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**OVERCOMING
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Water for agrarian reform and rural overtly eradication: Where is the leak?

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Abstract: The distribution of water use is undoubtedly the sharpest inequality inherited from the past in South Africa, with a Gini Coefficient of 0.96 and higher. Unfortunately, as the review in this paper suggests, the gap is even further widening for the large majority of black communities in informal rural and peri-urban areas. Neither government nor civil society has been very effective in tapping the potential of water storage and infrastructure development on a large enough scale to mitigate seasonal and annual variability and unpredictability of rainfall and, thus, to improve year-round productivity of agriculture-based livelihood strategies, such as cropping, horticulture, livestock, tree growing, brick making, crafts, and small-scale enterprises.

The paper's analysis highlights that a champion department for storage and infrastructure development, which coordinates well with other departments, is lacking in post-1994 South Africa. The Department of Water Affairs has mainly been focusing on the regulation of existing and new large-scale water uses, among others through the new water entitlements regime of water use licenses. International experience has shown that formal license systems tend to ignore well-functioning informal arrangements, while privileging the administration-proficient. In spite of pertinent legal and policy statements about the re-allocation of water from the haves to the have-nots, the Water Allocation Reform (WAR) programme, led by the Department of Water Affairs since 2005, has had little impact. The legal option of priority General Authorizations for small-scale water uses, based on a quantification of the inequities, is proposed as an alternative or additional approach.

The drastic withdrawal of pre-1994 support to smallholder irrigation schemes by the Department of Agriculture led to widespread partial or full collapse of irrigation schemes. The revitalization of these schemes appears highly problematic. Joint ventures tend to generate a small group of elite 'arm-chair farmers' at the expense of many more plot holders whose land is taken.

In the meantime, the scarce remaining water resources are rapidly taken up by the minority formal economy, which fiercely protects this expansion. Indeed, for most rural and peri-urban poor, their own informal initiative is the major way to obtain access to water for productive uses. In various pockets, such informal water development is vibrant. The paper concludes with the importance of recognizing and building on these informal arrangements.

Keywords: access; structural poverty; water; rural poor; productive water use, informal water use systems;

1. Introduction

South Africa receives around half of the average global annual rainfall, and is the 30th driest country in the world in terms of available water per capita. Water is unevenly distributed across the country, with a wet eastern edge, drying as one moves to the western side of the country which has rainfall of less than 200 mm per annum.

However, while it is well recognized that South Africa is a water scarce country, with such scarcity complicated by major intra- and inter-annual variation in rainfall, perhaps one of the biggest water challenges is not the absolute scarcity of water, but the distribution of water and the lack of access to water for productive purposes by a large sector of the rural population. While there is a significant challenge in providing reliable water services to urban populations as well, particularly in informal settlements, this is not the focus of this paper which aims, rather, to examine some of the issues in ensuring that water management contributes effectively to poverty eradication in the rural areas in particular.

2. Conceptualizing the role of water resources in overcoming inequality and structural poverty¹

The South African context of a highly unequal society with high levels of poverty (Seekings 2007) requires that water resources management should have a consciously pro-poor focus, but to do this, it is necessary to understand the various dimensions of poverty in the country. As Aliber (2003) states, the lack of understanding of policy-

¹ This section of the paper draws on research funded by the Water Research Commission through a project entitled Towards a Regulatory Framework for Water Resources in South Africa.

makers of the nature of the poverty that they are trying to address is as much a contributor to the failure of poverty reduction programmes as the failure of service delivery or lack of financial resources.

Sachs (2005) differentiates between relative poverty, moderate poverty and extreme poverty, the last of which is only found in developing countries, and is characterised by lack of human, business, infrastructure, natural and public institutional capital [Sachs 2005:244].

Aliber (2003) also distinguishes between different types of poverty: chronic poverty is poverty passed down from one generation to another, while the ultra-poor are those whose “monthly adult equivalent expenditure is less than half of the poverty line” (Aliber 2003:477). However, households often move in and out of poverty, even the ultra-poor. In a study conducted in KwaZulu Natal in 1998, 32% of ultra-poor households had transitioned to above the poverty line 5 years later (Aliber 2003).

Carter and May (2001) prefer the concept of structural poverty – where the structurally poor lack the “minimum sufficient combination of assets” to rise out of poverty. A household with access to sufficient assets that can assist them to respond to a setback, would, therefore, not be structurally poor.

This focus on access to assets mirrors Sachs’ analysis regarding access to different forms of capital, and that of David Reed (2001) who sees control over and access to natural assets as a critical part of reducing poverty in rural areas. Rural areas, in this context, are seen as areas of communally or traditionally owned land, rather than areas of commercial agriculture.

One of the key assets referred to by Sachs is infrastructure, including water related infrastructure, be it storage, domestic water infrastructure, irrigation infrastructure and so on. The provision of appropriate infrastructure and access to natural resources are a critical part of reducing the incidence of structural poverty in rural areas in developing countries. In the water context this refers to water for domestic and productive purposes and for the water-dependent ecosystem services on which the rural poor depend, such as wetland services, fish, building materials such as reeds, water quality and so on.

The intention should be use access to water to provide support to households to prevent them from falling into poverty in times of crisis, and to assist in raising them out of poverty in the first place.

Soussan et al (2002) have shown in a study in Bushbuckridge that even small amounts of water can provide important income support to poor households, including through activities such as ice-making, planting fruit trees, growing vegetables, brewing beer, and supporting livestock. Their work shows increased income per capita per year of between USD 6 from tree planting to just under USD 200 for beer brewing. Their work also shows improved household nutrition arising from irrigation of household food gardens.

Similar findings are made by Tapela et al (2010): rural case studies found a link between water scarcity, poverty and vulnerability to risks associated with reliance on raw water from unprotected water sources. Concerns over waterborne diseases (e.g. cholera), attacks by crocodiles, malnutrition and susceptibility to effects of old age infirmity and HIV/AIDS were prevalent particularly in contexts with weakened social networks. In informal urban settings, links between water scarcity, poverty and vulnerability related to issues of personal safety (from crime and fire hazard), livelihood security and the less tangible issues around personal dignity and unmet expectations. In some cases, such as Khayelitsha, water scarcity issues were conflated with the ongoing wave of often violent social protests.

An OECD (2008) report points out that, in general, the poorer the household the more important the income generation through common resources, including wetlands and water resources.

Reed (2001) developed six principles aiming “to strengthen the control of the rural poor over environmental assets and natural resource wealth”, arguing that increased control over natural assets enables the rural poor to rise out of poverty. The six principles are:

- “Protecting the access of the rural poor to environmental resources...
- “Expanding the control over and access of the rural poor to environmental resources...
- “Redistributing revenues derived from natural resources to the rural poor...

- “Increasing redistribution of revenues from private companies to rural communities...”
- “Establishing co-management arrangements... for natural resources ...between private companies, the state and rural communities.
- “Providing supporting inputs to rural producers.” (Reed 2001:147-8)

These principles provide the conditions necessary for those living in poverty in the rural areas to use resources more productively and to increase their resilience in the face of potential crises that might otherwise tip them into poverty.

There are, however, two interpretations of ‘pro-poor’ that should be examined. The first is the *absolute* pro-poor approach, in which the socio-economic status of the entire society is improved (see figure 3) and the poor benefit as part of this overall improvement. The second is the *relative* approach, which sees a particular focus on improving the economic status of the poor, resulting in a closing of the gap between rich and poor (OECD 2008).

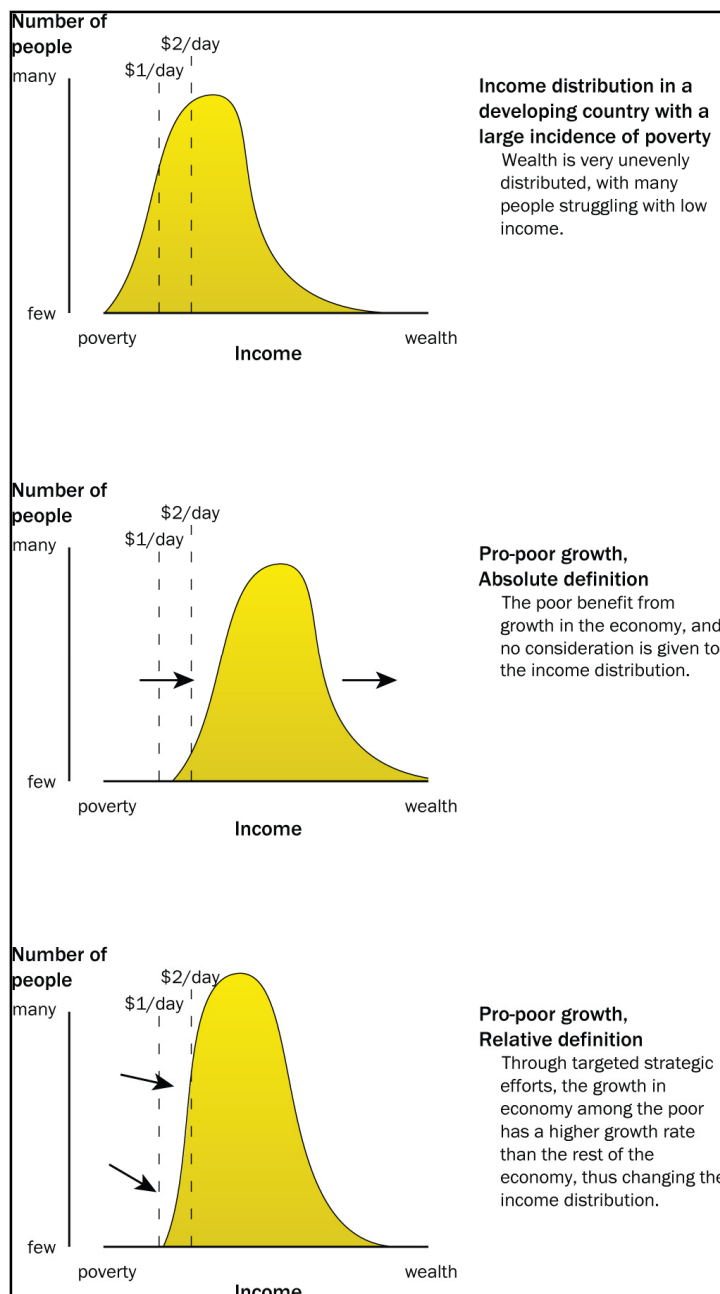


Figure 1: Pro-poor growth, absolute and relative definition

(<http://maps.grida.no/go/graphic/pro-poor-growth-absolute-and-relative-definition>)

According to Klasen (2003) pro-poor growth implies that the poor have benefited disproportionately from growth relative to the non-poor, and that pro-poor growth should be able to distinguish between the growth in incomes amongst different categories of the poor, with a greater focus on improving the incomes of the poorest of the poor, or the ultra-poor. In South Africa, which has one of the highest Gini co-efficients in the world, the aim must be to achieve relative pro-poor growth, closing the vast gap between rich and poor.

Klasen (2003) also refers to studies that show that countries with lower inequalities appear to have higher rates of growth than countries with high inequalities (see also OECD 2008). Countries with lower income inequality also show signs of reduced latent social conflict. The drive to lower inequality in South Africa should then, not only be premised on the policy direction of equity and social justice, but equally on the implications for improved economic growth and stability for the country as a whole.

According to Klasen (2003) the issue of gender inequality is also important, since higher gender inequality appears to increase poverty, and increased female literacy is a key determinant of the impact of growth on overcoming poverty. Reduced gender inequality leads to improved economic growth and makes that growth more pro-poor.

Direct and indirect pro-poor growth

Klasen (2003) describes two approaches to achieving relative pro-poor growth. The first is to ensure that the growth path immediately raises the income of the poor and that growth takes place where the poor are found and in the appropriate sectors of the economy.

The second approach is driven by redistributive public policy, such as progressive taxation and targeted government programmes to invest in the poor, either to encourage economic activity or as welfare payments.

The first approach targets the areas where the poor are located, such as the rural areas, and must identify the factors of production to which they have access, such as land and water. Interestingly, studies by Datt and Ravallion (in Klasen 2003) showed that rural growth reduced poverty in both rural and urban areas, while urban growth only impacted on urban poverty. Further studies by Eastwood and Lipton (in Klasen 2003) show that improvements in labour productivity in agriculture give better pro-poor results than similar improvements in non-agricultural sectors. Unfortunately, they continue, such improvements in agriculture have little effect in countries with high inequality such as South Africa, indicating even more clearly the need to reduce inequality in order to maximise growth opportunities.

In this regard, it is important to focus on areas of particularly deep structural poverty such as the ex-homeland areas (Klasen 2003; Seekings 2007). In such areas high

concentrations of poor people are compounded by poor quality of public institutions, reduced public investment, remoteness from markets and poor access to credit, all leading towards persistent poverty. Relative pro-poor growth should focus specifically on these areas, addressing the needs for appropriate water and water infrastructure for domestic and productive purposes.

Based on the understanding of poverty as discussed above, it would appear that there are three key focus areas for pro-poor water resources management:

- the **allocation of water**, to ensure water is allocated to poor rural households and individuals (Reed 2001, OECD 2008), or that water is allocated to activities that will create jobs in areas with high levels of poverty. The OECD report notes that allocation of water between sectors is often driven by decisions relating to the political economy rather than as a result of specific development policy, thus allowing the capture of water resources by particular powerful groups to the detriment of the poor (OECD 2008). The allocation of water, however, is in many cases irrelevant if there is no infrastructure either to ensure a reliable supply of water or to transport it to where it is required. Allocation and infrastructure are therefore two sides of the same coin;
- the **regulation of water use by large water users** to ensure that they do not undermine the availability of water to the rural poor who may be either downstream or dependent on the same aquifer; and
- **managing water quality** to reduce negative impacts on rural communities that are dependent on raw water and goods and services from water-related ecosystems.

These processes should be supported by programmes to build the human capital of poor communities in using water, with a specific focus on poor rural women.

2.1 Quantifying the distribution of water use

While a great deal of state investment has gone, since 1994, into the provision of safe drinking water, access to water for productive purposes by the rural poor has received less attention, and little has changed in this regard over the past fifteen years. As a result, access to water for productive purposes mirrors the ongoing economic inequity in the

country. Innovative work done by Cullis and van Koppen (2008) in applying Gini co-efficient methodology to access to water, shows a high Gini co-efficient for access to water across all provinces. Access to the benefits of water use is similarly skewed. According to Cullis and van Koppen, the Gini co-efficient for the distribution of registered water use for commercial agriculture and rural water use is 0.93 and the distribution of related employment was 0.83. The Free State, Northern Cape and Western Cape were the least unequal, while North West, Mpumalanga and the Eastern Cape are the most unequal for both indicators. Unfortunately the data in the DWA WARMS system, which was one of two sources for calculating these figures, has high levels of inaccuracy in unverified data, and these results may change to some degree once all the data has been verified.

The overall registered water use in the country in 2006 is shown in table 1 below, while the distribution of this water use across registered water users per province is shown in figure 2.

Table 1: Registered water uses for South Africa(As registered in WARMS, June 2006) (Source Cullis and van Koppen 2008)

Water Use Sector	Volume of annual allocation (Mm ³ /a)	Number of allocations	Average allocation (Mm ³ /a)
Agriculture: General	10,198	49,449	0.21
Agriculture: Irrigation	1,104	5,149	0.21
Agriculture: Watering Stock	9	761	0.01
Agriculture: Aquiculture	1	9	0.11
Industry (Non-urban)	285	810	0.35
Industry (Urban)	2,980	1,341	2.22
Mining	329	1,074	0.31
Recreation	78	155	0.50
Schedule 1	119	7,048	0.02
Water Supply Services	1,935	2,673	0.72
Power Generation	10	9	1.11
Urban (Excluding WSS)	4	66	0.06
Total	17,057	68,544	0.25

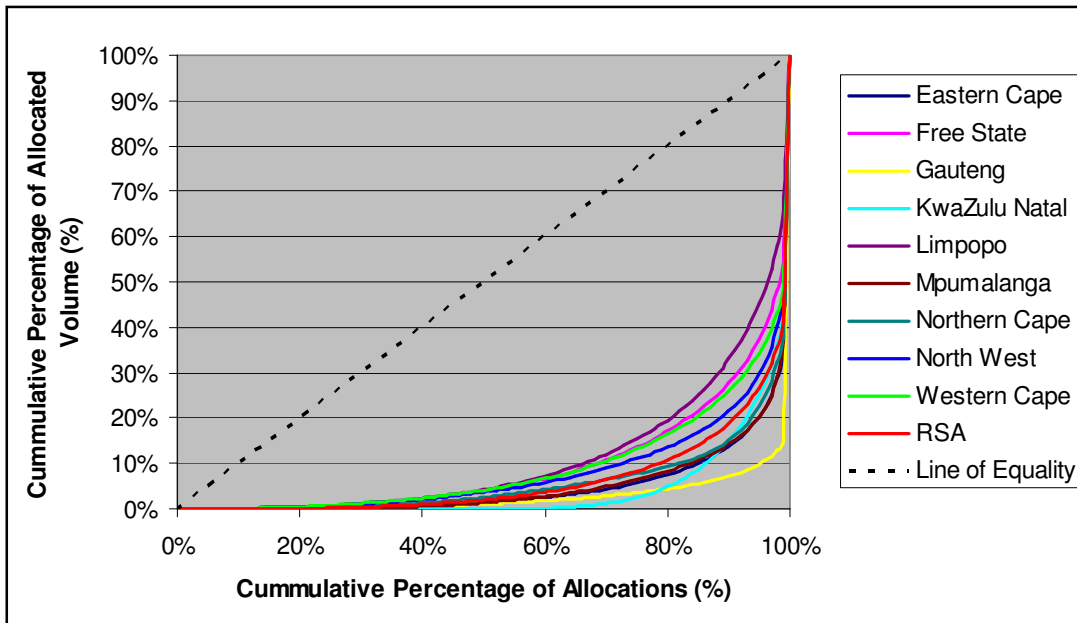


Figure 2: Distribution of registered water uses across registered users in South Africa

Similar investigations by Schreiner (2010, unpublished) reflect again the inequality in access to water. Figure 3 shows the number of registered water users in the Inkomati water management area, for five categories of water use, relative to the total amount of water used in each category. Clearly a small number of registered users use most of the water, while a large number of users have access to a very small proportion of the water. This graph only reflects registered water use and does not capture water used by subsistence farmers in the water management area. If all water users are considered, so both registered and unregistered, the level of inequality nationally increases to a Gini coefficient of more than 0.99 (Cullis and Van Koppen 2008).

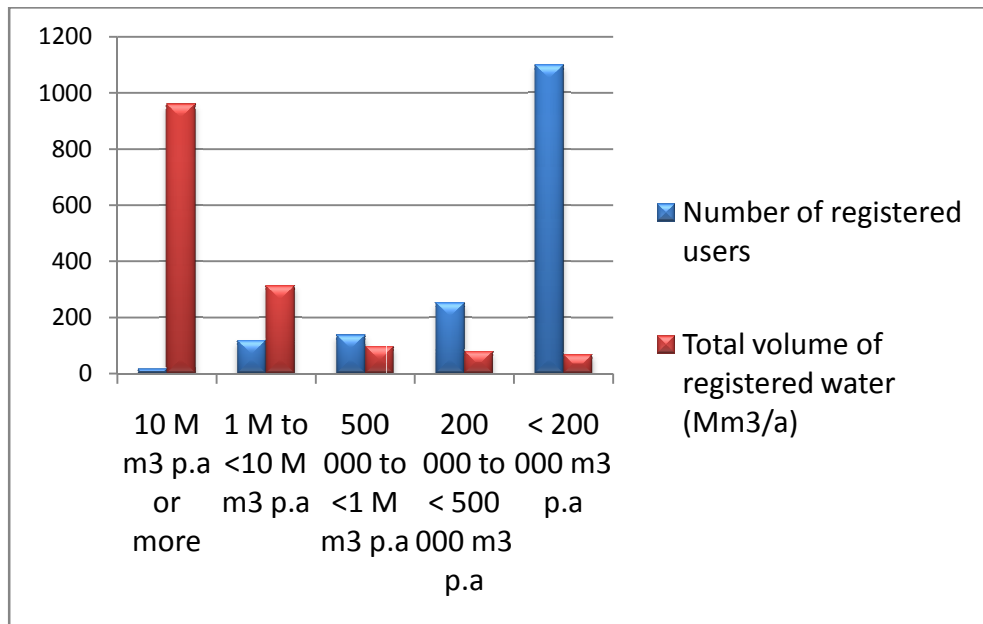


Figure 3: Distribution of registered water use in the Inkomati Water Management Areas (Schreiner 2010)

As recognized by Cullis and van Koppen (2008), however, the Gini co-efficient is a measure of inequality, not inequity. The issue of what constitutes *equitable* access to water is a debate that is linked to the vision of how to deal with rural poverty, and to what extent this is to be done through job creation and to what extent through improved livelihoods for rural households through direct use of water for self-employment. Since the former is unlikely have significant impacts on the rural areas in the near future, the latter must become the focus of water policy.

In the next section, the reform of South Africa's water law, and the options and challenges relating to addressing inequitable access to water are addressed.

2.2 Reforming SA's plural water laws

Post 1994, the reform of water policy and legislation was one of the elements of the greater reform of national policy and legislation. One of the key issues identified in the new policy and legislation was the need for redress in access to water, not only for domestic purposes, but also for productive purposes and to support poverty eradication. Indeed, the White Paper on a National Water Policy for South Africa states:

“The principle of equity is central to the water law reform process, and special attention has been given to addressing the needs of those who were historically denied access to water or to the economic benefits of water. Equity implies a concept of fairness which allows for different practices in the management of water in response to different social, economic, and environmental needs. It is important to identify the policies, institutions and practices that will support the principle of equity and equitable access.” (White Paper on a National Water Policy for South Africa 1997: 20).

The White Paper then identifies 3 areas of equity: equity in access to water services; equity in access to water resources and equity in access to benefits from water resource use. The White Paper makes it quite clear that it is not possible to allocate South Africa’s scarce water resources equally to everyone, and that equity in access to the benefits from water use is where the focus should be. As the White Paper states:

“What is of concern to most South Africans, and thus to the Government that they elected, is that the way in which water is allocated and used should bring maximum benefit to them, whether directly or indirectly. This must become the focus for water policy.” (p 20)

At issue is how maximum benefit is interpreted in the case of the rural areas and how this is actualized on the ground. There is a strong argument, in the face of the failure to retain and create jobs over the past decade or more, that the support for sustainable livelihoods in the rural areas is a critical element of poverty reduction in these areas. The provision of water is, as has been shown, a significant part of enabling improved livelihoods in rural areas. There are two legal instruments in the National Water Act that allow for the use of water by small users – the first being use under Schedule 1 of the Act and the second being use under General Authorisations. The former allows for anyone to use water directly from a water resource to which they have legal access for domestic or non-commercial food cultivation. The second allows greater volumes of water to be used in non-stressed catchments (up to 150 000 m³ per annum) without the need for an application for a water use licence from the Department of Water Affairs.

There are certain drawbacks to the use of water under both instruments, however. Firstly, a large number of catchments in the country are already stressed, and so the General Authorisations do not apply under the current interpretation and there is no extra water for

allocation to those who were denied access to water under the apartheid government. In such catchments, reallocation of water through land reform, joint ventures, reducing the assurance of supply of existing lawful users, or compulsory licencing are the key ways for rural groups or individuals to access water. Little water has, however, been allocated to black users since the promulgation of the National Water Act, and very little to poor black rural communities, whether in stressed or non-stressed basins. On the contrary, as elaborated below, water use in many irrigation schemes in ex-homelands has decreased with the partial or full collapse of former irrigation schemes.

Secondly, however, there is a need for the infrastructure to enable access to water, whether it is infrastructure for storage, pumping from boreholes, or transmission and distribution, and whether it is large infrastructure, small infrastructure, or somewhere in between. Often this is lacking, although there are some subsidies available for such infrastructure from the Department of Water Affairs and the Department of Agriculture. This issue will be discussed further later in the paper. Thirdly, in a situation of contestation, although not yet tested in court, it appears that a licence to use water (generally issued to larger water users) carries greater legal weight than a General Authorisation or Schedule 1 use, and that protection of use under General Authorisations and Schedule 1 might be, to some extent, dependent on how well officials implement section 27 of the National Water Act when considering new licence applications.

A further challenge in ensuring and protecting access to water by and for the rural poor relates to the prioritization of water use by the Department of Water Affairs, which takes the following order, from highest priority to lowest: water for basic human needs (defined as 25 litres per person per day) and ecological needs; water for international purposes in shared river basins (i.e. ensuring that other riparian states receive their agreed allocation of water); water for strategic water use (currently only Eskom's water use); water for economic and other purposes in South Africa. This leaves water for small scale rural development and livelihoods to fit in somewhere in the mix of water for economic purposes in South Africa. It is argued that according a higher priority to water for these purposes might support a greater focus on meeting and protecting the productive water needs of these communities.

Having said this, it must also be recognized that the granting of higher priority for water for rural livelihoods is not sufficient, without concrete action on the ground to implement

this paper entitlement and to ensure the physical availability of water: infrastructure is a critical element of ensuring access to water for productive purposes. Two aspects of this are discussed below. The first relates to the challenges of revitalizing existing smallholder irrigation schemes through joint ventures, and the second relates to the challenges of developing new infrastructure to support rural livelihoods.

3. Revitalizing smallholder irrigation through joint ventures?

The Water for Growth and Development Strategy (WGDS) of the Department of Water Affairs states that “water for development” refers to “the critical role of water in poverty alleviation and people’s constitutional right to have reliable access to safe drinking water”. Some of the strategies by the Department of Water Affairs (DWA) are to “support sector plans where water use for economic growth purposes can also support social development needs” and to “particularly seek for and support interventions in the water sector that explicitly provide for the dual goals of growth and development”. The intention to balance growth and development, however, has often not been matched with robust implementation of government interventions. A major problem is that the WGDS is underpinned by an assumption that ensuring sufficient water to enable economic growth will off-set multiplier effects that will contribute somehow to the resolution of challenges of rural poverty and inequality. This paper argues that without clearly defined pathways through which economic growth will enhance agrarian reform and eradicate rural poverty, the objectives of the WGDS might not be attained. In putting forward this argument, the paper draws from implementation of the Revitalization of Smallholder irrigation Schemes (RESIS) Programme in Limpopo Province.

Since the late 1990s, the South African government has implemented a nation-wide programme to ‘revitalize’ state-owned smallholder irrigation schemes. Many of these are located in former homelands and fell into disuse following the withdrawal of government subsidies after 1994. A smaller number are located in commercial farming areas and were formerly used as white farmer settlement schemes. Revitalization of smallholder irrigation schemes (RESIS) has entailed investments in infrastructure, shifts towards agricultural commercialization and joint ventures and ‘strategic partnerships’ as means for promoting entry by black farmers into commercial enterprise. Significant public funding has been spent during the first ‘RESIS’ phase and the subsequent ‘RESIS-Recharge’ phase. With the progression from RESIS to RESIS-Recharge, the focus of

government interventions shifted away from “re-building socially uplifting and profitable agribusiness through a comprehensive programme to structure, train and capacitate smallholder farmers to run their scheme profitably and sustainably” towards emphases on infrastructure development and strategic ‘empowerment’ partnerships.

This shift raises three key issues. Firstly, that RESIS-Recharge is creating a small class of black ‘arm-chair’ farmers who play little or no active role and obtain few or no skills in commercial farming but draw incomes from these ‘strategic partnerships’. Secondly, that ‘viability’ is narrowly seen in economic and technical terms. Thirdly, that weak monitoring has meant the voices of marginalized poor and vulnerable people are not being heard. A question to be asked is: What is the rationale for joint ventures and strategic partnerships in the context of South Africa’s objectives to balance economic growth and social development and the Agricultural Sector Strategy objectives for support to black farmers?

An examination of the divergence by RESIS away from the strategic objectives of the water and agricultural sectors points to a number of ‘leaks’ through which benefits from water become lost to the poorest of the rural poor, while not necessarily accruing in any significant way to beneficiary smallholders. These include:

- Narrow emphasis on ‘viability’, as seen in economic and technical terms, *which is linked to*;
- Lack of a robust benefit sharing mechanism to guide implementation of RESIS, *linked to*;
- Lack of effective cross-sectoral coordination; and *linked to*
- Lack of effective monitoring.

While there are merits to enhancing the efficiency of water use through, for example, optimizing crop yield (‘crop per drop’) and saving water through technically efficient irrigation systems, major investments in infrastructure and technology have often led to capital intensive commercial agriculture. This places benefits from water beyond the reach of many rural poor people. For example, benefits such as food security often accrue to people living in distant places while those living in close proximity to irrigation schemes often experience a deepening of insecurity.

Within RESIS, the small minority of black farmers who have benefited have done so through partnerships with established players, but the black economic empowerment (BEE) partners have often been drawn from outside the ranks of farmers or local entrepreneurs. Unfortunately, very little transfer of meaningful skills has been done in joint ventures and strategic partnerships. This raises questions about the capacity of black irrigators to effectively utilize available water for productive use, both in smallholder irrigation schemes and in areas covered by land reforms (restitution and redistribution) and water allocation reform (WAR).

Beyond land and water allocation reform issues, there is a need for equitable water benefit-sharing arrangements in RESIS. Smallholder irrigation schemes have been and continue to be developed using public investments in infrastructure, on land resources largely viewed as communal resources. Allocations of plots, in some schemes, by Permission to Occupy (PTO) (which have become *de facto* allocations in perpetuity rather than life-time allocations) and, in other schemes, by lease agreements do not detract from the fact that smallholder irrigation schemes were originally developed as community resources. As such, the beneficiation by RESIS of a small clique of black equity labourers ('arm-chair farmers') to the exclusion of the larger majority on the rural poor can be construed as a 'leakage' of potential value capture², which if plugged could spread benefits more broadly within local communities either through local communities constituting a third equity partner in the strategic partnerships or receiving compensatory benefits in lieu of foregone use of land, water and publicly-funded infrastructure that is currently at the disposal of farmers' cooperatives and private investors. This way, strategic partnerships would contribute towards the socio-economic upliftment of local rural communities through catering for locally-identified needs.

4. Water infrastructure development for agrarian reform

The formal aim of the Water Allocation Reform Strategy of the Department of Water Affairs is

² **Value capture** refers to a type of [Public-private partnership](http://en.wikipedia.org) in which the private sector compensates a public agency for the cost of a facility that generates economic value. It is in almost all cases led by the responsible public agency. (Source: <http://en.wikipedia.org> [23/07/2010])

‘to redress past imbalances in the allocation of water. The WARS stipulates national targets, which are inclusive of black women and are to be progressively achieved by the year 2024. In terms of these targets 60% of allocable water should be in the hands of black people of which half should be in black women’s hands’ (DWAF 2008).

This ambitious aim can partly be achieved by land reform, the revitalization of former irrigation schemes in ex-homelands, and through black economic empowerment in the sharing of water and its benefits outside the ex-homelands. However, new infrastructure development in the ex-homelands is equally important. Unfortunately, on top of the failure to revitalize existing irrigation schemes, little progress has been made in this domain either, except for some homestead-scale rainwater harvesting programs supported by the Departments of Water Affairs and Agriculture. But beyond that, water for redress has ‘leaked away’. This section traces some of the reasons which must be addressed to ensure that more water reaches the majority of the poor for both domestic and productive uses.

One reason for the lack of a rural infrastructure development agenda is a remarkable discontinuity in the historical memory of the importance of state investments to catalyze infrastructure construction and maintenance. One of the first tasks that the white governments took up in the 19th century was the stimulation of irrigation by white farmers. Huge subsidies went into public and private infrastructure, water users’ organization, research, and related input and market provision. Broader political-economic considerations such as solving the poor-white problem, territorial encroachment, long-term national food security, political gain, and export for foreign exchange justified this state expenditure. Yet, the discourse altered profoundly after 1994 with requirements such as ‘economic viability’ and full cost-recovery suddenly in favour.

A second reason is the persistent reference in water planning to ‘the’ agricultural sector, ‘the’ forestry sector, and, indeed, ‘the’ national economy. The extreme dualism in the agricultural sector, and inequities in general, are disguised by the use of such terms. As a result, water as a force in shaping agrarian reform is poorly conceptualized. For large-scale farmers, this discourse helps avoid future competition for water and markets. Progress in conceptualizing and implementing agrarian reform will be critical to changing approaches in the water sector.

A third, and related reason, lies in a contrast between land and water reform. In land reform, redistribution of an important national resource is the obvious primary goal, and productivity is secondary. In the water sector, while there are still water resources that can be developed in non-stressed basins, increasing water productivity is often promoted as the blanket primary goal, sometimes with the implicit assumption that water in black hands generates less value per unit of water. Thus, while the state is the custodian of the nation's water resources, the state has failed to use this power for redress.

Fourth, there is limited vision and technical expertise on the sort of infrastructure that would serve the purpose of providing water to rural communities. The wealth of small-scale technologies promoted in other countries, such as mechanized groundwater or river lifting pumps, in-situ water harvesting techniques, various types of reservoirs, the use of wetlands, and point-of-use treatment for safe drinking water, are poorly known, let alone promoted, in South Africa.

Fifth, current approaches have reinforced the century-old neglect of poor water users' *own* initiatives. Yet, informal water initiatives abound, for domestic and productive uses. In a study of four villages in Sekororo area, Limpopo Province, the NGO-supported schemes or government domestic supplies, which are often used for small-scale productive use, are not reliable. The formal irrigation schemes have collapsed and are only used where private players or NGOs have informally entered into parts of the schemes. And yet 85 percent of the households use water for irrigation: 69 percent irrigate areas less than 0.002 ha, but 5, 4, 6 and 1 percent cultivate respectively more than 0,05; 0,2; 0,4 and 1 ha (Manzungu et al 2009). In most cases, these are private initiatives which function well and which would be a sound basis to further develop and promote appropriate technologies.

Sixth, gender plays a role. As a result of the traditional division of tasks, in which women tend to be responsible for cultivation and men for livestock, and apartheid gendered labor market policies, women are the key producers in the ex-homelands. Yet, 'viable agriculture' and water technology are still seen as male domains. Evidence of the (potential for the) contrary is poorly documented, perpetuating the (partly patriarchal) lack of policy attention.

Last but not least, unlike the pre-1994 government in which the departments of agriculture, forestry, and water collaborated strongly to promote national irrigation goals, such coordination is weak in the government today. Moreover, since the 1970s the Department of Water Affairs has shifted its attention to infrastructure for the ‘urban and industrial economy’, especially in Gauteng, the water-scarce economic hub (Van Koppen 2008) and ever-larger inter-basin transfers. There is, thus, no institutional champion to drive a new infrastructure development agenda for the ex-homelands, where, moreover, local government is still very young.

5. Conclusion

While there is clear evidence of the impact that access to water can have in improving livelihoods in rural areas, current approaches have failed to support an agenda that would realize such benefits. In order to realize these benefits, five factors must be addressed:

- policy and legislative reform: the prioritization of water uses under the National Water Act needs to be reviewed to give priority recognition to and protection of access to water for rural livelihoods;
- a champion department or other structure must be given the mandate to drive a programme of providing and enabling the development of appropriate water infrastructure to support rural livelihoods;
- effective institutional co-ordination between the Departments of Water Affairs, national and provincial departments of Agriculture, Land Affairs and Rural Development and local government is critical in developing a specific and co-ordinated approach to ensuring water to poor rural communities within a multiple use approach;
- appropriate funding is needed to support this approach. It is instructive that the Department of Human Settlements have R1.2 billion over 3 years for the implementation of a massive rural household sanitation and water infrastructure programme. If a multiple use approach is taken in this programme, it will be possible to address the integrated water needs of communities, in partnership with the Departments of Water and Agriculture, rather than only their immediate domestic water needs.
- A conscious attempt must be made by practitioners in this field, including government officials, to understand and promote the wide range of appropriate

technologies available in this field. In this regard, partnerships with other developing countries that have much greater experience in this regard than South Africa could assist immensely.

Finally, government has identified 12 key performance outcomes each of which involves a number of national departments, all three spheres of government as well as partners outside government. Of these, two are particularly pertinent to the contents of this paper:

- Outcome 7: Vibrant, equitable and sustainable rural communities with food security for all.
- Outcome 8: Sustainable human settlements and improved quality of household life.

Each Minister has signed a performance agreement with the President. These performance agreements are now being translated into delivery agreements with specific activities and targets, and assigned roles and responsibilities. These delivery agreements will then be compiled into a new Programme of Action for government. There is a critical, if very narrow, window of opportunity for getting the recommendations of this paper, and this conference, into this Programme of Action.

References:

Cullis and van Koppen 2008: Applying the Gini Coefficient to Measure the Distribution of Water Use and Benefits of Water Use in South Africa's Provinces. Draft. Water for Growth and Development Strategy. Department of Water Affairs and Forestry and International Water Management Institute. Unpublished.

Department of Water Affairs and Forestry. 2008. Water allocation reform strategy. Pretoria: Chief Directorate Water Use, Department of Water Affairs and Forestry

Klasen 2003: In Search of the Holy Grail: How to achieve Pro-Poor Growth ? Stephan Klasen in Tungodden, B. and N. Stern (editors). Ibero America Institute for Econ. Research (IAI) Discussion Papers 096, Ibero-America Institute for Economic Research. 2003.

Laderchi et al 2003: Does it matter that we don't agree on the definition of poverty? A comparison of four approaches. Caterina Ruggeri Laderchi, Ruhi Saith and Frances Stewart. QEH Working Papers qehwps107, Queen Elizabeth House, University of Oxford.

Manzungu, Emmanuel, Pinimidzai Sithole, Barbara Tapela, and Barbara van Koppen. 2009. Phases and interfaces: national and local water investments in Sekororo Communal lands, Limpopo basin, South Africa. Accepted for "Economics, Management and Financial Markets. Volume 4(4) p. 80-108

OECD 2008: Natural Resources and Pro-Poor Growth: The Economics and Politics. DAC Guidelines and Reference Series – A Good Practice Paper. OECD 2008

Reed 2001: **Economic Change, Governance & Natural Resource Wealth – the Political Economy of Change in Southern Africa.** Earthscan 2001.

Seekings 2007: Poverty and Inequality after Apartheid. CSSR Research. Working Paper No 200. Centre for Social Science Research. University of Cape Town. 2007

Soussan, J., Sharon Pollard, Juan Carlos Perez de Mendiguren, and John Butterworth. 2002. *Allocating Water For Home-Based Productive Activities in Bushbuckridge, South Africa.* Johannesburg.

Tapela B. N. et al 2010: Linkages between Water Scarcity and Societal Expectations for Water Services: Case Studies of Cala, Khayelitsha, Mbuzini, Giyani and Sannieshof .
Tapela B, Ntsebeza, L., Nleya, N. & Sigenu, K. Water Research Commission. Pretoria

Van Koppen, Barbara. 2008. Redressing inequities from the past from a historical perspective: The case of the Olifants basin, South Africa. In: Water SA Vol 34 No 4 HELP Special Edition. Pretoria: Water Research Commission

Wesso, Ronald 2008:.. Water for farming- who gets it? Who decides? Surplus People Project. Cape Town. June 2008.

http://webcache.googleusercontent.com/search?q=cache:z3DIEnELAHEJ:www.spp.org.za/reports/water_for_farming.pdf+Water+for+farming-+who+gets+it%3F+Who+decides%3F&cd=1&hl=en&ct=clnk accessed May 2010