

An idea whose time has come

TK Prasad looks at a novel irrigation scheme at work

ANKALKHOP. THIS little hamlet in the sugarcane rich Sangli district of Maharashtra is little known to outside world. Its green patch of land is fertile to the crust. But water scarcity is its bane. The farmers of this village are not blockheads to blame the rain gods. They decided to find a permanent solution to the perennial water problem.

Sponsored by Vasantdada Shetkari Sahakari Sakhar Karkhana Ltd, one of the largest sugar factories in co-operative sector in the country, the farmers formed in 1965 a co-operative society which implemented a flood irrigation scheme. In this method water is lifted from the river using motor pumps and allowed to flood the field and later to flow, thus making the land ripe for cultivation.

For more than 20 years the farmers irrigated the fields of sugarcane, plantain, grapes and other sundry crops using this method. But the continuous use of flood irrigation resulted in the deterioration of soil and productivity.

wastage of water and soil erosion, water is applied directly into the plants' root zone at a low flow rate over a long period of time. Soluble fertilisers and pesticides for the root zone can also be applied through this system.

A comparative study of drip irrigation system and flood irrigation system conducted by the society at Ankalkhop shows that the former is cost effective than the latter. Cost of labour, fertilisers, plantation, pesticides etc has come down drastically. The cultivation cost is reduced by Rs 2,765 from Rs 7,850 per acre.

In the flood irrigation water utilisation rate is 50 to 60 per cent against 90 to 95 per cent in drip irrigation. In Ankalkhop, the farmers could irrigate 443 acres of land with the same quantity of water they used for irrigating 192 acres.

Drip irrigation system offers other fruits also. The duration of sugarcane crop was reduced from 18 months to 12 months. Yield per acre also jumped from a mere 27 tonnes to 40 tonnes and in some cases up to 82 ton-



Sugarcane crop at Ankalkhop-district Sangli showed a dramatic rise in output upto 300 per cent due to drip irrigation system.

Perturbed by this the progressive peasants thought of changing the method. In 1987, they adopted the micro-drip irrigation method, which was found successful all over the world, but entirely new to India.

In this system instead of flooding the field, the lifted water is stored in wells near the fields to be transported to the fields through pipes. Impurities are removed by passing the water first through sand filters (silica) and then through screen filter. In the fields thus purified, water is directed into 'biwall tubes' — double chambered emission tube with a main supply chamber through which the water flows and a secondary distribution chamber with water emission orifices.

Jain Irrigation Systems, the pioneers in this field in India, provided the know-how and equipments to the society. The implementation cost comes around Rs 12,000 per acre. Other major players in this field are Voltas and Kirloskars.

Drip irrigation system has many advantages. It avoids

Other crops like banana, grapes, fig, betelwine, pragmo-garmate have also increased by 30 to 50 per cent.

The only precondition is uninterrupted supply of electricity. Small farmers would find it difficult for installing the system of their own, considering the initial cost. This is where the co-operatives' role becomes important.

In Ankalkho the society has borrowed bank loans of Rs 20.98 lakh. The government gave a subsidy of Rs 20 lakh. The 443 acre project cost a total of about Rs 54 lakhs.

Drip irrigation is suitable for plantation crops like tea, rubber, coffee, cardamum, cloves; row crops like sugarcane, cotton, ground nut, vegetables, strawberry, mulberry etc. and widely spaced orchard crops like grapes, citrus, pomegranates, papaya, mango, sapota, coconut, tamarind, ber etc.

The successful implementation of this system will revitalise the economy of the small and marginal farmers.