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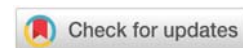
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Research Article

Agriculture Practices in the Danuwar Community of Nuwakot District, Nepal

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Abstract

The Danuwar community is an indigenous group predominantly inhabiting the Terai, and Hilly regions of Nepal, practicing traditional agriculture. This study examines the current agricultural practices of the Danuwar community of Ganesthan, Nuwakot district, Nepal. Primary data were collected from direct field surveys with the help of structured and semistructured questionnaires. Similarly, the necessary secondary data were collected from published and unpublished literatures, and documents of Bidur municipality, Nuwakot. Still, Danuwar are practicing the traditional pattern of agriculture and needs training and skilled-oriented education for their improvement. Given their reliance primarily on agriculture, the transition towards modernization and commercial production of agriculture is pivotal for their socio-economic sustainability. Thus, it is suggested to empower them through technical education, market accessibility, irrigation, transportation, and microfinance activities that shall integrate the Danuwar community into mainstream development and attain self-sustainability.

Introduction

Nepal is a multiethnic, multicultural, and multi-religious nation. Pluralism and diversity are its unique and notable features. Agriculture is the principal sector in the Nepalese economy, which contributes about 35% of the country's Gross Domestic Product (GDP), employing 66% of the total population in the sector [1]. In addition, 14.3 % of the GDP is contributed by industry and 61.8% GDP from the service Sectors [2]. About 28% of the total area is cultivable land, while 21% is cultivated, with 7% being left bare; another 29% is forested excluding shrubland, grassland, and pastures [3]. Fruits and vegetables (apples, pears, tomatoes, various salads, peach, nectarine, potatoes), as well as rice and wheat are the major food crops. The lowland Terai region produces an agricultural surplus, part of which supplies to the food-deficient hill areas. The Cost of Living Index in Nepal is comparatively lower than in many countries, but not the least. The quality of life has declined to a much less desirable value in recent years. Nepal was ranked

54th worst of 81 ranked countries (those with GHI > 5.0) on the Global Hunger Index in 2011. Nepal's current score of 19.5 is better than in 2010 (20.0), and much improved than its score of 27.5 in 1990. The high rate of population growth, low access to productive resources, traditional way of farming systems, and slow pace of the development of secondary sectors are the major barriers to economic development.

A country of different ethnic groups and an origin of different cultural backgrounds, Nepal has been a cradle of different civilizations. It occupies the central section of the Himalayan, and has become the platform of Mongoloid and Caucasoid interface which is the reason for calling it a land of different origins and of different cultural backgrounds. The large-scale migrations of Asian groups from Tibet and Indo-Aryan people from northern India, which accompanied the early settlement of Nepal, have produced a diverse linguistic, ethnic, and religious pattern. Those with Indo-Aryan ancestry, especially the Pahari (including the Chhetri, the Brahman-Hill,

and others), have enjoyed great prestige in Nepal for centuries, and the ruling families have been of Indo-Aryan and Hindu background. Most of the Tibeto-Nepalese groups—the Tamang, Rai, Limbu, Bhutia (including the Sherpa), and Sunwar—live in the north and east, while the Magar and Gurung inhabit west-central Nepal. The majority of the famous Gurkha contingents in the British army have come from the Magar, Gurung, and Rai groups. A third set of ethnic groups, which includes the Newar and the Tharus, are believed to have settled in Nepal before the Tibetan and Indo-Aryan migrations. The Newar, who have largely adopted Indo-Aryan and Hindu customs, retain significant influence in Nepal, especially in the Kathmandu valley. Since Nepal's unification, various indigenous languages have come under threat of extinction as the government of Nepal has marginalized their use through strict policies designed to promote Nepali as the official language. Indigenous languages that have gone extinct or are critically threatened include Byangsi, Chonkha, and Longaba. Issues of ethnic and regional equity have tended to dominate the agenda of the new republican government and continue to be divisive. Today, even after the end of a 10 year-old Maoist conflict, the so-called upper caste dominates every field in Nepal. Specifically, Brahmin and Chhetri (Indo-Aryan) have advantages. Although Newars are low in numbers, their urban living habitat gives them a competitive advantage. Brahmin and Chhetri castes form the historical topmost state elites' circle with the significant majority of leadership in executive, legislative, judicial, constitutional, local administrative bodies, bureaucracy, political parties, and social organizations. The Hindu varna system highlights these castes as high castes and makes them favorable in higher social status due to favorable social norms, values, and laws.

Among the minorities of Nepal, the Danuwar are an indigenous ethnic group with a distinct social, and cultural identity. The term Danuwar is not derived from the mother tongue spoken by the people of this folk group: rather it is a derivation related to the Nepali word Duna (leaves plate). According to [4], these groups called Danuwars" are spread throughout the Terai, low hills, and middle hills of Nepal, and, while they have some ethnic and linguistic ties to each other, the relationship between them has been uncertain". Normally Danuwar-speaking, people who settled on the bank of the stream and the rivers and adopted the profession of fishing were called Danuwar. Thus, Dune (in Nepali signifying inner terai) was an appropriate place for them. People being settled in Dune were named Danuwar. Etymologically, the term Danuwar was derived from the Sanskrit Dronibar (droni signifies the plain land between the confluence of two rivers situated in the laps of two hills) as mentioned above, fishing is their main profession so they settled on the confluence of the two rivers. Similarly, Dukucha in the Newar language signifies the domestic animal goat. One day, people heard Dukukarne (the crying of the goat) while they were approaching over there right in the present village. Since then, the name of the place began to be known and recognized as Duku, and the inhabitants were called Danuwar. Historically speaking, in the fourteenth century, the king of Simoroungarh, the ancient kingdom in the mid-southern part of Kathmandu, constructed

a grandeur palace in the name of his beautiful daughter and she was married by the crown prince of Lanka (now Sri Lanka). The queen gave birth to five sons after marriage. Among them, one was Danuwar and the rest of the three were Newar, Sunuwar, Kirat, and Limbu. The same Danuwar immigrated and settled in the hilly area from the inner terai. His successors' surname remained Danuwar. A long time ago, Machhendranath or Matsyendranath (means the king of water) was escorted from Kamarupa, one of the holy Indian pilgrimages, to Kathmandu. The Danuwar had gone to bring Matsyendranath Baba and brought him en route to Dukuchhap. It was getting night as they arrived at Dukku. So, they stayed and passed one auspicious night over there and the devotees celebrated the arrival of Baba hosting a worship during the whole night. They offered him Prasad on the plate made of leaves and a baby girl was seen on the same plate the next morning. Machhendranath was astonished to see it and baptized her as Duna because she was born out of the Duna, a plate made of leaves. In this way, it is believed that they are the successors of the Duna girl. They claim to be God Machhendranath as their parental relative even today. They have now scattered all over in search of a better life and opportunities for income-generating business and settled in the different parts of the country. The ancestral strongholds are Banke and Bardia Districts. They believe in Ban Devi, the goddess of the forest and they also believe that man can become a tiger and cross the river and can become visible solely by the power of using mantra (spell). They use shamans and mantravidhya, the knowledge of spells to a maximum degree. Danuwar indigenous communities are spread across 62, of the 77 districts in the country.

Danuwar are one of the endangered indigenous peoples in Nepal, rich in terms of folk heritage. They have their own traditional beliefs, language, ornaments, clothing, housing settlements, and folklore. According to the Nepali Census 2011, their population is 84,115. The mother tongue of the Danuwar indigenous community is called, 'Danuwari', which falls under the Indo-Aryan language family. About 45,821 people speak their mother tongue. Like other different districts of the Terai and mid hills, Danuwars also live in the Nuwakot district. Danuwars are mainly found in Ganesthan, formerly a Village Development Committee (VDC) of Nuwakot district, and on the banks of the Tadi River. Their sparse settlement is also found in other parts of the district. Agriculture is the main occupation of Danuwars. They are economically poor and with very low literacy rates. Traditionally they live in the river basins; fishing is a profession and hobby for them. A study insisted that Danuwars used to be fishermen [5].

Because of being totally dependent upon a subsistence economy, seasonal unemployment is very serious within their community. Agricultural production would not support them to sustain the whole year. More than half of the year they need to work outside for the fulfillment of their food requirement. Although they still have more or less land holding on their ownership, due to the lack of proper knowledge about modern ways of cultivation poverty is rampant in their community. Illiteracy, large family size, low access to productive resources,

traditional way of farming systems, and their own culture and tradition become the barriers to their socio-economic upliftment. Danuwars raises cows, buffaloes, goats, chickens, and pigs for the fulfillment of their own needs. Selling agricultural products is also their source of income. But, it is not sufficient for them. Only a few men have jobs in offices. Danuwar is totally dependent upon subsistence farming mostly as a tenant of landlords. Due to a lack of proper education and awareness, they are still using those tools and techniques which were used by their ancestors and their traditional mode of production is also in vulnerable condition. Consequently, the Danuwar people's traditional way of living pattern is almost in extinction. Because of being unable to change the pattern of lifestyle with the present modernization trend in agriculture, the condition of the Danuwar community is very vulnerable, although they are honest and hard-working people. Even in the off-season, they are busy with household activities, but these are unproductive. As a result, the existing problem of hand-to-mouth for more than half of the year is a very common phenomenon amongst the Danuwar community. Selling assets via land, cattle, and livestock for the fulfillment of their daily need is common in this community. Based on all these problems, this study is expected to address the issues concerning the effect of modernization on their livelihood and the way of changing patterns in their agricultural activities. The objective of this paper is to explore the agricultural practices of the Danuwar community of Ganesthan, Nuwakot.

Theoretical review

Danuwar are of 12 *thars* (surnames). Whatever the *thar*, their rites and rituals are the same. The oldest person in the family is designated as the head of the family. He is called *mukhiya* and his duty is to make arrangements for a rice field or some other employment. Similarly, the wife of the *mukhiya* should look after the household chores within the family. This is not only a joint family, but also a joint home of several families. Their homes, like those of Tharus, are made by smearing with cow dung and mud. They sing *Chudke Geet* (a kind of folksong) and perform a kind of special dance called *Ghatunach*. They strictly refrain from working on the day of *Halsaro* (the first day on which land is worshipped before starting to plough), which falls in the month of Ashad (June-July). On the first day of the Nepalese New Year in Baisakh, they produce fire by rubbing two pieces of hardwood and are worshippers of nature. They respect and worship the family deity, *Bandevi*. They worship family gods, ghosts, and spirits. Like Tharus, others worship Hindu gods and goddesses. Bikram Baba is their favourite saint. Jand and spirit are required in every type of worship. Since they traditionally live in river basins, fishing is both a profession and a hobby for them. Because they are simple in nature, the trading class people exploit them very badly. It was insisted that Danuwars have a distinct language and have their own unique culture, rites, rituals, household composition, folk tales, and folk songs [6]. They were deprived of opportunities such as good education, governmental jobs, medical facilities, etc. It is easily imagined how poor they are living deprived of all modern facilities and depending only on the traditional system of farming.

Only a few countable numbers of people are enrolled in government offices, where females are in poor condition to do government jobs. There are different definitions for indigenous people and have been recognized differently. A study explains that indigenous people should be regarded as those with a social or cultural identity distinct from the dominant or mainstream society, which makes them vulnerable to being disadvantaged in the process of development. A study has distinguished 'Indigenous' from 'Traditional system' [7]. According to Gill, indigenous refers to the point of origin, the source of the initiative. The Indigenous system may incorporate elements and processes from the outside world, provided the initiative for the incorporation locally. Traditional systems may not be of local origin, as their adoption may have been imposed from outside. Traditional systems are often quite new and constantly evolving. Thus, although the traditional system may be indigenous and vice versa, this is not necessarily the case.

According to [8], anthropological research of Danuwars in the Terai, states that the Danuwar social system is unique among social systems typically found in Nepal. It insisted that there are few or no castes or hierarchies within the Danuwar ethnic group, and their society is instead strongly influenced by the principles of clan solidarity or kinship.

In the book "*Indigenous people*", [9] mentions that *Mobilization and changes* cite two things crucial to Danuwar identity. Firstly, the rationale of the cultural traits for the survival of the ethnic identity of a particular cultural group, and secondly issues of indigenous people of Nepal and the threat to sustainable development. For this study, only a few indigenous groups such as Humli, Tamangs, Gurungs, Duras, Chepangs, and the Rana Tharus with an objective to explore the functional values of their cultural traits and secondly, to find out the issues on indigenous people with special references to the Danuwars have been undertaken. He has included almost all the indigenous groups of Nepal but misses the Danuwars. Anthropologists say Darai or Rai or Danuwars are a sub-tribe of Tharu itself. Danuwar, Darai, and Majhis are indigenous people of the inner hilly region.

Material and methods

Study area

Formerly, Ganeshtan VDC now incorporated into Likhu Rural Municipality lies in the Nuwakot district of Bagmati province in central Nepal. It is situated at the longitude of 85° 10' 6.8" to 85° 17' 8.86" E, and latitude of 27° 50' 24" to 27° 56' 3.9" N (Figure 1). It has an area of 47.88 km², with a total population of 17,827 (48.61% Male, 51.39% Female) and 4,606 households. It lies at an altitude of 516 m to 1289 m above sea level. Likhu has 55.87% cultivable agricultural land, followed by 34.34% forest land, 7.55% water land, and 2.14% built-up land. Around 81.81% of households are engaged in the agricultural sector in some way. The area experiences sub-tropical to temperate type of climate.

Methods

This study relied majorly on primary data followed by secondary data for identifying the agricultural practices of the

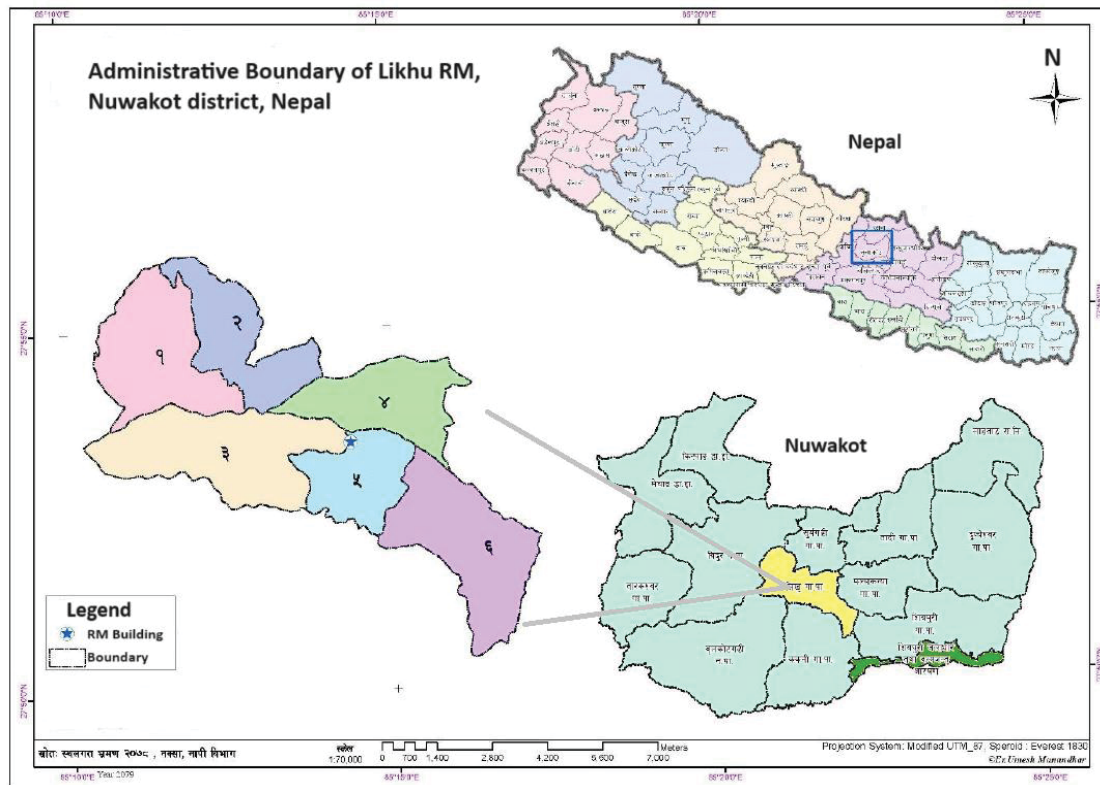


Figure 1: Study area map [10].

Danuwar community in Ganesthan VDC. Primary data were collected from direct field surveys with the help of structured and semi-structured questionnaires. Similarly, the necessary secondary data were gathered from published and unpublished documents of Bidur municipality, formerly District Development Committee Nuwakot, and from other related organizations. Different household surveys, key informant interviews, and observations were conducted to understand the people's perceptions. After the completion of data collection, both primary and secondary data were processed in MS Excel for further analysis. Quantitative data were analyzed and interpreted on the basis of statistical tools in Excel.

Results and discussions

Socio-economic survey

A general socio-economic survey of the household was conducted with the observations as depicted in Tables 1-5.

The highest numbers of respondents were from the age groups of 30-40 (Table 1). Through the table, we can say that the age group between 20-50 plays the dominant role in this study. Naturally, people in the same age group are the active labor force either in household activities, cultivation, or in the labor market, whereas age below 20 and 50-60 are also active psychologically. However, this study insisted that the youth age group 20-50 must have more knowledge about agriculture if they are educated. So far, the distribution by sex in this study was slightly dominant by male respondents as female respondents were 44% of the total respondents.

The majority of the respondents were illiterate in this study, whereas the female respondents were more illiterate in comparison to males (Table 2). In the same way, the rate of literacy was also slightly less in female groups. Among all the respondents, only 12% were educated, and none of them were from the female group. So this table indicates that the educational status is not satisfactory in the Danuwar community. In comparison to males, females were rarely found as higher-level students.

Data presented in Table 3 indicates that 2/3rd of the respondents were living in the nuclear family. People were found living in joint families, even though there was a large population size and were individually capable. The trend of living in a joint family was especially seen in such families where none of them were engaged in official jobs. "Higher the working manpower, easier will be the work in the season", this feeling occupied the mind of the Danuwar people. The traditional agricultural practice was found as the main cause for talking in favour of a joint family.

Table 4 shows that most of the respondents were from the family size of group 5-8, where the family size between 8 and 15 was also in significant numbers. Isolation and illiteracy were the major causes of the large family size. In this study, some of the respondents were found to have small family size. Especially, young and educated couples, employed people were aware of family planning and interested in small family size.

Almost all of the respondent's households were not found to be totally dependent on a single occupation or single source of



income as reflected in Table 5. Around 2/3rd of the respondents had taken agriculture as the first priority occupation whereas, service, labor, business, and small industry were also the first priority occupation of some households. Physical labor was the second priority occupation for a large fraction of respondents. Apart from this, service, agriculture, and labor works were also second-priority occupations for some households. It was identified that all of the respondents were involved in the agriculture sector, and in off seasons or other leisure periods, family members were involved in other occupations, but those respondents who had little land ownership either cultivated the

land of land owner in tenancy or they chose other occupation as the first priority occupation like service, labor, business etc. Only one household was found running the small industry as the first priority occupation and comparatively, they were economically sound, and still agriculture was their second priority.

This study actually tries to deal with the current agricultural practices amongst the Danuwar community of Nuwakot district. Being an agriculture-based community, agriculture modernization or the production of commercial goods is becoming a prerequisite for them to sustain themselves in society. Formerly, ward no 4 and 5 of Ganesthan VDC of Nuwakot, the cluster settlement of Danuwar was selected as the study area in this study. On the basis of random sampling, 100 households were chosen as the respondents and they were from different age groups and different economic and educational backgrounds. The majority of the households were living in nuclear family structures and agriculture was the main occupation of almost all of the respondents. Wage labor, service, and business were both first-priority and second-priority occupations respectively. The educational status was found very poor in the study area, where 52% of the respondents were still illiterate, and 36% and 12% were respectively literate and educated. The literacy rate of females was found far less than that of male respondents. In a study of the Danuwar community of Dudhau Municipality, Sindhuli district of Nepal, it was observed that the poor education level/illiteracy amongst this community led them to be dependent fully on the superstitious culture of Dhami/Jhakri during sickness [11]. This revealed the very low level of education in the Danuwar community which is consistent with this study. Traditional culture and low educational status were the main causes for the large family size of Danuwars. However, situations have now changed significantly, as such Danuwars in the Panchkhal community of Nepal have been much more aware compared to the past, where the majority have good family planning instruments, and or knowledge of them [12]. On average, the family size of surveyed Danuwar community was 8. None of the respondents were landless but there exists a disparity among land owners. Most of them did not have more than 10 ropanis of land and among them, only half of the respondents had the facility of partial irrigation. People are practicing double and triple cropping systems. Mainly rice, maize, wheat, millet, and mass were the dominant crops of the study area, where a few people produced cash crops like seasonal vegetables, milk, and meat products for commercial purposes.

Although people were found very hard working, their work in the agriculture field would not support them for a whole year. That means the production and productivity of land is very low due to the practices of traditional way of farming systems. Most of the people used ploughs for cultivation despite there is a facility of tractors on their land. The majority of the households practiced cereal cropping patterns, whereas only a negligible household practiced cash crop production but not totally in a professional way. Modern agriculture equipments like improved seeds, chemical fertilizers, and pesticides were familiar equipment for most of the people in the study area

Table 1: Distribution of Respondents by sex and Age Group.

Age group	Male	Female	Total	Percent
Below 20	8	6	14	14
20-30	12	6	18	18
30-40	14	12	26	26
40-50	10	12	26	26
50-60	8	6	14	14
70-80	4	2	6	6
Total	56	44	100	100

Table 2: Educational Status of the Respondents.

Level of education	Male	Percent	Female	Percent	Total	Percent
Illiterate	22	39.28	30	68.18	52	52
Literate	22	39.28	14	27.72	36	36
Educated	12	21.42	0	0	12	12
Total	56	100	44	100	100	100

Table 3: Family structure of the respondents.

Types of family	No of respondents	Percentage
Nuclear	66	66
Joint	34	34
Total	100	100

Table 4: Size of Family of the respondents.

Family Size	No of respondents	Percent
Below 5	12	12
5-8	56	56
8-10	16	16
10-15	16	16
Total	100	100

Table 5: Occupation of the Respondents.

First priority Occupation	No of respondents	Percent	Second Priority Occupation	No of respondents	Percent
Agriculture	66	66	Agriculture	32	32
Service	16	16	Service	14	14
Labour	12	12	Labour	48	48
Business	4	4	Business	6	6
Small Industry	2	2			
Total	100	100	Total	100	100

and more than 80% of the respondents used such equipment to some extent but lacked the intensive knowledge of usage. Neighbors' suggestions from shop and land owners as well as *agua krishak* (lead farmers) are also the major sources of information about modern agricultural equipment. Other sources like JTA/JT (Junior Technical Assistant), radio/ TV, development agents, and agricultural institutions play the role of information giver to the people, but only around 10% of the respondents were aware through the training provided by different institutions. Although a large number of people had knowledge, they did not use such equipments in commercial scale.

Low productivity of land, lack of irrigation facility, small land holding size, and lack of proper knowledge about the modern way of agriculture are the major causes for them being unable to produce sufficient food, whereas a low level of knowledge, lack of resources, low level of education, lack of unity in society, investment, training, leading persons in the society are causes found in the study for not heading towards agricultural modernization. However, Danuwars have good traditional knowledge and are well recognized in different ways, the wise utilization of which could be beneficial in a number of ways [13].

Majority of the respondents are aware enough that by producing the goods for commercial purposes, they can earn more to sustain their life. However, in practice, they still do not want to change their tradition and culture, which is almost in the condition of displacement. It is due to the lack of proper incentives for encouraging them and different factors that could motivate them to encompass the modern means of the agriculture system. Since major fraction had positive views or attitudes towards agriculture modernization, they would be willing to have transition soon. Besides the use of modern agricultural equipments, chemical fertilizers, improved seeds, pesticides, etc., is also minimally available amongst them. Most of them possess information about such equipment through neighbors, whereas little were aware through JT/JTA and from training and most of the respondents who used such equipments had experienced that they can produce more by using such equipments. Almost all the respondents were practicing the cereal pattern of cropping system: maize, rice, wheat, and mass for their subsistence but still, such production is not enough to sustain the family for the whole year. They need to work in other sectors for the fulfillment of their daily need. However, some of the respondents produced different goods for commercial purposes like milk products, meat products, and varieties of seasonal vegetables. None of the respondents were found totally dependent upon commercial farming and they used to produce such products for only partial fulfillment of their necessary needs. Double and triple cropping system was practiced, though the double cropping pattern is dominant. These types of cropping patterns have been practiced by different communities throughout the world [14-16]. Some of the respondents had access to partial irrigation facilities and some households were totally deprived of the irrigation facility. Irrigation is one of the vital things for increasing productivity and necessary for commercial

goods production and maintaining the quality of soil. Almost all gave emphasis on the empowerment of the Danuwars community through training, skill development programs, and awareness in society, which would certainly plays a vital role in this regard. The need for technical education, market availability, transport facilities, irrigation facilities, and access to microfinance activities were valuable things for them, and practices of agriculture in a modern way in order to bring them into the mainstream of development and to make them self-sustaining from the present situation.

Conclusion

Danuwars are socially and economically deprived due to their poor educational status, and the dominance of change resist tendency. Agricultural development is only the alternative for them to sustain in society, and enhance their socio-economy. Most of the respondents practiced cereal cropping patterns, while having little knowledge about modern agricultural equipments, chemical fertilizers, insecticides, and improved seeds, but they used only a few varieties and did not have intensive knowledge of them. Lack of irrigation facilities, encouraging agents, and capital were the factors Danuwars being unable to change the traditional way of farming system or subsistence economy. There is a need to enhance their knowledge on agro marketing to have better prices for their products. Education, awareness, and empowerment-related programs are the prerequisites for them to change their already occupied traditional mindsets. Income-generating activities should be launched to preserve tradition, culture, and assets like land because, without a source of income, they are bound to sell their productive assets for the fulfillment of daily needs. Providence of technical manpower like JT/JTA in the society should be used and there deemed the need for a special long-term master plan for the socioeconomic upliftment of such indigenous community.

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