

Implications of customary norms and laws for implementing IWRM: Findings from Pangani and Rufiji basins, Tanzania

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Abstract

This paper presents the preliminary findings of a WARFSA-funded study, whose objective is to facilitate the formulation of better policies and guidelines for implementing IWRM through case study of local water conflicts. It is observed that, although the current water reforms in the country focus on the use of statutory legal systems to regulate the use of water resources, the country operates under a plural legal system. Apart from the statutory laws, diverse customary systems are relied upon in resolving water-related conflicts, and, neglect of these norms and laws may have negative consequences for the majority of the villagers who rely on them. The paper presents some of the water-related conflicts in the study areas and the views of government authorities and river basin managers regarding customary norms and laws for water resource management. Also, the paper describes how different types of conflicts over water resources are handled through customary, administrative and legal channels.

Introduction

Water resources management in Tanzania is currently under reform. Prompted by increasing pressure on water resources, the government has been trying to establish formal legal systems, fixing property regimes and formalising informal arrangements related to the use of this resource. It is hope by the government that these measures will provide for efficient and transparent institutional frameworks for the management of water resources. Hence, the government has established Basin Water Boards (BWBs) and Basin Water Offices (BWOs) in order to manage water utilisation by different users, i.e. to allocate water rights; legalise, grant, modify and control water abstractions; protect the existing water rights and take to court defaulters of the Water Utilisation (Control and Regulation) Act, 1974. In spite of the government's over-reliance on statutory arrangements for water management, a number of studies have highlighted the interplay between formal and informal institutions, and the implications of legal pluralism for natural resource management (Boesen *et al*/ 1999; Meinzen-Dick and Pradhan (2001); and Derman and Hellum (2002). These studies have emphasised the co-existence and interaction between multiple legal orders such as state, customary, and religious laws. Tanzania has a pluralistic legal system and hence land and water resources are regulated by different pieces of legislation and institutions, including statutory law, customary laws of the 120-plus ethnic groups, Islamic law, etc. Whenever there is scarcity and competition, though, the authorities pretend that the only prevailing law is state law.

This paper presents the preliminary findings of investigations carried out in Pangani and Rufiji basins, the first areas where the government established BWBs. The paper contrasts the statutory principles of water management with the customary systems of utilising water resources in the study area; then presents some of the local conflicts over water resources, before concluding with a discussion of how the different conflicts are handled in the different legal channels. The bulk of the data presented in this paper was collected in Rufiji basin, where the first phase of the research concentrated, although some findings from Pangani basin are also reported. Phase two of the research will concentrate in Pangani basin.

Statutory water management in Tanzania

There are several sources of legal regimes which exist concurrently in Tanzania, and which interplay and affect the utilisation and management of water resources, including:

- Written laws, consisting of the Constitution, laws made by the Legislative Council before independence (known as Ordinances) and laws made by the post-independence parliament (known as Acts of Parliament). Under these written laws there are hundreds of subsidiary legislation for various purposes;
- Received Laws from England. This body of law is used to fill-in any gaps existing in the written laws of Tanzania. This source of law opens an avenue for the incorporation of English laws and principles into laws of Tanzania by filling any gap existing in the body of written laws; and
- African Customary Laws and Islamic Law: this covers a broader terrain than what is contained in court precedents.

Below is an overview of some of the laws that have been used to regulate Tanzania's rivers, streams and internal lakes.

(i) *Water Ordinance, 1948*

This law was enacted during the height of the Indirect Rule system of governance in Tanganyika, and it vested entire property over water to the Governor of Tanganyika in trust for His Majesty as Administering Authority for Tanganyika. The law recognised the rights of native Africans to divert, obstruct, abstract or use water in accordance with their native law and custom: this recognition was unilaterally stopped in 1974 by the Water Utilisation (Control and Regulation) Act, 1974. In other words, the 1948 Water Ordinance recognised the continued operation of traditional customary uses and access to controlled waters.

(ii) *Water Ordinance, 1959*

This legislation was enacted to define the ownership of and the rights to the use of water, to provide for grants of Water Rights and easements and to amend the Mining Ordinance, the Land Registration Ordinance and the Registration of Documents Ordinance. It was based on the established conception that, "All water in the territory is vested in the Governor."¹ The law stated categorically that its provisions were also applicable and binding on government departments and water authorities appointed under the Waterworks Ordinance, Cap. 281.2 This provision, which was binding on government departments, constituted a break from the past legislative practice. For the first time government departments abstracting waters from controlled sources were brought under the regulative regime of the law. The rights of native Africans to abstract, obstruct, divert and use water recognised under Water Ordinance, 1948 were now required to notify the Water Registrar. Section 14 required every person having any existing right to use water (other than Water Rights registered under Water Ordinance, 1948) to notify the Water Registrar of such a right. Strictly speaking, native Africans were also supposed to register their rights.

(iii) *Waterworks Ordinance, Cap. 281, 1963*

This law permits constructions of water supply works for supply to towns, minor settlements and villages. It mostly regulates the supply of water for domestic use, and it also has provisions designed to prevent pollution of water.

(iv) *Water Utilisation (Control and Regulation) Act, 1974, with amendments in 1981, 1989*

This legislation declares that all property over belongs to the Republic, and it establishes "controlled" waters access to which requires Water Rights. The law regulates access and pollution by those abstracting water directly from controlled waters. Under this law, the prominent Water Right holders include: large-scale farmers; those irrigating their lands; hydroelectric Power Stations; Industries; Mining concerns. Persons abstracting water for domestic use, without building water works are not regulated by this law.

¹ Section 6 of Ordinance No. 3 of 1959.

² Section 3 of the Water Ordinance, 1959. Waterworks Ordinance created institutions responsible for Water Supplies to rural and urban areas.

(v) *Urban Water Supply Act, 1981 as amended.*

This law establishes the Dar es Salaam Water and Sewerage Authority (DAWASA). DAWASA holds a Water Right under Water Utilisation (Control and Regulation) Act, 1974 as Amended in 1981. DAWASA is responsible for supplying water in Dar es Salaam and Coast Region; DAWASA is also responsible for drainage of water and sewage matters. The co-ordination of organs dealing with water pollution is further complicated by existence of a number of laws like Local Government (District Authorities) Act, 1982, Public Health Sewerage and Drainage) Ordinance, Cap. 336 all dealing with (various aspects of pollution).

(vi) *Public Health (Sewerage and Drainage) Ordinance, Cap 336, 1995*

This law is concerned primarily with releasing waste water/effluent and quality of effluents flowing from homes, industries, factories, and businesses and also with drainage in urban areas. This law is not applicable to pollution at water sources. Local government authorities (acting as Sewerage Authorities) are expected to regulate waste and effluents from industries that do not abstract their waters using Water Rights (i.e. industries which do not have Water Rights). Also, the local authorities are expected to ensure industries in urban areas have waste treatment plants.

Hence, currently, the Water Utilisation (Control and Regulation) Act, 1974³ is the main piece of legislation in Tanzania regulating rivers, streams and internal lakes. This law has an elaborate system of controls, ranging from declaring all water to be the property of the Republic, to designation of waters as “National Waters” and “Regional Waters.” The ability to declare certain rivers and watercourses to be “National Waters” or “Regional Waters” empowers the minister responsible for water development to regulate the use of water from any source as a national water supply⁴. In exercise of these powers, the minister has declared several rivers, e.g. Uмба, Sigi, Ruvu and Pangani to be national waters, subject to the control of the Principal Water Officer and the Central Water Board⁵. All other sources of water not designated as “National Water” are regional water supplies, under the control of Basin Water Boards (BWBs), Basin Water Offices (BWOs) and Regional Water Engineers (RWEs)⁶.

Integrated water resources management in study area

In Tanzania, IWRM is implemented through River Basin Management (RBM). The RBM concept has been defined as “the management of water systems as part of the broader natural environment and in relation to their socio-economic environment” (Mutayoba, 2002:4). This approach is not new in Tanzania, having started in the late 1950s and early 1960s, when the water resources in the Rufiji basin were extensively studied by FAO; also in 1961 the government undertook a study for integrated utilisation of the Ruvu basin (Mutayoba, 2002). According to URT (1981), the minister for water development “may, by order published in the Gazette, declare any area of land to be water basin in relation to any river. There shall be a Basin Board in respect of each declared basin”. Under this amendment of the Water Act, in 1989 the Minister for Water gazetted nine river basins, i.e. (i) Pangani, (ii) Wami/Ruvu, (iii) Rufiji, (iv) Ruvuma and Southern Coast, (v) Lake Nyasa, (vi) Lake Rukwa, (vii) Lake Tanganyika (viii) Lake Victoria, and (ix) the Internal Drainage basins of Lakes Eyasi, Manyara and Bubú. So far, five Basin Water Offices and Boards have been created (Mutayoba, 2002: 7). These are: (a) Pangani Basin (since 1991); (b) Rufiji Basin (since 1993); (c) Lake Victoria Basin (since 2000); (d) Wami/Ruvu basin (since 2001); and (e) Lake Nyasa basin (since 2001)

Data for this study were obtained from two of the nine river basins, which Tanzania has defined for water resources administration, that is, Pangani and Rufiji basins (see Fig.1). As it was noted in Maganga *et al* (2002), the Pangani river basin has a total area of 42,200 km² (including 2,320 km² in Kenya). The basin carries waters from Mt. Kilimanjaro and the Northern Highlands into the Indian Ocean. It contains a big man-made lake called Nyumba ya Mungu, constructed for hydro-power generation. Since the 1930’s hydro-power production in Tanzania had depended on the Pangani basin, although in recent years the country has developed other hydro-power sources, including the power stations of Kidatu, Mtera and Kihansi. Pangani

³ Act Number 42 of 1974.

⁴ Section 9: Water Utilization (Control and Regulation) Act, 1974.

⁵ Established by the Water Utilization (Declaration of National Water Supply Sources) Notice, 1975, Government Notice No. 242/1975 and the Water Utilization (Declaration of National Water Supply (Amendment) Notice 1978, Government Notice No. 59/ 1978.

⁶ Amendment Act No. 10 of 1981 introduced the basin management and pollution control systems. This Act provides for the Central Water Board and Basin Water Boards to oversee administration of the legislation.

basin is also within the Northern tourist area, which is one of the most visited areas in Tanzania, and contains the Arusha and Moshi industrial municipalities. A sizable area is also under traditional livestock keeping, which is also an important component in the overall water management in the basin.

The Rufiji basin covers an area of about 177,420 km² (about 25% of the total land area of Tanzania), and drains the Southern Highlands into the Indian Ocean. The basin comprises four major rivers: The Great Ruaha, Kilombero, Luwengu and Rufiji. Within the basin, water scarcity is acute in the Great Ruaha basin, and this has resulted in very low water levels at Mtera Reservoir, the main regulatory structure on the Rufiji River (Baur *et al* 2000; URT 1995a). Since 1988, when the Mtera Dam was commissioned, water levels have been declining and have not recovered. Low water levels have had negative impacts on hydro-power generation, resulting in load shedding and rationing of electricity nationwide. According to URT (1995a), a number of factors caused low water levels at Mtera, including drought, increased upstream abstractions for irrigation, and poor operation of the Mtera reservoir.

During fieldwork concern was raised about how Basin Boards are constituted. The fear here is that outsiders, with no interests in water resources management may be appointed to the Basin Boards. Also, it seems like the capacity of the Rufiji Basin Water Office is overstretched. Apart from the Water Officer (hydrologist), the office has the following other employees: (a) a hydrologist, (b) a forester, (c) a social worker and (d) two technicians stationed at each of the Field Offices at Utete, Rujewa and Ifakara.

The small office is expected to perform many tasks. All pre-existing traditional water rights have been recorded and given new numbers. After this process, all those interests and rights, which were not registered, are regarded as illegal and owners liable to prosecution. Even former chiefs and sub-chiefs were given water rights under the new legal regime. Following the Arusha Declaration and nationalisations of the major means of production that followed, most Water Rights appearing after 1974 were owned by government ministries and departments, and public corporations. Proper and adequate preparations are needed before the government ministries and departments surrender their Water Rights. During its recent survey, Rufiji Basin Office discovered that 255 Water Rights had been abandoned over the years and most of these were issued to government ministries and departments. The majority of people in Rufiji Basin still abstract water from without any water right. The Great Ruaha has over 500 water rights. Many more abstractions are made outside water rights system. In a survey carried out two years ago, there were 568 abstractions throughout the Rufiji Basin that were made outside the Water Right system. This constituted 37% of total abstractions. Many of the abstractions take place in far off villages where the Basin Board has little access. The "offenders" are so many and could not conveniently be taken to court. The Rufiji Basin Office prefers to use its existing administrative structures to regularise illegal abstractions rather than going to court. What the Rufiji Basin Water Board does is to encourage the formation and constitution of water users' associations. These associations would then be encouraged to apply for Water Rights.

Conflicts over water resources in Pangani and Rufiji basins

According to a number of recent studies (e.g. Ngana, ed. 2002), water management in Pangani basin has to balance between following competing uses (i) on the slopes of Mt. Kilimanjaro and Mt. Meru there is water demand for coffee and banana cultivation; (ii) on the lowland large amounts of water are required in the paddy farms; (iii) around Arusha town water is required for flower cultivation (for export); (iv) further downstream, water is required in hydropower plants at Nyumba ya Mungu, Hale and Pangani Falls to generate electricity for various needs, including several industries in Arusha and Moshi towns. As a consequence of these competing needs, sectoral water demands are not being met, water levels in storage reservoirs are low, and competition for water between farmers and hydro-power generators and between groups of farmers has intensified. With respect to Rufiji basin, various water uses co-exist in the basin, including domestic and livestock water supply; irrigation (mainly in the Great Ruaha and Kilombero valleys); hydro-power generation; fishing and wildlife water supply; and transport.

After noting that the Rufiji basin is too vast, the basin board has initiated sub catchment-based water boards. These boards will assist the Basin Board in the management of water resources within the sub-catchment and also mediate conflicts taking place within the sub-catchment. Membership to sub-catchment boards will be conditioned upon having a Water Right. Prospects of creating sub-catchment boards have evolved out of the experience within the Rufiji Basin. At the moment, Water Utilisation (Control and Regulation) Act, 1974 does not provide for the establishment of sub-catchment basin boards. The Rufiji Basin Office has high

hopes for these Boards. It is expected that they will assist the Basin Office at Iringa and Field Water Offices in the process of processing Water Rights.

Utilising water resources through customary arrangements

For the majority of the people in Pangani and Rufiji basins, access to land and water for irrigation is regulated according to customary norms and rules. As it was noted by Boesen *et al* (1999), it is imperative to remember that most of the customary law and norms are unwritten and flexible, implying that we are dealing with a very complex phenomenon. In this respect, Boesen *et al* (1999:121) point out that it is possible to conceptualise four different types of customary law, including the customary laws of specific ethnic groups; customary law which is applied in courts; customary law which is applied by traditional authorities (chiefs, headmen, etc) outside the state system; and living customary law, i.e. customs and practices of the people today and the principles underlying these practices.

In the two basins, irrigation is carried out by gravity, using simple unlined canals to divert water from their sources (normally rivers). In some cases simple dams are erected by barriers of boulders, and strengthened with branches and mud in order to control the water flow, but the technical efficiency of such simple technology has been found to be wanting, as noted by Adams *et al* (1994). Below are two examples of customary water management for irrigation from Pangani basin (Musa Mwijanga scheme) and Rufiji basin (Nyeregete scheme).

The Musa Mwijanga irrigation scheme

Kilimanjaro region in the Pangani basin has a long tradition of gravity-fed irrigation canals (*mifongo*), and, according to Tagseth (2002), some schemes were established during the 17th century. He observes that these canals are important elements in the cultural and technological heritage of the Chagga people, and for centuries they have continued to utilise a network of these canals for irrigation and other purposes. The Musa Mwijanga scheme, as reported in Maganga (1998), started about fifty years ago when a farmer named Musa Mwijanga started an irrigation canal, abstracting water from river Weruweru by means of a traditional weir. Soon other farmers joined in and extended the canal to a considerable length. There was no question of obtaining a "water right" as demanded by statutory law presently. Most of these furrows were originally built for domestic water supplies, but subsequently they were adapted for supplementary irrigation of coffee, bananas and vegetables.

According to informants, operation and maintenance of the scheme is supervised by an elder, *Mzee wa Mfereji*, who is assisted by one overseer for each of the three secondary furrows. The allocation of water between the furrows is based on long standing agreement. During the dry season there is considerable competition for water, and plots on the lower reaches of the supply system tend to suffer most when only limited water is available. Maintenance of a routine nature, particularly cleaning of the canals is carried out four times a year by the farmers – the main canal and secondary furrows are cleaned collectively, but at the tertiary and farm level cleaning is done individually. Approximately 600 families use the Musa Mwijanga scheme, irrigating a total of 600 ha. The scheme has been operating for more than 50 years without any noteworthy environmental problems, and good crops are still being obtained. As noted in Maganga (1998), apparently, the traditional system, with its multi-culture combination of trees, rice, vegetables, beans and groundnuts has combined well with naturally good soils to lead to sustainable resource management. The Pangani Basin Water Office is supposed to ensure that schemes such as Musa Mwijanga apply for, and pay for their water rights.

The Nyeregete irrigation scheme

On Usangu Plains there are many instances where villagers organise themselves under an informal association, *chama*, in order to construct an irrigation system. A good example of such a "traditional" irrigation systems is found in Nyeregete village canal, which started in 1964 when a small group of villagers organised themselves to dig a canal to irrigate their farms, in order to complement the erratic and un-reliable rains (Maganga, 1998). As they undertook the task of constructing the canal, no doubt the villagers were influenced by indigenous knowledge and customs related water use in the area. As noted in Odgaard and Maganga (1995), the Sangu, who are the dominant ethnic group have laws and customs guiding the use of water. Under traditional laws and customs the construction of irrigation canals and furrows was controlled by the chief, and, although a single individual could tap a stream for his purpose without first consulting the chief, the latter could prohibit the construction or use of any such canal or furrow. Once constructed, the canal or furrow was the exclusive property of the people who constructed it until they abandoned it, then, it

reverts to the chief. Over time, this tribal law has undergone some changes, - chieftainship was abolished in Tanzania since the early 1960s.

In any case, the Nyeregete canal was constructed by referring to the customary system of obtaining irrigation water, where people organise themselves informally and construct a canal to divert water from Kiyoga river. Each member of the canal then constructed smaller furrows to tap water from the main canal to their fields. Canal groups like the one in Nyeregete are usually initiated by a few individuals - afterwards they grow into a larger Canal Committees, such as the one in Nyeregete, which, according to informants, has a membership of 300⁷ and it covers a distance of about 20 miles. The Canal Committees and sub-committees (established for each sub-canal) oversee the allocation of water to members, as well as the maintenance of the canal. The Nyeregete Canal has to be cleaned every year during the months of August-December, and if a member abstains from the maintenance activities, he or she is liable to a fine.

There was a lot of resentment when the Rufiji Basin Water Office tried to assert its authority over water allocation in Nyeregete. According to regulations, all such canals are supposed to apply for water rights, to pay Tshs 30,000/= for the application form and the annual fee of Tshs 250,000/=. The villagers say that before the arrival of the Rufiji Basin Water Office technicians, they shift from their traditional canals to tail water flowing from the Mbarali NAFCO farms. When the villagers were prevailed upon to obtain their own water right, Mbarali NAFCO farms decided to block its tail waters from flowing to their village. When the system of Water Rights was imposed, conflicts over water have been increased, especially in a dry year like 2003. The Basin water Office has not been very helpful because it is more concerned with collection of rates rather than reconciling conflicts resulting from competition over waters. Conflicts come to the open when rains fail and canals run short of water. Nyeregete villagers claim that they had been reduced to begging for water, moving from one government office to the other complaining over water. Their Member of Parliament and their District Commissioner were informed of their predicament

Managing water conflicts

There are several avenues through which disputes over water may be resolved or referred to. The disputes can be styled as civil proceedings or criminal proceedings either in Ward Tribunals or Magistrates' Courts. Village government can be a complainant to a criminal or civil proceeding. The following examples serve to illustrate how the different disputes are handled in the different channels.

(a) Simon Dangala vs Irrigation Manyenga "A" Irrigation Association

This case SD first uses customary arrangement to obtain water for irrigation. However, he switches to statutory arrangements of applying for Right of Occupancy, when he sees that he could take advantage of this system for personal benefit, even though he ends up creating conflict and tension within the community.

In 1969 Simon Dangala in collaboration with 5 other villagers started the Manyenga irrigation canal. They invited other villagers to join in, and soon the canal had a membership of 36 villagers, most of them cultivating rice. As the membership grew, tensions started emerging among them, especially regarding maintenance of the canal, and competition over scarce water. All the other villagers who started the canal have since died. In 1997 SD (who actually lives in another village, Mawindi), applied for and got a 33-year Right of Occupancy for 59 acres of land on the upstream of the canal, creating tensions with villagers who depended on the canal downstream. SD did not have the ability to cultivate all the 59 acres, cultivating only about 4-5 acres, and renting the rest for between T. shs 15,000/= and T.shs 20,000/= per acre. The Rufiji Basin Water Board encouraged the villagers to form a Water Users Association in order to benefit from a World Bank-assisted Smallholder Irrigation Project. In 1998 the villagers applied for Water Right for their Association, but SD objected, since the canal passed through his land. He demanded a "compensation" of T. shs 150,000/= for his efforts in maintaining the canal since 1969, before he could allow the canal to pass through "his land".

In 2001, SD filed a civil case before Rujewa Primary Court, alleging that Adriano and Ayubu had encroached and trespassed into his duly registered canal by building bricks (*Simon Dangala vs Adriano Tandika and Ayubu Kanyamala Civil Case 38 of 2001, Rujewa Primary Court*). The canal in question was registered in Dangala's name and given number RBWO 96. He traced his ownership to the canal to a 1997 letter from the Rufiji Basin Office. The letter urged him to pay for the Water Right before 1st June 1998, and on 14th October 1998 he was given the Water Right, stipulating terms and conditions for his use of water. The complainant claimed that after getting the water Right he built a canal in 1999 by engaging the services of paid casual

⁷ Interview with village leadership, Nyeregete village, 4 June, 2003

labourers. On 19th October 2001 while returning from his farms he found the respondents constructing a canal to draw water from the source, through his farms SD denied that he was a member of the Irrigation Association of Manyenga "A". Adriano Tandika told the Primary Court that he farmed at Manyenga, although he was not a resident of the village. He only used the Manyenga "A" by virtue of being a member of the Irrigation Association of Manyenga "A", which he joined in 1997. He alleged that when he joined the canal membership, it was under the leadership of SD. The canal broke down in 1997, and Adriano joined in the canal repair, and he rose to the position of Assistant Secretary in the Irrigation Association. He further testified that, in 1998 misunderstandings arose when SD demanded and was given Tshs 150,000/= for his role in the founding of the canal. Adriano further contended that SD's Water Right was RBWO 96, whereas the canal they were building had 200 registered members, with a Water Right RBWO 102. The Primary Court, comprising of the Primary Court Magistrate and two Court Assessors visited the canal in dispute. The court found that SD had no claim over the registered canal RBWO 102, which the two respondents were building. In addition, the Primary Court noted that SD's Water Right (RBWO 96), had been revoked by the Rufiji Basin Water Office. SD lost his case and was ordered to pay the cost incurred by the two respondents. SD appealed to the District Court (*Simon Dangala vs Ayubu Kanyamala and Adrian Tandika*, Civil Appeal No. 2/ 2001). The District Court dismissed SD's appeal and noted that (a) The two respondents were given ownership of water registered as RBWO 102 as formal owners of Manyenga "A" Irrigators Association (b) Though it is true SD built the canal of Manyenga "A", he was compensated for the labour and costs he incurred.

(b) *Igurusi Primary Court, Criminal Case No. 41/2003: Semu Mwakibete (Complainant) versus John Mwigombe (Respondent)*

The Accused (Nyakyusa tribesman) was accused by the Complainant (a fellow Nyakyusa) of destroying his water canal and preventing water from flowing into his paddy field. Accused charged under section 326 (1) of the Penal Code (Chapter 16 of the Laws of Tanzania). The Accused denied the charge. Witnesses testified to the effect that the area was experiencing a low flow of irrigation water because of failing rains at the time, and that the Accuse went out at night to block the canal to enable water to flow into his own paddy field. The canal belongs to a local irrigators' group, and the Complainant was the leader of the group. The accused was not a member of the group. Section 326 (1) of the Penal Code provides that: "Any person who wilfully and unlawfully destroys or damages any property is guilty of an offence and is liable if no other punishment is provided, to imprisonment for seven years. Section 326 (3) provides for a possible life imprisonment: "if the property in question is a bank or wall of a river, canal, aqueduct, reservoir or inland water which appertains to a dock, reservoir or inland water, and the injury causes actual danger of inundation or damage to any land or building". The Accused was found guilty, and the Primary Court imposed a fine of Tshs 100,000/=, or 6 months imprisonment. The Accused paid the fine.

(c) *Igurusi Primary Court, Criminal Case No. 35/2003: Ibrahim Kada (Complainant) versus 1. Philipo Kavuta and 2. John Makosano (Accused Persons)*

The Complainant, a Tanzanian of Baluchstan origins, locally known as "Bulushi" tribesman owned a water Right for his private canal. The Accused Persons (Nyakyusa tribesmen) were accused of trespassing and destroying the canal for purposes of leading water to irrigate their farms. During the course of the criminal proceedings, the two parties requested to be allowed to settle their dispute out of court, and the complaint was withdrawn.

(d) *Chimala Primary Court, Criminal Case No. 49/2003: Tambi Tony (Complainant) versus 1. Mandalu Kulwa 2. Sad Kashinje 3. Hamisi Mtanzania*

The parties to this criminal case are all members of the Wasukuma tribe of Tanzania. The Accused were alleged to have dug an irrigation canal through the farm belonging to the Complainant. Judgement in this case is still pending, the witnesses for both parties having already testified.

(e) *Igurusi Primary Court, Criminal Case No. 36/2003: Faro Mtafya (Complainant) versus Daudi Ngolele (Respondent)*

This case illustrates conflicts over water in their more violent manifestation. The Accused person was charged under section 241 of the Penal Code, Chapter 16 of the laws of Tanzania. The section provides that: "Any person who commits an assault occasioning actual bodily harm is guilty of an offence, and is liable to imprisonment for five years. The parties in this case were involved in a fight, using machetes. It was alleged

that the accused person went out at night to destroy a private canal in order to allow water into his farms. The Complainant was at the time armed with a machete, and a fight ensued. He parties asked the court to allow them to settle their dispute out of court, and their plea was granted – the criminal charge was dismissed.

(f) *Chimala Primary Court, Criminal Case No. 9/2003: Anthony Kilando (Complainant) versus Shomary Chekeche*

The Complainant is a Mkinga tribesman, while the Accused is a Mngindo. It was alleged that the Accused destroyed a canal taking water to the paddy fields of the Complainant. The Complainant, a leader of the Irrigation Canal Group in Usunula village within the Ward of Rujewa, complained that the Accused destroyed the canal in order to allow water into his farm. The Accused was set free after agreeing to pay a compensation of Tshs 50,000/=.

(g) *Rujewa Primary Court, Criminal Case No. 296/2002: Women Economic Association (Ruchana Kiponda) – Complainant – versus Pemne Msavandezo*

The incident occurred at Imalilo Songwe in the Ward of Ubaruku, Rujewa. Acting on behalf of of the Women's Association, the Complainant (a Msangu by tribe) alleged that the Accused (a Sukuma tribesman) built a canal through the women group's area, to his farm. The Accused was charged under Section 326 (1) of the Penal Code. The Accused was found guilty, and was ordered to pay the group a compensation amounting to Tshs 60,000/=, and was ordered to enter into an agreement with the group on how to utilise the waters of the canal he had constructed on the group's land.

(h) *Rujewa Primary Court, Criminal Case No. 54/2003: Damani Mponzi (Complainant) versus Charles Mlambalafu*

Charles Mlambalafu (a Mhehe tribesman), was accused by Damani Mponzi (a Msangu tribesman), of destroying a water canal leading to the Complainant's paddy fields. The Accused went into the Complainant's farm and blocked the water canal to enable irrigation water to go into his own paddy. The Complainant contended that this blockage cause water to stop flowing into his farm, leading to the destruction of his farm. In his defence, the Accused told the court that he did not block water from flowing into the Complainant's farm, but to direct some of the water into his own farm as well, because he was also entitled to some of the water. The Accused was ordered to pay a Tshs 45,000/= compensation to the Complainant, and a fine of Tshs 8,000/=

Conclusions

This paper has described statutory and customary systems of managing water resources in Tanzania, discussing some of the challenges of implementing IWRM whilst taking appropriate account of customary norms and laws, with Pangani and Rufiji river basins as case studies. The paper has shown how the current water reforms in Tanzania have focused on the use of statutory legal systems to regulate the use of water resources, in spite of the fact that Tanzania operates under a plural legal system. It has been noted that:

- The implementation of RBM in Pangani and Rufiji basins focuses on water rights, introduction of user fees, promotion of WUAs, and enforcement of statutory laws guiding water use. There is very little indication of consideration for people's water rights as provided by customary arrangements. Smallholder farmers in Rufiji basin view basin management suspiciously, and consider it as an effort to safeguard TANESCO's⁸ interests in reserving sufficient water for hydropower.
- The Water Right system is not well defined, and it suffers from lack of implementation. The system is viewed by smallholders as a way of organising them for the purpose of making them pay water fees, which they do not believe in. Rather than trying to charge large numbers of smallholders for small quantities of the water they use, it is suggested that the government should target the few high-volume users, who make considerable benefits from water (e.g. TANESCO).
- Organizing small-scale water users into Water Users Associations for the single purpose of making them pay their fees is economically unrealistic. The non-monetary costs of the water rights system

⁸ Tanzania Electric Company, the power generating company

include seriously antagonising and alienating citizens and voters and disrupting a customary water rights system that works well to allocate water in times of abundance and during the dry spells (see Van Koppen, 2002).

- Data on water conflicts and conflict resolution illustrate the interplay between customary and statutory systems of resource utilisation and conflict management at the local level.

In order to address the challenges of implementing IWRM while at the same time taking account of customary arrangements it is recommended to adopt an approach which includes people's water rights as provided by customary arrangements. This approach, which combines elements of RBM and customary arrangements at the local level is the only way to implement IWRM based on the second of the four Dublin principles – that water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels.

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