

Adams, W. M., E. E., Watson, and S. K. Mutiso, (1997). 'Water, Rules and Gender: Water Rights in an Indigenous Irrigation System, Marakwet, Kenya.' *Development and Change* 28 707-730.

Keywords: rights/empowerment; gender

This case study of how indigenous irrigation systems are managed in Marakwet, Kenya, highlights the complex nature of formal and informal rules and practices when it concerns water rights, use, and assignment. The article shows how the use of irrigation water is organised collectively through kinship and territorial organisations and the household. Formal rules of water allocation are sanctioned by Marakwet beliefs and taboos. There are differences in access between men and women, and there are differences in water allocation, which depend on geographical position. Nevertheless, there is a rather clear-cut system of rule, which makes water management effective and unproblematic. However, there is also a complex network of exchanges between farmers that generate water allocation solutions according to quite different 'working rules'; water is shared, sold and stolen. The authors argue that this makes water allocation more equal as more people (in particular women) manage to get access than they would according to the formal rules. Understanding of the 'informal' system of water allocation is vital if the impact of contemporary changes upon it are to be understood. This case suggests that it may not be entirely feasible to say how an irrigation system 'really works'.

Ahmad, Q. K. (2003). 'Towards poverty alleviation: The water sector perspectives.' *International Journal of Water Resources Development* 19 (2) 263-277.

Keywords: institutional mechanism

This paper reviews water-poverty interfaces and suggests ways of contributing to poverty alleviation through multiple water sector interventions, given the context of diminishing water availability as a result of water pollution and inadequate development of water resources on the supply side and increasing population and expanding economic activity on the demand side. The unequal distribution of the available water within communities and among various water users in the same country and across countries is discussed as a key issue in this context. The paper examines the causes of poverty with particular reference to the pattern of access to water supply as well as to water for various economic activities. It also considers water-related disasters such as flood, cyclone and riverbank erosion and their adverse human and natural consequences. Water deprivation is seen as both a state and a process-the former being the situation prevailing at a particular point of time and the latter implying how that state has been reached and how may it evolve in future. The paper argues that the water crisis is primarily one of management, given the persisting traditional-sectorally focused and fragmented-approach. The appropriate alternative, it is argued, is integrated water resource management (IWRM), which is holistic in approach and

focuses on the various uses of water and different categories of its users. It suggests ways of moving forward in terms of improved and participatory water development and management, which can contribute significantly to poverty alleviation. The second part of the paper highlights the National Water Policy of Bangladesh as a case study. The policy, adopted in 1999, broadly encompasses the various elements of IWRM. It enunciates principles and directions for water planning and utilization towards fulfilling the national goals of economic development, poverty alleviation, food security, public health and safety, decent standard of living of the people and protection of the natural environment. The policy has adopted a holistic approach and provided guidelines for participatory water management. The paper points out that a Bangladesh National Water Management Plan has been drafted within the framework of the National Water Policy with a view to improve water development and management so as to address human, economic and environmental needs of water, with special emphasis on the water needs of the poorer segments of society. Whereas the article seems to consider the Bangladesh example as positive, there is no evidence of the actual long-term impact.

Ahmed, M. and M. H. Lorica (2002). 'Improving developing country food security through aquaculture development-lessons from Asia.' *Food Policy* 27 (2) 125-141.

Keywords: technical mechanism; institutional mechanism

This paper provides a framework for examining aquaculture's linkages to food and nutritional security by elucidating key hypotheses concerning the role of aquaculture in household food and income systems in developing countries, and identifies certain gaps in knowledge. Taking examples from developing Asia, where aquaculture showed a steady growth over the last decade, the implications of aquaculture development are examined from the standpoint of its impact on employment, income and consumption. Analysis revealed clear evidence of positive income and consumption effects of aquaculture on households, however, employment effects are still not significant. The context of targeting small-scale and subsistence-oriented farmers as a means of improving food security in the developing countries has also been analyzed by identifying key socio-economic and policy factors affecting aquaculture adoption and its impact on the poor. The paper concludes that national policies for aquaculture development will need to concurrently address the food security and poverty questions more sharply than has been done at present, by providing institutional and infrastructure support for access to resources such as land and water and to markets by poor households. Finally, more empirical evidence should be collected on the varied opportunities aquaculture would provide to improve the income, employment and food consumption levels within households.

Aiga, H. and T. Umenai (2002). 'Impact of improvement of water supply on household economy in a squatter area of Manila.' *Social Science and Medicine* 55 (4) 627-641.

Keywords: financial mechanisms

To estimate the impact of the improvement of water supply, a comparative study on water collection and household expenditure on water was conducted between a former squatter community with all improved water supply (Leveriza: LE) and a typical squatter community with public water faucets (Maestranza: MA) in Manila, the Philippines. Data were collected from 201 structured household interviews and a focus group discussion among housewives in each community. To measure the time spent collecting water, observations of private and public water faucets were conducted. The residents in LE enjoyed significantly larger quantities of water from private water connections than in MA, where only three public water faucets were available as a water source. Conversely, the unit price of water in LE was much lower than in MA. In LE, 72.1% of the households started working for more income using time saved through the improvement of water supply and the proportion of the households under the poverty threshold was reduced from 55.6% to 29.9%. In MA, 68.6% of the households expressed their willingness to work for more income when time spent collecting water was saved. It would be possible for MA to reduce the proportion of the households under the poverty threshold through the improvement of the water supply. The results of the study indicated that the improvement of water supply would possibly encourage urban slum residents to increase their household incomes through reallocating time saved to income-generating activities. The underserved residents spent more money for less water compared to those with access to private water connections. In MA, it took 3-4 h, on average, to complete one water collecting task, even though the nearest public water faucet was within 100 m of any housing unit. This suggests that the definition of accessibility to safe water be reconsidered when discussing the urban poor.

Akatch, S. O. and S. Kasuku (2002). 'Informal settlements and the role of infrastructure: The case of Kibera, Kenya.' *Discovery and Innovation* 14 (1-2) 32-37.

Keywords: institutional mechanism; financial mechanism

This paper takes a case of Kibera Slums in Nairobi City, Kenya to emphasize the role of infrastructure in slum upgrading efforts which has generated interest among housing and infrastructure policy and development agents and service providers in the recent past. The cost of urban infrastructure and services (Housing, Water, Transport, Healthcare, and sanitation among others) has become unaffordable to majority of urban dwellers due to widespread poverty, and low-income levels. This has resulted to the growth of slums and informal settlements, which are unplanned, lack basic infrastructure and services such as water, electricity, roads, lighting and sanitation among others. It therefore emerges that Housing planning and development policies

and concepts applied have failed to meet the demand for housing, infrastructure and services. The paper proposes the view that pro-poor urban housing and infrastructure should be provided through a package approach and from a complementary welfare perspective to meet housing and infrastructure needs of the poor, where taxes paid by the rich should be used to subsidize infrastructure costs of the poor. Thus, the authors advocate for a social financing system of public services and infrastructure based on principles of equality. However, the role of the State should have, on the one hand, and other service providers such as NGOs and International Aid organisations in delivering such services, seems not clearly defined.

Allen, A., J. D. Dàvila, and P. Hofmann (2004). 'Governance and access to water and sanitation in the metropolitan fringe: an overview of five case studies'. Paper presented at the ESRC Seminar 'Housing, Public Services and Social Movements', Institute for the Study of the Americas, London, 10-12-04.

Keywords: rights/empowerment; institutional mechanism

This comparative research looks at the peri-urban interface of five metropolitan areas (Mexico city, Caracas, Chennai, Dar es Salaam and Cairo) and explores differences and similarities in the formal and informal practices in the delivery and consumption of water and sanitation services. The authors argue that there is a significant contrast between policy rooted and practice rooted realities (similar arguments about formal and informal, policy and reality have been put forward by Cleaver 2000 and 2004; Adams et. al. 1997). The five case studies show that access to WSS by poor peri-urban dwellers is mainly practice rooted and informal rather than the result of formal policies. The key to structural improvements in WSS, the researchers argue, lies in the recognition of these practices and their articulation to the formal system under new governance regimes (see also the discussion of in peri-urban areas of Karthoum: Mjiru ad Albu 2004).

Anand, P. B. (2004). 'Water and Identity: An analysis of the Cauvery river water dispute'. *BCID Research Paper 3* Bradford University.

Keywords: conflict; institutional mechanism

This paper looks at a dispute over the river Cauvery, Southern India. Issues of conflict are: contested property rights, difficulty in enforcing such rights, lack of willingness to compromise. Up-stream and down-stream users and multiple use of river waters further increases conflict between two riparian federal states in India. Anand analyses the conflict and suggests that political and institutional factors determine whether disputes arise and continue. A constitutional-legal solution to such disputes is often not enough as the relationship between the different actors is too vertical and unequal and the dispute is played out at emotional levels. There is too little incentive for states to co-operate. Drawing on existing examples, the author suggest strategies to

encourage improved cooperation at institutional, political, and inter-state levels: 'de-emotionalise' the dispute through dialogue; creation of a river-basin wide authority; proportionate sharing; transparent water resources and use assessments; and last, involved persons and organisations must be aware of the 'paradigm of masculinity' in how the dispute is played out, as, according to Anand, that influences the responses that societies develop.

Baban, R. and M. Ali (2001). 'The effect of introducing pipelines into irrigation water distribution systems on the farm economy: A case study in the Southern Governorates Rural Development Project, Republic of Yemen.' *Irrigation and Drainage* 50 (1) 41-52.

Keywords: technical mechanism; financial mechanism

The Southern Governorates Rural Development Project (SGRDP) makes a case for using groundwater (GW) for irrigation by ways of buried pipelines for small farms. The SGRDP is a comprehensive participatory rural development project covering three of the five southern Governorates of the Republic of Yemen, namely Hadramaut, Abyan and Lahij. Its objective is to alleviate poverty in rural areas of these three Governorates. A major component of the project is to develop virgin lands for agriculture and allocate each 5 feddan (FD) plot to those farmers who do not own land (1 FD = 4200 m²). As the annual rainfall in the project area is less than 100 mm and since landlords and other farmers already own lands suitable for agriculture in the major wadis, the only source of irrigation water in the newly developed land is the GW. The SGRDP is aware of the scarcity of water resources in the country, particularly in the project area; it therefore makes every possible effort to optimize the use of GW for irrigation by practical means. By replacing major canals in the farms by buried pipelines used for irrigation, the use of GW is reduced. This method has been tried in small-scale individual farms outside the project area and it proved that farmers could adapt to the system without difficulty. According to the authors, sprinkler and drip irrigation systems have been tried in many previous agricultural development projects in the country but with no apparent success, as far as the farmers' adoption of the method is concerned. Thus, the project, as the first stage to reduce the use of GW for irrigation in the newly developed areas, planned to eliminate, initially, the conveyance losses by replacing the open canals by buried PVC pipes. The authors also show that the use of buried pipes in small-scale irrigation schemes is financially feasible, even if the indirect and non-tangible environmental benefits are not considered.

Bhandari, H. M. (2001). 'Impact of shallow tubewell irrigation on crop production in the Terai region of Nepal.' *Philippine Agricultural Scientist* 84 (1) 102-113.

Keywords: technical mechanism

This study about irrigation showed that Shallow Tube Well (STW) irrigation had a significant positive effect for the irrigation on cropping intensity, rice productivity, farm income, and employment, although its benefits were skewed towards large farmers. Based on data from 162 STW owner and non-owner households in Nepal, the study concludes that STW promoted cash crop-dominated cropping patterns, expedited adoption of modern crop varieties, and provided irrigation security during drought. Due to availability of water supply, the rice production function of STW owners had a higher intercept and slope than that of the rain-fed farmers. Access to irrigation resulted in steeper slope of the production function of water purchasers than that of rain-fed farmers. The authors suggest that popularizing group ownership of STWs with 60% government subsidy and rural electrification could be promising policy measures for the promotion of STW irrigation among rain-fed farmers and the enhancement of its overall benefits to bring about a more widespread and equal impact on food security and poverty alleviation.

Biltonen, E. and J. A. Dalton (2003). 'A water-poverty accounting framework: Analyzing the water-poverty link.' *Water International* 28 (4) 467-477.

Keywords: needs assessment

'Water has been identified as a crucial resource for all life, production, and development, while a lack of access to water has been linked to poverty. Governments and donors have declared a desire to use water in more efficient, equitable, and environmentally sustainable ways. These different links and objectives touch upon many disciplines and people working in and/or dependent on water: economists, sociologists, engineers, politicians, decision-makers, and other stakeholders. There exist tools to describe how water is used in a physical sense and where it is available. There are also methods to examine the multidimensional aspects of poverty. However until now there has been no tool to effectively examine the availability of water and its use toward matching social and economic goals to physical goals. This paper offers a framework for such an analysis. The Water-Poverty Accounting Framework presented here allows an analyst to effectively see how water is being used to meet different social goals such as hygiene, sanitation, irrigated production for poor farmers, and environmental demands. More importantly, this framework demonstrates the implications for (re)allocations of water when meeting social goals is deemed desirable.'

Boelens, Rutgerd and Paul Hoogendam (2002). *Water Rights and Empowerment*. Assen, Koninklijke Van Gorcum.

Keywords: rights/empowerment; institutional mechanism; capacity building

This edited volume unites several case studies from the Andes to highlight the importance and the local characteristics of regulatory frameworks with which to improve access to water for agricultural use. The authors unpack the idea of 'rules' as, for

example, emphasised by Dolfing (2000). In the introduction, Boelens and Hoogendam look at irrigation management in the Andean region and how local organisational structures contribute to well-functioning irrigation systems. The authors insist that Andean irrigation systems were usually locally installed and managed for ages; however, people seek to modernise and improve these systems. There are problems between the capacities of the organisations and the newly set up systems: 1) Lack of attention to coherent normative framework, i.e., water rights, 2) lack of compatibility among the introduced techniques and users' management capacities, 3) lack of orientation of how to strengthen capacities. Assisting institutions lack adequate methodologies and concepts to work with the existing normative systems. The focus should be on water rights and how to strengthen water users organisations. Organisations need to have 'legitimate' authority over the water users community (i.e., they must have accepted authority); users role in decision making needs to be clear and agreed on; Definition of a clear normative system of who has a right to what, and what moment and in exchange for which obligations. Character of these rights depends on specific irrigation systems and local physical, agro-ecological, socio-cultural and political conditions. These are operational and decision-making rights. Distinction between formal rights and rights in action, as often certain groups are officially included but practically excluded. External, collective rights, are also necessary to formulate and know, which serve as rights related to eg State-level decision-making processes and broader claims on water sources. Organisations can be strengthened through training from outsiders and by setting up a system of internal monitoring and evaluation leading to an 'action-reflection methodology of learning while doing'.

Brugere, Cecile and John Lingard (2003). 'Irrigation Deficits and Farmers' Vulnerability in Southern India.' *Agricultural Systems* 77 (1) 65-88.

Keywords: natural environment; technical mechanism

Land ownership does not prevent vulnerability in less developed countries' agriculture and it is demonstrated that land assets do not necessarily imply livelihoods security in areas where irrigation water is scarce and in irregular supply. To capture both the vulnerability and risks that farmers are involuntarily taking in farming, irrigation deficits applied in cash crops cultivation in an irrigation system in the south of India are calculated. Results show that landowners' exposure to lower returns from land, due to irrigation deficits, increases towards the tail of the irrigation system as water availability is insufficient to satisfy the crops physiological needs. The authors argue that 'irrigation deficit' is a useful indicator of the benefits that irrigation systems can bring to farmers, as well as of the environmental uncertainty in which they operate. The indicator investigates vulnerability linked to an income generating activity, not to the lack of an asset, as commonly used in livelihoods analysis. Conventional top-down irrigation development is discussed and initiatives to improve poverty alleviation through improved irrigation management. Dry season vulnerability can be reduced, but not completely solved, by wells. Risk management: If farmers knew the quantity and timing of water deliveries, its limited supply would not be so problematic as they could still

decide the areas to sow and amounts of water to allocate per unit of land (i.e. manage risk), but it is the uncertainty of irrigation supply that bears most on farmers' decisions (Perry and Narayanamurthy, 1998). That means that they will look for asset safeguarding instead of asset accumulation. Over and untimely supply of rain or irrigation water can reduce the yields of dry-lands crops cultivated locally such as millets. Intensive irrigation and cash crop cultivation led to less variety in food production and thus in diet: health deterioration.

Castro, J. E. (2005). 'Private Sector Involvement in Water and Sanitation, Water Governance, and the Water Poor: Some Lessons from Latin America and Europe.' *Geoforum* forthcoming.

Keywords: Private Sector Participation

Castro uses several PRINWASS case studies to argue that although rhetorically mainstream policies that promote private involvement are concerned with the poor and with democratic governance, in practice inequalities are deepened. Private-public partnerships, or tripartite partnerships do not function well; the public sector and civil society is not capable of managing and controlling private monopolies in a democratic way. Forces set in motion by neo-liberal market centred policies are an obstacle to meeting the MDGs for water and sanitation as private sectors, or public-private do not meet the needs of the poor, and the poor cannot afford to pay the prices asked by the companies. Institutional inclusion is not furthered either. Castro emphasizes that neo-liberalism and private, market centred service delivery promotes existing inequality.

Cleaver, F. (2000). 'Moral ecological rationality, institutions and the management of common property resources.' *Development and Change* 31 (2) 361-384.

Keywords: social capital; institutional mechanism

In this article, Cleaver looks at theories of collective action in relation to the management of communal water resources in Nkayi District in Zimbabwe. The article rejects 'simple evolutionary' theorising about institutions in favour of an embedded approach that allows for the complexity of historical location of collective action and the interface of agent and structure. In such a way, practices of collective management of water supply might be better understood and analysed.

Cleaver, F. (2003). 'Bearers, Buyers and Bureaucrats: the Missing Social World in Gender and Water'. Paper presented at International Workshop Feminist Fables and Gender Myths: Repositioning Gender in Development Policy and Practice, Institute of Development Studies, Sussex,, 2-4 July, IDS.

Keywords: gender; institutional mechanism

Cleaver draws on previous work reviewing gender and water policies and identifying gaps in these and investigating understandings of institutions of water resource management. This short piece examines in more detail how the disappointing progress with gender and water initiatives can be partly attributed to an impoverished understanding of the social world, in particular to static and oversimplified models of institutions, cultural norms and social relationships. This lack of understanding of the social can lead to well-meaning gender approaches to water merely reproducing stereotypes and perpetuating essentialist myths about the nature of women's role in water resource management. Cleaver suggests that little real progress will be made until the importance is recognised of detailed and contextualised social understandings, the dynamic nature of culture, the workings of structure and agency in social relationships and the complex evolution of institutions.

Cleaver, F. (2004). 'From the Local to the Global: Does the Micro-Level Matter in Policy Making for the Millennium Development Goals?' Paper presented at The Water Consensus: Identifying the Gaps, University of Bradford, www.brad.ac.uk/bcid/

Keywords: institutional mechanism; needs assessment

Frances Cleaver examines the progress made on Water Consensus as formulated by the above cited Interim MDG Report Task force 7. She has several concerns: 1) absence of analysis or consideration of micro level issues, 2) tension between aiming at both efficiency and equity. Over-generalisation of governance on local levels ('Participation' and community management) might reinforce existing inequalities. Assumption that all can and should pay for water, in money, labour or time, is mistaken: does not guarantee access, nor can all contribute without losing out significantly. The report considers gender, but overlooks men, i.e., it is based on assumptions concerning women's empowerment. For effective water interventions we need better understanding of local institutions, cultural beliefs, and social practices that promote equitable access to water to tackle the mechanisms of exclusion of the vulnerable. Cleaver has three recommendations: 1) Water Champions 2) Institutional process tracking 3) Access Audits.

Cleaver, F. (2005). 'The inequality of social capital and the reproduction of chronic poverty.' *World Development Special edition: Exploring the Politics of Poverty Reduction: How are the poorest represented?* (June, Forthcoming).

Keywords: social capital; institutional mechanism

This article questions the concept of social capital in development theory and practice as a substitute for missing assets among the poor. By looking at case studies of chronically poor people in Tanzania, Cleaver illustrates how social relationships, collective action and local institutions may structurally reproduce the exclusion of the poorest. The article concludes by suggesting that a politically neutral and under-socialised policy focus on strengthening associational life and public participation of the poor is unlikely to lead to their greater inclusion, nor to significant poverty alleviation.

Colin, J., et. al., (2004). 'UNICEF-Government of India's Child's Environment Programme 1999-2003'. *WELL, Resource Centre for Water, Sanitation and Environmental Health*

Keywords: institutional mechanism; capacity building; participation

UNICEF makes a case for a redefinition of roles and responsibilities in service delivery among NGOs, local and national authorities, and communities. They support a decentralised system. However, the organisation observes a gap in knowledge on the local level, and the need to learn from previous experiences, i.e., improving local evaluation and monitoring and communication and reporting of findings between similar programmes working in different states or regions (India). Communication with consultants on the one hand and the government on the other needs further attention. District Water and Sanitation Committees are primary responsible for reforms and need to be guided by appropriate persons who need to be experienced and skilled and respected by district officials. They also need to be convinced of and able to convey greater understanding of behaviour change, importance of participatory processes, need for focus on latrine use and equitable access to water supply rather than coverage. Programmes need to pay more attention to human and organisational capacity building, horizontal learning between communities and CBOs (see also below). Decentralisation is important; support to local NGOs important, they need to develop facilitating capacities, not to implement programmes (change of role and function). UNICEF could also play a role as broker between government and NGOs; and support a system whereby districts can evaluate NGO work. UNICEF teams need more skills related to institutional development, capacity building, advocacy, strategic planning, programme management. Hygiene should be promoted through government commitment to education, information and training, as well as the use of latrines. Subsidies do not promote the use of latrines, so they should be taken away in favour of education hygiene campaigns, behaviour change.

Crow, B., and F. Sultana (2002). 'Gender, Class, and Access to Water: Three Cases in a Poor and Crowded Delta.' *Society and Natural Resources* 15 709-724.

Keywords: gender; natural environment

According to Crow and Sultana, in order to improve access to water to people in the Global South, we should look at small, low-cost changes which require, however, understanding of the social dimensions of different modes of water access. Three case studies in Bangladesh showed three conclusions: 1) Conflicts often occur between economic advantages and health advantages and between the work and interests of men and women. However, if the different interests and social diversity is taken into account in irrigation expansion, such conflicts might be avoided. 2) The case deals with massive arsenic poison in drinking water, suggesting that agencies are promoting technologies without the appropriate knowledge of natural diversity. The authors have no solution, but suggest that it is probably women who will have to live with the greatest effects of the poisoning. 3) New forms of production (here: shrimp cultivation) may constrain access to drinking and bathing water. The authors suggest that women's work is most affected by this.

Dolfing, B. (2000). 'Sustainable Water Management in the Netherlands by Water Boards.' *ICID Journal* 49 (4) 99-109.

Keywords: institutional mechanism

This slightly conceited, though not irrelevant, article draws on the historical example of Dutch water management to make a case for decentralised, public water boards in which the harmonisation of interests, conflict-resolution and monitoring, are central to manage water resources, drainage and access. The article addresses the variety of institutions as both written and oral rules that were designed over the centuries to set up and maintain the local and regional water management. The administrators of the water boards designed all kind of rules applying both to the members/inhabitants as well as to themselves. Rules defining rights and duties of the board were rules defining the frontiers of the territory and the limits to use of hydraulic structures, rules for O & M, rules for monitoring and against rule breaking and rules for an equitable system for fees and profits. Rules defining rules and duties of the inhabitants were voting rights, share in say, right to complain and lodge objections. The essential point in this multitude of rules is the principle of reciprocity. Dolfing links up with growing present day necessity for debates regarding rights, entitlements, legal and regulatory frameworks. His 'good-governance' example, however, relies heavily on particular historical developments in a particular geographical environment that might be difficult to transpose to other geographical areas and historically shaped cultural-political contexts.

Duni, J., Robert Fon, Sam Hickey, and Nuhu Salihu, (2005). 'NGOs, social movements and paralegal extension in North West Cameroon: from clientelism to citizenship at the margins?' Paper presented at 'Winners and Losers from Rights-Based Approaches to Development', IDPM University of Manchester.

Keywords: rights/empowerment; gender

'This paper explores the implications that arise when rights-based intervention seek to challenge the exclusion and exploitation faced by marginal groups. The specific focus falls on a paralegal extension programme with a pastoral group in North West Cameroon, involving development NGOs, lawyers and the local social movement of the group concerned. It presents evidence that the programme has been relatively successful in catalysing underlying processes of socio-political change, particularly in terms of shifts from clientelism to citizenship amongst the programme's participants, and also increased levels of 'good enough governance'. The programmes explicit and often confrontational engagement with the power relations that underpin exclusion and exploitation - between state-citizen relations, and also between citizens, particularly in terms of gender and ethnicity - has been both a strength and a potential liability.

The paper suggests that both practice and thinking concerning rights-based approaches need to focus more clearly on the power relations that govern different sets of citizenship relations in local political arenas. A citizenship-based approach offers a way of grounding participatory rights-based approaches within local political realities, and can be operationalised within programme research, monitoring and evaluation. It is arguably in promoting inclusive forms of citizenship as part of a wider project of social justice that rights-based approaches can make their most significant contribution.' The notion of 'citizenship' in relation to service delivery is, however, not always clear-cut.

Escamilla M, K. A., van der Heim R., (2003). 'Water participation for poverty alleviation - the case of Meseta Purepecha, Mexico.' *Water Science and Technology* 47 (6) 145-148.

Keywords: participation

This article questions the nature of 'participatory approaches' to water governance by examining the construction of small water reservoirs in an effort to alleviate poverty in the Meseta Purepecha region in Mexico. The programme's rationale can be characterised as incentive-based participation, using both local (paid) labour and shared risks concepts (participation/responsibility). The programme so far has been a relative success. However, in the light of poverty alleviation questions have to be raised about the isolated nature of the programme as well as the role of the incentives used. i.e., is using paid labour actually 'participation' and is giving money always an incentive to further development?

ESRC Seminar Series: The Water Consensus: Identifying the Gaps (2005). 'Access, Poverty and Social Exclusion'. Papers presented at the Overseas Development Institute, London, ODI/Bradford University, March 1 2005.

Keywords: needs assessment; institutional mechanism; participation; community-based development; gender

This seminar series intends to provide for a critical review of international water policy in the light of Millennium Development Goals, the UN Millennium Project Task Force, and preparations for the 4th World Water Forum in 2006. The second seminar on access, poverty, and exclusion, dealt with various themes related to access. Ursula Grant, from ODI, outlined the progress in understanding chronic poverty based on the work of the Chronic Poverty Research Centre. Her presentation once again highlighted the importance of WSS for the livelihoods of the poor. Deepa Joshi examined the Demand Responsive Approach in WSS and concludes, based on a case study in a community in Andhra Pradesh, that such a strategy does not guarantee access to water for the poor and poorest. Joshi highlights the need to make poverty concerns explicit in policy and programme design in order to make WSS available to those who are often excluded at community level. Rehema Tukai from Water Aid presented a paper and a video on Gender and Access in Pastoral Communities in Tanzania. The case study showed the complexities of community participation and its local constraints and contradictions. There was great inequality in water use and access between men using water for life stock and women for domestic use, while a lack of mutual cooperation in the organisation of such 'gendered' necessities proved fatal for the WSS project. Alison Wedgwood discussed the 'Conceptual and Practical Challenges for Demand-Responsive Approaches' in WSS., arguing that there is confusion about the meaning of DRA. She raised the question why DRA projects fail to provide sustainable water services that meet the needs of all households and seems to look for an answer in the methodological failure to correctly assess demand among poor households. Rajindra S. Ariyabandu and M.M.M. Aheeyar also looked at the DRA to WSS. They concluded that DRA improved accessibility, adequacy and quality of household water and strengthens the village organizational capacity and the sustainability of project interventions by creating a greater sense of ownership among users. However, the authors also observed that the DRA as a methodology is not able to look at the needs of individual households and thereby incapable of serving all. Poorer sectors of communities are more likely to be excluded. The seminar ended with questions concerning the nature of 'community' and the structures of disadvantage of individual people and households within communities; with the possible use of rights in order to improve access; the nature of governance in WSS on the different levels of community, state and (inter)national NGOs; and conditions for sustainability.

Faruqui N. and O. Al-Jayyousi (2002). 'Greywater re-use in urban agriculture for poverty alleviation - A case study in Jordan.' *Water International* 27 (3) 387-394.

Keywords: technical mechanism; rights/empowerment; capacity building

The authors present a case study of using greywater for small-scale agriculture. The paper describes a pilot project that allowed the poor in Tuffileh, Jordan, to reuse untreated household greywater in home gardens. The women of the community used small revolving loans to implement simple greywater recovery systems and set-up gardens. The project allowed the community to offset food purchases and generate income by selling surplus production, saving or earning an average of 10 percent of its income. Had the households used municipal sources for this supplemental irrigation, on average, they would have used 15 percent more water and had 27 percent higher water bills. Moreover, the project helped community members gain valuable gardening, irrigation, and food preservation skills. Women on the project reported feeling more independent and proud because of the income they generated, the skills that they gained, and their enhanced ability to feed their families. An environmental impact assessment demonstrated that the quality of the untreated greywater was adequate, and the negative impacts on soil and crops were negligible. Nevertheless, the authors warn, this could change if greater volumes of greywater are reused. A follow-up project can increase greywater recovery, pilot simple treatment devices, and improve gardening practices and production.

Fereres E and A. Kassam (2003). 'Water and the CGIAR: A strategic framework.' *Water International* 28 (1) 122-129.

Keywords: needs assessment; community-based development; institutional mechanism

Among the many institutions addressing development issues at the international level, the 16 research centres of the Consultative Group of International Agricultural Research (CGIAR) focus on the goal of reducing poverty, hunger, and malnutrition by sustainably increasing productivity of resources in agriculture, forestry, and fisheries. This introspective document recognises the need for further integration of the aims and goals set by the CGIAR. This discussion paper addresses the question: what are the major water issues relevant to the CGIAR goal? There is a need to increase the adaptive capacity of the poor and to manage the water supply and quality constraints. This could be achieved by focusing at the community level and by developing inexpensive, easy to use monitoring tools that would alert the communities of forthcoming problems and provide them with means to take remedial action. This action is often needed long before there is any hope of changes in policy and other macro-level interventions. The fundamental issue of water as a food requires that attention be given to the quantity and quality of water available for domestic use in poor households and communities. Health issues associated with domestic supply and with irrigation management have been important research themes in the CGIAR and demand

increasing attention. Given the current composition, activism and comparative advantages of the CGIAR, it is proposed that research on water management should focus on the following four broad general areas: (1) improving the efficiency of water use in agriculture through increased water productivity; (2) management of watersheds for multiple functions; (3) management of aquatic ecosystems, in particular those sharing boundaries with terrestrial ecosystems; and (4) policy and institutional aspects of water management. As the aim of water management research is to address water constraints and issues in an integrated manner the four areas cannot be treated in isolation from each other. The authors thus recognise a need for achieving integration at and across different scales.

Franks, T. (2004). 'Water Governance: What is the Consensus?' Paper presented at The Water Consensus: Identifying the Gaps, University of Bradford, 18-19 Nov 2004, www.brad.ac.uk/bcid/.

Keywords: institutional mechanism

Based on two case studies in Nigeria and Tanzania, Franks examines what 'water governance' means. Citing Rogers and Hall, water governance refers to political, economic and social administrative systems to develop and manage water resources, and service delivery (WSS). While 'governance' is often applied generic, it should be looked at differentiated between WSS and resource management. Resource governance is often equalised to Integrated Water Resource Management, while that should be seen as one tool to achieve sensible water resource governance. WSS: too much focus on financing mechanisms and public/private partnerships instead of issues of social organisation: how do/can societies better organise themselves to manage key resources well? Governance refers to decision-making processes; i.e., to political processes. Meaning of participation and decentralisation needs to be examined and questioned and shortcomings of government put in perspectives that acknowledge the necessity of some form of legitimate authority (i.e., government). Knowledge and understandings need to be shared and exchanged among stakeholders without the hierarchy imposed by Information, Education and Communication (which undermines 'understandings' of knowledge, subjectivities). Capacity building needs more scrutiny and examination.

Frans, D., and J. Soussan, (2004). 'The Water and Poverty Initiative. What we can learn and what we must do'. Asian Development Bank www.adb.org/ 16-02-05

Keywords: financial mechanism; technical mechanism; institutional mechanism; capacity building; rights/empowerment; gender; participation; natural environment; conflict; social capital

This report is a comprehensive and extensive evaluation of 30 case studies in Asia. The report identifies institutional, financial, technical, social, and legal possibilities

and constraints as evidenced by these case studies. In the area of Financial and Technical issues, the authors claim that the case studies show that the poor should make up their own mind on what they want and what not. In such a way, people choose systems and provision that they can afford and maintain. They state that 'people often need to start with something that is currently relevant, useful, and maintainable' (such as cheaper but less efficient treadle pumps) [pp12]. This conclusion puts real decision-making power of the poor at centre stage. It also demands flexibility and to allow for change in the long run. Rehabilitation of traditional systems should go hand in hand with modern systems (although they admit not having many examples of such). Based on the 30 examined case studies, the authors conclude that explicit and effective targeting of the poor is necessary, as otherwise they tend to miss the boat. That means that a market-led view on WSS will not be sufficient, as markets create exclusion. The authors claim that gender should be central and that women should have a central role in water supply and governance without excluding men. Legal and policy provisions to protect access to WSS for all. If WSS is to be sustainable, then cost recovery is necessary, however, the interests of the poor should be protected. Cost recovery strategies should involve the poor community deciding what level of services they need and can afford to pay for. In addition, in order to safeguard a minimum of equality, everyone needs a minimum amount of water to live a healthy life without pay, after which progressive tariffs. The richest should pay the most to guarantee this. In return, the poor need official rights and entitlements. Community capacity building and empowerment are central to improving WSS in the context of poverty. This could create decision making power, organisational structures, and sustainability. Capacity building should reach (poor) communities, and also other implementing agencies (indirect stakeholders) and donors. Communication between direct and indirect stakeholders should be improved.

The report explicitly calls for the integration of environmental issues into pro-poor water interventions. There is emphasis on the need for research on affordable and environmentally sound methods for disposing sewage residue and industrial water and for cross country research on the effects on poverty reduction and the environment of de-linking land rights from water rights. In addition, disaster prevention and mitigation should receive extra attention: vulnerability to disasters should be reduced, but more research and understanding of hazards, water and the poor is needed. Management of the environment should be central as poor sanitation can have severe effects on both the environment and people. Poor water management can also create water pollution etc..

The study identifies six major fields for recommended future action: 1) Pro-poor water governance, i.e., explicit and effective targeting of the poor, as otherwise they tend to miss the boat. Gender should be central, women should have a central role in water supply and governance without excluding men. Legal and policy provisions to protect access to WSS. Cost Recovery if WSS is to be sustainable is necessary, however, interests of the poor should be protected. Cost recovery involves the poor community deciding what level of services they need and can afford to pay for. Everyone needs a minimum amount of water to live a healthy life without pay, after which progressive tariffs: richest pay the most. Alliances between different sub-sectors in water sector to effectively govern water resources and other factors with a pro-poor interest. Causal relation between different ways of improving access to water and

poverty reduction and these relate to issues of governance must be better researched and explained. Rights and entitlements for the poor 2) Improved access to quality water services: quality, reliability and costs of services important. Sanitation needs more importance. there are examples given of the overall community benefits for poverty reduction, health, governance and organisation, economic opportunities and empowerment among community members with improved water services. Water quality is important for health. 3) Pro-poor economic growth and livelihood improvements: not only WSS can reduce poverty, but should go hand in hand with attention for skill training, credit and market linking to become growth generating. Supported by governments, e.g., PRSPs. 4) Community capacity building and empowerment: creates decision making power, organisational structures, sustainability. Capacity building should reach (poor) communities; and also other implementing agencies (indirect stakeholders) and donors. Communication between direct and indirect stakeholders should be improved. 5) Disaster prevention and mitigation: vulnerability to disasters should be reduced, but more research and understanding of hazards, water and the poor is needed. 6) Management of the environment: poor sanitation can have severe effects on the environment, and people. Poor water management, water pollution etc. as well.

Recommendations for research: 1) generating basic data on the water sector, esp. in Africa, and on allocation of funds. 2) Asia: overview of role of WSS in PRSPs and its actual translation and implementation of medium term expenditure frames. 3) research to which form of local stakeholder organisation and management works best: integrated or fragmented over different water sector/functions. 4) Possibilities for water resource management in extreme vulnerability/instability situations (refugee camps, civil war) 5) Research is needed into the design and implementation of appropriate institutional, technical and economic mechanisms (perspectives) to ensure sustainable access to domestic water. Need for appropriate domestic, decentralised water collection systems (e.g.

ing). 6) Research needed on affordable and environmentally sound methods for disposing sewage residue and industrial water. 7) cross country research needed on effects on poverty reduction and the environment of de-linking land rights from water rights.

Gerbrandy, G., & Hoogendam, P. (2002). 'Materialising Rights: Hydraulic property in the extension and rehabilitation of two irrigation systems in Bolivia'. *Water Rights and Empowerment*. R. Boelens, Hoogendam, Paul. Assen, Koninklijke van Gorcum 36-51.

Keywords: rights/empowerment; participation

Gerbrandy and Hoogendam look at the relation between 'rights' and 'property' by looking at the rehabilitation of existing irrigation systems: the opposition from local farmers organisation against rehabilitation had to do with changing/disturbance of existing water rights systems, or hydraulic property. An external intervention team proposed changes in the distribution system, which was perceived as illegitimate by the population. Hydraulic property is important because it defines who holds relative access

to water from a particular source. Labour input is more than a 'sense of ownership' but should lead to actual ownership in the form of water rights. Water rights should be defined taking the logic of existing rights and distribution systems into account. Use of certain sources might depend on the variation of source behaviour, i.e., property can also improve adequate systems operation. Gerbrandy and Hoogendam's argument does not consider the level of inclusion in the existing normative rules and understandings (see also Hendriks 2002).

Grant, U., D. Hulme, K. Moore & A. Shepherd, (2004). *The Chronic Poverty Report 2004-05*. Manchester, Chronic Poverty Research Centre.

A significant research underlining the necessity for improved access to WSS for all, is the Chronic Poverty Report. The report aims at understanding dynamics of chronic poverty cycles. The report explicitly states that for poor people to take up opportunities, they need access to basic services such as education, health, water and sanitation, and social assistance. The existing access barriers need to be tackled, the quality of services improved, and attitudes and perceptions of the value of such services among the poor outlined. These three themes are recurrent in the discussed literature.

The analysis the report makes of chronic poverty goes as follows: Chronic means long-term, even/sometimes 'hereditary': 300/420 million people. Causes are complex and often involve overlaying factors, never clear-cut causes. Maintainers of chronic poverty are: 1) No, low, or narrowly-based economic growth, 2) Social exclusion and adverse incorporation into society enforces marginalisation and poverty 3) disadvantaged geographical and agro-ecological regions create 'logjams of disadvantage'. 4) Capability deprivation, especially during childhood (poor nutrition, poor health, no education) create irreversible deprivation; 5) weak, failing, or failed states with few jobs, inadequate social services or social protection, often completed by violence and conflict, 6) weak and failed international cooperation, especially 1980s 1990s structural adjustment policies and economic liberalisation and locking off of trade opportunities of poorer countries. Drivers of chronic poverty refer to factors which push the non-poor but vulnerable people into chronic poverty: violence, natural disasters, ill health and injury, environmental disasters, breakdown of law and order, economic collapse, accompanied by a lack of savings, socio-economic safety nets, institutional support (social protection, basic services, conflict prevention and resolution). Policy must set priorities right and address the inequality, discrimination, and exploitation that drive and maintain poverty: The following four central action points are all related to WSS, be it in the form of condition or primary aim, or part of a primary aim: 1) prioritise livelihood security (social protection), 2) Ensure chronically poor people can take up opportunities (growth and redistribution), 3) Take empowerment seriously (i.e., challenge discrimination), 4) Recognise obligations to provide resources (redistribution of resources and finance across households, communities and nations).

Gross, B., Christine van Wijk and Nilanjana Mukherjee, (2001). *Linking Sustainability with Demand, Gender, and Poverty. A study in community-managed water supply projects in 15 countries.*, World Bank Water and Sanitation Program; IRC International Water and Sanitation Centre.

Keywords: Gender; community-based development; needs assessment; participation

This is a study that argues that taking gender and poverty into account in the design of community-based water and sanitation provision, is crucial for the sustainability of such services. As a consequence, the study argues for a Demand Responsive Service that is gender and poverty sensitive. Furthermore, the study recommends the Methodology for Participatory Assessments (MPA) to integrate gender and poverty in a participatory way in practice. The examples used provide for small-scale cases in which the effectiveness of MPA and PLA are shown.

Hendriks, J. (2002). 'Water Rights and Strengthening Users' Organisations: The Art of Negotiating'. *Water Rights and Empowerment*. R. Boelens, and Paul Hoogendam,. Assen, Koninklijke van Gorcum.

Keywords: institutional mechanism; capacity building; rights/empowerment; social capital

Hendriks' chapter in this edited volume is of interest to capacity building and fostering social capital to overcome the disparities between formal legislation and local legitimacy. Specifically, Hendriks looks at water rights and users organisations in Chile, where the normative framework is based on formal national legislation, but often practically implemented through local legitimacy frameworks decided upon by users' organisations. He argues that assisting institutions need to look at normative and socio-organisational sustainability, besides economic, technical, and infrastructural aspects of water irrigation projects. Developed a linear presentation of a 'dialectical, iterative' process, which define Steps for assistance in Irrigation Projects (pp 55). The supportive institution needs to develop a socio-organisational assessment and agree with the target group on the terms of cooperation. Water rights of individual users and unequal access should be discussed and underpinned according to legitimate (i.e., commonly accepted) arguments. Intervention strategies might involve whole communities and beyond water supply through drawing attention for socio-organisational issues in the community, training and awareness strategies (through local media, theatre, outings, schools). System management issues should be dealt with; education directed at future usefulness and actual necessity. Figure on pp 72 shows the interaction system between assisting institution and users organisations to achieve a self-managed system and sustainable development of production. While Hendriks' plea for the levelling of normative and legal frameworks in the organisation of water management might link up to questions raised by Allen et. al. (2004) about formal and informal practices, the author does not examine or question the local normative systems of in- and exclusion.

Integrating existing normative frameworks might therefore lead to a continuation of the exclusion of certain groups (see for example Adams, Watson and Mutiso 1997).

Hussain, I. and Munir A. Hanjra (2004). 'Irrigation and poverty alleviation: review of the empirical evidence.' *Irrigation and Drainage* 53 (1).

Keywords: technical mechanism; institutional mechanism

This study looks at the linkages between irrigation and poverty and shows the benefits to different sectors. It is a review of recent research, mainly in Asia. The study concludes that evidence shows that there are strong pro-poor benefits to irrigation projects. Direct benefits: higher production, higher yields, lower risks of crop failure, higher and year-round farm and non-farm employment, diversified crops, switch from low-value to high-value market-oriented production. Increased production makes food available and affordable for the poor. Indirect benefits are: positive effect on regional and national growth, which has benefits for the poor and landless as well. Irrigation techniques such as micro-irrigation systems have strong anti-poverty potential. Alleviates chronic, temporary and permanent poverty. Negative externality effects in large-scale irrigation projects point at management issues in need of attention from planning and political community. Conditions and enabling environments enhancing functional inclusion of the poor intensify anti-poverty effect, including: 1) equitable access to land, 2) integrated water resource management, 3) access to and adequacy of good quality surface and groundwater 4) modern production technology, 5) shift to high value market-oriented production, 6) opportunities for the sale of farm outputs at low transaction costs. The authors observe that simultaneous broad-level and targeted interventions increase pro-poor effect of irrigation.

Instituto de Promoción para la Gestión del Agua, IPGA (2004). 'Propuestas de la Consulta entregadas al congreso de la República'. Lima

Keywords: decentralisation; rights/empowerment; institutional mechanism; conflict

This Peruvian organisation, grouping 12 regional water platforms, came up with a proposal for the national government for the 'regionalisation and creation of spaces for conflict management related to water'. The proposal is divided in three major themes: Procedures to deal with water conflict; composition and representativeness of the entities which are supposed to manage water conflicts; and financing and information for water conflicts. Their basic idea is similar to the above historical developments: creating decentralised committees, which are representative of both water users and non-users, i.e., the stakeholders. The state should only intervene in water conflicts, which involves different regions, i.e., different water committees. At state level, water authorities should also include representatives of users. Different committees can be established for different purposes. The challenge is to make users organisations really representative, legitimate, and inclusive. A national legal framework should support

regional water governance, not impose a unifying model on all, diversity of regions (cultural, economic, social) and hydrological characteristics and problems should always be taken into account. Therefore, conflict management should always start where the conflict is: through the existing local/regional committees and entities. The proposal includes a more detailed framework of conflict management according to these basic principles.

In information management; the organisation wants to set an information sharing system with three central points: supply and demand and water; hydrological prognoses; and information reg. quality of water.

Jaglin, S. (2002). 'The right to water versus cost recovery: participation, urban water supply and the poor in sub-Saharan Africa.' *Environment and Urbanization* 14 (1) 231-245.

Keywords: Financial mechanisms; rights/empowerment; participation; community-based development

This paper looks at indirectly affected water services in urban areas in sub-Saharan Africa over the last two decades and discusses the difficulties of reconciling a commitment to universal provision with a market-oriented approach where all those served must pay full costs. As such, the article supports Cleavers' observation that efficiency and equity is not always compatible. The author describes the measures that have been taken that seek to reconcile these, including different forms of "user participation" and greater reliance on informal reselling of water to improve provision to low-income households. This demonstrates how most "participation" is about transferring costs from water companies to low-income households. It also highlights how relying on informal resellers may constrain the extension of better-quality services to low-income neighbourhoods and how community-based schemes fail to raise the capital needed to extend water mains to underserved peripheries. Whilst many participatory schemes can, under certain conditions, help towards the aim of ensuring wider access to water, they are in no way a miracle solution and there is a considerable risk of institutionalizing two-tier services which lock low-income groups into more inconvenient, poor-quality services.

Jalan, J. and M. Ravallion (2003). 'Does piped water reduce diarrhoea for children in rural India?' *Journal of Econometrics* 112 (1) 153-173.

Keywords: capacity building; needs assessment

This article gives evidence of the relation between poverty, education, and bad health. The authors observe that the impacts of public investments that directly improve children's health are theoretically ambiguous given that the outcomes also depend on parentally provided inputs. Using propensity score matching methods, the study found that the prevalence and duration of diarrhoea among children under five in rural India are significantly lower on average for families with piped water than for observationally

identical households without it. However, the results indicate that the health gains largely by-pass children in poor families, particularly when the mother is poorly educated. The findings point to the importance of combining water infrastructure investments with effective public action to promote health knowledge and income poverty reduction.

Jose, T. K. (2003). 'Micro enterprise initiative in water sector and poverty reduction.' *Water Science and Technology* 47 (6) 119-128.

Keywords: social capital; empowerment/rights; capacity building; gender

The author reports on the Kerala model for water sector development broadly adopted as a role model for poverty reduction and build up of social capital. It is a community-based organisation with its focus on facilitating a stable income to the poor, and composed of a People's Plan Campaign, the Kudumbashree (women-based poverty eradication programme), with grass roots level neighbourhood groups, federated into an area development society. It promotes savings and credit channelling, capacity building and entrepreneurship development. Activities include awareness-raising on water conservation and hygiene, utilization of student power, promotion of small, cheap and low technology projects that people can understand and undertake (small reservoirs, tanks, rainwater harvesting structures, water meters), as well as microenterprises, and training of women-based repair groups. Whereas the focus on grassroots women groups is not new -as women's groups are widely perceived to be more active in local developmental issues than men and often more prepared to work voluntarily for the benefit of the community- training women in more technical aspects of both maintenance and market oriented activities is a recent development.

Kay, M. (2005). 'Fostering Implementation: Know-How for Action. Synthesis Report of E-Forum Results'. FAO/Netherlands International Conference Water for Food and Ecosystems www.fao.org/ag/wfe2005/docs/synthesis_theme1.pdf 16-02-05

Keywords: institutional mechanism; natural environment

This synthesis of an important e-forum discussion shows that there is growing linkage between agriculture and ecosystems, but that this link is weak in developing countries decision-making processes. Little is known about freshwater requirements for generating key ecosystem services appropriated by the human population of today. Knowledge and information systems (KIS) regarding ecosystems need institutional back-up for the benefit of all. Four main questions arose: 1) How to gain better understanding of bio-physical mechanisms and how do they interact with and are interdependent on food and ecosystems? Cross-sectoral understanding of food, livelihoods and environmental services. 2) How do such multipurpose, cross-sectoral systems function and how can they provide wide-ranging services in practice? 3) What

is the capacity and resilience of agro-eco systems to provide services to optimize them and appreciate the limits of each? 4) How can knowledge been collected and harnessed for use of stakeholders -how can it be made available? Knowledge update?

The synthesis supports the idea of stakeholder-driven management of water for food and eco-systems. Each stakeholder could use much more and better information to reach their goals and protect the goals of the other stakeholders and they need the capacity and knowledge to engage in decision-making. Understanding the stakeholder process itself needs more research.

**Khosla, P. and R. Pearl (2003). 'Untapped Connections: Gender, Water and Poverty'. Women's Environment and Development Organization, WEDO
www.wedo.org/files/untapped_org.doc 12-04-05**

Keywords: Gender; empowerment/rights; capacity building

This paper looks at the linkages between gender, poverty and water. The paper examines women's central role in managing water supply and distribution, and explores how access to water and sanitation has implications for women's health, economic activities, and sustainable development as a whole. Case studies from Honduras, India, Bangladesh, Ukraine, and Tanzania are presented, which highlight water projects that have succeeded in generating employment opportunities, increasing women's self-confidence, and in improving women's and girls' health. The report provides strategies for translating government commitments into action by advocating for mainstreaming a gender perspective in all water and sanitation related policies. A compilation of existing government commitments on gender, poverty and water in sixteen global conferences is also included, along with a list of resources (websites, contacts and publications) that can be used to get involved. Especially this compilation of existing material, treaties, and international commitments make this a useful document.

Laurie, N., Carlos Crespo and Carmen Ledo, (2004). 'Strategic Country Report, Bolivia D23 August.' Barriers to and conditions for the involvement of private capital and enterprise in water supply and sanitation in Latin America and Africa: Seeking economic, social, and environmental sustainability" (PRINWASS) Fifth Framework European Union (1998-2002) INCO2 research for development Newcastle

Keywords: Private Sector Participation; rights/empowerment; decentralisation; participation

Laurie, Crespo and Ledo, from the University of Newcastle, have thoroughly examined the contrasting experiences of water privatisation in the Bolivian cities of La Paz-El Alto and Cochabamba, for both DfID and EU funded projects. Research undertaken with local academics and activists, shows that deficient legislative and regulatory frameworks and accountability mechanisms, together with limited user

participation and access to information, have made schemes less pro-poor than expected. Most previous water concession studies have focused on the technical aspects of contracts and regulation and have paid insufficient attention to user involvement in decision-making. Concession contracts did not stipulate the types of service delivery, nor prioritised poor areas; the exclusive nature of concession monopolies illegalised existing alternative systems used by many poor people, leaving them unregulated; confidentiality clauses in contracts constrained user participation and weakened the power of regulators to take pro-poor decisions; decision-making channels in pro-poor decentralisation legislation were undermined by centralised regulation; consultation with users was partial and tokenistic.

The failure to establish a robust legislative and regulatory framework prior to privatisation made it harder to realise pro-poor expectations. The regulatory system might have been strong when dealing with consumers, but was weak in its ability to negotiate with the private sector. The public services are still unfamiliar with regulatory systems. Regulatory and legislative frameworks showed significant gaps concerning environmental risk and inter-sector liaison.

Laurie Nina and Carlos Crespo (2003). 'Pro-poor' water privatisation: ideology confounded in Bolivia?' ID21 Research Highlight 28-02-05

Keywords: Private Sector Participation

This DfID funded report from the University of Newcastle looks at contrasting experiences of water privatisation in the Bolivian cities of La Paz-EI Alto and Cochabamba. Research undertaken with local academics and activists shows that deficient legislative and regulatory frameworks and accountability mechanisms, together with limited user participation and access to information, have made schemes less pro-poor than expected. Most previous water concession studies have focused on the technical aspects of contracts and regulation and have paid insufficient attention to user involvement in decision-making. Concession contracts have not stipulated the types of service delivery, nor prioritised poor areas; the exclusive nature of concession monopolies has illegalised existing alternative systems used by many poor people, leaving them unregulated; confidentiality clauses in contracts constrain user participation and weaken the power of regulators to take pro-poor decisions; decision-making channels in pro-poor decentralisation legislation are undermined by centralised regulation; consultation with users is partial and tokenistic. The failure to establish a robust legislative and regulatory framework prior to privatisation has made it harder to realise pro-poor expectations. The regulatory system may be strong when dealing with consumers, but is weak in its ability to negotiate with the private sector. The public service is still unfamiliar with regulatory systems. Regulatory and legislative frameworks have significant gaps concerning environmental risk and inter-sector liaison. Laurie also participated in the PRINWASS research project on the role of private companies in WSS (2004).

Lenton Robert and Albert Wright (2004). 'Interim Report of Task Force 7 on Water and Sanitation'. *Millennium Project*

Contemporary international policies directed at poverty in the Third World are guided by the Millennium Development Goals. Target 10 of the so-called MDGs is to cut in half the proportion of people without sustainable access to safe drinking water and basic sanitation by 2015. In addition, water and sanitation are central to meeting the other Millennium goals as well. 1.1 billion people lack safe access to water, and 2.4 to basic sanitation. The interim report observes three major conditions for reaching goals: national and international political commitment; participation poor communities; adequate resources. Propositions: 1) National governments need to recognize the importance of adequate water supply and sanitation for development as it is a prerequisite for other human rights. Sustainable water supply depends on community involvement. 2) Focus needs to be on areas where needs are highest: urban slums, peri-urban and rural areas. Subsidies must promote basic services for all. 3) Service delivery rather than construction of facilities. 4) 'learning by doing': sequencing capacity building and, policy reform and investments. 5) Decentralisation of service delivery should be integral and accompanied by capacity building and power balancing. 6) Financial responsibility from governments. People's contribution to water supply is good for sense of ownership, but they cannot bare the whole responsibility. 7) Governments and utilities must increase well-managed cash flows (payment of bills) to attract investment and maintenance. 8) Sanitation must be same priority as water supply in budgeting, policymaking and planning (whereas people do not always see direct benefit). 9) Social marketing for promotion of hygienic behaviours reg. sanitation and health. 10) different technological options and service levels should be taken into account to fit communities best possibilities for sustainable and affordable water supply and sanitation. 11) Monitoring and evaluation should be centred around actual access to services through objectivable survey methodologies instead of self-justifying infrastructure monitoring. Collected data should be available to different national & international stakeholders.

Water as a resource: 12) Integrated Water Resources Management needs to be translated into tailored solutions to specific countries. 13) Realistic National development planning directed at MDGs. Fighting corruption and mismanaging while focussing on alternative solutions of service provisions (community-base, NGO directed). 14) Localised gender perspectives in policy and programming in order to include women and men alike in provision and decision-making: improves effectiveness of water supply and sanitation and empowers women. 15) Technical innovations in both hard and software in strategic areas.

International Level: 16) Development assistance must be aligned with MDGs and countries doing the right things should not be unduly constrained by lack of financial resources. Aid should be qualitatively and quantitatively adequate and directed the needs of the poor. 17) Revamp global institutional structures to keep focussed commitments, adequate use of resources, and improved monitoring, evaluation, research and keep global oversight.

Madulu N. F. (2003). 'Linking poverty levels to water resource use and conflicts in rural Tanzania.' *Physics and Chemistry of the Earth* 28 (20-27) 911-917.

Keywords: needs assessment

This article makes a case for 'Demand Responsive Approaches' to WSS in the light of people's own strategies of dealing with water problems and droughts. However, it leaves the above considerations of how 'demand' works, out. The discussed strategies include use of various sources of water, inaction to strict by-laws regarding the use of water, crop diversification, wage labour, and possibly seasonal migration. The available strategies are likely to vary from one area to another. Some of these actions have measurable long-term demographic consequences, particularly if water stress is severe or repetitive. Although most governments and donor organizations often put much emphasis on the provision of water for drinking purposes, there is clear evidence that the supply of water for other uses has equal importance especially among rural communities. This observation suggests that putting too much emphasis on drinking water needs, addresses a rather insignificant part of the problem of water resources and biases the range of solutions which are likely to be proposed for perceived shortages. The presence of other water uses necessitates the provision of multi purpose water sources that can serve a number of contrasting functions. This demand-responsive approach can enable the local communities and the poor households to choose the type of services they require on the basis of perceived needs and their ability to manage the water scheme.

Mehta, Lyla and Zolila Ntshona. (2004). 'Dancing to two tunes? Rights and market-based approaches in South Africa's water domain.' *Sustainable Livelihoods in Southern Africa Research paper* 17.

Keywords: Rights/empowerment; institutional mechanism; financial mechanism

This working paper looks once again to the Free Basic Water Policy in South Africa (see also Schreiner et. al. 2002 and 2004). The paper examines if there is a contradiction between rights-based and market-based policy debates and how policies work out in practices for the poorest. While the authors recognise the importance of the South African attempts to guarantee the right to water for all, it observes some obstacles in its implementation: lack of financing or institutional capacity, lack of awareness of rights and accountability mechanisms to provide them and parallel trends towards cost recovery constrain the provision of Free Basic Water provision. A stronger financial and institutional commitment should be made in the light of poverty reduction goals.

Mehta Lyla and Oriol Miroso Canal (2004). *Financing Water for All: Behind the Border Policy Convergence in Water Management*. Brighton, Institute for Development Studies, University of Sussex.

Keywords: Private Sector Participation; rights/empowerment

Mehta and Canal argue that water is increasingly treated as an economic good, while it is also supposed to be a priority for international cooperation. The liberalisation of water under the influence of the World Bank and the IMF demands toward decrease in public spending. Instead, revenues collected through 1) user fees, 2) partnerships with private sector, 3) decentralisation processes: however, without necessary financial and institutional capacities in place. Private sector involvement disadvantages poor groups. Calls for additional financing to achieve the MDGs are highly political and vary according to the agency making them as a result of different standards and assessment methods and assumptions. 'Behind the border policies' lack consultation, cooperation and involvement of Southern governments, civil society and the poor. Regulatory frameworks are key to good distribution and equity, but they are often weak in developing countries. Newly created institutions (community or district based) often do not have the capacity. Public water provisioning is often inadequately financed, poorly operated and maintained. Also disadvantages poor people. However, water is still a human right and the state should supply basic safe WSS for all. Financial and governance structures have to be improved to meet such goals. Brasil and South Africa are positive examples of state-NGO partnerships that provide poor-friendly tariff systems. The authors recommend less emphasis on profit and private investment and more on water supply for the poor; more international funding, more emphasis on WSS in PRSPs; and debt cancellation in return for enhancing public services.

Mishra-Panda, S. (2004). 'Privatisation of Water: Towards an Understanding of Gender Dimensions'. Paper presented at Third South Asia Water Forum, Dhaka, Bangladesh, Global Water partnership.

Keywords: Private Sector Participation; Gender; institutional mechanism; participation; empowerment

Mishra looks at the influence of water privatisation on gender dimensions. She argues that as privatisation often reinforces inequality, it disproportionately disadvantages women as they are often among the poorest and most marginal. It increases poverty and is disempowering. Mishra explicitly states that this can only be solved if the emphasis is shifted from profit to human right/basic need. I.e., Mishra advocates for a change in the principles guiding many water sector companies. Water should be a community managed resource through a stakeholders alliance between Private Partnership, the state, NGOs and community based organisations, including women's organisations. (Market, state, and civil society).

Mtisi, S., and A. Nicol, (2003). 'Appropriate for Whom? Challenging the discourse on decentralisation -lessons from Zimbabwe'. Paper presented at the Alternative Water Forum, University of Bradford, 1/2 May 2003.

Keywords: Institutional mechanism; community-based development

The authors question the label 'good' put on local governance: power structures at local levels should be examined before claiming that local governance improves equity.

Njiru, C., and Mike Albu, (2004). 'Improving access to water through support to small water-providing enterprises.' *Small Enterprise Development* 15 (2) 30-35.

Keywords: financial mechanism; natural environment

This short article makes a case for supporting small water providing enterprises (SWE) in peri-urban areas. As the case study from Karthoum demonstrates, such SWEs are essential to providing water to households in areas which are generally not covered by public connections. The research shows that SWE ask reasonable prices for water. Their informal status, however, makes distribution difficult and their (mainly young men) work difficult. The authors suggest that WSE should be supported to improve their services by upgrading technologies; improving operating environment; legitimizing their role and building relationships with water utilities and authorities.

Overseas Development Institute (2004). From plan to Action: Water Supply and Sanitation for the Poor in Africa. London, ODI Briefing Paper.

Keywords: Financial mechanism; institutional mechanism; needs assessment

ODI looks at the national level of financing WSS projects, and to foreign aid involvement. Country studies in Zambia, Malawi, Uganda, Madagascar, and Kenya, show that WSS objectives and costing are often lost in national budgeting. Financial decentralisation often weak. NGO providers and donor projects often fail to share info with national & local authorities on the criteria used to prioritise and target investments. Improved coordination is necessary and destination of sectoral resources identified. Sectoral planning, plus monitoring and evaluation on national and district levels, needs to be strengthened. Uganda gives the good example with a Joint (all national and international stakeholders) Sector Review, but (regional) equity and sustainability is not met yet. Tanzania Lindi region has a water supply coverage of 11 %, while Kilimanjaro has 74 %. Within districts (Uganda case studies), there is also inequity in water supply. Reported percentage coverage does not account for inequity within districts/geographical area. Some areas benefit from continuous investment while others are completely neglected. Urban areas are better served than rural. Malawi: planning by project instead of sector planning. Water Aid developed an Equity

Assessment Tool, 'water-point density mapping'. Sustainability: Waterpoint operationability depends on managerial, social, financial, institutional and technical aspects. ODI claims that the commitment of local water committees is essential. Water Aid: 'Sustainability Snapshot': method for sustainability evaluation, which showed that in the Malawi case water committees were badly prepared for their tasks to operate and maintain water points and to collect and deploy funds. Accountability: political accountability depends on presence of strong and influential communities. Marginalised communities will receive less (political) attention and inequality is reproduced. Sanitation is neglected in national programmes.

Ponzi, D. (2004). 'Education for Sustainable River and Water Conservation'. Asian Development Bank, Water for All www.adb.org/documents/pdas/nep/final-report 14-02

Keywords: Capacity building; empowerment/rights; social capital

This ADB document reports on an educational project to enhance poor people's knowledge about the environment, water and water resource management, and empower people at the same time. As the rivers and freshwater resources in the Western Pacific are under constant pressure from conflict, logging, mining, large-scale tourism, soil erosion, and sedimentation, which has severe impact on many communities living adjacent to non-terrestrial environments, such education might help to improve the situation. Often, policy has had to protect the water resources due to lack of community ownership, empowerment and participation, and missing dialogue between government officials and the communities themselves. The Live & Learn Environmental Education group is committed to developing water-education approaches that have the capacity to challenge the many threats facing water resources. They have had considerable experience in the Pacific with a community development methodology that delivered impressive results in fostering positive community action, social cohesion, and a collective sense of responsibility as regards environmental issues. This activity will enable Live and Learn to work with poor communities in Vanuatu and Solomon Islands to further explore the educational methodologies that have the capacity to create changes to water management at a local community level. They plan to use water quality monitoring as a community entry issue.

Porto, R. L. and M. F. A. Porto (2002). 'Planning as a tool to deal with extreme events. The new Brazilian Water Resources Management System.' *Water International* 27 (1) 14-19.

Keywords: Decentralisation; participation; natural environment; institutional mechanism

This paper describes the recent changes in the Water Resources Management System of Brazil and its proposed approach on how to be more effective when dealing with extreme events. The geographic extent of the country, its regional differences, and

the difficult economic conditions lead to a comprehensive reform in the water resources sector in order to increase efficiency of the water uses, to reduce costs, and to promote development. The major change occurred in 1997, with the promulgation of the National Water Resources Management Act, which established the National Water Resources Policy and the National Water Resources Management System. A primary strength of the new system is its decentralization. Different geographical regions of the country must cope with different extreme events. The developed South suffers with frequent flood events due to large urbanized areas and impervious floodplain areas and with water scarcity due to excessive use. The rural Northeast is frequently devastated by severe drought periods with consequences such as migration and poverty. In both cases, the decentralized decision process is a powerful tool to better manage such problematic areas. In fact, to help controlling extreme events is one of the major objectives of the new system, as stated in the law. In intermittent rivers of the Brazilian Northeast, participation of users associations can help finding the best water allocation scheme. When it comes to flood control, community participation in the selection of solutions is essential. Flood protection is a community, rather than individual benefit. Decision on the land use will only be accomplished with the participation of different government levels together with the community.

Postel, S, P. P., Gonzales F, and J. Keller, (2001). 'Drip irrigation for small farmers - A new initiative to alleviate hunger and poverty.' *Water International* 26 (1) 3-13.

Keywords: technological mechanism; financial mechanism

The authors of this article do not agree with Baban and Ali (above) that sprinkler and drip technologies of irrigation are not useful. In contrast, they argue that it is good and affordable irrigation system for the poor. The authors argue that while drip irrigation usually is associated with wealthy farmers, it may hold the key to alleviating a significant share of rural hunger and poverty. A new spectrum of drip systems keyed to different income levels and farm sizes (beginning with a US\$5 bucket kit for home gardens) now exists and can form the backbone of a second green revolution, this one aimed specifically at poor farmers in sub-Saharan Africa, Asia, and Latin America. The authors describe the experience with affordable drip irrigation to date, including its growing use in India and Nepal, as well as the wide range of geographic areas and conditions where these systems may be useful. They propose a major new international initiative to spread low-cost drip irrigation through private micro-enterprise, with the aim of reducing hunger and increasing the incomes of 150 million of the world's poorest rural people over the next 15 years. The authors estimated -written in 2001- that such an initiative could boost annual net income among the rural poor by some US\$3 billion per year and inject two or three times this amount into the poorest parts of the developing world's economies.

PRINWASS (2004). 'Summary of Workshop Conclusions'. Paper presented at Main trends and prospects characterising private sector participation in water and sanitation: a discussion of project findings, Queen Elizabeth House, University of Oxford.

Keywords: Private Sector Participation

The PRINWASS project, financed by the European Union, seeks to examine the 'Barriers and Conditions for the Involvement of Private Capital and Enterprise in Water Supply and Sanitation in Latin America and Africa: Seeking Economic, Social, and Environmental Sustainability'. The project unites nine case studies from Latin America and Africa., which look in detail at PSP in WSS in urban areas. While the report explicitly challenges the World Bank view that privatisation improves WSS and access, it does not discard the private sector participation par se. Rather, the report concludes that the underlying issues of WSS are political and economic and that new analytical frameworks should be sought to overcome the dichotomisation between 'public' and 'private' and increase our understanding of different mechanisms to improve water resource management and WSS. The basic conclusions from the report can be summarised as follows: 1) Both public sector providers and private sector companies show a mixed record of compliance in service delivery, and both quality standards and issues of equal access are often not met. 2) However, the failures of public services is strongly related to the WB and IMF practices of denying funds and loans for upgrading and maintaining the existing public networks and infrastructures. Public authorities only received credit if they privatised services, according to the report, often against the explicit will of relevant authorities. 3) Investments were mainly financed through fees or by aid projects, not by private investment. 4) Water utilities tend to be natural monopolies, competition is excluded. 5) The private sector often renegotiates contracts, sometimes in conflict with authorities and consumers. The Cochabamba case is most notorious (see also Nina Laurie) 6) The Brazil and Mexico cases showed that the best performing WSS utilities are often public. Private companies perform badly in sanitation. 7) No lessons were learned from more than a century of basic experiences in WSS in both developing and developed countries. 8) Since 1997, private investments declined substantially, favouring middle and higher income regions. 9) A socio-political and cultural analysis shows that the management of WSS utilities fits in a context of increasing inequality since the 1990s. 10) PSP lacks regulatory frameworks, providing space for non-compliance and exclusion. 11) Lack of transparency and information about PSP performance impedes monitoring and control by local authorities and public. 12) Historical and geographical information shows that WSS utilities might best be supplied by municipalities. Research should be directed at understanding and supporting municipal utilities.

Detailed reports of the PRINWASS case studies can be found on the website.

**Quitoriano, E. (2004). "Water Voices' Documentaries. Testing audience impact in poor communities'. Asian Development Bank
www.adb.org/documents/books/Water_for_All_Series/Water-Voices_14-02**

Keywords: Capacity building

Interesting educational methods used by ADB are instructive documentaries and focus group discussions to raise awareness about water problems and incite people to take action and organise; community organisation and NGO collaboration. According to this report, people were enthusiastic and positive, but no follow up study to measure the impact is yet available.

Ratna Reddy V., G. R. M., Galab S., Soussan J., and O. Springate-Baginski, (2004). 'Participatory Watershed Development in India: Can it Sustain Rural Livelihoods?' *Development and Change* 35 (2) 297-326.

Keywords: natural environment

This article makes a case for strengthening the ecological base, it argues that such programmes should be accompanied by explicit pro-poor programmes and diversification of livelihood strategies. The article also examines the vulnerability and stability of capital assets, as well as analysing which people participate in the programme and enhance their livelihoods through sharing its benefits. In the light of the analysis, it is argued that watershed development holds the potential for enhanced livelihood security even in geo-climatic conditions where the watershed cannot bring direct irrigation benefits on a large scale. In such fragile environments, however, watershed development is a necessary but not a sufficient condition for sustaining rural livelihoods. In the context of low rainfall regions where improvement in irrigation facilities is slow, agriculture alone cannot support the communities. Policies and programmes should aim at creating an environment for diverse livelihood activities, which are the choice of the household rather than distress activities.

Robinson, P. B. (2002). "'All for some": water inequity in Zambia and Zimbabwe.' *Physics and Chemistry of the Earth* 27 (11-22) 851-857.

Keywords: financial mechanism; technical mechanism; institutional mechanism; capacity building

Despite post-independence egalitarian rhetoric, in countries such as Zambia and Zimbabwe inappropriate models (piped house connections in the urban areas, high technology irrigation schemes in the agricultural sector), combined with weak macro-economies and poorly formulated sectoral policies have actually exacerbated the disparities between populations. Contrary to expectation, the authors argue that zero or very low tariffs have played a major role in this. Although justified as being consistent

with water's special status, inadequate tariffs in fact serve to undermine any programme of making water accessible to all. This has led to a narrowing of development options, resulting in exclusivist rather than inclusive development, and stagnation rather than dynamism. A major part of the explanation for perpetuation of such unsatisfactory outcomes is the existence of political interest groups who benefit from the status quo. The first case study in the paper involves urban water consumers in Zambia, where those with piped water connections seek to continue the culture of low tariffs which is by now deeply embedded. The result is that the water supply authorities (in this case the newly formed, but still politically constrained 'commercialised utilities') are unable even to maintain adequate supplies to the piped customers, let alone extend service to the peri-urban dwellers, 56% of whom do not have access to safe water. The paper outlines some modest, workable principles to achieve universal, affordable access to water in the urban areas, albeit through a mix of service delivery mechanisms. In a second case study of rural productive water in Zimbabwe, the reasons for only 2% of the rural subsistence-farming households being involved in formal small-scale irrigation schemes 20 years after independence are explored. Again, a major part of the explanation lies in government pursuing a water delivery model, which is not affordable or sustainable on a wide scale. Its provision, via substantial capital and recurrent subsidies, for a small group has a large opportunity cost for society as a whole. The small-scale irrigators have a vested interest in ensuring that the subsidies are maintained, but in the process continue to absorb a disproportionate amount of resources which could be used for development elsewhere. The authors argue that by choosing simpler, cheaper water technologies, and assisting farmers with growing and marketing high value crops, the resources could instead be used to benefit a much larger proportion of households.

Rouse, M., U.-B. Fallenius, and C. Tortajada, (2003). 'Workshop 6 (synthesis): water pricing. Proceedings of the 12th Stockholm Water Symposium Balancing Competing Water Uses - Present Status and new Prospects, held in Stockholm, Sweden, 12-15 August 2002. Organised by Stockholm International Water Institute.' *Water Science & Technology* 47 (6) 185–187.

Keywords: financial mechanism

The synthesis of this workshop recommends that water should be costed so that it is valued, and fees should be transparent and contribute to adequate cost recovery with consideration of social, economic and environmental effects. There is a need for targeted subsidies to assist the poor. Water pollution fees for point sources can reduce discharges.

Ryan, P. (2004). 'Scaling-up: A Literature Review'. ICR www.irc.nl 16-02-2005

Keywords: Institutional mechanisms; governance

Ryan links up with several of the above cited authors in calling for a redefinition of 'good governance' and a re-thinking of participation. Ryan observes the trend towards scaling up and an institutional change of emphasis from local participation towards governance and support. The author observes that there is a lack of analysis regarding scaling-up practices as the majority of literature focuses on anecdotes. The literature is largely based in showing 'good practice' without a good analysis of the why's and how's of what 'good practice' is. The author identifies certain issues in scaling-up: 1) projects need to be clear about their objectives and make sure that those objectives meet the objectives of the communities in question. Also: 2) ultimate measure of success should be 100% WSS coverage, not meeting MDGs. 3) multiplicative effects of projects need to be considered. 4) Community management is no panacea but should go hand in hand with 'proper and significant' involvement of others. 5) the role of NGOs should change: they often do work that should be taken up by local and national governments, if they want their work to scale-up. That means that they need to change from implementers to facilitators: become trainers and supporters and forge better communication and learning lessons from each other. International agents need to have more trust in local communities; planning should be decentralised; capacity building and empowerment and longterm international programme support are necessary.

Sarker, P. C. and U. K. Das (2001). 'Poverty alleviation through family development in rural Bangladesh: A collaborative effort of the DSS and EDM.' *Asia Pacific Journal of Social Work* 11 (1) 60-70.

Keywords: community-based development; participation

This paper is an attempt to discuss the poverty alleviation effort jointly initiated by the Department of Social Services (DSS) and the Enfants du Monde (EDM) through the development of target families especially those on or below the poverty level. This paper also discusses the components of development for the target families associated with Socio-Economic Scheme (SES), which is aimed at initiating income generating activities through the proper utilisation of Revolving Fund (RF) and Family Planning (FP) services. Drinking water facilities, sanitary latrines, and other village-based services together with training on nutrition, health and hygiene are provided to the members of the families for their overall 'upliftment'. The main focus of this paper is to explain the sustainability of the twenty years achievements of DSS and EDM through the establishment of Village Based Institution (VBI), which is intended to be operated by the villagers' own management by utilising local resources to ensure self-reliance. While the article shows us a typical example of local governance and participation in order to improve living conditions, no notice is taken from the actual power structures at the local level, which might reproduce large inequalities (as observed by, for example, Mtisi 2003).

Satterthwaite, D. (2003). 'The links between poverty and the environment in urban areas of Africa, Asia, and Latin America.' *Annals of the American Academy of Political and Social Science* 590 73-92.

Keywords: natural environment

This article suggests that there is little evidence of urban poverty being a significant contributor to environmental degradation but strong evidence that urban environmental hazards are major contributors to urban poverty. The article considers the-link between poverty and different categories of environmental hazards (biological pathogens, chemical pollutants, and physical hazards). It then considers the links between poverty and high use of non-renewable resources, degradation of renewable resources such as soil and fresh water, and high levels of biodegradable and non-biodegradable waste generation. This shows how environmental degradation is more associated with the consumption patterns of middle- and upper-income groups and the failure of governments to implement effective environmental policies than with urban poverty. The article also highlights how good governance is at the core of poverty reduction and how meeting the environmental health needs of poorer groups need not imply greater environmental degradation.

Schreiner B and B. van Koppen (2002). 'Catchments Management Agencies for poverty eradication in South Africa.' *Physics and Chemistry of the Earth* 27 (11-22) 969-976.

Keywords: decentralisation; empowerment/rights

This paper discusses the changes in water law in South Africa since the new dispensation. The focus is on the poverty dimensions of the early experiences of implementation of one of the components of the National Water Act: the establishment of Catchments Management Agencies (CMAs). From a diversity of recent experiences in decentralizing integrated water resources management, key areas emerge where future actions by the government are crucial to establish pro-poor, developmental CMAs.

Schreiner, B., Ndileka Mohapi, and Barbara van Koppen, (2004). 'Washing away poverty: Water, democracy and gendered poverty eradication in South Africa.' *Natural Resources Forum*, 28 (3) 171-178.

Keywords: Gender; empowerment/rights; decentralisation

This article discusses the relative successful ways in which the South African Government and grassroots organizations envisage and implement democracy achieved since 1994 in the field of water resources management. The focus is on the democratic, political and economic freedom and equality in resource rights for poor black women, who are central to poverty eradication. While the new water policy and

law provide an enabling framework for achieving these goals, implementation on the ground encounters both new opportunities and constraints. This is illustrated by several cases of establishing South Africa's new water management institutions: catchments management agencies and water user associations. The important nexus between state-led democratization of water resources management and bottom-up grassroots movements is also discussed. The article concludes that the Government's affirmative and targeted intervention is indispensable for redressing gender inequalities and eradicating poverty.

Shrestha, R. B. (2004). 'Promoting effective water management policies and practices. Gender equality and poverty reduction through improved irrigation management'. Water for All, ADB www.adb.org/documents/pdas/nep/final-report 14-02

Keywords: Gender; technical mechanisms; financial mechanisms; rights/empowerment; capacity building

Shrestha builds her analysis on the assumption that rural poverty has a woman's face, and that specific targeting is highly recommended. Small and poor quality land with commensurate low yields has forced male migration in search of wage labour. Reducing rural poverty, therefore, means increasing the capacity of women to cope with the vagaries of weather. This can be through efficient water management, appropriate technology, and innovation through research, dissemination, and adoption of its results. Numerous examples exist in Nepal where the adoption of sprinkler and drip irrigation in water scarce and marginal areas have transformed subsistence households into cash crop producing farm units with increased benefits to women and poorer farmers. These innovations are reported to be particularly suited to women farmers as they build on the existing farming practices of women engaged in vegetable gardening. While the poorest will need financial support to start off, the researcher claims there is a high internal return rate. This technology has also proven to be environmentally sound, has increased water use efficiency four-fold compared to traditional irrigation practices, and improved livelihood security by a five-fold increase in production. More importantly, positive impacts have been reported in reducing women's labour-- in weeding, land preparation, harvesting and other activities defined as women's tasks--thereby giving them greater opportunities for community participation, learning, networking and building social capital. Recommendation for a 3 year project to establish effective institutional mechanism to deliver the sprinkler/drip irrigation service; Mechanisms: community micro-irrigation infrastructure; Capacity building of community groups; capacity building of line agencies and local bodies; project management services.

Sokile, C., B. Van Koppen, N. Hatibu, B. Lankford, H. Mahoo, and P. Yanda (2004). 'Formal Water Rights in Rural Tanzania: Deepening the Dichotomy?' Working Paper 71 International Water Management Institute. <http://www.iwmi.cgiar.org/pubs/working/WOR71.pdf>

Keywords: rights/empowerment; institutional mechanism

This working paper examines the impact of the new administrative water rights system that the Tanzanian government, with support of the World Bank, has implemented in the last decade. The authors show that the system has failed as a registration tool, a taxation tool, and a water management tool, and has contributed to aggravating rural poverty, instead of improving river-basin water management. The system has introduced 'corruption by design' and drains government coffers at the same time as the collection costs are higher than revenues gained. The system aggravates upstream-downstream conflicts, because the upstream water users claim that paying for water entitles them to use it as they like. Only the taxation of five large scale water users seem to be feasible. The paper argues that the root of these paradoxical results lies in the dichotomy between the 'modern' large-scale rural and urban economy with its corresponding spheres in which Tanzanians majority of small-scale water users live under customary water tenure. Thus, the paper links up to the often incompatibility of formal and informal governance, or, the lack of understanding of local arrangements versus paper-arrangements.

Sugden, S. (2003). 'Databases for the Water Sector: Research from Nepal and Tanzania'. Water Aid 28-02-05

Keywords: capacity building; institutional mechanism; needs assessment

This paper examines the available data on WSS and how to improve the information sharing. It concludes that indicators, parameters, database system use, should be agreed upon beforehand, on a national level, and standardised to be able to compare data, database managers should also communicate better to achieve transparency and overview. Findings from research should be verified at village level before being verified at district level and put into the database. Government staff at local and national levels should be capacitated to be able to monitor and evaluate WSS and to use such information for planning of future WSS services. Finally, the author argues that funds need to be allocated at both district and national levels to implement these measures adequately.

Sullivan C. A., e. a. (2003). 'The water poverty index: Development and application at the community scale.' *Natural Resources Forum* 27 (3) 189-199.

Keywords: needs assessment

The article details the development and uses of the water poverty index (WPI). The index was developed as a holistic tool to measure water stress at the household and community levels, designed to aid national decision makers, at community and central government level, as well as donor agencies, to determine priority needs for interventions in the water sector. The index combines into a single number a cluster of data directly and indirectly relevant to water stress. Subcomponents of the index include measures of: access to water; water quantity, quality and variability; water uses (domestic, food, productive purposes); capacity for water management; and environmental aspects. The WPI methodology was developed through pilot projects in South Africa, Tanzania and Sri Lanka and involved intensive participation and consultation with all stakeholders, including water users, politicians, water sector professionals, aid agency personnel and others. The article discusses approaches for the further implementation of the water poverty index, including the possibilities of acquiring the necessary data through existing national surveys or by establishing interdisciplinary water modules in school curricula. The article argues that the WPI fills the need for a simple, open and transparent tool, one that will appeal to politicians and decision makers, and at the same time can empower poor people to participate in the better targeting of water sector interventions and development budgets in general.

Toner, A., E. Msuya, R. Mdee, and Y. Mfinanga, (2005). 'The illusion of community ownership: community-based water management in Uchira, Kilimanjaro region'. Paper presented at The East African Integrated River Basin Management Conference, Morogoro, Tanzania, 7-9 March 2005.

Keywords: Community-based development; participation; institutional mechanism; financial mechanism

This paper questions some basic assumptions in Integrated Water Resource Management such as community/stakeholder participation, ownership, and cost sharing/recovery by looking at a community in the Kilimanjaro region, Pagnani River Basin. The authors conclude that community based management through water users associations of a GTZ-funded rehabilitation of a piped water supply project, does not necessarily lead to broad community ownership and that benefits from local-level management are not shared equitably while many people remain water-poor despite increases in supply. The project mechanism seemed unsustainable and expensive and communities were asked to bear the costs of expensive and institutionally inappropriate schemes.

**Vandemoortele, J. (2002). 'Are User Fees and Narrow Targeting Gender Neutral?' United nations Development Fund for Women (UNIFEM)
www.bellanet.org/grbi/activities/Towards/jan%20vandemoortele.doc 12-04-05**

Keywords: Gender; Financial mechanisms

This important piece of work argues that, while people do want to pay for water, we should look at gendered dimensions of water use and access and their implications for fees and affordability. The paper argues the same for other public services such as education and health care. The author asks how different methods of collecting and spending government finances affect men and women differently. Due to inadequate social budgets, different methods such as charging for services (user fees) and narrow targeting (more specific designation of funds) are being used. However, these have different implications for women and the poor. User fees for services such as water, health and education have only a limited use in supplementing social budgets and they often restrict women and poor people's utilisation of services. For example, women are more likely to support the charging of water fees since they bear the burden of collecting water and yet men's control over household resources means that they may well be unlikely to spend money in this area. Fees are therefore often paid by women and yet assessment of affordability is targeted at the household (male) income. In the case of health and education, user fees often exacerbate gender inequalities in treatment and attendance respectively. The paper also discusses how narrow targeting, which is often proposed to cut costs, does not help ensure universal access to services due to either mis-targeting or the cost of administration.

Verhagen J. et al. (2004). 'Linking Water Supply and Poverty Alleviation. The impact of women's productive use of water and time on household economy and gender relations in Banaskantha District, Gujarat, India'. IRC, International Water and Sanitation Centre www.irc.nl 12-04-05

Keywords: gender; capacity building; empowerment/rights

This study shows 'that improving domestic water supply is not just a welfare issues provided out of pity for women's drudgery in water collection, or for soft concerns such as improving health, hygiene, and sanitation, but can also yield economic returns.' The report seems to find it necessary to highlight the possible economic returns in order to take water supply out of the so-called 'soft' field. The conditions for these economic advantages are, according to the authors: time saving factor and reliability of water for economic use; and, linking the water project with a micro-enterprise programme to support such as the organisation and training of women, market research, marketing, quality control, and micro-credit facilities. This last 'condition' seems more attached to the time-saving condition than to actual water provision. If such conditions are available, it is more likely that gender imbalances decrease and that women become more economically productive and independent. The authors observe that there is a need for

holistic policy approach to rural economic and social development, instead of the sectoral approach that is currently applied by the Central and State Government.

Warner, J., and Annemiek Verhallen, (2004). 'Multi-stakeholder platforms, for integrated catchments management: Towards a comparative typology'. Paper presented at International Conference on Multi-Organizational Partnerships, Alliances and Networks (MOPAN), Tilburg.

Keywords: institutional mechanism

These authors, from the University of Wageningen, have developed a typology of multi-stakeholder platforms (MSPs) in natural resource management. The research team base their typology on ongoing research to MSPs in the water sectors of Western Europe and South Asia, Southern Africa and Latin America. They found and discuss nine dimensions relevant to the functioning of MSPs. The authors recommend certain rules in order to decrease exclusion from and within MSPs.

Watson, N. (2004). 'Integrated river basin management: A case for collaboration.' *International Journal for River Basin Management* 2 (3) 1-15.

Keywords: institutional mechanism

Watson advocates for a 'collaborative institutional approach' to IRBM as inter-agency co-ordination is often problematic. Using a case study from Canada, the author shows that more powerful system response capability should be developed.

World Bank (2005). 'Water Supply and Sanitation'. World Bank www.worldbank.org/watsan 21-02

Keywords: Private Sector Participation

The World Bank believes and promotes private sector led growth. In the case of Water Supply and Sanitation this means that private companies should be responsible for water and sanitation and that they should preferably be fully cost recovering. However, the World Banks file with examples, (www.rru.worldbank.org/documents/annex-examples) show that only private investment is not enough. Successful programmes are run through a myriad of donors and WB/IMF credit schemes to be able to make the necessary investments and maintenance. The costs are supposed to be recovered through tariffs. The idea is that the poor should be subsidized or given reduced , for which local and national governments should be responsible. For example: A system in Jordan and another in Cartagena, Columbia are both heavily dependent on aid agencies and WB loans. Poor customers may pay in instalments. The mechanism for non-compliance with responsibilities is, in the case of

customers, disconnection from the network. An attempt to connect an urban area in Cochabamba, Bolivia, failed because the costumers protested against high tariffs. By lack of other funds, the population was solely responsible for all costs, which made the scheme unviable (see also Laurie et al 2004). The case study file of the WB shows that Cote D'Ivoire has a 'successful' water and sanitation system, whereby a privately funded, non-sponsored, company functions solely on tariffs. Poor customers are allowed lower prices -set by the company- as long as they have a) a meter, b) a small diameter pipe, and c) live within 60 meters of the network. It would be interesting to investigate the level of exclusion of this well-functioning, efficient and cost recovering water scheme.