
CHAPTER 2

VARIOUS TRADITIONAL RICE FARMING SYSTEMS IN SUB-SAHARAN AFRICA

Various traditional farming systems that exist across Sub Saharan Africa are outlined. These systems need to be studied and improved upon through the introduction of modern and easy to adopt technologies such as “Sawah”, for effective soil, nutrient and water management.



Traditional forms of land preparation for rice cultivation differ from location to location, among different people. Skilled land preparation for rice, Bida in Nigeria



Burying surface organic matter to accelerate decomposition under traditional systems, however, water management is poor



In some areas due to thick vegetation, land is brushed and completely burnt destroying total organic matter



Total burning of fields prevents organic matter accumulation which support rice growth. Where burning is unavoidable, partially burning is recommended



Seeding directly on fields without proper land preparation results in poor growth and hence yields.



Some methods of land preparation do not favour rice cultivation, particularly under very severe water limitations. UN Millennium village of Pampaida, Zaria, Sudan Savanna zone. Rice soil become hardened during prolonged dry season



Such traditional form of land preparation have no water control measures in place and surface flowing water is mostly under utilized.



Crop establishment and the use of inputs such as fertilizers would not be effective and efficient where soil and water management methods are non-existence.



**Weeds finally take up such rice fields particularly under upland conditions.
Example at Mokwa in Nigeria:**



**Rice fields that have no water control measures are prone to severe soil erosion.
Example of an upland field at Mokwa in Nigeria.**



The three Green Revolution Technologies can't apply under such lowland paddy fields



Land preparation is also influenced by cropping systems practices Mounts are constructed for upland crops after which rice comes as second crop



In certain parts of northern Ghana, rice and sorghum are sometimes cropped together especially around Bawku area in the Upper East region



In some parts of central Nigeria, particularly around Bida, Upland NERICA is intercropped with Sorghum



In some parts of Nigeria, root and tuber crops (cassava, yam) are grown with rice especially at Bende.



Irrigated Lowland Paddy Field (Rudimentary Sawah). No Integration of Fulbe Grazing with Nupe Rice Farming. Animal traction and/or small machinery is necessary for Sawah cultivation



The highest diversity traditional system of cultivation in Bende, Nigeria, where rice and many other crops are simultaneously grown together



In the savanna agro-ecological zones of Ghana, (e.g. Bawku), rice and vegetable growing valleys are walled to serve as protection against animal (cow, sheep, goats, etc) destruction.



Water availability and management are very essential for effective rice production. Under traditional system, water management is a critical and key factor that requires attention



Farmers need to be trained to harvest free flowing water for rice cultivation in the abundant valleys of Guinea (e.g. Kissidougou)



Ridge planting in a flood plain, Bida, Nigeria. Such field are easily overtaken by weeds resulting in very low yields.



Under traditional systems, mixed cropping where several varieties can be seen growing on a the same field are very common (e.g. Kaduna in Nigeria where glaberrima and sativa rice are mixed).



A variety of different traditional methods of rice cultivation exist across Sub-saharan Africa. An example of *Oryza Glaberrima* at Mopti in Mali



Under virgin lands and natural favourable conditions, traditional methods can be rewarding but such areas are now very rare to find.



After harvest, in order to maintain fertility and re-cycle nutrients, Farmers allow animals to graze on rice fields. Cattle are fed with rice straw and dung dropped during grazing enriches the soil nutrient content.



Irrigated rice but no Sawah technology, Bida, Nigeria



Poor tillering and aggressive weed easily take over non-sawah field



Such poor crop performance and low harvest from traditional fields, cannot ensure or guarantee food availability and/or reduce hunger



Farmers' Irrigation canal and rudimentary 'sawah' in Nigeria