Indigenous knowledge Bank
As part of Climate and Development

Example of locales practices : Dyke construction

Geographical area of use : West Coast Region; village of Ndemban.

Information of the practice

Ndemban is located in the Foni Brefet district of the West Coast Region of the Gambia and is a predominantly "Jola" community, with a population of 1,272 people (680 female and 592 male). It is surrounded by Ndemban Jola, Somita, Kanjabina and Ndemban Tenda.

Due to the shortage of rainfall over the years, the community was affected by the intrusion of salt water into their rice fields, which warranted the construction of dykes to control that phenomenon.

Impact of climate hazards

Table 1: Link the practice with climate change

Climate factor/ hazard	Environmental Impact	Socio-economic impact
Shortage of rainfall	Intrusion of salt into rice fields	Crop failure Low crop yields Loss of income

Description de la technologie

As a result of salt water intrusion in their rice fields due to shortage of rainfall, the community experienced poor harvests and food shortages/hunger. In order to cope with and arrest that situation, the villagers came up with this initiative with a view to curb/control the flow salt water.

The practice started about thirty years ago and works are undertaken only during the dry season. Since then, regular maintenance of the dykes is conducted every five years. During the first five years, the practice was supported by a US Peace Corps Volunteer. The process involves measuring the entire length of the dyke, after which every 20 meters is allocated to six people to construct. They proceed to fill the distance by digging clay with the use of spades and pickaxes and a tractor or containers (such as wheelbarrows and pans) to carry the clay to the work site. No sticks are used in the process as this could attract termites and undermine the quality and lifespan of the dyke. As the clay is applied on the surface area, it is pounded or pressed with the use of heavy pegs/logs.

Immediately after construction, the dyke is protected on the sides with the use of tree branches for a period of three days. This will allow it dry properly and at the same time prevent cattle from trampling on it when grazing in the fields. The practice was initiated by the women, with the male and female youths of the village as the main actors. The main stakeholders are the members of the community, both men and women, represented by the Village Development Committee (VDC) and the primary beneficiaries are women because they are the ones directly engaged in rice production. Notwithstanding, the men and children in the community also benefit from the produce which is usually consumed locally. At the same time, the surrounding communities also benefit from this practice as salt water is intercepted before it reaches them. With up to ten stakeholder categories, it is estimated that some 1,500 people benefit from the practice,.

Whilst the men dig the clay, the women carry it with containers usually on their heads. It was indicated that the rationale for adopting this practice is to increase rice production and income to improve the quality of life of the people in the village.

Illustrations

Sustainability

Economic and environmental sustainability are pursued through the establishment of bank account, contributions and tree planting respectively. In addition to that, the process has empowered the women who participate in all major decisions on the issue.

Strengths and weaknesses of the practice

In general terms, the practice is considered to be successful as it has led to an increase in rice yields.

Strengths	Weaknesses
• Increased rice production capacity. • Less dependent on imported rice.	• Inadequate working tools(spades, pickaxes, wheelbarrows etc.) including a tractor.

Posibilities for replication

The practice is reported to have been replicated in Brefet and Ndemban Jola. An important factor for success is for the community to be cohesive and to establish regulations with sanctions on defaulters.

Estimated cost

For every 20 meters, an estimated amount of D1000.00 will be needed.

Auteur : Aby DRAME,
Enda Energie - Environnement - Développement
Contribution : Omar Ngom, Community Department, Gambia