

CHAPTER 7.0: CASE STUDY -II

Hivre Bazar, Ahmednagar District, Maharashtra

Hivre Bazar, a village in Maharashtra's drought-prone Ahmednagar district is a village of 1,200 population and 975 ha area in Deccan Traps country of Maharashtra (450 mm/a average rainfall). Earlier unlike other villages that desperately wait for government-supplied tanker water to meet their drinking needs. Village was sliding into an abyss after degrading its environment. But in less than a decade it turned itself around into one of the most prosperous villages of the country. There was no magic wand, just common sense. It used funds from government schemes; to regenerate its natural resources--forests, watershed and soil--led by a strong village body. It had a role model in the district--Ralegan Siddhi, the village Anna Hazare turned around. Now Hivare Bazar is in turn an exemplar for the whole of Ahmednagar district, where others have used the same scheme to conserve and prosper.

Hivare Bazar today has assured drinking water. They have also managed to plant a rabbi crop, albeit over reduced acreage. Watershed development and strict observance of rules that preserve the water table have been central to this village's remarkable economic transformation. A fundamental premise of the program has been to treat water as a community resource.

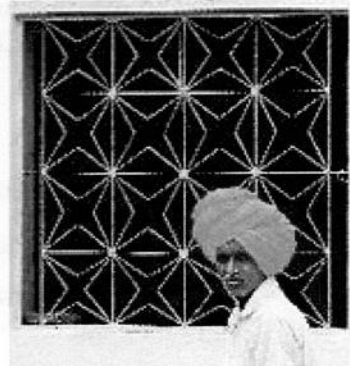
In the 1970s, Hivare Bazar, famous for her champion Hind Kesari wrestlers, lost its fight against ecological degradation. With just 400 mm of annual rainfall (Maharashtra's Marathwada region in which the district lies gets 882 mm), the village needed to protect the forests in the surrounding hills--its catchment areas--but didn't. "The naked hills shocked the elders in the village. They were home to mogra flowers and fruit trees once," remembers Arjun Pawar, the *sarpanch* of the village from 1975 to 1980. As the hills got denuded, the runoff from the hills ruined the fields. Agriculture became unrewarding. Drought was chronic and acute—even a slight decrease in rainfall resulted in

crop failure. The village faced an acute water crisis, its traditional water storage systems were in ruins.

Management issues

In Hivre Bazar, staple crops are grown primarily for home consumption with residues serving as livestock fodder or domestic fuel, while most pulses, onions, vegetables, and flowers are sold at market. In the most favourable years, almost 60 percent of the land can be irrigated, but in drought periods wheat and summer crops have to be radically reduced. In 1972, when the village's percolation tank was constructed under drought relief work, one of the village's wrestlers was given the task of supervision. In 1982 under the similar circumstances it was repaired. Out of 217 households only 12 are landless. Total geographical area of the village is 976 ha [about 500 ha is arable] that is divided into three micro watersheds. Of this 70 ha is the forestland, which has been developed while working with close cooperation with the forest department. Presently, its entire management is villages' responsibility. The department even does not have their guard to protect the reserves. This relationship between the department and the villages was painfully developed.

In 1989-90, hardly 12 per cent of the cultivable land could be farmed. The village's wells used to have water only during the monsoon. Families began to shift out, first seasonally, then permanently. Those left behind further cleared the dwindling forests for survival. "Even government officials shifted out and soon Hiware Bazar became a punishment posting," recalls Maruti Thange, a 56-year-old farmer. Shakuntala Sambole, a 50-year-old villager now an *anganwadi* helper, recalls the days when water was not available. "I abandoned farming my 7 acres (2.8 ha) and became an agricultural labourer, earning Rs 40 a day," she says. Now she has bought 4 acres (1.6 ha) more and grows



tomatoes and onions. She earns around Rs 100 a day just from selling vegetables.

The main groundwater-related decisions of the Village Council (on its Chief's advice) during the mid-1990s were (a) prohibiting the use of bore wells for agricultural irrigation, which had the great benefit of moving farmers' minds and resources away from —competition for deeper groundwater (a) to cooperation on maximizing benefits from groundwater; (b) subjecting the micro-watershed to comprehensive reforestation and water harvesting, notably hill contour trenching, Nalla stream bunds, and a livestock grazing ban; and (c) banning sugar-cane cultivation, given its high water use and other implications.

Today, a fourth of the village's 216 families are millionaires. Hiware Bazar's *sarpanch*, Popat Rao Pawar, says just over 50 families have an annual income over Rs 10 lakh. The per capita income of the village is twice the average of the top 10 per cent in rural areas nationwide (Rs 890 per month). In the past 15 years, average income has risen 20 times.

Implementing EGS



One of the many structures that helped capture rain, recharge groundwater

Hiware Bazar has scripted this miracle by using EGS funds to regenerate the village's land and water resources, by creating productive assets like water conservation structures and forests. "Living in the rain shadow area with less than 400 mm of rainfall

per annum has its blessings only when you know how to manage water," says Pawar.

Though the turnaround for the village began in earnest with the implementation of EGS, people had started working towards a revival earlier. The Panchayat elections of 1989 were an important milestone. Pawar, who won unopposed, immediately started work for water conservation.

The district was brought under the Joint Forest Management programme in 1992. In 1993, the district social forestry department helped Pawar regenerate the completely degraded 70 ha of village forest and the catchments of the village wells. With labour donations, the panchayat built 40,000 contour trenches around the hills to conserve rainwater and recharge groundwater. Villagers took up plantation and forest regeneration activities. Immediately after the monsoon, many wells in the village collected enough water to increase the irrigation area from 20 ha to 70 ha in 1993. "The village was just getting a bit of life back," remembers Pawar.

In 1994, the *gram sabha* approached 12 agencies to implement watershed works under EGS. The village prepared its own five-year plan for 1995-2000 for ecological regeneration. The plan was the basis on which EGS was implemented. It ensured that all departments implementing projects in the village had an integrated plan. "We started out in 1995 with EGS work under forest department officials, building contour trenches across the village hillocks and planting trees to arrest runoff," says Tekral Pandurang, a farmer who worked under EGS.

In 1994, the Maharashtra government brought Hivare Bazar under the AdarshGaonYojana (AGY). AGY was based on five principles a ban on liquor, cutting trees and free grazing; and family planning and contributing village labour for development work. The first work it took up was planting trees on forestland; people were persuaded to stop grazing there. To implement this, the village made another five-year plan. An integrated model of development with water conservation as its core was adopted. An NGO, the Yashwant Agriculture, Village, and Watershed Development Trust, was created as the implementing agency for development works under AGY. "Villages and the government should be partners in development; but villages must be in the driver's seat," says Pawar.

The village invested all its funds on water conservation, recharging groundwater and creating surface storage systems to collect rainwater. The 70-ha regenerated forest helped in treating the catchments for most wells; 414 ha of contour bunding stopped runoff; and around 660 water-harvesting structures caught rainwater. The state government spent Rs 42 lakh under EGS in the village to treat 1,000 ha of land, at Rs 4,000 a hectare. It was money well spent.

Miracle of water

Hiware Bazar is now reaping the benefits of its investments. "The little rainfall it receives is trapped and stored into the soil," says Deepak Thange, who worked on its watershed programme. The number of wells has increased from 97 to 217. Irrigated land has gone up from 120 ha in 1999 to 260 ha in 2006 (see table *Intense cropping*). Grass production went up from 100 tonnes in 2000 to 6,000 tonnes in 2004. Sakhubai Thange, a 70-year-old villager who has been cutting grass for the last 25 years, recalls the time when overgrazing had made grass scarce. "The efforts put in by the people of the village for soil and water conservation have created a surplus," she says. The grass-cutting season lasts three months, beginning Dussehra. Nearly 80 people go to the forest to collect grass. Rs 100 per sickle has to be deposited with the Village Development Committee, says Sakhubai Thange. Her son, Sambhaji, who accompanies her to collect grass, says, "Residents of Bhuvre Patar village come here to collect grass, aspiring to be like us."

With more grass available, livestock numbers have gone up from 20 in 1998 to 340 in 2003 according to a government livestock census. Milk production rose from 150 litres per day in the mid-1990s to 4,000 litres now. In 2005-06, income from agriculture was nearly Rs 2.48 crore. Projections are that the 2006-07 figures will be substantially higher, after a good monsoon, with onions alone having been estimated to fetch Rs 1.8 crore.

According to a 1995 survey, 168 families out of 180 were below the poverty line. The number fell to 53 in a 1998 survey. There are now only three such households in Hiware Bazar. "There has been a 73 per cent reduction in poverty, due to profits from dairying and cash crops," says Pawar. The village has developed its own set of BPL indicators access to two meals a day; capacity to enrol at least two children in school; and expenditure on health. According to Pawar, those who can't spend Rs 10,000 a year as under these heads are considered below the poverty line in Hiware Bazar. This is around three times higher than the official poverty line. Nobody asks for work under the National Rural Employment Guarantee Act (NREGA), which has replaced EGS on a nationwide stepped up scale.

Management response

Under the leadership of an informed and charismatic Village Council chief, a concerted effort on groundwater management commenced in 1994 (as part of the Maharashtra Ideal Village Social Development Scheme) with implementation of a comprehensive 5-year plan following a long history of drought propensity and land degradation, with farmers struggling to maintain a kharif crop and feed their families and cattle without leaving the village periodically to search for paid work. Most importantly, village-level crop-water budgeting was introduced in 2002 and in dry years villagers are asked to reduce their proposed irrigated area and to give preference to low-water demand crops, with mutual surveillance usually being enough to achieve compliance. Such proactive groundwater management has resulted in a marked contrast between Hivre Bazar and most surrounding villages. As many as 32 dugwells produce important revenue in the dry season from irrigated onion, vegetable, and flower cultivation, and only a few in the upper watershed dry out. The household-level benefits of community land and water management resulted in household incomes rising markedly (to over \$500 per year on average) and land values appreciating many-fold in the past 15 years.

Hiware Bazar's strong, participatory institutional set-up has facilitated success. The *gram sabha* has the power to decide on a range of issues, including identifying sites for water harvesting structures, sharing water and types of crops to be cultivated. The village voluntary body is its implementing arm.

The village's biggest innovation is its water budget. The village's second five-year plan (2000-2005) focuses on sustainable uses of the regenerated wealth. Habib, a volunteer with the Yashwant trust and Hiware Bazar resident, says, "The essence of the experiment in watershed literacy comes from the *gram sabha*. It is here that decisions are made. The greatest environmental planners are the villagers themselves."