CHAPTER VII
IMPACT OF GREEN REVOLUTIONS ON AGRICULTURE IN THE DISTRICT OF BURDWAN

Meaning and scope of Green Revolution

From the standpoint of overall economy of our country the fast growing population presents a formidable challenge and a problem. The population explosion and the ever increasing demand for more food and other basic needs of man are pressing the use of land to its limits. The policy makers decided to solve the economic as well as food problem of such a densely populated country. For a long time, agriculture has played an important role in the development of our overall economy. In the field of such food problem, a revolution in agricultural development was brewing slowly. The essence of this new revolution was a dramatic and forcible change in the Indian agrarian structure. It implied a thorough change in agricultural economy. In short, 'Green Revolution' wanted to bring about a large increase in agricultural production in a short space and time by means of high yielding varieties of seeds and new methods of cultivation. "It means breeding plants that will bear more edible grain - the 'two ears where only one grew before' - and thus increase yields without increasing cultivated crop areas". The core of the new technology consisted of new-researched seeds with optimum
inputs, i.e., irrigation, fertilizer, and pesticides under new agricultural practices. Without optimum irrigation, fertilizer pesticide and scientific technique, the new seeds, however, produce highly variable output. Though at the beginning of the Revolution the planners thought that these new varieties would give bumper crop production all along.

The basic goal of this new strategy is to maximise agricultural production utilizing irrigation measures, proper water management practices; increased use of fertilizers; adjusting in the time of sowing, planting, harvesting; proper application of pesticides and selection of proper crop rotations. The new strategy as Intensive Agricultural District Programme (IADP) was chalked out in 1959 and put into action during 1960-61. The agricultural policy included the rapid increase of agricultural production through a concentration of administrative, financial, technical and natural resources.

The main objectives of the package programme was extension of multiple-cropping areas and introduction of cultivation in dry areas using high-yielding varieties of seeds combined with timely irrigation, optimum doses of fertilizers and pest control measures.
"Generalising about the experiences of the new technology in under-developed countries, Earnest Feder correctly said that 'the Green Revolution' is a programme for large land owners par excellence and cannot be different; they are already better equipped, have almost exclusive access to input and output markets and are the major, if not the almost exclusive, recipients of agricultural credit". The extensiveness of the green revolution in our poor country is not very remarkable, both in terms of acreage and output. The future scope also is very limited. The district of Burdwan was selected as an IADP area during 1960-61 as the district is known as "granary of West Bengal". The district had been selected as an IADP area due to the favourable conditions of topography, soil and climate and additionally the agricultural production of the district was already much better than that of other districts. Impact of Green Revolution on this District needs a careful study.

How it started:

Green Revolution in wheat was first introduced in Mexico by four American plant geneticists financed by the Rockefeller Foundation. Due to excessive production Mexico began to export the surplus crops. With this success, "the Rockefeller Foundation teamed up with Ford to repeat the performance in Asia - this time with rice - and founded the
International Rice Research Institute (IRRI) in the Philippines in 1962. The Green Revolution was gradually extended to all major food and fodder crops in the tropics. The problem also was very acute in our country, because of the high rate of increase of population. The agricultural revolution found its way a few years later into India, where it had been found more essential to increase the rate of productivity to solve the food problem. In India, the modernisation of agriculture was started first in Punjab after Independence. The refugees from Pakistan consolidated the small land holdings into large ones and began to cultivate by new technique. During the fifties West Bengal had not started such revolution due to some disadvantages, i.e. undulated topography, small land holdings, uncertainty of water availability. But acute food problem rendered it necessary to start the Green Revolution in West Bengal. As Burdwan is the richest food producer in West Bengal, where all the conditions of Green Revolution were in existence the planner decided to initiate the Green Revolution in Burdwan district. The farmers in the Punjab being more active and energetic than those in the remaining parts of India it is they who introduced the scientific technology in crop production. The work of consolidation of holdings in the Punjab was already started during the British period in 1920 through co-operative consolidation societies. Originally the progress of the work was very slow but after
Independence the progress was rapid. Next to the Punjab the agricultural revolution swept over Haryana and Ganga-Yamuna-Deob. In the agricultural revolution in the Punjab and Haryana, the foremost place was given to wheat production. The new agricultural strategy in paddy production came in some parts of south and eastern India a decade later. The Green Revolution has succeeded a little in case of wheat production but not so much in paddy.

Green Revolution in Burdwan

It has been observed earlier that in West Bengal, Burdwan was selected as a place to grow more food under the Intensive Package Programme. Naturally, this selection was the result of several factors. Without doubt, it may be said that with a vast area of fertile land, Burdwan has been the main source of the food supply for the state from very early days. So importance was given to grow more production in Burdwan in terms of agriculture and hence several modern techniques and other necessary arrangements have been adopted.

Seeds: The basic input is the high yielding variety of seeds. Among high-yielding varieties of paddy seeds, Jaya, Ratna, Pankaj, IR-8, IR-20, Vijoya etc. are now cultivated in Burdwan. Of the HYV wheat seeds, Kalyansona, Sonalika, Safed lerma, Chotilerma, Sarbatisonora were cultivated in
Pump irrigation for cultivation in Andal P.S.

A branch of Canal without any water in Kanka area due to scarcity of water supply during winter.

Donga irrigation from Damodar canal in Galai
the district during seventies, but at present the coverage of it has been reduced due to low output and poor demand. Several high yielding varieties of potato have been evolved and are now cultivated a little in the district. Among them Kufri-sindoori, Chandramukhi etc. are important. Each high-yielding varieties of seed bring in a new set of cultural practices. The farmers mostly use the seeds left over from the previous harvest. The owner cultivators are in a position to apply more HYV seeds than the poor tenants.

Irrigation: The water management system has assumed a place of importance among the inputs. These HYV seeds need water at specific periods of sowing and growing and require regulated application of water with good drainage facilities at the same time. The timing of irrigation is of the essence for optimum yield. Unfortunately, the timing for irrigation is a vexed problem in this district because of vagaries of weather. Regulated water supply is intended for paddy production. The object of irrigation is to ensure the supply of water as and when required for agricultural purposes for protecting and augmenting yield with the help of rich silt loamy water supplies from the river. In the district main sources of water supply for agricultural purposes are rainfall, well, tank and canal irrigation.
BURDWAN: INTENSITY OF IRRIGATION

1971

- 0 - 10%
- 10 - 30%
- 30 - 50%
- 50 - 70%
- Above 70%

CANAL MAP OF BURDWAN

Fig. No. 71
The figure shows (Fig. 7/) the distribution of canal in the district. The map shows the eastern part as canal irrigated area and western part as completely devoid of facilities of canal irrigation. In the eastern part even some of the police stations get more opportunities of better irrigation from canal. There is no facility of canal irrigation in Purbasthali. These canals, again, are fully dependent upon the strength of the monsoon. The Damorar Valley Corporation supplies irrigation water to about 202,500 hectares, and the small Mor Project to an additional 12150 hectares. The acreage increases in the central and eastern part of the district due to facilities of canal irrigation. The eastern part is a vast plain land with natural irrigational facilities but undulated western part does not have such facilities. It is a surprising fact that modernisation methods i.e. canal irrigation have been applied more in the bountiful east rather than in the barren west. There is also lack of ground water facilities. All these canals do not have a network of field channels for leading irrigation water to the farmers' fields. Where the cultivated areas have facilities of irrigation the cultivators tend to adopt improved farm practices.

The Figure shows (Fig. 7/) the highest intensity of irrigation present in the police stations Galsi, Memari,
RELATIONSHIP BETWEEN GOVT. CANAL IRRIGATED AREA & CULTIVATED AREA 1947-78

Fig. No. 72
Khandaghoah, Burdwan, Bhatar (above 70 per cent). 50-70 per cent intensity of irrigation is occupied by Ausgram, Jamalpur, Raina, Mongalkote, Ketugram, Monteswar and 30-50 per cent by Katwa, Kalna. The intensity of irrigation is very low all over other police stations of the district. "Intensity of Irrigation", is expressed by following the formula:

\[
\frac{\frac{I}{S} \times 100}{\sqrt{\frac{\text{Net irrigated area} \times 100}{\text{Net sown area}}}}
\]

If correlation between intensity of irrigation and cultivated area and production of crop can be effected the result must be positive. That means where the intensity of irrigation is high, the production also is high. Therefore, "the need for a well co-ordinated inter-disciplinary water management system has assumed a greater importance with the introduction of new high-yielding varieties". Then there is the problem - that of a large amount of water being wasted because of lack of a proper water management system. Water logging and flood are also other problems of irrigation.

It may be explained from the figure of 'relationship between irrigated area and cultivated area' (Fig. 72) that both are fluctuating simultaneously. The irrigated area was very small during the period 1947-48 to 1959-60, after that
RELATIONSHIP BETWEEN
IRRIGATED AREA & YIELD OF PRINCIPAL CROPS
1971

TOTAL IRRIGATED AREA

CANAL IRRIGATED AREA

TOTAL IRRIGATED AREA

YIELD RATE OF CROPS QUNTA/HECTARE

NAME OF THE POLICE STATIONS

Fig. No. 73
the irrigated area served by Government canal has been increased gradually. In comparison to that the cultivated area has been increased with considerable fluctuations. Hereby, the relationship expresses that there are several other factors on which depend the cultivated area of the district. Some parts of the district are quite unsuitable for canal irrigation due to undulating land surface.

The Figure shows (Fig. 73) the relationship between irrigated area with yield of principal crops. The crops of several police stations, e.g. Salanpur, Kulti, Hirapur, Ranigunj, Faridpur, Asansol, Jamuria and Andal are fully dependent upon monsoon. In Barabani, Faridpur and Purbasthali, the crops are cultivated partly by well and tank irrigation and partly by monsoon. In other police stations of the district, i.e. most of the eastern part, the crops are cultivated partly by canal irrigation. That is why, Boro paddy (Ratna, Jaya, Pankaj etc.) cultivation takes place over that part only. Aus and Aman paddy are cultivated by monsoon rain throughout the district. A little quantity of wheat is cultivated in the district by tank and well irrigation. The yield of Aus, Aman, Boro paddy and wheat also vary with the irrigated area. Every where there are fluctuations in yield of crops. The yield of crops is more or less high over those areas, where the crops are cultivated by timely canal irrigation.
Fig. No. 74

Application of fertiliser in the paddy field near Memari P.S.
The sprinkle-irrigation appears profitable in maintaining the soil moisture for increasing per unit production.

**Fertiliser** : One of the most important features of modern farm practices is the regular application of manures and fertilisers, according to the needs of the soil, topography of the land and the requirement of the plants. Some of the soils are deficient in nitrogen or phosphorus or potash or organic matter. Some areas are deficient in one or more of the major and minor nutrients. Chemical fertiliser is an effective input for quick increase in crop production. The amount and timing of fertiliser application is also relevant to the crop requirement. Foliar spray of fertilisers to the soil is very much beneficial. There is a wastage of fertiliser if the rain comes just after the application of fertiliser to the field, for the nutrient is washed out with water. For this difficulty the farmers cannot use the fertiliser just in time. Another problem faced by the poor farmers is the non-availability of the imported fertiliser. The figures of the relation between fertiliser consumption and production of paddy and wheat (Fig. 74) show that the consumption of fertiliser was low during the period 1961-62 to 1968-69. Before that period the actual data is not available. After several years of the introduction of modernization method the amount of fertiliser application has been
YIELD OF PADDY

$Y_c = 16.79 + 0.05x$

CONSUMPTION OF FERTILISER (’000 Qtl)

YIELD RATE OF WHEAT (Qtl/Hectare)

$Y_c = 12.40 + 0.03x$

CONSUMPTION OF FERTILISER (’000 Qtl)

Fig. No. 75
increased. With the increasing application of this input the production of paddy and wheat has increased to about double the quantity. It can be expected that the production might increase much more than this. The production of paddy has been found to increase simultaneously with fertiliser application except in the year 1976-77 due to inadequate rainfall. In case of wheat, the production increased up to 1971-72, but after that the production trend did not keep up with fertiliser consumption. The following figures show the correlation between consumption of fertiliser and yield of paddy (Fig. 75) and yield of wheat (Fig. 75). Both the figures show medium-high degree positive correlation coefficient. The correlation coefficient of paddy is 0.76 and wheat is 0.82. The regression equation of paddy is \( y_c = 16.79 + 0.05 \times \) and wheat is \( y_c = 12.40 + 0.03 \times \). Therefore, it can be interpreted from the above illustration that it is a dependable and essential input for increasing the production of crops. Without assured irrigation, chemical fertilisers cannot be used with confidence by the farmers because irrigation is an essential requirement for fertiliser. The name of the fertilisers applied by farmers are Sufala, Urea, Ammonium sulphate, Growmore, Potash etc.

**Pesticides:** Besides fertilisers, the use of pesticides is equally important for high yielding variety seeds. The
Application of pesticide in the field of Boro paddy near Memari P.S.
HYV-seeds are highly susceptible to various pests and diseases at the late stage of the growth of the plants. Monsoon is accompanied with humidity and lack of sunshine, which in turn leads to a much higher incidence of plant diseases. Quite a large quantity of food grains is lost through attacks of insects and diseases. In the early period the use of pesticide was negligible, a few farmers only applying it, as it was an imported and a highly priced input. In 1962, a factory was established at Calcutta for the production of pesticides. But even today our country is not at all self-sufficient in pesticides and to a great extent it has to depend on the imported pesticides. Besides, they are costly inputs. The application of appropriate pesticides at optimum time is also another important task of the farmers. The relationship between consumption of pesticides and production of paddy and wheat has been shown in the Figure. (Fig. 76). The production of paddy increases with much consistency on increasing consumption of pesticides. In other words, the production of wheat increases with the increased consumption of pesticides but there is no causal relationship between the two variables. In 1964-65 and 1965-66 the consumption of pesticides was more but the production of paddy and wheat was relatively low during that time. Therefore, the analysis of the figure says that pesticide is more related to production of paddy than to wheat. The
CONSUMPTION OF PESTICIDES

Fig. No. 77
correlation co-efficients of consumption of pesticides with paddy is 0.9 (Fig. 77) and wheat is 0.73 (Fig. 77). In case of paddy it shows positive high degree correlation and increase of wheat it is positive medium-high degree correlation. The regression equation of paddy is \( Y_c = 5.09 + 0.77X \) and wheat is \( Y_c = 8.45 + 9.19X \). It is also an essential requirement for HYV paddy and wheat. The non-application of this in proper time causes damages of crops and reduce the productivity. The names of the pesticides which are used by the farmers in the district are Endrin, BHX, Folidol etc.

In addition to pests and insects, weed control also poses a serious problem. A large amount of fertiliser application to soil, encourages the growth of weeds. Therefore, weeding must need to be done regularly for greater production from the new HYV seeds with much amount of fertiliser consumption. In a cycle of paddy and wheat production of any time, weed control should be necessary for three times or more in a harvesting season.

Mechanization of implements:

"Parthasarathy and Abraham, supports the view that tractor technology is less expensive, despite its capital intensive nature, from the point of view of large farmers". It is easy and profitable to use tractors in vast plain land
but in the district like Burdwan where the lands are fragmented into very small units, it is not suitable at all. Moreover, the topography in the district is undulated, particularly in the western part. Tractors also are not suitable to all soil conditions. Another factor is the employment problem for it is excessively labour and time saving mechanised input. For that reason large scale tractor application is not yet made in the district. The only implement adopted in the district is the paddy thresher which has become very popular at present.

Table 1

Agricultural Machineries (In Number)

<table>
<thead>
<tr>
<th>Year</th>
<th>Tractors</th>
<th>Wooden Plough</th>
<th>Iron Plough</th>
<th>Carts</th>
<th>Crushers</th>
<th>Diesel pumps</th>
<th>Other Pumps</th>
<th>Persian Wheel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>13</td>
<td>201091</td>
<td>461</td>
<td>89651</td>
<td>1721</td>
<td>40</td>
<td>42</td>
<td>13</td>
</tr>
<tr>
<td>1956</td>
<td>27</td>
<td>238838</td>
<td>226</td>
<td>118555</td>
<td>814</td>
<td>114</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>1961</td>
<td>25</td>
<td>177723</td>
<td>251</td>
<td>91909</td>
<td>731</td>
<td>75</td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>1966</td>
<td>38</td>
<td>181738</td>
<td>394</td>
<td>123150</td>
<td>899</td>
<td>139</td>
<td>53</td>
<td>10</td>
</tr>
<tr>
<td>1972</td>
<td>135</td>
<td>187615</td>
<td>819</td>
<td>45218</td>
<td>101</td>
<td>505</td>
<td>396</td>
<td>20</td>
</tr>
</tbody>
</table>

Size of Farm: The size of the farm is positively associated with the application of the improved agricultural practices. "Lionberger and Coughenour have reported that large farms encouraged the use of improved farm practices." ⁷ According to Malone, "as the size of farm increased there was a tendency to decrease the application of fertiliser per acre." ⁸ In case of modernised farms the yield of crops, intensity of cropping and productivity of all the crops increase with the increase in the size of holding. All the inputs are more capital intensive in modernised farms than those of traditional fragmented farms. In Burdwan, the farms are fragmented, where 97.3 per cent of the farms are below six hectares in size and none of the farms exceed ten hectares. The cultivators, who grow HYV seeds apply many times more fertiliser than the cultivators who grow traditional varieties of seeds.

Credit: The new technology of agricultural development is capital intensive. Timely investment of credit for purchasing different inputs is an essential item. The institutional credit supply has increased recently. There is much complaint of shortage of credit almost everywhere throughout the district, specially the small farmers suffering more from the lack of credit. The high yielding varieties of seeds require much more heavy investment and many middle and small farmers are unable to grow these varieties and are unable to apply
the requisite doses of inputs because of lack of capital. Moreover the supply and investment of capital do not reach cultivators in proper time and amount. The important feature of high-yielding variety programme is the intensive use of various inputs which require much capital. But considerable investment and credit supply is unthinkable to small and poor cultivators, who are the backbone of agriculture in the district. Land and capital reform are the necessities for making the green revolution a success.

"The main feature of modern agriculture is the investment on modern inputs like new seeds, fertilisers etc. which are expected to give very high returns, particularly at the initial stages of the introduction of modern technology". The figure shows the acreage and production of high yielding varieties of paddy (Fig. 78) and wheat (Fig. 78) in Burdwan during 1966–67 to 1977–78. In the case of paddy upto 1969–70, the production had not increased with acreage. After that period the production has increased with acreages. Even in case of wheat the production has increased with acreages. The production should be two or three times greater in case of HYV seeds than the other seeds. But the yield rate of crops is not very high in this district as in the other developing countries, which first initiated the HYV seeds.
An appraisal:

As the traditional varieties of plants are tall, they can resist water-logging and flood damages. The HYV plants on the other hand get more sunlight, and they are comparatively less prone to attacks by insects and pests than the traditional varieties. The inter-police stations variations in agricultural productions are partly due to differences in quantum of irrigation. Generally the production is hampered due to inadequate rainfall during sowing or growing period. The over-flooding of the fields depletes the soil fertility. Many fields are located at different levels because of undulating topography. Therefore, it may be necessary to supplement surface water by ground water. The arrangements may be made to store up the surplus water of monsoonal rain in tanks, reservoirs or any where underground for the utilisation of plants during the period of requirement. It is also necessary to develop intensively the canal net work throughout the cultivated field at each and every corner of the district. Sprinkle irrigation may be helpful in maintaining the soil moisture and also in avoiding the wastage of water. In case of HYV-seed more and more irrigation is necessary for the application of chemical fertiliser. But the chemical fertiliser has also a bad effect. The yield of crops rapidly increases just after the application of fertiliser and this
increase continues only for a few years. The fertility of the lands does not remain constant for long years. "An increase in fertiliser use without a corresponding increase in other resources, brings in the operation of the law of diminishing return at an early stage". 10

For improvement of soil fertility in unirrigated land, intercropping with pulses and legumes should be one of the necessary requirements. Foliar spray of fertilisers is beneficial to avoidance of the wastage. The per hectare use of fertiliser and pesticides in the district is understandably higher among the owner cultivators for their better resources. An alternate application of organic and inorganic fertilisers in soil is much better for maintaining the fertility of soil. The tenants and small farmers hesitate to use fertiliser and pesticide due to its bad effect and their lack of capital. Most of the farmers do not even know the technique of the application of fertiliser and pesticides in terms of quality and quantity. They are unable to get the opportunities of suitable guidance in these matters. There is a harmful effect of pesticide on HYV crops as it pollutes the environment. The main hinderance of application of scientific implements is the availability of cheap labour in Burdwan. "The mechanization, however, has not remained uniform on all
the categories of farms because of differences in the size of holding, adoption of high yielding varieties and acquisition of other resources." The use of machineries is mostly restricted to rich cultivators who can afford the expenditure. The medium and small farmers follow the traditional methods of cultivation. In case of modernised agriculture institutional finance has a great role to play. It should be distributed to all small farmers, who live in debt, at their hour of need. But it is strange that the rich farmers, by and large, get the institutional finance. The rich farmers are benefitted by the new technological innovation, but not the small farmers. As a result, the rich farmers become richer, and the poor, poorer. "An increase in regional disparities in the wake of technological change has been a common feature of agricultural growth in many parts of the world. These disparities derive, partly, from the character of the technological change, and partly, from the regional differences in factor endowments, physical and institutional infrastructure and entrepreneurship. It is a point gathered from an interview with farmers that the production of crops has been increased in areas where the rich farmers cultivate their land with optimum input. They also get high yield of crops. On the other hand, the poor farmers, who cultivate their land by traditional method with inadequate input, produce low yield of crops."
After harvesting of crops, the farmers have to sell a greater part of their paddy at much cheaper rate to liquidate their loans, to buy their essential necessities, while storing the seeds for the next year and with the residual amount they have to eke out their living for the whole year. At the end of the year they have again, to borrow paddy from rich farmers for feeding the family. But the rich farmers store their paddy just after the harvesting time and they lend this paddy at a higher price to the poor farmers. Thus agricultural growth is characterised by widening inequalities both at the regional and at the rich-poor farmer level.

Lester Brown remarked about the Green Revolution that "they must use fertiliser in large quantities and use weed-control chemicals 'lest fertilizer be converted into weeds instead of grain'. But the extra costs and efforts are worth it since 'using purchased inputs and marketing additional production, peasant farmers are drawn into the main stream of economic life'." The small farmers are not able to obtain all the inputs necessary for high yielding varieties of seeds. Some of the farmers only use HYV seeds in Boro season, and among them a few rich farmers are able to produce high yield crops. There are drawbacks of such cultivation in this district, for most of the farmers are too lazy, too conservative and too illiterate, to adopt the modern techniques. They like to cultivate their field in
traditional method. There is a number of factors, such as, physical, social, economic and political which are responsible for such an unequal agricultural growth in this district. "The thrust of our argument has been that land tenure, market structure and government policy combine in such a way that most of the incentives to innovate are directed towards the large landlord". The physical variation in the district is the western undulated land and eastern plain land. The social variation is the rich farmers and poor farmers among them owner and tenant. Last but not least, there is the political factor which needs no elaboration, for those who have eyes can see them or ears can hear them. The other one, no less important, is the political affiliation of the farmers concerned.

Conclusion:

To conclude it can be said that land reform is very essential for technological innovation in agriculture. It is not an easy solution to increase the productivity and to solve the food problem of millions and millions of hungry mouths. Our mode of production should be adjusted to physical, economic and social structure of the country. The Green Revolution in India is not fully geared to our agrarian structure. Semifeudal production relations operate
as a barrier to the introduction of improved technology" (Bhaduri, 1973).

The consolidation of fragments of land holdings into compact areas should be an important aspect of land policy for both operational economy and production benefits. The consolidation of land ensures the utmost utilisation of land and other available inputs. Intensive cultivation is much easier in a co-operative farming method, which facilitates large scale operations, improved crop rotation system and high productivity of crops. Co-operative farming leads to efficient utilisation of land, judicious use of credit, higher agricultural production and greater employment. Regarding co-operative farming Desh Pande considers that "agricultural producers may co-operate with one another to secure advantages of co-operative buying of agricultural requisites and co-operative selling of agricultural requisites and co-operative selling of agricultural produce, or they may co-operate in order to obtain credit on easier terms". It may be said that the result of joint ploughing, joint use of machinery and joint cultivation is the maximum production per unit of land. But then, as it is, the tractor cannot be fully applied in the district, as it will lead to increasing unemployment - which will rouse opposition.
The remedial measure of unequal production is the judicial distribution of surplus or uncultivated land, adequate credit for purchasing necessary inputs and intensive and proper guidance to the small farmers. A proper care needs to be taken to see that small and marginal farmers are brought within the ambit of this policy.

Attention should be given to the widening of the scope of research so as to determine which varieties of seeds will be suitable to our agro-climatic zone. The fertilizer should be applied by analyzing the soil characteristics, availability of water and the varieties of crops. Organic manure should be applied to the soil for enhancing the fertility of soil for longer period. The most important task for agricultural officers should be equal distribution of credit to small farmers for reducing the disparity between rich and poor farmers. The new technological innovation, as of the present, is suitable for other developing countries, not for our own. The western capitalist countries introduced the High Yielding Variety seeds to Indian soil with an eye to commercial gain to be obtained by selling fertiliser, pesticides etc. It was a known fact to them that HYV seeds require these inputs, which were not produced in India during that time. Even now our country imports fertiliser, pesticides from western countries. Inspite of all this, the yield rate is not so high as in
other countries due to inadequacy and uncertainty of irrigation. It was also known to them that our irrigation system was not fool-proof. Susan George argued, "Western interests introduced the Revolution to sell inputs, but also to promote social stability through increased food production and the strengthening of a middle-class peasantry in nations they saw as threatened by 'communism'. Now it turns out that everywhere the Green Revolution has established the truth that agriculture is not merely the means for feeding people but also a 'profitable investment ...... which sets in motion deep currents of change in the relation between land, labour and capital between owners, tenants and labourers, between agriculture, commerce and industry, and between town and country."\(^{17}\) Fifteen years have passed after the introduction of new technology and the optimum results are yet to come. It is necessary that we take to breeding new varieties of seeds which are adapted to our topography, soil, climate, economy and social and political setup for the simple reason that an economic revolution always requires a supportive socio-economic structure to make it a success.
References:


Data Collected from:

Damodar Valley Corporation, Irrigation Office, Burdwan.

Intensive Agricultural District Programme, Burdwan.