DANAMICS OF LAND OWNERSHIP AND MANAGEMENT IN SMALL-SCALE IRRIGATION SCHEMES IN THE BAWKU EAST DISTRICT OF GHANA

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Abstract

The construction and/or rehabilitation of smallholder irrigation schemes in the Upper East Region of Ghana has been seen as an important intervention in attempts to improve the livelihood schemes of the people in the region. However, the management of these smallholder irrigation schemes, particularly the administration of the irrigable lands has become problematic. Decentralized communal institutions like the Water Users Associations which were set up to ensure the effective management of these schemes have proven incapable of the task, particularly with regards to the management of the irrigable areas of these schemes. Not only has the Water Users Association lost control over the management of the irrigable lands, they have apparently become non-functional or non-existent in some of the communities. This has resulted in the emergence of multiple land owners who have now taken over the responsibility of the land allocation from the Water Users Association. This situation is not only denying people access to the irrigable land of smallholder community irrigation schemes; it is also creating tensions and potential conflicts that may be difficult to manage in the near future. This paper assesses land management in three smallholder irrigation schemes in the Bawku East District of the Upper East Region of Ghana. The paper concludes that unless the current arrangement regarding the ownership and management of smallholder irrigation schemes' lands is revisited and/or re-organized, the role and relevance of these schemes as livelihood mechanisms will be undermined.

Keywords: Irrigation, Land, Ownership, Access, Management

Introduction

The Bawku East District is located in the Upper East Region of Ghana, one of the three regions (the others being the Northern Region and the Upper West Region) commonly referred to as Northern Ghana. Prior to Ghana's independence in 1957, the colonial administrators, the British named this part of the country the Northern Territories. These three regions constitute the least developed area of Ghana. According to the Ghana Poverty Reduction Strategy (2002), nine out of ten people in the Upper East Region, eight out of ten people in the Upper West Region, and seven out of ten people in the Northern Region were poor as of 1999. Saaka (2001) notes "the three administrative regions which make up Northern Ghana – Northern, Upper East and Upper West Regions have been the marginalized of all the regions in Ghana". In the words of Bekye, (1998) "the North of Ghana has been, and still largely is the underdog as far as the country's development endeavor is concerned. […] in no part of Ghana are problems of underdevelopment so concentrated and so focused as in the Northern Regions". The poor state of development in this part of the country has usually been attributed to historical, political, and socioeconomic, as well as environmental or physical factors.

In an attempt to overcome this territorial marginalisation, the nationalist governments in post independent Ghana formulated a number of national development policies and also designed and implemented a number of specific regional development programs/projects to stimulate the regional economy in this part of the country. In the Upper East Region for instance, the first nationalist president of Ghana established the Meat and Tomato Factories to promote livestock and tomato production, create jobs and improve the incomes of the people. Similarly, between the 1975 and the early 1980s, the central government set up two large-scale irrigation schemes (the Tono and Vea Irrigation Schemes) in the Upper East Region to promote food security and stimulate the local economy. The Government of Ghana-World Bank sponsored agricultural Scheme known as the Upper Region Agricultural Development Program (URADEP) is yet another regional development program implemented to stimulate the region's economy. This scheme was geared towards raising incomes of the rural small farmers in the then Upper Region of Ghana. Furthermore, in the early 1990s, the Upper East Region again benefited from the International Fund for Agricultural Development (IFAD) program aimed at "improving the productivity of small scale farmers in the Northern, Upper East, Upper West and the transition zones of Brong-Ahafo, Ashanti and Volta Regions", (Seini, 2002). In the Upper East Region, the project was named Upper East Region Land Conservation and Smallholder Rehabilitation Project (LACOSREP).

The Upper East Region Land Conservation and Smallholder Rehabilitation Project (LACOSREP) has been one of the most important external interventions in the Upper East Region in recent times. The project objectives include:

- to develop irrigation in the region
- to increase agricultural productivity in the region through farmer training and the use of new technologies to enhance the productivity of crops and livestock, and
- to construct rural infrastructure to reduce the female labor burden, among other things.

In the Bawku East District in particular, the importance of this project was seen in the development of irrigation infrastructure in the area. The project brought about the rehabilitation of about thirteen (13) irrigation schemes in the Bawku East District since 1992. This intervention has created avenues for dry season irrigation farming, which constitute an important livelihood scheme to the people. However, although the rehabilitation of the irrigation schemes has provided the people with an important livelihood scheme, the ability of a good number of the people to access the schemes is restricted by their limited access to irrigated land. Although some form of arrangements were put in place to make the irrigable land accessible to many people in the communities, such arrangements have proven ineffective in guaranteeing people's access to irrigable land. As Lund (1997) points out, changes made to existing land tenure systems have not been a smooth process, but one characterized by confrontation and conflict. This paper examines the arrangements made under the Upper East Region Land Conservation and Smallholder Rehabilitation Project in the Bawku East District to manage irrigable land, with the view of assessing its effectiveness or otherwise, and implications for the sustainable management of these schemes.

Background of Study Area

The Bawku East District is located in the north-eastern corner of the Upper East Region. It shares its northernmost border with Burkina Faso. It also shares boundaries with the Republic of Togo to the east, Bawku West District to the west and the East Mamprusi District to the South. The Bawku East District has recently been split into the Garu-Tempane, Binduri and Pusiga Districts; while the original district is now known as Bawku Municipal. The Bawku area forms an extension of the Gambaga scarp, and is underlain mainly by Birrimian and granite rock formations, separated into parts by thinly to moderately bedded sandstones. The relief of the Bawku area is generally low and slightly undulating with heights of 120-150 above sea level. The area is drained mainly by the White Volta. Apart from a few areas around the White Volta River Basin where the drainage becomes poor because of

seasonal flooding, the district is generally well drained. The vegetation is mainly of the Sahel Savannah type, consisting of open Savannah with fire-swept grassland separating deciduous trees among which may be seen a few broad-leaved and thin-leaved tree species. There are few forest reserves in the district. The environment is being degraded by human activities such as prolonged grazing, intensive cropping, and bush burning.

The Bawku area comes under the influence of the interior continental climatic zone of the country. The two seasons are influenced by two alternate air masses. The first one is the warm, dusty and dry Harmattan air mass which blows in a northeasterly direction across the entire District from the Sahara Dessert. During the period of its influence (late November-early March), rainfall is entirely absent, vapor pressure is low (less than 10mm) and relative humidity rarely exceeds 20% during the day but may rise to 60% during the nights and early mornings. Between March and May temperatures could be as high as 39^{o} C. May to October marks the wet season. During this time, the whole of the West African sub-region, including the Bawku area comes under the influence of the deep tropical maritime air mass. This air mass brings rain to the area. Average total rainfall is 800mm per annum. A noticeable feature of the rainfall pattern in the area is its extreme variability and unreliability, both between and within seasons. Another issue of concern is the large quantity of rainwater normally lost through evapo-transpiration from open surfaces. It is estimated that a volume of between 1.55 to 1.65meter cubes per square area of the rainfall is lost per annum.

The physical characteristics of the area constitute a development challenge. The average annual rainfall of 800mm is woefully inadequate to support meaningful crop production. Apart from its inadequacy, there is also a problem of its distribution. The area at the moment experiences only four months of rainfall. This poor rainfall distribution also imposes a limitation on crop production. By its location, the area is highly exposed to the desert conditions. From January to March and sometimes beyond, the area is always under the influence of the dusty and dry Harmattan winds. Most water bodies dry up easily during this period, posing a threat to both human and animal life. The drying up of water bodies during this period of time is surely a threat to livelihood as many people in the area are now earning their livelihood from dry season gardening.

Methods

The data for this paper is derived from desk study and qualitative interviews conducted in three smallholder irrigation schemes in the Bawku East District of the Upper East Region. The desk study mainly focused on reports by the Ministry of Food and Agriculture and the International Fund for Agricultural Development. We first analyzed the

ministries' dam site study reports. This enabled us to identify key issues, data gaps and actors for further investigation. The focus of our investigation was on the management of land in the smallholder irrigation schemes. We sought to find out how land in the irrigation schemes is governed, and how people get access or are denied access to the irrigated lands. We examined the institutional arrangements in place for the management of irrigated land and the effectiveness of such arrangements in dealing with the land question – who gets access to irrigated land, and who does not.

The target respondents of this research were the officials of the Water Users Association, land owners in the communities, farmers in the schemes, and agricultural extension officers. These respondents were purposively selected. This was intended to find people who could provide valuable information regarding the issue under investigation. Our interviews were guided by a checklist containing issues we identified from the desk study. The checklist helped us focus on the key issues we needed further more information on. Our knowledge of the local Kusaal language guaranteed better interaction with the respondents, and in-depth probing of issues.

Small-scale Irrigation Farming in the Bawku East District

One essential component of the Upper East Region Land Conservation and Smallholder Rehabilitation Project is water resources development. The component was intended to make water available to support dry season gardening on a sustainable basis. Under this component, smallholder irrigation schemes were rehabilitated to make them more functional and provide water for dry season gardening. This intervention was timely in the Bawku East District which has been home to dry season gardening in the region over the years. The people of Bawku over the years made use of shallow wells to cultivate onions and other forms of vegetables. In the early years of independence, Bawku became a target area for the construction of smallholder irrigation schemes. As shown in Table 1, more than ten dams were constructed in the area by 1963. However, by the 1980s, most of these smallholder irrigation schemes became dysfunctional. While the valve of the taps of some of the dams got blocked, other dams had their embankment broken, making it difficult for them to retain water for dry season gardening. This negatively affected dry season gardening until the intervention by the Upper East Region Land Conservation and Smallholder Rehabilitation Project in the early 1990s. As shown in Table 1, more than ten dams in the area were rehabilitated through this project.

Table 1: Basic Features of Small-Scale Irrigation Schemes in the Bawku East District

Dam-Site	Embankment length (m)	Date of construction	Catchment area (ha)	Estimated reservoir	Irrigable land (ha)	Area presently irrigated (ha)
Benguri	465	unknown	unknown	222	11	10
Kpalwega	1000	1963	407	640	32	25
Nafkolga	770	1959	329	968	48	10
Kaadi	750	1959	unknown	117	6	3
Sakpari	440	1959	109	173	9	7
Binduri	420	1960	290	390	19.5	18
Kumpalgoga	470	unknown	unknown	173	9	2
Worikambo	1000	unknown	unknown	unknown	unknown	10
Gagbiri	450	1963	526	685	34	24
Kuka	300	1956	290	280	14	13
Bugri	400	1956	368	520	26	21
Woriyanga	400	1963	238	271	14	10

Source: International Fund for Agricultural Development, 1990

The successful rehabilitation of these smallholder irrigation schemes has enhanced one of the key livelihood schemes of the people. Dry season gardening is a very important source of livelihood and income for people in this part of the country, which records low rainfall. Although rain-fed farming has been the principal economic activity in the district, its viability is being threatened by dwindling yields resulting from the poor rainfall pattern that characterize this part of the country. In the Northern part of Ghana, rain-fed agriculture continues to produce disappointing results in terms of crop yield. Many households in this part of the country continue to record food deficits on a yearly basis and had to go through the long dry season with the little harvest obtained from the rainy season farming activities. In the light of this, irrigation farming has emerged as an important alternative livelihood scheme to the people (see Akudugu, 2008). The development of water for dry season irrigation farming under the Upper East Region Land Conservation and Smallholder Rehabilitation Project is thus an essential intervention capable of increasing food production and improving rural household incomes in the area.

Land Tenure Arrangements in Northern Ghana

Land remains an asset of great importance to many economies all over the world. It has been a source of income; food and employment among other things to millions of people all over the world (see Toulmin and Quan, 2000). In view of its importance, land has been a contentious issue in many parts of Ghana, especially in Northern Ghana where many wars have been fought over land. This has led to the formulation of legal instruments to provide the framework for land administration in the country. The 1992 Constitution of the Republic of Ghana for instance provides the general legal framework for land

governance/administration in the country. Article 257 of the 1992 Constitution contains the following provisions which are relevant to land administration in Northern Ghana:

(1) All public lands in Ghana shall be vested in the President on behalf of and in trust for, the people of Ghana.

(2) For the purposes of this article, and subject to clause (3) of this article, "public lands" includes any land, which immediately before the coming into force of this constitution, was vested in the Government of Ghana on behalf of, and in trust for, the people of Ghana for the public service of Ghana, and any other land acquired in the public interest, for the purposes of the Government of Ghana before, on or after that date.

(3) For the avoidance of doubt, it is hereby declared that all lands in the Northern, Upper East and Upper West Regions of Ghana which immediately before the coming into force of this constitution were vested in the Government of Ghana are not public lands within the meaning of clauses (1) and (2) of this article.

(4) Subject to the provisions of this constitution, all lands referred to in clause (3) of this article shall vest in any person who was the owner of the land before the vesting, or in the appropriate skin without further assurance than this clause.

A noticeable feature of land administration in Ghana is the use of both modern legal instruments and customary land laws. In most part however, customary land tenure arrangements are widely used in land administration, especially in the rural areas of the country. As Moore (1999) notes "property in land is surely one of the most socially embedded of the elements of a legal order". In Ghana, as a whole, the availability of land for any form of use is influenced by the tenurial arrangements that govern the use of the land. Kasanga, (1988), defines land tenure as the various laws, rules and obligations governing the holding and/or ownership of rights and interests in land. From this definition, land tenure system is seen as the basis through which people claim ownership to land or gain access to land. The customary land tenure system is the oldest institution in land management in Northern Ghana. It is embodied in the socio-cultural landscape of the people and is expressed at the individual, family and community levels. As Ollenu, (1962), cited in Kasanga (1988) notes, the main tenet of Ghana customary land law is that every parcel of land has an owner. Land in Northern Ghana is held under different tenurial arrangements but largely on individual and family basis. The importance of institutions like customary land tenure arrangements in land management cannot be over emphasized. Benneh, (1987) as cited in Toulmin and Quan (2000) notes that the institutional arrangements under which a person

gains access to land largely determines, among other things, what crops he can grow, how long he can cultivate a particular piece of land, his rights over the fruits of his labor and his ability to undertake long term improvements on the land. Similarly as Dunkerley, (1983) points out, in all socioeconomic classes in all countries, land tenure touches deep emotions. It often plays a critical role in the individual sense of participation in a society, as well as in the investment of labor and capital likely to be made on any land parcel.

The land tenure system is supposed to guarantee one's access to a given parcel of land and safeguards its security and usage. But tenurial arrangements have not been static. As Toulmin and Quan (2000) note "land tenure is a field in which there have been major changes of view regarding the best means to control access to land and other resources, and promote their development. Changes or reforms in tenurial arrangements have equally been problematic in Africa. The use of multiple legal or institutional arrangements in land administration also presents a recipe for institutional conflict, particularly regarding which institution takes precedence over the other, as well as conflict over land rights administered under different institutional arrangements. As Lund (1997) notes "the colonization and modernization processes engendered a split in the legal system between state law and more customary regulation of social life. This dichotomy has often developed ambiguity and contradictions in terms of which institution is authorized to intervene in a conflict and which principle should be applied". Yet, the use of multiple legal/institutional arrangements has become a common feature of land administration in Sub-Saharan Africa. In which ever legal arrangement is in place, the tenurial arrangement in any given society should be clear as to who has access to land and who does not. According to Kasanga, (1988) a good land tenure system in a rural and agriculturally based economy like Ghana should among other things ensure that:

(a) there is an equitable distribution of land resources amongst the people – for their farming, housing and other ventures.
(b) a landless class is not created in the community.
(c) access to land is guaranteed, and the rights acquired secure for a majority of the people, if not all.
(d) poverty, unemployment, underemployment, social, economic and political insecurity for a majority, as against a minority landholding class is avoided.
(e) the interests/rights acquired are clear to all parties involved – eliminating land disputes and litigation.

(f) individual and family effort and rights to land are recognised in the relevant statutory provisions.

However, despite these institutional arrangements, land is still at the heart of conflict in many parts of Northern Ghana. According to Brukum, (2001), there have been twenty intra-ethnic and inter-ethnic conflicts in Northern Ghana since 1980. Prominent among these were the Nanumba – Konkomba wars in 1980, 1994 and 1995, and the Dagomba – Konkomba war in 1994, and so on (See Brukum, 2001; Mahama, 2003). Although a number of factors have often been attributed to these conflicts, land is at the heart of all of them. In other words, land has been a major root cause of these conflicts. Conflict over land is threatening to tear the area apart. Most of these conflicts, particularly the inter-ethnic conflicts which are fought over land are often difficult to resolve under customary land tenure arrangement. The question that usually arises here is which group´s customary land tenure arrangement count and which one does not? It is in the light of this that some people, especially the free market economists perceive the customary land tenure system as an obstruction to development, because of the insecurity of land rights deemed to be inherent in such institutional arrangements, and the view that land is too strongly associated with non-monetary cultural values in Africa (see Toulmin and Quan, 2000). In some cases like smallholder irrigation schemes, some ad hoc measures have been put in place to administer land outside the legal or customary land tenure system. These non-legal or non-customary arrangements require closer examination in order to draw relevant lessons.

Land Acquisition in Small-Scale Irrigation Schemes

Land remains an important natural capital from which many rural dwellers derive their livelihood. It provides an avenue for many rural dwellers to participate in the world of work. In the Savannah belt of Ghana where rainfall is on the decline, irrigable land has become an important livelihood asset to most of the people in this area. The International Fund for Agricultural Development (1990) notes that access to irrigated land is a key determinant of a person´s wealth in the Upper East Region of Ghana. As Young (1998) also points out, land resources play a critical role in human welfare, i.e., providing the basis for more than 95% of human food supplies, the greater part of clothing, and all needs for wood, both for fuel and construction among other things. However, despite its importance, productive land is not readily available to all segments of people in many rural communities. In Northern Ghana, irrigated land, which has become an important livelihood asset, is limited in supply. According to the International Fund for Agricultural Development (1990), ´´only 10% of families in the Upper East Region of Ghana have access to irrigation or flood plains,

and are able to grow crops during the dry season´´. It is as a result of this that water resource development became an important component of the IFAD sponsored Upper East Region Land Conservation and Smallholder Rehabilitation Project in the region. The rehabilitated irrigation schemes were put under communal management – Water Users Association.

Aside the rehabilitation of the smallholder irrigation schemes in the region; efforts were made to ensure that many people in each irrigated area have access to irrigable lands in the communities. In line with this, the District Assemblies (local government authorities) and traditional leaders were to ensure that customary land tenurial arrangements were relaxed in irrigable areas of the smallholder irrigation schemes earmarked for rehabilitation. In the Bawku area, a meeting between officials of the Bawku East District Assembly and traditional authorities tentatively agreed that all lands earmarked for dry season irrigation farming should be free from individual ownership. In other words, such individually owned lands become communal property during the dry season. Such lands were to be put under the management of the Water Users Association for the common good of all (Akudugu, 2007; 2008). Further, the agreement also requires that people who obtain parcels of land for the dry season gardening return such lands to the original land owners during the rainy season. In sum, the irrigable lands were to be declared communal lands and put under the management of the Water Users Association during the dry season, who are in turn required to return such lands to the original owners during the rainy season (see letter of agreement in appendix 1). Each Water User Association was to develop criteria to guide the allocation of the irrigable land to potential farmers. Under this arrangement, both land ´´owners´´ and ´´non-owners´´ of the irrigable land were to be given equal treatment in the allocation of the irrigable land. This is because, under the arrangement, the irrigable land becomes a communal asset during the dry season. In other words, the Water Users Association become the ´´owners´´ of the irrigable during the dry season, and all potential farmers in need of irrigable land for dry season gardening were required to contact them.

Our investigation reveals that this agreement was respected in the early stages of its implementation, at least in the first year of implementation. However, with time, this agreement/arrangement was gradually set aside by the “original land owners”. From our investigation, a number of factors are attributed to this negative development. First, we found that it was a difficult task convincing the individual land owners to embrace this idea of declaring their lands free during the dry season. This is partly accounted for by the attachment that people have to land. Most of the “original land owners” expressed the fear that if this pattern of assigning different owners to land during the dry season continues for a

long time, these users could lay claim to their land in the near future. They original land owners thus feared that if this happens, they might lose the full ownership right to their land. In other words, they would not even the right to use such land during the rainy season to cultivate their food crops. Second, we also found out that the economic returns of dry season gardening make people, particularly the original land owners wanting to have more irrigable land for dry season gardening. We noticed that onion production in particular has become an important income generating activity for farmers in the Bawku area. In fact, although there are no official statistics on the earning capacities of farm produce in the area, onion production is unarguably the single most income generating activity for farmers in the area. Thus, access to more irrigable land is likely to translate in more income. The quest for more land for onion production by the original landowners means denying others access to the irrigable land during the dry season as well.

Third, we also found that some "tenant farmers" were actually reluctant in returning their irrigable lands to the original land owners during the rainy season as contained in the agreement. According to some of these tenants, they usually invest in the land by way of the application of fertilizers during the dry season gardening. In their estimation, they can only realize the full benefits of their investments if they put such lands under cultivation during the rainy season as well. But the practice threatens the tenurial security of the original land owners who are supposed to exercise ownership right such land during the rainy season. We found that in an attempt to secure their customary land rights, the original land owners started seizing lands from the tenant farmers even during the dry season. These lands were either used directly or given out to other tenants on agreed terms. This practice of asserting their ownership right over the irrigable land eventually undermined the role and very existence of the Water Users Associations. As the original land owners assert their right to the irrigable land, the Water Users Associations increasing became powerless in exercising control over the irrigable land. As Cousins (2000) notes "despite attempts in many parts of rural Africa to clarify land rights and regulate the processes of allocation, inheritance and transfer, access to resources remains subject to contest and negotiations. [...] access has continued to hinge on social identity and status, and hence on membership of groups and networks; land is subject to multiple interests and to 'a dynamic of litigation and struggle which both fosters investment in social relations and helps to keep them fluid and negotiable". From our study, it became clear that the original land owners remain attached to their parcel(s) of land whether it is being put in use at a particular point in time or not. It also became clear that the role of allocating land that was assigned to the Water Users Association has now been taken over by

the land owners. This incidence does not only reveals the contested nature of land rights, but also points to weaknesses in the institutional arrangements such as the agreement for the release of irrigable land by land owners for communal use, and the formation of the Water Users Associations to manage such land. Although the traditional leaders stood on behalf of the landowners to release the irrigable lands to the Water Users Associations, the individual land owners still interfere in the allocations of land. We found out that since the initial allocation of plots by the Water Users Association, the individual land owners have in turn done their own (re-) allocations. In other words, the allocation of irrigable land is currently done largely by the original landowners than the Water Users Associations (WUAs). This is corroborated by a survey conducted by the Ministry of Food and Agriculture on dam sites in the Bawku East District as shown in Table 2.

Table 2: Modes of Land Acquisition at Dam Sites in the Bawku East District

Dam Site	No. Of Respondents	Modes of Land Acquisition			
		Tindanas	Relatives	Family	WUA
Bugri	15	0	0	0	15
Gagbiri	22	1	4	17	0
Kpalwega	15	3	12	0	0
Binduri	10	0	0	10	0
Worikambo	11	0	0	0	11
Woriyanga	20	0	3	17	0
Nafkolga	18	10	0	8	0
Benguri	8	0	0	8	0
Kuka	12	0	0	0	12
Kaadi	14	2	2	10	0
Sakpari	7	0	0	7	0
Total	152	16	21	77	38
Percentage	100	10.52	13.82	50.66	25

Source: Ministry of Food and Agriculture, 2000/2001

The survey by the Ministry of Food and Agriculture reveals that as of 2000/2001, only 25% of the farmers acquired plots in the irrigable area of the dams through the formal arrangement – i.e through the Water Users Association. As shown in Table 2, about 50% of the people indicated that they acquired their plots from families. This shows that families have greater influence over land allocation than the Water Users Associations. Our investigation reveals that the Water Users Associations have lost control as far as land allocation or management in the smallholder irrigation schemes in the Bawku East District is concerned. Land allocation in the irrigable areas of the smallholder irrigation schemes can be described as chaotic. The allocation of plots has become a function of multiple actors – Water Users Associations, original land owners, earth priests (*tindanas*), and even tenant farmers. Most of the farmers we interviewed happened to be new entrants who got their plots from

other actors than the Water Users Association. Many of them as shown in the Ministry of Food and Agriculture got their plots through families who own such lands. Our investigation reveals that some people even obtained plots in the irrigable area through purchases. Some of the farmers, including the "tenant farmers" lease their plots to other potential farmers on a seasonal basis. These activities erode the power of the Water Users Associations, rendering them ineffective in dealing decisively with matters relating to the appropriation of land, (Akudugu, 2008). In all the irrigation schemes we studied, many farmers appear helpless in a situation where plots of land allocated to them by the Water Users Association are taken away from them by the original land owners. A farmer in the Binduri irrigation scheme lamented:

"I was given a plot over there, but last year, the landowner told me that he was re-allocating it to his wife. I reported the case to the executive of the Water Users Association, but they did nothing about it. So, this year I negotiated with another land owner for a new plot" (Interview with a farmer in Binduri, 2011).

Over study reveals that the Water Users Associations are overwhelmed by the challenges associated with land administration in the smallholder irrigation schemes. As pointed out earlier, not only are the original land owners taken over the allocation of the irrigable land of the irrigation schemes, the institution of the Water Users Association itself is collapsing. The Water Users Associations appear powerless in halting the interference of the original land owners in the management of the irrigable land of the irrigation schemes. In view of the attachment people have to the irrigated lands and the economic returns of such lands, the "struggle" between the Water Users Associations and the original land will not end now. In the ongoing "struggle" for the control of the irrigable land, the Water Users Associations appear to threading cautiously in order not to spark conflict that they would not be in a position to manage. But the inaction of the Water Users Association is by itself creating conflict – i.e. conflict between "tenant farmers" and the "original land owners". The situation is even worse in the Benguri irrigation scheme where the institution of the Water Users Association is virtually absent. A farmer in the downstream summed up the situation here in the following words:

"We don't talk about getting land up there. The whole area is managed as a one-man business. We down here just want water and not land. But we don't even get the water. It is a problem ... if the land up there belongs to them, does the water also belong to that family..." (Interview with a downstream gardener in the Binguri Irrigation Scheme, 2011).

The Benguri case in particular shows the absence of an institutional arrangement to manage the irrigation scheme. Although the Benguri dam was also rehabilitated under the Upper East Region Land Conservation and Smallholder Rehabilitation Project and at the expense of the state, it has virtually become a property of few individuals. The situation in the other communities where the irrigable land and the irrigation scheme as a whole was put under the management of the Water Users Association did not apply here since such an institution did not exist or has not been established. The entire scheme is virtually run by the few families that own the irrigable land.

In the Kpalwega irrigation scheme we observed an inherent conflict between two sets of land owners – owners of the irrigable land and the owners of the land occupied by the dam itself. The peculiar situation in the Kpalwega irrigation scheme is that one section in the community owns the land in the irrigable area of the dam, while another section of the community owns the land used in constructing the dam. We observed that the decision to put the land under the management of the Water Users Association was the best approach to managing the irrigable land in the Kpalwega dam. Through this arrangement, both sections of the community had fair access to the irrigable land. However, with the erosion of the powers of the Water Users Association by the land owners, particularly with regards to the allocation of the irrigable land, there is now a rising tension over access to irrigable land in the Kpalwega dam. Like the other irrigation schemes in the district, families who own land in the irrigable area of the Kpalwega irrigation have started seizing land and re-allocating such parcels of land to family members, friends or other people for a fee. This action creates dissatisfaction among families whose land was used in constructing the dam, and who are now denied access to the irrigable area of the dam. This group feels cheated because their land has been used to construct the dam, but they cannot access the irrigable area of the dam. In other words, they cannot use the dam for dry season gardening, although they “gave” their land out for the construction of the irrigation dam. Yet the Water Users Association in the Kpalwega dam is almost non-existent. The association has been reduced to about three members who were initially elected to constitute part of the executive body of the association. Thus, there is currently no effective institutional arrangement in place to manage the rising tension over land in the Kpalwega irrigation scheme. This means that unless something is done to resolve the misunderstanding, the perceived cheated section of the community could take action(s) that may have far-reaching consequences on the irrigation scheme, and the community as a whole. In all these cases, one thing that comes out clear is that, land administration in smallholder irrigation schemes in the district is saddled with

problems. Whilst the institutional arrangement - the Water Users Association has almost or completely broken down, the prevailing situation where landowners have virtually taken over land administration also threatens the sustainability of such schemes.

Implications and the Way Forward

The foregoing discussion presents a number of implications regarding the governance of the irrigable land and the general management of the smallholder irrigation schemes in the Bawku East District. First, the situation where over 70% of the respondents acquired their plots in the irrigable area of the irrigation schemes through different channels other than the Water Users Association shows that this communal institution is weak. In other words, it means the Water Users Association is not in the position to effectively carry out the task of land administration in the smallholder community irrigation schemes. Although, the creation of community institutions like the Water Users Association is a good step towards ensuring community ownership of the schemes, building the capacity of such decentralized, local institutions is an essential ingredient in this scheme of things. In view of the nature of land cases, decentralized community institutions like the Water Users Association must be empowered to effectively handle such complex land cases.

Second, the commercialization of the irrigable lands is a worrying phenomenon and a threat to sustainable management of the smallholder community irrigation schemes in the district. As pointed out earlier, plots in the irrigable areas of the dams are being “sold” by both the original land owners and other farmers who were lucky to gain access to the irrigable land through the Water Users Association. If this trend is not checked, access to the irrigable area of the dams will be the preserve of the highest bidder. This will eventually defeat the purpose of constructing community irrigation schemes or putting smallholder irrigation under communal management – i.e through the Water Users Association. Similarly, the “sale” and “resale” of plots in the irrigable areas of the dams will make land ownership more complicated and further weakening the existing fragile land management arrangement. When the lands are sold to multiple users, conflict is likely to arise. Similarly, when a parcel of land is resole several times, the question of who is the “owner” or the “original owner” is also likely to arise; and both of these scenarios can result in land conflict if immediate measures are not taken to check the practice.

Third, the emerging factionalism in land ownership in the irrigation schemes is a matter of concern. From our study, one could easily identify different factions in the communities claiming ownership to a certain portion of each irrigation scheme. The diverse tenurial arrangement under which land is held makes its management complex and

problematic. As Kanyinga (1999) points out, the land question, regarding the question of access to and struggles around land ownership in Sub-Saharan Africa has not received the needed attention. We noticed that while a section of a community could lay claim to the irrigable area of the irrigation scheme, another section also lays claim to the catchment area of the dam. We observe that these claims are linked to claims to one's right to the irrigable area of the dam, irrespective of whether the claimant "owns" the irrigable area or the catchment area of the dam. We noticed that any attempt by each of these groups and other stakeholders to stress their right to the irrigable lands, builds up tension which could eventually find a vent and explode in the form of intra-communal land dispute/violence if immediate measures are not taken to diffuse such tension, and clarify the claims of each interest group. For any meaningful and effective management of the irrigable lands, there is the need to recognize and integrate each group's rights and interests into the institutional arrangement put in place to manage the smallholder community irrigation schemes in the district.

Conclusion

The unfolding events regarding land management in the smallholder irrigation schemes suggest that there is no social acceptability with respect to the reforms concerning the governance of the irrigable lands. For instance, the agreement for communal use of the irrigable land of the irrigation schemes during the dry season is not holding as individual land owners have taken over the role of allocating such land from the Water Users Associations. This means that the social acceptability of changes to customary tenure arrangements was not given due consideration in the land reform exercise. Similarly, one can say that the authority of the Water Users Associations is increasingly not recognized or respected. The prevailing situation where the land owners have virtually taken over the allocation of irrigable lands means that they disapprove of the reform that requires them to cede their ownership right to the land during the dry season to the Water Users Associations. Although the earthly priests (*tindanas*) and other identifiable community leaders endorsed such reform, as contained in the letter in Appendix 1, the individual land owner appears not willing to consent to such an arrangement or reform. Under the current circumstances, there are two options available to the stakeholders. First, the District Assembly could directly negotiate with all the land owners and reach an agreement where a certain portion of the irrigable lands could be retained by the landowners, and an agreed portion given out for communal use. By this arrangement, the consent of each individual would be sought and the agreement reached at would be more binding than the prevailing arrangement. Second, the District Assembly could on behalf of

the government compulsorily acquired such lands and put it under the control or management of the Water Users Association or under the District Agricultural Development Unit. Not only is this option consistent with the Constitution of the Republic of Ghana and the country's land laws, it will also go a long way to ensure that many people in the communities will get access to the irrigable land. It will also minimize or eliminate the struggle or conflict over irrigable land in the district. In addition, there is also the need to build the capacity of the Water Users Associations to effectively perform their task. As a community-based institution, it needs to be raised to a level that it can be in touch with the people and at the same time able to exercise some kind of power to ensure effective administration of the irrigable land and the general management of the smallholder community irrigation schemes.

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Appendix 1: Agreement Letter with *Tindanas* for Community Management

Bawku East District Assembly P. O. Box 1 Bawku, 27th November, 1990.

BG.1/SF.16/Vol.2/36:

RE: MEETING WITH DISTRICT ASSEMBLIES/TINDANAS

1. I refer to your letter of 8th November, 1990 on the subject supra and wish to inform you that a meeting was accordingly held at the Conference Hall of the District Administration on Wednesday, 14th November, 1990.

2. An official of the Ministry of Agriculture, Mr. Amiyuure Joseph Atura explained to the attendants that IFAD had drawn up a programme to rehabilitate twelve (12) dams and dug-

outs in this district but required the assistance and cooperation of the Tindanas and land owners of the communities concerned to make its implementation a reality.

3. After some discussions and clarifications to the issues raised by the attendants, the following conditions were agreed upon:-

a. that the catchment and irrigable areas of any dam or dug-out developed by IFAD will be the property of the entire community but not for the individual land owner(s);
b. that individual users of the irrigated land shall be levied fourteen thousand cedis (¢14,000.00) per hectare per each dry season gardening;
c. that owners of livestock will pay the following rates for the use of dam or dug-out facilities (drinking from dam) by their animals;
   (i). cattle – fifty cedis (¢50.00) per head per annum;
   (ii). Sheep and goats – ten cedis (¢10.00) per head per annum;
d. that each of the twelve communities shall established Dam Management Committee to be responsible for the maintenance and utilisation of the dams;
e. that the Dam Management Committee shall be responsible for the collection of all levies which shall be used for the realisation of the objectives set in 3 (d) above."

4. Considering the fact that the long dry season, the erratic and inadequate rainfall experienced in this part of the country culminate in very low income, the importance of irrigation to the people cannot be over-emphasised. We are therefore prepared to offer any possible assistance to enhance the speedy execution of the IFAD Project.

Sgd
PNDC District Secretary
(CHOU-EN-LAI PAUL ANKOMAH)
THE PNDC DEPUTY SECRETARY FOR AGRIC. (UER)
POST OFFICE BOX 3
BOLGATANGA.
Copy to: All Participants.