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# NEW AGRICULTURAL STRATEGY : 2ND GREEN REVOLUTION

by

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The Second Green Revolution is a change in agricultural production widely thought necessary to feed and sustain the growing population on Earth These calls have precipitated in past, as a response to rising food commodity prices, and fears of peak oil among other factors. It is named after the Green Revolution, a movement to increase crop selection and agrichemical usage to increase yield.

The then Union Finance Minister of India, Pranab Mukherjee, made a statement to parliament that he would explore the possibility of setting up a committee of CMs of the eastern states for a second green revolution in the

region and praised Assam, Bihar, Jharkhand and West Bengal for substantial increase in rice production. Replying to the debate on 2012-13 Union Budget in Rajya Sabha, Mukherjee said due to substantial increase in rice output in the eastern states to the tune of 7 million tonnes in 2011-12, production of the staple grain has risen to a record 10.2 million tonnes. He said this was possible because of special thrust given on realizing the agricultural potential of eastern states.

Accepting the suggestion of JD(U) member N K Singh, Mukherjee said he would explore the possibility of setting up a committee of chief ministers of eastern states "to give further impetus to achieving green revolution" in the region. Singh had suggested setting up of such a panel. He said: "Given the importance of incentivizing agriculture in the eastern region, a chief ministers' committee comprising the CMs from the eastern states should be constituted for a coherent action plan and adequate support from the central government". His suggestion came as one of the eight "tangible actions" which, he thought, would lend credibility to the budgetary announcements. The government had earlier allocated an additional Rs 400 crore in 2011-12 under Rashtriya Krishi Vikas Yojana for extending green revolution to the eastern region comprising Assam, Bihar, Jharkhand, Eastern UP, Chhattisgarh, Odisha and West Bengal. Rice was a priority crop under the scheme. Seeing the success of the scheme, the Budget 2012-13 has raised the allocation to Rs 1,000 crore.

Mukherjee lauded CMs of these states, particularly Bihar CM Nitish Kumar, whose state has doubled rice output to 67.5 lakh tonnes in 2011-12. Handsome increase in rice production has also been witnessed in Jharkhand, West Bengal and other eastern states. Noting that the achievement has

attracted accolades from world over, he said the UN's Food and Agriculture Organization (FAO) and Indonesia-based World Rice Institute have commended the eastern states.

Since then, a huge amount of fund was allocated for the development and modernisation of this agricultural sector every year. All these initiatives have led to : (a) a steady increase in areas under cultivation; (b) a steady rise in agricultural productivity; and (c) a rising trend in agricultural production.

Growth in Area : In India, gross area under all crops has increased from 122 million hectares in 1949-50 to 151 million hectares in 1964-65 and then it increased to 173.2 million hectares in 2011-2012. Further, gross area under all food grains has increased from 99 million hectares in 1949-50 to 118 million hectares in 1964-65 and then to 125.0 million hectares in 2011-2012. Similarly, the gross area under all non-foodgrains has also increased from 23 million hectares in 1949-50 to 33 million hectares in 1964-65 and then to 48.2 million hectares in 2012-2013.[8] In India, out of the total cultivable area of 186 million hectares, the net sown area is estimated at 143 million hectares.

Moreover, the area under cultivation of all crops has increased by 0.25 per cent during the period 1980-81 to 1995-96 as compared to 0.51 per cent during 1967-68 to 1980-81. Again the area under foodgrain cultivation has declined by 0.32 per cent per annum between 1980-81 to 1995-96 as compared to an increase in the area to the tune of 0.38 per cent between 1967-68 and 1980-81.

During the pre-green revolution period, i.e., during 1951-65 additional area including marginal lands, fallow lands, waste lands and forest lands were brought under cultivation. The annual rate of growth in area under crops during the period 1950-65 was quite substantial. All crops : 1.6 per cent, Food grains : 1.4 per cent and Non-food grains : 2.5 per cent. But in the post-green revolution period, i.e., during 1965-95, area under all crops could not increase significantly and the annual growth rate in area was also quite minimum—All crops : 0.3 per cent, Foodgrains- : 1.2 per cent and Non-foodgrains : 0.7 per cent.

Agricultural Productivity : By the term 'agricultural productivity', we mean the varying relationship between the agricultural output and one of the major inputs such as land. The most commonly used term for representing agricultural productivity is the average yield per hectare of land. After the introduction of modern agricultural technique alongwith the adoption of hybrid seeds, extension of irrigation facilities and application of intensive method of cultivation in India, yield per hectare of all crops has recorded a steep rising trend. The following Table shows the trend in agricultural productivity in India, i.e., the average yield per hectare.

**Table**

**Trend in yield per hectare of principle crops in India since independence**

| Items | Yield per hectare | Annual Growth Rate |
|---|---|---|

| | | | | (%) | |
|---|---|---|---|---|---|
| | **1949-50** | **1964-65** | **2011-12** | **1949-50 to 1964-65** | **1964-1965 to 2011-12** |
| All foodgrains (quintals) | 5.5 | 7.6 | 20.59 | 1.4 | 2.4 |
| Rice (quintals) | 7.1 | 10.8 | 23.72 | 2.1 | 2.3 |
| Wheat (quintals) | 6.6 | 9.1 | 31.40 | 1.3 | 3.4 |
| Coarse cereals (quintals) | 4.3 | 5.1 | 15.28 | 1.3 | 1.3 |
| Pulses (quintals) | 4.0 | 5.2 | 6.94 | 0.2 | 0.5 |
| All Non-foodgrain | - | - | - | 0.9 | 1.6 |
| Oils seeds (quintals) | 5.2 | 5.6 | 11.35 | 0.1 | 1.6 |
| Cotton (kgs) | 5.2 | 5.6 | 11.35 | 0.1 | 1.6 |
| Sugarcane (tonnes) | 34 | 47 | 70 | 1.6 | 3.0 |
| All crops | 66 | 84 | 250 | 1.3 | 1.9 |

Source : 1. Agricultural statistics at a glance (1990), Ministry of Agriculture, Government of India

2. Annual Report (2011-12), Ministry of Agriculture.

3. Economic Survey, 2012-13 (India), p. A-19

The Table reveals that in India the average yield per hectare for all food grains has recorded an increase from 5.5 quintals in 1949-50 to 7.6 quintals in 1964-65 and then to 20.59 quintals in 2011-12 showing an annual growth rate of 1.4 per cent during 1950-65 and 2.4 per cent during 1965-2012.

Moreover, the annual growth rate of yield per hectare of all crops went up to 2.49 per cent during the period 1980-81 to 1993-94 as compared to that of 1.28 per cent during 1967-68 to 1980-81.

Thus the above data reveal that the green revolution and the application of new bio-chemical technology has .become very much effective only in case of wheat and potato but proved ineffective in case of other crops.

Moreover, if we compare the average yield per hectare of various crops in India with foreign countries then we find that India lags far behind the other developed countries of the world. In 1990-91, the annual average Yield of rice per hectare was only 17.5 quintals. in India as against 41 quintals in U.S.A., 61.9 quintals in Japan and 54 quintals in China. Again, the annual average yield of wheat per hectare was only 22.7 quintals in India as against 68 quintals in Germany, 61 quintals in France and 30 quintals in China.

*Lack of Organised Agricultural Marketing* : Indian farmers are facing the problem of low income from their marketable surplus crops in the absence of proper organised markets and adequate transportation facilities. Scattered and sub-divided holdings are also creating serious problem for marketing their products. Agricultural marketing in India is also facing the problem of marketing farmers' produce in the absence of adequate transportation and communication facilities. Therefore, they fell into the clutches of middlemen for the speedy disposal of their crops at an uneconomic and cheaper price.

*Instability in Agricultural Prices*: Fluctuation in the prices of agricultural products poses a big threat to Indian agriculture. For

the interest of the farmers, the Government should announce the policy of agricultural price support so as to contain a reasonable income from agricultural practices along with providing incentives for its expansion. Stabilisation of prices is not only important for the growers but also for the consumers, exporters, agro-based industries, etc.

In India, the movement of prices of agricultural products are neither smooth nor uniform, leading a fluctuating trend. In the absence of proper price support and marketing support, price of agricultural products has to go down beyond the reasonable limit so as to create a havoc on the financial conditions of the farmers. Again the exorbitant prices charged by the middlemen on agricultural crops also pose a serious threat to the consumers. Thus price fluctuation may lead to disaster as both falling and rising prices of agricultural crops are having its harmful impact on the society as well as on the economy of the country.

In fine, green revolution has been considered a significant achievement. The innovation, limitation and diffusion of the high yielding varieties and new technology have revolutionized than a cultural landscape and have created great excitement all over the world.

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