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RESEARCH ARTICLE

FEASIBILITY STUDY OF ORGANIC VEGETABLE FARMING IN BAITADI DISTRICT

Santoshi Malla*, Uttam Rosyara, Bibash Neupane, Birat Sapkota

Institute of Agriculture and Animal Sciences, Tribhuwan University, Baitadi, Nepal.
**Corresponding Author Email: mallasantoshi77@gmail.com*

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ABSTRACT

Our study was conducted to know the feasibility of organic vegetable farming in Baitadi district along with the current situation of farming. Accelerating use of agrochemicals,higher production cost and deteriorating ecosystem health have advocated the need to change external input use agriculture towards safe and sustainable organic production .Current research emphasize on the constraints and feasibility of organic vegetable production by selecting farmers of Baitadi District.This study adopted a random sampling technique to select the 60 respondent and the collected data were analyzed using descriptive statistics for mean, median, frequency, ranking and trend analysis; binary Logistic model to identify factors determining the decision to cultivate in separate plots for home consumption and market. The study revealed that years of schooling and production for both subsistence and commercial farming were statistically significant for the decision to cultivate in separate plots for home and market consumption. Majority of respondents were Chhetri (46.67%) followed by Brahmin (43.33%).The findings also reveals that majority of the households were male headed (78.33%) and literate (65%). Huge populations (68.33%) were found involved in agriculture followed by others in business, service and pension. Major problems of the study area were lack of knowledge about organic farming, and government intervention. Majority of the farmers are confident that use of chemicals and fertilizers is dangerous for human health and they are consenting to adopt organic farming if technical and credit supports are provided.

KEYWORDS

Feasibility, Organic, Agrochemicals, Constraints, Commercial, Descriptive Statistics.

1. INTRODUCTION

Agriculture is the primary source of nutrition for the global population along with it is one of the major aspects of human development. Agriculture plays vital role to the development of nation as it provides livelihood resources for over 65.7% of the population and contributes around 27.80% to the national GDP (MoALD, 2019). Earlier, green revolution has brought some noticeable changes in the world's food production systems such as increased food production and productivity, income from agriculture has increased and employment opportunities have been diversified. The impact of green revolution was not much significant in case of Nepal but Nepal could not remain totally untouched by the global green revolution. Improving agricultural productivity via increased use of chemical fertilizers, pesticides and high yielding varieties was given top priority in 20 (1995-2015) year visionary paper Agriculture Perspective Plan (APP).

Despite efforts to uplift agriculture productivity and profitability through green revolution, Agriculture growth rate remains lower than other nations. Long-term effect of chemical fertilizers and pesticides have started to negative impact through declining yield and affecting human lives (Oquist et al., 2007). Environmental pollution and food safety due to chemical contamination become a topic of great concern worldwide. Food and Agriculture Organization (FAO) proposed "The World Food Summit Plan of Action (1999)" in recognition with the need of developing alternative sustainable agriculture such as organic farming. Organic vegetables farming is an integrated farming system involving technical aspects (soil, astronomy and weed as well as pest management) and economic aspects (input, output as well as marketing) and human health also.

Organic vegetables farming not only reduces off-farm inputs but also claims to have the capacity to provide benefits in field of environmental protection, conservation of non-renewable resources, Food quality improvement, reduction in output of surplus products as well as reorientation of agriculture towards areas of market demand (Winter and Davis, 2006). Organic vegetables farming as the most widely alternative farming system for sustainable production without harming the environment and ecology (Sharma, 2006). Oranically grown food products are fulfilling demand of getting safer food (Rembialkowska, 2007). Organic product contains dry matter, minerals as well as antioxidants such as polyphenols and Salicylic acid and also contains more Vitamin C than from conventional one (Lairon, 2010).

Since, consumption of organic vegetables products is the best way to prevent the numerous health hazards caused by conventionally produced products, the global market has found exceptionally high growth in organic foods in the United States, Europe, and in other countries (Piyasiri and Ariyawardana., 2002). The growth of organic vegetables sector is quite slow and faces tremendous challenges in the context of developing countries. The adoption of organic farming in Nepal is quite slow along with market for organic products is not well developed and no market statistics are available (Bhatta et al.,2009). Despite these facts, there are some hopes among the organic vegetables' producers and traders in the country. Being a developing country, definitely majority of the consumers is not well off in Nepal but large chunk of consumers is clustered in and around urban areas of the country and they could pay for the organic products provided quality is assured.

Ramesh et.al stated that market potentials are mainly determined by consumer expectations of the product attributes, which are related to the

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product such as quality. Organic agriculture was first seen as one of the priority sectors in Nepalese agriculture since the 10th Five Years Plan (Devkota, 2016). Some organic products such as coffee, tea, honey, large cardamom, ginger etc are exported to international market. Various institute and individuals think that organic movement in Nepal is quite slow in motion due to lack of clear vision of the government including distorted information flow from the different developmental projects. The national agriculture policy 2061 clearly stated that the promotion of organic agriculture is only for export purpose. Organic farming is limited in the only export-oriented commodities such as apiculture, coffee, tea, large cardamom, ginger, etc and in a certain group of farmers. Great possibility of organic farming exists because many areas are still organic in nature and yet to be not reached the modern technologies and chemical fertilizers.

For example- Jumla is already announced organic district by the government, as chemical fertilizer and pesticides are yet to be not reached and these traditional practices of the farming which is very near to the organic practices. Such declaration of the organic area is only romanticized which cannot meet the standard of organic certification process (Tamang et al., 2011). Majority of farmers are limited to grow seasonal vegetables on natural environment and have many possibilities to grow organic vegetables under tunnel farming for off-season also. Vegetable cultivation in Nepal, its popularity and demand are rising day by day in Nepalese market. For Nepalese organic farmers, it is the opportunity to increase their economic condition (MOAD,2019). Dangour et al stated that organic farming is gaining popularity now days.

2. METHODOLOGY

Primary data was collected from the Baitadi district of Nepal and this district was selected purposively because this district is known for vegetable production in the region and has potential for organic production. Dilasaini Gaupalika was purposively selected since maximum number of vegetables growing farmer resides here. The sample group was selected with the mixed strategy. Initially the master list of vegetable growers was taken from the palika. Respondent above 25 years of age and at least 10 years of the settlements within these localities were included in the sample with the hope to find out valuable and useful information regarding the past trends of growing organic vegetables farming. Careful attention was paid to make the sample more inclusive and altogether 60 households were selected randomly for the study.

Figure 1: Organic Vegetables farming

Interview schedule was prepared to collect the primary information from the selected respondents. Consistency in interview schedule was maintained with the objective of the research. All three Viz. Structured, semi structured and unstructured questions were included in the interview schedule. Question sequencing was of the topmost importance in the interview schedule and they were ordered in such a way that the preliminary question could generate the information required to fulfill the preliminary objective and vice versa. Information regarding the status of organic growers and non-organic growers and their distribution in the district was collected through key informant interview with the responsible persons of the concerned stakeholder organizations such as AKC chief, Palika Agriculture section. Secondary data used was extracted from the publications and reports prepared by different organizations at central, regional, district and local levels and Review of legal documents, the policy initiatives, the strategies, plans and the programs related to organic farming and its issues. Data and statistics extracted from the websites.

Once prepared interview schedule was pretested to the 10 farmers in Baitadi district to determine its effectiveness in gathering reliable and valid information and final amelioration in the interview schedule was done to make it final to collect the information. Field survey was conducted in Baitadi district to gather information from the selected respondents. Preliminary field survey through FGD and KIS was executed before the starting of main survey. The views collected in the field survey were recorded in the questionnaire with the suitable code. Field survey was carried out in the way decided by our sampling framework.

Primary data collected through field survey and secondary data collected through desk research was compiled, processed and analysed to generate meaningful information. Data collected through household survey was cleaned, coded and compiled and entered in MS Excel 2007 to prepare fairly clear database. Data were coded with the suitable codes and missing values were checked. Frequency counts, cross tabs, comparison of means and variance was done to generate meaning information. Descriptive statistics (mean median, mode, percentage, range etc.) were used to summarize the variables and to describe the study area. The trend analysis was carried out to study the trend of area and production of vegetable in Baitadi district. Test statistics like t-test and chi-square test were used to analyze the data. T-test was used to find the differences in various continuous socio-economic factors between the farmers with insurance and without insurance, while chi-square test was used to analyze the differences between the various categorical factors for farmers with insurance and without insurance.

3. RESULTS AND DISCUSSION

3.1 Socio economic characteristics of the household

3.2 Socio demographic factors

The results obtained from descriptive statistics revealed that 78.33% of households were male headed and only 21.67% were female headed. The average age of household age in study area is found to 49.25 year. Maximum and minimum age were 77 year and 18 years respectively. Majority of the respondents were Chettri and Brahmin followed by dalit in the study area. In the surveyed area among the total household 65% were literate with 7.38 year of schooling in study area. Age of the family members was categorized in to three classes; less than 15years, economically active population (15-60year) and more than 60 years as in given Table 2.the value of economically active population was found highest as 4.57. Average family size was found to be 7.89, Maximum family was found to be 16 and minimum family size was found to be 3. This is shown in the above table.

3.3 Economic factors

Agriculture was found to be major occupation (68.33%) of household followed by business (16.67%), 11.67% in service and 1.67% getting credit from remittance. Rest of the 1.67% of household head are concerned in pension.

3.4 Land holding by farmers in the study area

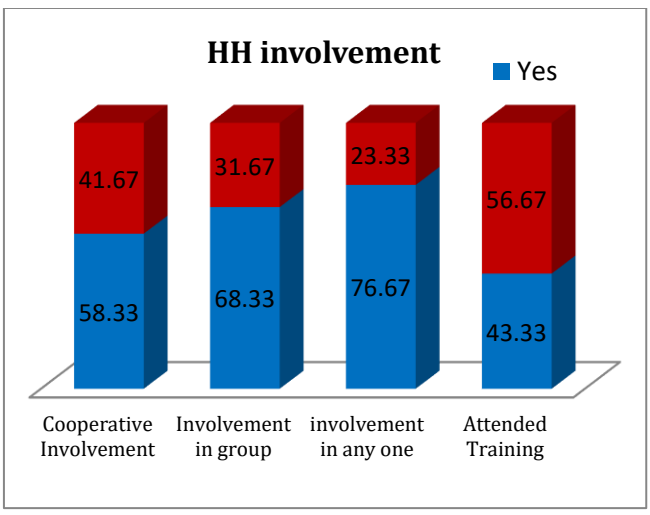
The average total land hold by farmer is 27.48 ropani. Among them majority of land hold by farmer is their own land in which maximum land holding by farmer is 27.48 ropani. The study showed that 5.55 ropani was leased in for the cultivation and 1.10 ropani was found to be leased out in studied area. The total cultivated land was found to be 16.40 ropani. Nearly 48% of the cultivable land was kept fallow by the majority of the households. Keeping the land fallow has been the major problem over here. Leasing the land for cultivation to other is much familiar over here. The average annual income of farmers was found to be Rs 139593.22 with maximum of Rs 2000000 and minimum of Rs 2000. There seems to be high variation in household income. The gini-coefficient seems to be quite high for the region. Socio economic study was supported by (Adhikari, 2008).

Table 1: Socio economic characteristics of the household				
Socio-economic characteristics	**Descriptive Statistics**			
	Values	**Max**	**Min**	**SE**
Gender of HH Head	-	-	-	-
Male	47(78.33)			
Female	13(21.67)			
Age of house hold head	**49.25**	**77**	**18**	**1.88**
Ethnicity		-	-	-
Brahmin	26(43.33)	-	-	-
Chhetri	28(46.67)	-	-	-
Janjati	0	-	-	-
Dalit	6(10.0)	-	-	-
Years of schooling	**7.38**	**15**	**0**	**0.53**
Total illiterate	21(35.0)	-	-	-
Total literate	39(65.0)	-	-	-
Family size		-	-	-
Members below 15 years	2.29	6	0	0.16
Members between 16-60	4.57	9	1	0.25
Members above 60	1.0	6	0	0.13
Avg. family size	**7.89**	**16**	**3**	**0.39**
Major occupation	-	-	-	-
Agriculture	41(68.33)	-	-	-
Service	7(11.67)	-	-	-
Remittance	1(1.67)	-	-	-
Business	10(16.67)	-	-	-
Pension	1(1.67)	-	-	-
Land holding	-	-	-	-
Total owned (Ropani)	**27.48**	**500**	**0**	**9.44**
Leased-in (Ropani)	**5.55**	**300**	**0**	**5.08**
Leased-out (Ropani)	**1.10**	**12**	**0**	**0.32**
Total Cultivated land (Ropani)	**16.40**	**300**	**1**	**4.13**
Income from Agriculture	**139593.22**	**2000000**	**2000**	**59083.49**

Note: Figures in parenthesis represents percentage

3.2 Household involvement

The study revealed that 58.33 percent of the household were involved in cooperative and 68 percent were involved in agriculture groups. Agriculture groups are the main part of extension in the area. People are mainly depending on the cooperatives for small credits and loans. At least 76.67 percent of the studied household was engaged in either cooperative, or groups of both. Only 43.33percent of the households have attended training on agriculture and particularly vegetable cultivation.



3.6 Propose of vegetable production

Majority of the farmers (61%) produce vegetables for home consumption only. They don't sell their products in market. 25 percent of the vegetable growers produce vegetables for both home consumption and market. There are few farmers who produce vegetables for market only. Either they don't consume vegetables or they don't consume their own product, better they buy for the home consumption. 7 percent do not have fixed objectives. Sometimes they take their harvest to market when there is surplus production, otherwise not. Organic farming provides safe, nutritious, healthy and mineral-rich tasty products and this findings is in accordance with (Worthington, 2001).

3.7 Adopted method for soil fertility preservation

The maximum farmer (81%) of the study are were following all the mentioned practices for soil fertility preservation like fertilizer application, crop rotation, intercropping and tillage. This is the peculiar characteristics of Nepalese farming system too. 12 percent of the farmers are dependent upon fertilization only. The fertilizers may be both chemical and organic. There are few households (7%) which carry on routine tillage operation only. They neither use any sort of fertilizers nor adopt any fertilization techniques to improve fertility and productivity.

3.8 Discussion about organic farming

Farmers of the study area were asked whether they discuss about the organic farming or not with your neighbors and technicians. The study of revealed that majority of farmers (52%) discuss sometimes when there comes the matter of other organic farming while discussion other topics. Among total farmers, 34% farmers have not heard about farming. They never discuss about organic farming and are neither interested. 7% of the

farmer discuss about organic farming when there is some sort of subsidy in the scheme. Only 2% of the farmers are interested in organic farming and are willing to discuss on the topic whenever they get time. This findings is in concordance with that of who reported that 63% of the respondents discuss about organic farming sometimes (Sharma, 2005).

3.9 Factors determining the decision to cultivate in separate plots for home consumption and market

Table 1 provides the results of binary logistic regression model to determine the most critical factors that affect farmers' decision to cultivate in separate plots for home consumption and market. The model's $\chi 2$ value of 39.90 and log likelihood ratio of -17.126 indicate that all the variables in the model significantly influence the probability of adoption of crop insurance at 1%. The Pseudo R2 =0.538 means that about 53.8 percentage of the decision to cultivate in separate plots for home consumption and market is governed by the tabulated 9 explanatory variables i.e. the model fits 53.8 percent to the given data.

Table 2: Factors affecting adoption decision

Factors affecting adoption decision	Coefficient	Std. Err.	Z
Age of HH head	0.015	0.036	0.42
Household status (1=male headed, 0=female)	-1.656	1.515	-1.23
Total family size	-0.365*	0.221	-1.65
Years of schooling	-0.376**	0.164	-2.30
Annual family income	4.73e	1.37e	0.34
Involvement in cooperatives (1=yes, 0=No)	1.520	1.063	1.43
Land holding	-0.001	0.015	-0.11
Distance from local market	0.206	0.265	0.78
Produce both for home and market (1=yes, 0=No)	5.570***	1.476	3.77
Constant	**1.356**	**3.757**	**0.36**

LR chi2 = 39.90***; Probability>$\chi 2$=0.0000; Pseudo R2 =0.538; Log likelihood = -17.126

Dependent variable: Decision to cultivate in separate plots for home and market.

***sig@1%;**sig@5%;sig@10%

3.10 Socio economic factors

The result revealed that the social factors like Age of the household head, sex of the household head, annual family income, total land holdings didn't show significant effect on decision cultivate in separate plots for home consumption and market. But test statistics findings showed that the variable years of schooling was significant. The variable years of schooling was significant at 5% level with negative sign. It showed that if the year of schooling of HH head increases by a year the probability to separate the plots for home and market consumption decreases by 37.6 percent. This result in accordance with reported that the educational level of farmers significantly affects their attitudes towards organic farming (Parajuli et al., 2020).

3.11 Miscellaneous factors

The result revealed that the factors like involvement in cooperatives and distance from market do not have significant effect on the decision. But if the family if producing for both market purpose and home consumption the probability to separate plots for home and market consumption inc 3.10

3.12 Socio economic factors

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3.13 Miscellaneous factors

The result revealed that the factors like involvement in cooperatives and distance from market do not have significant effect on the decision. But if the family if producing for both market purpose and home consumption the probability to separate plots for home and market consumption increases by 5.57 units. This variable is highly significant at 1% level.

3.14 Attitude of farmers towards organic farming

In the surveyed area , factors like negative effect of chemicals on human health and animals, organic certification process,organic farming is labour intensive were seems governing factor for organic vegetable production in that area. Study showed that ,farmers are known about the effect of of inorganic fertilizer and pesticides to human health and animals.According to farmers perception organic agriculture is too labour intensive and they claimed for organic certification process,however they were little agreed with organic farming is step back to farming of the past,organic farming is profitable than conventional farming and organic yields are too low.

Farmers were not agreed with the conversion of inorganic farming to organic farming is difficult and requires high cost and without chemical organic farming is not possible there.According to farmers, local market for organic product is not available there.Local markets availability for the organic product,possibility of organic farming and Government support to organic farming was not considered the major factor for organic vegetable production in that area.Which is shown in following table.This findings in accordance with reported that the farmers had positive attitudes towards health related and enviromental protection aspects and also reported that the organic agriculture is too labor intensive (Parajuli, 2020; Winter and Davis, 2006).

Table 3: Attitude of farmers towards organic farming

Parameters	Index value	Ranking
Use of chemical inputs is negative for health of people and animals	4.32	I
Organic farming is too labor intensive	3.63	II
Organic certification process is needed.	3.61	III
Organic farming is a step back to farming of the past	3.39	IV
Organic farming is more profitable than conventional farming	3.31	V
Organic yields are too low	3.27	VI
Conversion into organic farming requires high investment	3.05	VII
Without using chemical pesticides farming is not possible	2.92	VIII
Local markets for organic products are available	2.78	IX
Organic agriculture is not possible over here	2.25	X
Government support to organic farming is most	2.19	XI

4. Summary and Conclusion

Nepalese agriculture sector has been growing but in sluggish manner. Private initiation and motivation by some of the NGOS are key impetus in bringing organic sector in the mainstream agriculture in Nepal.The intrest in organic agriculture in developing country is growing because it places more reliances on the natural and human resourses available.Possibly,the greatest impact of organic agriculture is on mind set of people and it was

traditional and indegionous farming knowlwdge. The study was carried out to study the feasibility of organic vegetable farming in Baitadi District of Nepal.60 household were randomly selected from Dilasaini rural municipality .primary data were collected through pre tested interview schedule ,focus group discussion,and direct observation.Descriptive analysis was used for analysis of data. Study population was dominated by chhetri and followed by others.Agriculture was found major occupation in which 68.33%of respondents are involved.

Majority of the population of study area were literate(65%)and of the(35%) were illiterate.Research found there were not any organic agriculture related training done and farmers are unknown about organic farming .34% of respondents were not heard about organic farming yet , 12% were found informed and 7% of respondents were used to discuss when there is subsidy .Average total owned land was found 27.48ropani and 5.10 and 1.10 ropani of land was found leased in and leased out respectively. Maximum numbers of the respondents were produce vegetables for home consumption only (61%) and 25% were for both home and market .They used different aspects of soil fertility preservation methods like crop raotation,intercropping,tillage etc;(81%) .In case of some respondent they were adopting organic vegetable production packages by default.

Our study showed that if the year of schooling of house hold increases by a year the probablity to seprate the plot for home consumption and market decreases by 37.6%.Use of chemical input is negative for health of people and animal was found major governing for adopting organic vegetable production while government support to organic farming is found least governing factor for adopting organic vegetable production in that area .There is virtual lack of government support to the organic growrers & marketers.The costraints could be seen in three actors of organic production viz; at growrers level,at marketers level and at government level. Lack of awareness ,lack of skill in managing complex problem in the farm land ,lack of sufficient technology to support organic production,no certification and labeling ,poor investment capicity ,small holdings ,less risk bearing capacity of the organic producers ,etc; are the major problems at producers level.

Lack of consumers awareness about the organic products quality and availability,higher price of the products ,lack of market infrastuctures etc; are the major problems at consumers level.Failure to hammer out proper policy &poor implementation mechanism,political intervention,no subsidy to the organic producers seprately no marketing research and technology generation to support organic sector etc; are the major constraints at government level.Peoples of the area are aware about health hazards of chemicals and majority of the population are literature and willing to produce organically if there is necessary technical support provided and government pay attention peculiarly on organic vegetable farming ,organic vegetable farming is feasible here. Unavailability of chemical fertilizer and pesticides was found in study area and it also could be the feasible factor for organic vegetable production. However, the traditional farming system is rooted here which is totally organic based, that's why organic farming is feasible here.

References

Adhikari, R., 2008. Comparative economics of organic and inorganic carrot production and marketing in Chitwan District of Nepal. In Proceedings of International Workshop on Opportunities and Challenges of Organic Production and Marketing in South Asia. Babarmahal, Kathmandu: Nepal Permaculture Group.

Asante, B.O., Afarindash, V., Sarpong, D.B., 2011. Determinants of small-scale farmers decision to join farmer-based organizations in Ghana. African Journal of Agricultural Research, 6 (10), Pp. 2273-2279.

Azadi, H., Schoonbeek, S., Mahmoudi, H., Derudder, B., De Maeyer, P., Witlox, F., 2011. Organic agriculture and sustainable food production system: main potentials. Agriculture Ecosystems & Environment, 144 (1), Pp. 92-94.

Baidoo, P.K., Mochiah, M.B., 2016. Comparing the effectiveness of garlic (Allium sativum L.) and hot pepper (Capsicum frutescens L.) in the management of the major pests of cabbage Brassica oleracea (L.). Sustainable Agriculture Research, 5, Pp. 526-37884.

Bhandari, D.R., 2006. Community level organic vegetable production program: an experience of Kathmandu district. In Proceedings of a first national workshop on organic farming, 12, Pp. 28-30.

Bhatta, G.D., Doppler, W., KC, K.B., 2009. Potentials of organic agriculture in Nepal. Journal of Agriculture and Environment, 10, Pp. 1-14.

Blaise, D., 2006. Yield, boll distribution and fibre quality of hybrid cotton (Gossypium hirsutum L.) as influenced by organic and modern methods of cultivation. Journal of Agronomy and Crop Science, 192 (4), Pp. 248-256.

Brandt, K., Mølgaard, J.P., 2001. Organic agriculture: does it enhance or reduce the nutritional value of plant foods. Journal of the Science of Food and Agriculture, 81 (9), Pp. 924-931.

Caproni, L., Raggi, L., Tissi, C., Howlett, S., Torricelli, R., Negri, V., 2018. Multi-environment evaluation and genetic characterisation of common bean breeding lines for organic farming systems. Sustainability, 10 (3), Pp. 777.

Chapagain, B., Gentle, P., 2015. Withdrawing from agrarian livelihoods: Environmental migration in Nepal. Journal of Mountain Science, 12 (1), Pp. 1-13.

Chopra, A., Rao, N.C., Gupta, N., Vashisth, S., 2013. Come sunshine or rain; organic foods always on tract: A futurist perspective. International Journal of Nutrition, Pharmacology, Neurological Diseases, 3 (3).

Dahal, L., 1995. Study on pesticide pollution in Nepal. National Conservation Strategy Implementation Project, National Planning Commission, HMG Nepal, in collaboration with IUCN-The World Conservation Union.

Dangour, A.D., Allen, E., Lock, K., Uauy, R., 2010. Nutritional composition & health benefits of organic foods-using systematic reviews to question the available evidence. Indian Journal of Medical Research, 131, Pp. 478–480.

Darnhofer, I., Schneeberger, W., Freyer, B., 2005. Converting or not converting to organic farming in Austria: Farmer types and their rationale. Agriculture and human values, 22 (1), Pp. 39-52.

Das, S., Chatterjee, A., Pal, T.K., 2020. Organic farming in India: a vision towards a healthy nation. Food Quality and Safety, 4 (2), Pp. 69-76.

Devkota, S., 2016. Government policies and periodic plan along with statistical data and pocket area of different commercial fruits grown in Nepal. Institute of Agriculture and Animal Science, Rampur, Chitwan.

Duwadi, V.R., Gautam, S.R., Thapa, M.P., 1993. Test of the efficacy of some local measures against pest and diseases in Vegetable crops at PAC. Pakhribas Agriculture Centre, Dhankuta.

Falola, A., Ayinde, O.E., Agboola, B.O., 2013. Willingness to take agricultural insurance by cocoa farmers in Nigeria. International Journal of Food and Agricultural Economics (IJFAEC), 1(1128-2016-92004), Pp. 97-107.

Fließbach, A., MaÈder, P., 2000. Microbial biomass and size-density fractions differ between soils of organic and conventional agricultural systems. Soil Biology and Biochemistry, 32 (6), Pp. 757-768.

Fließbach, A., Oberholzer, H.R., Gunst, L., Mäder, P., 2007. Soil organic matter and biological soil quality indicators after 21 years of organic and conventional farming. Agriculture, Ecosystems & Environment, 118 (1-4), Pp. 273-284.

Gauchan, D., Palikhey, E., Sthapit, S., Joshi, B.K., Manandhar, H.K., Jarvis, D.I., 2020. Organic Farming and Marketing of Traditional Crops in Nepal Mountains: Gaps, Issues and Opportunities for Improvement. Traditional Crop Biodiversity for Mountain Food and Nutrition Security in Nepal, Pp. 163.

Halberg, N., 2008. Energy use and greenhouse gas emission in organic agriculture. Organic agriculture and climate change. The contribution that organic agriculture and our dietary choices can make to the mitigating of global warming.

IFOAM, I., 2002. IFOAM basic standards for organic production and processing.

Lairon, D., 2010. Nutritional quality and safety of organic food. A review. Agronomy for Sustainable Development, 30, Pp. 33–41.

Levite, D., Adrian, M., Tamm, L., 2000. Preliminary results on contents of resveratrol in wine of organic and conventional vineyards. In IFOAM 2000-the world grows organic. Proceedings, 6th International Congress on Organic Viticulture, Convention Center, Basel,

Switzerland, pp. 256-257.

Meier-Ploeger, A., 2005. Organic farming, food quality and human health. In NJF-Seminar 369, Pp. 233.

Oyedele, G.T., Wole-Alo, F.I., Owolabi, K.E., Okunlola, J.O., 2018. Small–scale farmers perception on organic farming status in Ondo State, Nigeria. American Journal of Agriculture and Forestry, 6 (6), Pp. 186-190.

Padel, S., 2001. Conversion to organic farming: a typical example of the diffusion of an innovation?. Sociologia ruralis, 41 (1), Pp. 40-61.

Parajuli, S., Shrestha, J., Ghimire, S., 2020. Organic farming in Nepal: A viable option for food security and agricultural sustainability. Archives of Agriculture and Environmental Science, 5 (2), Pp. 223-230.

Piyasiri, A.G.S.A., Ariyawardana, A., 2002. Market potentials and willingness to pay for selected organic vegetables in Kandy. Sri Lankan Journal of Agricultural Economics, 4 (1381-2016-115738), Pp. 107-119.

Pushpa Malkanthi, S.H., 2020. Farmers' Attitude Towards Organic Agriculture: A Case of Rural Sri Lanka.

Rembialkowska, E., 2000. Wholesomeness and Sensory Quality of Potatoes and Selected Vegetables from the organic Farms. Fundacja Rozwoj SGGW, Warszawa.

Rembialkowska, E., 2007. Quality of plant products from organic agriculture. Journal Science of Food and Agriculture, 87, Pp. 2757–2762.

Sharma, A.K., Sharma, A.K., 2001. A handbook of organic farming. Agrobios.

Shepherd, R., Magnusson, M., Sjödén, P.O., 2005. Determinants of consumer behavior related to organic foods. Ambio, Pp. 352-359.

Tamang, S., Dhital, M., Acharya, U., 2011. Status and scope of organic agriculture in Nepal. Food and Sustainable Agriculture Initiative, Forestaction, Lalitpur.

Winter, C.K., Davis, S.F., 2006. Organic food. Journal of Food Science, 71, Pp. 117–124.

Worthington, V., 2001. Nutritional quality of organic versus conventional fruits, vegetables, and grains. The Journal of Alternative & Complementary Medicine, 7 (2), Pp. 161-173.