



## Geographical Information System

# GIS, GPS, Surveying and Remote Sensing

GIS, Surveying and Remote sensing are vital tools in the, day to days operation of projects undertaken by WEMA professionals. It has been Proved beyond doubt that application of such tools in project of all nature results in sustainable solutions that maximises the social, economic and environmental potential of each project.

GIS, Survey and Remote Sensing are required by WEMA to provide integrated consulting services needed at all project stages from concept to completion which basically include:

- Planning
- Design
- Construction
- Management

WEMA professional who has worked in projects with a range of different sizes and complexity have established that the more complex the project, the most these tools are required.

Due to this understanding, before professionals are deployed to work in a project at WEMA a team of our senior GIS, Surveyor and Remote Sensing Specialist spend some significant time in understanding the project need.

Of all the sectors in which WEMA is involved, this is where WEMA works with several partners.

WEMA partners come in different forms like experts joint venture, backstopper etc Also, through this relation, in several occasions our staff have been outsourced by our partners to work in several projects world-wide.

In view of this approach to our staff and our projects, our experience and the experience of our staff on the GIS, Surevey and Remote Sensing has increased tremendously in the few years.

Due to the increase in our experience and the group of our working partners our client now extend across the public & private sectors, including government authorities, NGO, Private companies and individuals, contractors, international agencies, and local communities.

And with the increased number of our clients our involvement in the projects related to GIS, Survey and Remote Sensing covers the followings areas:

### **Dam site investigations**

- Hydrological analysis
- Sedimentation analysis

### **Irrigation scheme/Farm design**

- Catchment Management
- Plot Design and water network distribution

### **Quantity Analysis**

- Volume estimates
- Area Estimates
- Cost Estimates
- etc

### **Mapping**

- Map production for different use
- Area zoning special areas eg. Wetlands, conserved area, flood areas etc
- Map updating
- etc

### **Environmental & Social Aspect**

- Demarcations of features in project areas
- Mapping for resettlement plan
- Mapping for Management Plan
- etc

### **Road design**

- Catchment delineation
- Catchment area estimate
- etc

### **River Basin Studies**

- Sub catchment identification
- Land cover identification
- Catchment Management
- etc



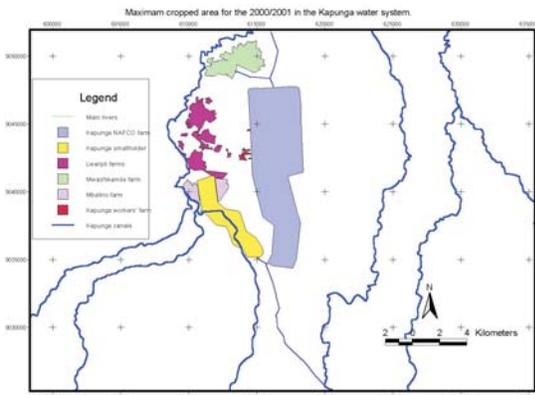


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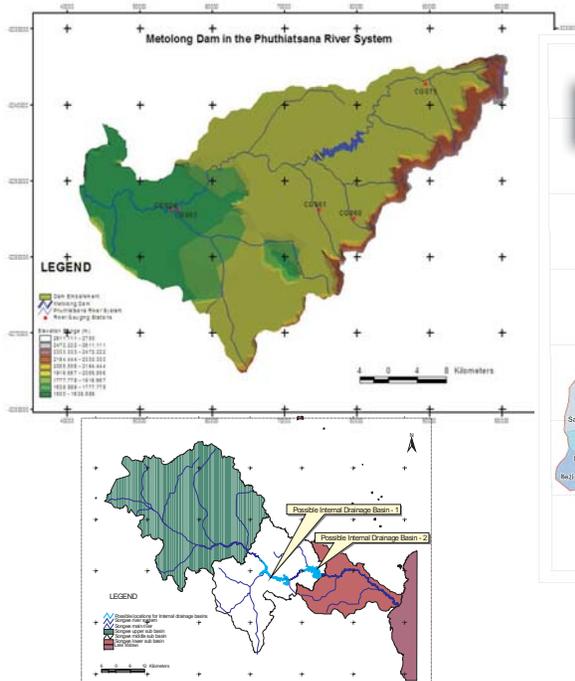
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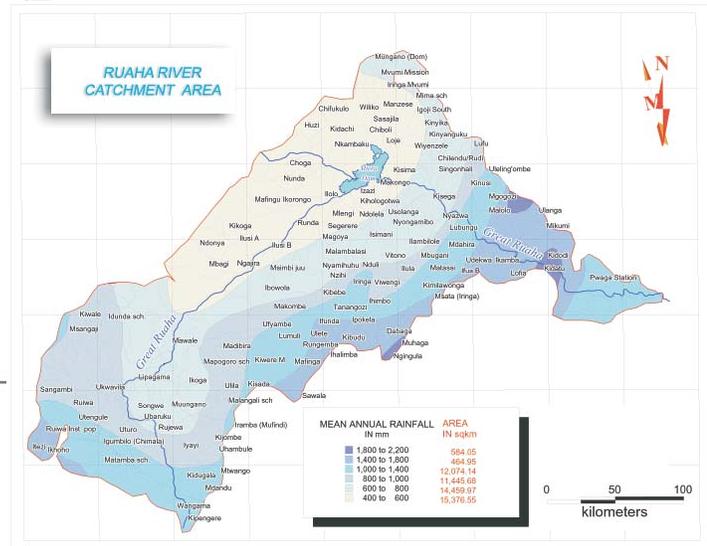
Survey the Msolwa River for river training and flood control measures



Mapping of the irrigated/cropped areas in the Usangu basin, Tanzania



Design of the flood Control system, Songwe Basin



*“Survey, GIS and Remote Sensing are vital tools utilized by WEMA experts in arriving at sustainable solutions that maximise the social, economic and environmental potential of each project”*