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Cash crops drive change in dryland farming

Dryland farmers in India's semi-arid regions are moving away from traditional crops towards cash crops such as cotton, soybean and chickpea to boost profits.

"In the 1970s and 80s cropping patterns were relatively stable, but in the last ten years changes have been much more visible," said Dr Uttam Deb, Principal Economist, Market, Institutions and Policies, ICRISAT. He tracks enterprise and cropping pattern changes through the VDSA's village-level surveys in 42 villages in India and Bangladesh.

"In India the rapid changes in cropping patterns in the 2000s were driven by the availability of irrigation in the *rabi* (postrainy) season, BT cotton technology and mechanization," said Dr Deb. "Other influencers have been seed subsidies, lower crop labor requirement, and fluctuating cotton prices."

"For example, in a century-old cotton-growing village in Akola district of Maharashtra, farmers have switched from cotton to soybean. Farmers in Aurepalle in Mahbubnagar district, Telangana, who traditionally grew castor, sorghum, millet and other cereal crops, switched to BT cotton because of higher profits. We have also seen farmers in some flood-affected villages of Bangladesh who traditionally grew paddy switch to rearing fish," said Dr Deb.

The large number of farmers who switched to growing soybean in villages of Akola district, Maharashtra, (Figure 1) made an average return per hectare (2011-13) of ₹24,417 (US$407) for soybean grown in *kharif* (rainy) season, ₹52,261 (US$871) by following soybean with chickpea in *rabi* (postrainy season), or ₹47,263 (US$788) by following with wheat. Farmers growing cotton as a single crop for the year received ₹22,501 (US$375) per hectare. Sorghum growers got a return of ₹8,260 (US$138) and had the opportunity to also grow chickpea, wheat or other *rabi* crops.

A cotton farm in Aurepalle village in Telangana.

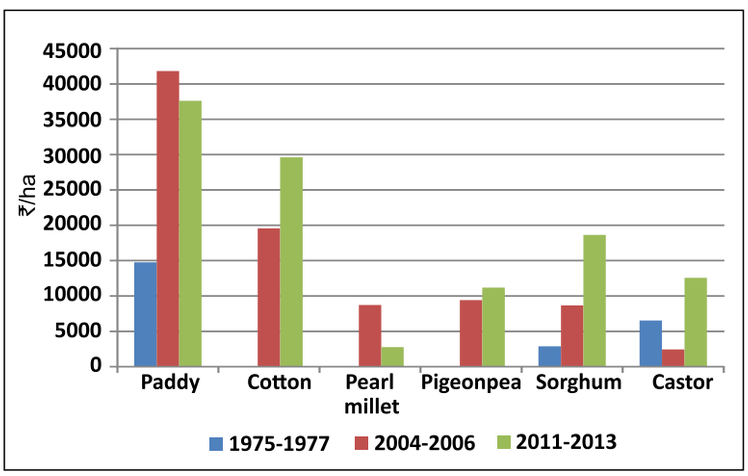

Figure 2. Returns Per Hectare in Aurepalle Village of Telangana (Rupees 2013/14 equivalent prices): 1975/76 to 2013/14.

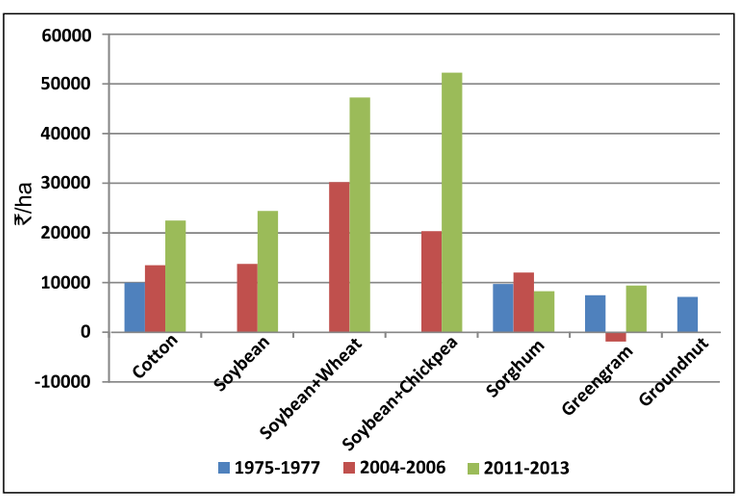

Figure 1. Returns Per Hectare in Akola Villages (Rupees 2013/14 equivalent): 1975/76 to 2013/14.

The huge growth in area under cotton in Aurepalle village, Telangana, is shown in Figure 2. In 2011-13 farmers made average returns per hectare of ₹29,607 (US$493) for BT cotton, ₹18,647 (US$311) for sorghum and ₹12,563 (US$209) for castor. Paddy cultivation provided the highest returns per hectare of ₹37,602 (US$627), but farmers were constrained by lack of irrigation water. ■