Possible Alternatives to Reduce Constraints

The research has identified a number of farming system constraints. The following summarizes these and lists some possible strategies to alleviate each type of constraint.

I. Natural constraints

A. Wind erosion
   1. Improve intercropping practices
   2. Discourage early land clearing and planting
   3. Adopt mulching practices
   4. Shelter-belts

B. Pests and disease
   1. Investigate life-cycle of santa (Crytocamenta spp.) with the aim of eradicating this most important pest of millet.
   2. Develop high-yielding, bird resistant varieties of millet.
   3. Promote use of seed dressings.

C. Loss of soil fertility
   1. Investigate optimum rotation and intercropping systems taking farmers' labor and seed constraints into account.
   2. Experiment with using Acacia senegal and cowpeas in the rotation system.
   3. Encourage continuation of minimal tillage techniques.
   4. Explore the advisability of mulching.

D. Availability of rainfall
   1. Introduce improved, early maturing, draught resistant varieties of present crops. Introduce new draught resistant crops.
   2. Investigate optimal planting period for each crop while considering the constraint of labor bottlenecks.
   3. Mulching practices and shelter-belts to conserve soil moisture.
   4. Research focused on the benefit of creating water catchments around plants.

II. Input constraints

A. Access to labor
   1. Introduction of early-maturing varieties of crops would allow poorer farmers to resolve the conflict between the need to work in their own fields during the second weeding period and the need to earn cash by hiring their labor.
   2. Credit programs to provide farmers with funds with which they could purchase additional labor.
   3. Consider introducing plow cultivation with animal traction. Minimal tillage technologies would be optimal.

B. Access to seeds
   1. Increase availability of seeds of early maturing varieties.
   2. Consider use of village merchants as primary distributors of improved seeds.