INTEGRATED WATER RESOURCES MANAGEMENT: A GENDER PERSPECTIVE

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1 INTRODUCTION[1]

The concept of integrated water resources management (WRM) is currently high on the international policy making agenda. Agenda 21, the policy statement of the United Nations Conference on Environment and Development (UNCED), contains a chapter on the subject, whilst the World Bank has commissioned a number of studies on the issue, culminating in a Policy Paper in 1993.

Two major strands of thinking have come together to create this new momentum in policy approaches to WRM. Firstly, recognition of the economic value of environmental resources and the need to protect the environment for sustainable development, has led to an emphasis on conservation and reallocation of water, rather than extending supplies, with water pricing used as a mechanism to limit waste and inefficient resource use. The emphasis on integrated management of water resources is presented as important from both economic (to remove price distortions between sectors) and environmental (to take account of interdependencies in the ecosystem) viewpoints. Secondly, the failure of centralized government services to provide reliable water services to the majority of their populations, particularly in rural areas, has led to a new emphasis on decentralization and cost recovery in irrigation and water and sanitation provision. Cost recovery is perceived as a way out of the 'low level equilibrium trap' whereby service provision remains inadequate even though communities - including the poor - are apparently willing to pay for improved services.

Drawing on the wider body of research concerning gender and the environment and on some empirical examples, this article will suggest some of the ways in which the conceptual framework of the new WRM consensus is problematic, and particularly how some of the assumptions contained in micro-focused approaches to water resources development have been transferred uncritically into the Bank's macro-level analysis. The second section reviews the key elements of the new WRM policy. The third section looks critically at the broad approach to women adopted in the WRM policy, and then, from a gender perspective, at two key areas of the WRM policy agenda: pricing and environmental protection and conservation. Other areas of the policy agenda, particularly questions of participation and institutional arrangements, are not discussed separately here due to lack of space, but clearly equally merit a gender analysis. The purpose here is to set out issues for further debate, rather than to offer a comprehensive perspective.

2 WATER RESOURCES MANAGEMENT: AN OVERVIEW

2.1 Rationale: water as an economic resource

The rationale for integrated water resources management arises out of the conceptualization of water as a scarce and vulnerable resource upon which ever-increasing demands are being placed. It is argued that these demands are generated by processes of population growth and the expansion and intensification of economic activity (UNCED 1992: n.p).

It is increasingly perceived that:

> ...projects to increase (water) supply are tending to encounter hydrological limits, face increasing costs in pumping or transferring water over long distances, entail increasing environmental costs...and demand growing government subsidies. These are powerful arguments for shifting the current emphasis towards more careful management of the existing resource.
>
> (Winpenny 1994:25)

Economic efficiency is central to the World Bank's approach to water resources management and development. Because, it is argued, consumers have not been paying the full economic (i.e. opportunity) costs

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[1] This paper is a revised version of an earlier paper prepared for the Gender Office, Swedish International Development Authority (SIDA), by the BRIDGE (Briefings in Development and Gender) Project at the IDS.

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of water, there are economic inefficiencies in usage; wasteful, non-viable and polluting industries and irrigated agriculture with low value outputs are being subsidized by current water policies, to the detriment of higher value uses. Moreover, the failure to implement opportunity cost pricing, incorporating the costs of negative environmental externalities, has led to excessive environmental damage, further raising the costs of water supply. Furthermore, the dwindling resources of water utilities and governments, due to underpricing of water and consequent low revenue generation, means that the extension or improvement of supplies to under-served communities with public funds is no longer viable. The pursuit of economic efficiency in water resource management is thus also presented as having potential environmental and social benefits.

2.2 Policy directions: from extending supply to managing demand

The main facets of the new water resources management policy are 'the treatment of water as an economic good, combined with decentralized management and delivery structures, greater reliance on pricing, and fuller participation by stakeholders' (World Bank 1993:10). These aims are considered consistent with poverty alleviation, stated as the Bank's overarching objective (*ibid.*: 12).

Increased efficiency in water use requires a conceptual shift away from supply-led approaches towards the management of demand, through a combination of reallocation and conservation. Reallocation will occur, increasingly, across as well as within sectors, through encouraging the development of water markets and other transfer mechanisms. Conservation will also be encouraged through pricing mechanisms, as well as new technologies, education and administrative measures (World Bank 1993: 52-3). Pricing and environmental conservation and protection measures, as the two key planks of demand management, are examined in section 3.

2.3 Sectoral concerns and conflicts

The main 'sectoral' concerns of the new policy can be summarized as follows:

- **Industry**: control of pollution and water conservation;

- **Water supply/sanitation**: greater efficiency and accessibility of water services, waste collection and disposal with a view to providing universal coverage; increased emphasis on water conservation and reuse; increased participation of NGOs, water user groups, and the private sector; services that aim for cost recovery with 'graduated fees' targeted at the poor;

- **Irrigation/hydropower**: promotion of watershed conservation; water harvesting; reduction of agricultural pollutants; investments in irrigation facilities with special attention to the needs of small-scale farmers; cost recovery and efficient management of demand for services; participation of community and user groups;

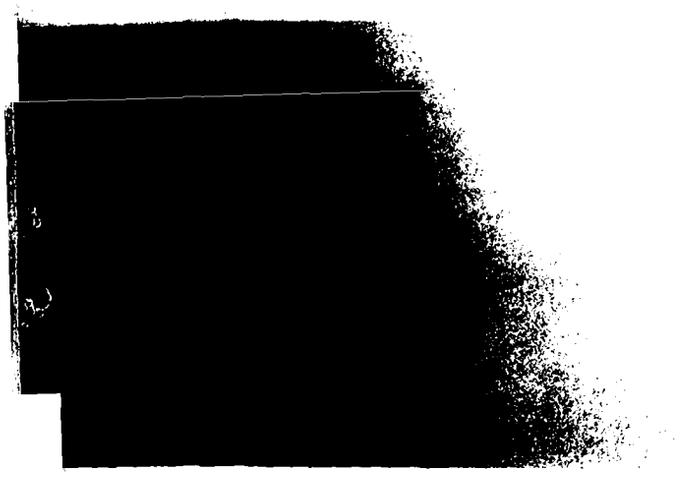
- **Environment/poverty alleviation**: integration of measures for environmental protection into the design of water projects; promotion of efficiency in water use and conservation of supplies; extension of services to the poor; minimization of resettlement from large-scale water projects; low cost development of water supplies (World Bank 1993:12).

One of the key emphases of the new approach is the need to have an integrated approach to water management across sectors, so that inefficient and wasteful water use in one sector does not persist alongside shortages and unmet demand in another. The unit of management is to be the river basin, rather than existing sectoral, administrative or political boundaries.

It is recognized that the attempt to price water as an economic resource and its reallocation across as well as within different sectors, are likely to engender political opposition and conflicts of interest between different groups of water users. Losers are identified as 'many consumers, the construction lobby, most farmers, etc.' and gainers as 'industry, tourism, high-tech farmers, environmentalists and less privileged consumers' (Winpenny 1994: 19). The World Bank also recognizes that: 'in practice, immediate adoption of opportunity cost pricing may be politically difficult' (1993: 14).

3 A GENDER PERSPECTIVE ON WRM

The new approach has potential for increased responsiveness of water resources management to the interests of women in a number of ways. A more rigorous approach to assessing the economic costs and benefits of water resource development could lead to more explicit recognition of the economic value of women's work in water collection and



management and the opportunity costs of this, with implications for the level and nature of service provision (Whittington *et al.* 1990; Kamminga 1991). The focus of the new policy on decentralization and participation implies increased sensitivity to local conditions and priorities and thus the possibility for greater user involvement in and influence over the planning and design of new services, again with potential benefits for women. However, to the extent that gender analysis is limited in the new approach, these potentialities may be lost.

The World Bank's 1993 approach to WRM is couched in the language of sustainable development, with emphasis placed on the formulation of national water strategies dealing with water resources in an 'economically viable, environmentally sustainable, and socially equitable manner' (World Bank 1993: 13). Thus the Bank appears to place social concerns on a par with economic efficiency and environmental protection. Primarily, these concerns are articulated in terms of the need to improve services to the poor and to ensure that their interests are not damaged by policies which affect water rights, and, more generally, the need for consultation with, and participation of, affected groups in designing water resources interventions (World Bank 1993: 15-16). Although socioeconomic factors and considerations of equity have been incorporated into the 1993 Policy Paper, there is an apparent gender neutrality at macro-policy level which may in fact mask gender biases.

The category 'women' has been added on rather than integrated into UNCED and World Bank WRM policy documents. Women are described or implicitly conceptualized as a distinct (but homogenous) group who warrant special attention alongside other vulnerable groups such as 'youth', 'indigenous peoples' or 'local communities'. This form of categorization immediately distances women from their relationships with men **within** a group of indigenous peoples or a local community. How women's relationship to the environment in general and water resources in particular is rooted in and mediated by power and conflict inherent in social relations (including gender relations), is overlooked. Neither is there recognition of the fact that women may have widely divergent interests in relation to water resources by virtue of age differences and varying class, caste, ethnic and religious affiliations.

Moreover, the new WRM policy documents tend to chronicle and compartmentalize women's roles. The Bank, for instance, argues that 'women play a central part in providing, managing, and safeguarding water' (World Bank 1993: 24), they 'essentially manage water at the household level' (p56) and have 'a traditional role in securing water' and thus a 'potential role in educational training' (p62). A focus on women's roles tends to lead to prescriptions of integration into sectoral initiatives as conventionally defined. This cements women's interests as those determined by their position within prevailing gender divisions of labour.

Explicit reference to women within the World Bank Policy Paper is almost entirely limited to their role as providers and managers of water for domestic consumption. This focus on women's reproductive activities leads to a total disregard for women's productive activities as agriculturalists, as users of irrigation systems, or employees of water sector institutions.

'Full public participation' in WRM and development is to be encouraged within the new approach (UNCED 1992: n.p) and the World Bank assumes that this process of participation will be empowering (1993: 73). Women are singled out as a special target group for participatory activities because of their role as domestic managers of water (1993: 16). However, the concept of participation is not straightforward, particularly from a gender perspective. Firstly, the demands of women's multiple responsibilities under existing gender divisions of labour may preclude them from participating in the planning process. Alternatively, their participation may only occur at cost, perhaps in terms of a longer working day, and, ultimately, women's health. The problem is then one of **time**. Likewise, context-specific assumptions about what constitutes 'appropriate behaviour' for women may influence the **nature** of their participation. Furthermore, women's **perceptions** of their needs may arise out of their 'socialization into male dominance' with women's interests 'solicited, but then submerged in the process of establishing a consensus, which must reflect power relations between participators' (Jackson 1992: 11-12). If women's interests regarding water resources are not articulated through these participatory processes environmental interests and the interests of economic efficiency may overrule gender interests.

For instance, UNCED (1992: n.p) argues that decentralized management of water resources 'necessitates educating and training water management staff at all levels and ensuring that women participate equally in the education a
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(1992: n.p) argues that decen- of water resources 'necessi- aining water management staff uring that women participate equally in the education and training programmes.' However, the prescription for equal participation by men and women is optimistic considering the gender gap in education and training that exists to a lesser or greater extent in developing countries; neither is any mention made of the need to increase representation of women among water management personnel. If women are to participate in water resources projects and programmes on an equal footing with men, many structural and ideological biases must be overcome. However, the 'add-on' approach adopted by the World Bank suggests that it is largely unaware of, or unwilling to confront, these institutionalized forms of bias.

3.1 Pricing, perversity and poverty

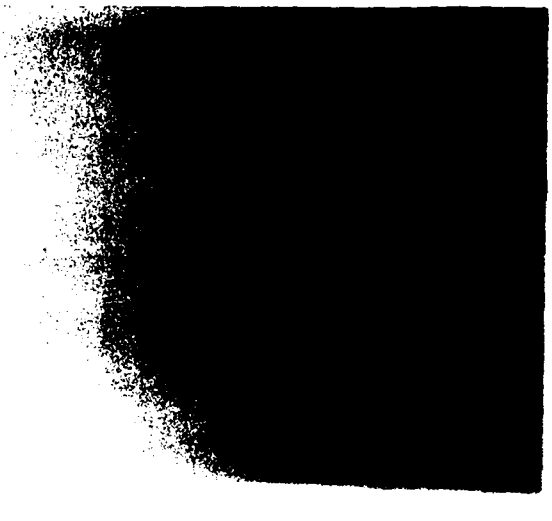
The World Bank argues that the pricing of water resources will give users an incentive to pursue efficiencies in utilization. The argument goes that water has hitherto been under-priced as an economic (i.e. scarce) resource (Winpenny 1994: 8). The conceptualization of water as a free resource can result in both conflicts between users (e.g. as industries pollute rivers used for domestic supply) and negative environmental externalities (e.g. chemical pollution from irrigated agriculture; depletion of ground water aquifers). Negative environmental externalities can be reduced by 'correct' pricing whereby environmental costs are internalized in production and ultimately borne by consumers (*ibid.*: 106) and/or by the application, where appropriate, of the 'polluter pays' principle (UNCED 1992: n.p.). Pricing is also intended to encourage users of water for low value purposes (e.g. irrigation for low value crops) to conserve water thereby freeing up water for transfer to other uses (e.g. domestic supply in urban areas).

Pricing is thus conceived as a tool both for increasing economic efficiency and for promoting environmental protection. However, Mearns (personal communication) argues that in this context, the pricing argument turns on correcting perverse incentives (i.e. those which are economically, as well as environmentally, non rational) which is only ever a partial solution from an environmental standpoint. Further, World Bank type proposals generally only internalize environmental and other externalities by eliminating subsidies, rather than correctly valuing all externalities downstream. This view is reinforced by the recognition within the World Bank Policy Paper that, although theoretically desirable, in practice, opportunity cost pricing which embodies full environmental and social costs may be difficult to implement. Financial autonomy of water suppliers is recommended as a second best solution (World Bank 1993: 14).

The development of water markets, which forms a major component of the WRM project, implies the need for legally recognized and transferable property rights over water. As with other claims on the natural resource base, formalization of property rights brings the danger of undermining women's often indirect, contingent or negotiated rights of access and usage. If, as anticipated, water is increasingly recognized as an economic resource, women's access to water for non-marketable uses or in the production of 'low value' crops (e.g. crops for home consumption) may come under increasing pressure, where men see greater personal advantage in selling available water to generate cash income.

Decentralized management of water resources is a key plank of the new WRM policy, with governments being largely restricted to a regulatory role, and other roles and responsibilities being devolved to 'the private sector, to financially autonomous public corporations, and to community organizations such as water user associations' (*ibid.*: 15). Two main arguments for decentralization and user participation are to improve the cost-recovery potential and to reduce the costs of administering water allocation. 'Governments are finding that, by involving strong water user associations at the local level, they can use the capacity of community members to exert social pressure on their neighbours to pay' (*ibid.*: 57) and 'Community management can help bring costs down to affordable levels' (*ibid.*: 57).

However, the implied cost savings from decentralized management, in a feminist analysis, may represent hidden costs in terms of increased labour for women at community level. Decentralized management may mean women being paid less, or not at all, for functions previously provided by men at a higher level (Baden 1993). Jackson (1993: 1951) argues that women tend to be mobilized into labour intensive community management because of 'the male dominance of public office, the presence of women's groups facilitating the mobilization of women, and the realization by women that if they fail to do such work, it remains undone'. Indeed, this is explicitly recognized in the Bank's own thinking on women and water: 'Women who are trained to manage and maintain community water systems



often perform better than men because they are less likely to migrate, more accustomed to voluntary work, and better trusted to administer funds honestly' (World Bank 1992: 113).

Also, because, in general, women have less local public influence (Charleton 1984 in Stamp 1990: 47) the articulation of women's gender interests within local user groups cannot be assumed. Significant gender-based differences in preference in relation to the quality, quantity, reliability or 'willingness to pay' for water services may therefore be ignored in local policy making. .

There is a small but growing literature on the willingness of pay for water supply in developing countries. The wider body of research on elasticities of water demand, however, is mainly drawn from developed county situations (Winpenny 1994: 77). Broadly, the conclusions drawn from this literature are that income has a limited effect on the level of demand for improved water supplies, but that the level of costs, including opportunity costs of time, of new water connections and charges will significantly affect take up and usage.[2]

A 1987-1990 World Bank funded survey into the demand for water in rural areas of Latin America, South Asia and Africa recognized gender differentials in preferences regarding water supply, as well as in access to and control over finances (World Bank Water Demand Research Team 1993). The study found that willingness to pay for specific types of water supply varied significantly according to the gender of household respondent, although not in a consistent direction. In Tanzania and Haiti, women appeared willing to pay considerably more than men for access to public taps; in Nigeria and India, they were not prepared to pay as much. No further analysis is given of why this should be the case other than that 'the direction of influence (of gender on willingness to pay) depends on the specific cultural context' (*ibid.*: 53).[3]

Despite women's positive response to the suggestion of improved local water supplies in some cases they were 'reluctant to commit the household to a substantial financial obligation' (World Bank Water Demand Research Team 1993: 52), perhaps because they had limited influence over decisions about household finances. Thus, a gender-based contradiction emerges, where women might be 'willing' to pay for improved services (indeed to a greater extent than men), but, because of patriarchal decision making structures and/or biases in intrahousehold resource allocation processes, they are personally unable to commit resources to such an investment.[4]

In some areas where cost-recovery schemes have been introduced, the rate of recovery has proved surprisingly low, at least in part because affordability studies based on men's incomes did not include the possibility that women would pay for a substantial portion of water costs (Baden 1993). New water supply projects often implicitly make women responsible for maintaining and financing the system without considering how they might afford this, given their relatively low incomes and access to productive resources (IRC/PROWESS 1992).

For example, evaluation of a rural water supply project in Swaziland found that in 40 per cent of cases women had sole responsibility for paying water fees while husbands shared payment in 30 per cent of cases. However, the remaining 30 per cent, predominantly female headed households, found the monthly water fees above their means, with important implications for the viability of the scheme as a whole (CEC 1991).

This type of miscalculation not only has negative equity consequences, but also undermines cost-

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[2] In other words, income elasticity of demand for water is low, whilst price elasticity of demand is fairly high. This is only a partial picture, however, and may be more accurate with regard to domestic consumption than agricultural or industrial uses. Further, the World Bank Water Demand Research Team (1993) argue that existing supply availability is an often overlooked key determinant of demand as expressed in willingness to pay.

[3] There is limited value in differentiating by gender of household respondent when the underlying model is based on the assumption of a unified household budget and production. Disaggregation of income, expenditure patterns and water usage by gender would be necessary to get a more informed picture. It would be of considerable value to have insights from more detailed research (both quantitative and qualitative) on this issue which might illuminate the reasons for the gender differences revealed and for their variations between contexts. Assigning these variations to the domain of 'culture' tends to preclude any further analysis.

[4] This may also reflect wider problems with the 'willingness to pay' methodology. A World Bank study found it 'hard to convey the notion of what was meant by the **maximum** an individual would be willing to pay' (World Bank Water Demand Research Team 1993:49). One respondent asked the enumerator 'What do you mean the maximum I would be willing to pay? You mean if I had a gun to my head!' (*ibid.*:49).

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recovery projections and thus the sustainability of the water supply system as a whole. It is vital, therefore, that pricing of water resources takes into account differentials in intra-household access to cash resources.

Winpenny (1994: 108) argues that the pricing of water may not affect the poor negatively. The urban poor, often relying on vendors for water, pay higher unit rates for water relative to their urban counterparts with piped supplies. These costs can be reduced if water supply is piped and metered. Nevertheless, the costs of installing equipment and of ongoing maintenance must be considered alongside unit costs of water. Poor people buy in small quantities from vendors precisely because they cannot make such investments on ongoing outlays.

Budgetary transfers or subsidies combined with payment schemes spread over time are proposed to enable the connection of poor households, although it is not clear how this would operate in practice. If loans are involved, constraints on women's independent access to and ability to repay credit need to be addressed. Ongoing charges need to be set at a level and collected in a manner which takes account of the pattern of income flows and other claims on household expenditure, including by gender.

The potential for cross-subsidization of water provision to the poor through 'social fees' may be limited where a policy of decentralized management is being simultaneously introduced. Unless service providers cover heterogeneous populations which would enable cross subsidization at local level, it is not clear what mechanisms would provide for this. The incentive for decentralized water supply units to provide services to the poor and/or implement complex exemption systems may be minimal in practice.

The interests of poorer communities, it is suggested, would be protected by providing minimum 'lifeline' water supplies, primarily for domestic purposes, at low cost. Beyond this, progressive tariffs would discourage excessive consumption. In effect, this may prevent poorer households and particularly women within these households from using water for small-scale income-generating purposes (e.g. vegetable growing on garden plots), or reduce their potential returns on such activities. By framing the poor in general, and women particularly, as an 'affected group' whose minimal **consumption** needs can be guaranteed by low level services, the need to consider the potential for increasing the productivity and thus incomes of these groups is overlooked.

3.2 Environmental protection and conservation measures

A fundamental facet of the World Bank's framework for water resources development is the requirement that all projects undergo an environmental assessment (EA). This is in line with the Bank's Operational Directive 4.0 of 1991. According to the Directive, within these EAs the views of 'affected groups and local NGOs' must be taken into account in the design and implementation of projects (World Bank 1991: 191). Historically, the record of EAs or environmental impact assessments (EIAs) in assessing the likely socio-economic impacts of development activity on communities, institutions and individuals is not good. Moreover, to date many guidelines on EA do not explicitly require consideration of the gender implications of development activity.[5]

One current of opinion argues that EIA should be adapted to include 'social and participatory factors', in other words a 'sustainability analysis' (e.g. Holmberg *et al.* 1993). Although there is emphasis on socioeconomic impact and on the need for participation in WRM in the World Bank Policy Paper, there is no specific mention of the need to develop skills for socioeconomic impact analysis, or for consulting and working with affected communities, particularly women in those communities. In its approach to WRM the World Bank must avoid submerging the specific interests of women within the unitary categorization 'affected groups'.

Specific environmental protection measures are proposed by the World Bank, e.g. the removal of subsidies on agrochemical and other inputs (including irrigation water) to reduce inefficient use and waste (World Bank 1993: 2), and the adoption of integrated pest management is encouraged as a means of reducing the pollution of water resources by agricultural chemicals (World Bank 1993: 60). However, the removal of subsidies for agricultural inputs such as pesticides, fertilisers and water can have profound

[5] One exception to the widespread gender-blindness in such manuals is the ODA's 1992 **Manual of Environmental Appraisal** which instructs aid practitioners to assess the geographical distribution of the costs and benefits between people **and by gender** likely to result from a development activity (Green 1993:16). There may be others unknown to the authors. In general, mention is made in these manuals of social factors but not specifically of gender considerations.

gender implications. For example, Lele has shown that fertiliser subsidy removal in Malawi led to reductions in usage and thus yields, particularly by female headed households farming small plots (Lele *et al*: 1989). More generally, removal of subsidies on agricultural inputs may lead to (indeed are intended to lead to) shifts in cropping patterns towards lower input and/or higher value crops. But no analysis is given of how such shifts might intersect with existing gender divisions in cropping patterns, or of the possible impact on household consumption and nutrition.

Integrated pest management systems which rely on precise and timely spraying of crops, crop rotations and the introduction of natural predators, although satisfying a range of environmental criteria, may do little to serve women's strategic gender interests. The way in which women are affected by these proposals will depend on the particular division of labour prevailing within farming systems. In systems which rely heavily on unpaid female labour the need for well-timed applications of pesticides could come up against the already inflexible work regimens of women. Moreover, Francis (1989) and Fordham (1983) argue that the intercrop combinations required to reduce specific pest problems generally require high labour inputs. Such changes could rely on the intensification of female labour.

If the design of irrigation systems is adapted to reduce wastage and/or overall water consumption for environmental conservation purposes, there may be gender specific implications in terms of labour allocation and access to irrigation water. If irrigation systems do not allow for flexible management of water, in short bursts at intervals, it may impede the involvement of women who cannot work for long unbroken stretches. Similarly, where irrigation design is often concerned with minimizing peak water use, leading to a cropping calendar based on transplanting and optimal use of precipitation etc., women may favour a cropping calendar based on the minimization of labour peaks. 'This wish to minimize labour peaks is in conflict with the wish to minimize water peak' (SAWA Consultants 1993: 20).

The World Bank also argues that surface and subsurface waters can be protected if the following forms of environmental protection are introduced: erosion control, reforestation, measures to reduce water-logging and salinity through irrigation, introduction of flood control measures (World Bank 1993: 60). The Bank argues that 'The aim is to require land users to bear the costs that their land management practices impose on others' (*ibid.*). The micro-level implications of attempts to reduce water pollution and introduce soil and water conservation measures via a combination of incentives, technical assistance and education are profound.

On an individual level, women as **agents of conservation** are expected to pursue water savings in their role as domestic providers of water, and as educators they will apparently encourage the replication of these efficiencies up through the community. Both Agarwal (1992) and Leach (1992) argue that women, to varying degrees, are indeed active users of natural resources, but to posit theoretically an identity of interest between user and willing conserver of natural resources is a dangerous assumption. This type of analysis does not provide for an estimation of the potential losses and gains accruing to women as a result of their conservation activities (Leach 1992: 14). There is no analysis of how promotion of conservation measures outside water provisioning activities might impact on women.

A good example of this may be seen in the case of an OXFAM-funded soil and water conservation project in Yatenga, Burkina Faso, the *Projet Agro-Forestier* (PAF). Construction of stone bunds to increase soil moisture content drew heavily upon the labour input of local women who were responsible, under prevailing divisions of labour, for stone gathering and headloading. Almost 50 per cent of the women interviewed during an evaluation in 1992 argued that their labour burden had increased as a result of the project, without compensatory measures being taken to lessen their work burdens in other areas. Fundamentally, women's input into bund construction was obtained only at cost to their participation in income-generating activities and thus sources of independent income. Only 26 per cent of households in the area owned simple technology such as carts or wheelbarrows which would have made the transport of stones much easier (Atampugre 1993). However, women's access to such equipment, if available, cannot be guaranteed in situations where the majority of productive resources are held by men.

Jackson (1993) argues that, contrary to the assumptions of ecofeminist and WED approaches, women often have less of an interest than men in conservation measures, because their rights of access to land and common property resources are often less secure or long-standing. that incentives may be req participation in land imp example.

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4 CONCLUSION

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[6] Investment in water projects const lending (Rogers 1992: 1).

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secure or long-standing. She goes on to argue that incentives may be required to engage women's participation in land improvement measures, for example.

Plans for the introduction of new technology for water conservation or water reuse should be informed by the findings of the extensive literature on technological change and gender. New agricultural technologies, in particular, commonly increase demands on women's labour (Stamp 1990: 50). The interests of women in relation to technological change may also differ from those of men. The introduction of environment-friendly innovations such as devices for water conservation may displace those women (and men) who rely for a living on the sale of water. The World Bank (1993: 15) argues that 'Policies that affect or change water rights should be carefully evaluated to ensure that they do not harm the poor, since water rights are often crucial for generating income.' It is crucial for proper application of this caveat that women are viewed as more than providers of domestic water.

4 CONCLUSION

Because of the rapidity with which the new consensus on integrated water resources management and development has been swept onto the international policy making agenda, gender analysts have had little opportunity to respond to the precepts contained within the approach. However, given the likely influence of the new WRM policy,[6] it is crucial at this stage to ensure that gender concerns within WRM have not been overlooked.

The new approach of the World Bank and UNCED to WRM has potential for increased responsiveness of water resources management to the interests of women. However, women have been 'added in' to WRM policy and, to the extent that gender analysis is limited, its potentialities may be weakened.

Although the World Bank does recognize the fact that 'the recommended reforms will typically entail difficult political choices and trade-offs between conflicting objectives' (1993: 76), this concern is mainly focused at the inter-sectoral level, with little or no mention of the fact that there may be conflicts of interests generated at the micro-level by gender difference.

This short article has attempted to highlight some areas where conflicts of interest based on gender difference may arise in the implementation of WRM policy. Further research and analysis of the conceptual, methodological and empirical dimensions of WRM, from a gender perspective, are needed to gain a better understanding of such conflicts and how to prevent or offset their negative impacts. In particular, the institutional context of WRM at a local level and its implications for resource allocation and use, needs to be better understood. Such research should be linked to monitoring the frameworks and practices currently being developed for WRM policy implementation.

[6] Investment in water projects constitutes at least 13 percent of Bank lending (Rogers 1992: 1).

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