SAHEL AND WEST AFRICA PROGRAM IN SUPPORT OF THE GREAT GREEN WALL INITIATIVE

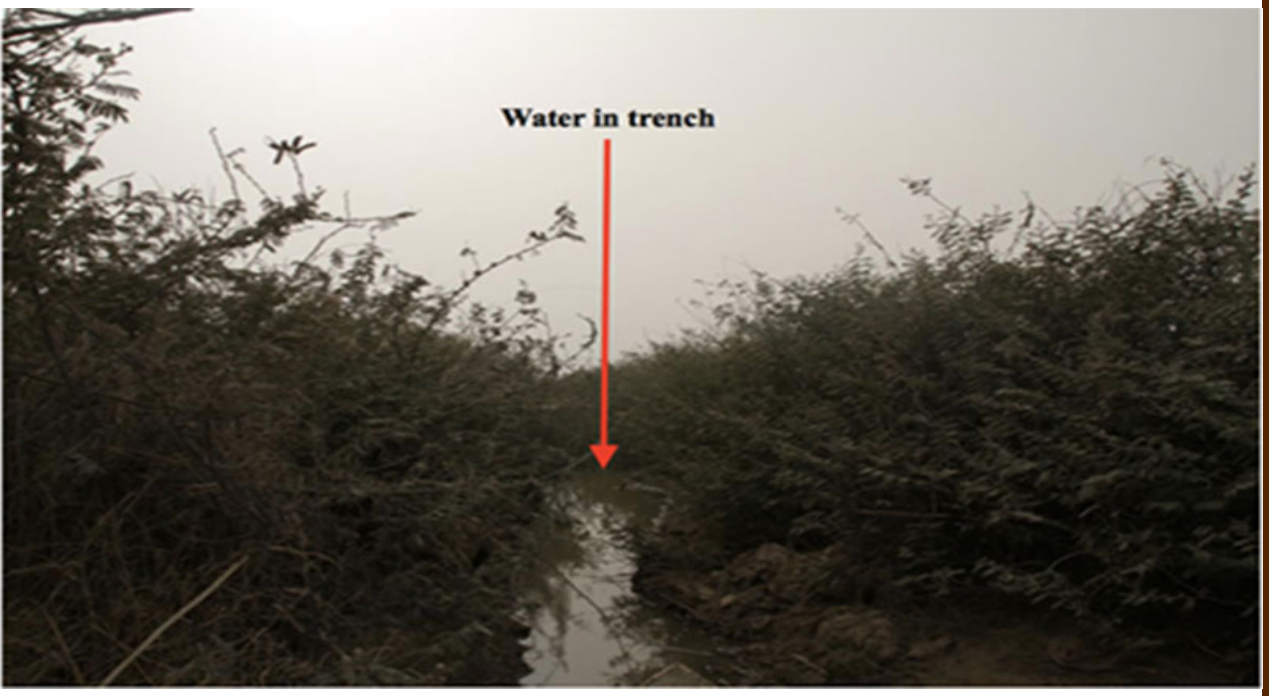
Building Resilience through Innovation, Communication and Knowledge Services Project

SAWAP BRICKS

THEMATIC WEEKS ON GOOD PRACTICES

TRENCHING

This sheet is adapted from the study on the compilation of Good Practices (CILSS, 2017)



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TRENCHING: the use of trenches to control and drain seasonal flooded area

Introduction

Climate change and variability with their corollary of recurring droughts and floods affect the livelihoods of people living from agriculture and livestock. The floods that occur create damage on the growing areas.
Regarding the importance of water in agriculture, its collection from run-off water makes it more suitable for agricultural, fisheries and even pastoral purposes.
In Nigeria, a simple trench technique has been put in place and implemented to better drain water from seasonal flooding of lowland areas for agricultural production and fisheries. Trenches or flood control channels are series of large and empty open-air channels dug below the ground level that aids in the control of flood waters. When a flood occurs, it will occupy most parts of the floodplain. As the intensity of the water lowers, it will run into the channel and proceed to be drained into the nearby water body. The main aim of constructing the trenches is to drain out waters from the seasonal floods that almost occur annually. In some few places, the trench is used for fishing by the local fishermen to enhance their livelihoods and prolong their farming season.
The benefits derive from this technology are fast reclamation of flooded land areas, increase land cultivation period and reduced damage on agricultural produce.

According to the importance of the technology in reducing poverty, the protection of cropland, fights against land degradation, its scaling up is necessary. Its only limitation to scaling up is its relatively expensive cost (approximately 2766 USD).

This second note which is mainly dedicated to trenching, is part of the series of thematic weeks initiated by the Building Resilience through Innovation, Communication and Knowledge Services Project (BRICKS) in support of the Sahel and West Africa Program (SAWAP) supporting the Great Green Wall (GGW) Initiative. The project aims to facilitate the scaling up of good practices in sustainable land management through the sharing of technical, institutional, and constraint-related information for the scaling up.

The note was essentially elaborated from the Study on the Compilation of Good Practices (CILSS, 2017).

What is TRENCHING ?

It consists of the use of trenches to control and drain seasonal flooded area. It is an elongated naturally occurring ridge or artificially constructed fill or wall that regulates water levels. The main purpose of artificial levees is preventing flooding of adjoining countryside.
The beneficiaries of this technique are a set of local authorities and private individuals. The Type of soil on which good practice is used is mostly clay soil.

Description of the technique :

As described in the study carried out by CILSS (CILSS, BRICKS 2017), the technique consists on the following steps :

1. The trenches were initially hand dug by the locals;
2. The trench begins from the point where the seasonal flood water settles up to the river wudil ;
3. Recently, the trenches were being re-constructed with the use of heavy machines;
4. The trench is gated at the exit point with a controlled gate (Tower). FIG 6 indicates the control of the flow of water;
5. During the recent trench construction activity, hip of soil collected were used to make embankments to control the overflow of water from the river

Conditions of implementation:

- To implement the good practice, it requires a level of technical knowledge:
- Knowledge of land slope angle and elevation
- Flood control measures
- Some constraints limit its implementation:
- Financial issues in the major constraint to implementation;
- The construction of trenches to linkup with the river requires the acceptance and permission of landowners. It becomes a major obstacle and a setback whenever a farmer refuses to cooperate;
- The assistance from government institution is limited and not consistent;
- There is the need to dredge the river Wudil, as the sand in the river encourages the seasonal flooding (context of Nigeria)

The benefits:

These benefits include:

- Fast reclamation of flooded land areas;
- Increase land cultivation period;
- Reduced damage on agricultural produce

Sustainability:

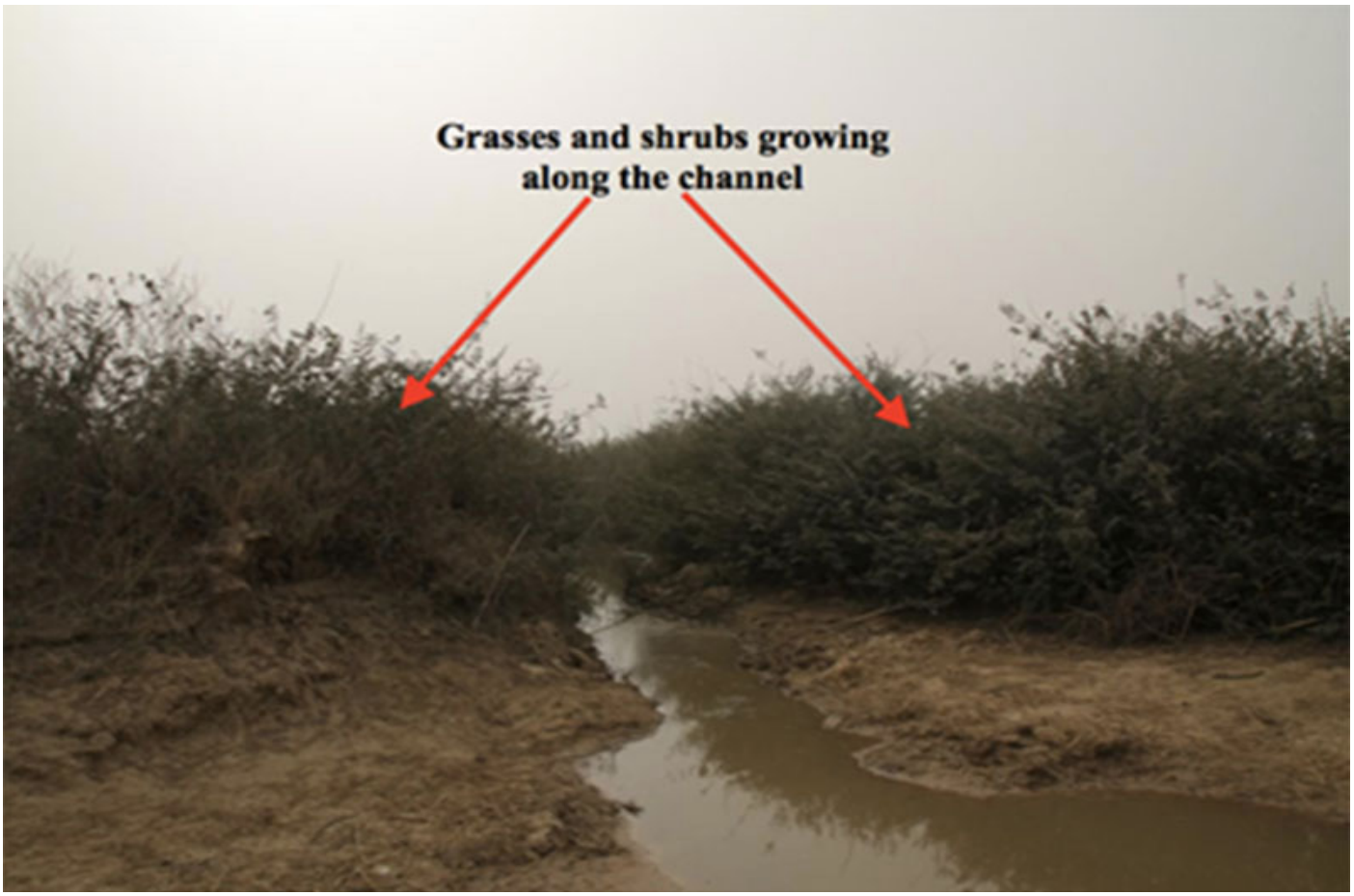
To sustain the practice, it is necessary undertake the capacity building of the actors by practical training on construction.

Scaling up TRENCHING

Given to its many benefits, the scaling up requires the support of public authorities and local authorities. Otherwise, the practical training on construction that will reduce cost and make the good practice more widespread.

Conclusion

In the context of climate change, extreme events such as droughts and floods are more recurrent. Flood waters can become opportunities for agricultural and fisheries production that can be enhanced through trenching techniques. Though, this technique is relatively expensive, can be scaled up through public, private and community support, training and capacity building of the stakeholders.



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