MIGRATION AND ITS IMPLICATIONS ON THE LOCAL INITIATIVE OF MANAGEMENT OF WATER RESOURCE FOR IRRIGATION: SOME ANTHROPOLOGICAL OBSERVATIONS FROM WESTERN TERAI

Laya Prasad Uprety *

1.0 Introduction:

This paper has been written with two-fold objectives as follows: (i) to analyze the trends and causes of in-migration in a traditional *Tharu* community of western *Terai* that triggered the intensification of the local culture of water resource management for irrigation in the expanded command areas, and (ii) to analyze the implications of in-migration on the local initiative of management of irrigation systems.

The study from which the empirical data were taken for writing this paper was conducted in 2003 A.D in the command areas of *Sorah* and *Chhattis Mauja* indigenous irrigation systems located in the plains of Rupandehi district of western *Terai* . The *Sorah* and *Chhattis Mauja* irrigation systems have the command areas of about 1,500 and 3,500 hectares of land, respectively. These were originally constructed by the *Terai* autochthonous *Tharu* people. Initially, the *Sorah Mauja* irrigation system served a total of 16 *Maujas* and *Chhattis Mauja* irrigation system served a total 36 *Maujas*. But the command areas of both the irrigation systems later expanded which has been a function of the population growth triggered by the Hill to *Terai* migration particularly after 1960. During the period of fieldwork in 2002/3, the *Sorah Mauja* irrigation

• Laya Prasad Uprety holds Ph. D. in Anthropology from Tribhuvan University. He is an Associate Professor in Anthropology at the Central Department of Sociology/ Anthropology of Tribhuvan University, Kirtipur.

system had a total of 30 *Maujas* under its command area. It was also reported by the key informants that a couple of years back, it had a total of 33 *Maujas*. Similarly, *Chhattis Mauja* had a total of 56 *Maujas* under its command area during the period of the fieldwork. Like in *Sorah Mauja,* it had a total of 62 *Maujas* a few years back. The increase and decrease of the number of command *Maujas* is the function of the contribution and non-contribution of labor and cash, respectively, for the operation and maintenance (O&M) of the irrigation systems. Indeed, the right to use the water for irrigation as a common property by the water appropriators of a particular *Mauja* is entirely dependent on whether or not they have contributed labor and financial resources to the O&M every year. Despite the fact that both systems were originally developed in two different locations by the autochthonous *Tharu* people acquiring the water from the same source (that is, Tianu river), they have been sharing water from a single mega-canal since 1965. Since then, the mega-canal has been jointly managed up to the point of bifurcation from where water has been divided between the two systems proportionate to the size of their respective command areas (Uprety, 2008).

Ethnographic method was the principal data collection method which involved key informant interview and participant observation. In-depth study of nine *Maujas* (six from *Chhattis Maujas* and three from *Sorah Maujas*) was conducted. Using the non-probability sampling framework as practiced in anthropology discipline, a total of 90 informants representing the different cross-section of the population (mainly the functionaries of water users' organizations and community leader farmers) were purposively selected for gathering the data. The qualitative data have been analyzed thematically.

2.0 Perspectives Used on Migration Analysis in the Traditional *Tharu* Community

Review of available contemporary literature on migration has revealed that a number of perspectives can be used to analyze the migration phenomenon. Shrestha (2001) argues that most perspectives on migration focus on narrow disciplinary aspects and overlook the underlying relationships between migration and socio-economic formations and transformations. He basically discusses **four perspectives** to analyze the

phenomenon of migration in Nepal. These comprise: **economic-behavioral**, **eco-demographic**, **anthropological-sociological**, and **neo-Marxist dependency**. He explains that the economic-behavioral perspective on migration mainly focuses on employment opportunities including the making of the rational decisions by the migrants by moving in the direction where they expect to get the highest benefits. The eco-demographic perspective focuses on population pressure and carrying capacity variables and argues that population pressure leads to out-migration. The importance of anthropological-sociological perspective on migration is no less important. It focuses on the role of a number of variables such as kinship and ethnic ties, economic networks, modernization, etc. This perspective argues that stronger the kinship ties and ethnic networks, the greater the propensity to migrate. To a lesser extent, the neo-Marxist dependency perspective primarily focuses on the socio-economic structure, mode of production and capitalist penetration. It argues that migration is conditioned/manipulated behavior, which is directly related to capitalist penetration. I have used these perspectives borrowing from Shrestha (2001) to explain the phenomenon of in-migration variable in this short article in a nut-shell with a modicum of efforts.

3.0 In-migration in the Traditional *Tharu* Community and Concomitant Changes in the Social Structure of Water Appropriators

This section basically focuses on the in-migration of the hill caste and ethnic groups in the sample command *Maujas* of *Sorah-Chhattis Mauja* farmer-managed irrigation systems and its bearing on the social structure. Axiomatic is the fact that the phenomenon of migration has the direct bearing on the demographic composition of any society and the sample *Maujas* of both irrigation systems are no exceptions to this. It has a greater significance in the irrigation command area because it was a malarial area known as the *"Kalapani"* (death valley) inhabited by the *Tharus* only until 1940 A.D. But the in-migration of more than six decades in these command *Maujas* has changed its traditional social structure. Therefore, it is, indeed, necessary to analyze this phenomenon in a nutshell bearing in mind how it has affected the irrigation systems both positively and negatively from the perspectives of both migrant and indigenous water appropriators.

+

It is now contextual to have an analysis on the empirical data to see the volume of in-migration longitudinally in the sample *Maujas* that are more or less representative of the command areas of both farmer-managed irrigation systems. The data have demonstrated that of the 1028 water appropriator households from the nine sample *Maujas* of both irrigation systems, an overwhelming majority (90.3%) have been found to be migrants. If the data are disaggregated by systems, similar patterns are clearly discernable. Interestingly, there are still a few households of autochthonous people in the tail-end locations, which used to be the head-end locations prior to the influx of hill migrants and consequent forest clearance and the establishment of new settlements which have now become the present head and middle locations of the command areas of both irrigation systems. More specifically, slightly more than

Table 1: Distribution of Migrant Water Appropriator Households by Sample *Maujas* in Both Irrigation Systems

A. Chattis Mauja

Location	*Maujas*	Total no.of HHs	Total no. of migrant households
Head	Naya Shanker Nagar	72	69 (95.8)
	Pashupati Tole	32	30 (97.7)
Middle	Tin Number	269	269 (100.0)
	Pande Tole	34	34 (100.0)
Tail	Kumari	89	59 (67.3)
	West Jamuhai	71	48 (67.6)
Sub-total		567	509 (89.7)
B. Sorah Mauja			
Location	*Maujas*	Total no.of HHs	Total no. of migrant households
Head	Dinger Nagar	96	96 (100.0)
Middle	Anandaban Madhuban	263	263 (100.0)
Tail	Semari	102	60 (58.8)
Sub-total		461	419 (90.8)
Total (A+B)		**1028**	**928 (90.3)**

Source: Field Survey, February-July, 2003
Note: Figures in the parentheses indicate percentages.

two-thirds and a slightly more than half of water appropriator households of the sample *Maujas* of the tail-end locations of *Chhattis Mauja* and *Sorah-Mauja* respectively, are migrants (see Table 1).

Now it is also relevant to analyze the data of in-migration longitudinally. It has been revealed that the genesis of in-migration can be traced back to 1940 A.D. Looking at the aggregate data of 928 water appropriator households of the sample *Maujas* of both irrigation systems decennially, it has been observed that 1960s had relatively high influx of the migrants followed by 1950s, 1970s and 1980s (see Table 3).

Table 3: Decennial Distribution of Migrant Water Appropriator Households by the Sample *Maujas* in Both Irrigation Systems

A. Chhattis Mauja		**Migrant HHs by Decades**						
Location	*Maujas*	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	Total
Head	Naya Shankar Nagar	0	14	27	5	18	5	69
	Pashupati Tole	0	10	4	10	3	3	30
Middle	Tin Number	4	55	70	53	50	37	269
	Pande Tole	2	15	7	5	3	2	34
Tail	Kumari	0	4	8	22	14	11	59
	West Jamuhai	3	4	8	22	14	11	48
Sub- total 9		101 (1.8)	124 (19.8)	107 (24.3)	107 (21.0	61 (21.0)	509 (12.0)	(100.0)
B. Sorah Mauja		**Migrant HHs by Decades**						
Locations	*Mauja*	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	Total
Head	Dinger Nagar	4	10	19	32	20	11	96
Middle	Anandaban Madhuban	15	110	79	41	14	4	263
Tail	Semari	0	10	23	5	15	7	60
Sub-total		19 (4.5)	130 (31.0)	121 (28.9)	78 (18.6)	49 (11.7)	22 (5.2)	419 (100.0
Total (A+B)		28 (3.0)	231 (24.9)	245 (26.4)	185 (19.9)	156 (16.8)	83 (8.9)	928 (100.0)

Source: Field Survey, February-July, 2003
Note: Figures in the parentheses indicate percentages

The data furnished above have clearly showed that the sample *Maujas* of both irrigation systems have heterogeneous social composition of water appropriators-a function of hill to *Terai* migration. It has been revealed from key informants that there were only the autochthonous *Tharu* water appropriators in both irrigation systems prior to 1940 A.D. The field aggregate data from the sample *Maujas* of both irrigation systems have shown that majority of water appropriating households are the *Brahmins* (60.9%) followed by *Chhetris* (13.4%), *Tharus* (9.8%), *Magars* (9.6%), and others (6.2%). These data demonstrate that the *Tharus*, the only traditional water appropriators, have now been reduced to a minority community in the command areas of both irrigation systems (see Table 2).

Table 2: Distribution of Water Appropriator Households by Caste/Ethnicity of the Nine Sample *Maujas* of Both Farmer-Managed Irrigation Systems-2003

S.N	Caste/Ethnicity	No. of HHs of Nine Sample *Maujas*	Percentage
1	Brahmin	626	60.9
2	Chhetri	138	13.4
3	Magar	99	9.6
4	Tharu	101	9.8
5	Othersm	64	6.2
	Total	1028	100.0

Source: Field Survey, February-July, 2003
*Others comprise traditional low castes, *Gurungs, Newars, Thakurs, Ahirs,* etc.

4.0 Analysis of the Causes of Migration Phenomenon within the Perspectives:

Having seen the pattern and trend of in-migration in the sample *Maujas*, it is now worthwhile to analyze and explicate the factors triggering it. Apropos of the factors of migration, National Commission on Population (1984:1) in its study quotes the theoretic formulation of Lee (1966) as migration is a result of "pushes" and "pulls" or "attractions" and "repulsions", "attractions" and "repulsions", at both origin and destination, balanced in terms of efforts or costs to overcome the obstacles lying between the individual and possible alternative sites. The same study considers migration as a demographic process because it plays an

important role in the demographic change. It also considers migration as a social process. However, it is also critical of the adoption of reductionism to explain the phenomenon of migration and underscores the need for the adequate treatment of the social aspects of migration. It considers the inter-regional migration in Nepal as the "drift to the south" that started in the fifties. Now it is also relevant to discuss the phenomenon of migration of the sample *Maujas* in perspectives, albeit there is no unanimity in the adoption of one to explain the factor of causation. Borrowing the perspectives freely from Shrestha (2001), I have explained the factors triggering migration in the study area as furnished hereunder.

4.1 Economic- Behavioral Perspective

Using the economic-behavioral perspective, it has been ascertained from the field that a myriad of "pulls" of migration have been identified. These comprise: availability of productive land at the cheaper rate; high productivity of land; rumor of the distribution of the public land even to the squatters (because land encroachment by the poor/landless was the survival imperative); business opportunities; need of the agricultural labor force for the cultivation of the newly reclaimed land and the consequent exhortation by the *Jimidars* and *Zamindars* to the hill and Indian immigrants for the reclamation of land for the agricultural purposes and generation of the revenue; higher cropping intensity, etc.

More specifically, it was also revealed that the migration history of each sample *Mauja* was different. For instance, in Dinger Nagar, the head location of *Sorah Mauja*, the key informants revealed that a few hill migrants arrived in late 1940s and began to clear the forest themselves for the permanent settlement. But in Anandaban Madhuban, the middle location of *Sorah Mauja*, an influential *Brahmin* from Kathamandu (a government official known as *Sardar* during the Rana regime who was an historian, and a literary figure) and a few Dhital families from Gorkha district (who worked very closely under the *Sardar*) had come in the early 1940s for the development of settlements in the land under *Birta* tenure. It was revealed from the key informants that there was a dense forest until 1940 under the *Birta* tenure. A tender was published as per the permission of *Birta* grantee for cutting and selling the timber of the forest. The responsibility was handed over to the *Sardar*—the influential

Brahmin. In fact, he was given the *Jimidari* by the *Birta* grantee for the reclamation of forest for agricultural purpose by bringing the settlers and generate revenues. He cleared the forest with the help of the Dhital families and 12 new settlements were established, which were named after the numbers. But the area was generically called "Manigram", named at a later stage. There was the rumor that land was available at cheap price at *Naukatti* -- meaning newly cleared land (with 1680 *Bighas* of land) under the *Sardar*, which attracted many migrants from hill, *Terai* and also from India. Apropos of the cheap price of the land, an octogenarian *Thakuri* of Pande Tole shared that, "land was available at 1,000 (I.C.) per *Bigha* in the 1950s".

Land was also given to the *Tharus* but they disappeared leaving the land looking for their own *Tharu* community close to the receding forest. In fact, the Anandaban- Madhuban sample *Mauja* of *Sorah*, and Tin Number and Naya Shanker Nagar sample *Maujas* of *Chhattis* were all developed by the *Sardar*. The settlers who developed the arable land were given 50 percent of the cultivated land by *Sardar* free of cost. As indicated above, the overall policy was to reclaim the land by bringing settlers and generate revenue for the *Birta*-grantee. This explains how the institutional policy of government on land works as the "pull" of migration.

Similarly, a number of "pushes" have also been identified under the economic-behavioral perspective. These comprised: limited size of landholding; low productivity of the land; lack of irrigation; agrarian indebtedness; extreme exploitation by the feudal landlords by (charging usurious interest as high as 60 percent per annum) resulting in the progressive proletarization; food insufficiency; hard physical labor for the survival; unemployment and underemployment, etc. These "pulls" and "pushes" together with the rational decisions of the migrant people themselves with the anticipation of gaining the higher benefits in the study locale triggered in-migration.

4.2 Eco-demographic Perspective

Under this perspective, the main "pull" identified in the sample *Maujas* has been eradication of malaria in the so- called "death valley" (with the

collaborative effort of the government of Nepal, World Health Organization –WHO- and United States Agency for International Development –USAID-) in the mid-1950s and the immediate prospect of habitation due to the low density of population. But the "pushes" under this perspective included over-population in the carrying capacity of the hill districts of origin, gradual depletion of the forest resources and consequent ecological problems such as soil erosion and landslide. This is an important factor to be considered while analyzing migration because population cannot exist in the resource vacuum. In this regard, Shrestha (2001) posits that unless the population is engaged in a production relationship with natural (land) and development resources, it can neither support itself nor produce any economic surplus for indigenous capital accumulation, without which it is difficult to achieve sustained economic growth and development. Therefore, it shows that once there is the crunch of the resource in the hill such as land, people have a propensity to migrate to those areas where there is higher carrying capacity such as the command areas of two irrigation systems under study.

4.3 Anthropological-sociological Perspective

Under this perspective, a number of "pulls" have been identified in the sample *Maujas*. These comprised: the availability of social infrastructures as the function of growing social modernization (such as development of road network system and emerging transport system, availability of better schooling and medical facilities both in the government and private sectors since 1960s, marketing facilities at Khasulee and Batuwali- the former being old bazaar across Tinau and the latter being the present day Butwal, indigenous irrigation canals, etc.), kinship, friendship and ethnic ties (increase of the in-migration as a function of the successful settlement of the fist migrant kinsmen/relatives, friends and people belonging to one's own ethnic community), etc. Similarly, a few "pushes" have also been identified. These comprised: lack of better modern social infrastructures (as specified above) and consequent perception of people about *dukha (*physical hardship of life) due to its inaccessibility, growing family size and difficulty to support it, etc.

4.4 Neo-Marxist Dependency Perspective

To a lesser extent, the growing capitalistic penetration at Khasulee/ Batuwali from the Indian territory by the trucks and lorries with merchandise looking for the virgin market in the western region and creating an ambience for the hill people to establish the commercial centers in the vicinity of the command *Maujas* of both irrigation systems for the easy access to these merchandise for household consumption have also been identified as the "pulls". This phenomenon gave the impression to the first migrants about the relatively easy life, which was communicated to other friends/relatives in the provenance, which further attracted other hill migrants. Conversely, in the provenance, there was no facility of the availability of merchandise making the people feel that their life was easy even for consumption, which was also reported to be a "push".

Shrestha (2001) is also of the opinion that one useful institutional approach is to analyze underdevelopment and migration from a historical, political economy perspective. He views that such underdevelopment and migration are directly related to the institutional policies as reflected in the changing social formations, in which the social relations of productions and the corresponding modes of development are featured. Institutional policies of state land management such as granting of the *Birta* and the consequent interest of the grantee for the land development and the revenue generation, which was possible by motivating the immigrants from the hills and India, fall under the political economy perspective. The migration phenomenon was the function of the underdevelopment in the provenance.

The provenance of the majority of the migrant people comprised the hill districts of western Nepal such as Palpa, Gulmi, Baglung, Parbat, Syangja, Arghakhanchi and Lamjung. But a few have come from Mustang, Ilam, Tanhau, Okhaldhunga, Dolpa, Humla, Rukhum, Terathum, Rauhat, Makwanpur, Dolkha, Nuwakot and Kathmandu. Some migrants were also from the neighboring *Terai* districts such as Nawalparasi and Chitwan. Some of the settlers have come even from Burma when the Nepali population could not stay there due to the political change in early 1960s. A few had also come from the neighboring districts

of India who were brought by the *Jimidars* for the reclamation of the land and settlement. Mainly, the *Brahmins* and *Chhettris* from the hills were the early migrants. It was primarily so because some of these caste group people were employed by the state as well as the *Birta*-holders in the capacity of *Jimidars* for land reclamation, increase of the settlement and revenue generation. The *Brahmins* and *Chhettris* were followed by other ethnic groups such as the *Magars, Gurungs, Newars, Thakalis,* traditional low caste groups, and some social groups of Indian origin such as the *Kewts* and *Ahirs* from the neighboring state.

Thus, the phenomenon of hill to *Terai* migration has played a direct role in the change of the social structure where there were only the *Tharu* autochthonous people until 1940s. Stated somewhat differently, the homogeneous ethnic structure was changed into the heterogeneous social structure, which has been bound together by a host of sociological-anthropological variables. These comprised: **the personal friendship, patron-client relationship, labor relationships and other forms of the economic interdependence, shared social obligations, fictive kinship, ties of kinship, political relationship,** etc. The key informants have the perception that these factors have been contributing to maintaining the social relationships between and among the heterogeneous social groups after the influx of migrants in the sample *Maujas* of both irrigation systems. All these have the bearing on the conformance of the irrigation organizational norms and regulations. Anthropologically speaking, economic behavior of water appropriators cannot and must not be seen by disembedding it from the larger social context. The influences or consequences of the in-migration on irrigation management have been analyzed hereunder.

5.0 Implications on the Local Initiative for Managing Water Resource for Irrigation

Gradually, the new social relationship that emerged out of the influx of in-migrants began to generate the changes among the traditional water appropriators with respect to the local initiative for irrigation management. The relationship between the traditional *Tharu* water appropriators and the migrants was, at the very outset, reported to be problematic and in isolated cases antagonistic because both communities had the claim on

water as 'commons' for irrigation in both irrigation systems. The traditional water appropriators of both systems did not have an experience of sharing water from a single canal with different social groups for agricultural purposes prior to the influx of migrants. Therefore, the *Tharus* shared the opinion that some of the consequences of in-migration were negative. One of these was the change of original *Maujas* of the head locations into the tail-end *Maujas*– a function of land reclamation in *Birta* land by the settlers and public lands by the squatters who were legalized by the state at a latter stage. This change triggered another associated problem, that is, rampant water theft at the beginning and thereby depriving the *Tharu* tail-enders of the adequate water for irrigation. This, in turn, increased the frequency of conflict between the traditional right holders and the new claimants of water rights. In a number of *Maujas* of both irrigation systems, water appropriators of the head and middle locations also began draining the water during the abundance causing harm to the cropland of downstream *Tharu* water appropriators.

Though it is not explicitly articulated by the *Tharu* traditional water appropriators in public, they insinuate that their traditional leadership of the common property resource management based on the feudalistic relationship between the heads of community and common people was supplanted after the influx of in-migrants. The traditional leadership of *Badgars* (Tharu local headmen) responsible for the community development activities under the *Chaudharis* (local revenue functionaries prior to 1964 A.D) including irrigation management was changed—a function of the predominance of the hill migrant population and assumption of leadership by the active migrants for irrigation management. Initially, the *Chaudharis* were the influential people in the region. Even the senior government officials such as the Chief District Officers and zonal commissioners at the beginning of the *Panchayat* (partyless political system between 1960 and1990) regime were not in a position to do anything without garnering their support. Their words were considered as the laws within the community and the common people were called as the "*Raitan"* (meaning the subjects/*ryots*) who had to follow their words. But once the influx of the hill migrants was in full swing, the *Tharus* were outnumbered and consequently, the influential hill migrants became

active in the irrigation organizations (which were informal at the beginning and formal at the latter stage).

However, the *Tharu* key informants have also held the opinion that the introduction of the partyless *Panchayat* system, which began electing local representatives also triggered the gradual weakening of the traditional role of *Badgars*. This was primarily so because many of his traditional community development works were discharged by the local elected representatives of the wards. In the case of *Chhattis Mauja*, the hill migrants began squatting the forest along the sides of the canal which had the negative bearing on the condition of the canal, that is, the demolition of the alignment of canal by the rain water--a function of the removal of the ground holding trees.

Despite the grumbling of the elderly *Tharu* key informants and their perceptions on the initial negative consequences of in-migration, the interrelationship between the hill migrant social group and autochthonous *Tharus* began to change from antagonistic to accommodative mode—a function of the intermixture and gradual cultural assimilation in the same ecological setting. In other words, the two social groupings began to interact gradually and learn each others' cultural activities and understand each other, and thereby they began being supportive to each other in the community development activities, including local irrigation resource management. They also understood that the unceasing antagonism would take them nowhere. The intermingling created a congenial ambience for the community leaders of both migrant and autochthonous communities to devise ways for accommodating the competing interest for the utilization of water for the farm economy to sustain their livelihood.

It followed as a corollary that the key informants and the participants of the focus group discussion also shared a number of positive consequences of the in-migration and changed social structure. These comprised as follows:

(i) development of the formal democratic irrigation organizations in both systems from informal systems for organizing the heterogeneous water appropriators belonging to different social/caste/ethnic groups and ensuring the equitable distribution of water for sustained livelihhoods;

(ii) codification of the traditional irrigation norms/rules/regulations into the form of the constitutional choice and operational rules in a collective fashion for governing the behavior of the growing water appropriators with diverse social and cultural background;

(iii) construction of the stable outlet structures for the division of water between and among the *Maujas* to minimize the occurrence of the conflicts with the community support as well as the financial, material and technical support of the state and local government units;

(iv) more cash and labor mobilization for the repair and maintenance of the main canal and its distributories owing to the increase of the number of migrant water appropriators for the sustainability of both irrigation systems;

(v) consensual decision from both social groups for the change of time for the repair and maintenance of the main canal and its headwork from May-June to February-March (the former time is extremely hot to work and the autochthonous *Tharus* were only used to work during this period which is very inappropriate time for the hill migrants and the latter time is not that hot so the hill migrants can also work);

(vi) preparation of the water schedule for the water distribution within and between the *Maujas* (water began to be distributed on the rotational basis) which was not needed when there were fewer *Tharu* water appropriators in fewer *Maujas* in the past;

(vii) introduction of the *Kulara* system in lieu of the *Jharuwa* for resource mobilization for repair and maintenance albeit it has the "social survivals" to some extent;

(viii) occasional demand of the *Maujas* of the tail–end location for the reduction of the number of laborers required for repair and maintenance of the canal systems—a function of the scarcity of the water;

(ix) institutionalized approach of conflict management through deliberation/discussion with a view to providing the justice instead of simply using the draconian approach to penalize non-conforming water appropriators in the pre-migration period with no consideration of justice;

+

(x) commencement of the organizational culture for maintaining transparency and accountability by the irrigation functionaries at all levels of the irrigation organization, etc.

In addition to the above, migration also began triggering the urbanization in some *Maujas*, which, in turn, triggered the reduction of the number of *Maujas* in command area. The cases below amply demonstrate how urbanization triggered by migration affects the command area of irrigation systems.

Case 1: Impact of Urbanization on the Reduction of the Command Area in *Chhattis Mauja*

A *Bohara* farmer of Shivapath, ward no.13 of Butwal municipality, narrates how the urbanization triggered by the migration from the hill has been impacting upon the reduction of the number of *Maujas*. The old name of his settlement was Majhuwa. This is located between the *Sorah* and *Chhattis Mauja*. In late 1960s, people did not want to live here because the land was sandy and was full of gravels. So people used to sell the land at the nominal price and migrate to other areas. Mr. Bohara's father himself left the area temporaily and went to Khasuli bazaar in the late 1960s. But in early 1970s, his father and other 15 farmers approached the representatives of *Chhattis Mauja* to provide the water, which was accepted by the latter. As a corollary, they had to contribute one *Kulara* labor to repair and maintain the system. Mr. Bohara also worked as the *Mauja Muktiyar* since mid-1985s. However, at the same point of time, an English medium school was established which contributed to increase the price of the land unprecedentedly and people again started selling the homestead land at higher price to other migrant people for building the houses for the permanent settlement. During the period of the fieldwork in February-July, 2003, there were only two water appropriators for the *Kulahai*. Mr. Bohara had 8 *Katthas* of land. In 2002, he went for *Kulahai* for 27 days. And he decided to discontinue to contribute the labor because the operation of the distributory canal by one farmer was impossible. Nor he was in condition to pay the *Khara* for not contributing the labor. And *Chhattis Mauja* was not ready to provide the water for only one water user. Thus, the *Mauja* left *Chhattis Mauja* for ever—a function of growing urbanization triggered by migratio

Case 2: Impact of Urbanization on the Reduction of the Command Area of *Sorah Mauja*

In the head portion of the command area, the traditional *Maujas* are gradually being urbanized. The land is being sold at higher prices for homesteads. Both the number of cultivators and the land for cultivation are gradually decreasing. This is more so in Majhgaon, Majhuwa, Kalikanagar, Sukhanagar, Devinagar and Janakinagar *Maujas*. During the period of the fieldwork in 2003, it was reported that Majhuwa and Sukhanagar had left the *Kulahai.* Those *Maujas* which had not left the system were also demanding for the reduction of *Kulaharas*.

6.0 Concluding Remarks

Based on the empirical findings, it can be concluded that the inherent unique feature of the social structure of both irrigation systems is such that the hill caste/ethnic migrant water appropriators have completely learned and accepted the native culture of common property resource management as if they are a part of traditional social structure. Despite the initial tension for the leadership positions and sharing of the water between the *Tharu* natives and the migrants until there was full societal interaction and mutual understanding, there has been generally a good social relationship/interaction between them. The result is the sustained management of the irrigation systems for their livelihood because both native and migrant communities contribute their cash/ labor/material resources to the operation and maintenance without any serious conflict. This social setting studied demonstrates a unique migrant-native interface which can be a model of the common property resource management for other parts of Nepal *Terai* where similar social structure exists. Notwithstanding this brute fact, migration has also begun having the adverse effect on the reduction of the command areas of the irrigation systems through the process of urbanization. This also portends that as the process of urbanization increases at a fast rate in the command areas of both irrigation systems and people have begun switching to other cash-earning professions (such as businesses, small-scale industries and foreign employment), farmer-managed irrigation systems may be in a transition in another quarter century.

+

Glossary:

Bigha =	0.67 hectares
Badghar =	traditional Tharu headman in the community
Bhujabhandi =	labor contribution with tiffin to work for full day until the repair and maintenance of main canal system and headwork is over
Bighatti =	annual irrigation service fee per Bigha of land collected from the water users households who do not contribute labor to the repair and maintenance of the irrigation system
Birta =	tax-free land granted by the state to the individuals
Chaudhari =	local revenue collection functionary among the Tharus in pre-1964 Nepal
Chaukidar =	watchman-cum-messenger in the local context
Jharuwa =	contribution of labor for the repair and maintenance of canal system on compulsory basis by each water appropriating household until the work is over
Jimidar =	the local revenue collection functionary in the Terai
Jimidari =	a system of revenue collection system in pre-1964 Nepal under which a landlord was given large tract of land by the state as well as the Birta-grantees and he was responsible for attracting the settlers and maximizing the collection of revenue after deducting his proceeds
Kattha =	20 Katthas make one Bigha
Khara =	fine imposed
Kulahai =	labor contribution for system repair and maintenance
Kulahara =	laborers/workers
Kulara =	Kulara is the water allocation unit. One Kulara means one laborer to be sent for system repair and maintenance activities per 25 Bighas of land.
Mauja	
Muktiyar =	the staff of village level irrigation committee and in isolated cases, he can be the village level elected representative of water users

+

Mauja = a settlement cluster which roughly corresponds to a village

Maujane

Nath/Nap = the measurement of main canal assigned by the Meth Muktiyar to each Mauja for the annual repair and maintenance which is proportionate to the size of its command area

Meth

Muktiyar = system level chief staff

Mukhiya = the chief in the Mauja settlement who had to support the Chaudharis/ Jimidars

Muri = 20 pathis

Nath or Naj or Nap = measurement of the main canal for repair and maintenance assigned to a particular Mauja

Naukatti = newly reclaimed land

Panchayat = non-party political system introduced in 1961 which continued till 1990. At the local level, Village Panchayat meant village council which consisted of the elected/selected representatives of people and at the meso level, district Panchayat meant district council which consisted of representatives of the Village Panchayats. At the national level, there was Rastriya Panchayat (meaning national level unicameral legislature), which consisted of selected/elected representatives from 75 districts of Nepal

Sardar = a typical administrative post during the Rana regime

References

National Commission on Population. (1984). *Interregional Migration in Nepal: Problem and Prospects*. Kathmandu: Nepal.

Shrestha, N.R. (2001). *The Political Economy of Land, landlessness and Migration in Nepal*. New Delhi: Nirala Publications.

Uprety, Laya Prasad (2006). *Managing Water for Irrigation as a Common Property Resource: A Case Study of Sorah-Chhattis Mauja Indigenous Irrigation Systems of Rupandehi District*. Unpublished Ph.D Dissertation. Kathmandu: Tribhuvan University, Nepal.

+

Uprety, Laya Prasad (2008)." Embeddedness and Its Role in Irrigation Management: Some Anthropological Observations from Western Terai, Nepal" in Kailash N.Pyakuryal et.al (eds.) *Social Sciences in a Multicultural World: Proceedings of the International Conference* Held on 11-13 December 2006, Kathmandu.