

Investment in infrastructure to double the income of small farmers:

a successful journey of Gulabrao Patil

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Government has to play a critical role in facilitating water resource development, by tapping all the local sources, and if necessary, by bring water from rivers located far away, through lift irrigation schemes. If Government and development banks decide to increase the capacity of Thembu lift irrigation scheme by increasing the operating hours or install additional schemes, additional 6,000 to 8,000 ha of barren lands can be brought under orchards in Atapadi tahashil alone, generating year round jobs at least for 6 to 8 persons/ha. With such schemes in other drought prone areas in the country, an excellent opportunity can be created for millions of marginal farmers to live with dignity and prosperity. Mega-lift irrigation schemes can be given priority for the drought affected parts in Maharashtra, Karnataka, Andhra Pradesh, Rajasthan, and Bundelkhand regions of Madhya Pradesh and Uttar Pradesh.

Key words: Farmers, Income, Investment



ATAPADI is a drought stricken block in Sangli district, bordering the dry part of Sholapur district with only 350 mm annual rainfall and hilly degraded lands. This part of the Deccan Plateau is made up of shallow gravelly soils, with no groundwater, forming a hostile environment even for hardy tree species to survive. The region has neither been good for crop production nor for animal husbandry. Nevertheless, villagers were completely dependent on traditional agriculture for their livelihood. Most of them grew sorghum, *bajra*, pigeonpea, chickpea, and other minor millets during monsoon, but

the yields were too low to generate any surplus. Greenery in summer was confined to very small plots located in the valleys, where farmers dug open wells to establish some fruit plants. In the absence of alternate sources of livelihood, most of the small farmers were living in chronic poverty.

In 1990, of Gulabrao Potil father on observing some large farmers, dug a well and planted pomegranate on a small plot, availing the wage support from the Employment Guarantee Scheme of the Government. This generated a small surplus, which was carefully invested in educating his children. Shri Gulabrao Patil rounded

BAIF Research Foundation and managed several development projects related to forestry, horticulture and livestock development. In 2014, he decided to return to his village to develop his 4 ha barren land, which he had purchased from his savings, at ₹ 25,000/ha.

Having a flair for tree-based farming and sentiment for pomegranate, Shri Patil opted for cultivation of pomegranate. Shri Patil dug a well. However, the water was adequate to support only a small plot. Fortunately, an irrigation scheme named as Thembu, initiated by the Maharashtra Government for



bringing Krisha river water from a distance of 90 km to Atapadi was in the completion stage. This raised his aspiration to expand the area under orchards. Shri Patil boldly decided to bring his 4 ha of rocky land under horticulture. The first step was to engage bulldozers to pull out the boulders while excavating the gravelly land to increase the soil depth. The field was then divided into small levelled plots forming bunds across the slope to conserve soil and water. Shri Patil brought some silt from the tank beds, mixed it with farmyard manure and applied it to the soil. Then, he established 'Bhagawa' variety of pomegranate on 2.4 ha (6 acre) of poor quality land and planted grapes on 1.6 ha (4 acre) of better quality land. As the soil was poor and water was scarce, he decided to apply higher doses of farmyard manure and bio-pesticides, with a principle of producing chemical free food. This is almost like organic farming, but involves application of essential chemicals, which are not carried in the food at the harvest. Installation of drip irrigation system was the only option, as he had to buy water from the Thembu scheme. For the orchards established in 2013-14, Shri Patil spent over ` 1 lakh each on purchasing farmyard manure and water every year. Last year, he was able to harvest over 35 tonne of pomegranate from 2.4 ha (6 acres). Out of this, 18 tonne were sent for export, fetching ` 102/kg while the rest were sold in the local market fetching ` 30/kg. This year Shri Patil is expecting 55 tonne of fruits. The grape orchard with Manik Chaman and SS varieties, are expected to yield 10 to 12 tonne /acre to generate a gross income of ` 5 lakh/ acre/year. Shri Patil has not only doubled his

annual income, but has also set himself as a role model for the new generation. Presently, there are over 2,500 farmers cultivating pomegranate on over 3,000 ha in Atapadi block. When we see these plantations amidst vast stretches of barren lands and low-yielding cereal crops, we can feel that it is not difficult to double the income of our farmers in the next five years, if they can take care of certain critical factors. The model farm of Shri Patil ensures a 4-fold increase in income, through sustainable farming, using proven technologies.

For developing pomegranate orchard on 0.404 ha (1 acre), investment in the first year is ` 1.40 lakh. This covers the cost of land digging and plotting (` 40,000), pit digging (` 12,000) manure and soil for filling pits (` 15,000) 4,000 plants, preferably produced from tissue culture (` 8,000 to 12,000), installation of drip irrigation system (` 30,000), agro-chemicals (` 15,000) and labour. Apart from this, there is an additional investment on developing water resources, which may vary from place to place depending on the availability in the region. This investment is generally done by the Government, as part of the regional development. In the absence of Government support, farmers will have to make a capital expenditure of ` 1 lakh to 1.5 lakh/acre. Annual operation cost from second year onwards will be around ` 1.0 to 1.25 lakh, covering ` 25,000 for pruning of plants, after harvesting the fruits, ` 25,000 on manure and agro-chemicals and about ` 10,000 to 15,000 on irrigation. The yield of fruits from third year will be about 8 to 12 tonnes/acre and a gross income between ` 2.5 and ` 4 lakh, depending on the type of management, leaving net surplus of ` 1 to 2.5 lakh/acre. Major disease of this crop are oily spots and root rot, which calls for timely control. These farmers in remote Atapadi have no major difficulty in marketing their pomegranate fruits as traders from many cities, even as far as Delhi and Kolkata come and deal with them directly. Even registered exporters directly meet the growers and collect

fruit samples to check the quality before buying the produce. However, in the absence any monitoring, many farmers get cheated by unscrupulous dealers.

When the farm production goes up, these farmers are hounded by several input suppliers, who are often engaged in unethical practices to sell their products. Many consultants solicit themselves to sell their expertise and avoiding these agencies is a big challenge. Unfair trading and timely payment are other problems. Hence, it is desirable for farmers to come together to form their formal or informal groups at the village level to share technologies and establish the value chain.

It is also necessary to promote land development services through farm machinery hire services, to carry out the development of barren lands with precision, at reasonable cost. Corporates engaged in manufacturing farm machinery can be approached for such ventures. Other aspects to be monitored by the Government are supply of good quality planting materials (plants of disease-resistant varieties raised through tissue culture), quality of the inputs supplied by private manufacturers, develop linkages with research institutions to transfer new technologies and address technical problems encountered by these farmers from time-to-time. Start-ups on plant-protection services to encourage entrepreneurs to take up turn-key service preferably by using organic and residue products can be of great service to or farmers as well the consumers. Soil-testing and pest and disease diagnostic laboratories can be an integral part of this service.

Providing market information services, information on fruit quality specification by importing countries, better roads for faster and safer transportation, cold storage facilities, fair and competitive trading to realize better price, periodic training for farmers and liberal finance in the form of soft loan, will further boost the productivity and income.

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