

Village Based Fodder Seed Enterprises

(from LPS-2010-007 Final Report p34)

In Pakistan, over 150 million livestock, including cattle, buffalo, sheep and goats, require a year-round supply of green fodder. The production capacity of existing infrastructure for quality forage seed is a major limiting factor for fodder production. This gap is exacerbated by the importance that farmers place on animal ownership, with animal numbers exceeding the capacity that farmers have at their disposal to produce fodder to feed them.

Berseem clover was chosen as the target fodder as it is the major rabi or winter source of forage. Clearly the provision of berseem seed capable of higher forage yields would assist in alleviating seasonal feed shortages. Village based seed enterprises (VBSE) have been developed to provide sources of high quality seed to farmers in the same district that the enterprise is located.

Thus local farmers who are engaged in this activity are able to profit from the sale of superior quality seed and at the same time harvest forage to feed to their own animals with any excess sold to neighbouring farmers. The only inputs required are a supply of high quality seed from research stations and technical advice on how to maximise forage and seed production.

Production: The outcomes of this research was that by using a village based seed enterprise model, participating smallholder farmers increased their fodder seed production by 211% (with an average of 580 kg/ha), fodder yield by up to 39% and DM yield by up to 46% compared to farmer seed. Additionally, improved variety seed also produced quality fodder with 3% more CP and 2.5% more DMD with 5% less fibre contents.

Marketing: The VBSE farmers now sell Berseem clover seed to village farmers at the rate of PKR 450 per kg, which is premium price compared to market rate of PKR.283 per kg for an inferior product. The higher price readily paid by farmers for the superior seed reflects their recognition that feed retained over the years by them from their own crops is of poor quality. VBSE are now considered as sustainable enterprises, with individual farmer case studies in which participants produced an average of 580kg/ha (with some case studies showing production up to 815kg of seed/ha).

Profitability: The main emphasis of the establishment of VBSE was in improving farmers' ability to assess the profits of their enterprises and ultimately improve their whole farm productivity and profitability by producing and selling high quality seed. Financial analysis of enterprises adopting the improved agronomic practices of growing Berseem forage and VBSE technology, showed that average net incomes of PKR 512,340 per hectare were achieved (based on predicted seed yield). This is 4 times higher than they earn from any other cash crop grown in the region. The partial budget analysis of VBSE farms further revealed that the average benefit:cost ratio was recorded 5.3:1 with marginal rates of return of 432%.

This is well above the minimum benchmark of 40-100%¹ for farmers adopting a new technology on farm after accounted for capital cost, risk and inflation rate in Pakistan.

¹ Shah, H., Hussain, K., Akhtar, W., Sharif, M. & Majid, A. 2011. Returns from agricultural interventions under changing price scenario: A case of gypsum application for moisture conservation for wheat production under rainfed conditions in Pakistan. World Applied Sciences Journal, 14, 363-368