TwinBasin xn	**Reporting guidelines**	**Number of pages: 13**

Mission reference
2006 C3 T 21 M1

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Mission report

Expert Name and Function

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Assisted by Kunga Ngece Nicholas- Programmes Director, Volunteers For Africa

Wording of missions: *In short, objective or content of mission*

Mpigi (Uganda)- Mt Kenya (Kenya) Rivers Basin Twinning Project : Capacity building of 2 basin organizations.

The objective of this twinning mission was to provide a learning programme, staff and community capacity building and an understanding of management and conservation issues around water resources within the Tana River Basin in Kenya. The mission involved a tour of 4 members of FOMAF (two technical staff, and two coordinators of member CBO's) to the Tana River Basin in Kenya. This included visits to some of the community based organizations working in the Tana Basin, anda round Mt Kenya forest, with a view of finding about the work they engage in, as they try to protect and conserve wetland and forest resources. The mission also involved lectures and talks from the host organization (VFA), members of the community, water resource managers from the Meru South Municipality and Ministry of water.

1. CONTEXT

Place, location: Country visited, Basin Organization concerned, other information about location

KENYA: A visit was made to Meru South District, divisions of Chuka, Magumoni, and Chogoria by technicians from FOMAF, Uganda. Various community based organizations working with VFA were visited. Volunteers For Africa is an organization working around Mt Kenya forest, in Mt Kenya East with grassroots

communities in developing IWRM programmes was the host, and had arranged all aspects of the visit. VFA also works in other parts of Kenya, Uganda and Tanzania in IWRM and forestry issues. Host CBO's including Meru South Environmental Group, Kamiri CBO, Muthiria Nyoni Group, Kanguo Group, Mitheru Network Association, Kiangondu Network Group, Ndigia Bee Keeping Group, Chuka Drummers Group, Karamani Network Association, Gakiune Network and Chogoria Conservation Association.

Mission duration:

Fourteen (14) field days, and two (2) travel days.

2. OBJECTIVES

Initial objectives		**Results**	**Results indicator** *explain with some details how far the results have been achieved if compared to initial objectives*
1	Learning about the operations of Tana River Basin CBO's, and how the basin looks like.	11 CBO's hosted the team, and took them through their day to day activity in the field. Visitors were also able to see maps of the basin, and relate them to its contribution to the water issues of a major Kenyan economy.	Explanations by the CBO leaders, including interactions with the community, and visits to the projects each of the CBO's engaged in enabled the visiting mission to learn, and see what kind of initiatives they could introduce in their basin. Such initiatives would enable communities look at basin issues more closely, and see the essence of basins in local, national and regional economic development.
2	Sharing experiences from Uganda to Kenya through talks by the visiting mission (FOMAF) to the membership of the host CBO's	Interactions between the visiting mission and members of community, including talks the mission gave were received with keen interest.	In each of the visited areas, the visitors gave talks, in pre-arranged meeting places and in the field, next to wetlands, and on the shores of rivers. These talks enabled the community at large learn basin and water management issues first hand from the visitors. Question an answer sessions were very common.

3	Inter organization learning for both FOMAF and VFA technical team, and affiliate organizations	Within this mission, staffers of FOMAF dealing with IWRM, and all CBO's working with FOMAF were able to learn how VFA technicians handle working with communities. Key approach methodologies were laid bare, and these would be applied by the FOMAF team once the mission came to an end	Enthusiasm in the visitors to see more and more in the field was evident enough that there was much to be learnt, and applied back in Uganda. Notable was the interest the visitors had in work of some 3 CBO's, who have been able to capture in maps flow of waters from the Mt Kenya basin, all the way to the Indian Ocean.

3. ACTIVITES DEVELOPED during the mission

Activity 1	**Topic:** *(legal aspect, Regulation, Institutional, Finance, Communication…)*
Practical lessons in the field (edge of forests and wetlands and along rivers) and with villagers in Baraza's.	Community (CBO) visits- Visits to 11 CBO's were arranged. Each CBO had a 1 day span with the visitors, where they were able to take them to their area of work, guide them through their projects, visit the water sources in their jurisdiction, including wetland reforestation efforts they were involved in, as well as other income activities that enabled members not consider wetlands as primary income sources. Visits were very important because practical experiences changes people's mindset. The host CBO's explained step by step how things are done, including community mobilization for activities, resource mobilization, how they seek technical help from trained officials from VFA, the Municipal water officials, officers from the government ministry of environment and water, and also how they are able to gather literature about the basin. They were also appraised on basin oriented income generation activities that do not contravene water and wetland use principles.

Activity 2	Topic:
In-house lecture by trained technicians from VFA, CBO's and government officials dealing with IWRM issues in the district.	In the offices of 3 CBO's the visitors were able to participate in lectures organized by the trained technicians from the ministry, and others from member CBO's. In these lectures maps were shown about the progress of the organizations, and VFA's work in the Tana River basin, especially in the Mt Kenya East Area. Methodologies used were shown. Question and answer sessions were part of the lectures. After these lectures, lessons in the field were done. Issues like replanting of wetlands with indigenous trees, spring protection, creation of river buffer zone, soil and water conservation practices in farms near water springs, as well as sound farming technologies near the streams were showcased.

4. LESSON LEARNT during the mission

(What could be shared with other partners and/or introduced in guidelines, as far as IWRM is concerted)

- **About methodology**:

Methodology used was perfect. Most people are used to classroom work, but in the case of this exchange, less classroom and more of practical experience was applied. This ensured the visitors got first hand information about the practices of IWRM in the Tana River Basin.

- **About Practice:**

The visiting team learnt much about IWRM practice from the Mt Kenya East area. Some important practice learnt included water catchment protection methodologies, and documentation of stream flow and levels, as well as construction of stream and wetland buffer zones. Aspects of community mobilization were also learnt.

5. DISSEMINATION (opportunities and difficulties)

In what measure these learnt lessons are applicable to:

- **The basin Organization the expert belongs to:**

FOMAF will strive to introduce some of the methodologies learnt from the Tana River Basin in the Nile River Basin. Some of the practices were very personalized to the basin, but are replicable. An example is the wetland drama versions the community was engaged in, which is not in Uganda./

- **National IWRM practice:**

Yes, much learnt from the Tana Basin could be adopted by Uganda's national IWRM practice. We saw some of the methodologies applied in catchment protection, where the community themselves determined buffer zones for the wetlands, including some giving up their land for protection.

- **Regional experience:**

We trust the examples in Tana River are worthy being shared as how cases in the region. We would recommend more organizations to visit this area to see for themselves what is happening.

- **Worldwide:**

If a documentary was made of this area, and shared with a wider audience, it would do good in contributing to IWRM practices in the world. Off course we are not saying this is the best, but we trust the level of community organization around Mt Kenya is worth sharing world wide.

6. IDENTIFIED TIPS

Identified tips which could be useful for colleagues

Some of the methodologies applied by the community are worth being replicated. Drama for water and wetlands is unique. Ecotourism around water is also worth learning. What about someone giving up a huge chunk of land for water protection/ It never happens…

7. PERSONAL COMMENTS

What does the missionary think about his mission?

It was a learning experience for the team. And we trust that the visit by the Kenya team to Uganda will be a greater learning experience for us.

8. CONTACTS

Principal local contacts met

Name	Occupation	E-mail	Phone number
Mr. James Mugambi	**Project Leader-Kibumbu conservation Group.**	**C/o Volunteers For Africa, email volunteersafrica5@yahoo.com**	**n/a**
Ms Grace Murugi	**Women in WRM Programme**	**C/o Volunteers For Africa, email volunteersafrica5@yahoo.com**	**Tel +254 722 503639**
Mr F. Gakere	**Forester, Mt Kenya Forest**	**n/a**	**Tel +254 735 643286**
Mr Dominic Micheni	**Chairperson Meru South Environmental Group**	**C/o Volunteers For Africa, email volunteersafrica5@yahoo.com**	**Tel +254 721 690266**

9. BIBLIOGRAPHY

Main documents, manuals or supports used during the mission which could be useful for colleagues

Bibliography
• *Name of the author; date of publishing. Full name of the document. Name of*

the structure, of the program and/or of the framework in which the document has been realized. Name of book (and volume) which contains the document. Name of editor. Number of sheets. Interesting sheets
• Mutisya, D. and S. Mutiso. 1998. Socio-economic aspects of subsistence farming and soil erosion in tropical catchments: The Tana Catchment, Kenya. pp. 50-59. In: D. Harper and T. Brown (eds). The sustainable management of tropical catchments. John Wiley & Sons. Indianapolis, IN • Schneider, H.M. 2000. Sediment sources to Masinga Dam. In: Land and Water Management in Kenya. Eds. Gichuki, F.N., Mungai, D.N., Gachene C.K. and Thomas D.B. Published by Soil and Water Conservation Branch, Ministry of Agriculture and Rural development, Nairobi, Kenya. • Vanleeuwe, H., Woodley, B., Lambrechts, C., Gachanja, M. 2003. Change in the state of conservation of Mt. Kenya forests: 1999 – 2002. DICE University of Kent, KWS, UNEP, KFWG. • Wass, P. 1995. *Kenya's Indigenous Forests: Status, Management and Conservation*. IUCN, Nairobi, Kenya.

Financial report

Expert Name: Mr. Joseph Mukasa- Technical Expert, FOMAF					
Start	**Departure**	**days**	**@ days cost (€)**	**travel cost (€)**	**Total**
28 June 2006	13 July 2006	16	70	133	1253
Expert Name: Ms Daizy Kizito- Community IWRM Expert					
Start	**Departure**	**days**	**@ days cost (€)**	**travel cost (€)**	**Total**
28 June 2006	13 July 2006	16	70	133	1253
Expert Name: Mr. John Kawooza- Community REP and IWRM Educator					
Start	**Departure**	**days**	**@ days cost (€)**	**travel cost (€)**	**Total**
28 June 2006	13 July 2006	16	70	133	1253
Expert Name: Ms Marion Ebiachu- Technical Expert, FOMAF					
Start	**Departure**	**days**	**@ days cost (€)**	**travel cost (€)**	**Total**
28 June 2006	13 July 2006	16	70	133	1253
TOTAL				**532**	**5012**

Papers to join:

- ☐ **Original justicatives Plane Ticket and Boarding Pass**
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ITALY
E-mail: info@techwarenet.org
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Annex 1. An insight into the Tana River Basin.

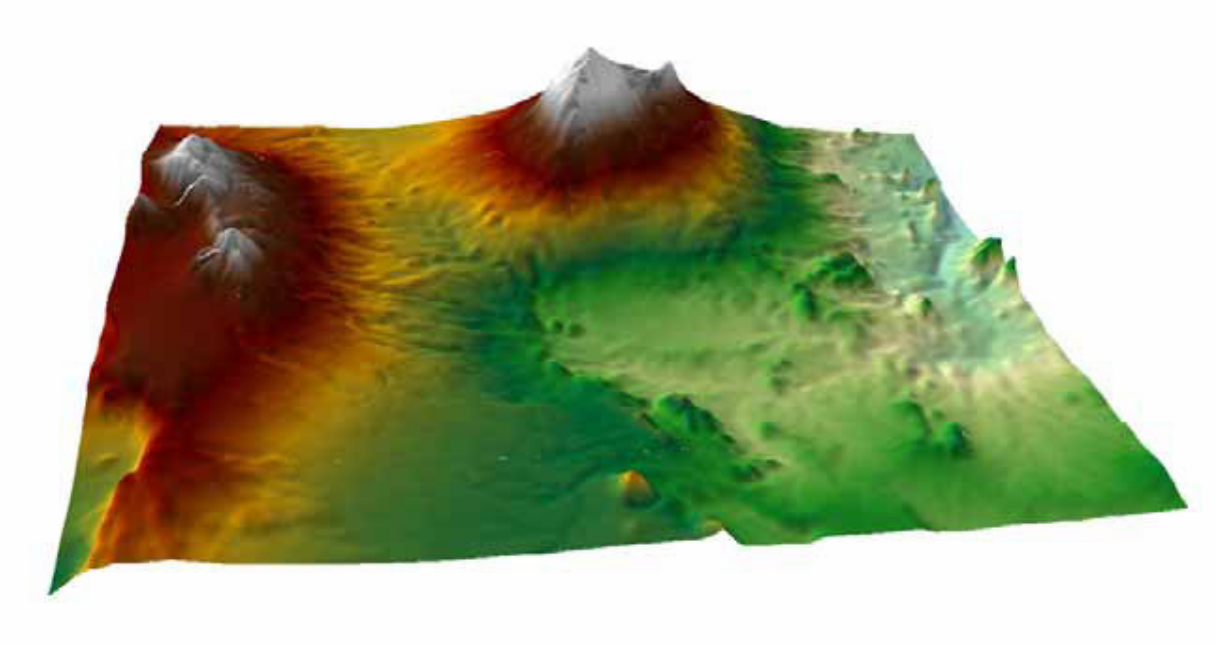

Figure 1: A 3 D Elevation of the Tana basin showing part of the area visited by the team. Please see the mountain (Mt Kenya) at the top and the adjacent forest

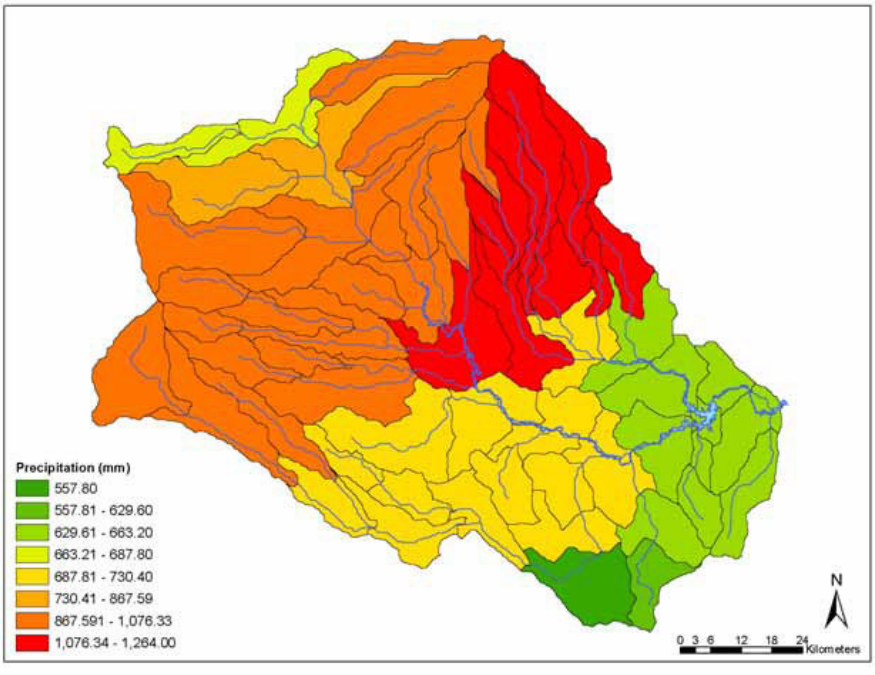

Figure 2: An elevation of the area visited, showing some of the streams emanating from the area.

The Tana River basin is north and northeast of Nairobi, and encompasses the towns of Meru, Chuka, Embu and Nyeri. The Tana River begins in this region with major tributaries arising on the slopes of Mt. Kenya and the Aberdare Range. It traverses through the study area and travels approximately 1,000 km to the Indian Ocean on the eastern coast of Kenya. The entire catchment area of the river is approximately 100,000 km2 and the river is a vital resource for both water and hydroelectric power for the region and for Kenya.

The elevation of the basin ranges from a high of 4,700 m on Mt. Kenya to a low of 730 m near the Kindaruma Dam. Soils vary with elevation in the region with Andosols being the predominant soils at the higher elevations, Nitosols at the mid elevations, and Ferallsols and Vertisols are predominant at the lower elevations (Pacini and Harper, 1998).

Major land uses within the basin include forests, cropland agriculture, and rangelands. At higher elevations within the basin, forests and tea cropping predominate. The most intensive agriculture occurs at mid-elevations and a variety of crops are grown including coffee, maize, bananas, napier grass, and beans. At the lower elevations of the basin, the area has less intensive agriculture and livestock grazing is a dominant land use.

Rainfall follows a similar elevation gradient as that of soils. Mt. Kenya and the Aberdare Ranges receive greater than 1,800 mm/yr of rainfall (Otieno and Maingi, 2000). At the mid elevations
(1,200 to 1,800 m) where intensive agriculture is predominant, annual rainfall ranges from 1,000 to 1,800 mm/yr. Below 1,000 m, rainfall is less than 700 mm/yr which is too low for intensive agriculture so cropland is sparse and livestock grazing predominates (Otieno and Maingi, 2000).

Hydrologic Characteristics

Even with high rainfall in elevations greater than 1,800 m, there is a marked seasonal variation in river flow. The rainfall pattern has two distinct wet periods each of three months total duration, separated by dry periods. During these

dry periods, high demand for water both for irrigation and urban needs as well as sustained electric power generation can not be adequately met. Due to this seasonal fluctuation in river flows, the Kiambere Dam was constructed. The dam regulates the flow of water to the downstream reservoirs of the Tana River, and serves as a water supply for the surrounding areas (Watermeyer *et al.* 1976).

The possibility of siltation problems in reservoirs on the Tana River has long been recognized. Indeed, one has only to drive along the main road from Nairobi towards Meru in the rainy season and look at the rivers draining the Mt Kenya foothills to appreciate the amount of silt being transported downstream. Due to rapid population increase in the catchment, there has been severe clearance of natural vegetation both for farming and settlement, which compounds the problem. In addition, in the lower areas and plains lying within the vicinity of Kiambere dam, overgrazing and felling of trees for charcoal burning has caused widespread soil erosion.

Although Kiambere dam was completed and the reservoir impounded at a time when the problems caused by sedimentation were already well known, no action was taken upstream or at the sides of the reservoir to minimize sedimentation. Indeed, due to the reluctance of the Tana and Athi River Development Authority (TARDA) to address this problem sufficiently, large gullies have developed, measuring 15 to 30 m in depth, on the sides of the reservoir. This sedimentation is particularly prevalent during the rainy seasons when the Tana overflows it's banks and temporarily floods the plains. Surface runoff in the ephemeral streams feeding the reservoir from the sides also contributes to sedimentation.

The high production rates of sediment can be linked with the fact that these rivers pass through the intensively cultivated slopes of the Aberdares and Mt. Kenya. Lack of adequate ground cover and steep slopes (often cultivated without carrying out effective soil conservation measures) result in increased surface runoff and soil loss. Thus, soil conservation practices such as channel stabilization, road

ditch stabilization terraces and construction of check-dams should be carried out within the catchment.

Currently, there are numerous statutes that deal with rights of land ownership, control and provisions for conferring and vesting of land interests in Kenya. At present, land falls under one of three tenure categories, government, trust or private. Government land comprises 20% of the total land area in Kenya, whereas trust and private land tenure comprises 78.5 and 1.5%, respectively. After the country's independence in 1963, all land that was not in private or government ownership became trust land, under the control of the community, and was to be used for the benefit of the residents of the area (MENR, 1994). Land ownership has significant implications for forest reserves. Reserves on government land are managed by the Forest Department, while those on trust lands are managed by local authorities. In 1994, gazetted forest reserves on government land amounted to 1,359,254 ha, while gazetted forest reserves on trust lands totaled 328,136 ha (MENR, 1994). Most of the area of forest reserves (64%) is covered by indigenous forests.

Furthermore, a significant 25% of the area in these reserves is covered by non-forest vegetation while 9% is composed of plantation forests. Approximately 65% of indigenous forests are found in gazetted forest reserves, whereas plantation forests represent just over 9.76% of the total cover in Kenya (Wass, 1995).

The main constraint facing the forests and reforestation practices in the basin is a lack of secure ownership over natural resources. The Forest Department, under the Ministry of
Environment, Natural Resources and Wildlife, manage the gazetted forests which may be indigenous or plantations. The Kenya Wildlife Services manage those forests which fall under the area controlled by the service. County Councils manage forests in trust land and areas within their jurisdiction, while the local community or private companies manage forest on private lands. The reality on the ground is that forests that are managed by the Forest Department and the County Councils are not performing their functions and are in fact dwindling at a high rate. On the other

hand, those forests that fall under Kenya Wildlife Services or are owned by private companies are thriving.

The political and social climate in Kenya is ripe for reforestation. The new government has made a significant attempt at creating an enabling environment for protection of forests and water resources. Some recent positive developments in the environmental sector include the operationalization of the Environmental Management Coordination Act and the establishment of the National Environment Management Authority, which is mandated with the coordination of environmental matters. The Government has also initiated reforms in the land sector, and has produced the Land Sector Strategic Plan (GOK, 2003) addressing some of the community land tenure issues. The plan's framework shows how local communities and the private sector will be involved in the management and development of forest and water resources.

References.

1. MENR. 1994. Kenya Forestry Master Plan: Development Programmes. Ministry of Environment and Natural Resources. Nairobi, Kenya.

2. Otieno, F.A.O. and Maingi, S.M. 2000. Sedimentation problems of Masinga reservoir. In: Land and Water Management in Kenya. Eds. Gichuki, F.N., Mungai, D.N., Gachene C.K. and Thomas D.B. Published by Soil and Water Conservation Branch, Ministry of Agriculture and Rural development, Nairobi, Kenya.

3. Pacini, N. D. Harper, and K. Mavuti. 1998. Hydrological and ecological considerations in the management of a catchment controlled by a reservoir cascade: The Tana River, Kenya. pp. 239-258. In: D. Harper and T. Brown (eds). The sustainable management of tropical catchments. John Wiley & Sons. Indianapolis, IN.

4. Wass, P. 1995. *Kenya's Indigenous Forests: Status, Management and Conservation*. IUCN, Nairobi, Kenya.

5. Watermeyer, Legge, Piesold and Uhlman. 1976. Upper reservoir scheme: Appraisal engineering report, vol. 2. Tana and Athi River Development Authority, Nairobi.

Pictures of the visit.

Mission members being entertained by the Chuka drummers Group, with a water dance.

Mission members participating in the water dance

One of the lectures by the CBO's in their offices in Chogoria.

An attentive women gathering during one of the visits.

Members of the mission being shown some of the wetland reforestation interventions the hosts have in Magumoni division.