

# Development and Environment in Punjab

## Abstract

The state of Punjab in north-west India had been a model for agricultural development to other Indian states to grow more food and also for exporting the surplus. It was the adoption of green revolution strategy that put Punjab ahead of other states in terms of gross domestic production and per capita consumption. The Punjab farmer was praised for his hardwork and thriftiness. The initial happiness is turning into gloom when we notice the ill-effects, of course unintended, of this model of agricultural development on natural resources of the state. The social and political turmoil in the last decades of the last century is also attributed to this pattern of development.

**Keywords** : Punjab, Green Revolution, Development, Natural Resources, Violence.

## Introduction

The land of "five rivers", till recently, was considered the land of prosperity and well being of nature and its people. Its fertile soil and abundance of water resources attracted migrants from different parts of the world so much so that numerous soldiers of the army of mighty Alexander the Great also settled here. It suggests that the nature and the climate here must be so comforting that it made abode to people of diverse communities and regions. And it is this factor that is probably solely responsible for the diversity of its population, the richness of its culture and pluralism of this society. An eminent historian, Niharranjan Ray notes: "By far the largest number of foreigners that entered India, in wave after wave and over a period of about 1500 years, was that of the Central Asian nomadic and pastoral-nomadic peoples..." (Ray 1993: 12)

This land was virtually the cradle of Indian civilization, more precisely of the northern India. The most important Vedas, Ramayan, Mahabharat, Gita and Guru Granth Sahib to mention a few of the most significant religious and philosophical literature were penned down by the rishis and gurus of this area for the betterment of people and society of this region. It is this collective wisdom of the sages and the scriptures, the literary and academic texts that has enhanced the cultural and civilizational richness of this region. It instilled vibrancy in its people that became adventurous and hardworking who tend to take life as it comes to them. They want to live in the present and enjoy life to its fullness. That is why we find Punjabis spread all over the world, even in the remote areas but on one condition that they are able to make a living comfortable and respectable too no matter whatever be the hardships.

Since Indian independence in 1947 till recently, Punjab was in the forefront of development and ranked high on almost all indices of the socio-economic criteria be it gross domestic product, per capita income, per capita food consumption, per capita tractors or motorcycles even especially Bullet of the Royal Enfield etc. But for the last more than two decades it has started coming downwards almost quite sharply so much so that the neighbouring Haryana which was earlier a part of Punjab and considered a burden on its economy is now ranking higher on many counts of socio-economic development.

The onset of Green Revolution at the instance of the United States PL 480 in the hands of an aggressive and dynamic people, the Punjabis, may now be held responsible for the environmental consequences that Punjab is now facing, namely the depleting water table and its increasing toxicity besides the pollution of air and soil so very essential to sustain life. According to Vandana Shiva the roots of the infamous Punjab crisis of the late seventies and the eighties are located in the failure of Green Revolution. She notes: '...the most "successful" experiments in economic growth and development have become in less than two decades, crucibles of violence and civil war.' Shiva 1992: 190) And, Joyce Pettigrew endorses: 'The story of the rise and fall of the guerilla movement is essentially and materially a story of what happened to a

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community of farmers as they experienced the effects of a process of economic change known as the Green Revolution.' Pettigrew 1995: 55)

Subsequently Birinder Pal Singh (2010) argues that the rise of Sikh militancy in Punjab during the last quarter of the twentieth century was neither about terrorist violence for the sake of terrorism nor communal violence directed against a particular community namely Hindus in Punjab as often projected by the government and its media and numerous communal Hindu organizations like the Hindu Suraksha Samiti, Shiv Sena or Bajrang Dal etc. to mention a few. It was about real, concrete, material demands of Punjab and the Sikhs. An analysis of statements of the militants who came from all sorts of castes and classes yet the small peasantry dominated the leadership and its cadre makes clear that their material demands were cloaked in religious terminology. They were articulating such issues of poverty, inequality, exploitation, capitalism, the class character of Indian ruling class, the limitations of the Indian Constitution, rights of individuals and communities, problems of development etc. that afflict the Indian polity and society in general and the Punjabi society in particular. The focus of their concern is on economic exploitation and political domination by the Central or the Union government.

It is a result of the Green Revolution that intensive capitalist farming based on machine technology earlier launched to feed the teeming millions of the rest of India may now be seen as a sinister project launched by the modernists and the developmentalists both in academics and politics. The food insecurity of the 1950s led to this science based aggressive agriculture. People then were not willing to adopt the new ways but this project was systematically furthered by the government by seducing farmers into it giving lucrative incentives and heavy subsidies etc. An initial spurt in the production of grains and relatively steep rise in the income of the farmers became the object of glorification for the government who launched the development projects in a newly independent country as this project was meant to lead the country to self sufficiency in food hence strengthening its sovereignty and political stability in the international arena.

Now, with the added advantage of the hindsight following sixty years of experience the environmentalists are decrying the aims and objectives of the Green Revolution that not only spoiled the health of the soil, water and air of this state but also the economy and health of its people. More and more farmers are committing suicides following their failure to meet the demands of the agriculture in terms of the rising costs of seeds (now GM variety which is more expensive), fertilizers, pesticides and machine technology both for tilling and harvesting, and pumping water out for irrigation. It is unimaginable that hardworking and thrifty Punjabi farmers have collectively put their villages on sale. A village on sale is no small issue even if it is symbolic. In a traditional agricultural society selling land and milk are equated to selling their own children.

The cultivation of rice and the sowing of hybrid seeds are heavily dependent on water hence a

quick shift in the water related technology. In the past sixty years we have noticed such shifts from the Persian wheel, to mechanical pumps on open wells, to the tube wells and now the submersible pumps as the water table has fallen so deep that an ordinary centrifugal pump has become ineffective. The cost of its installation is very high and is out of the reach of an ordinary farmer. A middle class farmer too cannot afford it. Only the rich farmers can go deeper in search of pumping water out using high powered electrical submersible pumps. What will be the fate of others? Moreover the ground water aquifers are also not an inexhaustible resource. How long will these feed even the rich farmers? These are the questions that are looming large on the face of not only the farmers of this area but all its people. Each and every organism needs water for survival.

The failure of the Green Revolution may be assessed in terms of the increasingly depleting water table as 103 blocks out of a total of 137 have already been declared as over-exploited, five blocks are critical four are semi-critical and only 25 blocks are in the safe category. If ground water drainage continues at this pace it is not far in future that we may become as dry as Rajasthan. It is amazing to note that in 1970-71 there were only 1.92 lakh tube-wells which shot up to 11.50 lakhs in 2002-03. This increase may be lauded by the developmentalists but the environmentalists would take it otherwise.

It is also a result of this development strategy that in ensuring health and hygiene of people and checking the breeding of mosquitoes and other diseases the ponds were either filled by the government or encroached by the powerful for cultivation. This was done as people and domestic chattel were no longer dependent on ponds for quenching their thirst as water supply system took off. To block seepage of water, canals and water ways for irrigation were also made of concrete. Thus in a bid to take more water to a desired destination and without seepage, and filling ponds etc. in the name of hygiene, the mother earth was devoid of natural collection and gradual seepage of water that ensured permanent supply from the ground water aquifers thus lowering the water table all over the state as mentioned above. It is ironic that malaria and other water borne diseases are resurfacing with a vengeance. Thus we lost on both counts, the water bodies were filled and the diseases reappeared too.

Another consequence of the Green Revolution may also be noticed in the contamination of the soil as a result of heavy use of pesticides and fertilizers. Punjab constitutes only 1.57 percent of the total geographical area of the country but consumes about 8 percent of the fertilizers and 15 percent pesticides. In 1974 Punjab consumed only 7.38 percent but in 2002 it increased to 14.89 percent. Such a large scale dumping of chemicals on the soil has deleterious effects on the plants and animals including the human beings. It is no secret now as Centre for Science and Environment, the PGI and Indian Council of Medical Research studies have shown that not only common and not so serious diseases but deadly ones like cancer have become so very common especially in the cotton belt of the state

as it used pesticides heavily against the American bull worm (Amrikan sundi) and that too without any success. So much so that two trains going from Bathinda to Bikaner are known as "Cancer Express" in local parlance since cancer treatment is much cheaper there than in Punjab.

Besides the agricultural development of this sort industry is not lagging behind in polluting the environment of this area especially air and water, the source of all life on earth. The toxic waste as industrial effluent is sheerly thrown in open many times in the forest land along the road and railway tracks. Many times it is forced into the standing crops in the adjoining fields as industry gets added incentive to industrialize the rural areas whence industry gets cheap land and other subsidies from the government. Numerous villages had protested against this but not to much effect.

The use of natural streams and rivers to dump industrial waste is not only common but carried on at a massive scale not only in Punjab but all over the country. The pollution of the most sacred river Ganga is neither recent nor hidden. The case of Budha Nullah, a tributary of Sutlej, the life line of Punjab is important. It is now a stream of thick blackened water which has become a death bed of all animal and plant life in and around it. It is amazing that administration overlooked all this over all these years till recently when 61 factories have been ordered to be closed at the instance of the High Court. But the verbal orders from the ministers have stayed any action in this matter, so says a report. It is callous that the politicians and administrators are still sleeping over the issues of environment and ecology.

The burning of paddy besides the industrial smoke is another important matter playing havoc with the environment of this region. The pesticides and fertilizers burnt in the open produce such toxic effects on respiratory diseases that it needs no one's attestation. According to numerous medical specialists respiratory, optical and skin ailments are directly linked to air pollution.

The industry in its bid to save money on toxic cleaning equipment simply release waste in air or pump that in to ground water. Tremendous rise in water borne diseases in this state stands testimony to this fact that the administration is still so callous in checking this menace.

Besides these impacts on the natural resources of the state that are being now taken notice of by the researchers and the policy planners there is still such a chunk of population that are being thrown out of their sources of livelihood yet there is none to sympathise with them, so much so that the government too refuses to recognise them. My reference is to the tribal population of the state. Birinder Pal Singh's (2010) study shows that there are seven denotified tribes existing in Punjab that the government has clubbed them under the category of Scheduled Castes. These communities resent this classification since they believe themselves to be of Rajput descent rather than untouchables from whom they themselves keep distance. It is not simply a matter governmental discrimination but the logic of intensive agricultural development has led to

extensive deforestation so much so that the forest cover in the state is less than six per cent which is far below the minimum required. This loss of forest is a direct loss to the majority of tribal communities who depend on it not only for their food and shelter but also as a major source of livelihood. They would take the raw material and make into a consumable item to be sold or exchanged with urban and rural dwellers. Each tribe has own traditional occupation in which they specialised and served the needs and requirements of non-tribal population. For instance, if the Barad made innus and small brooms the Bangala tribe would make numerous herbal medicines for a number of ailments besides snake charming. The loss of forest cover has not only put them on road actually but forced them to dispense with their traditional occupations as well. My own study in this respect shows that:

Bangala's traditional means of livelihood have been hit hard following the modernization process. Modern medicines have replaced the traditional herbal medicines that they specialized in. Snake charming is also no longer a spectacle for most people in the cities. Their traditional nomadic way of life is giving way to settled life style. Intensive agriculture and its expansion have resulted in rapid deforestation thus debarring them from their habitat, food habits and means of livelihood. The enactment of Forest Acts has further worsened their living conditions. Their modern generation is leaving traditional occupation and life style. They are taking to petty menial jobs like boot polishing, scrap vending, rag-picking and wage labour etc. (Harinder Kaur, forthcoming)

The crux of the above discussion is that the kind of development model followed without proper enforcement of technical and administrative prescriptions has played havoc with the environment of this state's natural resources –land, water and air– so very essential for sustaining healthy life to humans, animals and plants. This form of development at an exorbitant cost to the health and hygiene of its environment is not desirable. The so-called economic prosperity and mega-malls are no substitute to healthy life.

#### References

1. Kaur, Harinder (forthcoming) 'Modernisation and the Denotified Tribes in Punjab: A case study of Bangala' in Yogesh Snehi (ed.) Modernisation and Social Change in North-West India. Delhi: Orient Blackswan.
2. Pettigrew, Joyce (1995) The Sikhs of Punjab: Unheard Voices of State and Guerilla Violence. London: Zed Books.
3. Ray, Niharranjan (1972) "Introductory Address" in K. Suresh Singh (ed.) Tribal Situation in India: Proceedings of a Seminar. Simla: Indian Institute of Advanced Study.
4. Shiva, Vandana (1992) The Violence of the Green Revolution: Third World Agriculture, Ecology and Politics. Goa: Other India Press.
5. Singh, Birinder Pal (ed.) (2010) 'Criminal' Tribes of Punjab: A Social-Anthropological Inquiry. Delhi: Routledge.
6. Singh, Birinder Pal (2010) Violence as Political Discourse: Sikh Militancy confronts the Indian State. Shmla: Indian Institute of Advanced Study.
7. Statistical Abstract of Punjab (2004). Chandigarh: Government of Punjab.