

PMIS/NRM: Brief report on SRI demo-plots in Baghlan Province

To: Atanu De, Coordinator, AKF/Afghanistan

From: Ali Muhammad

Objective: SRI

Date: 23-Jul-07

We had been following about SRI methods that Kishan Rao (SRI consultant) trained us. We are continuing our field visits to our SRI demo plots. We are hiring labor for weeding the **Agriculture Faculty** SRI demo plots at the time of need. Work and maintenance on the SRI plots at **Old Baghlan** and **Kelagai** are continuing by the SRI farmers. Monitoring is going on from time to time, and all the core staff of both teams are involved in that (PMIS core staff for SRI and AKF/NRM core staff for SRI). During this field visit we had some technical guidance for the farmers and shared ideas with farmers on what needs to be done by them, e.g., when to irrigate, or what is the need to do today or tomorrow for their SRI plots.

Besides this, we are recording some important events (when tillers come up or when the daughter tillers emerge). There are some problems as farmers can't do everything at the same time when we ask them. SRI irrigation is going on according to need; when it is moist, they have to irrigate. The soil shouldn't become completely dry, but farmers have problems for irrigating their plots; sometimes they face a water problem which is not water shortage but really a lack of water, especially in **Kelagai**, so they can't irrigate on time. Fortunately it doesn't happen often, but of course it will be an obstacle for SRI methods.

Our SRI plot plants suffered from **cutworms**, which cut SRI plant roots in **Old Baghlan** and the **Agriculture Faculty** fields. Thus we have applied some pesticides (**Carboferon**) which was very effective, as it killed the entire batch of cutworms. The cause was that these cutworms found moist land. Whenever the land is moist, these cutworms often appear, according to local farmers' saying. It is not something that appears only in SRI plots but is found in any moist land. These cutworms don't attack the roots of the SRI plants directly, but by chance or when they pass under the soil, they cut the roots. This is the pests' characteristic while going under the ground. Its effect quite visible so it seems as if the soil is ploughed by oxen.

There were also some losses during the first weeding as the plants were very weak, or the planting wasn't done correctly (as marked). Because this is the first time for the farmers, so they can improve it by practicing in the future. One Old Baghlan SRI farmer Shams Din is working on his SRI plots with more enthusiasm and he is very keen. In **Kelagai**, the plot has more weeds, especially kabal and reeds, which are very dangerous weeds and cannot be removed easily. In this case, we gave the idea of first manual weeding by the farmer; then he should weed by mandava weeder. He weeded manually and used a sickle for removing them (kabal and reeds). After weeding manually, we asked him then to start weeding with the mechanical weeder, and definitely it is going on.

The neighboring farmers are starting to come to visit the plots, and they are very surprised. They don't believe that what they saw during transplanting (seedlings were transplanted with just two leaves) have grown into such plants.



SRI transplantation with seedlings at age of 11 days. Those who are transplanting should be very careful; they must take the seedlings in a plate very gently and plant them gently too. They did all that.



Two days after transplanting. Farmers should be very careful that there shouldn't be standing water in SRI plot. Standing water can kill the first three consecutive daughter tillers. If farmers can get these three daughters to survive, yield can be increased 60%. So there is very thin layer of water in the SRI field, not standing water.



Manual weeding before the first weeding by using a mandava weeder. This plot has more weeds, especially reeds and salamalik, so there is need for manual weeding before weeding by mechanical weeder. Without manual weeding, the weeds are too complex to manage by the weeder.



This farmer is doing the first weeding of his SRI rice plot with mandava weeder. He starts weeding 10 days after transplanting. Early weeding has many advantages. After this weeding, the moisture time gets increased. The process buries the weeds and changes them to compost. The land becomes very soft, and the roots can get more air. Soil can breathe very well or aerate well. We have to weed 3 or 4 times, each weeding after 10 days.



SRI manual weeding. Besides weeding with a mechanical weeder, we need to weed manually. Sometimes some weeds remain which are close to the SRI plants, so we must manually remove those ones.



This plant had 11 tillers after one month of its transplanting. The tillering is multiplying now, and daughter tillers are ready to bear their own daughters.



The maximum tiller number of this plant is 48. These tillers have come up by 42 days after transplanting.

Recording of practices and tiller emergence (all 2007)

Old Baghlan (Haji Nizam)

1: Transplantation:	21 to 25 May
2: First tiller emergence:	3 or 5 June (12-14 days after TP)
3: First two tillers appeared:	7 June
4: Cutworms appeared:	27 May
5: Applied pesticides for killing cutworms:	29 June
5: Applied manure:	30 May
6: First weeding:	3 to 10 June
7: Third tiller:	17 June
8: Second weeding:	20 June
9: 10-11 tillers:	24 June
10: 17 th tiller:	27 June
11: 22 tillers but rare:	1 July