

Forage arachis in Nepal: a simple success

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Introduction

Nepali farming systems are remarkably diverse. Live-stock play a central role in livelihoods and sustainable farming on most farms. There is a need for productive forage legumes that can fit existing farming patterns and that can be multiplied easily. A wide array of genetic material has been introduced recently into the cropping, cut-and-carry, grazing and forestry systems, mainly in the Terai (Ganges Plain) and in the "mid-hills" to about 2 km asl. In 1999–2000, 8 lines of *Arachis pintoii* were introduced from CIAT, and additional *A. pintoii* and *A. glabrata* lines from Queensland. The introduced arachis was established on a small number of permanent sites to enable close observation, crossing and continual selection, and a reliable long-term supply of planting material. Concurrently, small samples were provided to a large number of smallholder farmers (>1000 in the first season alone) over a very diverse agro-ecological range, for evaluation, local demonstration and the supply of planting material within the community. The program has been based entirely on vegetative material since 2000. Most arachis establishment has been in intensive smallholder systems, involving cover cropping, mixed planting with productive grasses in backyard areas, and establishment on terrace risers. There also have been trial plantings in ley systems and on communal land, including land-slips/slides and roadside cuttings.

Scale and benefits

Forage arachis has become popularised in many communities; it is likely that 15–20K households are already involved. Farmers continue to expand on-farm areas and refine systems of management and utilisation. Some households have bulked up from a few slips to 1000–2000 m² within 3 years. The arachis is used commonly in cut-and-carry systems for supplementary feeding of milking buffalo and cattle, goats, pigs and poultry. Due to positive feeding responses, rapid expansion in plantings is occurring within individual farms. Establishment on communal areas, such as roadside cuttings, has been on a smaller scale and is much less significant.

Major reasons for success

1. *Farming systems and bulking-up.* Most Nepali mid-hill farming systems are very intensive and offer

many niches for forage arachis. Small farm sizes, and the small unit areas, initially targeted for on-farm forage development, are well suited to vegetative propagation. Nepali farmers generally prefer this to the use of seed, partly because of the quick and conspicuous results. Some bulking-up has been undertaken on a contract basis.

2. *Farmer attitudes.* New forage interventions in Nepal typically have very high uptake rates. This may be attributed partly to the long tradition of backyard dairying that most households practise. Participating farmers commonly undertake their own screening, feeding new material to all classes of livestock and poultry. Forage arachis has stimulated more interest than most other forage introductions.

3. *Groups and networks.* Nepali farming communities are characterised by a high degree of organisation into enterprise groups, including livestock, milk marketing and forest user groups. These groups facilitate rapid farmer-to-farmer exchange of planting material. Providing the forage arachis to selected farmers, who act as "farmer resource centres" for screening, demonstration, bulking up and local supply of cuttings to other group members, has been successful. This approach is important in the context of reaching remote communities, particularly in a conflict situation that precludes regular follow-up.

4. *Participatory approaches.* The immediate and direct involvement of smallholder farmers has streamlined screening, demonstration and multiplication. Development agencies have coordinated initial inter- and intra-district exposure visits and distribution of planting material to newly participating areas.

5. *Mobilisation of field staff.* Field development workers from diverse disciplines, including forestry, soil conservation, livestock and women's empowerment, have been mobilised to assist in the delivery of the program. This multi-disciplinary approach has enabled quicker and more widespread adoption.

The future

Further establishment of scattered nucleus sites in new areas in the Terai and lower mid hills could result in secondary adoption of forage arachis by vast numbers of farmers at very low cost. The current range of genetic material should be expanded, particularly in terms of introducing more cold tolerance and more erect lines for cut-and-carry.