



System of Rice Intensification in Afghanistan

Aga Khan Foundation-Afghanistan (AKF)
*Participatory Management of
Irrigation Systems Program (PMIS)*

The importance of SRI for limiting water access conflicts in northern Afghanistan

- **From 80's onward, farmers in traditional canal systems shifted from industrial crops (sugar beet, cotton) to rice.**
- **Rice is nowadays the privileged cash crop for Afghan farmers in the Kunduz River Basin**
- **Shifting to rice cultivation in upstream areas has led to water scarcity in downstream parts of numerous canal systems, exacerbating tensions between communities and canals and at river basin level.**
- **Govt. attempts to regulate rice cultivation not effective.**
- **SRI has the potential to limit water demand in upstream areas without compromising the upstream farmers' economic benefits.**

Kishan Rao (WASSAN) gave training to AKF/NRM staff on SRI practice, May 2007

- Kishan, AKF/NRM staff and farmers from Jangharoq canal preparing seedbed for SRI on farm of Baghlan Agriculture Faculty. Rice never cultivated on this land



SRI yield in Baghlan province, 2007

(1st year – planted one month late)

Strong SRI tillering was encouraging, but the yield was not

S/N	Farmer name	SRI method (yield & variety)	Conventional method (yield & variety)
1	Sham-sudin	2 t/ha (Surkha Zerati Medium Garma)	5 t/ha (Surkha Zerati Long Sardah)
		4 t/ha (IR - 66)	8 t/ha (Surkha Zerati Medium Garma)
2	PMIS /SRI	3 t/ha (Surkha Zerati Medium Sardah)	

SRI in 2008

Some SRI volunteer farmers were selected to do SRI on their fields beside their conventional rice plots. The AKF SRI team supported them technically, and SRI volunteer farmers and governmental department staff were involved for all the SRI steps.





Afghan farmers planting 11-day seedlings in Baghlan Province



**Farmer in Old Baghlan
watching his SRI field
at 30 days**



**SRI plant
at 72 days
with 133 tillers –
yield 11.56 t/ha**

SRI volunteer farmers and Agric. Dept. staff on exposure trips to SRI plots to exchange their experiences on SRI practices



SRI yield in Baghlan province, 2008 (2nd year)

S/N	Farmer name	SRI method (yield & variety)	Conventional method (yield & variety)
1	Jawan Shamali	14 t/ha (Surkha Zerati Medium Garma)	7 t/ha (Surkha Zerati Medium Garma)
2	Juma Gul	11.56 t/ha (Surkha Zerati Medium Garma)	5.83 t/ha (Surkha Zerati Medium Garma)
3	Abdul Wakil	11.26 t/ha (Surkha Zerati Medium Sardah)	6.13 t/ha (Surkha Zerati Medium Sardah)
		9.55 t/ha (Surkha Zerati Medium Sardah)	

SRI yield in Baghlan province, 2008 (2nd year)

S/N	Farmer name	SRI method (yield & variety)	Conventional method (yield & variety)
4	Mohd. Alim	5.88 t/ha (Surkha Zerati Medium Sardah)	
5	Qand Agha	9.64 t/ha (Surkha Zerati Medium Sardah)	
6	PMIS/SRI	9.0 t/ha (Surkha Zerati Medium Sardah)	4.0 t/ha (Surkha Zerati Medium Sardah)

Problems/Barriers

- Hard to convince farmers on wider spacing and young seedlings
- More labor is required for transplanting
- Cutworms cut SRI plant from the roots
- Transplanting late, i.e., in June, does not give a better yield
- Land leveling takes more time the first year when doing SRI
- Marking fields is not easy if the land is not leveled properly
- Big landowners are not showing interest in SRI
- Afghan farmers have only a short time to do their transplanting
- Lack of animal manure for soil fertilization
- Farmers are not familiar with making green manure

Questions

- Are there earlier-maturing varieties of rice or wheat (135 days)?
- Are there improved markers for marking poorly-leveled land?
- What are additional sources of material to make green manure?
- Can SRI be transplanted as an intercrop?

How to develop SRI in Afghanistan

- Early-maturing varieties of rice or wheat (135 days) are needed to get a better result from SRI within double-cropping system
- Train farmers how to make green manure from their own resources
- Provide/arrange exchange visits among farmers to exchange their experiences on SRI
- Provide some incentives to farmers to encourage them for SRI (e.g., markers or weeders)
- Presentation prepared by Ali Muhammad Ramzi
- (Aga Khan Foundation-Afghanistan)