

Promoting SRI through Digital Learning for Rice Farmers in Kenya

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From humble beginnings

The word “SRI”, meaning “System of Rice Intensification”, is not new to many farmers in Kenya’s Mwea, Ahero and West Kano Irrigation Schemes. It all started way back in 2009, when SRI was introduced in Kenya, first at Mwea Irrigation Scheme, and later at Ahero, Bunyala, West Kano and South West Kano Irrigation Schemes in 2011. Since then, SRI has revolutionized how rice is grown by farmers in the country. But not that smoothly. It has been a challenging 13 years (as of 2022), in which SRI was promoted on and off depending on availability of resources to support various projects and activities. But first, let us get the basics of what SRI is (there’s always someone new).

What is SRI?

The System of Rice Intensification (SRI) is a package of practices that changes how rice is grown in paddies, which incredibly increases yields and saves water. Farmers are trained to change from growing rice in fully flooded paddies and traditional agronomic practices. By adopting SRI, farmers practice the alternate wetting and drying of paddies which saves water. They also grow rice in lines and at wider spacings, transplanting one seedling per hill, thereby using less seeds. Use of organic fertilizers is also encouraged. These changes in crop agronomic management result in a sturdier rice plant, that has better rooting and more productive tillers. This in turn results in higher rice yields, which are of superior grain quality. SRI is a climate-smart practice shown to reduce greenhouse gas emissions by 40% per kg and enhance carbon sequestration as well as support climate-resilience and adaptation. As of February 2023, some 11 countries had featured SRI as a mitigation and/or adaptation action in their NDCs (Nationally Determined Contributions), and as a technology to achieve climate targets.

SRI benefits to Kenyan farmers

Within Kenya, research shows that SRI increased rice yields by between 30% to 75% depending on variety and local conditions, while it saved water by about 39%. SRI improves climate-resilience through reducing water requirements and increasing the rice plant’s resistance to biotic and abiotic stresses. Other benefits include improved grain quality and healthier work environments through reduced water-borne disease vectors. SRI is now practiced by thousands of farmers in Kenya (actual number in 2022 was unknown). But there are farmers who have not adopted the system in Kenya for lack of knowledge. To bridge this gap, SRI training content was put on a digital platform designed for farmers to learn about the technology using their mobile phones, in a project implemented in 2022.

What was done

The project commenced with engagement of scheme managers and farmer leaders in Mwea, Ahero and West Kano Irrigation Schemes. This was meant to inform and sensitize them to be well involved in the project. Thereafter, mobile phone numbers of rice farmers in each scheme were

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collated. This function was supported by the Scheme Managers and implemented at the grassroots through Unit Leaders/Feeder Leaders in each scheme. Alongside this, rotary/push-weeders were fabricated and issued to farmers through their Unit Leaders. Meanwhile, existing SRI training materials were revised and the content upgraded to be usable in digital formats. This training content was synthesized into formats that are accommodated by both SMS (Short Messaging Service) and WhatsApp platforms. The SRI digital content was sent to all farmers listed on the platform. Follow up meetings with farmers were implemented by Bancy Mati to ensure farmers understood the digital learning and practically assist them download the content in form of SMS or WhatsApp using any type of phone, including the most basic, cheap ones.

Lessons Learnt

One of the questions asked to farmers during mobilization meetings at the commencement of this project was how many farmers (i) knew what SRI is, (ii) practised SRI, (iii) practised at least 4 components of SRI. The responses were rather mixed. The younger farmers were unaware of SRI, while the older ones, those who had practised SRI had dropped some of its components, especially growing of younger seedlings. This was partly due to passage of time, at least 8 years since SRI was promoted in Mwea and thus knowledge disconnect. In that time, other initiatives had pushed for transplanting old seedlings while the mention of SRI had dwindled. Thus, capacity building was necessary, especially to reach the younger farmers with the full suite of SRI practices.

Another observation was the need for interactive roll-out of the SRI digital learning content once it has been created. This is because most people will not just open an SMS message and follow through with lengthy content. This need was particularly apparent during the practical training. This means that digital learning cannot just be pushed by techs sitting in the capital city and expect it to work. There is need for interactive engagement between the techs and users/farmers.

Finally, the world is going digital and Kenyan farmers are at the forefront of using mobile phones, internet, mobile money and other e-commerce and learning Apps. It is an opportune country to pilot digital ideas, where success rates have been quite good. Riding on this good will requires each new initiative to build on realities that are matched with active engagement with farmers.

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Prof. Bancy Mati
Convenor of SRI-Africa
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Photos from the Project implementation



Bancy Mati training farmers on SRI digital App using mobile phones at Mwea Irrigation Scheme



Handing over rotary push-weeders to farmers at Mwea Irrigation Scheme



Bancy Mati training Block Leaders on SRI digital App at Ahero Irrigation Scheme



Handing over rotary push-weeders to farmers at Ahero Irrigation Scheme



Bancy Mati training Feeder Leaders on SRI digital App at West Kano Irrigation Scheme



Handing over rotary push-weeders to farmers at West Kano Irrigation Scheme



Bancy Mati disseminating Digital Learning during a Field Day in Mwea Irrigation Scheme



Rice paddy field at Ahero Irrigation Scheme, Kenya