Community-led Land and Water Resource Management in Nepal

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Abstract

This paper explores how land and water governance is coordinated in the Nepali context what lessons are learnt and what challenges the governance system needs to address on a priority basis. The paper presents a case and argues for promoting community-led land and water resource management in order to realize environmental sustainability, food security and the assurance of social and economic rights of the farmers whose livelihoods depend heavily on subsistent farming.

Introduction

In the midst of the rather fragmented governance system pertaining to the management of land and water resource, farmers in Nepal rely on the customary and informal practice of accessing and using these valuable natural resources and maintaining livelihoods. The canals bringing water to more than 70 percent of the total irrigated land are locally negotiated, constructed and managed collectively by farmers. Obviously, land and water resource management is not only the issue of agriculture production; it is also the issue of food and livelihood security and employment generation. In the context of Nepal, only 54 percent arable land is irrigated which means a large number of farmers, particularly landless tenants and agriculture labourers, are compelled to do more only to produce less. What's more, more than half of such a meagre produce goes to the landlord living the tillers to suffer from food insecurity and poverty. The state is yet to reach out to most of these farmers with legislative and policy support not only to have their lands irrigated but also for them to legally own the land they have been cultivating, produce more, ensure food security and sustain livelihoods. There is no motivation for them to invest time and effort to irrigate the land when the land, although they cultivate, belong to the landlord.

Historically, Nepali farmers are the victims of feudalism. The political context prior to the reinstatement of multiparty democracy in 1990 forbade landless farmers or agriculture laborers from being organized and engaged in campaigns to claim their right to land ownership and sustainable use of natural resources. Hence, they did not have the voice in the formulation of land and natural resources acts, legislations and policies, as such the state's promulgation of these instruments, e.g. the land reform act introduced in 1964, remain nothing more than a theoretically motivated populist propaganda that brings no benefit to the real farmers. On the other hand, in the current democratic political context farmers enjoy the freedom to come together to engage in campaigns by establishing their own organizations at the local level federating them to district and national levels. The governance of land and water sector is now more likely to be responsive to farmers' voices. Governance is not just decision-making, it is also ensuring that formulation and implementation of policies and programs are participatory and inclusive. But, at the same time, the governance cannot remain unaffected by several different interest groups and is pulled apart to serve competing agendas. Hence while it is being constantly reformed the influence comes mainly from the three key entities: i) market/private sector; ii) state party; and iii) community/farmers' organizations.

There is a growing acceptance that land and water resource management in Nepal is more of a local than a central issue. In this context, it is being strongly argued that management of land and water resource needs to be community or farmers-led. Moreover, the experiences of people-led campaigns have taught a lesson that Village Development Committees (VDCs) and/or Municipality Development Committee (MDC) taking the lead role in land and water resource management practices ensures more sustained ownership of farmers and

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communities rather than that taken by the central authority imposing blanket framework, policies and plans.

Fundamentally, therefore, it has been widely recognized that the approach to land and water resource management needs to be holly bottom up which needs to be established as a national policy. However, there are still some challenges which the approach faces and some critical issues which remained unaddressed. In other word, the experience of practicing the community-led management of land and water resource is far from being adequately comprehensive and holistic. The approach lacks consideration to link the farmer-led management with the context that is both intrinsic and extrinsic to farmers.

The intrinsic context pertains to farmers' technical capacity, understanding of gender role in farming, access to land and water resource-related public services and the extent to which they are able to diversify their farming and sustain livelihoods ensuring the family's food and socio-economic securities. Similarly the context extrinsic to farmers pertains to legislative and policy support, gender equality and social inclusion, devolution of administrative authority to VDCs/MDCs for the delivery of land and water resource-related public services and the mechanisms of promoting lateral linkages and coordination among administrative units under relevant line ministries.

The Context

As per the *Agriculture Census of Nepal* 2011, there are 5,423,297 households of which 3,831,093 are those of farmers most of whom depend on subsistent farming. Agriculture remains the predominant source of living for 65.6 percent of the total population in Nepal (Census 2011). Nepal has 2.7 million hectares of agriculture land (Pradhan, 2012) of which only 54 percent is irrigated (CBS, 2013). A large chunk (53 percent) of farmers are actually smallholders each having ownership of less than 0.5 hectare of land (NPC/NLSS 2010/11). There is a handful (4 percent) of rich farmers who control 22 percent of the total arable land while the 53 percent farmers categorized as smallholder have access to only 18 percent (CBS/NLSS, 2011:7). Similarly, the 10 percent of landowners rent out land to tenants or agriculture labourers where as 32 percent of smallholders lease land from such owners to top up on what they produce in their own land and barely assure the food security of the family. The stark irony in the farming profession is that there are 5 percent farmers who do not own any land but farming is all that they know to survive and feed the family. Therefore they have no choice but to cultivate land owned by others on a shared crop basis usually agreeing to the terms and conditions imposed by the landowner (NLSS, 2011:7). The unfortunate bitter reality of the agriculture profession is that those who control the legal right of land ownership and gain the most from agriculture are not actually the real farmers working physically in the agriculture field. The landless, smallholders or poor farmers are the ones who put in their blood and sweat to cultivate the land, but are deprived of the land ownership. In such a context, neither the landlord nor the agriculture worker is interested to invest on irrigation and scientific land management (Basnet, 2013).

Historically, Nepal had a strong agricultural economy that was based on indigenous irrigation systems known as Farmer Managed Irrigation System (FMIS) (Gautam, 2011:1). Farmers could not perceive land and agriculture separate from water resource and irrigation. In the present context, however, land and irrigation are two distinct sectors governed by separate ministries without proper coordination and coherent rules and regulations.[2] The governance of the irrigation sector is highly centralized that has generally failed to address the issue of lack of equitable access to water resource and irrigation facility.

Agricultural productivity and food security of poor farmers hinge upon the extent to which the state realized the criticality of irrigating the land belonging particularly to smallholders or poor

[2] Based on a discussion held on 31 May 2015 with Professor Laya Prasand Upreti, Department of Sociology and Anthropology, Tribhuvn University.

farmers. Unfortunately the state-managed irrigation system hardly brings benefits to poor farmers, rather it has induced conflicts among the farmers. The lack of voice and participation of farmers in the governance led the irrigation sector to be controlled predominantly by the elite class (Pradhan, 2012: 47-48).

Although 70 percent irrigated land area in Nepal fall in the category of farmer-managed irrigation system (Pradhan, 2012: 47), the produce contributes only 40 percent of the country's food requirement (Gautam, 2011: 2). The farmer-managed irrigation system could have been expanded in the rest of the 46 percent of total national agriculture land, which still is not irrigated. Because of such a huge proportion of land still un-irrigated, the country is increasingly suffering from food deficiency. Nepal has been transformed from food exporting to food importing country (Gautam, 2011:3) due to the mismanagement of land and irrigation system. In 2013/14 Nepal imported the food from India that cost the nation Rs. 12.37 billion.[3]

Food production is likely to suffer further as fertile agriculture land is being converted rapidly and massively into plots for non-agriculture purpose such as housing and industries. Recent experience reveals that majority of farmers are no longer interested to invest more on agriculture because the perceived economic rate of return from agriculture is not as attractive as what they would be paid for the land from the real estate developers. The trend of swaying of land use for agriculture to non-agriculture purpose is alarmingly worrying. For example, the massive public investment in irrigation in the touristic Pokhara Valley of Kaski district resulted into waste of already meagre government funding as the land meant to be irrigated has been purchased by the real estate developer.[4] Poor and indigenous people are hardest hit as they have been uprooted because of the development of this new phenomenon. The speculative soaring of land price entices farmers to give up farming. The country is likely to lag behind further in agriculture sector with increased food insecurity.

In this context, the state faces the challenge of how and when it should intervene with necessary policy and regulatory mechanisms to protect the agriculture land from being further converted into real state plots for non-agriculture purpose. Meanwhile, the land and irrigation sectors need to capitalize the value of improved coordination and participatory governance to complement each other's development efforts and optimize benefits for the marginalized farmers so that farmers are encouraged to diversify their farming and produce more.

It is important to understand the geo-political diversity of the country and how land and water resources are historically managed and used in the diverse topographical contexts. The land mass in the country stretching from east to west that rises almost steeply towards north from about a couple of hundred feet along the southern plains to couple of thousand feet high hills along the Chure range passing through stretches of inner Terai (plans) and high-land valleys to gigantically higher hills of Mahabharat range then all the way up north to the highest pick of the world. Depending on the topographical location of the land they are farming, the farmers are engaged in locally appropriate systems of managing the use of land, water resources and irrigation. On the hills and high-hills farmers basically use surface water to irrigate the terraced land. The farmers cultivating the flat land of Terai use the ground water together with the surface water. Also depending upon the topographical locations to which farmers belong the issues of tenancy, land ownership and land use differ. The numbers of tenants and landless people are higher in Terai than in hills. According to the government data poverty is more pronounced in Terai than in hills due to the persistent exploitation of land-poor farmers.

[3] Trade and Export Promotion Centre, *Agro Imports Leap Join Rs 100 billion Club,* published in Kathmandu Post Money Page I, 7 January 2015.

[4] An issues raised by Dipendra Bahadur Keshatri, former Vice-chair of Nepal National Planning Commission, during an interaction program on Agrarian Questions organized by Fact Nepal on 24th November 2013, Kathmandu.

Based on the review of relevant documents, the information gathered from individual and institutional sources the following typology of Nepal's irrigation and water management system has been drawn:

Government-managed system: Under this system the management of water resource and irrigation is totally controlled by the bureaucrats of either the Ministry of Irrigation or its departments or at the district offices. The Ministry also mobilizes donor funds to manage the system or develop and implement large-scale projects. The system and the projects under it are mostly centralized and do not invite people's participation in the planning process. This system is technically and bureaucratically controlled by the government and focuses more on engineering and technological aspect with no or less emphasis on concerns for equitable benefits.

An irrigation system jointly managed by the government and farmers: The system is initiated and established by the government, which eventually handed over in parts to the farmer user groups. For example the management of sub-canals of a main irrigation project, normally funded by the donor, is handed over to the user group. It is a supply driven irrigation system the process and planning of which does not typically invite users' participation. The system also pay less or no heed to the capacity building needs of the farmer user groups prior to handing over the management of the sub-canal.

Turnover irrigation system: This is a system that is originally handled by the government, which later on is handed over to the farmers or water users' committee. The project funding for this system is also acquired through donor support and irrigation project is constructed by the government. After the completion of the project, the management is handed over to the user group committee, also in this case without the support for capacity building and establishment of the operational mechanism.

Farmers-managed irrigation system: This system covers 70 percent of total irrigated land and is the main contributor to assuring national food security. Although this is a traditional system, it has the ownership of the farmers and is more sustainable than the ones created by the government. People or farmers themselves mobilize local resources, contribute to the development of this system and ensure equitable access to the benefits it offers. The system is operationalized with the help of the rules, by laws and water distribution policy developed collectively by the farmers.

Private irrigation system: This is a system of irrigation constructed, owned and managed privately either by landlords or large scale investors of agro-based industries. Obviously the system is under total control of the investors or the landlords.

Shallow tube-well irrigation system: All the systems mentioned above make use of surface water. The shallow tube-well irrigation system, common mostly in Terai, utilizes ground water. This system is also mostly controlled by the local elites or landlords to irrigate their private land and agri-business.

Land and Water Governance

The available literature points to different governance practices related to the land and water sectors in Nepal of which the following three stand out prominently:

- market or private sector oriented governance,
- state controlled or bureaucratic governance, and
- community/farmer-led or participatory governance.

The alliance between the state and businessmen or industrialists has a dominating influence over the governance and management of the land and water resource sectors. This allows private sectors to exploit land and water resource obviously to serve its core purpose of making profit (Zhao, 2013:125). In the context of Nepal private sector's control of the land market and water resource along with the long term leasing of public land has become pervasive in the recent years. Rampant conversion of agricultural land into non-agricultural uses has had an adverse effect on the food security and livelihoods of the poor and marginalized farmers. It has been starkly experienced that the stronger the private sector influence over the governance the weaker the voices of the poor farmers and less likely for them to participate in the governance process. Ultimately it is the democracy or democratic process that becomes the casualty. This is precisely the unfolding scenario in the land and water sector governance in Nepal. Market has grown stronger and is successful in commoditizing land and water resource pushing smallholders and tenant families to the edge of being displaced or uprooted. As a result, the country is experiencing growing food insecurity. The curve of food import from India and China has further steepened while the private sector reaps increased profit.

According to a recent media report,[5] the land plotting for real estate market and housing construction in 2014 attracted a humongous investment of Nepalese Rs. 52 billion from different commercial banks. In a period between 2002-2012, 129 thousand hectare of agricultural land was converted into real state plots or large-scale commercial farms—tenant farmers as well as smallholders forcibly lost access to land and the peasant economy dwindled.

Due to the privatization of water resource, rivers that are inextricably linked with the life and livelihoods of the people are being registered in the name of private companies/cooperative. The people no longer have free access to the nature resources connected with the river system, which invited conflicts and disrupted social harmony in the neighbourhoods. It has also affected Nepal's traditional farmer-managed irrigation system. The flow of the river is controlled for the purpose of generating hydropower and supplying drinking water to urban cities that has adversely affected the local irrigation system and productivity of the land.

STATE-CONTROLLED GOVERNANCE

This system of land and water resource governance in Nepal is excessively top heavy because of the rigid bureaucratic tradition dominating the state mechanisms and operating procedures. The governance policies and programs are developed centrally without even minimum consultation with the intended beneficiaries. The prescribed rules, regulations, policies and programs are imposed upon the farmers as essential supply of development. Often there is a mismatch between what is supplied and what the people actually demand or aspire. Any voice raised against the state's top heavy governance is silenced by exercising the administrative authority of the state supposedly to maintain the law and order situation.

In the state-controlled irrigation governance decisions affecting the lives of the farmers are made by the bureaucrats in consultation with experts and specialists. Clearly, irrigation for the bureaucrats is simply a technical subject in which political, social and cultural concerns carry no meaning, hence for them the farmers who are perceived to have no clue about technical aspect are not worth consulting. This perception is all the more pronounced as, for the past 15 years, the operation of Nepali village development committees (VDCs) is not overseen by democratically elected people's representatives—all these years the state has not called the local election. The VDC secretaries who were bestowed the role of acting head are the government staff. They are expected to be more loyal to their superiors in the bureaucratic hierarchy than inviting local farmers to participate in the decision making process.

The centrally conceived, designed, developed and executed projects and programs under such a governance system essentially lack local ownership. The state, however, is obliged to handover the projects and programs to the community based user group committees with an

[5] http://www.onlinekhabar.com/2015/02/239789/ accessed on 11th February 2015.

understanding that the "technically sound" development initiatives are ready to be used by the farmers and sustained with the management of the user committee. However, the system of government-controlled governance of land and water resource sectors has not considered the need to build local capacity as a prerequisite of the handover process, let alone the consideration of other issues related to ownership, equity, human rights and sustainability vis-à-vis social and cultural concerns.[6]

COMMUNITY-LED OR PARTICIPATORY GOVERNANCE

Under this system the beneficiaries are invited to be part of the process to have their voices, concerns and aspirations considered in policy decisions and in designing and developing projects and programs. It also respects local knowledge, social values and cultural concerns and integrates them in the projects and programs to the extent possible. It recognizes the value of capital and technology in the land and water resource sectors to accelerate the process of development in these sectors but at the same time ensures that they are not intrusive to the social, economic, cultural and emotional contexts of the farmers. They should have a complementary value, not a dominating one and appropriated in the context but not the other way round.

Unlike in the government or bureaucracy-led system, the community-led or farmer-managed land use and irrigation system emphasizes on an egalitarian/equitable distribution and use of land and water resources. It is a political approach that resists bureaucratic or any other form of external policy imposition; instead it proposes policy and program options based on participatory decisions. Concerns of democracy, human rights, gender equality and social inclusion cut across its processes and decisions. The proponents of market economy and neo-liberals find this system problematic, particularly, in influencing the state and shaping the land and water sectors into profit-making commodities.[7] In the community-led or farmer-managed approach, the community or local farmers assert that they are an important stakeholder capable of taking active and constructive role to contribute to the policy, programmatic and management decisions.

Which of the demand or supply side of the land and water resource governance is being strengthened more depends upon which governance system(s) that the state values and promotes or how it strikes a balance between various systems. It also depends upon the power of, and power relations between, different categories of stakeholders. The context in which the land and water sectors are governed is one of the most suitable playing fields for the power nexus. The community-led or farmer-managed governance system also unpacks the power dynamics of different interest groups and supports the community or farmers to build their case, initiate resounding actions/campaigns/movements and take back the power from the state or market and determine what they want and how the sectors should be governed (Zhao, 2013: 3).

Nepal's experiences in the land-reform sector show that it takes an organized, assertive and enduring farmers' movement to shake-up the traditionally inherited and deep-rooted feudal mind-set of the bureaucrats and even of the democratically elected peoples' representatives. It is only through such a farmer-led movement that the state and its governance mechanism felt pressured to initiate reform processes to change the heavily top-down and authoritative governance system into one that is democratic, pro-poor, people-centred and serving the needs and aspirations of the rights holders. The farmers' organization that evolved in Nepal as local and national level land rights forums since late 1990s brought together the poor and

[6] Based on a discussion held on 31 May 2015 with Professor Laya Prasand Upreti, Department of Sociology and Anthropology, Tribhuvn University.

[7] Paper presented by Dr. Yongjun Zhao, Assistance Professor, University of Groningen Netherland, workshop on *land governance in the 21st century, framing the debate series* October 27-28, 2014, Beijing, China organized by ILC and Renmin University, Beijing China

marginalized farmers, mostly landless and smallholders, and mobilized them into engaging in powerful farmers' movements at local, regional as well as national level.

The assertive and enduring movement of Nepali farmers over the past 25 years has yielded a meaningful impact as the state has become more responsive to the voices of the struggling farmers. The poor and marginalized farmers are consistently being represented in the processes of formulating land-related legislatives, policies, projects and programs. The farmers' movement is reminiscent of similar movements in other neighbouring countries such as China, India and Bangladesh that have had a similar kind of impact. The more and stronger farmers are organized and mobilized, the more democratic and participatory that the governance processes become (Handriks, 2010: 1-3).

Community-led Land Use and Water Management: A CSRC Experience

In the course of its engagement with landless, tenant and smallholder farmers, CSRC pioneered not only in identifying the fundamental and deep-rooted issues related to land ownership rights but also in addressing them through effective means. Since the beginning it remained committed to adopting and taking human rights based approach (HRBA) as a cross cutting principle to organizing, educating, and empowering the landless/tenant farmers enabling them to assert and claim their rights to land ownership and agrarian rights through non-violent campaigns and legal processes. The pioneering tools adapted by the organization pertain to, among others, legal literacy, popular education, participatory rural appraisal, participatory consultative processes, stakeholder engagement and management, social mobilization, formation and strengthening of peoples' organization, non-violent advocacy and campaigns, participatory monitoring and evaluation, and gender and social audits.

All through, CSRC operated primarily as an enabling or cushioning agent. And within the period of 10 years (1997-2014), 39,167 landless and/or tenant farmers obtained the ownership certificate (the *Lal Purja*) for their rightful share of land they were tilling for generations. At a more macro level, the community and village based land rights forums have now federated at the district and national levels with sufficient capacity and a developing institutional base. CSRC, on the other hand, finds itself evolving as a land-right based national resource centre with the peoples' land rights forums (LRFs) taking more control over the processes of asserting and securing their rights to land ownership and/or use. CSRC will continue its technical assistance to these LRFs with more emphasis on strengthening their management and leadership capacity, irrigation facilities and systems, and agro-based skills and products so that poor farmers can more fully enjoy their economic and social rights.

In early years, CSRC initiated discussion with the local community in Sindhupalchok to explore the possibility of mobilizing Action Aid funds to irrigate the agriculture land, which the local tenants were cultivating by constructing canal. But the farmers argued that irrigating the land, which was not even owned by them, would mean helping the landlords to find the excuse to demand higher rental of the land. Therefore, the farmers requested that CSRC first support them to establish their tenancy rights or land rights in tilling land. It was in this context that CSRC started to facilitate the land and agrarian rights campaign.

The support extended by CSRC to the landless farmers and smallholders to be organized and strengthen their campaigns resulted in securing tenancy and/or land rights for many of them. The farmers then eventually showed interest and motivation to invest on diversifying their farming and increase the productivity focusing on, among others, exploring water resource and irrigating the farmland.

• Figure 1 Community-led land use and irrigation system in Sindhuplachok of Nepal

The farmers particularly from Sindhupalchok, Mohattari, Saptari and Dang districts started engaging in the processes developing land and agrarian reform and water resource management framework, investing local resources and diversifying their farming through their established organizations such as Village, District and National Land Rights Forums. They took the initiative to assess and identify land and water related issues, came up with priority activities and developed basic principles, code of conduct and action plan with the involvement local and district level stakeholders. The resource required to operationalize the action the local government, CBOs, supported plan and different government line agencies which encouraged to the local farmers to be actively involved for land use and local irrigation management. In Ramche VDC of Sindhupalchok district 6 water reservoirs with the capacity of 50 thousand litres were constructed to collect water from rain and locally flowing water stream. Similarly, in the villages of Terai district, numbers of tube-wells were installed to make use of the ground water both for drinking and irrigating the land. The farmers started making better use of the land and started producing vegetables in addition to increasing the production of the normal crops. People also started to utilize the fallow land and public land for the agriculture farming which contributed their year food security and livelihood.

The participatory process involved in the farmers' campaigns to secure land and tenancy rights and the farmers' successive involvement in exploring and installing appropriate irrigation systems point to the following strengths of a community/farmer-led approach:

- Participatory, need based, responsible and responsive governance
- Local resource mobilization
- Equitable distribution of natural resource and benefits (identification and use of wastage land, fallow land, forest land and water resources)
- Transparency and accountability (resource mobilization and utilization based on locally generated action plan, and the farmers holding themselves accountable to the respective community)
- Local conflict management system

- Greater sense of ownership leading to efficient and effective implementation of work/program/governance
- Labor rather than capital and technology intensive
- Lessons from community/farmers'-led land use and irrigation
- Farmers themselves are capable of effective use of land and establish the local irrigation system, diversifying the production to identify needs, explore local resources, assess potentials, develop action plan, mobilize resource, become skilled to complement cereal crops with cash crops as well as increase annual production cycle.
- Small-scale irrigation has the potential to make a difference in land productivity, food security and livelihood sustenance.
- There is no one-size-fit-all model of irrigating agriculture land. Local farmers are best placed to decide what works best from them.

Pre-conditions to Promote Farmer-led Management System

The following are the pre-conditions for the development of community-led or farmers'-led land use and water resource management

- Security of land tenure and ownership
- Human resource development
- Support from local government and local stakeholders
- Community control water and natural resources (forest, water, river, lakes).
- Coordination and collective action among government line agencies, NGOs and farmers
- Development of local framework on land use and water resource management

Challenges

The Nepali experience of promoting farmer-led land and water resource management points to the following key challenges:

- Expansion of irrigation facility led to increase not only the production but also the price of land making it unaffordable for poor tenants to buy off the land from the owner.
- The rural farming context suffers from male-youths migrating to urban centers or foreign countries for perceived better income. As a result agriculture is more and more feminised with women overburdened and compelled to take multiple responsibilities. While their participation is essential this will also add more demand on their time.
- The people's organization, because of its effective political influence, can potentially be high jacked by local elites or political parties. The purpose of such organization can be defeated creating disillusionment among the farmers.
- The community-led system is often affected by local politics causing digression in achieving its objectives.
- Inability of land-poor farmers to be recognized as tenant or acquire land ownership de-motivates them to explore the possibility of irrigating the land they are cultivating. Land insecurity complements water resource insecurity.

Conclusion

Land and water resource should be used for public interest not for the private profit. It is directly connected with practice of participatory governance and food security or food governance. Without participatory governance and farmers mobilization there is no inclusion of marginalized farmers in the management of land and water resource. Natural resource management is not just a matter of technical fix and bureaucratic process guided by taken for granted rhetoric;

rather it should reflect and accommodate peoples' interests, needs and aspirations (Zhao, 2013: 20-21). The management of land and water resource sectors continues to suffer from heavy supply driven approach. There is need to bring change in such a trend and promote participatory governance by focusing on: expanding and strengthening peoples' organization, re-orienting the approach to managing land and water resource, holding policy makers and government officials accountable to people, re-engineering the institutional structures to be inclusive and responsive, building a critical mass to assert its stake in the management and governance processes, developing appropriate technical and management capacities at the community level, and mobilizing financial resources to support people-led/farmer-led land and water resource management and programs (Catacutan, Garrityand Duque, 2001:10). Localizing public irrigation system and minimizing private and state control are the key pre-requisites to develop a pro-poor, participatory and sustainable land and water resource management system.

References

Basnet, J. (2013). Marginalization from land and its implications for education: A case study from mid-western Nepal. Kathmandu Nepal: M. Phil Thesis, Education Faculty T.U.

Catacutan, D.C., Dennis P., Garrity, D.P. & Duque, C. (2001). Governance and Natural Resource Management: Key Factors and Policy Implications. Emerging lessons from ICRAF- SANREM Collaboration in the Philippines. Paper presented to the SANREM CRSP Research Synthesis Conference, November 28-30, 2001, Athens, GA

Central Bureau of Statistics (2013). National Sample of Agriculture Nepal 2011/2012, National Report. National Planning Commission Secretariat, Government of Nepal, Kathmandu: CBS, Kathmandu Nepal

Gautam, U. (2011). NEPAL: FOOD SECURITY, A LOCALIZED INSTITUTIONAL IRRIGATION PERSPECTIVE ON PUBLIC IRRIGATION SYSTEMS. Retrieved from http://www.jvs-nwp.org.np/sites/default/files/Upendra-Gautam.pdf on 31st May 2015 Governance for the Poor

Hendriks, Frank (2010). Vital Democracy: A Theory of Democracy in Action. Published to Oxford Scholarship Online May 2010

Nepal Living Standard Survey Report (LSS, 2011). Nepal Living Standard Survey 2010/2011 Statistical Report Volume 2, National Planning Commission Secretariat, Government of Nepal. Kathmandu: CBS, Kathmandu Nepal

Pradhan, P. (2012). Revitalizing Irrigation Systems for Food Security: Vision and Approaches in Nepal Irrigation Systems. HYDRO NEPAL, SPECIAL ISSUE, APRIL 2012. Retrieved from http://www.nepjol.info/index.php/HN/article/viewFile/7203/5831 on 29th May 2015.

Zhao, Y. (2013). China's Disappearing Countryside, Towards Sustainable Land Governance for the Poor.