

Water Reform and Poverty in Southern Africa: exploring the critical linkages

By Claudious Chikozho

*Department of Rural & Urban Planning
University of Zimbabwe, Box MP167, Mt-Pleasant
Harare, Zimbabwe*

Tel. +263 4 303211 ext.1411

Fax. +263 4 307134

Email. chikozho@arts.uz.ac.zw or claudiouschikozo@yahoo.co.uk

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Abstract

Most countries in the Southern African Region have instituted sweeping reforms of their water and land policies as well as the corresponding institutional configurations. These reforms have mainly been prompted by a combination of local factors and shifts in international thinking about water resources management which advocate the promotion of the integrated water resources management paradigm. This paradigm is strongly backed by neo-liberal forces in favor of commercialization and/or privatization, by alarmist voices regarding an impending global water scarcity, and by increasing macro-economic instabilities in some developing countries. Most of the new water policies stress comprehensive river basin management, stakeholder participation, treating water as an economic good, water demand management, and sustainable water use. The neo-liberal orientation of the principles behind the reforms have ensured that the reforms mainly focus on water resources management and sustainable use without paying attention to the rural poor 's water needs for productive and domestic uses. Empirical evidence from Zimbabwe and South Africa indicates that the dominance of the management-development dichotomy, combined with the conspicuous absence of an agenda for poverty eradication, means that the reforms make very little sense to rural communities who have been invited to participate as stakeholders in the newly reconfigured water management institutional structures. Rural communities are being asked to commit energy and effort into participating in reform programs that remain highly abstract for them, programs without any apparent tangible benefits for them in the foreseeable future. The water sector reform agenda needs to be re-adjusted so that it includes systematic and targeted poverty alleviation projects for people in the rural areas of Southern Africa. It would be very naive for anyone to assume that statements of intent regarding equitable access to water coming out of the water reform rhetoric and the reconfiguration of the water sector institutions will be sufficient to enable better access to water for the rural poor when no attention is paid to several other factors of production that make the critical linkage between water use and poverty eradication more meaningful and possible.

Key words: Integrated water resources management; poverty alleviation; agricultural production; policy; land tenure

1. Introduction

After several decades of experimenting with various development strategies, development practitioners and theorists have refocused their attention on issues of poverty alleviation. The UNDP Poverty Report 2000 on Overcoming Human Poverty, states that 69% of all developing countries have prepared poverty plans or have incorporated poverty alleviation into their national plan even though these plans are not necessarily reflected in national budgetary allocations. On the international arena, the commitment to poverty alleviation has been re-emphasized through various conferences and agreements. The Millennium Summit convened by the United Nations (UN) in New York, June 2000, is a case in point. At that summit, the international community committed itself to halve extreme poverty by 2015. These commitments to alleviate poverty are not necessarily new because they have informed the agendas of the UN and other international development agencies for quite some time. However, what is remarkable today is the re-prioritization of poverty alleviation/eradication as a specific goal of the global development agencies and policy-makers. There is however a disillusioning absence of specific action plans for poverty alleviation programmes on the ground in most developing countries. This makes it debatable whether or not the commitments to poverty alleviation are not just rhetorical statements.

The main premise of this paper is that if developing countries and international development agencies are serious about their commitment to eradicate poverty, they need to re-design the policy agenda in ways that makes it practically possible to attack the roots of poverty particularly in the rural areas. The paper does not purport to present a new discourse on the meanings attached to poverty as this has been a subject debated at length and well documented elsewhere (see Amartya Sen 1985; 1999; Hazell and Haddad 2001; World Bank 2000). Instead, the paper focuses on promoting an agenda for poverty alleviation at the national level that takes into consideration the options that water and land reform offer to developing countries. The paper argues that despite the apparent prioritization of poverty in global development discourses, it remains poorly articulated when it comes to specific action programmes for rural regions of Southern Africa.

Zimbabwe and South Africa have taken the lead in the Southern African region and began implementing the water sector reforms as from the mid 1990s. In both countries, water and land play a significant role in the economy as a means of agricultural production. Consequently, water and land sector reforms have been implemented concurrently in both countries. New water Acts were promulgated in both countries in 1998. The IWRM paradigm that has been guiding the water sector reforms stresses, *inter alia*, comprehensive river basin management, stakeholder participation, treating water as an economic good, water demand management and sustainable use of water resources. The documents that outline the water and land reforms in Zimbabwe and South Africa stress the need to correct historical imbalances in ownership of the means of production. They also stress the need to address poverty among the mostly rural communities. In reality, however, the aspect of poverty alleviation seems to be missing from the reform agenda.

This paper argues that it is possible to address poverty alleviation within the confines of the water and land sector reform programmes if appropriate support systems are put in place to make this a reality. Drawing on the experiences of Zimbabwe and South Africa's water reforms, the paper interrogates the intersection between water use and poverty alleviation. This intersection also has to partly deal with the hotly contested issue of land reform in these countries and the Southern African region at large. The paper argues that unless the focus of the water and land reform discourse moves towards mainstreaming issues of poverty alleviation through rethinking the design of reform strategies and development policy, the water sector reforms remain largely meaningless to the rural residents of Zimbabwe and South Africa. Relying on secondary sources of data, the paper builds a case for more poverty-oriented water and land reforms in Southern Africa. Zimbabwe and South Africa are used as case studies that illustrate some of the key development variables dominant in the land-water reform-poverty alleviation triumvirate. A number of broad themes are explored in the paper:

- How do the reforms address poor people's access to and control over land and water resources?
- What are the institutional mechanisms for operationalizing this access?
- How do emerging institutional arrangements in the context of decentralization affect poor people's access to land and water resources?
- What are the apparent socio-economic tensions, contradictions, and challenges faced in implementing the water reforms and addressing poverty alleviation?
- What new policy and institutional arrangements are required to encourage a livelihoods approach to the reforms?
- How can the livelihood concerns and contexts of the rural poor people get represented in policy processes concerning land and water in Zimbabwe and South Africa as well as on international development arenas?
- What support systems need to be put in place in order to make poverty alleviation a real agenda for the water and land reforms?

2. The context of the water reforms in Southern Africa

For several decades now, African governments and international development agencies have been experimenting with a number of alternative approaches for addressing rural poverty but the outcomes have been disillusioning. In 2000, more than 45% of sub-Saharan Africa's population were estimated to be in poverty, and this situation has not improved in the last 15 years (World Bank, 2000). The initiation of water sector reforms presents another opportunity for addressing the rural poverty that has been so persistent over the years across the Southern African region. But the neo-liberal orientation of the principles behind the water sector reforms in Zimbabwe, South Africa and other developing countries have led to the emergence of a subtle and disillusioning management–development dichotomy. Implicitly, the water sector reforms have mainly focused on water resources management and sustainable use at the expense of water resources development and poverty eradication. In other words, the quest for conservation has been given priority over resource use and therein lies the problem. Empirical evidence from Zimbabwe and South Africa indicates that the hegemony of this management-development dichotomy, combined with the conspicuous absence of an agenda for poverty eradication, means that the reforms make very little sense to rural

communities who have been invited to participate as stakeholders in the newly reconfigured water management institutional structures. It would not be far-fetched for one to conclude that rural communities are being asked to commit energy and effort into participating in reform programs that remain highly abstract for them, programs without any apparent tangible benefits for them at present or in the near future. As Derman (2003) points out, unlike land reform, water reform fits easily within the global rhetoric of markets, cost recovery, stakeholder participation, and privatization. There is a difficult tension between notions of racially based land and water inequalities which need to be redressed and current emphasis in global discourses of water policy and reform. These are only part of a set of contradictions that exist between highly mobile, flexible, technically astute global water policy makers and the millions of water users whose very lives depend upon uninterrupted access to relatively inexpensive [or free] water.

Where rainfall is unreliable or insufficient, it is possible to make water available for multiple uses (for example small-scale agricultural production, livestock, fishing, brick-making, and other domestic purposes) and make a huge difference to the livelihoods of the rural poor. There is considerable evidence that making even relatively small amounts of water available for personal and productive uses to poor people can transform their lives (see Polak et al. 2002; Lipton and Litchfield 2003). This is one dimension of water that the water reforms in Southern Africa do not seem to have considered. There is need to revisit the water sector reform agenda and start asking questions regarding its relevance for rural communities in the region. There is also need to start questioning whether this agenda cannot be re-adjusted to include some systematic and targeted poverty alleviation projects for people in the rural areas. It would be very naive for anyone to assume that statements of intent regarding equitable access to water coming out of the water reform rhetoric and the reconfiguration of the water sector policies and institutions will be sufficient to enable better access to water for the rural poor. More attention needs to be paid to several other factors of production that make the critical linkage between water use and poverty eradication more meaningful and possible. These factors include access to land and other support services for sustainable agricultural production. The view from Derman (2003) is quite persuasive in this regard. He argues that the conceptual division made between land and water does not fit with local conceptions of livelihoods or the growing evidence of the importance of the land-water interface which includes natural wetlands and irrigation systems. Unfortunately, in both Zimbabwe and South Africa, the land and water sector reforms have been treated as two parallel but separate processes with the result that the link between these processes and poverty alleviation is missing.

3. The dimensions of poverty in developing countries

Substantial amounts of resources have been committed to research on the nature of rural poverty in Sub-Saharan Africa. The Global Water Partnership has interrogated the relationship between water and poverty and concluded that recent formulations and applications of IWRM are not sufficiently focused on poverty. They note that there is a vast analytical literature on poverty—its definition, dimensions, causes and cures—but there is still “no coherent analysis of the relationship between poverty and water access and use” (GWP 2003:7). Historical perspectives regarding poverty in recent decades

show that the 1980s and 1990s were mainly characterized by strong advocacy from international development agencies and players who believed that rapid economic growth was the best solution for eradicating poverty. Implementation of national Economic Structural Adjustment Programmes (ESAP) was considered the best route to rapid economic growth. This approach was premised on the assumption that the 'trickle-down' effects of rapid economic growth would in turn reduce the proportion of those living in poverty. The dramatic economic growth realized by the Asian Tigers, Bolivia, Ghana, and Chile became living testimony to the utility of this development approach (see Clark and Mahnu 1991; Warr 1996). Thailand's economic performance in the 1990s, in particular, was claimed to be an 'economic miracle'. But the approach was also tried with disastrous results in other developing countries, particularly in Sub-Saharan Africa. Various studies have indicated that, contrary to general claims, many countries that implemented ESAPs did not derive the positive macro-economic outcomes envisaged (see Beneria 1992; Stiglitz 2002; Warr 1996). For example, Brazil, Zambia and Argentina's economic growth rates declined following implementation of the programme while the inflation rates remained high (Pastor 1987).

The World Bank's evaluation of the ESAPs in the mid-1980s also revealed that although the programme improved balance of payment positions of the countries involved, there was no significant improvement in the Gross Domestic Product (GDP) growth rate (Harrigan and Mosley 1991). It should also be noted that due to several difficulties faced during the implementation phase, countries like Zambia and Zimbabwe, abandoned the programmes before they could be completed. The collapse of the Thai and other Asian economies in 1997, after a long period of prosperity, raised questions regarding the sustainability of the economic changes brought about by ESAPs. By the year 2000, the international community had come to realize that policy reforms were not enough to alleviate poverty and also that poverty was generally worsening in the developing countries. Structural concerns of a rather more basic nature than the structural adjustments demanded by the World Bank and the IMF began to be recognized as more critical in the design of public sector policy reforms for poverty alleviation.

Development theorists and practitioners now realize that neither targeting of development resources to the poor, nor the promotion of rapid economic growth can resolve poverty in a sustainable manner. Certain inherited structural arrangements such as insufficient access to productive assets as well as human resources, unequal capacity to participate in both domestic and global markets, and undemocratic access to political power prevent the poor from moving out of the poverty trap (see Sobhan 2001). As will be shown in later sections of this paper, these structural features of poverty prevail in Zimbabwe and South Africa. They reinforce each other to effectively exclude the rural poor from enjoying the benefits of development as well as the opportunities provided by more open markets. Therefore, redressing past injustices in land and water ownership as well as access to other factors of production lies at the core of the necessary structural transformation.

While poverty has many dimensions, emerging discourses on poverty alleviation or eradication emphasize a focus on access to assets, inequality, markets, institutions, and empowerment as critical variables in the fight against rural poverty (see IFAD 2001; World Development Report 2000). Other theorists, whose focus is grounded in realities

of the rural condition, narrow down their discussions of poverty to specifically focus on the relationship between water and livelihoods (livelihoods approaches). For these theorists, critical variables include access to clean water for domestic purposes and access to water for multiple uses, including agriculture (see Merrey et al. 2005). Some international development agencies have adopted the livelihoods approaches and incorporated them in their agendas. Notable examples include DFID's sustainable livelihoods, the International Water Management Institute (IWMI)'s 'more crops per drop' philosophy, CARE's 'Households Livelihood Security', and UNDP's 'Sustainable Human Development' programmes. For all these agencies, water is considered essential in rural livelihoods because of the food security and income options it generates in rain-fed and irrigated crop production, brick-making, beer-brewing, fishing, livestock, recreation, navigation and transportation, and other uses. Limiting access to water is seen as reducing the productive capacities of the poor. Capacity deprivation in turn characterizes poverty by preventing the effective utilization of available livelihood resources (see Sen 1985, 1999). A livelihoods approach requires that development interventions are designed after a thorough analysis of the critical needs of the intended beneficiaries. The poor must be fully involved in the identification of those needs so that relevant options are selected for addressing poverty. Access to water is also a function of the prevailing national economic and political systems as these determine resource allocation decisions. Livelihood approaches often articulate water and poverty discourses in three broad dimensions:

- the poverty of rural peasants and other water users, taking into account actual income and expenditures of households
- access to adequate and clean water for multiple purposes in both time and space
- Stakeholder empowerment and involvement in decision-making on water resources allocation and management.

Other dimensions of poverty entail detailed statistical calculations concerning poverty levels or numbers of people considered poor in a particular geographical area. For instance, more than a billion people in the world's poor rural areas are considered as lacking access to safe drinking water and sanitation; and a similar number lack access to affordable irrigation (Polak et al. 2002). About 1.2 billion people in developing countries (almost five times the United States population) live on US\$1 a day or less. These people often cannot afford to buy all the food they need and many of them do not have access to land to produce food (see Deaton 1997). Thus, access to food is an essential part of this approach and often, discussions about food security end up being entirely about poverty. Hunger is considered a cause as well as a result of poverty. At the world food summit in Rome in 1996, governments of 186 countries pledged to reduce by half the number of undernourished people in the world by 2015. This was seen as one of the first steps towards the goal of food for all. The millennium development goals (MDGs) also specifically re-emphasized this pledge. MDG number 7 aims to ensure environmental sustainability and one of the indicators is target 10 which promises to halve by 2015 the proportion of people without sustainable access to safe drinking water. Goal number 1 is also relevant as it targets to "eradicate extreme poverty and hunger". Nobody can be lifted out of extreme poverty without adequate access to water. But these targets are still far from being realized and the number of hungry people in the developing countries

remains at alarmingly high levels. Unless water and land policy is reconfigured to recognize the role water can play in rural livelihoods, the targets will remain far.

4. The integrated water resources management paradigm

As the world searches for solutions to the problem of water scarcity, the field of water resources management has entered a remarkable transitional period. In the last two decades, many developing countries (including Zimbabwe and South Africa) have instituted sweeping reforms of their water, land and irrigation laws and policies. These reforms have mainly been prompted by shifts in international thinking about natural resources management, by the influence of powerful international players like the World Bank, and in some cases by fiscal crises. Integrated Water Resources Management (IWRM) is now the dominant paradigm for water management in both the developed and the developing countries. IWRM is defined as a process that promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems (GWP 2000). Most of the water sector reform programmes in the Southern African region have basically strived to suit the IWRM framework. Under this framework, new water policies and institutions are being designed and implemented. Most of the new water policies stress comprehensive river basin management, stakeholder participation, markets, pricing and technology to promote water use efficiency, recover costs and conserve the resource. Other motivations for water reform include the need to reduce the size and costs of central government, and to decentralize authority by encouraging stakeholder participation in resource management. It is now widely believed that these motivations and objectives can be realized through the implementation of IWRM approaches. Box 1 outlines the key aspects of the water reform processes.

Box 1: Key areas of change

1	THE ENABLING ENVIRONMENT
1.1	Policies – Setting goals for water use, protection and conservation
1.2	Legislative Framework – the rules to follow to achieve policies and goals
1.3	Financing and Incentive structures – allocating financial resources to meet water needs
2	INSTITUTIONAL ROLES
2.1	Creating an organizational framework – Forms and functions
2.2	Institutional Capacity Building – developing human Resources and identifying role players
3	MANAGEMENT INSTRUMENTS
3.1	Water Resources Assessment – understanding resources and needs as well as potential benefits
3.2	Plans for IWRM – combining development options, resource use and human interaction
3.3	Demand Management – Using water more efficiently
3.4	Social Change Instruments – Encouraging a water-oriented civil society
3.5	Conflict Resolution – Managing disputes, ensuring sharing of water
3.6	Regulatory Instruments – Allocation and water use limits
3.7	Economic Instruments-Using value and prices for efficiency and equity in demand management
3.8	Information Management and Exchange – Improving knowledge for better water management

Source: Global Water Partnership, 2003

The vision under IWRM calls for sounder policies, greater economic incentives for achieving efficiency in use, and more appropriate and effective institutional arrangements

to govern the water sector. It is within the context of this vision that Zimbabwe and South Africa initiated water sector reform programmes. It is debatable whether the IWRM framework (in its current form) is suitable for the Southern African region. In this paper, it is argued that a number of adjustments have to be made to the framework if it is to address poverty alleviation in the rural areas of Zimbabwe and South Africa. Perhaps there is need to re-visit the original agenda for water reforms in order to make it more suitable for developing country contexts.

5. Water and land ownership in Southern Africa

Resource ownership in most countries of Southern Africa has been characterized by profound and long-lasting inequities produced by colonialism. In Zimbabwe and South Africa, colonial and apartheid water and land policies deliberately sharpened class and racial differences resulting in serious economic disparities. A dual policy of access to land and water ensured that the largely white settler community had better access to these resources while the majority of blacks were marginalized. According to Kambudzi (1997: 60) “the indigenous population has remained..... ..not only denied of arable land, but of essential productive water.” After independence, this situation did not change much and remained a constant source of tension and conflict well into the new millennium. Therefore, any discussion of access to water and land in these two countries has to address the need to correct these historical imbalances in ownership of the means of production that emerged during colonialism. Mbetu (1997: 2) argues that the most prominent equity issue in the water reform is the historical imbalance in the rural areas whereby the overwhelming majority of agricultural water rights were held by a small number of commercial farmers while the bulk of the population living in the communal areas had scant access to water resources. A summary of the salient land issues in Southern Africa provides a rough picture of the prevailing situation before the water and land reforms were initiated (see box 2). While the summary mainly pertains to the land sector, it also shows what was happening to land because access to water was always closely tied to access to land. Any analysis of the poverty water nexus in Southern Africa would be incomplete if it does not make reference to this historical dualism in the land and water sectors.

Box 2: Salient land issues in Southern Africa

- Highly unequal land distribution both in terms of area and land quality, and a system of dual land and water rights resulting from massive alienation of land to white settler communities
- Severe land shortages and problems of landlessness in communal areas and certain land scarce countries
- Dual economies characterized by historically segmented access to resources and markets between “white and black”, rich and poor, socially advantaged and disadvantaged
- Severely eroded land and water resources in communal areas caused by overcrowding, pass laws, inadequate infrastructure, erratic rainfall, and inaccessibility of formerly disadvantaged population to input and output markets
- Weak and uncertain rights of tenants operating under permits on resettlement schemes, certain households and individuals (particularly women) on customary lands, and beneficiaries of land reform schemes operating under various forms of equity sharing
- Inadequate protection of rights of citizens and communities against certain traditional authorities
- Land resettlement by large populations displaced by war and colonial occupation
- Loss of high quality arable land to urban and peri-urban settlements

Source: Michael Roth (2002)

Most of the fresh water available was allocated to irrigated agriculture, a sector in which the predominantly white large-scale commercial farmers enjoyed competitive advantages. Thus the rural populations were largely neglected. Table 1 below shows the disparities in water allocation between and among various sectors of the economy in Zimbabwe and the Republic of South Africa (RSA).

Table 1: Figures for land, population, and water use in RSA and Zimbabwe as of 1998

Country	Land area	Population (Millions)	Land under Irrigation (1000 Hectares)	% of water used for irrigation	% of water used for industry	% of water used for domestic purposes
RSA	1, 221, 040	44	1, 270	72	11	17
Zimbabwe	390, 759	13	150	79	7	14

Source: Derman B. (2003)

Having realized the prevailing skewed nature of land and water property rights, both South Africa and Zimbabwe instituted land reform programmes but there are obstacles that have tended to slow down the process. One of the major reasons for a slow reform process relates to the presence of a powerful minority of large-scale commercial farmers who oppose land reform by contesting it in court. But the Zimbabwean experience under what has come to be called the 'fast-track' land reform has shown that unequal distribution of land along racial lines is potentially explosive and the opposition to land reform by the large-scale farmers seems ill-advised. The Zimbabwean experience is also an indication of some of the prevailing tensions throughout the Southern African region. The downward spiral of the Zimbabwean economy and the resultant social and economic woes illustrate what can happen when the relevant stakeholders fail to agree on the way forward and political motives are given precedence over proper planning. Rural people in Zimbabwe have shown a lack of patience with reforms that leave the structures of inequality largely unchanged. There is need for strong commitment from policy makers and farmers alike to ensure that land reform does not become haphazard and retrogressive.

5.1 IWRM and rural poverty in South Africa

South Africa is a water scarce country with an average rainfall of 450 mm per annum and a total flow from all rivers of less than 50,000 million m³ per annum, which is just half that of the Zambezi river alone (DWA, 2003). The population is estimated at 48 million of whom 70% reside in rural areas. As already pointed out, the country has a history that reflects profound inequities in the distribution of both land and water across different races (which is mostly a black versus white affair). 13% of the population owns 87% of land (Cousins 2000). Gaps in access to water appear even wider. 95% of water for irrigation is primarily used by large-scale commercial farmers, while smallholders have access to the remaining 5% (see Versfeld 2003). Therefore, most of the available water resources have already been allocated to sectors like agriculture, mining, industry and urban needs such that there is very little room for further exploitation of the resource.

New users have to compete for the available water with well entrenched users. Irrigated agriculture is the key user, taking up 72% of the available resource. However, an impressive network of dams and inter-basin transfer schemes providing for urban and industrial needs and large-scale irrigation schemes has been developed. This adds significantly to the available water resources. Some of the schemes include the Lesotho Highlands Scheme which transfers water from the upper reaches of the Orange River catchment in neighbouring Lesotho, to South Africa's industrial heartland of Gauteng.

The government has been trying its best to provide basic minimum supplies of water to the rural poor and this effort is continuing. Groundwater plays a pivotal role in small-scale rural water supplies. Living standards in the country are closely correlated with race. While poverty is not confined to any one racial group, it is concentrated among the designated groups, particularly black Africans. According to the 1999 Household survey, 52% of the people are poor. Africans/blacks make up 78% of the population and they account for 95% of the poor. 17% of the Coloreds are poor, in comparison with rates of less than 5% among Indians and Whites. 74% of the poor live in rural areas and 62% of the rural population are poor. Eight million South Africans still do not have access to safe drinking water, about 40% of households are poor, and some 25% of 'African' South African adults are illiterate. Most of the poor people live in the old Homelands - Bophutatswana (North West), Ciskei and Transkei (Eastern Cape), KwaZulu Natal, Lebowa and Venda (Limpopo) Provinces.

In 1998, a new water Act was promulgated for RSA. Its specific objectives included the achievement of equitable access to water and other related services; the achievement of sustainable use of water by making progressive adjustments to water use in order to strike a balance between legitimate water requirements and water availability and by implementing measures to protect water resources. It was also designed to ensure that water use is as efficient as possible, by implementing equitable pricing strategies and by applying water conservation and demand management measures. These goals were to be realized through the creation of suitable catchment based institutions with appropriate community representation, racial, and gender balance in them. Systems for the collection and dissemination of water-related data and information would also be established. To emphasize the need to redress historical imbalances, the old concept of 'private water' was done away with. This implies that the riparian principle where water falling on your land, passing through or next to your land, automatically becomes yours is no longer tenable. Another key provision in the Act is one that deals with compulsory licensing. It allows for water currently allocated to users to be re-allocated to previously disadvantaged people. All users must now register their water use and will have to apply for a water use license.

In principle, this is a noble idea as it creates room for better monitoring of water use. However, the principle immediately raises serious questions and tensions regarding informal and small-scale water users. These questions have made licensing one of the most controversial aspects of the water reforms in RSA. For those who already have water allocations in existing private and government irrigation schemes, it is not difficult to see the need to formalize that use. These users already have their hands on the bulk of

the available water resources. It is those aspiring to access these water resources who face difficulties because once all available water has been licensed, it will be difficult to re-allocate it during the lifespan of a particular license. The important question becomes what does the aspiring water user do? Another dimension to the controversy concerns the fact that whilst all significant users of water must clearly register and license that use, it is neither possible nor desirable to register each and every water user in the country (see Versfeld 2003). It is also questionable whether licensing serves the cause of poverty alleviation or contradicts it.

If a small farmer is irrigating 1 hectare of land using 9000 m³, would that farmer need to get a license? The Act allows for normal domestic use without getting a license but it remains unclear what constitutes 'normal domestic use'. Because of the lack of clarity concerning the boundaries of commercial and domestic use, 'compulsory licensing' threatens to affect some small-scale productive uses of water at the household level. It is highly unlikely that many communities or villages will be able to comply with the licensing requirements. It is equally unlikely that the Department of Water Affairs and Forestry (DWAF) will be able to enforce the requirements for licensing throughout the country. Enormous amounts of resources will be required to make this a reality. Compulsory licensing is closely linked to the question of taxes and water pricing. The operators involved in establishing Water User Associations are very worried about seeing water taxes being requested soon to small-scale users. A study carried out in the Northern Province (see Merle and Oudot, 2000) highlights that most farmers are still subsistence farmers for several reasons including family strategy and off-farm income sources, lack of market opportunities, lack of water, lack of skills, lack of land tenure security. As a result most cannot afford to pay for any water. This has to be factored in as the water reform progresses lest the water charges act as a disincentive to investments in water by the rural poor.

Kirsten et al. (2000) point out that an important component in addressing rural poverty is the process of enabling black South Africans to become farmers in their own right and be part of the mainstream of the agricultural sector. This will require a number of special actions, of which land reform is a key element. It is, however, not only access to land, but also access to other resources and services - such as water, capital and agro-support services - within a friendly policy environment, that is critical in achieving meaningful and sustainable empowerment in agriculture. With 83% of agricultural land previously in the hands of white farmers and the majority of water for irrigated agriculture also controlled by white farmers and white controlled irrigation boards, it is obvious that access to land and water is crucial for reducing the inequality in economic opportunities and is therefore a key cornerstone for the process of economic empowerment of previously disadvantaged farmers.

This discussion needs to focus on the historical inequities in water and land ownership and how to redress these. One way is through land reform where land and water are simultaneously reallocated in a systematic and complementary fashion. This would ensure that the new land owners are also guaranteed a reliable supply of water for productive uses. Another option is to make new water allocations for irrigation to black

farmers. This second option is not easy to implement because most of the available water has already been allocated to existing users. The important thing is to target the reform benefits at the millions of rural small-scale farmers and not just a few big black or white irrigation players. DWAF should make a sufficient volume of water available to poor people living in rural areas for multiple purposes so that a real difference can be made to their livelihoods.

The new water Act provides for the division of the country into 19 Water Management Areas based on hydrological boundaries and managed by Catchment Management Agencies (CMAs). The CMA establishment processes have been slow to date. Since 1998, only the Inkomati CMA establishment process has progressed significantly and some identifiable institutional structure is now in place. However, without addressing rural poverty, even if the process of CMA establishment is fast-tracked, the CMAs could become white elephants and 'business as usual' prevails. While the issue of CMAs being able to deliver as per the targets set for them is crucial, that delivery must be re-conceptualized to include direct benefit streams for rural citizens instead of large-scale commercial water users only. This re-conceptualization entails a significant break from the old management regime that benefited only a small section of the populace.

The water reform documentation for South Africa makes it very clear that the intention to redress past imbalances through new policies and legislation is there. Schreiner and Van Koppen (2001) argue that the water Act (1998) of the Republic of South Africa (RSA) is not only widely recognized as the most comprehensive water law in the world, but also stipulates, clearer than elsewhere, that water is essentially a tool to transform society towards social and environmental justice and poverty eradication. Unfortunately, the social, economic, and political environment across much of the country does not enjoy quite the same state of readiness for change to match the policy and legislative reconfiguration. There are still huge disparities and inequities amongst previously disadvantaged communities which stifle their participation in processes such as CMA establishment. It will take some time and a lot of resources targeted at capacitating and empowering the previously disadvantaged groups in order for them to meaningfully participate in the CMA establishment process.

5.2 IWRM and rural poverty in Zimbabwe

The history of water and land ownership in Zimbabwe is almost identical to that of South Africa in the sense that it reflects the deep-seated racial divide between blacks and whites. In Zimbabwe, 4 500 white farmers owned approximately 40% of farming land in 1998 whereas in South Africa, white commercial farmers and corporations continued to own the largest share of farm land (over 75%). Consequently, the broad frameworks for the reform processes initiated in both countries are almost identical. A significant difference, however, relates to the pace of the reforms and the corresponding finer configurations. South Africa launched a slow-moving land reform program based on redistribution, restitution, and land tenure reform. Zimbabwe, after a slow but effective resettlement program, which saw resettlement areas incorporate about 10% of Zimbabwe's land area, resorted to the fast-track land reform led by liberation struggle war veterans and other black groups. The earlier phase of the reform resettled 71 000

households on 3.5 million hectares of land by 1998. But after the fast-track land reform phase, less than 5% of the 4500 farms remain in the hands of large scale commercial white farmers.

In terms of poverty assessments, by 1995, a Zimbabwean national poverty survey classified 88% of communal people as being poor, with female-headed households having higher prevalence of poverty (CSO, 1998). Since that time, poverty has increased in both extent and depth due to the overall decline of the economy. It is even more difficult to come up with reliable statistics on poverty given the rapid and dramatic decline that has been taking place in most sectors of the economy. From 1980 when Zimbabwe gained political independence, a dominant feature of government water policies and programmes in the rural areas was a focus on community boreholes or deep wells. The water and sanitation programme implemented in the 1980s is often cited as a success case. Although some of the water from the boreholes and wells is used to water small vegetable gardens, there has never been more than a passing interest in providing water for productive uses. Instead, more attention has been paid to the construction of dams and capital-intensive formal irrigation schemes, with water supplied from the dams. Success in these schemes has been limited.

Since the early 1990s, Zimbabwe embarked on a water sector reform programme based on the application of IWRM principles. The Government of Zimbabwe (1995) outlines in detail the main objectives and these include:

- Promotion of equal access to water for all Zimbabweans. This objective is meant to redress past injustices in access to water for the benefit of historically disadvantaged small-holder farmers and upcoming indigenous farmers without prejudicing large-scale commercial and estate concerns.
- To promote stakeholder participation and involvement in the decision-making process for the water sector.
- To decentralize water management institutions to the catchment and sub-catchment levels. This entailed the formation of water user organizations as smaller units of management that are closer to the people on the ground.
- To remove inefficiencies in water use and make the sector self-sustaining. This means emphasizing cost recovery of investments in the water sector and treating water as an economic good. Thus, the user-pays principle was adopted to reinforce this new focus.

A new water Act was promulgated in 1998. The Act provides for the division of the country into 7 catchments based on hydrological boundaries. These catchments are to be managed by catchment councils made up of water users. The Act therefore, formally decentralizes water management functions to the stakeholders with a view to increasing stakeholder participation in decisions related to water that they co-exist with. The Act also provides for the establishment of a national level parastatal known as the Zimbabwe National Water Authority (ZINWA). This parastatal is responsible for overseeing and controlling the country's waters. The parastatal is run along commercial lines and must, therefore, charge water prices that ensure cost recovery. Water rights held in perpetuity have been replaced by water permits that have a limited time span and are subject to

review after a specified period of time. Section 36 (1) of the Water Act states that, “Subject to this Act, a permit shall be valid for a period of twenty years or such shorter or longer period as a catchment council may fix”. Water use for commercial purposes is allowed only if you have a water permit. Like in South Africa, the old concept of riparian water where users have automatic access to water passing through or next to their land is no longer tenable. One needs a permit to access any water for commercial purposes.

So far, the water reforms have mainly been concerned with water for commercial purposes and not for domestic purposes. It is implied in the reform agenda that domestic water is no longer a priority. The move towards equitable access to water is therefore, expected to motivate small-scale and rural area farmers to obtain water permits and engage in commercial irrigation activities. It is supposed to directly and indirectly bring to them more food and improve the quality of their livelihoods. But making the conditions for access to water more equitable and conducive for everyone (through policies and legislation) cannot, by itself, guarantee access to water for the poorer groups. It can only be one of the important factors that facilitate access to water. Unless other factors of production are addressed, small-scale farmers and rural communities will not be able to utilize the opportunity to get water permits. These factors of production include access to capital, access to arable land, access to storage space for water, and access to essential infrastructure and other farming inputs.

With the exception of land which the people have now been given for free under the land reform programme, most of the necessary support systems for commercial utilization of water do not seem to be the priority issues in the water reform. Thus, the small-scale and rural farmers already feel that the reform is misdirected in focusing on issues that do not directly mitigate their poverty. Instead, what these poor groups are being asked to do is to basically commit energy and effort into participating in a program that remains highly abstract and theoretical for them. For example, they are asked to grapple with issues like how to measure water used, water allocation systems, mean annual runoff, catchment planning and such other technical jargon which is irrelevant to their daily lives and also difficult for them to absorb.

The water reforms make a distinction between water for domestic purposes and water for commercial purposes. It is also clear that the main concern of the reform lies with sustainable management of the available resources. This sectoral divide has two basic implications. The first is that it makes little sense for the rural people who have to walk long distances to fetch water for drinking. Therefore, the water sector reform neglects water for domestic purposes at a time when domestic needs should still be a priority for most people in the rural areas of Zimbabwe and other Southern African countries. The second implication relates to the fact that the dividing line between domestic water (which is for free) and water for commercial purposes (which must be paid for) has remained largely unexplained. The lack of clarity in this respect means that poor rural farmers who have used water for small scale productive purposes for a long time may suddenly find their use classified as ‘commercial’. This would discourage them from engaging in productive water use activities and another source of food would have been blocked.

Theoretically, one can easily reduce the above discussion to a debate on water management versus water development. One begins to question whether the priority of the reform should only be the sustainable management of existing water resources or the development of new sources of water for the poor. There is an inherent contradiction between the water reform 'equity' rhetoric and commercialization of water use. On the one hand, there is widespread agreement that due to historical imbalances, some poorer groups were excluded from commercial use of water and that these historical imbalances must now be redressed. On the other hand, there is new emphasis on treating water as an economic good and cost recovery in water projects. If the commercialization agenda takes precedence, it is likely to act as a disincentive for the small-scale farmers who may not be able to afford the new rates for water. As a result, the goal of achieving equity will be missed.

Adopting innovative water policies that are relevant to tackling widespread poverty instead of over-commercializing the resource is now more imperative than ever. Targeted subsidies for communal and resettlement areas could help kick-start small-scale and medium sized irrigation projects for previously disadvantaged groups. This is the idea that some people in the Mazowe Catchment Council in Zimbabwe came up with when they suggested setting aside 5% of all water permits in the catchment so that new users could begin to use it at subsidized rates (see Chikozho and Latham 2005). Soft loans could also be very useful to the poorer groups just as large-scale commercial farmers benefited from huge financial packages for farming during the colonial era. There have also been suggestions regarding renting of storage space in other people's dams as another way in which those without access to capital could still get access to water and use it for productive purposes. The bottom line is that all the people who are supposed to actively participate in managing the water must somehow be given the ability to utilize the water and benefit from it. Unless targeted subsidies and other financial packages are made available to them, they will have no motivation to participate in the management of the resource because they will have no water to manage in the first place. More emphasis needs to be shifted to provision of productive water to enable families to increase their generation of cash income and livelihoods.

6. Alternatives for fighting rural poverty in Southern Africa

6.1 Land reform and security of tenure

While this paper is mainly about water reforms and poverty, it is necessary to briefly focus on land reform as one vital component of livelihoods in Southern Africa. For most rural areas of Zimbabwe and South Africa, the principal assets that the poor can survive on tend to be land and water. Colonial and apartheid historical processes disenfranchised the rural poor and the lack of ownership rights to land prevents the legal sale of land by these people. It also makes it difficult for them to access water for productive purposes. They cannot use land as collateral when applying for bank loans. There are some practitioners and theorists who have reservations about confiscation of land from one group and re-distributing it to previously disadvantaged groups (see IFAD 2001). It is difficult to share those reservations largely because ownership of land and water in

Zimbabwe and South Africa was (for a long time) grounded in unjust and often illegitimately acquired title to such land. And attempts to reverse the ownership structures of these two resources have met stiff resistance from those possessing these resources. Acquisition or confiscation is an available option as long as politically feasible and economically sustainable strategies or models are adopted. For purposes of fighting rural poverty, it is suggested here that the land and water reforms must be geared to the transformation of agricultural practices so that the rural poor can realize better crop production.

The model of structural transformation advocated here has demonstrated that in countries like Zimbabwe and South Africa where 70-80% of the rural population derive the bulk of their income from agriculture, poverty reduction typically depends on agricultural productivity growth that leads to higher incomes. This growth can be catalyzed by egalitarian land distribution patterns (see Delgado et al. 1994; Johnston and Kilby 1975). This perspective considers availability of land for the poor and tenure reform as the main area around which agricultural transformation can revolve. Pollard (2002) argues that tenure reform is generally seen as the most neglected area of land reform to date, but it has the potential to impact on more people than all other land reform programmes combined. Tenure reform for Zimbabwe and South Africa would entail giving security of tenure and ownership to newly resettled farmers so that they feel secure on their land, either because they own it or because they are able to farm in the knowledge that they have long term rights to its use. For example, some newly resettled farmers in Zimbabwe on what is known as the A2 scheme got 99 year leases to the farms. These farmers are likely to grow more food in a sustainable manner as they have an interest in the long-term future of the farm. They have the incentive to invest in their land and on-farm water facilities. Without legal title to ownership or tenancy of land, the cultivators retain very little incentive to invest in the land and they are not able to use land as collateral to access the credit market (See Gugerty and Timmer 1999; IFAD 2001). Insecure land tenure is also associated with the rapid destruction of natural resources and land degradation.

In El Salvador, a 10% rise in land ownership boosted income per person by 4%. In India, states with faster decline in poverty levels between 1958 and 1992 are those that deliberately implemented land reform. In Thailand, a close connection has been noted between secure title to land and the incentive to adopt and implement sustainable agricultural practices. In China, the emphasis on smallholdings as opposed to large farms led to huge increases in farm output. This helped in the transformation of livelihoods in sustainable ways. Therefore, land tenure security for the poor can lead to food security (See World Bank 2001). But redistributing land and giving secure title to the poor is only half the equation. It is vital to interrogate the underlying link between water and land because formal and informal land rights regimes tend to have a direct impact on access to water. It is also difficult for one to make productive use of land without a secure supply of water because then he is exposed to the vagaries of climatic changes and variability. Thus, systematic linkages need to be established between land and water reforms in a way that recognizes informal land tenure and water use patterns. This ensures that previously disadvantaged groups are not excluded from the process and poverty reduction efforts are enhanced.

6.2 Systematic agricultural transformation

China presents an example of a striking economic success story whose point of departure was that to reduce poverty faster, begin with agricultural reforms. A few decades ago, China was one of the world's poorest countries but now it is among the world's fastest-growing economies. The number of poor people in the rural areas of China fell from 33% in 1978 to 3% of the population in 2001, based on a poverty line of less than a dollar a day (see World Bank 2001). Agriculture reforms in the country-side played a significant role in the realization of this extraordinary economic performance. The reform experiences of China demonstrate the enormous potential for investments and policies in support of pro-poor agricultural and rural growth to ensure food security and fight poverty in developing countries. By launching market-oriented reforms in agriculture, China was able to ensure that economic gains were widespread and thus build consensus for the continuation of reforms. The multiplier effects of gains in agriculture spread to other rural non-farm activities which diversified the sources of income for the rural poor beyond farming. This was one of the main factors behind China's rapid poverty reduction after 1985. As growth in agriculture and other rural non-farm enterprises became stable, the state could afford to focus its attention to other sectors of the economy like public enterprises and urban areas. Reforms in these sectors in turn further accelerated macroeconomic growth thereby contributing to overall poverty reduction in the whole country.

It is not impossible for countries in Southern Africa to follow a more or less similar process of transformation. What is required is to refocus the ongoing land and water sector reforms to adopt livelihoods approaches. Lessons from the Chinese agricultural revolution would be very useful in this regard as long as those lessons are adjusted to suit country-specific contexts. This is the view Braun et al. (2005) advance when they argue that a fresh look at agricultural growth promotion and improved food security in the Southern African region is warranted for at least three reasons: first, new knowledge and paradigms have emerged; second, there is a new policy context; and third there is a new technology and organisational context. Because of these changes in context, new strategies to improve food security and agricultural growth have to be developed. The Zimbabwean experience with water and land reform shows that allocating water across sectors simply in terms of 'black' and 'white' racial groups is not the way to achieve equity and South Africa is well advised to take heed (see Pollard 2002). Improving livelihoods through agriculture in Zimbabwe and South Africa requires refocusing the reform agenda to poverty alleviation. This process has to consider and effectively deal with the profound inequities that prevailed in the water and land sectors before the reforms were initiated. It also requires the governments to acknowledge that water can really make a difference to rural people's livelihoods particularly when its multiple uses are enhanced.

In its current form, IWRM does not give priority to the livelihoods approaches that have begun to gain ground in development theory and policy practices. Instead, it pays considerable attention to demand management, cost recovery, reallocation of water to 'higher value' uses, and to environmental conservation. Agriculture is often viewed as

one of the problem areas in terms of wasting and polluting the available water resources (see Cosgrove and Rijsberman 2000). While there is no doubt that IWRM has credible merits in river basin water management, its oversimplification of perspectives on agricultural water use can become an impediment to the productivity and well being of people (see Merrey et al. 2005). A number of possibilities need to be pursued in Zimbabwe and South Africa in order to make poverty alleviation/eradication a priority. The first possibility relates to the need for systematic assessment of the rural poor's basic needs and deciding (together with them) how these can best be addressed. Secondly, there is need to assess the opportunities which land, water, and other natural resources offer in terms of rural livelihoods and then consider the constraints which hinder the realization of these opportunities. There is need to identify the realities and challenges likely to be faced in redistributing land and bringing water to rural citizens and then assess the costs and benefits associated with this process. There is also a need to develop a wider understanding and appreciation of water for productive uses at sustainable livelihoods levels and how this can impact on the quest for equity.

Reforming agriculture practices requires considerable support services. Land and water reforms should be regarded as only one part of a comprehensive programme of economic reconstruction. Redistribution of land in Zimbabwe and South Africa is certainly necessary, but it is not a sufficient guarantee for the success of the reforms. There is need for additional support services to be considered. These include physical infrastructure like roads, soft loans, markets, fertilizer, machinery, fuel, seeds, energy, information, training, extension, and research. Government has to shoulder the responsibility of creating an enabling environment for farmers in terms of both infrastructure and institutional development processes. China started by providing most of these support services and even subsidized fertilizer and machinery imports. The subsidies were phased out later on. In most Southern African countries, subsidies are still required particularly in rural areas where poverty levels are high and the people may not be able to raise money for the agricultural inputs. International development aid agencies also should increase their support for rural transformation in developing countries. Jeffrey Sachs (2005) argues that the greatest puzzle in economic development is not how to alleviate the suffering but how to get rich and poor countries to follow through on their repeated promises. The targets for reducing poverty, hunger and disease are set for 2015, a mere dozen years from now. Wealthy countries must show unequivocally that they are ready to give adequate help through fairer rules on trade and much more generous aid contributions to the many poor countries that are ready to help themselves.

Another important lesson from China is that policy-makers should approach the reforms as experiential processes in which trial-and-error is accepted. Thus, instead of following a predetermined blueprint, the Chinese adopted new measures and made adjustments to the reform programme as they gained more experience and knowledge. Whilst a cautious approach is advisable, implementation of the programme should not be so slow as to render the reforms obsolete. Zimbabwe fast-tracked both the land and water sector reforms and the results have been sad ones. South Africa has adopted a much more cautious and slower pace with little results to show on the ground. Therefore, there is

need to strike a delicate balance between cautiousness and the requirements for substantive implementation on the ground.

In recent decades, rainfall in Zimbabwe and South Africa has become too low and erratic to support sustainable productive agriculture. Drought periods are now being experienced more frequently. It is worthwhile for these countries to explore the possibilities of using low-cost technologies on a wider basis. Examples include rainwater harvesting techniques, soil and water conservation, and low-cost water lifting and application technologies like treadle pumps, small diesel pumps, bucket and drip systems. These technologies can make a huge difference for millions of poor rural farmers as they augment the water available for various uses including supplementary agriculture (see Moriarty et al. 2004; and Moench et al. 2003). Studies carried out in the Pangani River Basin of Tanzania show that adoption of water harvesting techniques and conservation farming go a long way in enabling supplementary irrigation for small-scale rural farmers in semi-dry climatic regions (see Chikozho 2005).

For water reforms to adequately address poverty alleviation, a paradigm shift is required that broadens the concept of IWRM to systematically integrate it with livelihoods approaches. The Global Water Partnership (2003) states that to give water its due emphasis in poverty analysis, nothing less than a paradigm shift in poverty perspectives is called for. Such a shift requires that the eradication of poverty becomes one of the core elements of IWRM and land reforms rather than an afterthought. This must be reflected in the macro-economic policy agenda and policy processes designed to enhance the capacity of the rural poor as producers and owners of the means of production. This capacity building process in turn calls for participatory approaches to be regarded as a core variable in the development process. According to Sobhan (2001) it is only in this way that the rural poor can cease to be seen as merely means of production but as citizens, whose citizenship and rights to property and basic public services are virtually necessary if well-being is to be meaningful over lifetime.

7. Conclusion

The paper has interrogated the water and land sector reforms in Zimbabwe and South Africa in relation to poverty alleviation. It has drawn from the experiences of China and other developing economies to further inform the water-land-poverty discourse. A number of key issues have emerged from the discussion. First, in Zimbabwe and South Africa, a large proportion of the rural population is directly dependent on agriculture for their livelihoods and access to reliable sources of water is one of the key factors of production that can influence the levels of poverty. A second key issue is that given the historical distribution of land and water rights across different races in Southern Africa, the imperative for redistribution of these resources is undeniable. However, the redistribution has to take into account the need to ensure productive use of those resources if poverty alleviation is one of the goals for reform. Closely related to this is the view that any meaningful discussions of rural poverty alleviation in Southern Africa must be grounded in the context of land ownership and tenure security. Without tenured property rights, there is less incentive for investments in water and land by rural citizens.

The sharing of water and land reform experiences among various countries is a good starting point for successful reforms. But there can be no such thing as a "universal model" of public sector reform for poverty reduction, where a 'one-size-fits' all framework can be successfully applied to different developing countries. This is one of the weaknesses that the IWRM approaches suffer from. In its current formulation, the IWRM approach that dominates water sector reforms in Southern Africa is too broad to adequately address issues of poverty in various countries. The water reform agenda needs to be revisited in order to take on-board livelihoods approaches that are more context specific.

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