

RESEARCH ARTICLE

PRODUCTION AND MARKETING PRACTICES OF CAULIFLOWER CROP IN CHANGUNARAYAN MUNICIPALITY, BHAKTAPUR DISTRICT, NEPAL

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ABSTRACT

A study was conducted to analyse the production and marketing practices of cauliflower crop in Changunarayan municipality of Bhaktapur district, during February to March, 2021AD to assess the existing production practices of main season cauliflower, to delineate its marketing activities and to identify the major problems that had been causing a barrier among the farmers. A total of 60 respondent farmers were purposely selected and interviewed by using a semi-structured questionnaire. The study revealed that 61.67 percent of the respondents were dependent on agro vet for the seed. 48% percent were using Snow Mystique (hybrid) variety. September to October was the main sowing season for cauliflower production. Tube well and river water was the major source of irrigation and manual weeding was carried out by all the respondents. The infestation of disease and pest was the major problem in the survey site. The respondents were found deficient in the skill of cultivation and the knowledge about correct dose, frequency and time of pesticides application. They had been selling their cauliflower produce to middleman and also to consumer directly. The average benefit cost ratio of the cauliflower farming in the observed location was 1.83 at a mean rate of Rs.25-35 consistent with kg cauliflower.

KEYWORDS

Cauliflower, Marketing, Problems, Production

1. INTRODUCTION

Cauliflower is one of the main cruciferous vegetable crops belonging to family Brassicaceae. Cauliflower is herbaceous annual for vegetable production and biennial for seed production. Cauliflower is an excellent source of carbohydrate, protein, fat, minerals (Ca, Mg, P and k) and vitamins. Consuming cauliflower significantly reduces risk of coronary heart disease, cancer, stroke, hypertension, and gastrointestinal disease (Petruzzello, 2022). Cauliflower is one of the maximum crucial cool season vegetable vegetation throughout the country. The diverse climatic and geographical function of Nepal offers incredible manufacturing ability of cauliflower all 12 months spherical, in one of a kind seasons. In the context of Nepal, cauliflower is grown as both seasonal and off-season vegetable. Despite the great potential of production in the country, the major constraints faced by farmers observed in cauliflower cultivation are poor production practices and other marketing problems (MoALD, 2020). Vegetable production is gradually emerging as an important sub sector contributing to GDP in Nepal. However, studies on vegetable production, marketing and economic relation between farmers' problems are generally ignored during policy formulation due to lack of farm level information. Thus, studying farm performance of vegetable production and marketing from system perspective is very important to know how different components in the system affected it (Maharatha et al., 2019). Thus it is important to understand the existing scenario of the cauliflower growers, the methods and inputs they use for cauliflower production, productivity and profitability of cauliflower production in the study area. Which will be beneficial to the cauliflower growers of Changunarayan municipality, policy maker, students, and researchers involved in cauliflower production (Poudel et al., 2019).

2. MATERIALS AND METHODS

2.2 Study Area and Sampling Technique

The study was conducted in Changunarayan municipality, in the Bagmati province in central Nepal, which is home to one of major city in Nepal i.e. Bhaktapur. Ward 1 and 2 of Changunarayan municipality were purposely chosen for the study because of presence of high concentration of farmers growing cauliflower. In the selected area, the farmers mainly cultivated cauliflower during the cool season.

Farmers were selected purposely applying simple random sampling method. Altogether 60 respondents were randomly selected from the site for interviews and other related formal/informal discussions and group meetings. For the research both primary and secondary information had been collected. The Primary data collection was done through personal interviews with cauliflower growers in the research site, on the basis of pre-tested semi structural questionnaires. The secondary data used in this work was from several literature such as books, journals, annual reports available at different academic institutes.

2.3 Tools and Technique of data analysis

The collected data were tabulated and analyzed by using Microsoft Excel. Both quantitative and qualitative analysis were done.

2.4 Field observation

Direct field observation were done at the time of field survey to know the cultivation practices of cauliflower, its marketing and other management practices adopted by the growers.

2.5 Benefit-Cost Ratio analysis

The benefit-cost ratio was calculated by using formula as in (Paudel &

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Adhikari, Economic analysis of tomato farming under different production system in Dhading district of Nepal , 2018).

$$\text{Benefit-Cost Ratio} = \frac{\text{Total Return}}{\text{Total Cost}}$$

2.6 Problem Ranking

The intensity of problems faced my farmers was also analyzed by Scaling Technique giving 5 scale values. . The index of problem was calculated by using the formula as in (Khadka et al., 2021).

$$I_{\text{prob}} = \sum \frac{SiFi}{N}$$

Where,

I= index value for intensity of problem (0 to 1),

Si= scale value at ith severity,

Fi= frequency of the ith severity

N= total number of respondents

∑ = Summation

3. RESULTS AND DISCUSSION

3.1 Socio-Demographic characteristics

The socio-economic study regarding cauliflower production shows that both male (62%) and female (38%) were involved in cauliflower production. Maximum age of the farmers involved in cauliflower production was found to be ranging in between 35-45 years. The literate

population was 72%, majority belonging to primary level education (32%). Agriculture was the major source of income for 62% of the respondents. The survey revealed that they chose cauliflower farming because the income from this enterprise was quite good and due to climatic suitability. Also they have been cultivating cauliflower since long time passing this enterprise from generation to generation. Only 10% of the farmers had taken loan for cauliflower farming.

3.2 Practices adopted by the respondent farmers for cauliflower production

Majority of the respondents (47%) owned 2- 3.5 ropani of land. 48% of them had grown Snow Mystique (hybrid) variety in the study area followed by few respondents with local variety and snow moon variety and 61.67% purchased seeds from the local agro vets. September to October was the main season for growing cauliflower. The major disease prevailing in the area was clubroot and pest damaging the crop was aphids and cabbage looper. 95% of the respondents used chemical method for controlling the pests and diseases. Insecticides such as Metacid, Nuvan, Bullet and fungicides such as Dithane M-45, Uthane M-45 etc. were used by the growers.

3.3 Benefit cost ratio of cauliflower farming

The average price obtained by the farmers for main season cauliflower was 29.17 NRs/kg with maximum price of 35 NRs/kg and minimum price of 25 NRs/kg. From the analysis, it was found that maximum benefit cost ratio was 2.48 whereas the minimum was 1.14 with average benefit ratio of 1.83. Gross margin is positive and BCR is greater than 1 so it reveals that Rs.1.83 benefit may be acquired by way of making an investment one rupee in cauliflower farming in the observed area.

Table 1: Benefit cost ratio of cauliflower farming

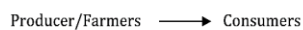
S.N.	Cost (Rs /ropani)	Yield (Kg/ropani)	Price (Rs/kg)	Gross Income (Rs/ropani)	Net Profit (Rs/ropani)	B:C Ratio
Maximum	20930	1450	35	45500	27170	2.48
Minimum	12740	700	25	18750	2405	1.14
Mean	17422.45	1096.33	29.15	32083.75	14661.30	1.83

3.4 Marketing situation

Generally, the farmers had been selling the harvested cauliflower to the market of close proximity and those who were devoid of roads/transportation sold them to middle man. The major markets for selling of cauliflower in the study area were Kalimati, Balkhu, Lagankhel, Thimi, Baneshwor, and Bhaktapur.

Mainly 4 types of marketing channel were observed through which the harvested cauliflower reached the consumers. The study revealed that the most practiced channel in the study site was IV.

Channel I



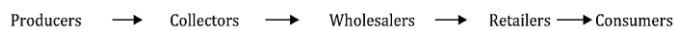
Channel II



Channel III



Channel IV



3.5 Problem Ranking

Many growers are facing various problems regarding this farming. Opinion survey was conducted to know the problem faced by cauliflower

growers inside study area. From the study it was revealed that among all the problems, disease and pest infestation, irrigation facility and marketing problem were major 1st, 2nd and 3rd problems respectively among all of the hydroponic growers.

4. CONCLUSION AND SUGGESTION

The cauliflower farming in the studied region shows good economic return and is the major farming practice for farmers in the region. The result shows that cauliflower farming is a profitable and was a promising agriculture practice across the study area. It can be concluded that there is a huge scope and opportunities in this farming across the study area due to access market, easy availability of inputs, social and environmental value and employment opportunities. With these scopes some vital problems and threats were recorded. It should be considered that every farming has agronomic specifications and therefore needs to be monitored by specialists. Therefore, the farmer should check the availability of specialized professionals in the region where he intends to implement the investment project. The concerned agencies should harmonize their policies to overcome various problems and threats for the further sustainable development of cauliflower farming in study site.

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Table 2: Problem ranking

Problems faced by the farmers	Level of problems					Index value for intensity of problem	Overall Rank
	1	0.8	0.6	0.4	0.2		
Disease and pest infestation	22	17	11	6	4	0.76	I
Irrigation facility	15	17	18	6	4	0.71	II
Marketing	12	11	21	11	5	0.65	III
Shortage of labor	7	8	9	15	21	0.48	IV
Unavailability of fertilizers and seed	4	6	2	22	26	0.40	V

REFERENCES

- Abdirahman, S. (2015). Human resource management practices and organizational commitment. *International Journal of Economics, Commerce and Management*, 8(3), 156-193.
- Abubakar, A.M., Elrehail, H., Alatailat, M.A. & Elçi, A. (2017a). Knowledge management, decision-making style and organizational performance. *Journal of Innovation and Knowledge*, 4(2), 104-114, <https://doi.org/10.1016/j.jik.2017.07.003>.
- Abubakar, A M., Namin, B H., Harazneh, I, Arasli, H. & Tunç, T. (2017b). Does gender moderates the relationship between favoritism/nepotism, supervisor incivility, cynicism and workplace withdrawal: a neural network and SEM approach. *Tourism Management Perspectives*, 23, 129–139, <https://doi.org/10.1016/j.tmp.2017.06.001>.
- Albrecht, S.L., Bakker, A.B., Gruman, J.A., Macey, W.H. & Saks, A.M. (2015). Employee engagement, human resource management practices and competitive advantage. *Journal of Organizational Effectiveness: People and Performance*, 2(1), 7-35, <https://doi.org/10.1108/JOEPP-08-2014-0042>.
- Ali, E., Fahimeh, R., Fatemeh, M. & Reza, M. (2019). Prediction of organizational commitment based on job satisfaction dimensions among employees of the ministry of health and medical education. *Caspian Journal of Health Research*, 4(2), 49-53.
- Alima, A.k & Faizuniah, P. (2018). Mediating role of organizational commitment in the relationship between human resource management practices and employee engagement. *International Journal of Sociology and Social Policy*, 38(7/8), 606-636, <https://doi.org/10.1108/IJSSP-08-2017-0097>.
- Altarawneh, I. (2009). Training and development evaluation in Jordanian banking organizations. *Research and Practice in Human Resource Management (RPHRM)*, Singapore publisher, 17(1), 1-23.
- Ambreen, M. (2011). Impact of implied organizational support on organizational commitment. *European Journal of Business and Management*, 3(11), 41-45.
- Ana, C., Gisela, D. & Tatiane, P. (2019). Do human resources policies and practices produce resilient public servants? Evidence of the validity of a structural model and measurement models. *Revista Brasileira de Gestao de Negocios*, 21(1), 70-85, <https://doi.org/10.7819/rbgn.v21i1.3965>.
- Budhwar, P.S., Varma, A., Malhotra, N. & Mukherjee, A. (2009). Insights into the Indian call centre industry: can internal marketing help tackle high employee turnover? *Journal of Services Marketing*, 23, 351-362, <https://doi.org/10.1108/08876040910973459>.
- Cai, L., Shumaila, N., Muhammad, A., Basil, K. & Majid, M. (2019). An empirical investigation on the relationship between a high-performance work system and employee performance: measuring a mediation model through partial least squares–structural equation modeling. *Psychology Research and Behavior Management*, 12, 397-416.
- Chandrakantan, S., Faridahwati, M. & Shamsudin, H. (2011). Linking human resource practices and organisational performance: evidence from small and medium organisations in Malaysia. *Jurnal Pengurusan*, 32, 27-37.
- Choi, J. & Lee, K. (2013). Effects of employees' perceptions on the relationship between HR practices and firm performance for Korean firms. *Personnel Review*, 42(5), 573-594.
- Devananda, S. and Onahring, B. (2019). Entrepreneurial intention, job satisfaction and organisation commitment - construct of a research model through literature review. *Journal of Global Entrepreneurship Research*, 9(16), <https://doi.org/10.1186/s40497-018-0134-2>.
- Edgar, F. & Geare, A. (2005). HRM practice and employee attitudes: different measure-different result. *Personnel Review*, 34(5), 534-549.
- Elrehail, H., Harazneh, I., Abuhjeeleh, M., Alzghoul, A., Alnajdawi, S. & Ibrahim, H. (2019). Employee satisfaction, human resource management practices and competitive advantage. *European Journal of Management and Business Economics*, ahead-of-print No. ahead-of-print, <https://doi.org/10.1108>.
- Faiza, M., Wei, L., Banyai, T., Nurunnabi, M. & Subhan, Q.A. (2019). An examination of sustainable HRM practices on Job Performance: an application of training as a moderator. *Sustainability*, 11, p. 2263, <https://doi.org/10.3390/su11082263>.
- Haruna, A.Y. & Marthandan, G. (2017). Foundational competencies for enhancing work engagement in SMEs Malaysia. *Journal of Workplace Learning*, 29(3), 165-184.
- Khera, S.N. (2010). Human resource practices and their impact on employee productivity: a perceptual analysis of private, public and foreign bank employees in India. *DSM Business Review*, 2(1), 65-86.
- Mahmood, A. (2013). Evaluation of the degree to which employee satisfaction is related to internal marketing within Pakistani universities. (Unpublished doctoral thesis), University of Salford, Salford.
- Mehwish, J., Abeera, A., Aideed, B. & Tania, H. (2019). Human resource practices and organizational commitment: the mediating role of job satisfaction in emerging economy. *Cogent Business and Management*, 6, p. 1608668, <https://doi.org/10.1080/23311975.2019.1608668>.
- Mizanur, R., Mohammad, J. & Mohammad, A. (2013). The role of human resource management practices on job satisfaction and organizational commitment in banking sector of Bangladesh- A comparative analysis. *Journal of Faculty of Business Administration (JFBA), Part-C*, 9(1/2), 1-13.
- Mohammad, R., Rubelad, N., Newaz, R., Yuzlizac, D. & Mui, H. (2018). High commitment human resource management practices and employee service behaviour: trust in management as mediator. *IIMB Management Review*, 30(4), 316-329.
- Mohammed, S., Yap, V. & Chan, K. (2019). The effect of HRM practices and employees' job satisfaction on employee performance. *Management Science Letters*, 9, 771-786.
- Murat, K., Mustafa, F. & Turgay, S. (2014). Human resource management practices, job satisfaction and organizational commitment. *International Journal of Academic Research in Business and Social Sciences*, 4(9), 178-190.
- Nadarajah, S., Kadiresan, V., Kumar, N., Kamil, A. & Yusff, Y.M. (2012). The relationship of HR practices of academicians toward Career development in Malaysian private higher institutions. *Procedia-Social and Behavioral sciences*, 57, 102-118.
- Nancy, Q. (2013). The impact of HRM practices on organizational performance: the case study of some selected rural banks. A thesis submitted to the Department of Managerial Science, Kwame Nkrumah University of Science and Technology.
- Norhasnina, M., Dato Mohamad, N. & Wan, N. (2018). The effects of human resources management (HRM) practices on employee performance with the mediating role of employee engagement: preparing for industrial revolution 4.0. 1st National Conference on Multidisciplinary Research and Practice, 2018.
- Norm, B., Rodriguez-Loredo, C.S. & Paz-Rodriguez, F. (2017). Development and validation of a questionnaire on normative organizational commitment: a pilot study in Mexicans workers. *Anales de Psicologia*, 33(2), 393-402.
- Nwachukwu, C.E. & Chladkova, H. (2017). Human resource management practices and employee satisfaction in microfinance banks in Nigeria. *Trends Economics and Management*, 11(28), 23-35.
- Oladipo, J.A. & Abdalkader, D.S. (2011). Strategic human resource management and organizational performance in the Nigerian manufacture sector: an empirical investigation. *International Journal of Business and Management*, 6(9), <https://doi.org/10.5539/ijbm.v6n9p46>.
- Ong, C.H. & Koh, R.J. (2018). The influence of human resources management practices on employee performance in the manufacturing sector in Malaysia. *International Journal of Human Resources Studies*, 8(2), 129-147.
- Ong, C., Maria, A., lee, P., Kowang, O. & Chin, F. (2019). The relationship between human resource management practices and job performance in the courier service industry. *International Journal of Academic Research in Business and Social Sciences*, 9(3), 63-79.

- Osibanjo, O., Kehinde, O. & Abiodun, A. (2012). Human resource management and employee job satisfaction: evidence from the Nigerian banking industry. *Journal of Economics and Business Research*, 1, 17-32.
- Pas,aoglu, D. & Tonus, H.Z. (2014). Strategic importance of human resource practices on job satisfaction in private hospitals. *Procedia - Social and Behavioral Sciences*, 150, 394-403, <https://doi.org/10.1016/j.sbspro.2014.09.035>.
- Prakash, K. (2017). Issue of organizational commitment: evidence from Nepalese banking industry. *Management Dynamics*, 20(1), 119-129.
- Rahman, M.M., Uddin, M.J. & Miah, M.S. (2013). The role of human resource management practices on job satisfaction and organizational commitment in banking sector of Bangladesh- A comparative analysis. *Journal of the Faculty of Business Administration JFBA*, Islamic University Studies, 10(1), 270-275.
- Saleem, I. & Khurshid, A. (2014). Do human resource practices affect employee performance? *Pakistan Business Review*, 15(4), 669-688.
- Scott, M. & Peter, M. (1997). The generic job satisfaction scale: scale development and its correlates. *Employee Assistance Quarterly*, 13(2), 1-16.
- Suifan, T. S. (2015). The effect of human resources practices on organizational commitment: a Jordanian study. *Journal of Management Research*, 7(4), 222-232.
- Ukil, M.I. (2016). The impact of employee empowerment on employee satisfaction and service quality: empirical evidence from financial enterprizes in Bangladesh. *Verslas: Teorija Ir Praktika*, 17(2), 178-189, <https://doi.org/10.3846/btp.2016.651>.
- Uma, S., Aurolipty & Madhusmita, D. (2017). Impact of HRM practices on job satisfaction and performance: an empirical study in health care sector. *International Journal of Economic Research*, 14(2), 95-105.

