

Floriculture Industry in Nepal

Lok Nath Gaire^{1*}, Bishwamani Pokharel¹, Min Bahadur Tamang¹ and Umed Kumar Pun^{2*}

¹Floriculture Association of Nepal, Lalitpur, Nepal

²King Mongkut's Institute of Technology Ladkrabang, Bangkok, Thailand

*Corresponding author's email: gairelok@gmail.com / umedpun@gmail.com

Abstract

In Nepal, the floriculture industry consists of flower farms, nurseries and flower stores (wholesale and retails). The total area under commercial flower production farms is 178 ha. and is spread in 48 districts across the country. The main flowers and flori-business produced are cut flowers, pot plants, loose flowers, landscaping and bulbs rhizomes as well as flori inputs. Currently, there are more than 751 registered flower nurseries and farms. Customers in Nepal are served by these nurseries, farms and shops are mostly located in Kathmandu valley. Nepalese flori-business generates more than 44,000 employments. Presently, Nepali flori-business has an annual turnover of NRs. 230,34,08,000 (Two hundred thirty cores thirty four lakhs and eight thousand). In Nepal, there are both opportunities and challenges for flori-business. The floriculture sector in Nepal should place a high priority on improving product quality and market. Many initiatives that support the flori-enterprise growth are necessary if floriculture is to eventually become an export-focused industry in Nepal. Floriculture Promotion Policy supported floriculture stakeholders for infrastructure and organizational development. Covid pandemic caused drastic loss to flower industry of Nepal and deaccelerated FAN by about 4 years. Floriculture Association Nepal is lobbying with the federal government to review the current federal floriculture promotional policy 2069. This policy is the right way to implement and expansion of floriculture promotional activities.

Keywords : Enterprise, Flori-business, Flower farm, Flower shop and Nursery

Introduction

Floriculture is an important sub-sector of horticulture. The pioneers of floriculture in Nepal are the *malis* or gardeners working in the royal palace and palace of the Ranas (Pun, 1997). These gardeners started collecting and propagating ornamental plants and seasonals at their homes. The type of plants and their quantity increased as time passed and were made available for sale to the public. Thus, began the commercialization of floriculture in Nepal (Pun, 1997).

The use of flowers and plants in the daily life in Nepal have long history but it was centralized in limited houses and classes of people. It took long time to open to general people. Our holy temple Pashupatinath, Janaki mandir and many other temples have provision for commercial flower production and allocate fund (Guthi) for the farmers to grow and collect flowers. Those provisions are reported in thousands of temples all over the country. Those people who cater to growing flowers for the temples have their surname *Mali* till the present day. It may therefore be safe to suggest that Nepal has long history of commercial floriculture.

The first Prime Minister Bhimsen Thapa had developed wonderful gardens in the center of his “durbar” and offer to develop “Bag-Bagaicha (*gardens*)” in different parts of the country. His palace was in the center of the garden (*BAG*) and was called *BAG KO MAHAL*. This is a historical concept of gardening of the country (Dhakal, 2022).

Modern floriculture in commercial scale began in 1955 after the establishment of Nepal Private Nursery and flowers and plants were available to general people (FAN). During those time the enterprises were very small and unorganized. The business volume and the varieties of flowers and plants were also very limited. Ornamentals plants and seasonals flowers were main products that was available during that time. Almost three decades later the concept of using flowers in the hotels began after 1983. They used cut flowers and thus created demand.

History of Nepalese Floriculture

It is assumed that the “Nepal Private Nursery” was established in 1955 and was the first commercial nursery in Nepal in private sector. After this, private sector nurseries started to open and the business developed in commercial scale. Consequently, in 1983, some star hotels began to use cut flowers in the lobby and room decoration. However, no cut flowers were produced inside the country and almost all cut flowers were imported from India, Hongkong and Singapore (Pers. Commu. Rajendra Rai, Founder president, FAN). In 1992, Floriculture Association Nepal (FAN) was established by 11 members aimed to promote floriculture industry in Nepal. This is the milestone in Nepalese Floriculture industry. After the establishment of FAN, almost all floriculture activities were centralized around FAN and most of development, promotion, research and expansion activities was initiated by FAN.

Under the leadership of FAN, the first cut flower shop was established at Tribhuvan International Airport in 1993 and today about 137 flowers shop are commercially active inside the country (FAN, 2022). The first Floriculture exhibition was organized by FAN, in 1995 and this tradition is continued till today. In 2023, FAN had successfully organized 24th flora expo in Bhrikutimandap Exhibition Hall. Similarly, it had successfully completed 15 Chrysanthemum exhibition and more than 30 exhibitions in Pokhara and Dharan. Besides, FAN had organized international exhibition in 2001, 2014 and 2017. These exposures created great opportunity to the stakeholders to learn international achievement in the sector and connect to B to B (Business to Business) and B to C (Business to Consumer).

Government reorganized the floriculture sector under the Ministry of Agriculture and set up Floriculture Development Center, at Godawari in 2006. Prior to that, floriculture sector was under Department of Plant Resources. Department of Plant Resources had contributed significantly to the development of Nepalese floriculture. This department had successfully organized 8th Chrysthenmum expo with the support of FAN. Government approved the “Floriculture promotion Policy” in 2012. This is a second milestone in the Nepalese floriculture sector.

Floriculture Association Nepal

Floriculture Association Nepal (FAN) is registered under government of Nepal for the purpose of promotion, protection and commercialization of floriculture. It is member-based non-profit organization with more than 750 members are all over the country (FAN-2022). The membership is optional and the regular information and promotional activities are centralized to members only. In addition, information of different activities of FAN is provided to general people as per request. This association is active member of Federation of Nepalese Chambers of Commerce and Industry (FNCCI) under commodity sector.

Association works in the sector of policy making with the government. After declaration of floriculture sector under the Ministry of Agriculture, it has close relation with Ministry of Agriculture. FAN have vital role in representation in different committee regarding Ministry of Agriculture. FAN had worked in the different policy issues with Ministry of Finance, Ministry of Commerce and Industry and Department of Plant Resources. FAN have good relationship with different international agencies and have good knowledge sharing in different issues. It is a member of Council of Asian Flower Exhibition (C.A.F.E.) and participates in different events and activities in international level. FAN have good relationship with PUM Netherlands and continuously invites PUM senior experts in different sector of floriculture. Nepalese floriculture improved with regards to quality of production as well marketing by the help of those experts. Water quality, fertigation methodology, pest control, soil management and so many micro aspects training for individual and group has been completed and is ongoing.

The relationship of FAN with different Indian organizations and corporate house makes easy access to Nepalese entrepreneur to visit and create B to B relation. FAN regularly invites different technology provider and input suppliers from India and organize workshop, seminars and short visit with Nepalese businesspeople. FAN conducts research in production, marketing and policy level with the help of own fund and with support of government and non-government organizations. These research findings are published in different publications. Independent research and technical findings are regularly published in the yearly publication of FAN (Nepalese Floriculture) which have remarkable contribution in the industry. Different promotion activities and consumer awareness

program organized by FAN have created awareness to flowers lovers. FAN has a data bank of Nepalese floriculture. Interested people can collect the information from it.

FAN Structure

FAN have central and district level structure. Its legislative form is in correction process for province level co-ordination level. Now Kaski, Kavre, Chitwan, Sunsari, Ilam, Jhapa and Rupendehi district have district level committee and, in on the process, to expand for further districts.

Structure of Nepalese floriculture

Nepalese commercial floriculture has different sectors. Seasonal, ornamentals, cut flowers and foliage, landscape and gardening, loose flowers including marigold, input supply and bulbs, grass etc. are the main area. Share in Nepalese floriculture market is as follows (Table 1).

Table 1. Nepalese market share of different sectors of floriculture

Area	Market share % (2021/22) in value
Seasonals	12
Ornamental plants (flowering and non-flowering)	28
Cut flowers and foliage	15
Landscape and Gardening	11
Loose flowers, Marigold and open flowers	22
Input Supply for floriculture	8
Others (Grass, Bulbs, Tuber etc)	4

Source: FAN, 2022

This table (Table 1) shows that ornamental plants have the highest market share followed by loose flowers. The trend of loose flowers and marigold garland is recent in local market. It is expanding to newly developing cities and rural area. Cut flowers and landscape are focus on cities and in elite class families.

Journey of Commercial Floriculture

Nepalese floriculture industry passed in different stage in last four decade (Table 2). In the earlier period it was small size and but now it has increase both in quantitatively and qualitatively.

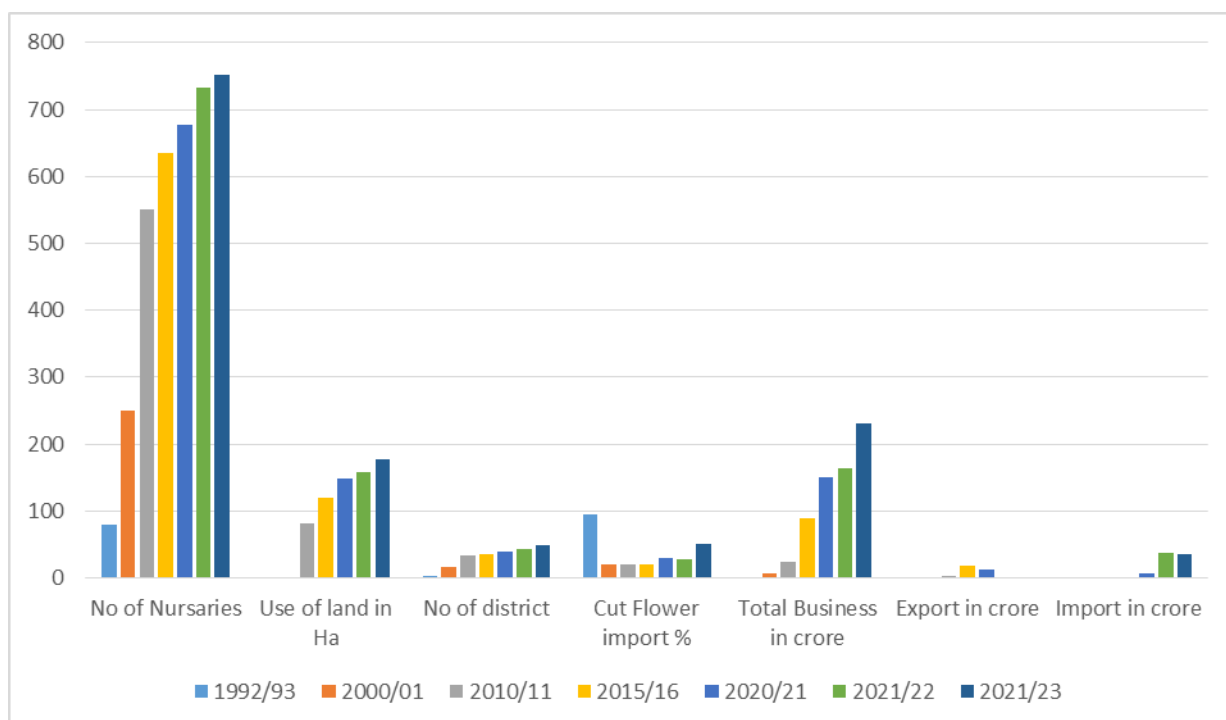
Table 2. Floriculture scenario of Nepal

SN	Description/ Fiscal Years							
		1992/93	2000/01	005/06	067/68	072/73	077/78	078/79
1	Number of nurseries	80	250	550	635	678	732	751
2	Total Land Use in hector			82	120	148	159	178
3	Number of Districts	2	16	34	35	39	44	48
5	Import Cut flowers (%)	95	20	20	20	30	28	50
6	Number of cut flower Show Room in Nepal	0	33	58	86	87	97	137
7	Floriculture Business in Nepal (yearly Transactions in Rs crore)	1	7	23	90	151	163	230
8	Yearly export (NPR Crore) TEPC Record		0.40	3.00	19.00	12.80	0.48	0.96
9	Yearly Import NPR Crore TEPC Record		0.18	0.15	1.11	6.00	38.00	36.00

Source: FAN, 2022

The growth in number of nurseries and cut flower show room was very slow in the first decade but increased in the last decade (Table 2). Import of cut flowers in the 1992/93 was almost negligible but since last decade, it began steadily increasing. Covid 19, significantly increased import due to reduction in production of domestic production particularly cut flowers (Acharya et al., 2021). The export was boom in 2010/11 and 2011/12 but acutely declined in the recent times. During that time lots of rooted trees were exported to Tibet and Bulbs to Europe.

The important indicators of flower industry are in an increasing trend (Figure 1). Nurseries, area under production, number of districts and total annual turnover is increasing which is good for the industry. However, equally concerning is the increasing trend of import of cut flowers and overall floriculture products while export is significantly decreasing. Global pandemic has significantly disrupted export and increased import due to disturbances in production and market access during the pandemic.



Source: FAN, 2022

Figure 1. Important indicators of floriculture industry of Nepal

Major Floriculture Products in Nepal

FAN has classified major floriculture products as follows by their production and marketing system:

- Seasonal flowers: Marigold, Petunia, Zinnia, Pansy, Verbina, Dianthus, Aster, Dahlia, Salvia, Calendula, Antirrhinum etc.
- Ornamental plants: Palm varieties, Thuja (Dhupi) Varieties, Roses, Geranium, Bougainvillea, Hibiscus etc.
- Cut flowers and foliage: Carnation, Rose, Chrysanthemum, Gerbera, Lisianthus, Gypsophila, Lilium, Fern, Palm leaf etc.
- Loose flowers: Marigold, Gomphrena, corn flower, chrysanthemum etc.
- Exports: Bulbs, Cut flowers, Gomphrena
- Imports: Flower seeds, Ornamental (in different size), Cut flowers, Planting materials of various cut flowers, flower bulbs

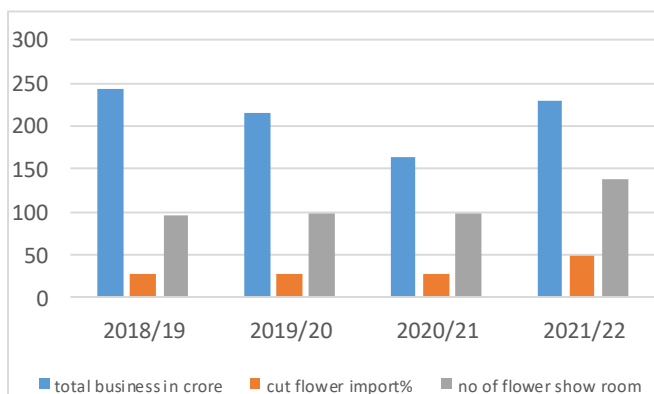
Besides, Nepalese floriculture have large range of production as well marketing of Orchids, fruit plants, bonsai and many more.

Effect of Covid on Nepalese Flower Industry:

Covid pandemic have caused huge loss to Nepalese floriculture industry. It has caused long term loss in production sector and marketing sector. Till early 2023, Nepalese tourism sector have not recovered and the use of flowers by this industry is negligible. Cut flower production cycle has been disrupted and declined in the pandemic period and many companies have lost their imported mother plants. After mid of 2022, the market has begun to regain but production phase is still in the planning stage due to the disruption during the pandemic. It would take some period to regain its status as per pre covid period. Presently, importation is done to fulfill the domestic demand. Some

medium and large-scale farms are struggling to survive and their early recovery is imperative to stabilize domestic production.

Floriculture industry in Nepal prior to Covid pandemic was growing at an annual growth rate of 17% (Acharya, 2022) but in 2019/20 with the lockdown for 4 months (April-July) due to pandemic, the total turnover tumbled and further tumbled in 2020/21 to prior to 2016/17. The worst hit in 2019/20 was cut flowers, open flowers and marigold which suffered 97% of loss (Acharya et. al, 2021). In 2021/22, with less incidence of Covid cases and ease in restrictions of movement there is significant recovery in comparison to 2020/21 but is yet to reach 2018/19 annual turnover (prior year to Covid pandemic) (Figure 2). Currently, (2021-22) Nepalese flower industry has recovered about 27.73 percent of the 32.58 percent losses of flori business due to the Pandemic covid-19 (FY-2019/20) (FAN, 2022). The industry is expected to reach to 2018/19 annual turnover by 2022/23 (FAN, 2022). If it does, it may be suggested that Covid pandemic deaccelerated Nepalese flower industry by about 4 years which is a big loss to a fledging industry. It is interesting to note that the flower shops somehow survived during the Covid and increased with the recovery of the flower industry. However, the major concern is the increase in import of cut flowers by almost one-fold after the recovery due to closure of many cut flower growing farms (estimated to be about 25%). This is matter of concern because the importation of cut flowers may further increase with the growth of demand if the domestic cut flower production is not increased.



Source: FAN, 2022

Figure 2. Floriculture industry indicators before and after pandemic

Floriculture Promotion Policy

Nepal government approved Floriculture Promotion Policy (FPP) in 2013 to promote, develop and expand the floriculture sector in Nepal. The main objective of the policy was increasing the production and productivity of cut flowers, loose flowers and ornamentals inside the country. The second objective was improving competitiveness of the private sector on production as well marketing sector by strengthening their capacity and infrastructure. And the third objective of the policy was conservation and promotion of indigenous and endemic flora in commercial scale.

Based on the FPP, Ministry of Agriculture created a framework to achieve the goal of FPP. Ministry of Agriculture approved FPP implementation work plan for five years on 20th June 2014. This work plan included most of the activities needed for intervention on it. It allocated 29.35 crore government budget for the first five years. And all the activities were on the basic of PPP (public private partnership) model. The working period was from 2014/15 to 2017/18 and Ministry of Agriculture allocated the total budget of 10.88 crore for the first four years. Unfortunately, after activation of federal system in the country, this program was terminated.

Impact of Floriculture Promotion Policy

Floriculture promotion policy had good implementation result in Nepalese floriculture industry. The budget was allocated on capital investment and no working capital was allocated. Majority of the budget was used on the construction of green-house in nurseries and cut-flower farms. The outcome was installation of 24,305.6 sqm GI structure green house in the nurseries in different size and 19245.6 sqm GI top vent green-house installed in cut flowers farms. Total 43551.2 sqm green house stand in Nepalese floriculture industry with the help of FPP. It changed the cultivation practice and improved the flower quality. The other significant achievement is the change in the cultivation system of Marigold cultivation. It is now expanded all over the country. This program also supported the cold store system in floriculture to store cut-flowers and now many cold-store facilities are established at various stakeholders (growers, wholesale and retailers). This facility significantly improved the storage of cut flowers and foliages, reduced losses and helped to regulated products in the market. Besides, different activities supported the producer as well marketer of floriculture by FPP. Altogether 157 enterprises have beneficial by FPP.

In addition, FPP have positively impacted and improved production system in Nepal:

- Moved the production system into Greenhouse Technology from bamboo structure.
- Changed the irrigation system.
- Corrected the fertigation methodology and elements.
- Corrected the production technology of Marigold.
- Decreased the postharvest loss of cut-flowers (more benefit to growers and retailers).
- Publications of cultivation guidelines.
- Collection and publication of native ornamental plants (volume 1 & 2).
- Lesson learnt from the technical intervention.

Present status of Floriculture promotion policy

Presently, federal government stopped all the activities and province government do not own the policy. It has created a vacuum in the support system of the government and therefore FAN is requesting the federal and provincial government for the support.

Challenges of Nepalese Floriculture

Floriculture industry is a part of Nepalese agriculture. It needs higher investment and its input are more expensive. So, the capital as well as technology used is higher than other agriculture crops cultivated in normal field. Those input require higher rate of return, so government policy always affect this industry. Our neighboring countries have higher subsidy and cheaper availability of planting materials so cost of production is competitive. Presently, we lack that support.

Nepalese floriculture has limited research and development support perhaps due to being less priority sector than other sector of agriculture. Similarly, promotion and other policies are also not in the favor of floriculture development. Financial policies are not supportive, because the duties on basic planting materials and duties on the finished goods (flowers/ plants) are same; should have differences of 5% as in other sectors. Less import duties on basic planting materials. Normally in international level, planting material and finished goods have two-layer custom tariff. Bank and other financial institution have same policy in capital investment and working capital as other trade organization have. Insurance do not have coverage on Nepalese floriculture. Trade related policies are not favorable on both tariff and non-tariff level. We are not same treat between India and Nepal on import and export by Indian government. Bilateral and multilateral treaty do not have any positive result in Nepalese agriculture. We have easy access to any kind of foreign product, but our product has no access in the contractual countries. Most challenging thing is our human resource is having poor efficiency in agriculture management and increases the cost of production and loose the competitiveness.

Opportunity of Nepalese Floriculture

We have lots of challenges inside or outside the industry but there are also lots of opportunity of good market and consumer. Import data and record shows lots of finished products are imported from India, Thailand and the Netherlands. At present, yearly demand is in an increasing trend (10%), with additional new buyers (10%). This extra demand is not being able to meet by our domestic production capacity and is fulfilled by import. The possibility on quality production with the intervention of technology is the opportunity of the day. The changing habit on the consumption of floral product in the livelihood is a chance to the people involved in this industry.

In this decade more infrastructure needs to be developed for production and marketing. These are not enough but initiating in this direction is positive step forward. Government has interest subsidy in the bank loan on floriculture. Input suppliers have good platforms in the existing market. Since last few years, fertilizer policy has also been corrected by government making availability of different fertilizer more easier in the local market.

Biodiversity

Nepal has large resources of native and indigenous ornamental plants due to existence of different climatic regions. There are more than 324 endemic species of plants in Nepal, 500 species of orchids (Bashyal et al., 2023), more than 450 species of ferns (Bhagat and Shrestha, 2010) etc. Lack of research in identifying plants of ornamental

value and introducing or developing it for commercial purpose is a big hurdle. This area needs refocused approach to harness the potential of Nepalese flora.

What the industry wants?

- a. Availability of competent human resources in the field of floriculture from the vocational colleges as well as universities.
- b. Availability of human resources with both theoretical as well as practical exposure and willing to work in the private sector.
- c. Deputing subject matter specialist (Floriculture) at local government or Krishi Gyan Kendra in important floriculture municipalities and districts.
- d. Creating posts for technical officers and scientist at the highest level in floriculture at Nepal Agricultural Research Council. Public research organization and universities support the industry with research, training and innovation.
- e. Availability of investment in infrastructure and working capital where the industry needs heavy investment then other crops.
- f. Government needs to subsidize in duty on capital investment as other production-based industry.
- g. Trade policies need to be revised as per country's necessity.
- h. Market infrastructure development support by government.
- i. Insurance coverage to floriculture business.

Conclusion

Floriculture industry of Nepal has been steadily growing at an annual growth rate of 17% until 2018/19 (prior to Covid pandemic) for the last three decades. However, Covid pandemic significantly reduced the growth and it is expected to reach at 2018/19 (annual turnover) in 2022/23. Domestic demand is currently fulfilled by import. There are serious challenges for the increase in the import of cut flower and plants, but the market is growing. Appropriate strategy by all the stakeholders could increase quality domestic production thereby suppressing imports and increasing exports.

Declaration of the conflict of interest

There is no conflict of interest.

Ethical approval/ Declaration: NA

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