



unused contour/bunds spaces for fodder production with improved fodder species.

The rice bunds are of varying sizes and gradients which are generally covered with

The desirable characteristics of suitable fodder species on rice bund would be non-spreading, perennial, non-shading while it demanded a high yielding variety so as to conserve other available feed resources for lean seasons.

In view of this, an on-farm observation trail with improved fodder species was established at four sites in Dungragoan village, Tsirang in the collaboration with livestock counterparts of the Dzongkhag in 2006. From the existing stance, Napier was found to do well (about 80% survivality) followed by *Setaria* and *Paspalum*. Although these species are in general taller in heights, a management by harvesting as and when it attains the

local grasses and weeds and require periodic cutting/slashing to prevent shading over growing crops. Unattended and outgrowth of weeds on bunds are also seen to attract rodents.

Napier grass on the paddy bunds, Dungragoan, Tsirang

Although the natural growths are cut periodically, it seldom finds a way to the livestock considering their meagre quantity and relative abundance of grasses in the natural grazing areas during the season.

shading height was reported to give higher overall yield besides being highly palatable. It was observed that broader bunds with gentler slopes had higher survivality and persistence than narrower bunds with steep slope.

These observations demand a detailed comparative study on the fodder yield, weed control, stabilization of rice bunds and interaction with main crop which will be under taken during the coming season. Further, a suitable legume for a combination will also be explored.

**Dr.Jigme Dorji, RC Bajo
Sangay Tshering RSS-Tsirang**

Experimenting with SRI at RNRRC Bajo

Background

The System of Rice Intensification (SRI) was developed in Madagascar in early 1980s by Father Henrie de Laulanie, a Jesuit Priest. After its development many NGOs and government organisations

worked for its promotion throughout the world. SRI is tested in Asia continent too with positive results. It is said that the average yield of SRI is 8-9 t/ha with some farmers even getting 10-15t/ha.

SRI works with any variety and no external inputs are needed to benefit from SRI. It emphasizes more on organic manure use rather than inorganic fertilizers as their experience show high yield with organic manure. Minimum of 2 weeding is recommended in SRI with rotary weeder for good soil aeration.

SRI at Bajo

The trial was continued in 2008 season with the objectives to observe and ascertain its performance. An improved variety IR 64 was tested. All the basic principles involved the system were followed:

Transplanting of young seedlings

Seedlings of 15 days old were transplanted. The nursery was established in a semi-dry bed method with a good irrigation source. The seedlings were transplanted as soon as it is removed from the nursery. As far as possible, the seedlings with intact seed sac were used which supplies food to the infant roots.

Seedlings are transplanted singly rather than in clumps

Seedlings were transplanted singly rather than in conventional methods of three or more seedlings per hill. This facilitates individual plants to spread their roots and prevent competing with other rice plants for space, light and nutrients.

Wide spacing

A wide spacing of 30 cm x 30 cm was used. In traditional method, farmers maintain a spacing of 10-15 cm. A nylon rope with demarcation was used to maintain the required spacing. Wide spacing expose plants to more sunlight, air

and nutrients resulting in more root growth and more tillering.

Moist but unflooded soil conditions

As recommended, the soil was kept moist without flooding till vegetative stage. During heavy monsoon the excess water was drained out while irrigation was provided during field cracking. However optimum water level of 2-3 cm was maintained once the crop has reached reproductive stage.

Weeding

Two hand weeding were done during the entire crop period. The first weeding was done 20 days after transplanting to churn the soil and improve the soil aeration. The second weeding was done 30 days after the first weeding to remove the weeds that were grown after the first weeding. It is also intended to improve the soil aeration as aeration is considered to be important in SRI. Rotary weeder was used. It was found that there were not many weeds as Butachlor was applied two days after transplanting.

Organic fertilization

SRI encourages more organic fertilization rather than inorganic. Some countries have modified the technology in terms of fertilization to suit their local conditions. In Bajo, the SRI was raised organically without any inorganic fertilization. Farm yard manure (4 tractor loads) was applied and incorporated during the last puddling.

Results and Discussions

The crop came to maturity at 125 days. No major pests infestation or disease incidence were observed during the

cropping season. Three crop cuts were taken from the field and results presented below.

Agronomic traits of SRI in 2008

Plant height (cm)	Tiller number	MC %	Plot yield (kg)	Yield (kg/acre)
88	38	18.4	5.5	3440
89	53	17.5	5	3164
87	49	17.8	5.8	3672
88	46	17.9	5.43	3425

No significant difference was observed in plant height and days to maturity with that of conventional method. However there has been difference in terms of tiller number by 70-80% (conventional method bears 20-25 tillers). The highest productive tiller number observed was 75 in the crop cut area. There has been yield increase by 15% from that of normal practice (Average 7-7.5 t/ha). Moreover, the occurrence of shochum weed was much reduced. There is also a substantial saving in the amount of seed required for transplanting.

Sangay Tshewang
RNRRC Bajo

