New Delhi, May 1994 -- India's experience in the management of its 70 million hectares of vertisols, clay soils that are potentially productive but need special treatment, is now helping to develop agriculture and improve food security in Ethiopia.

The unique experiment in the selective transfer of technology is a "good example of a successful initiative with national agricultural research systems and international centers as equal partners and complementing each other," says Jim Ryan, director general of the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) near Hyderabad, India. ICRISAT, along with the International Livestock Center for Africa (ILCA) in Addis Ababa, and three Ethiopian institutions, manages the project.

The project is working to improve the productivity of Ethiopia's highland black vertisols through the use of an animal-drawn land-shaping implement, the broadbed maker, which shapes the land to improve drainage.

Small-scale farmers using the broadbed maker, together with improved crop varieties and fertilizer, can increase yields of highland crops dramatically, according
to research scientists. Over 10,000 highland farmers have registered for broadbed makers. More than 3,000 are expected to be in use this year.

Early planting of mixtures of improved crops and forage varieties on the drained vertisols also leads to a rapid establishment of ground covers that reduce soil erosion.

Traditionally, Ethiopian farmers produce a single wheat crop on vertisols during the second half of the growing season to avoid waterlogging. Replacing traditional wheat with improved, early-seeded wheat on 50 percent to 75 percent of the total drained vertisols in Ethiopia could potentially support the entire present population of the country, scientists say.