

2016

A Report on Economic Analysis of Marigold, Rose, and Chrysanthemum in Nepal



Published by:

Floriculture Association Nepal (FAN)

Battishputali-9, Kathmandu

Report Written by:

Upasana Pradhan

Agricultural Research and Development Pvt. Ltd.

Tikhedewal, Lalitpur

July, 2016

A Report on Economic Analysis of Marigold, Rose, and Chrysanthemum in Nepal



Published by:
Floriculture Association Nepal (FAN)
Battisputali-9, Kathmandu

Report Written by:
Upasana Pradhan
Agricultural Research and Development Pvt. Ltd.
Tikhedewal, Lalitpur
July, 2016

Executive Summary

The floriculture is one of the major emerging sectors in Nepalese Agriculture Gross Domestic Product (AGDP), which is less commercialized in Nepal. The major constraints for commercialization in floriculture are higher cost of production, lack of improved technology, and lack of resources that lead to limit the growth of Nepalese economy.

The prime issue on floriculture is whether this sector is economically viable. Therefore, this study has been carried out to assess the economic analysis of marigold, rose, and chrysanthemum in Kathmandu, Kavre and Dhading districts. The study was conducted to estimate the cost of production of flowers in the study areas, assess the financial analysis of flowers, to determine the factors affecting flower production, and to suggest policies in promoting commercialization in Nepal. A total of 35 flower farms were randomly selected from a list of flower farms of 110 farms representing 31 percent of the flower farm population.

The results revealed that the majority of flower farms (60%) were operated by male farmers, the average age of farm head 39 years, and average level of education 8 years. The results of the study showed that the Benefit Cost Ratio (BCR) as computed using 12% discount factor was 1.81, indicating that the flower farming is financially profitable. The benefit cost ratio of marigold was found to be 1.62, rose 1.61, and chrysanthemum 1.56. The sensitivity analysis of the BCR were conducted under three scenarios; decrease in benefit by 20%, increase in production cost by 20%, and decrease in benefit by 20% with increase in production cost by 20%, the result found to be 1.45, 1.51, and 1.20, respectively. These results clearly indicate that the BCR under all three scenarios, flower farming business will be financially viable.

We suggest policies reduce the cost of inputs, develop and disseminate technology through effective extension services, increase the level of education, promulgate Contract Farming Act (CFA), reduce the administrative cost for credit program, and encourage young farmers in floriculture.

Table of Contents

Executive Summary	ii
Acronyms	vi
1. Introduction	1
1.1 Background	1
1.2 Agriculture Policy Environment	2
1.3 Marigold, Rose, and Chrysanthemum	2
2. Objectives of the Study	2
3. Methodology	3
3.1 Study Area and Flowers	3
3.2 Source of Data and Survey Design	3
3.3 Focus Group Discussion (FGD)	3
3.4 Key Informant Interview (KII)	3
4. Results and Discussion	3
4.1 Social Characteristics	3
4.2 Input Access	5
4.3 Economic / Financial Analysis	6
4.4 Women Participation	8
4.5 Information Index	9
4.6 Problems and Constraints	9
5. Conclusion and Recommendations	10
References	11
Appendixes	12

List of Tables

Table 1. Average area and benefit cost ratio of flowers	7
Table 2. Sensitivity analysis of flower farming in different scenarios	8

Acronyms

AGDP	Agriculture Gross Domestic Product
BCR	Benefit Cost Ratio
CFA	Contract Farming Act
DADO	District Agriculture Development Office
DOA	Department of Agriculture
FAN	Floriculture Association of Nepal
FGD	Focus Discussion Group
FIRR	Financial Interest Rate of Return
KII	Key Informant Interview
MoAD	Ministry of Agricultural Development
NPV	Net Profit Value

I. Introduction

The floriculture has been becoming one of the prominent sectors in Nepalese economy contributing 0.05% of the total national Gross Domestic Product (GDP). Although, the annual growth rate of flowers production is 24%, the import value was 0.4 million in 2014/015 (FAN, 2016). The quantity of importing flower products has been increasing annually because of higher demand than that of domestic production. In addition, the floriculture is constrained by higher cost of production that led to importing larger quantity of flower products. Although, there is a Flower Promotion Policy, 2069, the flower producers and concerned stakeholders in floriculture are not fascinated and encouraged to enhance the production and productivity. Thus, it is imperative to encourage producers, traders, and entrepreneurs involved in floriculture. Therefore, this study was conducted to assess the economic and financial analysis of floriculture considering three types of flowers such as Marigold, Chrysanthemum and Rose.

I.1 Background

The floriculture has been started since 1950 in Nepal. There are 675 flower farms/nurseries and 141 hectares of land for flower cultivation in 38 districts in Nepal. In 2015, the values of flower products are: seasonal flowers produced Rs. 216.8 million, ornamental plant Rs. 381.50 million, cut flower Rs. 204.50 million, land scape and gardening flower products Rs. 170.40 million, and other flower products Rs. 67.00 million (FAN, 2016). This is one of the major sectors in providing job for more than 41,000 people in the job market.

There is higher potentiality for expanding of floriculture and enhancing flower products because of diversified agro-ecological settings in the country. Despite being flourishing with greater possibility, this sector is still at very earlier stage of establishment. This sector has been facing several constraints such as inputs, technology development and transfer, credit access, and flower market, and etc. In developing countries, smallholder farmers are frequently handicapped by ineffective extension services (Akobundu et al., 2004) and poor access to agriculture credit (Fletschner, 2008) that lead the farmers to be inefficient. Such constraints hindered the floriculture and led to higher quantity of imports of the flower products estimated to be Rs. 40 million in 2014 (FAN, 2016).

I.2 Agriculture Policy Environment

The floriculture sector has been backed up with major three policies: National Agriculture Policy - 2061 BS, Agribusiness Promotion Policy - 2063 BS, and Flower Promotion Policy – 2069. The prime objectives of those policies are to contribute in reducing poverty through commercialization and competitiveness of agriculture sector. In particular to Flower Promotion Policy - 2069, the major objectives are to import substitution and export promotion, increase the production and productivity of flowers and flower products, and enhance the private sector participation in floriculture business to enhance the Nepalese economy.

I.3 Marigold, Rose, and Chrysanthemum

Marigold is one of the most important flowers in the Nepalese context because of its religious and cultural significance, particularly during Tihar festival. Marigolds are the flowers which could be grown in a wide variety of soils, which requires mild climate for luxuriant growth and profuse flowering. Although, marigold is grown

throughout the year, there were two harvesting seasons considered in this study.

Chrysanthemum is another popular flower in Nepal. Chrysanthemum comes from Greek word 'Chrys' meaning golden (the color of the original flowers), and 'antheon', meaning flower. Chrysanthemum flower symbolizes fidelity, optimism, joy, and long life. This flower is available in a wide array of colors - from white, to yellow and gold, pink, orange, bronze, deep red, maroon, violet and purple. Some chrysanthemums are a mix of two and even more colors.

Rose is the most popular cut flower being popular among the youngsters. It is highly valued for its form, fragrance and endless variety of color with its different meanings while giving others. The demand of Rose is 2,500-4,000 sticks per day, which has been increasing significantly.

2. Objectives of the Study

The overall objective of this study was to assess the economic analysis of marigold, chrysanthemum, and rose in Nepal. The specific objectives of this study were:

- i. To estimate the cost of production of flowers in the study areas;
- ii. To assess the economic and financial analysis of flower production;
- iii. To identify the problems and constraints for flower production;
- iv. To suggest policies for the promotion and commercialization of floriculture in Nepal.

3. Methodology

3.1 Study Area and Flowers

The study was conducted in Kathmandu, Dhading, and Kavre for marigold, chrysanthemum, and rose.

3.2 Source of Data and Survey Design

This study was carried out on the basis of primary and secondary data. The primary data consists of quantity of production, cost of production, revenue from floriculture, and different socio-economic characteristics. A total sample 35 households from the population of 110 were randomly selected representing 31 percent from the farm household population who were growing flowers for their primary source of income. A structured questionnaire set was prepared and pre-tested in order to collect necessary information to make the data consistent and assure that the information was accurate.

3.3 Focus Group Discussion (FGD)

Focus group discussion was conducted in the study areas in order to collect information related to farmers' common problems and constraints in flower production and marketing aspects. A set of checklist and open questionnaire was used for FGD.

3.4 Key Informant Interview (KII)

KII is very essential to collect information especially related to problems and policy issues. A set of checklist and open questionnaire was used for key informant interview, which covered 10 Key informant interviews

consisting producers, flower traders, FAN, District Agriculture Development Office (DADO), Department of Agriculture (DOA), and Ministry of Agricultural Development (MOAD), and etc.

The collected data was tabulated, coded, analyzed, and interpreted using appropriate statistical tools.

4. Results and Discussion

4.1 Social Characteristics

The composition of social characteristics in a farm household consist of household size, sex of farm head, age of farm head, and level of education affects the level of profit in floriculture. The levels of education of farmers have positive influence on the level of efficiency in agriculture production (Oladeebo and Fajuyigbe, 2007). The result revealed that the average household size was estimated to be 4.86 people in a family, which is almost similar with national average 4.88 (CBS, 2011). The farms of sample households were dominated by the male farmers (60%), which was much higher than the national annual average 48.5% (CBS, 2011).

The average age of farm head was found to be 39 years, which shows that the young generation is engaged and fascinated towards the floriculture farming. The age is negatively related to the efficiency in agriculture production since younger farmers are more efficient than the elder one (Bozoğlu and Ceyhan, 2007; Hussain et al., 2012). It has an important implication in the Nepalese context that younger people could be involved in floriculture instead of migrating to foreign countries seeking employment. In fact, a larger number of younger Nepali workers (annually about 350 thousand) have been migrating abroad for employment (CBS, 2010) even if the salary is relatively lower than the amount that could be earned from floriculture because of demotivation in agriculture farming occupation. This trend of out-migrating of younger people from the country can profoundly damage for sustainable economic development in the country. As the younger farmers are productive, dynamic, and updated in information, they can promptly grasp and adopt improved technologies that helps to reduce cost per unit, eventually enhancing efficiency. Therefore, young farmers need to be encouraged with composite package of intensive training with regard to floriculture, credit access with minimum operating costs, and market access to the farmers.

The level of education of the farmers is paramount in operating flower farms that enhances the productivity and efficiency. The result showed that the average education of farm household head was found to be 8.4 years, which is quite low. Pudasaini (1983) reported that higher levels of education has significant role in modernizing agriculture and higher payoff. Therefore, the policy needs to be formulated to enhance the level of education of farmers. The result revealed that the experience of the head of household was found to be 6 years. Ogunniyi (2008) found that the experience and extension system are significant factors influenced the profit efficiency in agriculture. The experience provides knowledge and skills in flower production reducing the cost of production and making it more efficient.

The productive efficiency in flower production is highly influenced by the nature of operating system and the ownership of the farms. The ownership of land was considered 1 if the land was owned by farmers, and zero otherwise. It was found that all the sample farms were owned by single person instead of joint venture in floriculture. In case of land ownership, majority of the farms estimated to be 86% are being rented which makes their cost of production higher in the floriculture farming.

The majority of the farms were not registered in the government agency which was estimated to be 76%, which indicates that the flower producers are not following the government rules and regulations. We suggest that all the flower producers should be registered in the concerned government agencies and follow the rules and regulations. However, about 60% of the farms were registered in Floriculture Association of Nepal (FAN) in order to have collective bargaining and getting incentives.

4.2 Input Access

The efficient use of inputs in agriculture determines the level of farm productivity, efficiency, and profitability. The majority of the farms were accessed to irrigation facilities estimated to be 60 percent in this study. The farmers are embarrassed with limited financial resources, and also charged higher interest rate by informal financial sources (moneylenders, relatives and friends). Ferrari et al. (2007) reported that about 72 % of the farm households borrow credit from informal sectors despite the much higher interest rates up to 42 %, while banks charges 8 to 10 % annually because of lack of formal financial institutions in the rural areas. This situation limits the accessibility of required credit that reduces the use of inputs in flower farming, which adversely affects the outputs (Kumar et al., 2013). Therefore, we co-opted credit access dummy considering 1 if the farmer availed credit and 0 otherwise. The result showed that 69% of the household has taken credit from different sources, especially from cooperatives, bank, and women farmers' group for running their farms.

An extension service refers to trainings, extension contacts, exhibition materials, and publication materials (leaflets, booklets, newspapers, for example). It is a powerful tool in disseminating improved farming technologies to the farmers that has positive impact on the efficiency and profitability. In this study we introduced two types of main extension services separately such as number of farmer's who received extension services and the number of trainings received by farm manager. The report showed that very limited farmers (14%) had contacted in extension service centers and about 31 percent of the flower producers received training related to flower production, marketing promotion and linkage, entrepreneurship development, and leadership development.

The market access is positively related to the production, productivity and profitability. Market access to farmers would create opportunities in getting reasonable price for their products in competitive condition, and eventually improve efficiency. In this study we analyzed the market accessibility for the flower products in two ways: First, market access dummy 1 if the farmers were accessed to market; second, the distance of farm to the market in kilometer. The result revealed that almost all the farmers accessed to market; however, there is not organized marketing service for the flower products. The average distance between farms to market was found to be 11.90 KM, which indicates that the market is not so far from the farm. We suggest that there need to be organized flower market at least one in the Kathmandu valley.

4.3 Economic / Financial Analysis

Economic and financial analysis is the main criteria for investment of any projects. There are some major criteria for the investments are: Benefit Cost Ratio (BCR), Net Present Value (NPV), Financial Interest Rate of Return (FIRR), and Pay Back Period. Since, the benefit cost ratio is one of the most useful measurement criteria for the investment of project; we adopted BCR in this study. In addition to BCR, we also estimated sensitivity analysis

under three conditions; decrease in benefit by 20%, increase in cost by 20%, and decrease in benefit and increase in cost by 20% of marigold, rose, and chrysanthemum.

4.3.1 Input Cost Composition

The cost of production determines the levels of profits of the farmers in flower farming. The levels of cost of production has inversely related to the efficiency; as lowering the cost per unit, the increasing the efficiency. In this study we categorized the cost in to nine categories: capital cost (plastic tunnel shed and machinery), labor, seed/seedling, irrigation, fertilizer-micronutrients, pesticide, transportation, land rent, and other expenses (credit interest rate, electricity, and farm renewal cost). The highest share for the cost of production in flower production was for the labor (34.6%) followed by seed/seedling (15.17%), land rent (12.06%), fertilizer and micro-nutrients (9.9%), capital cost consisting of plastic tunnel and machinery (8.84%), transportation (6.44%), and pesticide (4.73%).

4.3.2 Benefit Cost Ratio (BCR)

In this study, we used 12% discounted factor in computing the BCR. This study revealed that the gross discounted cost was found to be Rs.58, 991/Ropani, while the gross discounted benefit was Rs. 106,620/ Ropani. Thus, the net discounted benefit was Rs. 44,849/Ropani of sample farms. The decision criteria of the BCR for investment in floriculture farming are as follows:

Decision Criteria (BCR)

- If BCR is greater than 1 ($BCR > 1$); accept the investment project.
- If the BCR is less than 1 ($BCR < 1$); reject the investment project.
- If the BCR is equal to 1 ($BCR = 1$); indifferent the investment project.
- In the case of two competing investment projects, select the project with the highest B/C ratio.

The results of this study revealed that the BCR was found to be 1.81, which indicates that the flower farming is financially viable. In addition, benefit cost ratio of marigold was found to be 1.62, rose 1.61, and chrysanthemum 1.56. This results clearly indicated that the farming of all the flowers (marigold, rose, and chrysanthemum) is financially beneficial. Table 1 show that the BCR was found to be much higher for marigold followed by rose and chrysanthemum.

Table 1. Average area and benefit cost ratio of flowers

SN	Flowers	Average area (Ropani)	BCR
1	Marigold	5.21	1.63
2	Rose	10.00	1.61
3	Chrysanthemum	2.86	1.56
4	All Flowers	5.67	1.81

4.3.3 Sensitivity Analysis in Benefit Cost Ratio (3 scenario)

Scenario I: The sensitivity analysis in BCR while decrease in gross benefit by 20%, we found that the flower

A REPORT ON ECONOMIC ANALYSIS OF MARIGOLD, ROSE, AND CHRYSANTHEMUM IN NEPAL

farming business is still financially beneficial. Under this condition, the result of BCR was found to be 1.45, indicates that even if there is decrease on the benefit by 20%, the farmers will still be benefited. This means that if the farmers invest Rs. 1 in flower farming, they will still earn Rs. 1.45 (Table 2).

Scenario 2: The sensitivity analysis in BCR while the gross cost is increased by 20%, we found that the flower farming business will be beneficial. The BCR result showed 1.50, indicates that even if there is increase on the cost of production by 20%, the farmers can still be benefitted from their flower farming business (Table 2).

Scenario 3: The sensitivity analysis in BCR while gross benefit is decreased by 20% and also the gross cost is increased by 20%, the result revealed that the BCR was found to be 1.20. This result clearly shows that even increased the cost and decrease the benefit by 20%, the farmers can be financially benefitted in flower farming business (Table 2).

While applying the scenarios for marigold, rose, and chrysanthemum, we found the positive result of BCR in all the scenarios (Table 2). Therefore, we can strongly encourage and recommend the young generation to start the business in floriculture.

Table 2. Sensitivity analysis of flower farming in different scenarios

SN	Crops	Average Area (Ropani)	BCR under decrease benefit by 20%	BCR under increase cost by 20%	BCR under decrease benefit and increase cost by 20%
1	Marigold	5.21	1.30	1.36	1.09
2	Rose	10	1.29	1.34	1.07
3	Chrysanthemum	2.86	1.25	1.30	1.04
4	All Flowers	5.67	1.45	1.51	1.20

4.4 Women Participation

The involvement of women in agriculture, particularly in flower farming is paramount in making the floriculture business more efficient. The participation of women in all the floriculture activities consisting of land preparation, planting, farm management, harvesting-marketing, and decision making is significant. The study found that the majority of women are involved in harvesting followed by flower planting, land preparation, farm management, and decision making. This indicates that the role of women in flower harvesting, planting and management is much higher than in decision making process. It is obvious that the enhancement in commercialization in floriculture is impossible unless the women farmers reach in decision making position. Oladeebo and Fajuyigbe (2007) reported that women farmers were more efficient than men farmers. The policy should empower women farmers by providing higher levels of education and with the capacity building programs (Yousefy and Baratali 2011; Guinée 2014) and by increasing their access to assets, resources and opportunities.

4.5 Information Index

Nepalese farmers are handicapped with ineffective information services that adversely affected farmers to get lower levels of outputs. This study introduced new variable, information index, comprising of four information components: i) input availability, ii) improved farming technologies, iii) output marketing of the flower products, and iv) harvesting and handling. The cost of access approach was adopted where each of these components indexed from 1 to 4 in each farm; thus, the total index of the farm ranges from 4 (minimum) to 16 (maximum). It was hypothesized that higher the index, better the information accessed to the farmers, and leading to be higher level of profitability.

The mean of information index was found to be 9.6 out of 16, indicated that the farmers utilized more than 50% information. The information was higher for market availability, followed by input marketing, harvesting and handling, and improved farming technology. This index shows that the information on improved farming technology is weak to the farmers. Better information accesses to the farmers on improved farming technology helps them in reducing the cost per unit and eventually enhances the efficiency. Information services could be effective by encouraging private sector to be involved in information dissemination using media, publications, extension materials, and training and visit programs.

4.6 Problems and Constraints

The policies are generated from the base of problems and constraints. In this study, we categorized the problems and constraints in to eight categories such as inputs, plastic tunnel shed, chilling (cold) room, labor, irrigation, extension, transportation, and market. Each of those parameters were indexed from 1 (severe problem) to 8 (least problem). The result showed that the most severe problem was plastic tunnel shed house, followed by inputs consisting of seed, fertilizer, pesticide, machinery (means of traction power), irrigation, improved technology development and extension services, transportation services, marketing services, cold room, and labor.

5. Conclusion and Recommendations

The main objective of this study was to assess the economic analysis of marigold, rose, and chrysanthemum using randomly selected survey data from flower farmers. The results showed that the majority of flower farms were operated by male farmers, the average age of farm head 39 years, and the average level of education 8 years. The results showed that the BCR as computed using 12% discount factor was 1.81, indicating that the flower farming is financially viable. The BCR of marigold was found to be 1.62, rose 1.61, and chrysanthemum 1.56. The sensitivity analysis of the BCR under decrease in benefit by 20%, increase in production cost by 20%, and decrease in benefit by 20% with increase in production cost by 20%, the result found to be 1.45, 1.51, and 1.20, respectively. Those results clearly indicate that the BCR under all three scenarios, flower farming business will be financially viable.

This study suggests policies to reduce the cost of production by making inputs more efficient and productive. The technology development in innovating new varieties of flowers that is differentiated in aesthetic purpose and insect pest resistant would help to improve the floriculture sector. The effective extension services would be more useful in disseminating the developed technology. Furthermore, the education level of farmers is suggested

to increase in order to adopt the technology and improve the floriculture sector. The study suggests promulgating Contract Farming Act (CFA) to harmonize contracting for promoting agribusiness activities. We would also suggest reducing the administrative cost for credit program and encouraging young farmers in floriculture.

References

- Akobundu, E., J. Alwang, A. Essel, G. W. Norton, and A. Tegene. 2004. Does Extension Work? Impacts of A Program to Assist Limited-Resource Farmers in Virginia. *Review of Agricultural Economics* 26: 361–372
- Bozoğlu, M., and V. Ceyhan. 2007. Measuring the Technical Efficiency and Exploring the Inefficiency Determinants of Vegetable Farms in Samsun Province, Turkey. *Agricultural Systems* 94(3): 649–656.
- CBS. 2011. Nepal Living Standards Survey: Statistical Report (Volume Two): Central Bureau of Statistics, National Planning Commission, Kathmandu, Nepal.
- FAN. 2016. Nepalese Floriculture. 19th Flora Expo- 2016. Floriculture Association of Nepal, Kathmandu, Nepal.
- Ferrari, A., G. Jaffrin, and S. R. Shrestha. 2007. Access to Financial Services in Nepal. The World Bank, Washington, United States of America.
- Fletschner, D. 2008. Women's Access to Credit: Does It Matter for Household Efficiency? *American Journal of Agricultural Economics* 90(3): 669–683. doi: 10.1111/j.1467-8276.2008.01143.x.
- Guinée N. (2014): Empowering women through education: experiences from dalit women in Nepal. *International Journal of Educational Development*, 39: 173–180.
- Hussain, A., A. Saboor, M. A. Khan, A. Q. Mohsin, and F. Hassan. 2012. Technical Efficiency of Wheat Production in Rain-Fed Areas: A Case Study of Punjab, Pakistan. *Pakistan Journal of Agricultural Sciences* 49:411–417.
- Kumar, C. S., C. G. Turvey, and J. D. Kropp. 2013. The Impact of Credit Constraints on Farm Households: Survey Results from India and China. *Applied Economic Perspectives and Policy* 35(3):508–527. doi: 10.1093/aep/ppt002.
- Ogunniyi, L. T. 2008. Profit Efficiency among Cocoyam Producers in Osun State, Nigeria. *International Journal of Agricultural Economics and Rural Development* 1(1):38–46.
- Oladeebo, J. O., and A. A. Fajuyigbe. 2007. Technical Efficiency of Men and Women Upland Rice Farmers in Osun State, Nigeria. *Journal of Human Ecology* 22(2): 93–100.
- Pudasaini, S. P. 1983. The Effects of Education in Agriculture: Evidence from Nepal. *American Journal of Agricultural Economics* 65(3): 509–515.
- Spieldoch A. (2011): Key role of rural women in achieving food security. In: *The European Forum on Rural Development*, Palencia, March 29–Apr 1, 2011.
- Yousefy A., Baratali M. (2011): Women, employment and higher education schoolings. *Procedia –Social and Behavioral Sciences*, 15: 3861–3869.

A REPORT ON ECONOMIC ANALYSIS OF MARIGOLD, ROSE, AND CHRYSANTHEMUM IN NEPAL

9.2 How much did you spend for seed, fertilizer, compost, pesticide, transportation? (Rs,000)

SN	Flowers	Seed cost (Rs)	Fertilizer Cost (Rs)	Pesticide cost (Rs)	Micro-nutrients (Rs)	Transportation-market (Rs) ¹
1	Marigold					
2	Chrysanthemum					
3	Rose					
4	Others					
	Total					

¹ Transportation cost from farm to nearest market.

9.3 How much did you spend for rent, interest, fee, and others? (Rs,000)

SN	Flowers	Land rent (Rs)	Interest for loan (Rs)	Company renew/FAN fee (Rs)	Other costs (Rs)
1	Marigold				
2	Chrysanthemum				
3	Rose				
4	Others				
	Total				

10. Do you access irrigation facilities? Yes / No

11. Did you contact with extension service providers for technical support? Yes / No

If yes, how many times did you contact in a year? times

12. Did you take any training on flower production and marketing? Yes / No

If yes, how many trainings did you take in last year? numbers

13. Did you avail credit from any of the sources? Yes / No

If yes, nature of financial institution: bank/cooperatives/traders/relative/others

14. Do you access market facilities for your products? Yes / No

If yes, where is the market?

How far (kilometers) the market from the production area? kilometers.

15. Women participation (more participation 5 and less participation 1)

SN	Activities	5	4	3	2	1
1	Land preparation					
2	Planting					
3	Plant management (fertilization, irrigation, weeding, and pest management)					
4	Harvesting and marketing					
5	Decision making					
	Total					

A REPORT ON ECONOMIC ANALYSIS OF MARIGOLD, ROSE, AND CHRYSANTHEMUM IN NEPAL

16. Information score (more information 4 and less information 1)

SN	Activities	4	3	2	1
1	Input availability				
2	Improved technology				
3	Market availability of flower				
4	Harvesting, handling and packaging				
	Total				

17. What are the major constraints in commercial flower production? (1 for big problem and 8 for less problem)

SN	Problems/Constraints	Rank (1-8)	Suggestive Measures
1	Availability of inputs (improved seed, pesticide, fertilizer, etc.)		
2	Shed (tunnel)		
3	Cold Room		
4	Labor resource		
5	Irrigation problem		
6	Extension service not available		
7	Means of transportation		
8	Marketing services		
	Others		



Floriculture Association Nepal (FAN)

Battishputali-9, Kathmandu, Tel/Fax: 977-1-4465704
fan_nepal@yahoo.com, info@fanepal.org.np
www.fanepal.org.np, www.nepalfloraexpo.com.np