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# **Balancing Pains and Gains. A Perspective Paper on Gender and Large Dams**

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**This is a working paper prepared for the World Commission on Dams** as part of its information gathering activities. The views, conclusions, and recommendations contained in the working paper are not to be taken to represent the views of the Commission

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<sup>1</sup> For example, social movements such as the Narmada Bachao Andolan have begun to see dams as a symbol of “destructive development”.

<sup>1</sup> Kabeer, N. p xi (1994).

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## 1. The Large Dams Debate: Whither Gender?

*'... Bureaucratic requirements for information tend to strip away the political content of information on women's interests and reduce it to a set of needs or gaps amenable to administrative decisions about the allocation of resources. This distillation of information about women's experiences is unable to accommodate or validate issues of gender and power. Women are separated out as the central problem and isolated from the context of social and gender relations.'*

Sally Baden and Anne Marie Goetz (1998 : 19)

*'.....Critical theory...speak[s] to the notion that there is no single truth, that the location of individuals and groups in the social structure determines their construction/interpretation of truth or reality, and that the oppressed have a more powerful claim to a complete understanding than dominant groups.'*

Rawidda Baksh-Soodeen (1998:77)

The history of large dams parallels the history of development. In the 1950s and 1960s, when the modernisation paradigm reigned supreme, development tended to be project-focussed and was considered a unilinear way to progress. The large dam, executed in a top-down way, epitomised the development and the project of modernity. The large dam was also central to notions of growth. At the turn of the millennium development strives to be more people-oriented, rights-based and is increasingly seen as a process that should be equitable, just and enhance choices. In this context, the large dam is more problematic, not least because of the several controversies surrounding its social consequences.<sup>1</sup>

The social impacts of large dams have been extensively documented, especially with respect to involuntary resettlement and displacement (cf. Cernea, 1997; Scudder, 1995; Cernea and Guggenheim, 1993). The direct or indirect impacts of dams on the lives and livelihoods of different people across the entire river basin have not received as much attention. Even less is known of how gender and dams can be correlated. To some extent, large dams represent the great leap forward, in terms of their perceived capacity to generate and multiply resources. Like other infrastructure projects such as roads and power plants, large dams have enormous consequences for people's lives and livelihoods. These include problematic areas such as displacement and resettlement, but also promises of opportunity including the capacity to transform barren landscapes, generate power and employment. To our knowledge the social, economic and environmental consequences of large dams are more far-reaching than those associated with other infrastructure projects. This is because large dams entail dramatic changes across time and space in both the ecosystem and in social, economic and cultural structures. Some of these include changes in the environment, in the social organisation including family, community and kinship networks, in natural resources and financial resources, in infrastructure development and in consumption and production processes. As we will argue, all these changes are gendered.

Gender has been one of the missing links in the impact assessments of large dams. Women and men are not homogeneous but instead are differentiated according to their varied social locations. The imperative to examine the gendered dimensions of the costs and benefits of large dams derives from the fact that large dams affect men and women in very different ways. Feminist literature has pointed out the many ways in which genderless categorisation of the community, the state and its institutions, have tended to conceal the complexities unfolding in everyday exchanges between women and men (Elson, 1998; Boserup, 1970; Kabeer: 1994.). The marginalisation of gender results in a set of misleading conclusions that are often at variance with the realities of both women and men and the specific ways in which large dams affect both.

The large dam's literature usually describes the project-affected person as a genderless entity, rather than as a woman or man with different interests and aspirations. Similarly, the household is seen as a black box instead of a site where women and men both co-operate with each other or are in conflict with each other (cf. Sen 1990). Likewise, the family where gender roles are shaped and cemented, is often treated as an undifferentiated unit with convergent interests (Thukral, 1996; Indra, 1999). Finally, the community earmarked for either compensation or benefits is viewed as homogenous with male members usually being targeted. Thus, dams have been built and their impacts, be they positive or negative, have been analysed in a gender-blind way as though differences between men and women in the household, community or nation simply do not exist.

As several studies have elaborated, vulnerable communities like women and children tend to be impacted by dams in ways that require an evaluation that goes beyond the monetary loss of land (Colson, 1999; Thukral, 1996; Parasuraman, 1993 and 1997; Srinivasan, 1997; World Bank, 1993). Additionally, in an already unequal context, disparities tend to get further exacerbated (Thukral, 1996). In a similar vein, Colson argues: "When people are uprooted because their land is wanted for *economic* reasons usually associated with visions of national development, their multiple identities tend to disappear: they become ungendered, uprooted, and are dealt with as undifferentiated families or households' (1999, 25).

Some of this is changing. World Bank documents since 1993, speak of how women bear the brunt of displacement caused by large dams (cf. McCully, 1996). Similarly, the World Commission on Dams (henceforth the Commission) is also committed to examining the multi-faceted gender impacts of large dams. These efforts are important and clearly steps in the right direction. However, does this mean that gender would merely become one of the many issues that have emerged in the large dam's debate? Would it become yet another discrete aspect to investigate along with, for instance, dams and financial accountability, dams and climate change and so on? We hope not. For gender is not something "one can add on and stir" (quoted in Indra, 1999: 11). Instead it is a crosscutting issue. To paraphrase Indra, it is perhaps one of the key relational aspects of human activity and thought having far-reaching implications for women's and men's social and economic positioning and the ways in which they live and experience their lives (Indra; 1999: 2).

Within the large dam's debate, the centrality of gender has been eclipsed by the reluctant visibility accorded to it. We maintain that the centrality of gender is matched only by its near exclusion in the controversy around large dams (Colson, 1999: 25; Koenig, 1995). This paper is an attempt to reclaim some legitimate visibility for gender. It is an effort to plug the glaring omissions that have plagued the large dams discourse with respect to gender.

Our paper hopes to demonstrate that large dams have far-reaching consequences on the economic, social and cultural contexts within which men and women live their lives. Largely, the spread of pains and gains has not been equal. To some extent, this is because of because of gender biases, ignorance and reductionist modes of operating in dam-building activities. Our paper attempts to track changes in some of the key areas including access to resources, changes in social relations, economic activities and decision-making and participation processes. As we shall argue, in some cases, changes might be positive. Largely, however the changes caused by large dams have led to adverse outcomes for women.

In anticipation of objections from a careful reader we add two caveats: One, gender imbalances exist in almost every society. Thus, societies even in pre-dam contexts are marked by high levels of inequality in terms of access to and control over resources, gender roles and relationships. However, from our review of the available literature it appears as though new dams tend to aggravate existing inequalities and increase rather than close gender gaps. An engineer might argue that these problems have very little to do with the physical structure of the dam on the river, but instead with existing patriarchal structures. We argue, however, that technology is not gender-neutral or apolitical. Technological interventions such as large dams interact with the existing socio-cultural system to

produce new forms of social organisation which entail both opportunities and constraints for women and men. Thus, from a social point of view large dams need to be evaluated in terms of their contribution to reducing gender gaps and improving the conditions under which women and men lead their lives. Thus, any analysis of large dams needs to focus on the extent to which large dams have changed or have the potential to change gender disparities, making it important to understand existing gender disparities in society and how they change in the course of the project's life.

Two, we do not wish to portray the affected communities and men and women as passive victims or recipients of dam-based development. Human beings are capable of tremendous resilience and can adjust to and act upon a wide range of changes. Thus, pains can become gains over a period of time due to people exercising agency in both periods of stress and periods of opportunity. However, we do wish to demonstrate that dam-building activities have largely failed to make conscious efforts to include equity considerations in their activities. Rarely have equity considerations been placed upfront in planned interventions associated with large dams. For development to be just, projects must aim to reduce inequality (both existing and new) and the better off need to pay most costs and the worse off need to be targeted to get most benefits.

The paper is structured as follows: After a brief discussion on methodology, we explore conceptual links between gender, development, dams and equity. The paper then looks at gender impacts in the various project-affected areas. Beginning with the catchment area, the paper focuses on resettlement processes. It then goes on to investigate the spread of benefits from large dams in the command area with a special focus on irrigation. After a look at other project areas, we present our conclusions. The final sections of the paper deal with identified best practices and recommendations.

## **1.1 Background to the paper:**

This paper is an attempt to link gender and dams in a comprehensive way. While the links between gender and displacement/ resettlement processes are slowly being made (e.g. Koenig, 1995; Parasuaram, 1993; Colson, 1999; Pandey XXX), to our knowledge no study has attempted to look at gender in all the project affected areas with explicit links to issues concerning equity and distribution. This makes our task both challenging and daunting.

For one, there is a tremendous paucity of both conceptual and empirical material on the subject. References to gender have a rather add-on character in most policy documents and in the established literature on resettlement (e.g. Cernea 1997; McDowell 1997). The lack of detailed, gender-specific data made it necessary for us to engage with a wide-ranging feminist and gender studies literature. Like Koenig (1995), we have had to rely on literature not directly linked with the dams in order to understand the role and implications of gender differentials. Thus, we refer to literature on refugee studies, agricultural resettlement schemes and gender, land rights and irrigation.

We began with an email consultation, which gave us access to a wide network of academics, activists and policy makers interested in dams. While this consultation generated a lot of interest and helped in giving us a few additions to our bibliography, we were unable to get substantial and rich empirical case material. This only confirmed our original assumption that the large dams debate had been rather gender blind. Given the paucity of information linking gender with the wide range of social impacts associated with large dams, we have had no choice but to privilege two key areas analysed through the lens of gender. These are displacement from the catchment area and irrigation in the command areas. The analysis of downstream and upstream impacts as well as links between gender and power supplies are rather sketchy due to this lack of data. Similarly, while we have aimed at a global analysis, due to the lack of availability of data across regions, most of our empirical cases are located in the South Asian and African contexts.

In order to address the question concerning social impacts, equity and distribution, we have drawn on wider debates from the gender and development literature, which offers conceptual tools to analyse equity and distribution from a gender perspective. These debates also throw light on the malaise of gender blindness in policies and project implementation. Insights from the gender/development literature provide the conceptual umbrella within which our analysis of gender dams and social impacts proceeds.

## 2. Gender, Dams and Equity

### 2.1 What is Gender?

Gender is increasingly seen as a powerful social and cultural construct determining the ways in which social relations are structured between men and women. It constitutes the entire ambit of relations that govern the social, cultural and economic exchanges between women and men in different arenas from the household to the community, state and multi-lateral agencies (Jackson and Pearson, 1998). Gender is central to how societies assign roles, responsibilities, resources and rights between women and men. Allocation, distribution, utilisation and control of resources are thus incumbent upon gender relations embedded in both ideology and practice.

In most parts of the world, there exist gender biases, which disadvantage women. Gender is not a static concept but differs in different cultural, geographical and historical contexts. It is contingent on factors such as age, class, culture and history. Therefore, it is wrong to assume homogeneity amongst women. Gender analyses do not merely focus on women but also look at the ways in which men and women interact with each other and the gendered nature of their roles, relations and control over resources.

Due to its crosscutting nature, no social or equity and distribution analysis can proceed without a discussion of gender. Thus, a growing constituency of policy-makers, social advisers and gender scholars talk of gender mainstreaming and “engendering” activities. They use gender conceptually and practically to approach a whole array of issues ranging from forced migration (cf. Indra 1999) to development co-operation (DFID 1999) and health. In the following section, we look briefly at the long process which led to the mainstreaming of gender – at least at the de jure level - in international development.

### 2.2 Gender Equality: A Goal of International Development

*Development has been about men, by men and for men*  
Naila Kabeer<sup>2</sup>

In the past few decades, there has been a growing recognition that development processes such as economic growth are not gender neutral. There is a significant gap in the ways in which the fruits of development are distributed and calculated. Women’s unpaid labour has either not been calculated, or benefits have disproportionately been enjoyed by men (cf. Agarwal, 1996; Elson, 1998). This gender gap still exists in both policy and practice. Gender blindness, for instance in resettlement policies, has led to negative outcomes for women (Thukral, 1996). In practice, despite good policy intentions cultural biases and gender stereotypes have exacerbated gender inequalities.

Attempts to make women a visible category in development led to the emergence of the WID (Women in Development) approach. Women came to be explicitly targeted in development projects and programmes. There was the belief that the failure to do so would both undermine efficiency (given women’s concrete role in contributing to the economy and process of development), and welfare concerns. However, these efforts led to the pigeonholing of women’s concerns. They did not lead to a fundamental re-thinking of the ways in which women and men accessed and controlled resources. Neither did it examine the ideologies underpinning power equations in various arenas ranging from the household to the community and state.

By contrast, the Gender and Development (GAD) approach is concerned with the way power is structured in social relations that legitimise the subordination of women and its continuation. The concern is to unpack the institutionalisation of male power and privilege in domestic domains. The

primary institutions are the household and wider institutions such as development agencies and state bureaucracies (Kabeer, 1994: xii). The objective is to understand how notions of gender are constructed. GAD analyses, thus, are concerned with the unequal distribution of rights, resources, power and division of labour amongst men and women. It also looks at how these crosscut with categories such as class, caste and tribe. However both men and women are seen as crucial to allow change to take place, hence women explicitly should not be targeted.

There is a growing international consensus on the need to achieve gender equality. The Fourth World Women's Conference in Beijing emphasised the reduction of gender inequality both as an end in itself and as a contribution towards sustainable development. There is a widespread international consensus on the need to achieve gender equality in development and development co-operation. Thus, bilateral and multi-lateral agencies are currently engaged in processes that seek to mainstream gender equality in all areas of their work such as poverty, health and environmentally sustainable development.

Other international processes around human rights also make clear commitments to gender equality. The Committee on the Elimination of Discrimination against Women (CEDAW) of 1979 explicitly makes a commitment to address uneven social conditions, which have supported discrimination and violence against women (cf. Koenig, 1999). The Human Rights conference in Vienna in 1993 affirmed the interconnectedness of rights from a gender-perspective. This was reiterated in Beijing's Platform for Action, which affirmed the need to see gender rights as human rights.

Despite these international commitments, glaring gaps still remain. Development agencies such as Britain's Department for International Development have acknowledged that gender equality goals sometimes "evaporate" with good policy intentions not being followed through in practice (DFID 1999). If dams are built as part of the development process, the goal of gender equality in policy and practice should be unequivocally espoused by dam-building multilateral, international and national agencies. The failure to do so would make the distribution of benefits and costs highly unequal on gender terms. Moreover, the lack of equity concerns could also undermine their efficiency which is a high priority in dam-building activities.

In the remaining sections of this paper, we review how and whether questions concerning gender equality have been addressed in the context of large dams.

## **2.3 Equity, Distribution And Gender**

An evaluation of impacts should hinge on two principal axes: equity and distribution. Gender scholars have long been concerned with issues concerning equity and distribution. Their primary concern has been to understand the root causes of gender gaps in the ways which the fruits and costs of development are borne. Thus it has been necessary to understand discrepancies in the allocation and distribution of resources.

Development is often equated with economic growth. It is argued that the well being of all humans will be assured with economic growth. However, feminists have challenged this assumption in two ways. Firstly they assert that the drive towards growth should not detract attention from attempts at redistribution to meet the basic requirements of all (cf. Kabeer, 1994: 75). Thus, growth or development, which proceeds in an unequal way, cannot meet equity goals or lead to social and economic justice for all women and men. For development to achieve equity goals it has to be fair and just. It must necessarily entail a process of redistribution where the costs and benefits are equally borne by men and women; by the powerful and powerless.

Secondly, gender scholars have argued that economic growth does not affect men and women equally. They have demonstrated that the household is not "a unit of congruent interests" (Agarwal, 1994: 3),

where resources are shared equitably by all its members. Hence, women's needs and interests require a specific priority focus in practice and policy for development to be truly gender-just.

Gender as a relational dynamic that influences the spread of resources needs to be placed squarely on the agenda for a realistic impacts assessment. In examining the roles of women and men in accessing resources, we see that both equity and distribution are inter-linked. For example, a just and fair distribution rests on equity and equitable relations. Similarly, the costs and benefits of large dams would have to take into account the social, cultural, and political. This perspective is in opposition to a narrow, ungendered economic analysis. Large dams have a lasting impact upon kinship structures and community identities (Dreze et al, 1998). Kinship structures are social resources that determine individual well being and cannot therefore be ignored in impacts assessment studies. Other resources include forests, land, rivers, and environment - all of which are inextricably part of the cultural and social matrix of communities affected by dams.

As gender scholars are also concerned with making the invisible the visible, they have largely been sceptical of mainstream and reductionist ways of measuring distribution and costs and benefits. The socio-cultural is also a function of equity and distribution, just as access and control over resources are intrinsic to it. From a gender point of view, a balance sheet approach uses dominant modes of enquiry which could serve to legitimise unequal distribution of resources (Elson, 1997), as it is premised on dominant relations. In this context, gender loses both its voice and visibility.

We argue that dominant modes of enquiry represent dominant interests. They are also silent about hidden costs and intangible issues entering into the socio-cultural domain. As development projects, dams have the potential to have tremendous costs and benefits. These can be environmental, social or economic in nature. The cost-benefit analysis was specifically designed to identify and measure the costs or profits emerging out of projects such as dams. While direct economic costs or benefits are easy to calculate, how do these analyses fare with respect to capturing intangible issues such as changes in socio-cultural identity and geographical space, crucial for a community's sense of well-being? Not very well, argues a growing constituency of critics of conventional cost/benefit analysis and balance sheet approaches (e.g. Kabeer, 1994 and Elson 1998 from a gender perspective, and The Cornerhouse (1998) from an environmental perspective).

These analyses display a market bias in valuing costs and benefits. Given that markets are not neutral but are ideological sites laden with social and power relations, certain issues might be valued more than others (e.g. irrigated land is probably valued more than common property land or men's economic activities receive greater value than that of women). Two, it is often impossible to put a "cost" or price to intangibles such as the loss of livelihood strategies which are non-monetised and may never have entered the market-place in the first place. Women's lives and activities are often centred around these intangibles - making it very difficult to calculate the gendered nature of costs and benefits when conventional approaches are used. Thus, any social impact analysis must necessarily capture the hidden and invisible nature of changes and costs. We have therefore chosen to evaluate the performance of large dams from a broader perspective that merges all the various aspects of community life.

## 2.4 Understanding the Social Impacts of Dams from a Gender Perspective

Large dams have profound environmental, social, cultural and economic consequences. Regardless of whether these consequences are positive or negative, they entail massive changes for the lives of women and men who are designated as project-affected-persons. None of these changes take place in a vacuum, however. The social impacts of large dams will build on existing social relations, social practices and norms concerning the ways in which resources are allocated and distributed. Hence, an

understanding of these existing practices is essential before any meaningful social or gender analysis can take place.

The changes brought about by dams are gendered and as outlined above, many are difficult to “cost” or capture through reductionist means. Without wanting to generalise about the nature of social impacts that will differ from project to project due to variables such as culture, project strategies and goals etc, some areas of social change can be identified where gender plays a crucial role. Let us review them.

#### **2.4.1 Access to and Control over Resources**

By resources, we refer to the following: (1) natural resources (e.g. land, water, fuelwood and fodder, minor forest produce); (2) economic resources (e.g. access to markets and credit, skill upgradation programmes); (3) resources which are socio-cultural in nature (e.g. kinship networks and knowledge systems). Largely, gender inequality in access to and control over economic and natural resources is widespread across the globe. Extensive research has documented inequalities in women’s control over land (cf. Agarwal 1996; Berry 1987). In most parts of Asia and Africa, women may have use rights over the land and forest, but are rarely allowed to inherit the land they use. The family also controls women’s agricultural labour through various social mechanisms like marriage, but the returns to women are not commensurate to the labour they expend on the land in both farm and non-farm activities. Similarly, gender biases often prevent women from having access to irrigation facilities and market services.

In the context of large dams, there are bound to be massive shifts in the ways in which men and women access and control resources across the river basin. In some cases, women might gain access to markets and urban facilities that were not available to them prior to resettlement, thus enhancing their set of economic choices and activities. Positive gender impacts can result from the increased and improved supply of water and electricity in both urban and rural areas. However, having access to resources might not mean that women might have control over them. For example, enhanced irrigation possibilities might not lead to women having more control over water if men control water pumps and irrigation channels. Largely, however, the social impacts of large dams build on existing inequalities in the access to and control over resources and sometimes even create new ones.

For example, in India, land is rarely allotted to women during resettlement schemes (Thukral, 1996) thus reinforcing the patriarchal notion that women cannot own property. In some cases, women’s use rights over resources may also be corroded. For example, forestry programmes in the upstream areas of dam may seal off the forests from its primary users: women who are responsible for fuelwood collection. Resettlement programmes may at least initially increase the competition over scarce resources. In such cases, women might be constrained to be more conservative in their use of scarce resources as was the case in a dam relocation project in Panama (Koenig, 1995: 36). In sum, while the impacts of large dams may build on existing inequalities in access to and control over resources, they should not exacerbate these inequalities. However, as the following sections will demonstrate gender-blindness in policy and practice often lead to adverse outcomes for women with respect to their access to and control over resources. Some of these effects have far-reaching consequences for the nutritional status of the entire family (e.g. loss of the commons may imply restricted access to fodder, forest and water resources having a bearing on the livelihood strategies).

#### **2.4.2 Gender Relations**

Changes in production processes caused by irrigation, relocation due to resettlement, changes in occupational structures due to the downstream impacts of dams all cause profound changes in social and gender relations in a community. In some cases, the social impacts of dams might lead to more egalitarian gender relations (for example, in a resettlement scheme in Zimbabwe women tended to be

less constrained by past kinship patterns and had better relations with their husbands Koenig 1995: 25). However, based on the sketchy data that we have access to, it appears as though the social impacts of dams tend to exacerbate rather than ease gender asymmetries (see Sections 3, 4 and 5).

### **2.4.3 Division of Labour and Economic Activities**

Both women and men have multiple roles and responsibilities in rural and urban households that are based on social and ideological notions. Processes such as resettlement or the shift from dryland to irrigated agriculture entail massive changes in division of labour between men and women. The changes will not be uniformly felt by all women and men but will depend on their class and social standing. The switch from subsistence agriculture to commercial cropping also affect women and men differently, e.g., greater reliance on market, capital, fertilisers and so on, may lead to an exclusion of women from decision-making processes because they may not be explicitly targeted to receive these benefits.

For example, resettlement to the plains meant that tribal women from India's Narmada Valley had greater leisure time. However, their economic activities were severely curtailed due to the loss of the forest. The forests was a source of income due to the processing and sales of minor forest products (Mehta, Forthcoming). While the household's wealth might increase, irrigated agriculture is known to increase women's work-load due to double or triple cropping and the gendered division of labour which assigns tasks such as weeding to women. Mechanisation of agriculture tends to displace women from traditional occupations, as women rarely have requisite skills. Additionally, most skill upgradation programmes are usually aimed at men.

### **2.4.4 Participation and Decision-Making Processes**

There is a growing concern that the planning, implementation and execution of large dams should proceed in a participatory and bottom-up fashion. Project implementers might make efforts to involve communities in making decisions about the future of the river basin. However, these efforts may not be extended to include women into the planning stages of projects, and that too, in culturally appropriate ways that do not antagonise their menfolk. Gender assumptions in communities also inhibit women from partaking in such activities that are bound to affect their lives in crucial ways. In fact, as our review indicates resettlement processes have shown a marked lack of consultation with women. This lack of consultation with women has led to several unanticipated consequences for the overall family's well being and health (e.g. the lack of attention paid to water and fuelwood by the male members who were consulted). In irrigation schemes, women are rarely represented in water user groups (Merry and Baviskar, 1997).

### **2.4.5 Institutional Arrangements**

Men and women have different institutional positions. Institutions usually reflect prevailing gender and power relations in a society. Usually formal and informal institutions co-exist side by side. For example, land rights can be both formal and governed by customary law. Often women have rights to property, water and land in informal institutional arrangements which might be corroded by the creation of new formal institutions to govern land and water resources (see Section 5). Conversely, customary law and informal institutions can and have been known to be discriminatory to women (e.g. caste-based Sahelian society where a particular interpretation of Islam might increase the marginalisation of women). Thus, the creation of new gender-sensitive institutions can help to eliminate some of these biases. However, many newly created institutions might be male-dominated and might not enhance women's bargaining power. This will further erode the in some cases, minimal rights, that women do enjoy within informal institutions. Ideally institutional arrangements should (a) not aggravate existing gender discrimination (b) create flexible alternatives to deal with gender

inequality and (c) initiate processes that work towards enhancing women's choices, even if it means being partisan towards the empowerment of women.

#### **2.4.6 Socio-cultural wellbeing and questions of identity**

Communities living in a river basin often define their existence due to their natural surroundings. The Narmada River in India is a marker of community identity. The river and the valley have shaped the history of communities' dependant on it. A disruption of the continuities that the river and the Valley represent in terms of local history can have traumatic impacts. While women may suffer from same trauma as men, they rarely have the means to vent their frustrations in the same way as men do. Therefore a change in community identity can have several kinds of impacts on a community's sense of well being.

In the South Asian context women are less mobile than men are. Changes in the social system affect them more severely than men (cf. Thurkral, 1996; Parasuraman, 1993). Displacement can have severe implications for the already restricted mobility of women in a context where women are forced to spend more time on agricultural labour because of shrinking economic opportunities for the communities. This 'protection' can become a double-edged sword. (Srinivasan, 1999a).

Gender disparities embedded in social practice and tradition render women vulnerable to sexual and physical violence. In a context when the community suffers several deleterious consequences of enforced change, women's position both outside the family and inside becomes even more precarious, with respect to violence. For example, in SSP resettlement sites, Kariba relocation and Nangbeto sites, the increased availability of alcohol has led to a marked increase of domestic violence. As the men face powerlessness, women become handy scapegoats (Colson, 1999).

Women tend to define their needs and interests within a large collectivity of either the household or community. Changes in household and community structures (especially as a result of resettlement) can increase their vulnerability. Even the social changes brought about by irrigation can have a profound change on men's and women's sense of identity (see Section 5).

### 3. The Settler and his Wife: Displacement, Resettlement and Gender

*'.....Unlike the settlers, their wives and children are not given any specific task or counted as part of the holdings labour-force...'*

Tunkur Shamsul Bahrin (n.d., 63)

*'...The lot of women is often worsened by settlement. It is true that there have been cases where they have benefited....but such cases are exceptional....'*

Robert Chambers in Colson (1999)

One of the most tragic consequences of large dams is displacement. Usually, displacement is forced upon communities already at the end of systemic injustice such as indigenous communities (Thukral, 1992). Women as marginalised entities within marginalised communities are often forced to shoulder the ordeal of displacement far more intensely. Additionally, displacement is often accompanied by the covert or overt use of force. This entails repression of dissenting voices and large-scale violation of democratic rights (Thukral, 1996). There is evidence that many project affected communities have not been given adequate notice before submergence, and have simply been flooded out of their homes (Thukral, 1992; McCully: 1996). This is particularly common in the absence of protest movements or people's organisations. There have been cases where women protesting against forced evictions have been subject to sexual molestation including rape, as a means of intimidation by the state (Srinivasan: 1997, Mehta, forthcoming).

Resettlement, it is acknowledged, is a traumatic experience for most communities. (Cernea, 1997; Morse et al 1992). 'Resettlement involves a re-ordering of gender relations across a wide spectrum, but that re-ordering emerges from previous assumptions about gender and the gendered experience of those involved, says Colson (1999, 26). Efforts towards resettlement and rehabilitation may also be flawed in terms of their understanding of gender and changing gender roles entailed by displacement. Gender-blind policies, gender assumptions and roles embedded in social and cultural practices in affected communities, also work to the disadvantage of women. Both men and women experience disempowerment due to being uprooted. However, women are often at the receiving end of the transitions visited upon communities especially in relation to the domestic sphere and the market.

The rigidities of gender assumptions are internalised by both women and men in projected affected communities. These gender assumptions are often reinforced by policy. They play a key role in discouraging women from availing of the increased opportunities that large dams may present. (Colson, 1999). Besides, the household is usually seen as an undifferentiated unit, with men presumed to be the heads of households. So, while 'the settler, his wife and children' make up the displaced communities, the settler is primarily assumed to be male. Such assumptions, embedded in policy and implementation, often serve to exacerbate the inequalities already present in the social organisation of communities.

In this section, we demonstrate the ways in which gender is impacted by the resettlement process. We also comment on the gender-blindness that characterises most policy and implementation in the case of resettlement due to large dams.

We draw upon two case studies to illustrate this. The first one is a study of Gwembe Tonga women uprooted by the Kariba Dam in Zambia/Zimbabwe, by Colson and Scudder (Colson, 1999). The second is a close look at the Sardar Sarovar Project in India. We also examine World Bank studies on involuntary resettlement issued by the Operations Evaluation Department (OED various), on large dams the world over to scrutinise some of the recorded gender impacts of displacement.

### 3.1 Uprooted by Development.

*'.....Outsiders keep telling us that the new land is good because we can have access to so many goods and services. But they forget that there is an assumption in this: that we will have money to access these facilities. I have heard that in the city one often has to pay even for drinking water. I find it difficult to believe that our people will ever have enough money to fulfil our wants to the same extent that we can do here in the hills.'*

Makti Chima, a woman from the SSP submergence zone.

Quoted in Hakim. (1997: 155)

*“Planning without fodder, fuel and water is one-eyed planning” (Bahugana in Agarwal, 1996: 2).*

In 1956, Gwembe Tonga communities were displaced from the Gwembe Valley in the Middle Zambezi Valley, to make way for the Kariba Dam, which was completed in 1958. According to Colson's study (1999), there were some significant features of social, economic and political impacts on the displaced community. We present some significant findings.

- Gwembe ethics emphasised a relatively egalitarian ideology. Both women and men participated in social and domestic decision-making. Most women had control over land given to them by kin. Husbands were also expected to allocate land to wives who also worked on their husband's lands. Divorced women kept their own fields and lost allocated land. Men and women had separate granaries. The family used women's granaries for subsistence. Women also invested in livestock, though they had less to invest. Men's granaries were not used for the family or other dependants. Instead, men's granaries satisfied surplus requirement of the family. Thus, equity was achieved due to men and women having their separate autonomous realms.
- Women's social and economic mobility was restricted before resettlement. Social interaction was limited to the immediate community. They had little access to the market.
- While men expended labour on constructing houses, women helped to cut and bring in thatched grass and mudded dwelling houses. Women and men cultivated, planted and harvested most crops. As male migration was common, it was women's labour that sustained work on the fields. Men gained control over women's labour through marriage.
- There were few schools in villages. Enrolment in these schools was low, with the number of boys being higher than that of girls.
- After resettlement in 1956, things changed. Colonial authority systems recognised only men as chiefs, counsellors and headmen. The nature of gender relations within the community assigned the public sphere to men, which did not question this exclusively male representation of the community in the case of resettlement. Colonial policy further reinforced this dichotomy already embedded within the community.
- Women were not included in the colonial authorised local government. Women were thus excluded from negotiations with the colonial state. Their interaction with the state was filtered through males.
- Women were traumatised by the move years after resettlement. They found it hard to accept unfamiliar surroundings. 10-15 years after resettlement women still asked when the dam would be destroyed. Men saw the move as a political defeat because it represented a loss of face and powerlessness. Men tended to vent their frustrations on women and children. Incidence of domestic violence increased. Increased availability of alcohol had an influence on this. The

rupture of social kinship structures meant that there were no social buffers to prevent domestic disputes. Women lost their bargaining power with the loss of a social set up to monitor domestic disputes.

- Women lost land rights. Males were treated as heads of households. No compensation was awarded for loss of land, though it was agreed that compensation would be awarded for households irrespective of sex or age. Gender assumptions of the colonial administration led to men being given compensation. Women received little in comparison. Thus women lost out on land rights and property rights. Gender assumptions within the community, restricted access to industrial development and markets.
- Men began to resent female kin claims to land in resettlement sites. The earlier system of land allocation to women broke up. To pre-empt women kin from claiming land at the Kariba resettlement site, men often arranged marriages for divorced and widowed kin with unsuitable persons. As women's grain was used for family consumption, they did not have grain to pay for work parties to clear fields, unlike the men. Women preferred to use grain for brewing as it gave them immediate cash returns. Women were, thus, marginalised by the loss of land and the loss of grain.
- The administration provided men with skill upgrading and recruited them for building roads and so on while women lost control over their income. However, women also felt that improved road systems and spread of small shops made it easy to sell produce. Extension services for cultivation of cotton, and credit facilities were made available primarily to men.
- In 1957, most Gwembe women had fields of their own. By the 1970s, younger married women said they cultivated with their husbands. Fields were no longer being allocated for their own use, as was the earlier practice. Younger women were unlikely to have their own granaries.
- Women's opinions on resettlement varied. Most preferred the old life because of the permanency of the river, land and kin. This was in 1970, over 10 years after resettlement. Younger women, however, enjoyed the increase in mobility, shops and availability of money and sense of belonging to a national community. Younger women had greater access to education, they saw increased income opportunities: land was no longer the sole means of livelihood. Thus, factors such as age played an important role in women's experience of resettlement. Many women no longer defined themselves solely as producers of food and children. These gains, however, were not an in-built part of the project. They occurred because of the ability of women and men to "get on with their lives" and adapt to the new situation. Clearly, for younger people this process is easier than for older men and women.
- As marriage markets began to expand, women began to claim rights as mothers against male kin. Their ownership of cattle went up. Women began to put a cash value to their labour, including family labour. Women's inheritance rights increased by virtue of their roles as wives not as maternal kin.

This study offers a diachronic perspective with which to analyse the ways in which both men and women lose and benefit as a result of resettlement and the complex nature of social change. As discussed previously, interventions were not targeted at women. Thus, in many cases, they lost realms of autonomy and control. Their gains, thus, are more of an incidental character than due to any planned form of intervention.

### 3.2 The Sardar Sarovar Project

The Sardar Sarovar Project, described as 'one of the most flawed projects' (Cernea, forthcoming) will displace mainly adivasi (tribal) communities in the Narmada Valley constituting Tadvis, Vasavas, Bhils and Bhilalas and caste Hindu communities. Gender organisation in these communities varies. However, while adivasi communities represent a relatively egalitarian gender organisation compared with caste Hindu societies (cf. CSS, 1997; TISS, 1997), none can be said to be entirely free of discrimination towards women.

Resettlement in the Narmada Valley has, in many ways, deepened these inequalities. Resettlement has proceeded at an uneven pace, subject to many pressures in the face of widespread protest against the dam. 19 villages in Gujarat were relocated in 175 different locations in 1985 (TISS, 1997: 184-214).

The main gender impacts emerging from displacement and resettlement in the case of SSP are:

- The fragmentation of the community has led to a disruption of social cohesion, impacting women more severely than men. Isolation from kinship structures because of increased transportation costs has led to increased insecurity and fear amongst women (Thukral 1996; Srinivasan, 1997; Mehta, Forthcoming). Some studies have pointed out that displaced women's central anxieties concern inability to visit their married daughters (Thukral 1996; Hakim, 1997).
- Women's access to and control over resources have been severely curtailed by resettlement. Women do not have land rights in adivasi communities (most adivasi communities in the Narmada Valley are classified as 'encroachers' (Morse et al, 1992). However, they have usufructory rights and control over common property resources (Mehta, Forthcoming). Their forest-based work gives them an independent income which is lost upon resettlement. Their role in the forest economy is not recognised. Major or adult daughters, widowed women with land records in the original villages have not been compensated (Bhatia, 1997). Women's interests are seen as linked to the household and thus only men and major sons are being given land according to the Gujarat Resettlement and Rehabilitation policy. Additionally, loss of forests, river, forest produce, fuel, fodder and common property resources affect women in the resettlement sites (Mehta, Forthcoming; Srinivasan, 1997; Parasuraman, 1993).
- On the other hand, skills such as basket weaving, pottery and the uses of herbal remedies are being made redundant at resettlement sites (CSS, 1997). Additionally, while the Gujarat government has introduced training programmes like soap-making and sewing, the women of Parveta, a resettlement sites (specially older ones), are resisting it (CSS, 1997). This is because these activities are far-removed from the lives and realities of tribal women. They also reinforce middle class notions of women performing typical "female" tasks, thus undermining the economic role of tribal women in the forest economy.
- There has been a decrease in women's mobility due to increased intensity of certain kinds of agricultural work at the resettlement compared to original villages (Parasuraman, 1993; Mehta Forthcoming) and due to the unfamiliarity of the surroundings (Srinivasan, 1997). The gendered organisation of public space at the resettlement sites has led to increased insecurity and fear for women (ibid). In the absence of kinship support this has social and domestic repercussions. Tensions between the host community and the resettled communities often arising out of sloppy resettlement implementation (Dreze et al., 1997), have often resulted in violence. For example, in one resettlement site in Maharashtra, in the ensuing hostility between the 'host' community and the resettling community a woman was killed in 1992 (TISS, 1997). Increased availability of alcohol at sites has led to an erosion of household income and domestic security (Thukral, 1996)

- In tribal villages, women were involved in decision-making processes around the household and the farm (CSS, 1997). The monetised economy, which adivasi communities are unfamiliar with, has marginalised women from these spheres of autonomous control on the farm and the household. For example, women are being forced to take up wage labour and accept lower wages for equal work at the sites. Agricultural production has become more sophisticated at the sites with the introduction of implements (Parasuraman, 1997) and women can be pushed on to the periphery as is sometimes the case with the introduction of mechanisation.
- Domestic drudgery seems to have decreased in some sites due to availability of hand-pumps, flour mills et al (Parasuraman, 1997; Hakim, 1997). In some sites, the water is saline because of which lentils take longer to cook. The women complain that saline water makes their skin break out in rashes. They also prefer to have access to clean, free-flowing water i.e. the river. One of them says of life in the Narmada Valley: 'Even if we have to climb up the hill we know it is always there, clean, plentiful, and free-flowing; if we are willing to make the effort, it is there. Similarly with other things...Everything is here for us. All we have to do is go and get it.' (Hakim, 1997). Lack of availability of fuel and fodder has also led to an increase in drudgery (Bhatia, 1997; Mehta, Forthcoming; Srinivasan, 1997).
- Health seems to have been severely affected because of changes in cropping patterns and the non-availability of adequate nutrition and water facilities (Parasuraman, 1993). The sex ratio in some of the adivasi villages was higher than the Gujarat level (CSS, 1997). However, at some sites, infant mortality rates seem to have shot up. 30 per cent of the children born in the first six years of resettlement in Parveta died. At least 5 women lost all children in these years (Parasuraman, 1993: 17). Life in resettlement sites is characterised by the lack of health care.
- Perhaps this is why some women from Madhya Pradesh resettled in Gujarat told the Morse Committee that, 'none of them would give birth [at resettlement site in Gujarat], but would, if at possible, have their babies at [original village]' (Morse et al, 1992: 197). The same group of people also reported to the Morse Committee that they had to walk two kilometres to get medical help. The Report says that the people did not seem to have much confidence in this (ibid). After resettlement, when employment has been made available, it is men who have benefited (Parasuraman, 1993).

### 3.3 Other Dams

The findings of the OED reports of the World Bank look at involuntary resettlement in several large dams. These include the Shuikou and Yantan dams in China, Kedung Ombo in Indonesia, Pak Mun dam in Thailand, Upper Krishna in India, Nangbeto in Togo and Itaparica in Brazil (OED various). Information on gender is very sketchy and we present some of the findings:

- The projects are largely oblivious to the gender dimension of resettlement. The responses of the women differed in each country. In Togo, women refused to give independent responses and in the absence of supporting field surveys, it was difficult to assess the gendered impacts (OED, 1998b).
- In Togo, women complained of male alcoholism and hidden prostitution (OED, 1998b).
- In China, women played an active role along with their husbands in discussing policy issues and selecting the family's new production systems. Post-resettlement employment has absorbed large numbers of women in factories at equal pay (OED, 1998f).

- At Itaparica, Brazil, women raised issues of more labour in fields and difficulties of finding alternative employment. Most urban women said they were unemployed. Satisfaction rates were low (OED, 1998a).
- In India, at Narayanpur, women were particularly unhappy over loss of labour opportunities and their own disposable income. The availability of fuel and fodder had decreased. Livestock had to be sold. Vegetables were more scarce and expensive. Some had to sell their jewellery. The women felt they had to bear disproportionate share of the burden of the decline in income and living standards (OED, 1998e).

### 3.4 Some Pertinent Issues

#### 3.4.1 Access and control over resources

The Kariba Dam resettlement programme illustrates very clearly the ways in which gender roles are vulnerable to changes that work to the disadvantage of women. Even as younger women have managed to wrest some benefits from the market, overwhelmingly, we see that women have lost control and access to resources. Similarly in Brazil and India in the case of both SSP and Upper Krishna, women have lost out on economic resources and fuel, fodder and common property resources.

The most important resources are social support structures, land, river, grain and forests. As gender relations in most of these communities before resettlement already excluded women from interaction with outside forces, state action through resettlement brought about a further reinforcement and indeed, exacerbation of this exclusion, as the state tends to negotiate only with men.

Though the policy of compensation for the household allowed no discrimination on the basis of sex in the case of the Kariba Dam, it is men who received the cash. This scheme did not award compensation for land. In SSP too, women have not been treated as landowners.

It is true that the affected community may not have had access to resources such as electricity, water, health care services and schools prior to resettlement. In principle, resettlement sites can and sometimes have, offered better access to these resources. For example, enrolment of children in schools has increased in some SSP resettlement sites (personal communication, Narmada Bachao Andolan). However, in the absence of institutional gender sensitive support systems, these resources remain out of reach for women. The Gujarat R&R policy does not focus on social and gender equity. Therefore it does not emphasise the importance of education for girl children, already lower than boys in the state. So the enrolment of boys it is assumed, has gone up, while that of girls has remained negligible.

Similarly, women could benefit from flourmills as in the case of women in the SSP resettlement sites. However, the R&R policy in general overlooks the gender dimensions of the community in its minutiae. This results in women disregarding the benefits of access to labour saving devices at resettlement sites. Gender sensitive resettlement, which would involve women at all stages of planning, designing and implementation, can eliminate such unfortunate consequences. However, vigilance is required to ensure that women have an equal share in benefits and access.

#### 3.4.2 Social And Gender Impacts

In the case of the Gwembe Tonga the social and gender organisation of the community vested greater powers in the hands of men (especially husbands). This was particularly true in the allocation of land to women. However, wives did have the right over this land and had their own granaries. To that extent, they had autonomy and control over resources. Also, ownership of land was vested in the men

(or women, but mostly men) who cleared the land. Before resettlement, men and women both cleared the fields, thus establishing unambiguous land rights. After resettlement, as women did not have the surplus grain to organise work parties, they lost out on that. In the SSP resettlement sites, women lost usufructory rights and control over land. Though work on land increased in both India and Brazil, women witnessed declining control over their own labour.

The Gwembe Tonga case illustrates the cycle of dispossession that sets in for women insofar as land is concerned. Divorced and widowed women were the most vulnerable as the struggle over resources (land) drove men to manipulate their powerlessness within the community to marry them off to unsuitable, unstable partners and get them out of the way in the Gwembe Tonga. While women kin had the right to claim land allocation before resettlement, the non-availability of land and the use of cash transaction to get fields cleared at the resettlement sites led to a change in very basic social structures.

In the Kariba resettlement, older women longed for the security of the river and their kin. By contrast, the younger women availed of educational opportunities, which led to an expansion of the marriage market and increased economic opportunities for these women. Increased social and economic mobility of the younger women also led to a redefinition of gender roles as women moved away from agriculture and reproduction. This may have expanded opportunities for the younger women, and increased their access to resources denied to their older counterparts. Similarly at the SSP relocation sites, the decrease in drudgery is important. However, women seem unable to see this as an advantage. In some cases, women have expressed the sentiment that they prefer the drudgery to the situation in the resettlement sites. They recollect the forest, the river and other taken for granted aspects of their lives in their ancestral homes. They weigh these against the overwhelming loss they face at the prospect of displacement. Thus, they prefer to continue to shoulder domestic burdens, in preference to displacement. Another way of interpreting this stance would be that the women would prefer increased facilities in their ancestral home rather than having to fight for them in unfamiliar surroundings.

The other serious consequence of gender imbalances that shows up in these examples is the increase in domestic violence. The combination of male frustration and availability of alcohol has grim repercussions on the physical and emotional health of women. A community in transition tends to victimise its least powerful constituents, thus violating their fundamental rights to a life of dignity and security. Policies tend to overlook such instances of human rights violation and the potentially harmful situation that can develop in resettlement sites. There are virtually no safeguards for women in such situations especially when combined with the erosion of social support structures to negotiate on their behalf.

### **3.4.3 Change In Gender Relations**

The case of the women displaced by the Kariba Dam illustrates clearly the ensuing changes in gender relations. Women's position in decision-making hierarchies changed after resettlement. As is obvious, women who had participated equally in decisions involving community and the household were ousted from these positions after resettlement. This can be attributed to gender blindness in the policy, which treated men as the heads of the households and community leaders. So we see a loss of social status for women. The policies in this case also saw fit to invest only men with skills to equip them for commercial cropping and other extension services.

Similarly, women in the tribal villages of Gujarat had some influence in matters concerning land and household. Resettlement has seen an erosion of this because they have been kept out of any discussions or consultations regarding land or other matters.

When these factors work together, i.e. erosion of social support structures and control/access over resources, economic marginalisation, they lead to an increasing loss of autonomy for women. Thus, even fifteen years after resettlement women still dream of going back to the Gwembe Valley after the dam is destroyed and the land emerges (Colson 1999). Women's vulnerability increases. Domestic violence issues from gender imbalances already present in the community, acted upon and reinforced by policy. Women are also more vulnerable to violence by the state. The case of tribal women in the Narmada Valley reveals that forced evictions are accompanied by direct and indirect violations of women's sexual dignity.

#### **3.4.4 Minimising The Damage**

China stands out as an exception in this grim tale. Given the fact that both women and men were equally involved in all the stages of the planning and implementation it is easy to see that women have not suffered disproportionately. In fact, women have fared better as regards employment after resettlement. Undoubtedly this has been aided by the overall thrust of the state, which lays an emphasis on local level collective decision-making. People here seem to have had some say in policies concerning resettlement, which in the long run has had positive gender implications (OED, 1998f). However, given the fact that very little information on China is easily available, and the state's propensity to crush dissent, we think it is better to be cautious in making generalisations about China.

In short, the gender impacts of resettlement sites need detailed examination for the far-reaching effects it can have on communities, and their capacities to absorb change. Additionally, only a consistent gender analysis will show up the ways in which seemingly irrevocable, negative changes can be avoided. It is important to pay attention to what resettled women are saying and to integrate a gender-sensitive approach in policy and implementation. That seems to be the only way in which the negative gender impacts of resettlement can be mitigated, at least to some extent.

## 4. Other Project Areas

Lack of information on gender impacts in upstream and downstream areas of project impacts, regrettably gives us little scope to draw on empirical evidence. However, extrapolating from the available literature on the Sardar Sarovar Projects, we will try to illustrate the gender concerns that emerge in these areas.

Upstream impacts usually concern the loss of forests and the ensuing consequences for social and economic systems in these areas. In the case of the SSP, submergence has not been accompanied by afforestation in the upstream areas. Instead, the Gujarat government has chosen to initiate compensatory afforestation programme in the command area. (Morse et al, 1992). The minimum efforts that have been made to initiate afforestation programmes have been fraught with tension because of the opposition to the dam.

Afforestation programmes undertaken in the Narmada Valley have been accompanied by state repression. As forest resources are crucial for family survival and as women in the Narmada Valley are traditionally expected to gather fuel and other minor forest produce, restricted access affects household consumption. In addition, men are picked up by the police and arrested, causing uncertainty and tension. With the arrest of men, women and children are even more vulnerable to the police and forest department officials. (Narmada Bachao Andolan, personal communication).

In a long-term sense, deforestation in upstream areas will affect the local economy. With declining access to resources such as fuel, fodder and forest produce, the dependence on the market will increase. It is also likely that male out-migration will increase and household and farm labour for women will increase. However, male out-migration may have some positive off-shoots for women's control over farm and non-farm activity.

Fishing communities are likely to be most affected by downstream impacts. Hydrological changes and the disruption of migrations have adverse impacts on fisheries (McCully, 1996, Morse et al, 1992). In some cases improper documentation of families affected downstream of the dam, has had negative impacts. For example, in the case of the Pak Mun dam, the World Bank's survey in 1994 (OED, 1998g) failed to include 2,700 families who have received compensation (and another 3,000 families demanding compensation) for lost income due to Pak Mun's destruction of the Mun river fisheries. (Watershed, 1998: 47-51). According to an NGO survey quoted in the same report, villagers in downstream reaches (between 1.5 to 25 kilometers away) of the damsite reported that fish harvests had decreased by up to 50 per cent. As artisanal fishing is an important subsistence and economic activity for the villagers along the river, this would have negative impacts on family incomes. The Pak Mun dam has also destroyed the Mun River's natural fisheries which prevents the seasonal reproductive and feeding migrations of fish species between the Mun and Mekong rivers.

Women are usually involved in the processing and marketing of the catch in fishing communities. As the means of livelihood get affected, communities are faced with shrinking economic opportunities. Here again, this has resulted in male migration, leaving women to face an increasingly uncertain economic future. In the case of the Akosombo dam in Ghana, fish population in the main river bodies has declined (Anane, 1999). As fish is the main source of low cost protein, for women this has meant alimentation and nutritional problems. The inundation of forests also resulted in loss of plants and herbs used for traditional medicine (ibid).

The dam can have impacts on health in both downstream and upstream areas. The construction of the Akosombo dam has created habitats in which insects, snails and other animals that serve as vectors for waterborne diseases, thrive. In some cases more than one third of the people in the village were infected with urinary shistosomiasis. Women's chores include bathing their children, washing clothes or collecting water. This entails daily contact with infested water. As carers of the entire family's

wellbeing, this will have implications for the health of the entire family. Moreover, women's and men's knowledge systems have been affected by the change in the environment due to the dam (Anane, 1999).

## 5. The Command

Large dams are built for people in command areas. When compared with the gains in power for towns and cities and water for irrigated agriculture, it is argued that the negative impacts in the upstream, downstream and catchment areas of the river are peripheral. Most of the beneficiaries of large dams are situated in command areas (apart from other beneficiaries such as politicians, bureaucrats, consultants and corporate shareholders a discussion of which is beyond the scope of this paper). Women and men in urban areas enjoy electricity and transport services. Irrigation has the potential to enhance food security and reduce poverty.

Have gains from dams in command areas been equally spread across different social groups in different geographical locations? Has the distribution of benefits been equitable, in particular with respect to gender? In this section, we attempt to answer these questions. Once again our task is somewhat difficult because of the lack of gender-specific data regarding the distribution of water and power supply, in particular in urban areas. We begin with irrigation, which has been analysed from the lens of gender. We then move on to raise questions concerning equity and distribution in the benefits of large dams in urban and rural areas.

### 5.1 Irrigation – No Plot of One's Own

*Please go and ask the sarkar [government]  
why when it distributes land we don't get a title? Are we not peasants? If my husband throws me out,  
what is my security?  
(Poor peasant women in Agarwal, 1996: 51).*

*We had tongues but could not speak  
We had feet but could not walk  
Now that we have land  
We have the strength to speak and walk  
(quoted in Agarwal, 1996: xvi)*

Large irrigation projects are considered to be crucial for increasing agricultural productivity, enhancing people's livelihood choices (Chambers, 1988) and improving food security. On the other hand, they have been criticised for their high financial costs, the submergence of lands and displacement, environmental consequences (e.g. waterlogging and salinity), poor operation and management and under-utilisation. The gains of increased power supply and irrigation can perhaps offset the negative impacts. However, these gains also seem to have been made available disproportionately to the urban population, as against the rural.

Research also seems to indicate that the benefits of irrigated agriculture are not evenly distributed (cf. Shiva, 1989; Dharmadhikary, 1998; van Koppen, 1999; Vaidyanathan, 1994). Apart from factors of location, which naturally disadvantages tail-enders, access to benefits of irrigation goes hand in hand with property regimes such as land and water rights. Poor men and women, and most certainly, poor women have weak or no water and land rights. In India, for example, the irrigation access of small farmers is increasing at a much lower rate than that of large farmers (Vaidyanathan, 1994). The landless – a large bulk of the rural poor – do not directly benefit from irrigation even though there are indirect benefits such as wage labour employment on irrigated fields. These increasing labour opportunities notwithstanding, wage employment may not be able to radically change the social equations in irrigated and urban societies. The status quo between those who have access to irrigated agriculture (and hence more security), and those who do not, is firmly maintained by virtue of existing inequalities in tenure systems.

Irrigated agriculture builds on existing social practices and tenure regimes. If land and water rights are highly differentiated – for example in regions such as South Asia where land reforms and land ceiling acts have been rather ineffective – then the benefits from irrigated agriculture will also be differentiated (cf. Mehta 1997). We will pursue this argument in the following discussion of gender and irrigation.

## 5.2 Gender and Irrigation

### 5.2.1 Gender Biases in Irrigation Systems

Even though social and equity concerns are raised in the irrigation literature, with the exception of a few authors (e.g. Zwarteveen, 1997; van Koppen, 1999), there is a marked lack of concern about women as potential irrigators or managers of water. The links between women and water are made largely with respect to the domestic realm. This is actually misleading given that women play key roles in agriculture (cf. Mehra and Esim, 1999; Shiva, 1989 and van Koppen, 1999).

Water users in irrigation systems are largely seen to be men, even though there is a growing evidence that women can and have been efficient farmers (Mehra and Esim, 1999: 6). There are some instances of women having individual rights to water. For example in Sri Lanka, women have rented irrigable plots, which they cultivate on an individual basis (Zwarteveen, 1997).

To some extent, gender biases and stereotypes against women having rights to land and water are obstacles towards achieving goals of equity in rural areas (cf. Agarwal, 1996). However in many cases biases on the part of implementing agencies further exacerbate gender asymmetries in irrigation societies. As the following example from Burkina Faso indicates, project implementers are often ignorant of local notions of rights and equity.

#### **Box 1: Gender and Rice Valley Improvement in Burkina Faso**

Van Koppen describes an irrigation project in Burkina Faso (Operation Riz) which aimed at rice valley improvement. Initially, the agency interacted only with male elites and granted rights to household heads (presumed to be males). This is yet another classic case of planners seeing the household as a black box ignoring the different needs and interests of women and men. In reality, women controlled the rice valley plots, which were their personal fields. In contrast male production largely focussed on the upland areas, not designated for project intervention. Women not only provided most of the labour in Rice Valley cultivation, but also had stronger land rights and control over the production than men.

Even though the project aimed at improving the incomes of women, in the initial stages of the project there was a total lack of participation by local women and men. Claims on water were expropriated by the agency without even consulting the potential claimants. These were women who had de facto control of the resources in the project area. The agency, thus, ignored the role of female chiefs and endowed the men with far more control over valley land than existed in reality.

After several years, a participatory model was introduced. Field staff and local people developed new ideas as to how valley land should be allocated. Women and men agreed that women's existing rights to resources had to be safeguarded. The project has gradually become more equitable. Moreover, the men did not display much interest in cultivating land in the project areas. Had this not happened, the project would have overridden existing equitable arrangements and created new gender asymmetries.

Source: Van Koppen n.d. and 1999

Moreover, irrigation officials largely tend to be concerned with the technical aspects of the project and lack the skills to conduct social and gender assessments of these schemes. Ideally, these should take place before the project reaches its implementation stage. As is evident from the Burkina Faso example, resource rights are planned and appropriated without an adequate assessment of existing rights and arrangements and how they are gendered.

### 5.2.2 Property Rights

We have already discussed how property rights such as land and water rights are marked by sharp gender asymmetries in most parts of the world. Planners often conceive property rights to be immovable and formal. However, rights can also be mobile and transitory, particularly with respect to water where supplies often vary across time and space (Meinzen-Dick et al 1997). Rights can also be informal in nature. Women's rights are often enshrined in customary arrangement which planners are often ignorant about.

This is particularly true for bilateral or matrilineal communities. For example, in Sri Lanka the land allocated to Sinhalese families in the Mahaweli irrigation scheme was registered in the name of the husbands, who were assumed to be the household heads (Agarwal 1996: 290). The new arrangement also allowed the household to nominate one heir, usually a son. This undermined the bilateral rules of inheritance prevalent in the area, which allowed women the independent right to co-own and control land (ibid). In the Mahaweli scheme, divorced women were not granted any rights, making them dependent on male members. About 86 per cent of the land allocations in the irrigation scheme were made to men. Out of the sixteen women who were granted land, only two (a widow and a separated woman) lived in the project area and managed their own farms (Schrijvers in Agrawal, 1996: 290).

Thus, male biases in administration and legal systems might both undermine women's rights in customary institutions as well as disadvantage vulnerable women. Divorced women and women-headed households may suffer as a result of this.

In sum, biases on the part of planners and an ignorance of prevailing local property regimes have led to women often systematically being excluded as the direct beneficiaries of irrigated agriculture. As discussed previously, benefits to the household or a community may not necessarily "trickle down" to women, given that women often do not own or control these resources in the first place. Moreover, given that women's access to resources is often mediated via their husbands or wider kinship networks, gender biases in these wider networks might prevent women from emerging as beneficiaries.

### 5.2.3 Changes in the Division of Labour

Our analysis here is based on the Indian experience which indicates that the shift from dryland to irrigated commercial agriculture has led to significant changes in the gender-based division of labour in agricultural activities. When cash crop farming and green revolution techniques are introduced, women can be dispossessed from their role as agricultural producers. It has been extensively documented that women's role in rain-fed and subsistence agriculture is significant. For example, they control the seed production and make decisions concerning how much to store and how much to sell.

Commercial cropping requires investment capacity, which women rarely have. Additionally, there is enough evidence that the mechanisation of agriculture can displace women from traditional occupations. Thus with the introduction of threshes and tractors, women are edged out of agricultural production. For example, in Gujarat, one of the most industrialised states in India, from 1971 to 1981, there has been an 18 per cent increase in female agricultural labourers over male labourers. Over the last three Censuses, we see an increase in women agricultural labourers and a decrease in farmers. Most women therefore are involved in agricultural work on other people's land.

This is a clear indication that poverty and food security are issues that have gender-specific connotations. Support programmes to help agricultural production such as credit facilities, loans for seeds and access to skill upgrading facilities are rarely targeted at women. Infrastructural support for agricultural production in countries like India provides crucial inputs. These however, are selectively designed and used by men. One third of the households in rural India are female-headed (Agarwal, 1996). None of the infrastructural programmes in India really perceive women as farmers or cultivators (Srinivasan, 1999a).

A study conducted in the Indian State of Himachal Pradesh argues that women put in about 61 per cent of the overall farm work. However much of this work goes unrecorded, unrecognised and uncounted (cited in Shiva, 1989: 109). In some cases, peasant women are also better informed than men are about crop varieties and seed selection (Agarwal 1996: 37). Their role is also key in decision-making processes, in particular in lower caste households.

However, in irrigated commercialised agriculture women may not perform key roles. It is men who operate irrigation channels and pumps, thus controlling water availability. The gender-based division of labour demands, however, that women continue to perform tasks such as harvesting and weeding. In many cases, women's workload is likely to increase. However, there is no concomitant increase in women's decision-making power (see Mehta 1998 for Kutch, western India). In wealthy families, women's activities may be largely confined to the domestic realm, not least because the family is now in a position to employ agricultural labourers rendering women's work redundant. Women in such families become consumers of agricultural good rather than active producers (ibid). This might not necessarily be a bad thing if it reduces their drudgery. However, it does make women more passive in agricultural production, leading to a decline in their economic activities. In poorer families, women might move from being primary cultivators having direct access to land, to becoming agricultural wage labourers. For example, between 1961 to 1981 in India the percentage of agricultural labourers amongst women doubled from 25.6 per cent to 49.6 per cent (Agarwal, 1988) reducing women's hitherto autonomous role in agriculture, as slight as it might have been.

In some cases, having access to independent income and employment opportunities might give women more self-esteem and bargaining power in the household. However, they might also be paid less than male agricultural labourers, not necessarily leading to a reversal of gender hierarchies in the rural economy (cf. Singh, 1999). In most cases, irrigated agriculture leads to an increase in women's work-load with mixed outcomes regarding their bargaining power in either the household or community.

Agribusiness activities that often mushroom in the command areas of dams can have profound impacts on social relations. Contract production tends to shift the production in favour of export-oriented and cash crops at the cost of basic food crops of the poor, which can lead to higher prices of food commodities and products (Singh, 1999). Regional differentiation can be accentuated because firms might focus on well-off areas, rather than poorer ones. In sum, while women like men might become consumers of the fruits of irrigation, their involvement in irrigation per se does not appear to lead to greater gender egalitarianism or, indeed, social equity.

#### 5.2.4 Changing Social Relations

Changes in the mode of production and reproduction in agrarian societies due to the introduction of irrigation has had a profound impact on social relations in the project areas. Rural areas become perennially green, which is a sign of high agricultural productivity. Is there a social price attached to this prosperity? We draw on some empirical material from the India context to examine this question.

Indeed, an increase in wealth may not change skewed gender relations. In some cases, they might be exacerbated. In the district of Kutch in western India, women's organisations have noticed a steady

increase in dowry murders and suicides of young recently married women, especially in areas experiencing sudden economic prosperity. One example is the Ahir community in Kutch, western India, which is otherwise known to be more gender egalitarian than other high caste Hindu communities in the region. In recent years, there has been an increase in suicides and mysterious deaths of young women in villages that have witnessed an economic boom due to the introduction of water from an irrigation scheme (Mehta, 1998).

Economic prosperity does not spread equitably along gender lines. Social disparities amongst castes can lead to more stringent demarcation of gender identities. To begin with, these identities draw upon rigid assumptions of roles for women within the family and the community. Sudden economic prosperity in a region can also increase social pressures within and between communities. These pressures to consume as well as acquire impinge on social and gender relations. In the case of the Ahir women of Kutch, we suggest that increasing economic mobility interacts with caste. In the process, to cope with the pressures of this prosperity, women are targeted. Thus the demand for dowry goes up, as the need for money is more acute now than before.

The Punjab, home to the Bhakra Nangal dam and world famous for its Green Revolution, has also been site of India's highest dowry related murders. Despite all the advances in economic growth and agricultural productivity, Bina Agarwal notes, "(...) it is precisely [these] regions where discrimination against females is most noted, both historically and in the recent period (cited in Shiva, 1989: 118). An increase in food production for the markets might also not lead to an elimination of gender biases within the household. Shiva reports of a study conducted in Ludhiana, the Punjab, which concludes that the girl child continued to be more malnourished than the boy child in the same socio-economic stratum (1989: 117). In sum, the social and economic change brought about by irrigation might not necessarily lead to an amelioration of the social relations that govern the way men and women interact with each other. In some cases, they might even become more unequal.

### 5.2.5 Equity and Irrigation

It could be argued that the social changes we have outlined in this section arise due to existing unequal social and power relations rather than due to the introduction of dam-related development. Every community has its own forms of gender biases and inequalities. However, our discussion has indicated that interventions such as dams and irrigation not only build on existing inequalities; sometimes they also exacerbate them. Technology is not gender-neutral and apolitical. Neither does it work in a vacuum. Technology often mirrors and sometimes perpetuates existing social inequalities.

Often the social consequences of large dams (be they benefits or costs) are completely invisible to planners. It is also difficult to put a price on something such as women's labour, which is rendered invisible in official statistics. (Some feminists though have been attempting to put a cost on women's labour.) Would increasing violence against women in project areas be considered a "cost"? Apart from these difficulties, the above discussion has also shown that the benefits and fruits of irrigation are not shared equally by all members of the society, and certainly not by women.

Achieving gender equity in irrigation will not be easy because calls for i) a radical redistribution of resources, ii) a redefinition of property rights and, iii) a commitment on the part of implementers to withstand resistance from local people, in particular male elites. Often a project's equity goals might be subverted due to resistance from elites. The planners, they may not want to stir up deep-seated intra-community tensions or conflicts (see Box 2), and may gloss over obvious inequalities. Carney (1988) who has done extensive work on irrigation schemes in The Gambia (see Box 2.) writes about the difficulties in implementing equity goals in development projects:

...powerful ideological forces are at play in maintaining existing rural, political and economic alignments. The challenge for policy-makers and donors interested in implementing equity goals is to identify a framework to enhance that possibility (Carney in Kabeer, 1994: 184).

Such a framework would entail vigilance to gender concerns in every stage of the project - from its conception to its implementation and monitoring. In the report's conclusion we attempt to present such a framework.

### **Box 2 : Irrigation Schemes In The Gambia**

A scheme in The Gambia sought to increase doubled cropped irrigated rice production in the early 1980s. Earlier efforts had failed miserably because planners had ignored the local Mandinka system of rights and obligations that required women and men to contribute to food production, thus freeing women from arbitrary demands on their labour by their husbands. The planners targeted their efforts at men and gave them cultivation rights over irrigated land as well as credit and other services. Women, however, preferred to maintain their independence rather than work on land where they had no rights and continued to cultivate rice in swamplands. This created labour shortages and men were forced to pay even their own wives to work on the irrigated fields.

In the 1980s, the planners aimed at gender equity and rights were awarded to women to cultivate the new irrigated rice plots. While the scheme succeeded in increasing real incomes in the area, 87 per cent of the plots were still registered in the names of the men. There had been a history in the area of conflict between men and women over land titles, given that the government had eroded some of the earlier customary arrangements and rights over the land.

Research suggested that the agency – in this case IFAD – did not oppose men's resistance but allowed men's gender interests to subvert the original goal of gender equity. Thus, despite being registered in women's names, the irrigated plots were designated as compound holdings and women had no individual rights to the land. Project managers, thus, played into the hands of male resistance opposing women getting land in their names by making a formal distinction between registration and control. Thus, the male compound head was listed along with the female "owner", giving the compound rights over the land. This resulted in men having de factor control over the irrigated crop.

Research also suggests that while women did not get impoverished by the project, the project led to them becoming more dependent on their men to meet their needs, thus eroding their autonomy. The switch to contract farming led to massive changes in household relations. In some cases, it led to increased violence against women. Furthermore, by endowing rights to the whole compound, rather than to women, the project managed to access women's unpaid labour, necessary for the contract farming activities in the area. Thus, a combination of ideological biases, bureaucratic expediency and local economic and social circumstances led to the subversion of the project's original goal of gender equity.

Source: Kabeer 1994; Carney 1988.

## **5.3 Distributing Water in the Command**

For want of gender disaggregated data of water and energy use patterns in urban areas, our analysis of equity issues in urban areas can only be sketchy and speculative. However, a few points need to be made.

The conspicuous consumers of dams live in urban areas. It is the urban-dweller, male and female, who enjoys electricity, transport and water supplied at great cost from distant river basins. Clearly, in urban areas both men and women have the potential to benefit from the fruits of dams – namely electricity and water. Here, too, generalisations are not possible because the urban community is not homogenous. Slum dwellers and poor income households consume far less water than the rich, and often, not even accessing half the quantity of water required for maintaining basic health. Thus, poor women in the slums of urban areas of cities in the South struggle to find clean water for their families

while richer women get it straight from a tap. Despite the water impounded in large dams around the globe, about a billion people lack access to a safe water supply and around three billion lack access to adequate sanitation having serious consequences for health and human well-being.

There is also tremendous inequality in global consumption levels of water. For example, in water-scarce western India, a villager consumes on average about 10 litres of water a day. By contrast, an average American consumes about 300 litres of water a day (Mehta, 1998).

Urban water is usually procured from rural areas, often depriving rural people of their share of water and power or displacing people for dams to be built. Usually, the benefits of large dams are directed to urban areas or areas with strong political clout (see Box 3). Thus, issues concerning a wider political economy often play a crucial role in determining who wins or loses as a result of large dams.

### Box 3: The Political Economy of Dams in Gujarat, India

The state of Gujarat in India is one of the most prosperous states in India with high levels of industrialisation. A large number of dams have been built in the state over the past 35 years, many of them with World Bank funding. However, in most cases, the cropping pattern envisaged by the planners did not materialise. Instead of food crops, the dominant crops have become cash crops such as sugar cane, tobacco and cotton. The distribution of benefits has also been skewed. While the submergence areas of these dams have been in the poor tribal belts, the benefits and irrigation waters have moved to the plains – home to richer land owning communities who have political clout in the state. A large literature has documented that people have not been satisfactorily resettled. In cases such as the Ukai and Mahi-Khadana projects, the people are still fighting for proper resettlement deals, even decades after being displaced.

The controversial Sardar Sarovar Project is made out to be Gujarat's lifeline and is ostensibly being built for drought-prone Kutch, a semi-arid to arid district in the state. However, research suggests that it is unlikely that the water of the Narmada will ever reach Kutch, and certainly not in the near future. Nonetheless, drought-prone Kutch is largely used to legitimise the dam's construction. In reality, Kutch stands to benefit very marginally from canal irrigation. Less than *two per cent* of the total area of Kutch stands to benefit from the project. The canal will pass through a tiny coastal strip in eastern and southern Kutch, not all of which is drought-prone.

Some of the areas of Kutch's potential command are considered to be part of the belt that has experienced the green revolution in Kutch. The industrial belt of Kutch situated in the Kandla-Gandhidham area, which includes a free-trade zone, is also located in the command area. Hence, the needs of industrial residents and rich farmers, rather than those in drought-prone areas, are more likely to be met. The SSP, if realised, may also intensify the existing social and economic divide in the district.

Apart from irrigation, the project is supposed to provide drinking water to all the villages of Kutch. It is the drinking water promise that makes the project so popular in Gujarat. To date, however, plans for the supply of drinking water are not very comprehensive. As Kutch is located at the tail end of the canal network, the likelihood of receiving water is very low. The canals might not be built all the way, given the long distance (about 500 km) and the technical hurdles involved in transporting water over such a large area. Thus, most of the water in the command area of the project will be disproportionately appropriated by the richer districts of central and south Gujarat. The driving principles governing the allocation of SSP water do not seem to be centred around justice and equality. Kutch, which clearly has more legitimate claims over SSP water than the irrigation farmers and industrialists in south and central Gujarat, ends up losing out.

The major beneficiaries of the SSP would be the economically and politically strong Gujarat districts of Bharuch, Kheda and Baroda, situated in the initial reaches of the SSP command area. It is assumed

that once canal irrigation is available here, farmers will switch to growing water-guzzling sugarcane as was the case with the Ukai dam in southern Gujarat. In fact, seven large sugarcane factories were granted licences in the early 1990s, despite the fact that almost no sugarcane was being grown at that time. The industrial and business community in these prosperous districts also welcomes SSP water. The Gujarat government has promoted industries coming up along the “Golden Corridor”, largely situated in the project’s command area.

Thus, business and political interests in Gujarat’s rich agro-industrial belt are being prioritised over those of the poor in drought-prone areas. In the unlikely situation that the water should reach Kutch, the lack of provision of drinking water and the scant attention to the needs of pastoralists suggest that the dam would serve the interests of the business community and rich farmers rather than the truly water-needy (e.g. women, dryland farmers or pastoralists).

Sources: Mehta, 1998; Dharmadhikary, 1998

## 6. Conclusions

During the peak of the dam-building era, large dams were considered icons of development and progress. Our discussion suggests that this is an epithet that needs to be overhauled. Dam-building agencies still need to ensure that large dams fulfil the goals of justice, equity, sustainability and fair economic growth, now taken as givens in international discourses of development. The preceding sections have attempted to make links between gender and dams at both the conceptual and empirical levels. We were interested in examining the social impacts of large dams and the ways in which the benefits and costs were distributed across various social groups, in particular with respect to women and men in the project-affected areas.

On the one hand, the large dams we reviewed have generated power and created new irrigation facilities, potentially leading to benefits for many women and men in the project command areas. However, our investigation has also indicated that most of these projects have been problematic. This is because technology has largely been perceived as neutral and divorced from the socio-cultural system. We have argued that large dams must be analysed as being embedded and interacting with social practices and social relations. Thus, when gender or power relations are used as the lens of analysis many projects fail. Large dams also go hand in hand with questions concerning a wider political economy. Dam-based development has led to a command and control kind of technology which is inequitable and serves the interests of the powerful.

Moreover, the planning, implementation, evaluation and monitoring of large dams have proceeded in a gender-blind way. Even when the benefits from projects have “trickled down” to project-affected families, in many cases it is men and male interests that have been targeted. In cases where this was not the case, prevailing gender biases in both policy and practice have led to women not sharing the fruits of large dams in the same way as men. Largely, this is attributable to the following factors:

- The exclusion of gender considerations in the planning and implementation of river basin management, water resources development and hydropower development. Largely, technical issues have been given more importance than socio-cultural and socio-economic considerations.
- Equity has not been an explicit goal of large dam's projects. It has been fallaciously assumed that all benefits are shared equally by a community or society, without analysing the relational aspects of large dams and how these are linked with issues concerning a wider political economy.
- Interventions such as large dams are not gender-neutral or apolitical. They build on or feed into existing social and power relations. Unless these are addressed, the goals of equity and fair and just distribution of resources will not be addressed.
- Large dams policy and planning are often ignorant of local organisational and institutional arrangements to govern natural resources and local notions of justice and equity. Thus, in some circumstances there might be an erosion of existing rights that women have over land and water which are enshrined in customary arrangements.
- Cost-benefit analysis has failed to take intangibles into account. As women's labour and roles in social organisation are often invisible, existing measures of costs and benefits tend to reflect gender biases.
- Cost-benefit analyses also lack social components with the economic interests of powerful stakeholders often being prioritised over the non-economic interests of the less powerful. It is very unlikely that the interests of a large group of poor or landless people will be favoured when compared with the interests of a much smaller group from a powerful constituency (e.g. industrialists in the command area).

- Participation of women in all processes pertaining to large dams has been negligible. This has led to a silencing of women's articulation.

We have argued that these malaises have arisen due to an inherent gender-blindness in policy and practice. This has even been acknowledged by the World Bank in its recent evaluations of large dams. In recent reports the Bank's OED acknowledges that the needs of women have been completely ignored (OED 1998e, 20). With respect to the Nangbeto project in Togo another OED report says: "The project demonstrates no awareness of gender issues (OED 1998b, 17). We demonstrated in the paper that this lack of awareness has largely arisen because of flawed notions of the project-affected persons and communities. Largely, taken to be genderless entities or units, interventions targeting people or communities have advertently or inadvertently by-passed women. In many cases, interventions have even exacerbated gender inequalities.

With respect to the costs of dams caused by the processes of displacement and resettlement, women have clearly been very disadvantaged. As marginalised entities in marginalised groups such as indigenous peoples women have been adversely impacted in many ways. These include:

- Declining access to and control over resources like land, water and the commons. Women's existing rights to resources in the forest-based economy are often ignored by planners. Thus, in an unfamiliar environment they have been robbed of the autonomy that they might have enjoyed in these realms.
- An overemphasis on economic yardsticks such as cash compensation and land and a neglect of vital life-sustaining issues such as water, fuel-wood and food, thus increasing women's chores in an unfamiliar environment and having implications for the entire family's health and sense of well-being.
- Roles within the household and in the community are built largely around use and access to these resources. Thus adverse changes in relation to these resources affect gender relations within the household and community.
- Changing gender relations, not all of which have been favourable for women. In many cases, the market economy and its gender biases have worked against women's interests. For example, when a community is forced to depend on wage labour at resettlement sites, women are at a disadvantage. Additionally, changed social environments at resettlement sites have often led to increased domestic tensions.
- Fragmentation of community structures leads to increasing isolation for displaced communities, often leading to increasingly vulnerability of women.
- Dam policy, especially resettlement policy has failed to see women as autonomous entities. It has also failed to understand underlying social and cultural processes that shape women's lives in affected communities.
- Large dams have been characterised by human rights abuses because authorities often resort to coercive measure to force people to relocate. Vulnerable communities have been affected by this. Given the fact that women have limited access to public redressal institutions, human rights abuses can silence them even further.

Clearly, there has been a lack of concerted commitment on the part of dam-building agencies to put equity and gender-just considerations up-front in policy and practices. It will take considerable political will and a radical re-orientation in policy and practice to bring about changes to enable large dams to

live up to the promise of development and growth. This political commitment to institute changes in favour of the poorer communities affected by dams, can only be built up as a matter of conscious policy.

National and international coalitions of policy-makers, planners, affected communities and social movements could generate the required pressure on dam-building community. This could also be the task of the Commission. This would however, be based on conscious strategies that centre on the twin goals of equity and gender-just distribution. However, given the disparities and resource constraints that face affected communities and women in particular, only careful and judicious planning will ensure fair representations in such coalitions. Pursuing this strategy might also mean taking more seriously the need to investigate more gender-just and equitable ways and alternatives to harness water and power.

Tackling the equity question in the large dams question is not going to be easy, because it will entail a radical redistribution of resources across several constituencies (urban to rural; men to women; elites to the marginalised such as indigenous peoples). To some extent, large dams are also necessary because of the spiralling consumption patterns and water and power needs of a small minority. Thus, addressing equity would also mean challenging the ever-increasing demand for water and power, thus calling for both a more equitable distribution of resources and for more sustainable ways of living.

The past few decades have witnessed an impressive body of work by academics, activists and NGOs arguing for the need to recognise the social and economic fallibility of large dams. This evidence needs to be absorbed in policy, programme and implementation if the negative effects of large dams are to be mitigated as it gives us a nuanced understanding of what large dams represent to the cross sections of the communities they affect. If the poverty reducing potential of large dams has to be realised in the near future, dam-builders radically need to overhaul the old assumptions concerning prosperity, growth and notions concerning the “good of all”. Increasingly, considerations of equity and distribution are becoming central to development goals. The dam-building community cannot afford to overlook these issues, simply because more and more people the world over have been asserting their right to some of the benefits proposed by such developmental processes. Falling short of a just and equitable spread of benefits, cannot strengthen the case for large dams. When costs are disproportionately borne by certain sections, the justification for large dams can come to mean a greater infringement of people’s rights to basic and life-sustaining resources.

## 7. Identifying Best Practices

Given the fact that gender has been made so invisible in both policy and practice, it is somewhat difficult to give examples of mechanisms that aimed at gender-just distribution of costs and benefits with respect to large dams. However, we have identified a few cases, which have attempted to be gender inclusive.

We focus on the following areas: i) Gender-inclusive consultation and deliberative mechanisms with regard to resettlement, ii) investing women and the poor with individual property rights, iii) people's mobilisation and protest, iv) attempts at engendering policy.

### 7.1 People's mobilisation and protest.

Protest movements and struggles against dams are usually very eloquent in drawing attention to the plight of the resettlers and the inequities in the spread of costs and benefits of large dams. However, movement leaders have been less eloquent on issues concerning gender. In some cases movements suffer from the same gender-blindness that is to be found in state and agencies' policies and practices. In fact, women's gender interests are often subsumed in the wider struggles to stop the dam construction (cf. Mehta, Forthcoming, Srinivasan, Forthcoming). We have identified two cases, where struggles have overcome gender-blindness in their strategies and outcomes. In all three cases, this is because of the key role-played by the affected women themselves.

The first case is the protest of women affected by a dam (name?) being built by Hydro Quebec in the Nitassinan territory of the Innu in Quebec, Canada (Anon, nd). The organisation of women has always existed as an Innu tradition and when the dam's construction was announced, the *Regroupement de Femmes/Nitassinan* explicitly directed its attention towards stopping the dam's construction. Women were at the heart of the opposition to the project. They organised strategy meetings, letter-writing campaigns, petitions and press conferences opposing the dam. Even though the campaign did not succeed and women initially felt tricked and betrayed, they decided to change tactics and reinvigorate the movement (ibid). This proved to be an empowering experience for women as they are active in public participation. Thus, their ability to influence policy is strengthened.

The second case, though not directly linked with large dams, shows how rural people succeeded in securing land which is clearly one of the most important sources of security against poverty (Agarwal, 1996). In Bodhgaya, Bihar, India, landless labourer women protested against the fact that land titles were only being distributed to men, even though they had been co-protestors for ownership rights to the land they had sown for many years. The women argued, 'we are part of the struggle, so we should also get land' (quoted in Agarwal, 1996: 2).

The Bodhgaya struggle in India stands out as an example of how women can wrest land rights for themselves in a hostile, gender-biased environment, given a movement's basic commitment to gender justice and a persistent effort to reduce gender inequities.

### 7.2 Gender Inclusive Consultation and Deliberative Mechanisms with Regard to Resettlement.

The Shuikou project in China appears to be the only case where women's participation was explicitly sought by implementing authorities at all levels: in the formulation of policy as well as in implementation (OED, 1998f: 16-18). Authorities did not overlook women's substantial roles in family decision-making processes and ensured that they were involved in resettlement planning.

A national network of women's unions is active in the towns of the project area with representation at the village level. This helped in identifying the needs of all the members of the community. Women's participation was also key in discussions concerning resettlement and the creation of development funds in village level projects. Unlike most other projects in the world where displaced are not adequately absorbed in the creation of new employment facilities in the command area, the workforce in several of the new factories established in the project areas comprised resettled women. This was possible, primarily because the state encouraged 'developmental' resettlement, which emphasised productive base rather than 'passive' compensation, and the fact that the land tenure system is based on collective ownership in China (OED 1998f, 16). However, even here, as elsewhere, older women have not been absorbed in the new economic order.

The inclusive mechanisms employed by the Chinese State thus led to a marked increase in women's participation. This helped create a more even spread of the impacts of resettlement. As our discussion has shown it is often women who bear the brunt of the negative impacts of displacement and resettlement, this can be offset by an early inclusion into the planning and implementation process. However, this requires both gender awareness and a commitment on the part of the planners to ensure that all members of the community have a say. Usually, implementers tend to interact with and operate via male elites, who do not represent the community in its entirety. Often articulation of women's needs may not be in the interests of the male elites, given that addressing issues gender justice call for a redistribution of already scarce resources, benefits and privileges. Thus a system where women leaders and women's networks are included in the negotiations with the state is desirable. It is important that women's associations are invested with authority, both within their communities and within wider regional and state processes. This will pre-empt situations where women are mere tokens in decision-making processes.

### 7.3 Investing Land And Water Rights to Poor Women and Men.

In the section on irrigation we discussed that the individual's position to benefit from a scheme is contingent on her or his land rights, given that land rights in practice are inalienably linked with water rights. Usually, the poor – in particular poor women- have weak or no property rights, thus depriving them of tapping water from a so-called 'commonly shared pool'.

There have been a few cases where agencies (state or NGOs) have explicitly tried to make the access to irrigation water more equitable. One such example is the case of 'Operation Riz' in Burkina Faso, which has already been discussed (see Section cf. van Koppen 1999, and nd). Given the initial failure of the agency to recognise women as right holders in the rice valley plots, in the later years, the women were better organised. Women plot owners were registered in time and also received a new plot of standardised size in return. This was not opposed by male chiefs or by the women's husbands. Thus gradually after years of local resistance and trial and error the agency overcame its gender biases and formally recognised and legitimised the existing rights of women.

In the Sukhomarji irrigation scheme in Haryana, India, the Ford Foundation included the landless as water right holders. Even though this was not a large-scale irrigation project, but instead a watershed and forestry management projects, its lessons are important. By explicitly targeting the landless ( a social group invariably excluded from the benefits of irrigation), the project sought to pursue an equal division of water rights and obligations among all community households. (van Koppen, 1999). South Africa's National Water Act (1998), also separates land and water rights. This is a conscious to address and overcome gender and racial inequities.

### 7.4 Engendering policy

In the context of resettlement, one of the most glaring instances of gender disparity has been the issue of compensation. As men are treated as heads of households, compensation, either cash or land, is

invariably awarded to men. Women are not considered to be farmers or house owners. Single women, widowed women are particularly vulnerable in this situation. Similarly, policy often gives land to major sons, but major daughters are excluded from such provisions.

However, the Maharashtra Resettlement & Rehabilitation policy in the Sardar Sarovar Project, does overturn this gender imbalance to some extent, by awarding land to major daughters. This inclusion of major daughters came in at a later phase of implementation in response to NGO demands.

Similarly, the recently formulated Draft National Policy Packages and Guidelines for Resettlement and Rehabilitation in India, which is still under preparation, is a case of good practice on two counts. The state has, in this instance, sought several consultations with NGOs in drafting the policy. Secondly, the policy, as a result of these consultations, has been far more gender inclusive than any other policy to date. For instance, the policy provides for compensation to be paid jointly to men and women. Land also, is to be given in the name of both husband and wife in a household. It also makes it obligatory for planning and implementation authorities to involve and consult male and female representatives of the affected communities. The draft policy also provides for special programmes designed for the health and educational needs of women.

Having said that, the draft policy, does have an overall thrust that seems to consider men as heads of households and displays the usual gender biases. This only goes to show that even while a beginning has been made, it will be a long time before gender is fully integrated in policy.

## 8. Principles, Guidelines and Recommendations:

These recommendations are based on our analysis of the gender impacts of large dams, presented in this paper. We believe that the Commission should commit itself to recommending a gender just perspective, even this means that dam-building agencies need to revamp their strategies and framework. Compromising on gender justice and equality would underscore the existing invisibility of gender and go against international processes committed to enhancing and promoting gender equality. For this exercise to have concrete implications for the future of large dams, we recommend that the large dams debate be opened up to address gender issues even if it means dismantling narrow, economistic frameworks.

Our specific recommendations are as follows:

1. There is a greater need for more gender-aware and gender-sensitive policies concerning the planning, implementation and monitoring of large dams. These policies should be extended to include all the project-affected areas, not just the catchment area.
2. Agencies involved in dam-building activities should be commitment to achieving gender equality in the project areas.
3. The notion of the project-affected-person needs to be gender-inclusive. Thus, interventions should be targeted at both women and men. With respect to resettlement this would mean that women and men should be co-beneficiaries of the compensation packages awarded to households. Single and widowed women should receive individual compensation.
4. Developmental processes that infringe upon the human rights of any section of society are inimical to the long-term goals of progress. Large dams cannot be constructed with the use of coercion and force. It is important to set up human rights monitoring institutions and ensure the protection of the human rights of the affected population. As women are generally more vulnerable to manipulation by the state and other agencies, special care should be taken to ensure that women are not subjected to any kind of violence as a result of large dams.
5. Project planners and managers should not just interact with leaders and elites who are usually men. Instead, women's networks and interest groups should be given a priority in consultative processes involving the affected communities. If local male leaders resist the formation of women's groups, additional time and effort will have to be invested in dealing with on-the-ground gender biases and stereotypes. Extension workers should be gender-aware.
6. Policy formulation should take into account the varied roles that women play in the domestic sphere and should be flexible enough to accommodate this in the consultation process. For example, if women are not able to attend village level meetings due to domestic or other chores, care should be taken to schedule meetings at their convenience. Policy should not merely pay lip service to gender representation at meetings; it should have mechanisms to ensure the full participation of women. As is often the case, women are not used to partaking of public spaces. Dam policy should therefore be sensitive to women's use of space and accommodate their specific needs in such cases. Gender-sensitive policies will ensure that women can articulate their fears and apprehensions without intimidation from state, community or agencies.
7. A clear commitment to gender justice will ensure that women do not have to bear a disproportionate cost in developmental processes. Thus, there is a need for greater awareness of existing gender roles, relations and biases in the project areas. Care should be taken to minimise existing inequalities in gendered access to and control over resources. Under no circumstance, should dam projects exacerbate existing gender inequalities. Project appraisal should be sensitive

- to, and take account of the gender division of labour in the household and community. It should include gender impacts on social practices like shared labour and the consequences of fragmentation of kinship support systems.
8. Gender mainstreaming is indispensable as a means of integrating gender into dam policy, planning and implementation. For this it is important to generate gender-specific indicators that take into account the varied locations of men and women at all levels of society. Gender mainstreaming will help to avoid the omissions that characterise existing dam policy.
  9. It is essential to generate detailed gender-specific data of affected communities in all project impact areas. Lack of information can nullify the most well meaning intentions and policies. Given the fact that gender is one of the most neglected areas of dam impacts assessments, there is an urgent need for detailed long-term studies investigating gender/dam linkages. The possible benefits of large dams can be realised far more extensively if there are studies that look into women's rights, roles and responsibilities and their position in the affected communities.
  10. Similarly, the costs borne currently by women in the affected communities can be minimised if dam policy and implementation is based on gender-specific empirical studies.
  11. In case of new dams, these studies should be undertaken before the dam is built and should be part of the planning process itself. *Pari passu* gender studies would defeat the purpose of mitigating costs and enhancing benefits. Therefore, they should be ruled out.
  12. Equity should be an explicit concern in planning and executing large dams. Attempts should be made to realise an even spread of the gains and pains across different social groupings including men/ women; urban and rural citizens and the powerful and powerless. Projects should aim to reduce inequality in a way that the better off pay most costs and the worse off get most of the benefits.
  13. To pursue equity goals, agencies might have to be partisan in planning processes. For example, enhancing equitable rights to land and explicitly targeting poor people's land would help reduce some of the existing inequalities in irrigation systems and thus enhance the food security of the poor. Other interventions could include instituting land reform during the construction of irrigation facilities or vesting water rights to the landless.
  14. Gender empowering goals should be built into policy. Women's land and water rights should be part of the discourse. Where existing national and international legal provisions militate against women's autonomy and control, they should be amended to rectify the damages caused to women.
  15. Project planners need to be sensitive to local understandings of equity. Often ignorance of customary law and local use understandings of access to and control over resources can undermine the existing rights that women or indigenous people's have over resources, in particular common property resources.
  16. Cost benefit analysis should be reconsidered as a tool in informing decisions concerning large dams. While they might be useful in informing and stimulating debate, it is questionable whether they are useful in decision-making processes or as tools for negotiations. This is because they fail to capture the intangible social, cultural impacts. As such costs/benefit analysis mirror the interests of the powerful and mask the losses faced by constituencies that lack voice and political clout. Analyses should have a broader understanding of the multi-faceted nature of losses incurred by project- affected communities. If this is difficult, then probably the best alternative is to do away with them as is suggested by Robert Chambers (1978). Instead, more participatory forms of planning involving all the actors in the project areas should be employed where all have a say in

determining and assessing the nature of the costs and benefits and their effects on their lives, livelihoods and environment.

17. Stakeholder analyses and social assessments should proceed dam construction in all the project affected areas. Choices for intervention are not merely “technical”. River basin development is not a gender-neutral activity. Thus, a gender perspective needs to be integrated in water resources development where the project areas need to be viewed in socio-economic terms as well as environmental and hydrological.

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## **Endnotes**

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<sup>1</sup> For example, social movements such as the Narmada Bachao Andolan have begun to see dams as a symbol of “destructive development”.

<sup>2</sup> Kabeer, N. p xi (1994).