



Farming Practices: Extension Service



Hybrid DREAM Event
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Mohamed Rashid Mohamud
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INTODCTION

- Ethiopia is experiencing extreme weather variability with some areas being vulnerable to drought, while others are impacted by flooding.***
- Despite being given relatively less attention as compared to drought, flooding has long been recognized as one of the major disasters affecting the lives and livelihoods of the people.***
- Flood disaster has been limited in the past in terms of frequency and scope. The recent trend of increasing incidents of floods in Ethiopia is disrupting the livelihoods of the population residing in the lowlands.***



- Flood hazard is part and parcel of living for a large number of people in the lowlands such as districts in Afar located along Awash River, in the Somali region along the Wabi Shebele River, in the South Omo along Omo River , Gambella along the Baro and Akobo Rivers, and floodplains surrounding Lake Tana .
- The in humid highlands that are characterized by steep ad rugged terrain and heavy rainfall features pose the lowlands prone to floods during the rainy seasons. Often, floods occur in the country as a result of intense and sustained rainfalls in the highlands causing rivers to overflow and inundate areas along the riverbanks in lowland plains.
- On the other hand, these regions have one of the highest potentials for flood farming as the runoff generated from the highland SNNPR, and Tigray can be available in the immediate lowland



- **farming system implies a population of farm households that share broadly similar agro-ecological and market access conditions, generally of mixed types and sizes, that as a group have broadly similar patterns of resources, livelihoods, consumption, constraints and opportunities**
- **Farming system characterization is considered a powerful tool for natural and human resource management in least developed countries such as Ethiopia .**
- **farming system characterization is important to identify and analyze the intensity of agricultural diversification, production and other activities with great emphasis on major constraints in the existing farming system for further development and research interventions of the targeted areas**



- **The Somali regional state (SRS) is endowed with huge livestock resources with an estimated total population of more than 24 million which is the highest per capita owner of livestock population at national level Livestock rearing or pastoralism is the dominant and indispensable practice followed by crop production.**
- **Crop production is an important agricultural sector where most of the rural small holder agro-pastoralists in the region are involved in producing basic items both for home consumption and cash income is generated. Field crops such as cereals, pulses and oil crops are the major classes which constitute the major part of crop production sector in the region.**
- **Apart from crop production, the region has ample arable land, untapped natural resources, including high potential ground and surface water such as permanent (Wabi Shebelle, Dawa, and Genale) and seasonal rivers, wide area of rangeland, different forest products (Gum, Incense, Myrrh etc.), and fertile soil which contribute potentially promising for agricultural development activities.**



Flood farming practices

- **The current experiences revealed that flood farming is practiced under two conditions driven by climate characteristics and geomorphological conditions. First, it is practiced moisture stress**
- **In these areas, flood farming is possible if the upstream highlands receive high rainfall as a source of flood that reach low-lying flat areas.**
- **The resulting farming system fully depends on the runoff generated from upstream highland areas. Second, flood-based farming is practiced in areas that regularly receive floods, which can form the basis for either inundation or recession farming.**
- **In flood based farming, the production system encompasses common and staple dry land crops like sorghum, maize, millet, teff, cowpea, sesame, groundnut, vegetables, and other fodder crops. In addition, flood farming could increase the availability of livestock feed and livestock water which support to addressing the feed shortage in the dry months.**



- **Good Practices of flood-based farming**
- **Flood-based farming is a type of farming where the water source is neither rained nor irrigation.**
- **It is a form of runoff water management that applies in areas where rained and irrigated systems are not potentially feasible.**
- **Although it is an uncertain type of farming, economically it is one of the potential entry points for agricultural production in the drought-affected and dry lands.**
- **It has the potential to influence local livelihoods, economies, and biophysical systems as it is the only source of water in arid and semi-arid environments.**
- **It could have a range of purposes including agricultural production under dry land situations, rangeland management, livestock water supply, and restoring the soil and water resources.**



- **Flood farming holds potential at least in the short term to overcome the problem of crop failure.**
- **It also serves as a climate-smart practice to adapt to shocks and extremes.**
- **A proper understanding of flood occurrence and adaptability of the locations for flood farming will give ample opportunity in drought-prone areas to create resilient livestock and crop production system.**
- **Thus, addressing the knowledge and evidence gap on the potentials of flood farming contributes to an informed decision towards unlocking the opportunities of flood farming to support livelihoods and economic development in drought prone areas.**



- **The Agricultural Extension Directorate of Bureau of Agriculture and Natural Resource of the region have introduced compost making both under ground and above ground in order to improve soil fertility to increase the crop production and productivity of the farmers and Agro pastoralists**



Challenges

- **Flood-based farming is characterized by unpredictable flash floods (timing, frequency, and magnitude) from ephemeral and perennial streams resulting in high uncertainty to determine the extent and duration of farming.**
- **Furthermore, to utilize riverine floods, the river courses are changing from season to season leading to change in riverbed levels and sediment accumulations.**
- **Moreover, despite the growing flood events and seasonal flood hazards reported over years, there is no account of the extent of flood occurrence and lack of national strategies and aspirations to convert flash floods into an opportunity for mitigating drought and boosting dry land agricultural production.**



The challenges and problems in crop production or dry land agriculture can be broadly grouped in to

- **Climatic constraints**
- **Soil constraints**
- **Lack of suitable varieties**
- **Traditional cultivation practices**
- **Heavy weed infestation**
- **Resource constraints**
- **Technological constraints**
- **Socio economic constraints**



- **There is also information gap leads to low policy support to technical, financial, and legal aspects to respond to the development of flood risk management measures and flood-based farming and on-farm agricultural production practices.**
- **The agricultural sector of SRS is constrained by numerous biophysical, socio-economic, and technological challenges, which encountered the region to remain in prevalent poverty and food insecurity circumstances.**



- **Hence, some of these constraints need to be address with research and extension interventions, while some others require developmental and policy interventions. With this regard, it is indispensable to design technically comprehensive, economically feasible and culturally acceptable research, extension and development strategies.**
- **Despite of these, the region is constrained by recurrent droughts and scarcity of water due to shortage of rainfall, land degradation, livestock disease and feed shortage, crop disease and pests, poor access to market and poor infrastructure, and limited improved agricultural technologies, which leads to poor agricultural production and productivity.**



THANK YOU

