

Proposed Chemical Hub In Nayachar : An Objective Assessment

Abhijit Sengupta*

After the vehement protest raised in Nandigram against the hasty decision of the State Government to forcefully grab the agricultural land there to build up Chemical Hub which resulted in a deplorable genocide the Government was compelled to drop that idea and declare that Chemical Hub will not be built up there. Instead of Nandigram the Government has now chosen Nayachar, a newly formed island at the confluence of Hoogly river, for building up the Chemical Hub. The eminent scientists and specialists raised their voice of protest against this decision for protecting the environment but the Government almost possessed by the desire of building Chemical Hub there at any cost paid no heed to the advices of scientists. But taking lesson from the mass protest organised at Singur and Nandigram, instead of taking any arbitrary decision, Govt was wise this time to appoint a team of scientists and specialists to survey the possibilities of building Chemical Hub there. The idea may appear very noble but there is no guarantee that this survey report will be unprejudiced. This is quite likely that these survey team will invariably comprise many scientists who are the employees of the State Govt or working in the autonomous Institutes financed by the Govt. These scientists will definitely not be able to gather courage to express their honest scientific views if it goes against the view of the Govt. because in that case they may be harassed or punished in various ways. On the other hand if they give views in favour of the Govt. they will be awarded by many benefits like suitable posting, early promotion etc. These practices prevail in Govt. organisations which are known to everybody.

Under the circumstances, the present author who had conducted research work long in Sunderban deltas likes to present some of his experiences before the people for their proper awareness so that they themselves can think over the matter.

In 1969 Central Inland Fisheries Research Institute under Indian Council of Agricultural Research took up a project of developing brackish water fish farming in Sunderbans and for this purpose they formed a survey unit for studying in details the topography, the soil characteristics, the tidal and hydraulic phenomena and concerned hydro-biological features for preparing a comprehensive project report.

The survey team conducted detailed contour survey in various islands of lower Sunderbans and it was found that the average reduced level of the surface of the islands is 5 feet above mean sea level. The highest contour level is not above 6 feet. The age of formation of islands can roughly be assessed by studying the mangroves grown in these islands. The

*The author is Retd. Scientist of Indian Council of Agricultural Research, New Delhi

average level of the old islands covered with henthals bushes is not more than 5 feet. The level of the islands where still henthals not grown is lower than that. The tide of Bay of Bengal is semi-diurnal in nature. The average amplitude of spring-tide in monsoon months, *i.e.*, the differences of water level in high tide and low tide is 12-13 feet but in the months of August-September it may be as high as 24-25 feet. So it is clear from these hydrological data that these islands get inundated by tidal water almost in every new and full moon.

It is to be mentioned here that in 1967-68 a team of specialists from Netherland came to West Bengal on invitation of the State Govt. to prepare a detailed report for promoting Agriculture in Sunderbans and it was referred in that report that these phenomena of high tidal amplitude in the estuary of Sunderbans is unique in nature and the shape and formation of Bay of Bengal is specially responsible for this.

It is mentioned here because the State Govt. with the ulterior motive of building a Chemical Hub there is trying repeatedly to draw a close similarity between Sunderban delta islands and the Zurong island of Singapore, where a chemical hub is built up, surely to influence the view of the scientists probing into the matter though the tidal amplitude is very low there in comparison to that of Sunderbans.

It is also to be taken to the prime consideration that the Hoogly estuary is highly loaded with suspended silt. Average silt concentration in spring-tide in Bartala river has been found to be 30 gm/litre which is quite high. Though the discharge of water of the Hoogly river and the Missisipi of North America is almost the same the amount of silt carried by the river Hoogly per annum is only 300 million metric ton while the silt carried by the Hoogly river is 1500 million metric ton which is almost five times than that of Missisipi. This silt load of Hoogly river is second highest in the world and it proves firmly that the alluvial soil of the Hoogly basin is very susceptible to erosion whereas the soil of Zurong island is rocky and much more stable.

It is also to mention that due to high percentage of clay (almost 40 to 45%) present in the soil its liquid limit is very low which again proves the instability of the soil.

This high amount of suspended load of Hoogly river is responsible for forming constantly new islands by precipitation and also causing erosion to the old islands. In fact many islands in the confluence of Bay of Bengal had been completely eroded in last few decades to be totally deleted from the map of the Bay of Bengal.

In this highly liquid state it is not at all possible to predict beforehand that how the hydrological and geomorphologic conditions of this zone will be affected and consequently what will be its devastating impact on the environment if ultimately Chemical Hub is built up there.

It is also to be noted that no simple mathematical model can be derived to readily analyze this highly complicated phenomena for knowing the exact environmental changes. The systematic model study can throw some light on the matter which needs enough time and labour. But the State Govt. obsessed by the desire of continuing the development at any cost will not definitely want to waste any time to assess duly the probable dangers like severe environmental pollution, erosion of land due to creating artificial obstruction

to the natural flow of the river etc.

But is this development involving so many risk factors at all necessary?

Now let us probe into an alternative development program possible in this island which is totally eco-friendly and needs minimum capital and running cost.

The Central Inland Fisheries Research Institute has conducted thorough research on farming of tiger prawn (*Penaeus monodon*) in brackish water estuary and evolved a methodology by which the crop production can be raised to 4000kg/ha/annum. Total area of Nayachar is 4000 ha. If 1000 ha of land is left untouched for providing a peripheral mangrove belt for protecting the island from the onslaught of fierce tidal wave then 3000 ha can be utilized for farming and the revenue earned by selling the crop produced in this area of 3000 ha will be around 1,20,00,000 kg. Then total revenue which can be earned per annum by selling this product in foreign market will be around Rs. 180 crore @ Rs.150/kg. No cost is involved towards pumping the water because the farm will be replenished automatically by fresh tidal water in every new and full moon. This water will again carry good quantity of nutrient and planktons which are the major food of prawn . The tidal water allowed to enter the farm will also carry a huge amount of natural prawn seed which is the main input for farming . These natural resources readily available in the estuary water will minimize the cost of production. If the cost of production and regular maintenance of the farm is Rs.80 crore per annum then neat profit is Rs. 100 crore yearly or approximately Rs. 8,33,00,000 per month, so 20,000 people can be easily engaged in that case @ Rs.4000 per month. Other ancillary industries to come up automatically for helping the farming activities like ice plant, fish meal and fish processing plant etc. will also provide additional employment to some more people. The capital-intensive, highly sophisticated petrochemical industries can never provide employment to so many people. For example in Haldia Petrochemical Industries total outlay was Rs. 5170 crore but only 600 people directly got job there. It is a classic example that the employment generating capacity of the capital-intensive, big industries is not at all adequate to meet the need of our State which suffering from acute unemployment problem.

The total length of the peripheral embankment around the farm will be 22 km approximately. Six thousand cocconut saplings can be planted easily there. Apart from the bulk production of cocconut, from the huge amount of the fiber of the shell the big coir industry will grow up which will again provide employment to many poor people. This type of agricultural industry which is labour-intensive but less expensive is most suitable for generating employment for unemployed rural people.

The calculation shown above is approximate. But if even 25% deviation from this estimate is admitted still the significance of the entire thing can not be ruled out.

In the island Nayachar the construction of Chemical Hub will be highly costly proposition because of the poor quality of the soil whose liquid limit is very low and of the tremendous tidal impact . This huge development cost to build up the infrastructure facilities will have to be borne by the State Government through public exchequer only though it is now well established that this type of industry will cause devastating air and water pollution and may also bring utter misfortune to the people by making them homeless by eroding inhabited river banks due to the change of river course. The number

of poor people to be benefited by this project will not be also many. But on the other hand if the program of prawn farming is taken up there huge number of poor rural people, as shown in above estimate, will get direct employment and it will be a sustainable development because of its eco-friendly nature.

Already a Fish Farmers Cooperative Society is existing there which is now almost defunct due to lack of active initiative, proper scientific guidance and efficient management. State Government should take appropriate action to rejuvenate and expand this cooperative under the guidance of scientists, expert farmers and also capable administrators. If this is done properly the huge resources bestowed by Mother Nature benevolently upon us will be duly honoured and a harmonious development will be possible.

If the Government does not pay due importance to these valuable suggestions of scientists and experts and instead of encouraging sustainable development is allured by the beckoning of the capital-friendly development then it will be a misfortune for the people of this State who will have to witness in near future tragic scenes of multi disasters on which the Government will have no further control and for all these miseries Government will remain solely responsible which they can not shake off.