

New Voices, Perspectives

Quota Systems and Women's Participation:
Lessons from Water Policy in Nepal



Pranita Bhushan Udas

  **instraw** 
www.un-instraw.org
UNITED NATIONS INTERNATIONAL RESEARCH AND TRAINING
INSTITUTE FOR THE ADVANCEMENT OF WOMEN

March 2006

The opinions expressed in this document are solely those of the author and do not necessarily reflect the opinion of the United Nations or of INSTRAW.

The designations employed and presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations nor INSTRAW concerning the legal status of any country, territory, city or area, or of its authorities or concerning the delimitation of its frontiers or boundaries.

Copyright 2005
INSTRAW

All rights reserved

Summary

The incorporation of a gender perspective in a policy document reflects a desire to alter existing gender relations in favour of creating a gender just society. Nepalese water policy in three sectors: irrigation, drinking water, and watershed/forest has adopted quota systems to include women members in users' committees. As a result, women's representation in formal bodies has become mandatory in a situation where women are socially discouraged from participating in formal public decision-making bodies. Women's participation in water users' committees is not only important for addressing women's water needs but also for ensuring their access to this vital resource. These formal bodies often play a major role in larger politics and form alliances to address water issues and access other resources.

Though quota systems were implemented in the water sector during the nineties, they have been severely criticized for their impact or outcome. One such criticism is that though women are present in the committees their participation or their role in decision-making is nominal. Second, women who are represented in these committees often belong to higher and dominant caste and class groups. These women members are usually nominated by male leaders merely to fulfil the quota and hence have failed to ensure an integration of gender concerns. The third criticism claims that the outcome of such policy approaches will be nil, as women themselves do not want to participate. These criticisms however ignore all the positive developments and social changes in favour of women's participation that have resulted from the implementation of quota policies. In spite of these existing criticisms, the quota system has certainly created a space for women's representation on the committees, which were in the past dominated by men and socially accepted as a male domain. Female-headed households have played a particularly important role in making use of the new spaces created as a result of quota policy. This opportunity has increased women's self-esteem, which is a key to empowerment. Finally, the policies have helped to alter the discourse on gender roles and responsibilities at the local level.

This paper is an attempt to document evidence of social change in water sectors in Nepal due to the implementation of the quota policy, qualitatively exploring how these policies have helped to alter existing gender relations in three water sectors. At the theoretical level, the paper argues that working with gender-related policy is in itself an attempt to change existing gender relations. Gender relations are a result of historical and cultural norms and values, and the outcome of social power relations. Thus, implementation of a gendered policy prescription cannot bring overnight change. There is a gap between existing gender relations and the social relations envisioned by gender-related policy. The quota system as a policy tool acts to bridge this gap. The paper provides evidence to prove that the quota system has created an opportunity for women's participation and is not merely a bureaucratic and politically correct burden.

Index

I. Introduction

II. Gender Relations in the Nepalese Water Sector

Nepalese society

Emergence of the quota system

Critiques of the quota system

III. Understanding Gender and Gender Ideology

Gender Policy Model vs. Existing Gender Ideology

IV. Use of the Quota System

Quotas and Irrigation Systems – the *Tukucha Nala Water Users' Association*

Quotas and Drinking Water Systems – the *Asare Users' Committee*

Quotas and Forest/Watershed Systems – the *Asare Forest Users' Group*

V. Towards Equality

Quota systems and the alteration of gender discourse

Quota systems - an avenue for women's participation in the public water domain

The Quota System - an opportunity rather than a burden

References

Quota Systems and Women's Participation: Lessons from Water Policy in Nepal

Pranita Bhushan Udas¹

I. Introduction

Nepalese water policy in three water sectors - irrigation, drinking and watershed/forest - adopted quota systems during the nineties in order to include women members in resource users' committees through mandatory representation of women during the registration of the committees with government authorities. Such registration provides legal authenticity to water users' organizations and makes them eligible to receive government support for rehabilitation and new construction. Quota systems are implemented in a context where women are socially discouraged from participating in formal public decision-making bodies. Attending formal meetings is seen as a man's job, whereas managing household chores is women's responsibility. In this context formal state policies are superimposed on existing cultural norms and practices and produce results which can be either positive or negative for women. Therefore, though the quota system has been implemented in many other sectors besides water, it has also been severely criticized for its outcomes. Firstly, one of the critiques has been that though women are present in the committees, the quality of their participation or their role in decision-making is nominal. Secondly, women who are represented in these committees belong to higher and dominant caste and class groups. These women members are usually nominated by male leaders merely to fulfil the quota, and have failed to ensure the integration of gender concerns. Thirdly, critics claim that the outcome of such policy approaches will be negligible since women themselves are reticent to participate.

In general, women's participation in water users' committees is not only important for addressing women's water needs but also for ensuring their stake in water resource ownership. Water users' committees do play a major role in addressing water problems and form alliances at higher levels. Critiques of quota systems tell one side of the story; however it cannot be denied that these policies have created at least some space for women to participate in a traditionally male-dominated situations. It has also brought about a transformation of dominant gender discourse in the water sector. Scrutinizing the positive aspects of this system is important for understanding to what extent such policies can be beneficial for the target groups, and to determine which issues should be highlighted in order to expand the positive impacts of the policy. The translation of policy prescription into concrete gains is undeniably a complex process in which a policy might not achieve the expected outcome due to the influence of several factors during implementation. It is important then to track cases where the policy objective is achieved. How can women make the most out of the provisions? What are the factors that lead to the beneficial use of such provisions? Discussing these questions with women would better orient the design and adoption of development plans and programmes

1. PhD Fellow, Irrigation and Water Engineering Group, Wageningen University, The Netherlands; with local affiliation Women Studies Programme, Tribhuvan University, Nepal and Nepal Water Conservation Foundation, Nepal. Acknowledgement to Dr. Margreet Zwarteveen for her intellectual input in revising the paper.

for and by women. This paper is an attempt to compile evidence and experiences of implementing quota systems in water users' committees for irrigation, drinking water and watershed programmes in Nepal. Because the Ministry of Forestry was made responsible for implementing the watershed programmes with the long-term objective of combining forest management with watershed management, in this study forest activities are considered to be a watershed activity. Land and watershed conservation offices have been established in a few districts. These offices work with established users' groups from the forestry, irrigation and drinking water sectors.

The paper is divided into three sections. The first section discusses Nepalese society and the evolution of the quota system in the water sector. A brief review of the advantages and disadvantages of such policies is also presented. The second section is a conceptual overview of the process of achieving gender policy objectives. The third section discusses how individual rural women have made use of the quota system to gain representation in users' committees for irrigation, drinking water and watershed. This section also discusses why women consider their representation on the committees to be important. The conclusion analyzes the similarities and differences in relation to gender issues in three water programmes. It is expected that this analysis will contribute to the debate on the integration of various water activities and the inclusion of gender perspectives. The paper is based on fieldwork conducted in the Central and Eastern parts of Nepal as part of Masters and PhD dissertation work carried out during the period 2001 - 2005.

II. Gender relations in the water sector in Nepal

Before beginning the discussion on the impact of the quota system in the water sector in Nepal, it is important to understand the situational context i.e., Nepalese society and the evolution of the quota system in the water sector in Nepal, in which gender relations are contextual and time-bound. This section focuses on predominant gender norms and values in the water sector in Nepal and presents a brief review of the advantages and disadvantages of the quota policy.

Nepalese Society

*"Rajasanga binti garincha, barta hoina"
(With the King, one should appeal, not argue)*

Nepal is often characterized as a country caught between two giants i.e., China to the North and India to the South. Multiethnic and multi-lingual social groups residing in different altitudinal regions make up the population of the country. Gender norms and values of Nepalese living in different geographical location vary according to tradition, need and caste/class divisions. For example, the

differences between gender roles and responsibilities of hill inhabitants in the North are relatively less than those of communities living in the southern plains of *Terai*². In economic terms, the *Terai* communities are richer than *Pahadi i.e.*, hill communities, due to more fertile lands. In addition, differences in gender relations also exist on the basis of caste. A group considered as *Matwali*, a liquor-drinking group comprised mostly of *Kirat* families gives equal importance to sons and daughters in family rituals, whereas the *Aryan*, the *Brahmin/Chetris* caste groups impose different roles for sons and daughter in rituals related to birth, marriage and death. These gender differences tend to also define gender relations in public activities. Water activities cannot be considered in isolation from these prescribed gender roles. What matters most is where the activity will take place, with whom it will be done, and how it will be done. For example, will water-related activities take place in an agricultural field, in a kitchen garden, or on the river bank? Will the activity be undertaken with a female colleague, a male colleague or with foreign engineers? Thus roles and responsibilities related to water activities are complex and depend on type and location of the activity, in addition to the identification of other persons involved.

Gender relations in any society are very much influenced by the governing structure of the state. The Kingdom of Nepal has been ruled by a King since before the eighteenth century when the first Shah King united numerous small states (twenty-four and twenty-two states *Rajya* to the East and West of the capital) to form modern Nepal. There are mythological stories of both good and bad kings throughout history which are told to children as fairy tales. The governance structure is relevant in this paper because the relationship between the King and his subjects defines social hierarchy. The King is portrayed as a caretaker god and his subjects as children and worshippers. The norms and values that define a good relationship between the King and his subjects are reflected in lower levels of administration, as well as in the families in that the head of the household is perceived to be the provider and decision-maker. The King's leadership is strongly gendered - only males can be king and daughters are sent away from the family upon marriage. The father is the head of the household, and in his absence his son takes over as head of the household. The relationship between the King and his subjects is also one of provider and recipient. The prevailing adage '*With the king one should appeal, not argue*' exemplifies the situation. The father should never be questioned within an ideal Nepalese family, and the same is true for other hierarchical relationships. A younger male or female should never argue with their elders. Hierarchy in relationships weighs heavily on the way people communicate with each other and on social perceptions of good and bad. Nevertheless, as a result of increasing globalization, social norms and values are changing.

Emergence of the quota system

Women's existence in society has always been recognized, but policies were based on a common assumption about household gender relations i.e., that men are the breadwinners and women the

2. Nepal is geographically divided into three zones. The northern region is mountainous, the middle is hill country and the southern plains are known as Terai.

dependents. The most ancient social rules guided by religious belief show that at one point in time, a wife was socially expected to commit suicide after the death of her husband. These norms have continued over time and Muluki Ain (State law), first promulgated in 1853 and revised in 1964, stipulates that a wife and son can be heirs of the father, but daughters are excluded (Bhattachan, 2001).

The women's movement for equal rights began in 1907 in southern Nepal through protests against child marriages (Karki, 2000). But the committee was driven out of Nepal to India by the then Rana³ rulers. Consequently, the women's movement became more evident when women played a role in fighting against the Rana regime in the 1940s. During the period 1947 – 1952, six groups of women were formed as sister organizations to the political parties. These groups demanded equal voting and education rights (Bhattachan, 2001). Women activists from wealthy or politically influential families played a central role in the women's movement.

During the single-party Panchayat period (1960-1990), Nepalese government became more exposed to the outside world. Staff from government and non-governmental organizations began to participate in international meetings and conferences. The government signed international treaties in favour of the world movement for women. The UN Declaration on Women's Rights in 1975 prompted the government to begin to address Nepalese women's issues. A representative of the Government of Nepal also participated in the first International Women's Conference held in Mexico in 1975. As a result, the Women Services Coordination Council was established as a governmental body under the Social Services Coordination Council in 1977. The Council was primarily concerned with the welfare of women in terms of health and education (Karki, 2000).

An example of how international conferences can influence national action can be observed in the Ninth Plan, which states "Considering the Beijing Declaration 1995, a 1997 National Work Plan for Gender Equity and Women's Empowerment has been formulated encompassing twelve sectors that require serious attention: women and poverty, education, health, violence, armed conflicts, economy, policy making, institutional mechanisms, human rights, environment and children. Programmes for women's development will be implemented in accordance with policies of the Ninth Plan which are based on the National Work Plan."⁴ The Agricultural Perspective Plan (APP) developed in the 1990s also includes a brief paragraph on gender, and stresses the need to include women in all development activities.

The sixth periodic plan (1975-1980), recognizes women for the first time as equal shareholders of development. Consequently, subsequent plans included 'plans for women' as a separate chapter in the periodic plan documents. In the sixth *Five-Year Plan* (1980-1985), programmes for women focused on increasing women's skills and income-generating capacities. Women were encouraged

3. From 1856 to 1951 Rana prime ministers ruled Nepal. The then Prime Minister Jang Bahadur Rana was successful in elevating his family to a level second only to the royal house of Shah, which remained in symbolic terms only as Rana prime ministers held the authority to rule the nation.

4. Source: The Ninth Plan, 1998. HMG National Planning Commission, Nepal.

to participate in skills-oriented training programmes and were provided with support to run cottage industries so that they could (directly) contribute to household incomes. Within these plans, women were also targeted for population control activities.

The seventh *Five-Year Plan* (1985-1990) included more precise programmes for women in recognition of their lower rates of participation in different activities. The plan emphasized the introduction of a quota system as a means to increase women's participation, training programmes in the educational sector, and also expressed a commitment to bring about legal changes in all aspects to either increase or enable women's participation. The Eighth Plan (1992-1997) reveals the government's commitment to achieving a gender-equitable society through policy amendments to ensure women's participation. The focus of the Eighth Plan went beyond training and skills-oriented programmes for women and focused on women's participation in decision-making fora. Key points in this plan were the amendment of laws hindering women's development and increasing women's participation in political decision-making through the compulsory involvement of women in resource-users' committees (hereafter referred to as users' committees). Based on the Eighth Plan, the policy guidelines for all three sectors examined in this paper i.e., irrigation, drinking water, and watershed/forest, included the compulsory participation of women in users' committees. The Ninth Five-Year Plan (1997-2002) emphasized the integration of women into the development mainstream, stressing institutional development and women's empowerment. It focused on strengthening governmental institutions with regard to the formulation of gender-related policies/plans in addition to the implementation of these policies/plans. Based on the Ninth Plan and the policy guidelines, regulatory policies were formulated for the irrigation, drinking water and forest sectors⁵ in which involvement of women in users' committees was mandated as follows: twenty percent in irrigation, and thirty-three percent in drinking water and forestry.

The Irrigation policy of 1992 and the Irrigation regulation of 2000 recognize water users' associations (WUAs) as a legal local governing body. WUAs registered with government authorities have the right to share in the construction costs and request resources from the government. The Irrigation policy of 1992 mandates that twenty percent of executive members of the WUA must be women. The irrigation regulation of 2000 includes the mandate that at least two women form part of the nine-member committee, whereas the revision of 2003 removes compulsory participation and instead "encourage[s] thirty-three percent participation of women in users' committees if available."

Similarly, the Master Plan for forestry of 1988 recognized the importance of women's role in forestry and provides policy guidelines for ensuring that one-third of the users' committee membership is comprised of women (Forest Master Plan, 1988). Accordingly, forest regulation has imposed a quota system to include women in forest users' groups. Current debates in the forest sector are contemplating equal participation for women and men in forest management.

5. Regulation is a mandatory policy document. This means that if the policies are not implemented, violators are subject to punishment or can be brought before the Court. Policy documents merely provide guidelines.

The legal documents related to the drinking water sector are the Water Resource Act of 1992 and the Drinking Water Regulation of 1998. According to the regulation, water users' committees should include two women representatives among the total of nine members.

The integration of women's issues into periodic plans and policies was further facilitated by the establishment of women's divisions in several ministries and other governmental bodies (See Table1). The Ministry of Local Development was the first to establish a special women's section in 1980, followed by the Ministry of Labour in 1987. In 1993, a separate Ministry for Women and Social Welfare was opened to coordinate all the women's sections in the different ministries. This Ministry acts as the lead agency for women's and child development, and plays a key role in formulating national policies and ensuring the integration of women's and children's issues into national development policies. The body takes necessary actions to fulfil Nepal's commitment to UN conventions and declarations related to women and children. To achieve its objective, it emphasizes that women's participation in all programmes of every sector of the economy should represent at least twenty-five percent of the total, and that twenty percent of employment opportunities should be reserved for women during the period 1997-1998 (Karki, 2000).

Table 1 - Establishment of Women's Divisions in Governmental Bodies over time

Year	Women's Division established in Different Governmental Bodies
1980	Ministry of Local Development
1987	Ministry of Labour
1992	Ministry of Agriculture
1993	National Planning Commission Water Energy Commission Secretariat
1994	Establishment of Ministry of Women and Social Welfare

This review reveals that the changes in water policies and the evolution of the quota system in policy documents are guided and informed by National Periodic and Long-Term Plans such as the APP. The Periodic Plan and the APP display a higher awareness of worldwide conceptions of women's subordinate status in South Asia, and of the need for additional efforts to include women as equal shareholders in development. Hence, in the context of Nepal, plans, rules and amendments to policies can be seen as the result of global notions about women and development that are actively articulated and supported by national groups of women activists.

Critiques of the quota system

The changes in laws, policies, plans and programmes to favour women, does not ensure that women at the grassroots level get an opportunity to know about, feel and experience the changes immediately, since it is a centralized and top-down approach (Bhattachan, 2001). This approach does not adequately respond to the question of why women should be present at the level of implementation and use, and not everyone at these levels is gender-sensitive enough to accept the policies. In several cases, implementers do realize that women need to be involved, but lack appropriate information on how to involve them. This could be the reason why the immediate outcome of the policy remained poorly visible and increasing women's participation was perceived as necessary in order to fulfil government mandates rather than being necessary for women themselves. Thus, resistance against quota systems does exist. For example, a recent amendment of the Irrigation policy and regulation of 2003 removed the quota system from the earlier policy document. There are three major arguments against compulsory participation of women in users' organisations. First, women are present in the committees but the quality of their participation or their role in decision-making is nominal. Second, women who are represented in these committees belong to higher and dominant caste and class groups. These women are usually nominated by male leaders in order to fulfil the quota requirements for women and hence, have failed to ensure the inclusion of gender concerns. And lastly, critics claim that the outcome of such a policy approach will be nil since the women themselves are hesitant to participate (Shymala et al., 1999).

It is certain that quota policies have created space for women in places previously dominated by men and perceived by most as men's domain. However, there are women who have made use of these spaces both efficiently and effectively, and though they are fewer in number, such positive outcomes cannot be ignored. It should also be noted that change in gender relations will not be achieved overnight, and that quota policies are intended as a first step in the process and not as a cure-all policy prescription. The third section of this paper explains how quota policies have helped to: change the predominant gender discourse; increase women's self-esteem - a key to empowerment - and change social power relations. The concluding section conceptualizes the struggle to achieve gender-related water policy objectives and argues that the achievement of gender-sensitive water policy is a complex, time-consuming process that is nevertheless essential to the achievement of gender equality.

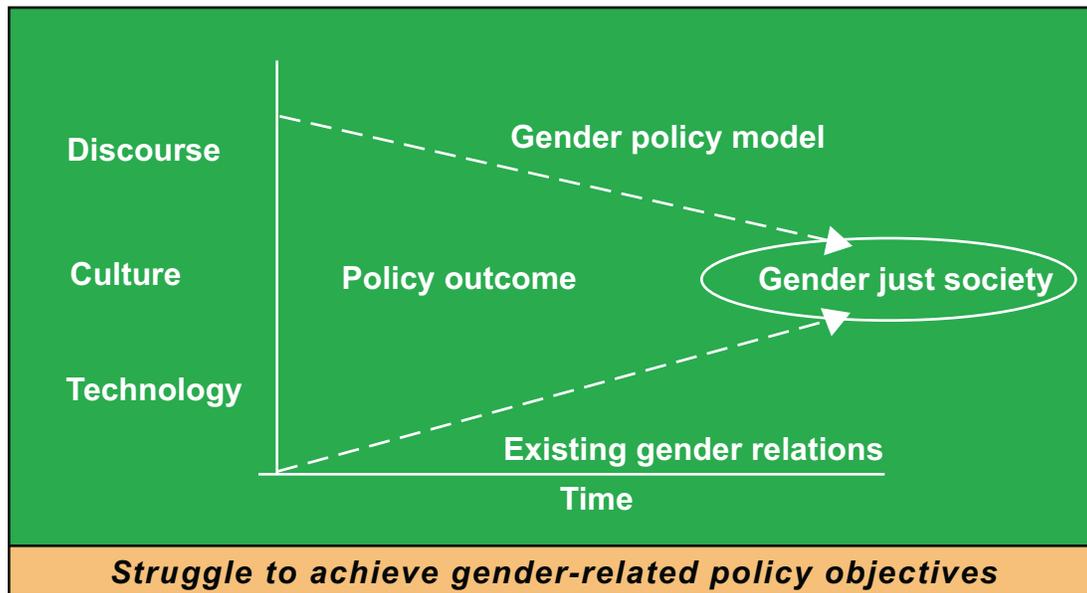
III. Understanding Gender and Gender Ideology

'Gender' is conceptualized as the social relationships that define the roles, rights and responsibilities of women and men in relation to one another. These relationships are usually expressed in terms of power over decision-making, and access to and control over resources. Gender relations refer to relationships of power that are revealed through a range of practices, ideas and representations, including the division of labour, roles and resources. Gender relations are both constituted by and help to perpetuate practices and ideologies in interaction with other structures of social hierarchy such as class, caste, religion and race. (Agarwal, 1994; Connell, 1987). Gender equity and justice refer to freedom from discrimination between women and men in terms of rights and responsibilities. Where democracy refers to social equity, the debate about gender equity and justice forms a part of the larger debate on democracy.

Gender Policy Model vs. Existing Gender Ideology

In this paper, gender ideology is defined as one's own thinking, ideas and beliefs about relationships between women and men in the family, work place and society. Conventional gender-related policy studies focus on women's needs, especially strategic and practical gender needs for policy formulation (Moser, 1989; Regmi and Fawcett, 1999). It is assumed that a policy that is sensitive to practical and strategic gender needs will lead to a gender just society. The successes and failures of the policy can be determined from evaluations of the policy objectives. Recent studies on 'difficulties in implementing gender-related policy' began questioning the often poor results of these policy outcomes. Evaluations of these policies have placed great importance on the implementation of the policies and do not stop at the mere inclusion of a gender component in wording of the policies. The gender component of water policy requires change in social relationships between men and women which in most cases is understood as women replacing men and vice versa. This often results in a situation of uncertainty combined with fear of losing power and of the unknown (cf: Carson, 1999; Cleaver, 2003).

Gender-related planning is a policy model that visualizes a gender just society by defining male and female relationships in particular way. This new relationship contradicts existing gender relations, which in this paper are referred to as the predominant gender ideology or discourse. Gender policy, which aims to create a gender just society, tries to alter existing social relationships, and expects that these relationships will be influenced over time by the new vision of gender relations contained in the policy. This linear model for gender policies becomes complex in reality as the policy is implemented over a highly entrenched set of norms and practices (Long et al., 1989) that are embedded within the broader structures of:



- Discourse on gender and its influence on practices;
- Professional and organizational cultures at all levels;
- Water technology and its reflection in water-related activities.

This paper analyzes the quota system for including women in users' organizations in three water activities as a gender policy that aims to bring women forward into formal decision-making bodies at the local level, even though the predominant gender ideology discourages women from participating in public life. The following section will explain how the policy achieved its objectives and how it has helped to alter the dominant gender discourse in favour of women's rights and participation.

IV. Use of the quota system

This section discusses how rural women made use of the quota system to gain representation in users' committees of the irrigation, drinking water and watershed/forest sectors. The section also discusses why women consider their participation in the committees to be important.

Quotas and Irrigation Systems – the Tukucha Nala Water Users' Association

The Tukucha Nala irrigation system is a small hill irrigation system in Central Nepal. The Nala village is one of the oldest settlement areas in the Kathmandu valley. The system has a command area of thirty-four hectares (ha). The system receives water from the Punyamata River, which is a part of the Sunkoshi river basin⁶ (MDC, 1998). The system is based on a free river diversion and lacks a fixed structure of cement and concrete. The dam is built of iron mesh filled with rock. The main canal is designed to carry a discharge of 85 l/s. The length of the main canal is two kilometres, one-fourth of which is lined with cement (DIO, 1997). These linings were built during the government-supported rehabilitation programme in 1997/1998. Other structures include two aqueducts, four foot bridges, and nine super-passages. The present infrastructure requires regular checks at the diversions to verify whether the iron mesh filled with rock has been washed away by the flow of water. The canal also needs frequent cleaning during the rainy season to remove sediment carried by the monsoon rains from uphill areas. To prevent the canals from becoming blocked, regular follow-up is needed to guide the monsoon drains with heavy sediments out of the canal. Therefore the system requires constant maintenance, which is carried out through the collective action of users' organizations.

In 2001, the system served seventy-one households, of which fourteen were de-jure or de-facto female-headed households. Of these, three households were headed by widows. These widows' livelihoods depend on farming, and part of their land is leased out as they were unable to meet the demands for labour with their existing family members. In the remaining eleven female-headed households, three men work as government staff members, two as police officers, two are in the army and four are involved in businesses. The total number of female-headed households represents twenty percent of the total households in the village; higher than the national average of 10.39 percent (CBS, 1999).

Since the local WUA was registered with the District Water Resource Committee in 1996, three General Assemblies have been held. The first Assembly was held in 1996, the second in 2000 and the third in 2001. The committee formed in 1996 was reformulated in 2001. Information collected from the field shows that none of the female members were present at the first meeting to establish the WUA, held after government intervention from the District Irrigation Office. At the following

⁶ The Sunkoshi River joins the Saptakoshi River in the South. The Saptakoshi is one of the three largest rivers drain in Nepal. The other two are the Karnali and the Gandaki.

meeting, held to register members of the WUA, women represented 19 percent of the total number of participants. Female presence was nine, thirteen and seventeen percent of the total number of participants in first, second and third General Assemblies, respectively (Table 2).

Women represented nine percent of the executive committee of the WUA in the first committee formed in 1996 – or one woman among a total of eleven members. This woman participated in committee meetings until the end of 2000. In 2001, she was replaced by her husband in the committee upon his return to the village after having retired from his job as a police officer. When asked about her replacement on the committee, she did not complain. Rather she felt good that her husband was back home to help her with household activities, however she realized the importance of being on the committee in order to meet family water needs and receive official information. The woman believes that even in the absence of a legal provision such as the quota policy, she would still have gained representation on the committee. She feels that her ability to be a member of the committee is largely a result of her favourable attitude towards getting involved in social activities.

Female presence at the second WUA committee meeting held in the 2001 was 27 percent (three women among a total of eleven members) (Table 3). The first woman representative in the WUA committee came from a female-headed household. Among the new committee members, one is from a de-facto female-headed household, one from a de-jure female-headed household and one is from a male-headed household. Three of the women heads of the de-jure female-headed households have never been WUA committee members.

Table 2 - Women’s Participation in formal meetings at different time periods

Time	Event	Total participants	No. of Women	% women’s participation
1996-4-22	First meeting to organize WUA in presence of AO	29	Nil	0
1996-4-24	Meeting held to form WUA for registration	58	11	19
1996-9-17	First General Assembly	88	8	9
2000-7-1	Second General Assembly	38	5	13
2001-8-19	Third General Assembly	45	8	17

Table 3 - Women's participation in the Executive Committee

Time	Size of Executive committee	No. of women present	% women's representation
1996-4-24 to 01-8-19	11	1	9
2001-8-19 onwards	11	3	27

This data shows that women's participation is increasing both in the general assemblies and in the WUA committee.

The 2001 General Assembly was remarkable in that WUA leaders began to consider women's participation as important and observe how a socially-disadvantaged woman can make use of opportunities created by external agents or by government-mandated policies such as quotas. An explanation of the way in which the third General Assembly of the system took place follows.

All users were informed about the General Assembly by the Community-Based Organiser (CBO)⁷, who was appointed by the District Irrigation Office (DIO) by means of written notice given four days prior to the Assembly. The CBO sent the notice after ensuring that the President would be present in the Assembly. The letter stated that either a male or a female member of the household should participate.

At the beginning of the Assembly, the CBO presented an annual report with financial details. He also talked about his work distributing seeds received from the District Agricultural Office, collection of water fees, and membership distribution to users. Subsequently, he discussed the need to reformulate the committee, since the first committee had been in position for the last four years, and according to the constitution, membership should be replaced every two years.

In response to the CBO, the President further discussed the need to select new committee members and mentioned his unwillingness to continue on the committee due to his numerous political commitments as area representative at the district level⁸. However he mentioned his interest in becoming a representative on the National Federation of Water Users' Associations on behalf of the system in the case that the WUA decided to change the membership. The President and the CBO began nominating members for the posts, with the exception of the post of secretary, which was

7. Community Based Organiser is a temporary post appointed by the District Irrigation Office from among local users of the irrigation system for the institutional development of water users' associations. WUA committee members are ineligible to apply for CBO. The WUA recommended the WUA secretary for the post to the DIO, after he resigned from the post. A CBO receives remuneration for his work.

8. The President of WUA who was ward president at the time of the system rehabilitation is at present an area representative in the district.

self-nominated. Others agreed to their proposals. After male members were selected, the President stressed the need to have three women members on the committee. He went on to point out that women should have at least thirty-three percent representation on the committee in order to get approval for any development programmes from government and non-governmental organizations. His statement was based on a decentralisation policy⁹, which had more influence on him than the irrigation policy. The President nominated three women from the dominant caste, but all of them refused. Their reasons were varied. One said she might not come to the next meeting if her husband came home. The other two felt that they were not sufficiently educated as they did not know how to read and write, and therefore did not want to take on the responsibility. A widow from the untouchable caste nominated her daughter-in-law as a committee member, given that the women from the dominant caste refused to take the position. She reinforced her nomination by providing additional credentials for her daughter-in-law such as her primary-level education. A period of silence followed. Later the President, who belongs to dominant caste, supported her idea and was quickly joined by other users. Because she belonged to a more marginalized ethnic group, most of the users from other caste groups accepted it rather passively. When it came to the other two women nominated, they tacitly agreed to serve on the committee by remaining quiet and shy. The actions of women from a lower caste group encouraged them to accept a post as committee member.

An examination of the widow's personal situation leads to an understanding of why she nominated her daughter-in-law. The woman is a widow in her forties who lives with her twenty-five year old son and twenty-one year old daughter-in-law. Her husband died when her son was three years old. After her husband's death, the family responsibilities fell upon her. Purna's initiative in nominating her daughter-in-law as a WUA committee member was driven by her earlier experiences as a widow having to take care of domestic and extra-domestic activities. Purna believes that due to a lack of adequate information about the outside world, she lost out on several occasions. Purna wanted her daughter-in-law to participate in the WUA because she believes that it can be a means of acquiring outside information. She believes that due to a lack of knowledge about official procedures among her family members, she was unable to transfer ownership of the family's land to her name after her husband's death. After his death, the family realized that the names in her Citizenship card and land registration card were different from her in-laws and her husband did not know the importance of registration at that time. This small mistake became troublesome when she wanted to transfer his land in her name after his demise. She thinks it happened because of illiteracy and lack of access to information. Purna purposefully nominated her daughter-in-law rather than herself because she is not sufficiently literate, whereas her daughter-in-law has a sixth-grade formal education.

9. According to the WUA President, the local governance act states that at least 30% of the participants in any development organization should be female.

Quotas and Drinking Water Systems – the Asare Users’ Committee

The Asare drinking water system is sustained by a river flow diversion scheme in the Baruwa River in eastern Nepal. This area is located in inner Terai in the transition between the hills and the plains to the south. This area is characterised by flash floods in the rainy season and drought in the winter. Flash floods are very hazardous to the water supply as they bring large amounts of sediment and accelerate erosion of fertile agricultural land. Therefore, though the Asare drinking water project was started in 1994 and due for completion in 1995; it could not be completed due to soil erosion, landslide and floods. In 1996 the District Drinking Water Sanitation office revised the estimated budget and worked together with users’ organisations to complete the project. The agreement between users’ organisations and the District Drinking Water Supply office was reached in 1994. When the project was completed the ‘system ownership card’ (*lalpurja*) was handed over to the users. The information on the card shows that the population at the time of the handover in 1997 was 5,482 people.

The Asare drinking water system is a simple river diversion scheme with an infiltration tank, a reservoir and supply pipelines. The system has a reservoir of capacity 150 cubic metres, a transmission line of 2,680 metres, and a distribution line of 11,280 metres. The main transmission lines were dug below two other rivulets that drain into the Baruwa River upstream. Due to flood damage, there was a need for a significant financial contribution from users in order to complete the project. Most of the users were not able to contribute cash; and therefore had to contribute their labour. Many of the users did not believe that the drinking water could reach their homes from the source and refused to participate. Throughout this process, a de-facto female-headed household played an important role as a facilitator, and is considered a water leader because she overcame the challenges to bringing water into her village and helped to change the dominant discourse on what women can do.

Mrs. Katuwal and her family migrated to Behedwa village twelve years ago from the neighbouring hill village. Mr. Katuwal was already in service in the Indian army when the family migrated. In his absence his wife had to raise their young son and daughter. The livelihood of the Katuwal family used to depend on farm income and her husband’s salary. Before the installation of the drinking water system, Mrs. Katuwal faced severe problems in terms of managing drinking water for the family, walking thirty minutes to *Chaudhari*¹⁰ village downstream to bring water from community well. She has internalised the importance of water in her life and she believes that nothing is impossible if people work together to solve the problem. She claims that an engineer from the government calculated water discharge in the river and that they designed the drinking water system in such a way that her village can get drinking water. She believes that since the engineers have already shown the way; the villagers should have the zeal to materialise this vision.

10. Chaudhari are indigenous people in the area who live on plain regions, whereas people like Mrs. Katuwal are hill migrants and have occupied forest land upstream. On the plains, a well is the traditional drinking water source and upstream, it is impossible to extract groundwater.

In 1994, the government came forward to support the villagers' request for construction of a drinking water system. Mrs. Katuwal was excited and visited the house of the leaders several times in order to obtain information. She came back to her village and suggested that the villagers go together to ensure that their village was included in the design of the water system. At that time, the District Water Supply and Sanitation office encouraged farmers to install community taps so that many of the villagers could get safe drinking water. For each tap users needed to deposit NRs500. Mrs. Katuwal began trying to convince her neighbours to contribute so that each one would have access to clean drinking water and the cost could be shared among households, but she received negative responses from many of them. It was difficult for the villagers to believe that the water from the system could reach their village, which was at the end of the proposed system. Mrs. Katuwal herself managed to deposit the money and install an individual tap. Upon seeing the running tap Mrs. Katuwal's neighbours began asking her for water, and four of them had their own taps installed.

Mrs. Katuwal appears to be a local leader and her presence on a committee could be expected, however it is important to understand how she was represented in the committee. The facilitator from the District Drinking Water Supply and Sanitation office explained that the users' committee should include at least two women representatives according to national drinking water policy. Mrs. Katuwal made use of this opportunity because she was aware that being on the committee would allow her to influence decisions, make suggestions and ensure that drinking water taps would be installed in her yard. Therefore instead of waiting for other people to propose her membership to the committee, she volunteered and was welcomed. The Asare drinking water committee includes two women among the eleven members. Had there not been spaces reserved for women, it is possible that the posts would all have been filled by men because the dominant gender discourse is that women are physically not strong enough to manage the responsibility of heavy outdoor activities. A key example of this discourse is the lower wage rate offered to female labourers.

Quotas and Forest/Watershed Systems – the Asare Forest Users' Group

The community forestry programme in Nepal is a successful example of community natural resource management. However, the community forest in the southern part of the country faces more complexities than the community forest in the hills. The southern plain has access to roads and the forest resources are rich with valuable trees. Therefore, there is a greater chance that forest resources will be mismanaged or manipulated.

The Asare community forest users' group along the Baruwa River in Udayapur district in Eastern Nepal poses similar problems. The forest is located next to the district headquarters. The demand for firewood is high in the town area on the right bank of the river because firewood is cheaper than buying kerosene and cooking gas. Similarly the demand for timber from the town is high for building

construction.¹¹ The livelihood of low-income users depends on the income generated by both selling firewood and working as wage labour. Selling firewood is more profitable for low income landless users than work as wage labour. For example, a person can sell more than NRs125 worth of firewood a day. As a wage labourer, a woman earns NRs60/day and male earns NRs 80/day working from 6:00am to sunset as agricultural labourer and from 9:00am to sunset as non-agricultural labourer.

The Asare Forest User's Group (FUG) has a male president who was re-elected after his first three-year tenure. The president is popular among the peasants and low income groups as he is lenient about allowing people to cut down trees. He has also been labelled an alcoholic, such that anyone who visits him with a bottle of wine and a request for wood receives a permit to cut down trees. Because of this, the harvest of forest resources was conducted in a non-systematic and non-sustainable manner, and there has been a rapid degradation of forest resources. A user who was also working as journalist and living in Asare complained to the district forest office, with the result that the forest officers arrested villagers who were illegally extracting the wood during patrolling and the FUG president and treasurer were arrested in April 2005.

Nepalese forest policy encourages women to take a leading role in forest management, and there are several examples of forests being effectively managed by women. The first women forestry users' committee was formed in 1990 (Shrestha, 2002), and there were 442 women's forest committees out of 10,901 users committees in fifty-three districts of Nepal by 2002. The women's user groups range from eleven members in the smallest to 843 members in the largest. The National Federation of Forest Users' Groups (FECOFUN) played an important role in encouraging women to participate in forest users' groups. The FECOFUN has encouraged the participation of male and female users as FUG representatives in their organisations at a ratio of one to one. Influenced by the outcome of women-managed forests in the country, the forest officer of Udayapur district concluded that leadership of the Asare FUG had to go to women. He also believed that most men have a habit of drinking, whereas most women do not, and that women are more transparent and approach forest management from a more conservationist perspective. Therefore the forest officer immediately called an emergency assembly of the users and for the first time, a male and female from each household were asked to attend the assembly. Previously only one household member was asked to attend FUG meetings and in most cases the representative was male, with the result that men's participation was significantly higher than women's. During the general assembly in 2005, the forest officer acted as an external agent to call for women's participation in the users' groups.

In May 2005, villagers from the Bhusune and Asare hamlets on left bank of the Baruwa River were busy discussing forest mismanagement and gender issues. The general message that the forest officer had plans to give the FUG leadership to women because they did not drink and made better managers had already spread through the villages, causing a sensation. Informal discussion in public

11. Because of insurgency in the country, migration to the right bank of the river has increased, as the town is considered safer. According to the estimates of inhabitants, the rate of house construction is eight times higher than it was four years ago. At the same time land price has also increased exponentially.

places like teashops, tree sheds and families was mainly focussed on whether women could handle FUG leadership, monitor forest areas and impose the rules. On the day of the General Assembly villagers started gathering at 11:00am in the FUG offices, which are a community-built two-story building made with local materials. By 12:00pm, about 300 users had gathered including males and females in almost equal numbers. The ex-ward president who was also an ex-FUG president addressed the masses, mentioning the objective of the meeting and informing the users officially about the arrest of the current FUG president. He handed over the next session to the forest officer. The forest officer explained the need to conserve and use forest resources sustainably and why his office had to take action on forest issues. In conclusion he emphasised that the meeting should decide the membership of the new committee and proposed his idea of selecting women as FUG committee members, asking for suggestions from the participants. For some time the masses remained silent. A young teenager finally shouted that he was in agreement with female leadership and a few other voices supported him. However not everyone agreed, which led to momentary chaos and many side-debates, with most of the users questioning women's ability to manage the responsibility. Finally the masses were brought to attention by the loud voice of the ex-ward president challenging them to send their wives, sisters, and daughters to the committee if they were indeed ready to see women lead it. He emphasised that committee members have to patrol the forest both day and night.

The forest officer finally broke the ensuing silence and suggested that if not all, at least half of committee members should be female. He also emphasised that committee members did not necessarily need to physically patrol and suggested that the committee could hire someone to monitor forest resources with the users' consensus. He emphasised that the committee was to manage the forest, but not to work as labourer for the community. This suggestion from the forest officers encouraged those male youths who had previously come forward supporting women's leadership. They expressed that they would help the women committee members whenever needed and also requested all users to help them. Finally the masses agreed to this compromise and the selection process began.

While selecting a president, the local leader quickly nominated his female relatives, which both the nominees and the other users supported. The vice-president was also nominated by the masses and she agreed. For the post of secretary a woman came forward and proposed herself, which shows that the process empowered at least some women to express their interest, unlike past processes where women had been hesitant to participate. Finally, the committee was formed with seven women and six men. Two other FUG meetings were held by the new committee and the irregular extraction of forest resources has been controlled.

V. Towards Equality

This section of the paper contains an analysis of the interaction between existing gender relations and irrigation, drinking water, and forest programme policies, which adds to the debate on the integration of gender issues in activities related to water and environmental resource-management.

Whether the argument is put forward by Amartya Sen or Bina Agarwal, the core gender issue in the South Asian continent is that of individual development. Sen argues that capacity and ability of women is a major determinant of their status in society. Women's subordinate status is being created through entrenched discrimination against girl children on several factors such as education, food, health services, and other resources. Agarwal argues that women's lack of access to land in South Asia generates insecurity for women on several levels and leads to intra-household conflict. In response to these problems, national and international development goals have included gender justice in the water sector as a priority, aiming to create space for women in all sectors through appropriate policy measures. Quota systems are one such tool to create spaces for women in a society where formal decision-making bodies are seen as a male domain; however the translation of these policies into real gains for women is the key to achieving the policy's objectives.

The quota system's objective of creating space for women is differentially understood in specific contexts. In some cases, women who occupy positions through quotas are seen as less-qualified and awarded less status and recognition. Changes in quota levels, for example the increase from twenty percent to thirty-three percent in irrigation committees, also influence understanding of the objectives of quota systems. These changes in quota levels, while creating more space for women, do not necessarily address the issues of inequality that female participants face. Even with these limitations however, the major outcome of the quota system has been a change in gender discourse at various levels as people have seen that women endowed with responsibility are capable of managing it - and working with gender is ultimately about changing attitudes.

Quota systems and the alteration of gender discourse

Gender discourses at the level of planners who wish to include women in irrigation programmes are centred on the ultimate goal of increasing agricultural productivity. Women are seen as agriculture labour indirectly linked with irrigation; therefore their involvement is expected to increase productivity and efficiency (Meinzen-Dick et al., 1998, Zwarteveen, 1997). On the other hand, drinking water programmes adopt a needs-based approach and are closely linked with health and sanitation. Drinking water programmes recognize women's ability to assess the quality of water for household purposes as well as their roles as carriers of drinking water. Women's involvement in drinking water programmes

is thus centred on the expectation that the programme will reduce women's work burden, leaving her extra time for other kinds of income generating activities. Women's ability to identify different sources of water moreover helps in the design of efficient systems. Finally, forest/watershed programmes, whose main goal is that of environmental regeneration, recognize that women are more closely involved with the environment and tend to have a greater understanding of the need for regeneration (Shiva, 1988). Women are painted as mothers who take care of environmental resources for their children, and who thus make good conservationists. Gender discourses at the level of policy formulation are thus different for the three different programmes (irrigation, drinking water and forest/watershed programmes), however these same differences are not seen at the level of programme implementation in the villages.

At the village level, the participation of women or men in the three programmes at a decision-making level was influenced by the interaction of cultural and social norms with utilitarian concerns. Decision-making bodies are seen as the domain of educated males as in the case of Tukucha Nala Irrigation System. To be able to read and write is a determining factor for occupying a position on the committee. In farming communities children are often needed as agriculture labour and sending children to school means losing an extra worker. Therefore, parents tend to prioritise sons for schooling on the basis that a son will be more capable and will be able to look after the parents in their old age, whereas a daughter will be sent off to her husband's house. As a result of this and many other factors, women's representation on the water committees is lower. In the case of the forest sector the technological dimension, which includes such activities as being able to look after the forest and spend time and labour to network with line agencies, is a determining factor for the selection of committee members. Women are usually seen as being incapable of managing such hard work.

In all the three cases, it has been an external factor that has allowed women to be present on the committees. The WUA president in the Tukucha Nala irrigation system was the one who insisted on including women in the committee. In the case of the Asare drinking water system it was the district drinking water office who asked the users to nominate two women in the committee. Finally, in the case of the Asare Forest Users' Group it was the forest officer who demanded the representation of women. In all three cases these agents were influenced by national policies and though there was some initial disagreement on women's representation, an opportunity to dialogue about women's participation in the committees was created. This dialogue at the village level has helped to challenge and change the dominant gender discourse that divided household work and community decision-making activities between men and women. National quota policies have also helped to change dominant discourse on caste/class divisions. In case of Tukucha Nala for example, lower caste women used the policy to secure a position on the committee that would otherwise have been occupied by a higher caste member. Thus the quota system challenged both gender and class norms within the public sphere through recognition of women's right and ability to participate in natural resource management (Sgier, 2004).

Quota systems - an avenue for women's participation in the public water domain

Of the three cases studies, the cases of the Tukucha Nala irrigation system and the Asare FUG provide an opportunity to understand the silence of women about their own perceived need to be part of these decision-making bodies. The woman of the untouchable caste in the case of Tukucha Nala would never have been a WUA committee member if the three women originally nominated by the male leaders had agreed to be on the committee. Similarly, it was only once two women were nominated for the Asare FUG as president and vice president that the third woman from the middle class group came forward to propose her own name. Both of these women realised that these fora were an important source of information and networking with external agents, as well as a way to learn and act effectively as a committee member. Thus, the quota policy provision provided an opportunity for women, especially female heads of households, to be present in the public domain. In the absence of their male partners, many female heads of households are excluded from the public domain, or rely on other male family members to represent their interests. Widows in particular, who are not empowered to challenge their social stigma by participating, often rely on their brothers- or fathers-in-law for representation in community decision-making. Though in some cases male family members do cooperate, this is neither the most effective nor the most sustainable way for women to participate. Rather, women who develop the capacity to address community issues and negotiate with external agents and decision-making processes will acquire a life-long asset. Thus the quota system for including women in committees has not only provided them with a space to participate, it has also empowered women.

The Quota System - an opportunity rather than a burden

The quota system for including women in users' committees in three sectors was implemented from the top down without much consultation at different levels, with the result that it is understood to different degrees at different levels (for example, formulation and implementation) (cf: Millar et al 1998; Lynch, 1993; Razavi, 1997). In irrigation policy the quota was twenty percent in 1992, and was later raised to thirty-three percent in 2003. The quota is generally one-third of the total population. The UN has estimated that a critical mass can be formed if women get at least one-third or thirty-three percent of the available positions (Guanzon, 2005). However many local-level policy-makers and implementers still do not understand why thirty-three percent or one-third of women should be included. In general, it is understood that the policy attempts to compensate for women's subordinate status. However the root of gender inequality is not addressed by the reservation of thirty-three percent or one-third of positions on a committee. Rather, women who come to occupy these positions through such provisions are often seen as poorly qualified and unable to manage the task, and may feel that they will not perform their duties effectively.

However other women, who have identified and internalised the need to be present in decision-making bodies, perform extremely well as committee members, as evidenced by the preceding three case studies. Therefore, though the provision of few legal spaces for women does not help to sensitize men and women - users, implementers, and policy-makers - to the issues of gender equality, women's empowerment, and equal access to resources, it is an essential first step in bringing balance to decision-making on resource allocation and management.

VI. References

- Agarwal, B. (1994) A field of one's own: gender and land rights in South Asia. South Asian Studies 58, Cambridge University Press.
- Bhattachan, Krishna B (2001) " Sociological perspectives on gender issues in changing Nepalese society" in Manandhar, L.K. and Krishana B Bhattachan (eds) *Gender and Democracy in Nepal*, Central Department of Home Science, Women Studies Program, Tribhuwan University and Friedrich-Eber-Stiftung New York.
- Carson, Wendy, (1999). "Rhetoric to reality: a psychological approach". In Portar et al. (eds) *Gender works: Oxfam experiences in policy and practices*. Oxfam publication.
- CBS, (1999a) Women in Nepal some statistical fact, HMG, National Planning Commission, Central Bureau of Statistics, Nepal.
- CBS, (1999b) Statistical year book of Nepal, 1999, HMG, National Planning Commission, Central Bureau of Statistics, Nepal.
- Cleaver, Frances, (2003). "Gender myths and feminist fables: repositioning gender in development policy and practice"?.
- Connell, R W (1987) *Gender and Power*. Policy Press.UK.
- DIO (1997) Tukucha Nala Irrigation Project, Feasibility Assessment Report, Second Irrigation Sector Project, HMG, MOWR, CRID, Department of Irrigation.
- Guanzon, Rowena V. (2005) Quota system for women. [newsarchive02/quota.html](#)
- HMG (2000) Shichai Niyamawali, 2056(Irrigation Regulation, 2056) Kanun Kitab, Nepal.
- HMG (2003a) Shichai Niyamawali, 2060(Irrigation Regulation, 2060) Kanun Kitab, Nepal.
- HMG, (1992) Shinchai Neeti, 2049. (Irrigation policy 2049), Singhadarbar, Kathmandu.
- HMG, (1998). Drinking Water Regulation 2055(1998) and Water Resource Act 2049(1992), His Majesty the Government, Ministry of physical planning, Department of Drinking water and sanitation, Nepal.
- HMG, (2003b) Shinchai Neeti, 2060. (Irrigation policy 2049), Singhadarbar, Kathmandu.
- HMG, (2003c). The Tenth Plan, Poverty reduction strategy paper 2002-2007 Summary, National Planning Commission, Nepal.
- Karki (Singh), Susmita (2000) 'Property rights of women in the perspective of gender equality in Nepalese law" PhD thesis, Faculty of Law, University of Delhi.
- Long, N. and J.D. van der Ploeg (1989) "Demythologizing planned intervention: an actor perspective", *Sociologia Ruralis* XXIX(3/4):226-49.
- Lynch,B.D.(1993) "The bureaucratic tradition and women's invisibility in irrigation" in Proceedings of the 24th Chacmool Conference pp. 333-342, Archaeological Association,

- University of Calgary, Alberta.
- MDC (1998) "Water use inventory study of Kavre Palanchowk district" HMGN, WECS, Final report Vol. 1, Multidisciplinary Consultants Pvt. Ltd. Kathmandu, Nepal.
- Meinzen-Dick, R. and Margreet Zwarteveen (1998) "Gendered participation in water management: Issues and illustrations from water users' associations in South Asia", *Agriculture and Human Values* 15:337-345, the Netherlands.
- Millar, Carol and Razavi, Sahara, (1998). *Missionaries and Mandarins: feminist engagement with development institution*, UNRISD.
- Moser, Caroline O.N. (1989) "Gender Planning in the Third World: Meeting practical and strategic needs" *Worlds Development* Vol. 17 No.11:1799-825.
- Razavi, Shahra (1997) "Fitting gender into development institutions", *World Development*, Vol 25, No.7 pp 1111-1125 Great Britain.
- Regmi, S B and B. Fawcett, (1999). "Integrating gender needs into drinking water projects in Nepal", *Gender and Development*. Vol.7.3, pp 62-72. Oxford.
- Sgier, Lea (2004) "Gender quota debates as discourses on the public sphere", Paper presented at workshop on Working with ideology in Post ideological age, 13-18 April 2004, Uppsala, Sweden.
- Shiva, V (1988), *Staying alive: women, ecology and development*, Zed books, London.
- Shymala, C., Vijaya and C. Sithapathi Rao (1999) "Role of women in participatory irrigation management: A study in Andhra Pradesh", paper presented on Fifth International Conference on Participatory Irrigation Management, December 1999, India.
- Sutton Rebecca (1999) "The Policy process: An over view", *working paper* 118, Overseas Development Institute, London.
- Wijk-Sijbesma, Cristine van (1985) "Participation of women in water supply and sanitation roles and realities", Technical Paper Series, International Reference Centre for Community Water Supply and Sanitation, the Netherlands.
- Wuyts, M. (1992) "Policy as a Process" in M.Wuyts, M.Mackintosh and T.Hewitt (eds) *Development Policy and Public Action*, pp.279-285.Oxford University Press.
- Zwarteveen, M.Z. (1997) "Water: from basic need to commodity: a discussion on gender and water rights in the context of irrigation", *World development*, Vol 25, No.8, pp 1335-1349