

**Civil Education is the Solution for Poverty and Environmental  
management**

**(Cesope)**

RESEARCH ON THE DAM CONSTRUCTION PROJECT AT FARKWA IN  
CHEMBA DISTRICT DODOMA REGION.

Prepared and presented by

Team CESOPE

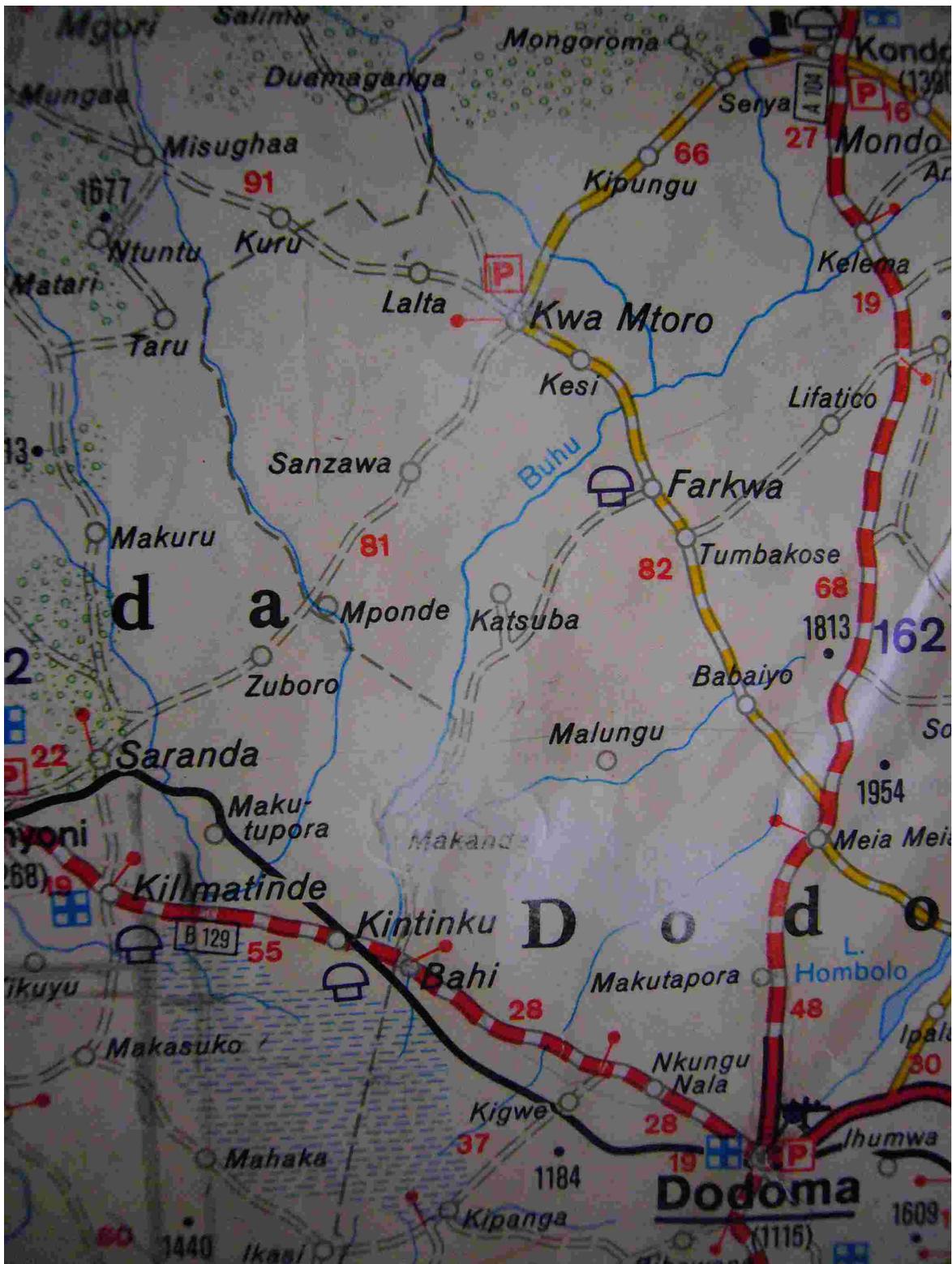
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## SUMMARY

CESOPE decided to conduct this research after being confronted with rumors about a government project for the construction of a large water dam which will involve the blocking of the river Bubu at Farkwa in Chemba district (Dodoma region).

River Bubu is the main tributary for Bahi wetland which is extending south of the small town Bahi about 56km west of the Tanzanian capital Dodoma. River Bubu and Bahi wetland are mainstays for sustaining livelihoods in the otherwise semi arid area providing opportunities like fishing, irrigated rice farming, salt production and other economic activities. Negative effects on these natural resources would seriously affect many people. Bahi wetland is also part of the East African Flamingo-Habitat-Network. A fierce public discussion on the project has started and there is uncertainty about the real beneficiaries of the project. Some voices suspect a connection to uranium mining plans, which are pushed in the area for more than six years.

The scope of the study is to provide reliable information on the project regarding government strategies, state of implementation, project features and participation of people, local leaders and relevant authorities.

To gather information, CESOPE team conducted visits in several villages of Bahi and Chemba districts in Dodoma region and Manyoni district in Singida region. The team also met with government officials at the district, regional and national level as well as with professionals involved in the implementation of preparatory steps of the dam project.

CESOPE found out that the project is in an early stage of implementation. Research on environmental and social impacts was finished in December 2013. The project is managed by the Ministry of water in co-operation with DUWASA (Dodoma Urban Water Supply Authority). According to preliminary suggestions of the engineering company, different alternatives are considered: the dam might be between 16 and 24m high and the water will cover an area between 24 and 64 sq km.

The water flow in river Bubu will be reduced to around 20% of the natural amount following preliminary estimations.

The populations of the villages of Bubutole and Mombose, where altogether around 2800 people live, will have to be resettled. The area around Farkwa is also home to the Wasandawe people an unique ethnic community speaking a khoisan language.

The Government proclaims that the purpose of this World Bank funded project is to sustain future water supply for Dodoma town and to provide improved opportunities for irrigation and fishing. However, it remains vague whether and if so how these opportunities will play out. Furthermore, negative effects on the actual users of the water along river Bubu and in Bahi wetland are not carefully considered. Neither are taken into account the effects on Bahi wetland as part of the East African Flamingo habitat network. Generally, there is a lack of transparency regarding donors, further background and eventual hidden agendas of the project.

Until now, the people who depend on river Bubu and Bahi wetland and their leaders as well as technical authorities in the area have not been appropriately informed or participated. Especially the communities downstream of the project along river Bubu and Bahi wetland have been totally excluded - whereas it can be expected that they will suffer the most of negative effects of the project.

The Government should make sure that the project is approached in a transparent and participatory way. Communities and their leaders have to obtain comprehensive information so that they can understand how they can benefit and how negative effects will be mitigated. Potential additional beneficiaries like uranium mines have to be made transparent.

Considering the potentially disastrous effects on Bahi wetland, assets and drawbacks of the project have to be outweighed carefully and government needs to check alternatives to ensure Dodoma water supply.

The pre-requisite for a fair decision making process is that the ESIA is conducted in a transparent, unbiased and serious way. However, **the way in which the ESIA research has been conducted so far is questionable. Especially effects on Bahi wetland are totally neglected.** The government is supposed to supervise the ESIA program and to ensure that standards are met.

# **1 INTRODUCTION**

## ***1.1 Profile of Chemba district***

Chemba is one of seven districts of Dodoma region. It was founded in 2012 under local government law No. 7 of 1982 and is situated north west of Dodoma. The area covers 7289.7 square km and the population is about 235 711 people. River Bubu is the special feature of the district, but the district is also characterized by attractive hills and forest reserves. Moreover the Wasandawe - a unique ethnic group speaking khoisan language- has graves in the area and pre-historical drawings are tourist attractions. Herders and farmers who represent the main population use the river as the main source of water for different purposes.

## ***1.2 River Bubu and Bahi wetland - main natural resources and crucial means of livelihoods in central Tanzania***

The sources of River Bubu are springs in the forests of Manyara wildlife conservation area (to the north east of Kondoa district) and other small streams which flow on the plains of the Great Rift Valley. During the rain season Bubu pours into a drainless topographic depression extending approximately 56km west of Dodoma south of the small town of Bahi and touching Dodoma, Singida and Manyara regions. There, it creates a wetland known as Bahi swamp. River Bubu is the main tributary for Bahi swamp. In years with good precipitation a lake (Bahi Sulungay) with a diameter of up to 40km appears. Due to poor precipitation in several rain times during the last years, the lake did not fill as usual and frequently dried out before the new rain season.

However river Bubu and Bahi wetland are crucial sources of livelihoods in the otherwise semi arid landscape of central Tanzania. Not only people who live next to Bahi wetland take profit of its resources. Also in villages along river Bubu the river is a crucial source of water and fish which is traveling upstream during rain time is an important means to sustain food security in the critical time before the new harvest when famine is most common. Bahi wetland itself enables rice cultivation, fishing, livestock feeding and many more economic activities. Rice cultivation takes place in the villages of Udima, Kintinku, Bahi, Bahi Makulu, Chali, Chikuyu, Bahi nagulo, Ngaiti igose, Mvumi and in all areas surrounding Bahi wetland and river Bubu in Bahi and Manyoni districts. Sophisticated irrigation schemes like at Bahi, Bahi Nagulo and Bahi Makulu were developed with support from UN

organizations like FAO and IFAD initially and handed over to the Tanzanian government later. The aim was to eradicate hunger and improve income in the villages by increasing rice production. Rice farming provides a reliable source of income to many families and thus has proved to be a substantial means to reduce poverty. The unique economic value of Bahi wetland has been described in the study “Economical and Ecologic Research of Bahi Swamp” by Dr. Mbogoro which was issued by CESOPE in 2010 (<http://www.wise-uranium.org/pdf/BahiSwamp.pdf>).

Furthermore Bahi wetland plays an important role for wildlife conservation: Bahi wetland is part of the East African Flamingo-Habitat-Network. Though not yet enjoying formal protection, with reference to *Phoenicopterus minor* (Lesser Flamingo) the 1% criteria of the Ramsar I convention for wetland protection is fulfilled (*Wildlife Division (2010), Tanzania National Single Species Action Plan for the Conservation of Lesser Flamingo *Phoeniconaias minor*. Ministry of Natural Resources and Tourism, Dar es Salaam, Tanzania*).

### **1.3 The plans for Farkwa dam and its implications**

The government of Tanzania has started implementing preparatory steps for a project to dam up river Bubu at Farkwa village.

It is obvious that the people living in the area which will be flooded by the artificial lake as well as River Bubu and Bahi wetland situated downstream will be affected.

Thus assets (creation of new water resources and its possible uses) and drawbacks (displacement of villages situated in the future lake area and negative effects on River Bubu and Bahi wetland and its economic and ecologic potentials by reducing influx of water) have to be pondered carefully.

### **1.4 Aims and Objectives of the Study**

CESOPE as an organization is dealing with civil education, environmental protection as well as campaign against poverty and considers it as its duty to participate in public discussion of the project. The aim of this study is to gather sufficient understanding about the project in order to be able to address the existing uncertainty of potentially affected villagers, assess in how far leaders and villagers have been involved, how natural resources will be affected, in how far the project will contribute to poverty eradication and to what extent actual beneficiaries of the river will be affected.

The findings of the study will

- help people understand the idea of the dam project
- encourage leaders (as well public officers nominated by the President as representatives of the people) to follow up on how the project will affect the fate of their communities
- create awareness among public officers and people's representatives who are responsible for communities which will be potential victims of the project
- help emphasize that the project has to be advantageous to both sides, new and former users of the river
- demonstrate the impact on villages that will have to be relocated
- emphasize the effects on the rural population in Bahi, Manyoni and Chemba districts where the river Bubu is the central source of livelihoods

Main research questions:

- How does the project plan look like in detail? Who is behind the project?
- What are the objectives and intentions of constructing the dam?
- What is the actual state of implementation?
- In how far have people and leaders been participated?

### ***1.5 Methods used in the study***

In order to ensure that accurate information is available related to this research. The CESOPE team visited several villages in Dodoma and Singida regions in the area which will be affected by the project: Mpendo , Makanda, Udimba, Kintinku and Bahi. The Team also managed to meet some government officials such as: the Deputy General Secretary of the Water Department, the Head of the Tanzanian Ground water unit, department of Central Valley Singida, Dodoma Regional Planning Officer, DUWASA technical engineer, the Dodoma regional geologist, the Bahi District Commissioner, Bahi and Manyoni members of parliament, councilors,

professionals at regional and national level as well as village officials and citizens. Information was collected using the following methods:

- Interviews (open dialogues)
- questionnaires
- discussion groups

### **1.6 Challenges**

- Shortage of money to conduct fact finding in all relevant areas.
- Leaders and many villagers were not aware about the ongoing dam project.
- Other leaders were not willing to cooperate when we arrive at their offices and this made the research so difficult.
- Shortage of Time

## **2 Findings**

### ***2.1 Objectives of Farkwa Dam project as promulgated by implementing authorities***

Government officially pursues the following objectives with the Farkwa dam project:

- Water for human consumption: An assessment indicated that in 2025, the city of Dodoma will have a total population of 542,240 people and their water demand will be 62 812 m<sup>3</sup>/per day, whereas the capacity of Mzakwe basin (the currently used water resource for Dodoma town) is limited to 73000 m<sup>3</sup>/day. The currently used water sources will not be able to meet the future demand of water in the city of Dodoma. So the government has developed a specific strategy of developing other sources of water to meet the future need. Among other sources like developing well fields at Hombolo and Msisi, construction of Farkwa dam is part of this strategy.
- Fishing and irrigation: Government proclaims that Farkwa dam will also enable more efficient and productive opportunities for agriculture and fishery. In contrast to Bahi wetland, water would be available throughout the year, water losses due to seepage and evaporation would be minimized, and modern irrigation technology would allow precise irrigation according to the needs of the plants.

### ***2.2 Available information on project details***

The project is still in an early stage. Currently, research on the social and environmental impact of the project is conducted and a map will be produced showing location and extension of the dam and how water will be directed to Dodoma town. Research activities have already been completed in December 2013 and a preliminary report has been fabricated.

Different proposals have been presented about the size and the area that will be covered by the new artificial lake; the following alternative scenarios are preliminary suggestions given by the consultants who are still conducting geotechnical research:

- i) The contours of the dam will have a height of 16 meters, the volume of the basin will be 97 million cubic meters and the water will cover a surface area of 24 square kilometers.

ii) The contours will have a height of 22 meters, the volume of the basin will reach 289 million cubic meters and the water will cover a surface area of 53 square kilometers.

iii) The contours will have a height of 24 meters, the basin will be filled with 405 million cubic meters and the water will cover a surface area of 63 square kilometers.

According to preliminary estimations, the water released to flow naturally in river Bubu heading for Bahi wetland will be reduced to 20%.

Inevitably the villages Mombose and Bubutole will have to be resettled.

According to the 2012 national population and housing census Mombose village consists of 329 households with altogether 1285 persons, 1102 cattle, 1042 goats and 147 sheep. Bubutole has 396 households with altogether 1570 persons.

Until now there are no plans to which place these villages can be resettled.

For the pipeline delivering water to Dodoma, it is discussed that two pipelines will be constructed: one pipeline will start from Farkwa to Babayu, following the road from Kondoa and arriving directly in Dodoma. The second pipeline, after starting from Farkwa will pass Kogongo, Lukali, Lamaiti, Msimbizi, Zanka and then join the other pipeline from Babayu.

Whereas from government side irrigation is mentioned as one of the major objectives of the project, there are no plans yet where and how this vision can be implemented.

### ***2.3 Management and Funding of the project***

The Ministry of Water is officially responsible for the implementation and senior management of the dam construction project. It is collaborating with Dodoma Urban Water Supply Authority (DUWASA).

For the initial stage Howard and Humphreys Ltd (<http://howardhumphreys.com>) and TRES consult Ltd (<http://tresconsult-tz.com>) were awarded a one-year research contract which ended in December 2013. TRES consult was responsible for the Environmental and Social Impact Assessment (ESIA), Howard and Humphreys for engineering consulting. The report to be produced by these companies will give the go-ahead to the Ministry of Water to proceed with the next steps.

The project is funded by the WSF (World Social Fund). WSF is a basketed fund, i.e. different countries put money in the basket to contribute for the dam construction project. Unfortunately these countries are not openly identified.

#### ***2.4 Participation of Public***

We found that the citizens of Mombose and Bubutole are aware of the dam construction project but they were not involved in making decisions. Bubutole village residents did not receive information about the project from government officials but heard about the project for the first time from the researchers concerned with the ESIA process.

Apart from these two villages from Hamia and Farkwa ward, located directly in the area which is expected to be flooded, other villages who depend on river Bubu were not even informed. Others heard about it from their relatives living in Mombose and Bubutole. But also the information they received is not satisfactory as residents of the villages do not have adequate knowledge about the project themselves.

Whereas Bahi Swamp is a mainstay of economic activities in the area and potentially will be affected severely by the Farkwa dam project, the communities living there have been completely excluded from discussion about Farkwa dam. This has been stated by ordinary citizens and by leaders alike. Bahi District Council has not been involved and has no information at all on the project.

#### ***2.5 Participation of Leaders***

As well leading officers nominated by central government as elected representatives of communities were not involved in making decisions about the dam construction project. Apart from Chemba district, no districts in Dodoma and Singida region were given information about the project although all districts along river Bubu and Bahi wetland will be affected in a positive or a negative way.

#### ***2.6 Perception of the project among communities***

The experience of not being informed properly and not being involved in decision making made villagers to regard the Ministry of Water as a body that makes its decisions regardless of citizen's interests. People feel that they have no right to live in these area and government does not respect their presence.

Lack of information and transparency on the background of the projects is causing uncertainty among the people in the area. Some think that perhaps the strategy of government is to dry out Bahi swamp in order to pave the way for highly controversial uranium mining projects which also potentially affect Bahi wetland. In the meantime the ministry acknowledged that education has not yet been provided to the public in a sufficient way and is considering meeting with officials at the local and district level to introduce the project and the strategies of the government for this project.

## ***2.7 Implementation of research on social and environmental impact***

The initial research phase of the project (ESIA process) has been finished in December 2013. A first draft report is already produced. After the completion of these initial step various stakeholders shall be involved so that they can express their views and be involved step by step. Government emphasizes that it is dedicated to make sure that all procedures are followed and the public will benefit from the dam project.

As the findings of the ESIA will play a crucial role for the decision if and how the project can be implemented, CESOPE had a close look on the implementation of this assessment and found the following:

- The professionals conducting the ESIA study claimed that they have involved about 1000 stakeholders in their research including the villages in Bahi district, Dodoma regional administrative office, Dodoma urban water supply authority (DUWASA) and Bahi district commissioner. When CESOPE team passed this villages people told them that they did know nothing about this activities. Bahi district commissioner told us she had no information about the dam project nor about the ESIA process.
- The professional who implemented the ESIA informed CESOPE that they had conducted appraisal activities in a village called Mapinduzi. CESOPE as a grassroots organization is working hand in hand with villages in this area since years and CESOPE leadership is originating from this area – there is no village called Mapinduzi in Bahi district.
- Manyoni district is according to the professionals who implement the ESIA process not among the beneficiaries of the river Bubu basin. This was an amazing news for CESOPE team as river Bubu is the official border of 4 wards in Bahi and Manyoni districts. Manyoni district villages are definitely among the beneficiaries of river Bubu basin:

using water from the river they have succeeded in rice production which is the main source of income in these villages.

- According to information from Central Basin Office this authority has not been involved in the ESIA at all. Basin water officer told CESOPE team that the people who conducted the assessment did not come even to his office. This authority suggested that the ESIA has to be conducted from the origin of the river at Manyara up to Bahi swamp along the whole river Bubu.

### **3 Conclusions**

➔ Lack of information, participation, transparency

The findings of the study highlight that whether villagers nor the official leaders have been informed and participated appropriately in the development of the project. It is striking that especially the communities situated downstream of the planned dam who are prone to suffer most of the negative effects have been excluded from information and participation completely. Also there is a lack of transparency regarding the funders of the project thus potential beneficiaries.

➔ Plans for beneficiaries remain vague

Government claims that besides providing water for Dodoma town the project will also create benefit for the villagers by providing new opportunities for fishing and improved irrigation. However there are no plans how this projects are to be implemented. Even it is not clear to which place the inhabitants of Bubutole and Mombose villages which will be flooded can be resettled. If villages are promised to get access to a pipeline providing water for irrigation this cannot replace other services of the river like fishing. However fishing during times of food scarcity is a basic means of survival especially for marginalized households.

➔ ESIA has not been conducted in an appropriate way up to now

As during the ESIA research

- the area of Bahi wetland where major negative effects have to expected has been systematically neglected

- potentially affected communities, official leaders and responsible authorities have not been considered
- obviously wrong information and assumptions have been used

the results of this ESIA can not be considered as a proper basis for a fair decision but raises doubts of being biased.

#### **4 Recommendations**

- To avoid increasing uncertainty among the people the Ministry of water should provide more information and participate people, regional and local leaders and technical authorities in an appropriate way.
- Government should consider using a bottom-up approach for participation and decision making rather than commanding things from top as it has happened so far at Farkwa.
- Water act No. 11, 2009 identifies that every citizen of Tanzania shall have access to water without problem and that this right should not be broken for the advantage of a few who want to use it for their own benefit. This implies that the assets and drawbacks of a project like Farkwa dam which has the potential to destroy resources of livelihoods of a whole landscape have to be considered thoroughly and discussed in a transparent and fair way. Especially government should
  - ➔ Consider carefully the effects on the communities living downstream of Farkwa dam along river Bubu and at Bahi wetland – they are the original users of the water but might become the main victims of the project.
  - ➔ Take into regard also the effects on Bahi wetland as an ecologically valuable habitat.
  - ➔ Take special care of the Wasandawi communities who are rooted in the area.
  - ➔ Explain in detail how people will take profit of the project.
  - ➔ Make sure that the original users of the water along river Bubu and Bahi wetland are not disadvantaged.
  - ➔ Check alternative approaches to sustain water supply for Dodoma town with less negative side effects.

- ➔ Ensure transparency with regard to potential further beneficiaries of the project – there is a perception among people that Farkwa dam project is connected with uranium mining plans. Thus urgent questions are
  - who is standing behind the World Bank financing of the project and
  - if there is a concept how water demand of planned uranium mines can be met.
- The findings of the ESIA will be the basis on which the assets and drawbacks of the planned project will be measured. Therefore it is crucial that the ESIA is conducted properly, insufficient information will lead to fatal decisions.
- Especially the ESIA has to
  - ➔ be conducted in a serious and unbiased way following acknowledged procedures and fulfill internationally accepted standards of quality
  - ➔ participate citizens and relevant authorities and the findings have to be discussed publicly
  - ➔ put special focus on the effects that will occur downstream of the dam along river Bubu and especially in Bahi wetland
  - ➔ elaborate details how reduced water flow to Bahi wetland will affect the economic and ecologic functions of the ecosystem
  - ➔ has to take into regard also social effects and non monetary values:
    - Villages have to be resettled and people have to start new lives from the scratch.
    - New technologies will have to be introduced and adopted.
    - Wasandawi communities will be affected by losing traditional places like graves and land.

## REFERENCE

Leat, (March 2010) guidelines for constitutional and environmental rights forTanzanian (volume two). Colour print Tanzania limited.

### **Sources of information**

This information was compiled from information collected from different sites and with different people who are: -

- Deputy General Secretary Ministry of water
- The chief engineer of the water ministry
- Tanzania head of the ground water unit
- Central valley water officer
- Central valley environmental engineer
- Central valley community development officer
- Dodoma regional geologist
- Dodoma regional planning and coordination office
- DUWASA technical office
- Bahi district commisioner
- Chairman of the Board of Bahi District
- MP. Bahi constituency
- MP. Manyoni eastern province
- The Councillor for Bahi ward
- The Councillor for Makanda (Manyoni) ward
- Mombose and Bubutole village executive officers

- Makanda (Manyoni) ward and village executive officers
- Chairmens for Udima, Kintinku villages and Kintinku ward executive officer

Ordinary citizens from

- Bubutole, Mombose, Makanda (Manyoni), Udima, Kintinku, and Bahi sokoni

### **QUESTIONNAIRE**

Village name.....

Name of the person .....

**Affected by the project** (*who live along the river Bubu and they depend on for various activities*)

a) Do you know if there is dam construction project of which will involve block of river Bubu at Farkwa?

-yes ( if yes what do you know)

-No

b) Do the people of this area have been involved in this project?

-if yes How?

c) Do you think will there be any benefits you will get if the dam will be constructed in this place?

-yes (what are those benefits)

-No

d) Prior to this project, how have you been benefiting from river Bubu?

e) If the river will be blocked what effects will you get?

## Beneficiaries

a) Do you have any information related to the dam construction project which will involve block of river Bubu at Farkwa in Chemba district?

-Yes (What's your opinion?)

- How have you been involved as a resident of this area?

-Not involved in any way (there is the project for dam construction at Farkwa and the implementation for the first phase has already started, how you think about this?)

b) Prior to this project, how have you been benefiting from river Bubu?

c) Do you think will this project have any impact to this area?

- Yes (what are the effects?)

- No

## ADMINISTRATION

(Representatives of citizens)

a) What information do you have on the construction of the dam which will involve block of river Bubu at Farkwa in Chemba district?

b) As a representative of the residents of this area do you think have your people been involved in this project?

c) What is your opinion about this project?

(Representative of the President)

a) Is the Farkwa dam construction project among the greatest impact plans?

b) As the government how has your plans involved stakeholders who depends on the water from river Bubu for their several activities?

c) How do you think will the residents who use the river Bubu water be affected with the project?

d) What about public participation in the program?

d) As an organization we ask to understand how much water will be blocked to fill the dam and how much will be left in the river stream to enable people who were using river Bubu water keep on with their activities?