

# THE DI/WOADZE MODULE FOR ADAPTS GHANA CASE:



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## LOCAL ACTION FOR **RIVER DAYI BASIN,** VOLTA REGION, GHANA



**ADAPTS-NL**



## **1.0 Introduction:**

From available information, climate change will affect the communities in the Dayi River Basin (DRB) as a result of:

- i. Increasing temperatures,
- ii. Rainfall variability and unpredictability and
- iii. Draught.

The above climatic factors affect crop growth, development. While increasing temperatures and draught affects the physiology of the growing crops, rainfall variability and unpredictability make it difficult for farmers to plan farming operations to coincide with the coming in of the rains. This will give rise to crop failure hence food insecurity. In the absence of irrigation infrastructure in the Dayi River basin for supplementary irrigation, human misery will increase. (pop and economics).

This condition has implication for hunger and increasing poverty of farmers. Women who form more than 50% of most communities in the basin and at the level of agro processing will be highly affected while out migration of the youth to the cities looking for non existence jobs will increase with resultant poor quality of life for them and attendant social problems.

There is therefore the need to support farmers in the DRB to adapt to the effects of climate change through transition from rain fed to irrigation agriculture. The Development Institute has acquired some experience in building this kind of integrated and sustainable system during its initial project implementation in the Woadze community with limited funding from small grants of the Global Environmental Facility. The learning and practice experience from this project constitute the DI Model.

## **2.0 Purpose and Approach:**

The purpose of the Woadze model is to reduce the vulnerability of communities in the Dayi River Basin (DRB) as a result of climate change stressors through integrated river basin management that ensures sustainable management of natural resources in the basin.

The approach to adopt is the integrated river basin management; conservation, protection soil and water management, livelihood security through strengthening the capacity of farmers in the DRB to transit from rain fed to irrigation agriculture by the provision of basic tailored made water use facilities and a secured financial system.

### 3.0 Principles:

- i. **An integrated approach:** This will involve conservation, protection and livelihoods security.
- ii. **Ensuring Conservation:** The immediate banks of the river will be conserved. No human activity to take place there and to conformity with Buffer Zone Policy of 30-50m contour distance. The minimal activity in this zone will however see enrichment planting with bamboo and other water loving plants.
- iii. **Ensuring Environmental protection:** Protection of the basin from soil erosion will be done through the use of vetiver grass and other grasses. The uphill areas will be allowed for natural regeneration and enrichment planting/ reforestation.
- iv. **Adhering to issues of sustainability:** The project is to be guided by the principles of sustainable development; cultural, economic and environmental and political sustainability to be strictly adhered to.
- v. **Community led:** It is when an intervention meets the immediate and strategic interests and goals of a community will they own and lead the process and this can be achieved through inclusive consultation. Communities along the basin have been part of the project from its inceptions.
- vi. **Generation of public goods:** The project should be of benefit to the public such as enhancing conservation of resources, increasing carbon sink and ensuring sustainable flow of rivers etc.
- vii. **Enabling secured livelihoods:** The project provides a source of sustainable livelihoods for the communities in the basin such as irrigated vegetable production.
- viii. **Setting of the development process:** Beneficiaries are able to participate in the development process through capacity building that enables them to make other choices and can generate surplus that can enable them have a quality of life they desire and increase social capital.

**ix. Ensuring financial security:** One of the reasons for the deepening of rural poverty in Ghana is non availability for financing of initiatives of the poor. Even when and where financial support is available, it is disbursed rather later and not when the farmers really need that support. Farmers are also accused of defaulting. Both the demand and supply side exacerbate poverty and could make farmer more vulnerable to the effects of climate change. The DI Model will implement pro-poor financial policies to enhance the activities of farmers.

The solution to the above within the model is to institute micro finance scheme ensure financial security to the farmers and sustainability of the ADAPTS project intervention. This scheme will include microcredit, health insurance and crop insurance.

**x. Ensuring gender sensitivity equality:** The model is gender sensitive to ensure effective participation of the women without discrimination. There will be conscious efforts to engage a lot more women in the project in equal or close proportions as men if not higher.

#### **4.0 Practice:**

In practice on the ground the model have 4 zones from the river bed upwards.

**4.1 Buffer zone:** Establishing a zone of no cultivation 30-50m contour from the river bank and the kinds of enrichment planting will be informed by the existing plant species at the bank of the river.

**4.2 Agro forestry:** This will be a mixture of timber and non timber species. The kinds of plants/crops in this mixture are determined by the crop suitability of the area. The entire DRB had three diffused ecological zones; upper stream (high forest), middle stream (savannah woodland) and downstream (forest and savannah). Plants/ crops to be planted will be according to this ecology and what the farmers have selected.

**4.3 Cultivation area:** This is the zone for vegetable production and other high value crops where irrigation agriculture is practices regularly.

**4.4 Fire Belt:** This is preventive and proactive measure against wild bush fire.

#### **5.0 Micro finance scheme:**

This is the fuel to the project to ensure sustainability of the interventions and ensure financial security which is an added tool to reduce the vulnerability of women and men in the project area against climate change.

The micro finance scheme will therefore be unique and operate in three areas; microcredit, health insurance and crop insurance.

**5.1 Microcredit:** This is direct credit to the farmer for farm operation. The process to get credit is simple but involves more rigorous professional assessment and commitment showed by from farmer. It may take the form of input supplies and direct payment for farm operation but as the farmer has chosen.

**5.2 Health insurance:** This is guarantee farmers' health. It is assured by paying health insurance premium directly to the national health insurance scheme. This forms part of the general micro financed scheme which is paid for when the harvest is sold.

**5.3 Crop insurance:** Crop insurance will enable not only assurance against the bad weather and diseases but motivation to increase production as this will depend on minimum size of the farm and yield. This is another form of reducing the vulnerability of farmers from the climate stressors in the DRB.

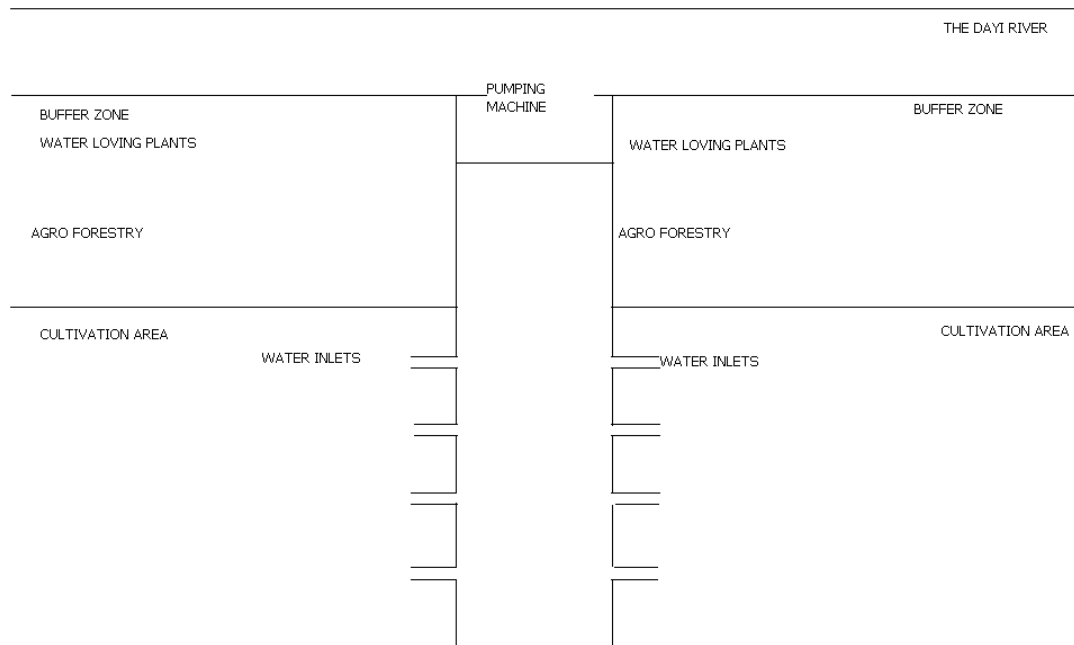
**5.4 Marketing:** A sustainable market for products from the farm provides a motivation for the farmer to increase production and income from hard work. Support in this direction is necessary, for linking markets, preferences of consumers and crop diversification.

## **6.0 Project Implementation Process:**

- i. Community entry and sensitization
- ii. Invitation for expression of interest
- iii. Assessment and short listing of suitable communities
- iv. Site selection for project
- v. Capacity building
- vi. Nursery establishment and management
- vii. Consultation and selection of suitable of water facilities
- viii. Tendering and provision of water facilities
- ix. Disbursement of microfinance
- x. Establishment of components of the various zones
- xi. Production

- xii. Marketing of farm produce
- xiii. Re payment of micro finance
- xiv. Regularly Monitoring and Evaluation

**Figure 1: Schematic diagram of DI/Woadze Model**



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