the early nineties of the last century (Pun, 1997). The formation of Floriculture Association of Nepal (FAN) in 1992 resulted in more organized business, data recording, introduction and multi location trial of new crops, setting up wholesale outlet of cut flowers and formation of floriculture cooperative. Two years back, FAN was successful in getting the government to approve Floriculture Policy in 2013 and it was a huge achievement. The private sector was looking forward for the positive changes this policy shall bring to propel significant growth in the industry. As per the policy, FAN was to get financial support for five years and the first financial year has concluded. It is also equally important to look back at what different government agencies have done or are doing towards the development of floriculture in Nepal (Pun, 2014).

FLORICULTURE IN NEPAL AT A GLANCE

The status of floriculture in Nepal is very encouraging. The industry is steadily growing over the years and in 2015 the share of different products of floriculture are as shown below (Table 1). The total annual turnover reached new height of Rs. 127.75 crores (FAN, 2015) and this growth was possible due to rapid growth in some sub-sectors (e.g., ornamental plants).

Table 1: Floriculture Industry Data: overall 2013-14

S/No	Description	Amount (Rs in crores)
1	Seasonal Flowers and Seeds	21.68
2	Ornamental Plants	38.15
3	Cut flowers and foliage	20.45
4	Landscaping and gardening	17.04
5	Loose Flowers	6.70
6	Input Supplies (Silpouline, Planting Materials and Equipments)	12.40
7	Others (carpet grass, bulbs, rhizomes, tuber, tissue culture plantlets etc	8.33
8	EXPORT	3.00
9	TOTAL	127.75
10	IMPORT	4.00

Source: FAN, 2015

The growth of floriculture sector in last two decades has seen steady good. It began with annual turnover of Rs. 1.8 crores in 1994 to Rs. 127.75 crores in 2015 (Table 2).

Table: 2 Annual growth of floriculture industry in Nepal (crores)

Year	1993/94	2005/6	2008/9	2011/12	2013/14
Total Value	1.8	23.0	56.0	105.32	127.75

However, the growth of different product and services of floriculture is not similar. There are some products that are growing at a much faster rate than others (Table 3). The faster growing products

may result into many new opportunities. The products that have made tremendous growth are seasonal flowers and seeds, ornamental plants, cut flowers and foliage, landscaping and gardening and input supplies.

Table 3: Fast growing sub-sectors of floriculture industry (Rs in crores)

S/No	Description	1993/94 (crores)	2005/06 (crores)	2008/09 (crores)	2011/12 (crores)	2013/14 (crores)
1	Seasonal Flowers and Seeds	0.30	2.5	6.0	16.56	21.68
2	Ornamental Plants	0.26	10.0	16.0	32.0	38.15
3	Cut flowers and foliage	0.22	2.0	3.5	16.0	20.45
4	Landscaping and gardening		2.5	10.0	12.0	17.04
5	Input Supplies (Silpouline, planting materials and equipment)		2.0	3.0	7.5	12.40

However in other sub-sectors such as loose flowers, growth is slower as compared to fast growing sub-sectors (Table 4). Similar is the situation of others such as carpet grass, bulbs, rhizomes etc. The situation of export is also very unstable with frequent increase or decrease of sales. However, import has been slowed down. The role of research and extension agencies of the government can work closely with private sector so as to improve product and make it more competitive.

Table 4: Slow growing sub-sector of floriculture industry (Rs in crores)

S/No	Description	1993/94 (crores)	2005/06 (crores)	2008/09 (crores)	2011/12 (crores)	2013/14 (crores)
1	Loose Flowers	0.32	2.0	3.0	4.5	6.7
2	Others (carpet grass, bulbs, rhizomes, tuber, tissue culture plantlets etc		2.0	5.0	5.80	8.33
3	EXPORT			6.0	10.96	3.0

INDUSTRY

Floriculture in Nepal is led by Floriculture Association of Nepal (FAN), a commodity association of Federation of Nepalese Chambers of Commerce and Industry (FNCCI) with an annual growth of 10-15% (Gaire, 2015). This is the representative of the industry and should be given full credit for the development of floriculture in Nepal. In the initial years, Agro Enterprises Center/FNCCI supported FAN with financial support from United States Agency for International Development (USAID). In last few years, FAN is working more closely with Ministry of Agriculture Development and finally after much effort were put in for several years Floriculture Policy became a reality in 2013. This Policy shall be the guiding factor for development of floriculture industry in Nepal and shall be supporting Nepalese floriculture for five years with effect from year 2014-15 to 2018-19. This Policy has clearly spelt the role of all stakeholders; private sector, extension and research agencies of government. FAN had a lonely journey so far but with the government approving Floriculture Policy, the private sector is very excited and hopes the journey shall be more interesting and fruitful. The industry realistically needs support from government to graduate to the next level and the coming of the policy at this critical juncture is a clear indication that the government is totally committed for floriculture development in Nepal. In the first year (2014-15) of the funding (Rs. 10.0 million) from the government, major emphasis was put on system development at FAN, support for greenhouse system and documentation. In the second year

(2015-16) of funding (Rs. 55.0 million proposed), FAN has put major funding on upgrading greenhouse system which is critical to qualitative as well as quantitative production of cut flowers and ornamentals. It has also prioritized for export potential of a major filler crop in the cut flower industry. These are two products that are growing rapidly and could play critical role both on import substitution and export. The positive outcome of second year shall boost flower industry in a big way and there could be potential for export of cut flowers. Some of the most important cut flowers of Nepal are Carnation, Gladiolus, Gerbera, Rose etc. The participating private companies matched with 20% to the support given by government.

EXTENSION AGENCY

The department of agriculture (DOA), Harihar Bhawan, Lalitpur is the government agency responsible for technology dissemination of flowers production and marketing to farmers (Khatiwada and Shrestha, 2015). The DOA's Directorate of Fruits, Kirtipur, Kathmandu serves as the link between DOA and Floriculture Development Center (FDC) located at Godavari, Lalitpur. Besides, other DOA units such as Agribusiness Division or District Agriculture Development Office (DADO) also contribute towards floriculture development.

Floriculture Development Center: The government's focal agency for floriculture development is FDC. This was established in 2006 and is responsible for training farmers and also government staff. It also gives technical support to DADOs floriculture programs as and when required in addition to maintaining demonstration plots and conducting flower trials. It has also published booklets on ornamental plants of Nepal.

Agribusiness Promotion Program: This program has been supporting FAN for organizing floriculture expo annually in Kathmandu since 2006. In addition it also supports FAN to organize annual Chrysanthemum and Poinsettia shows. In 2007, it also published an extension booklet on Business plan for rose cut flower production.

District Agriculture Development Office: Although, flowers and ornamental plants are commercially produced in 38 districts yet

many districts do not have any program for flower farmers. Recently, some urban districts are incorporating floriculture in their annual district program. In 2013, floriculture program was incorporated in four districts of central Nepal (Kathmandu, Bhaktapur, Kavare and Chitwan).

In addition to government agencies, several NGOs/INGOS were also involved in dissemination of floriculture technology in the community. Although, DOA is responsible for technology dissemination there are often cases where there is lack of subject matter specialist (SMS) in important flower production districts. Besides, there is lack of SMS for management of urban green spaces such as parks and gardens. This is the area where DOA needs to re think and consider up-gradation of FDC. Thereafter FDC should have dual role; training and technology dissemination of flower crops and ornamentals and management of urban green spaces such as parks and botanical gardens. Post-gorkha earth quake 2015, Nepal's urban planner are emphasizing on open spaces in the core city area across Nepal. However, there is acute shortage of trained human resource with regards to parks and botanical garden management.

RESEARCH AGENCY:

The Horticulture Research Division (HRD) of Nepal Agriculture Research Council (NARC) has been conducting floriculture research since late 1990s. Their research is mainly in production technology of Gladiolus, Carnation, Marigold and Cymbidium (Khatiwada and Shrestha, 2015). Recently, Agriculture Research Station (ARS), Dailekh is conducting breeding research in Gladiolus. The number of research as well as funding is very low for floriculture. The funding in floriculture for five years beginning 2063-64 to 2068-69 BS is only 3.9 per cent and was for 8 projects only (Figure 1). This is very disappointing because there are many important issues that need to be addressed but there seems to be a communication gap between industry and research institution. Therefore it is important to have closer coordination between HRD and FAN for effective research support to the flower industry. In fact, HRD should have more frequent interaction with commodity association such as FAN to understand the research needs of commercial farmers.

Research efforts should be both for solving technical problems as well as for opening new opportunities to farmers and investors in floriculture

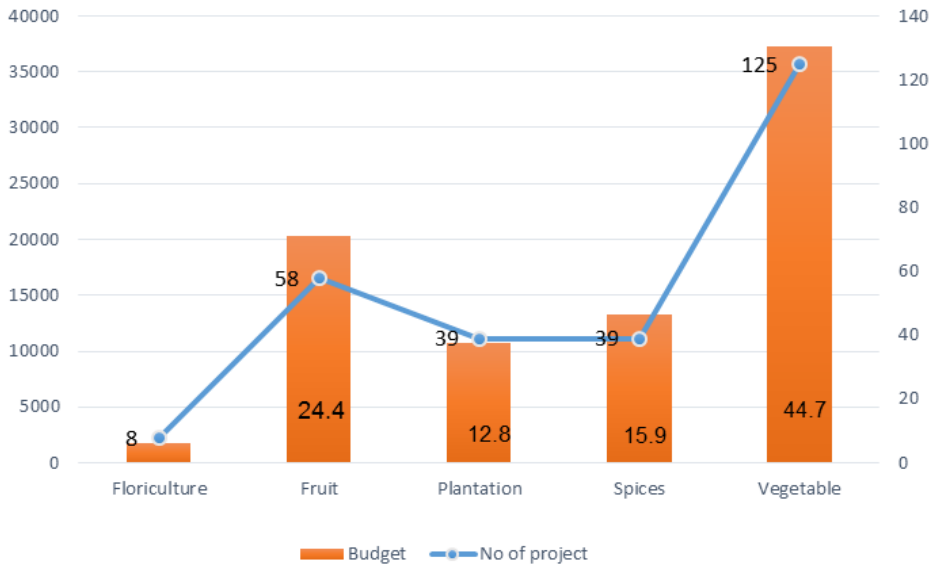


Figure 1: Funding of NARC in horticulture (f/y 2063/64-2068-69) (Rs in 000)

Source: Khatiwada and Shrestha, 2015

Prior to 2006, Department of Plant Resources (DPR) did several researches in floricultural crops. Their research was mainly in micro propagation of several flowers such as orchids, carnation, rose, gladiolus etc. Flower industry lacks close coordination with DPR since last one decade but Floriculture Policy has provided space for DPR and FAN to collaborate. The role of DPR could be very instrumental in locating native ornamental plants, identifying them, and doing their botanical studies for registration. This joint effort between, industry people, botanist and horticulturist could bring a new ornamental plant from nature and even a new breed to the world.

EDUCATION AGENCY

The research of floriculture crops particularly production technology development began in Nepal from Institute of Agriculture

and Animal Science (IAAS), Rampur during early 1990s. Research has been conducted in several flower crops such as Orchids, Gladiolus, Rose, Gerbera, Tuberose, Marigold and Carnation. This college has become Faculty of Agriculture, Agriculture and Forestry University (AFU) at Rampur. This university offers courses such as BSc (Ag), MSc (Ag) Horticulture and PhD in Horticulture. Besides, AFU is planning to offer MSc (Horticulture) Pomology/Olericulture/Floriculture/Postharvest courses and BSc (Horticulture) in the near future (Baral, 2015). IAAS, Kirtipur offers courses in MSc (Ag) Horticulture and all the other colleges listed below offers BSc (Ag) with the exception of Mahendra Ratna Campus, Ilam that offers BSc in Horticulture and Floriculture Management. In addition to these colleges, there are several agriculture colleges where floriculture research is yet to begin. Some of the agriculture colleges of Nepal are as follows:

- IAAS, Paklihawa Campus, Tribhuvan University
- IAAS, Lamjung Campus, Tribhuvan University
- IAAS, Kirtipur Campus, Tribhuvan University
- Horticulture and Floriculture Program, Mahendra Ratna Campus, Ilam, Tribhuvan University
- Agriculture College, Baitadi, Tribhuvan University
- Agriculture College, Lamihe, Dang, Tribhuvan University
- Agriculture College, Tulsipur, Dang, Tribhuvan University
- Himalayan College of Agriculture Science and Technology, Kathmandu, Prubanchal University
- Nepal PolyTech, Bharatpur, Purbanchal University)

In addition to above, Junior Technical Assistant (JTA) and Junior Technician (JT) courses in Agriculture/Horticulture are conducted in several Technical Schools across the country. Recently School Board has developed many horticulture related courses that shall be offered as optional subjects for students of class 9 and 10 in the near future. The major focus is to make our young children trained in some vocation such as floriculture. This will impart in them some skill and help them get part time or full time job even while in school or college. In floriculture children would be exposed to plant nursery, cut flower production, florist

and gardener and all these four areas have opportunities for job.

WAY FORWARD

The Floriculture Policy has clearly spelled the role of different stakeholders in this sector. It aims to put lots of resources for floriculture development in Nepal. The stakeholders need to play their part in achieving the common goal and should put the industry as the focal point. For example, mite problem in rose is a major issue, this problem need to be addressed by entomologist/horticulturist so that effective management system is put in place to mitigate this issue and farmer harvest quality rose flowers. Producing good quality roses would open up export opportunities and further bring more investment in the sector resulting in creation of more jobs and revenue. Effective implementation of this policy shall largely address the current communication gaps and hopefully make the system more effective. In some cases, the policy has to be more open so as to include larger participation. For example in case of research, while the policy states NARC and Agriculture and Forestry University, it should also be open to other agriculture colleges and universities so that floriculture research gets wider coverage. Floriculture in Nepal would prosper because during the recent annual general meeting (AGM) of FAN in 2015 the presences of its members was huge and were very excited. Cut flower production could see a big change in both quality and quantity in 2016.

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