Recommendations

1. Intercropping strategies similar to the ones farmers are now practicing should be encouraged. Agricultural scientists should determine and recommend to farmers what combination of crops would be most appropriate.

2. Soil scientists should investigate the effects of early land clearing and early planting in this area. Possibly these strategies may be promoting desertification since they expose bare top soil to wind erosion. If this is the case, farmers should be encouraged to clear their fields later just before planting rather than as early as many now do. However, reluctance to implement such suggestions may be encountered because of the potential labor bottlenecks which could result if all farmers clear their land just prior to planting. Presently some farmers begin clearing their fields in February because labor is cheaper and readily available at this time. Such potential labor bottlenecks must be taken into account in any recommendations made to farmers.

3. Farmers should be encouraged to continue leaving cut bushes, weeds and crop residue lying on their fields prior to planting. This would help cut down on wind erosion, and could serve as a mulch which would help soil moisture. Planting could then be done without removing this mulch. This strategy would be appropriate for those farmers who find it necessary to clear their fields early due to labor constraints.

4. Another possible way of controlling wind erosion would be to plant tree shelter-belts around farmers' fields. Previous research has shown that densely planted stands of trees along the borders of fields cut down on wind damage, as well as too rapid evapo-transpiration, and help retain soil moisture. In addition, such shelter-belts could help curtail desert encroachment.

One fast growing tree which might be used for this purpose is mesquite (Prosopis spp.). Not only could it help cut down on wind erosion, it could be used for three other functions which gum arabic trees are presently serving: as a source of firewood, a source of building material and a source of fodder. Relieving gum arabic of these three functions would remove some of the pressure on farmers to cut down gum trees early before they reach their productive potential. However, one bad attribute of some mesquite varieties is that they tend to spread quite rapidly. Care must be taken to make sure that the variety introduced for this purpose does not begin displacing Acacia senegal in the area. Such varieties of mesquite do exist and could be used. Two other possible trees which could be used for shelter belts would be Acacia senegal itself, and eucalyptus. Experiments could be conducted where all three types of trees are planted in shelter-belts to determine which one would be the most appropriate for the area.

95 See footnote below in recommendations about protecting soil fertility.