ECONOMIC POLICY AND POLITICAL GAINS
The First Phase of India's Green Revolution (1966-71)

MICHELGUGLIELMO TORRI

The years from 1966 to 1971 represent a crucial period in recent Indian history. From a political point of view they are characterized by four main events:

1) In January, 1966, after Lal Bahadur Shastri's sudden death, Indira Gandhi was elected to the prime ministership. Her election was the work of the so-called Syndicate, a group of political bosses which had been in control of the Congress Party since Jawaharlal Nehru's death. The Syndicate chose to sponsor Ms. Gandhi's election because: a) it knew that her position inside the party was weak, b) it thought that she would be an easy person to influence, c) it hoped that, because she was Nehru's daughter, she would be an effective vote-gatherer in the coming general election.

2) In the 1967 general election, the Congress Party went through the worst electoral defeat in its history. The majority in the Lok Sabha came out much reduced; the control of ten of the 17 States in which the Indian Union was then divided was lost. The hopes of the Syndicate for Ms. Gandhi as a vote-gatherer proved mistaken; but what was worse was that the Prime Minister, far from proving an easy person to control, quickly showed a complete independence of judgment and the necessary toughness to implement her own policy in spite of the Syndicate's resistance.

3) In 1969, the mounting tension between the Syndicate and Indira Gandhi resulted into a major confrontation. But in the previous years the balance of power inside the Congress had changed. Two-thirds of the party followed Indira Gandhi when the ongoing struggle brought about the split of the Congress into two different parties.

4) At the beginning of 1971, Indira Gandhi called the general election a year in advance of the normal schedule. Contrary to the general expectations, Ms. Gandhi's Congress scored a landslide victory, getting two-thirds of the seats. The opposition parties, particularly

the so-called great alliance (the Syndicate Congress, the Swatantra Party, and Jana Sangh and the Samyukta Socialist Party) were nearly annihilated.

The 1966-1971 period showed a clear trend — Indira Gandhi's rise to power. In 1966 her political position was not much better than that of a Merovingian monarch, without the power which ought to belong to the king and which, in fact, was in the hands of court chamberlain (in Ms. Gandhi's case it was Kamaraj, the powerful Tamil politician and main organizer of the Syndicate); in 1971 Ms. Gandhi emerged as the most powerful Indian leader. Without any real exaggeration, even if a little rhetorically, the *Economist* dubbed her the "Empress."

Whatever result the 1966-1971 period brought about, it is not so clear how it happened. Ms. Gandhi's victory in 1969 has been attributed to her superior ability in factional manipulation; but this explanation does not help us understand her unexpected 1971 electoral victory. The easy answer, namely that Indira Gandhi won in 1971 because she was popular with the masses inasmuch as she was Nehru's daughter, is obviously unsatisfactory, as anybody who remembers her low performance as a vote-gatherer in 1967 can see.

This writer's hypothesis is that a useful way to arrive at a comprehensive explanation of historical phenomena is to focus our attention on the dynamic interaction between the political and economic levels (namely, to put it in Marxist terms, on the dialectical relationship between the political superstructure and the economic substructure). The following pages are the first and partial result of a wider study on Indira Gandhi's rule: accordingly they cannot be, and do not pretend to be, an exhaustive analysis of the 1966-1971 period; nevertheless, they are a first step in such a direction. Their main goal is to seek to demonstrate how Indira Gandhi, in spite of her initially weak position inside the Congress Party, was able to launch, in the teeth of stern opposition, a completely new economic policy; how this policy, because of a certain balance of power inside and outside the Congress, was born without any preoccupation with social justice; how the new economic policy since 1967-1968, brought about, extraordinary economic results; and, finally, how these results were counterbalanced by a rise of tension in the countryside which began to develop seriously from 1969. Nevertheless, while this tension at the local level was not as widespread as to bring about any relevant political backlash, the economic gains in the years be-

fore the 1971 elections were huge enough to be felt at the all-India political level. Our assumption is that the economically successful implementation of this new policy can be *one* relevant explanation — even if certainly not the only one — of the extraordinary electoral victory of the political leader who had taken the responsibility for the new policy which made these economic results possible.

* * *

The year of Indira Gandhi's election to the prime ministership, 1966, has been described by President Radhakrishnan as "the worst year since independence, full of natural calamities and human failures."[1] Such a catastrophic situation was largely determined by the terrible economic situation of India which, in turn, was caused to a large extent, if not exclusively, by a pronounced slump in agricultural production.[2]

An economic system is an integrated whole formed by various interrelated structures: in the Indian economic system agriculture is the dominant structure. Not only are 70% of the total population engaged in agriculture but food, namely cereals and rice (because half of the Indian population is vegetarian while most of the rest cannot afford to buy non-vegetarian items), accounted in 1966 for two-thirds of the family expenditure of 70% of the population.

After a period (1962-1965) in which the monsoon was below normal, India experienced the worst drought in decades and, in 1965-1966, the monsoon was not only 12.5% below normal but also badly distributed over the season.[3] In spite of the sustained efforts made by the Union Government during the first three five-year plans, only 23% of the cultivated acreage had, in 1966, the benefit of irrigation in any form while about half of the irrigated area was served by non-perennial sources which tended to fail when most needed.[4] In case of a severe drought the only possible outcome was to be a disaster. Due to the failure of the monsoon, the total output of food-grains was reduced by 18%, falling from 89 million tons in 1964-1965 to 72.3 million tons in 1965-1966. Commercial crops fared as badly: groundnut production declined by 32%, other oilseeds by 10 to 15%, raw jute by 25%, tea by 3%. The only bright spot was

---

[1] *The Statesman Weekly* [hereafter TSW], January 14, 1967.

[2] *Records and Statistics, Quarterly Bulletin of Eastern Economists*, XXIII (May 1972), p. 146, and *Far Eastern Economic Review* [hereafter FEER], 1967 *Yearbook*, p. 199.

[3] FEER, 1967 *Yearbook* pp. 199, 205.

[4] *Ibid.*, p. 205.

sugar cane which recorded an improvement of 16%, while the losses in cotton and coffee were marginal. Altogether, total agricultural production fell by 15% compared with the 6.8% decline suffered in 1957-1958, the previous worst year.[5]

This situation had a terrible impact not only on the 46 million people hard hit by drought (who — thanks to the massive imports of food shipped to India in that period — survived literally "from ship to mouth")[6] but on the whole Indian economy as well.

In *trade,* two-thirds or more of India's exports consisted of agricultural products or manufactures using agricultural raw materials. Agricultural stagnation therefore meant a decline in the exportable surplus of raw cotton, vegetable oils, tobacco and sugar. In addition, small harvests of raw jute pushed up its price in India with the result that the production of Indian jute mills became less competitive and lost out steadily to Pakistan; even tea and cotton textile exports (the three items that in 1965-1966 accounted for 44% of the total export earnings) declined.[7]

This, of course, affected the *balance of payments* badly. The situation was made worse by the necessity of spending foreign currency to get food to prevent the population from starving. During the third five-year plan period (1961-1962 to 1965-1966) the Government imported some 22 million tons of wheat and 2.6 million tons of rice. Although wheat came in under food aid (and was, therefore, paid in rupees), India had to pay freight at about US $12 a ton.[8]

In turn, the unfavorable balance of payments led to a curtailment of foreign exchange allocations for industrial raw materials and *industry* was asked to make do with a third (and in some cases even less) of the allocation normally allowed for import of industrial raw materials, spares, and components. Such a cut in imports, coinciding with the fall in the supply of industrial materials derived from domestic agriculture, such as jute, raw cotton and oil seeds, determined a downward swing in industrial production.[9] This had as a side effect the reduction of the export competitiveness of Indian industry; which, in turn, further widened the deficit of the balance

[5] *Ibid.,* p. 206.
[6] *Ibid.*
[7] *Ibid.,* pp. 203-204.
[8] *Ibid.,* p. 199.
[9] *Ibid.,* pp. 207ff.

of payments, and brought about negative repercussions on the industry itself.

What was the basic reason of such a catastrophe? To assert that the agricultural policy of the Nehru era was ill-conceived, ill-applied and, in conclusion, completely inadequate to cope with the Indian problems would be less than exact. In fact from 1949-1950 to 1964-1965 the Indian foodgrain output rose at an average rate of 3%, while the growth of the population moved gradually upward from about 1.8 to about 2.3%. This means that in the period under review a clear excess between the growth of food output and the growth population existed. It has been correctly remarked that until 1964-1965, Indian achievements were by no means poor in comparison with her own past (between 1920 and 1945 the growth rate of the foodgrains was 0.03% per annum contrasted to a population growth rate of over 1%) and the past performances of other countries in similar circumstances.[10]

This was chiefly a result of bringing more land into production and applying more labor. Besides, certain specific barriers to growth were singled out and attacked: landlords, with land reform laws; illiteracy, with compulsory mass education; rural apathy, with local self-government (*panchayati raj*); the weather, with irrigation; money-lenders and middlemen, with cooperatives.[11]

But at the beginning of the '60s this strategy (or complex of strategies) was ending up in a *cul-de-sac*. All the arable land was under production; the land reform laws — because of the tremendous social complexity of the Indian countryside — had produced only partial results; the big irrigation works needed long time to give tangible results;[12] the progress of cooperatives was limited while cooperatives themselves were only in certain cases successful.

Actually, the basic weakness of the kind of approach followed by the Indian Government until the beginning of the '60s largely

---

[10] John Adams, "Agricultural Growth and Rural Change in India in the 1960s," *Pacific Affairs,* XLIII (Summer 1970), pp. 189ff.

[11] *Ibid.,* p. 199.

[12] According to a detailed study of the Hirakud Dam, entitled *The Economics of a Multiple-Purpose River Dam* (p. 137), "An irrigation system takes twenty to twenty-five years to come to full maturity when its benefits are at the maximum level." Quoted in Gilbert Etienne, *Studies in Indian Agriculture, the Art of the Possible* (Berkeley and Los Angeles, University of California Press, 1968), p. 26. Prof. Etienne notes that one of the few districts in which there were authentic cases of death due to starvation was Sambalpur in 1966, at the foot of the Hirakud Dam.

depended on the fact that, although theoretically the agricultural sector was considered of basic importance, the main efforts — and the biggest capital expenditures — were not in the agricultural but in the industrial sector. The Indian planners and policy-makers believed that the rates of return on investment in agriculture were likely to be small and were in any case uncertain. Therefore they decided that it was much better to concentrate scarce capital resources elsewhere (viz., in the industrial sector) where returns were known to be high.[13] This decision was made easier by the availability of PL480 food aid from the U.S.A. The Indian policy-makers became convinced that these supplies of foreign food would give them time to develop the Indian industrial base, leaving the problem of transforming agriculture to a later stage, or to the backlash effects of industrialization.[14] This did not mean, that no effort was put into developing the agricultural sector but, rather, that these efforts were not enough to enable Indian agriculture to withstand the effects of an exceptional run of bad weather as that which developed in 1965-1966 and 1966-1967.

This being the case, it is easy to see why the economic situation, and particularly the agricultural situation, were the problems which Indira Gandhi's first Government had to cope with almost immediately. A new economic policy was elaborated, but it was not the outcome of the common effort of the whole Cabinet.

At this early stage the important decisions were taken by Ms. Gandhi and a small group of her friends and advisors (soon dubbed as "the Kitchen Cabinet").[15] During the first weeks of the new Government, the Prime Minister and her inner circle merged into one coherent plan certain trends which had begun to evolve during the Shastri period and a new conception of the relative importance of the different economic sectors. The result was a completely new kind of economic policy that was based on two distinctly different approaches. The first one, largely "technocratic" (whose main author was the Agricultural and Food Minister, C. Subramaniam) was articulated in two ideas. *The first* was that the agricultural sector was the main economic sector and had therefore to receive top priority, not only on paper but in reality as well. *The*

[13] Deepak Lal, "In Deadly Soup," *FEER*, January 4, 1968, pp. 19ff.
[14] *Ibid.*, pp. 19-20.
[15] *TSW*, February 19, 1966, and Durga Das, *India from Curzon to Nehru and After* (London, 1969), p. 403.

second was that, pending the unsolved problem of removing the social barriers to agricultural growth it was necessary to use a new technocratic policy based on the widest possible use of every kind of economic inputs (new kind of high-yielding seeds, knowhow, fertilizers, credit, minor irrigation works, etc.) in selected areas where water sources were assured. This would have the double advantage of assuring a dramatic rise in production even with bad weather demonstrating the expediency of the new system.

The other side of the new economic policy was the strong emphasis on socialistic goals. According to its main author, the Minister of Planning, Asoka Mehta, it was necessary to promote a "new Socialist order" based on "an increasing area of social ownership and control and an overriding preference for equality of status and opportunity and its great emphasis on economic growth as a precondition for economic equality."[16] To reach these objectives it was necessary to use two main instruments. The first was the enlargement of State power over the banking system, possibly through nationalization. The second was the reversal of the trend to tax landholders less and less, thus making them pay again especially "the better placed agriculturalists," and, particularly, "making ownership of . . . over ten acres of irrigated land uneconomical by levying heavy imposts upon such holdings."[17]

Before its implementation, the new economic policy had to be scrutinized by the Congress Party at the Working Committee (CWC) meeting followed by the All-India Congress meeting and the Congress Party 70th session held at Jaipur (February 9-12, 1966). Of these three meetings, the most important was the first (namely, the CWC meeting on February 9), being the Working Committee of the High Command and the real locus of power inside the party. The policy event through a storm of criticism while its main architects, Subramaniam and Mehta, were "hauled over [the] coals."[18]

First to come under fire was C. Subramaniam: his resolution on food and agriculture "occasioned the sharpest attack ever made on a decision taken by the Union Government."[19] What was especially criticized was the fertilizer policy. The massive procurement of fertilizers was one of the basic points of the new agricul-

[16] Cited in *The Times of India,* February 5, 1966.
[17] *Ibid.*
[18] *The Current,* February 19, 1966. pp. 1, 4.
[19] TSW, February 12, 1966, p. 1.

tural policy. But because of the inefficiency of Indian public and private capital in this field, the only way to reach this target was to get help from foreign capital. Accordingly, the Union Government had concluded a contract with a foreign firm to start a fertilizer plant in Madras.

Logically enough, the agreement with foreign capital came under criticism from the left-wing of the party (the so-called ginger group, whose main leaders were Krishna Menon and D. K. Malaviya). The Subramaniam policy was also attacked by those politicians who had so recently opposed Indira Gandhi's election to the prime-ministership (and this, too, happened). What may seem strange is the fact that the main attacks came from the Syndicate bosses and their followers. Kamaraj described the terms allowed to the foreign firm in Madras as "atrocious and unacceptable," and Dr. Ram Subhag Singh, a brilliant parliamentarian very close to the Syndicate, after saying that the country had been "sold out" — a fact that, in his opinion, was "unpatriotic" — simply proposed that the Madras fertilizer deal should be scrapped.[20] When Subramaniam protested, saying that it was a Cabinet decision, Kamaraj "snapped back": "What Cabinet? The Working Committee is bigger."[21] In turn, Subramaniam threatened to resign and Kamaraj simply replied that he should do so. According to the account given by a Calcutta weekly, "for a while there was tense silence at the meeting. But then several members intervened to say that criticism of a policy decision should not be taken to mean that the person concerned is to blame. Eventually tempers cooled down and the discussion on [the] food resolution was resumed and the talk on resignation was abandoned and forgotten."[22]

It is important to note that, in spite of this severe scolding Subramaniam was able to have his resolution on food accepted. It was presented in open Congress on February 12, 1966, and unanimously approved. It recorded that the farm sector "can break loose from its stagnation only by introducing modern scientific methods of cultivations;" proceeded "to call the Government to make available the necessary inputs of fertilizers;"[23] and stated categorically

---

[20] *Ibid.*, and *The Current*, February 19, 1966, pp. 1, 4.
[21] *The Current*, February 19, 1966, p. 4.
[22] TSW, February 12, 1966, p. 1.
[23] Quoted in TSW, February 19, 1966, p. 7.
[24] *The Statesman*, February 9, 1966.

that the highest priority should be given to the provision and allocation of foreign exchange for the fertilizer industry.[24]

If Subramaniam was eventually able to salvage the substance of his policy, Asoka Mehta was less successful. The Minister of Planning had publicized his theories on the "new Socialism" in a speech he delivered at the University of Saugor (February 4, 1966). This speech had stirred the political waters in such a way that Mehta, in presenting his resolution on economic policy, had already tamed his proposals by cancelling any reference to bank nationalization.[25] Nevertheless, his proposal to tax the prosperous peasants came under heavy attack. He was mocked for what "one member (of the CWC) described as a 'professorial thesis' and not a resolution on economic policy."[26] S. K. Patil, another Syndicate leader, attacked Mehta's draft on economic policy for making promises which "were not, could not be, and perhaps should not be, implemented."[27] Pointing out the example of the farmers of Kolnapur in Maharashtra, who had increased their production impressively, Patil said dramatically that "if the logic of Mr. Mehta was followed... the prosperity of Kolhapur must be destroyed by levying fresh taxes."[28] After more criticism by Dr. Ram Subhag Singh and others,[29] it was simply decided to scrap Asoka Mehta's draft and another Minister (G. L. Nanda) was asked to write a "simpler" resolution, which he did. In this way, Asoka Mehta's "new Socialism" was killed before it was born.

It is essential to understand the Jaipur events to comprehend the political situation in 1966 and how it developed in the following years. The first fact that can be noticed is the extreme isolation and weakness of both Indira Gandhi and her friends. Mrs. Gandhi, during the Jaipur Working Committee and Congress, "took very much a back seat, figuratively speaking"[30] and as one commentator noted, her "silence" was judged "odd and particularly striking when it was known that two of her trusted Cabinet colleagues, Food Minister Subramaniam and Planning Minister Asoka Mehta, were being hauled

---

[25] A few days after the Jaipur Congress, on February 16, the Finance Minister, Mr. Sachin Chauduri, officially denied that the Government of India had any proposal under consideration for nationalization of commercial banks. TSW, February 19, 1966, p. 16.

[26] *The Current*, February 19, 1966, p. 4.

[27] TSW, February 19, 1966, p. 5.

[28] *Ibid.*

[29] Biju Patnaik, Krishna Menon, and Kamaraj himself.

[30] TSW, February 19, 1966, p. 1.

over [the] coals."[31] The second fact that must be noticed is the complete isolation of Mrs. Gandhi's group inside the party. The new policy was attacked by party members of all shades of opinion and supported by none. It is significant that Asoka Mehta's draft was criticized even by Krishna Menon, one of the leaders of the left-wing.[32]

Another important point is the unambiguous and blunt statement by Kamaraj of the superiority of the party over the Government, which in turn meant the superiority of the Party President, Kamaraj himself, over the Prime Minister, Indira Gandhi. The harsh treatment reserved for Subramaniam is related to this affirmation of superiority by Kamaraj. Kamaraj's opposition to Subramaniam's fertilizer policy does not seem to have been based on any sound or even clear political or economic reason. It is possible to suspect that Kamaraj's vicious attack on Subramaniam actually was not an attack on the policy but on its author and, through him, to his patron: the Prime Minister. Kamaraj was stressing the fact that *he* was the master and manisfesting his displeasure of Mrs. Gandhi's leaning on her "kitchen cabinet." It is significant that, after bringing Subramaniam to the brink of forced resignation, Kamaraj eventually left Subramaniam's policy to be approved in the Congress open session, but still more significant is the fact that, after the Jaipur session, Kamaraj's (and the Syndicate's) opposition to the new fertilizer and agricultural policy suddenly waned completely.

Asoka Mehta's case was different. The goal of the Syndicate was not so much to warn Asoka Mehta (and Mrs. Gandhi) as to kill and bury the "new Socialism." The Syndicate men were local bosses whose power was to a large extent related to those agricultural castes and interests who controlled the countryside at the local level. In other words, men like Kamaraj and most of the other Syndicate members controlled the Government of their States, thanks to their alliance with the prosperous peasants. Logically enough, the States, which were the competent institutions to tax agricultural land or income, increasingly undertaxed the countryside. Although in the period 1961-1962 to 1965-1966 (the year when the big drought began) the income

[31] *The Current*, February 19, 1966, p. 1.

[32] In the Asoka Mehta draft there was a plea for large-scale foreign borrowing that was harshly criticized by Menon. However, in this attack by Menon on Mehta there was an element of personal hostility. According to Menon, Asoka Mehta — who had been Chairman of the Praja Socialist Party until 1963 — was an "outsider." "For twenty years he abused us," Menon is reported to have said while at Jaipur, "and now he quietly walks in as one of us." *The Current*, February 19, 1966, p. 4.

of the agricultural sector increased by approximately 26 to 30%, the taxation of agriculture actually decreased.[33] As a matter of fact, the trend was towards complete abolition of the land revenue, and in this field the lead was taken by Kamaraj's home state, Tamil Nadu, which abolished it in 1966.

This policy produced two main effects. The first was that the inadequate taxation of the agricultural sector caused a heavy tax burden on the non-agricultural sector. The first draft outline of the Fourth Plan (presented in August 1966), prepared under the deputy-chairmanship of Mehta himself, emphasized that taxation of the urban sector — especially the corporate sector — had reached a saturation point beyond which any additional taxation would have put industry in jeopardy.[34] To go on undertaxing the agricultural sector meant the renunciation of resources for national development from the only sector that could still give them. The second effect was that the wealthier the peasants were, the more favorable their position was.[35]

With his "new Socialism" policy, Asoka Mehta wanted to put an end to this situation. He wanted to tap new resources from the agricultural sector. At the same time he wanted a new redistribution of wealth in the countryside, and for this reason he wanted to discourage the existence of holdings of more than ten acres of irrigated land, thus making them uneconomic.[36] Of course, it was precisely this kind of policy that the Syndicate wanted to prevent and, as we have seen, they were fully successful at Jaipur.

---

[33] For a general analysis of the problem, see P. K. Bhargava, "Taxation of Agriculture in the Fourth Plan," *Eastern Economist,* Annual Number, 1970, pp. 1286-89, and P. K. Bhargava, "Incidence of Direct Taxes on Indian Agriculture," *Artha Vijnana, Journal of the Gokhale Politics and Economics,* XIII (December 1971), pp. 402-415.

[34] *The Fourth Five Year Plan, A Draft Outline,* Government of India Planning Commission, August 1966, p. 75-89.

[35] It is a well-known fact that, if such was the situation while ruling the Syndicate's Congress (and while the Syndicate ruling in Congress), after 1971 there has not been any appreciable change in the Government of India's taxation policy. The farmers are still the dominating social force in India and the New Congress seems as compromised with them as the old.

[36] Although this author deeply sympathizes with the motivation behind Asoka Mehta's ceiling proposal (viz., the necessity of a redistribution of wealth in the countryside), he cannot help noticing that (as we shall see in the second part of this article) to make plots of more than ten acres of irrigated land uneconomic meant to make uneconomic *the whole* land system in India, since landholdings of less than ten acres are too small to realize economies of scale.

The eventual consequence of the Syndicate decision to block Asoka Mehta's policy was that the new economic policy implemented by Mrs. Gandhi's Government was fully based on the Subramaniam approach. In other words, it was meant as an exclusively economic strategy, based on the use of technological instruments, aimed at the fast overcoming of a pervading economic crisis and without any preoccupation for the social costs and the possible eventual backlash (in the countryside itself) of such a policy.

The last shot against the new fertilizer policy was fired by Kamaraj on February 12, 1966 (the day when the Jaipur Congress open session was held) during an interview with a newspaper.[37] After that there was no further opposition by the Syndicate. Only the left-wing of the party continued to criticize the Subramaniam strategy, but the "ginger group" did not have control of any lever of power and, therefore, its opposition had to remain purely vocal.[38]

In spite of the scarcity of foreign currency, the 1966-1967 budget presented in the Lok Sabha on February 28, 1966 allocated Rs. 66.35 crores* (compared with revised estimate for 1965-1966 of Rs. 58.56 crores) for foodgrain purchase. This sum was used, as we shall see, to buy new high yielding varieties in Mexico. For the purchase of fertilizers, the 1966-1967 budget allocated Rs. 95 and increased to Rs. 88 crores the original provision of Rs. 75 crores allocated for 1965-1966.[39] On April 29, together with other modifications of his former taxation proposals, the Finance Minister also announced changes in excise and customs duties to help agricultural production by reducing the cost of chemical fertilizers: sulphuric acid, used in making fertilizers, was exempted from excise duty and imported sulphur from the regulatory customs duty.[40]

The final sanction to the new course was given on April 10, 1966, at New Delhi, where the conference of the Chief Ministers gave "enthusiastic support" to the central government's high-yielding varieties scheme.[41]

[37] TSW, January 19, 1966, p. 7.

[38] The new fertilizer policy of the government of India was again sharply criticized by the left wing of the party (especially by K. D. Malaviya and S. N. Mishra) at the meeting of the Congress Parliamentary Party Executive in March 1966 and at the meeting of the Informal Consultative Committee of Parliament for the Planning Ministry at the beginning of April 1966. See TSW, March 12, 1966, p. 16, and TSW, April 9, 1966. p. 16.

[39] TSW, March 5, 1966, p. 7.

[40] TSW, May 7, 1966, p. 7.

[41] TSW, April 16, 1966, p. 8.

* One crore is equivalent to 10 million.

Of course the new economic policy was not born overnight. Some hesitant steps in this direction had already been taken at the beginning of the '60s. Much more important, the new strategy was to a large extent the continuation of a series of attempts by Subramaniam as Food and Agricultural Minister in the Shastri Cabinet (1964-1966). But it was only at the beginning of 1966, when the effects of the great 1965-1967 drought began to be felt dramatically, that the general situation changed in such a way as to make possible and desirable a Copernican revolution in the agricultural policy implemented until then.

By the end of the '50s, the Ford Foundation 1959 report entitled *India's Food Crisis and Steps to Meet It* had pointed out how basically weak the position of the Indian agricultural sector was. It was in this report that the new approach to agriculture was proposed for the first time. Since then the responsible circles began to talk "incessantly of providing the farmer a package of inputs — but failed consistently to deliver the package."[42] As an Indian journalist was to remember at the beginning of 1966: "It was either that investment fell short of needs as in the case of fertilizers, or that we failed to tackle institutional and administrative constraints as in the case of seed multiplication and credit. We spent lavishly enough on irrigation — something like Rs. 1200 crores over three Plans — but overlooked the small extra effort needed to ensure full utilization...."[43] Besides, the policy promoted especially by S. K. Patil, when he was Food Minister (1959-1963), which relied heavily on PL480 cheap imports of food from the U.S.A., had had the effect of depressing the price of the foodgrains, consequently preventing the farmer from investing more in order to increase his yields.

Nevertheless, some steps in the right direction were taken. In 1960 the first Indian agricultural university (Uttar Pradesh Agricultural University at Pantnagar) "literally [rose] out of swamp and timberland."[44] Since then nine more agricultural universities were founded. In the second half of the '60s, these new institutions were to begin to turn out graduates whose importance in making possible the implementation of the new agricultural policy is difficult to overestimate.

---

[42] TSW, February 26, 1966, p. 5.
[43] *Ibid.*, p. 5.
[44] Carrol P. Streeter, *A Partnership to Improve Food Production* (Rockefeller Foundation, December 1969), p. 88...

Also, at the beginning of the '60s, following a nationwide maize improvement program sponsored by the Government of India in collaboration with the Rockefeller Foundation, the first maize hybrids were brought in. This meant that farmers could no longer save seeds from their harvests because these maize hybrids — as the other much more effective high-yielding seeds that were introduced some years later — had to be carefully prepared for each year's planting to preserve the purity of the breeding lines so that the seed could yield its full potential. On the wave of this pioneering program, in 1962 the first private seed farms were brought in. The following year the Government of India set up a central government agency known as the National Seeds Corporation, whose task it was to "foster and aid" other agencies engaged "in seed production, processing, marketing, certification..."[45]

The first really serious experiments in the field of the high-yielding varieties — especially wheat and rice — began with the winter 1964-1965 season. It was in this season that the T(N)-1 rice was grown in some Indian experimental stations which gave fantastic results. With the following monsoon season the great 1965-1967 drought began, but, in spite of that, the small acreage of T(N)-1 continued to give (in 1965) impressive yields. Although the T(N)-1 was still in an experimental phase, C. Subramaniam (following the advice of an Indian scientist, Dr. G. V. Chalam) decided to take a gamble. Accordingly, in 1965-1966 alone, the area under T(N)-1 expanded from 150 acres to 1.5 million acres.[46] The story of the wheat experiments is analogous. After some experimentations in 1964-1965, the Indian Government bought from Mexico 200 tons of Sonora 64 and 50 tons of Lerma Rojo 64. Because of the beginning of the 1965 war with Pakistan, the shipment was delayed and the cargo arrived in India barely ahead of planting time. Without any time for germination tests, 7000 acres were planted. As a result, less than 30% of the seeds sprouted; nevertheless, the results given by the seeds which actually sprouted were good enough to convince Subramaniam he was on the right path.[47]

As we have seen, at the beginning of 1966 the new agricultural policy was officially adopted. In the summer of 1966, in spite of the fact that foreign exchange was in short supply, the Government of

[45] Quoted in Carrol P. Streeter, *op. cit.*, pp. 72, 74.
[46] *Ibid.*, pp. 28ff.
[47] *Ibid.*, pp. 12ff.

India spent some US $2.5 million (a sum that was actually more than the allocation for this purpose in the 1966-1967 budget) ordering 18,000 tons of Lerma Rojo 64 A and a few other high-yielding dwarf varieties from Mexico, the largest single seed order ever placed anywhere in the world up to that time.[48] At the same time, steps were taken to put on a sound basis the home production of high-yielding seeds. Until that moment the home seed production had been pursued by "25 acre seed farms... which offered no scope for scientific know-how and investment that were needed."[49] Because of that, at the beginning of 1966, "although millions of acres have been planted out to improve seeds, there has been no appreciable improvement in outturn."[50] Therefore, the Government of India started to set up some 12 seed farms of 5,000 to 10,000 acres each, while inviting joint stock companies to come into the business.[51] In the same period (1966), the National Seeds Act was passed, whose function was chiefly to regulate the quality of seeds sold, assure truthful labelling and provide a legal base for certification.[52]

Accordingly, during 1966, at least a part of the basic package of the necessary inputs for the take-off of what was to be known as the "green revolution" was assured. Besides getting high-yielding seeds from Mexico and creating the foundation of an efficient home seed industry, the Government of India chose some 32 million acres with assured rainfall and/or irrigation for high-yielding varieties for farming. Moreover, a new emphasis was put on small-scale irrigation projects characterized by quicker returns, rather than on the large-scale ones.[53]

One of the main reasons — perhaps the main reason — why the high-yielding varieties give a much higher outturn than the normal plants is because of the capacity of the former to absorb a far wider quantity of fertilizers than the latter. Accordingly, one of the main technical problems the Government of India had to cope with, if it wanted a successful take-off of the new agricultural policy, was to get a yearly procurement of fertilizers necessary for the newly-sown high-yielding varieties areas. Unfortunately, the fertilizer policy of the Government of India had been most unsuccessful since its be-

---

[48] *Ibid.*, p. 13.
[49] TSW, February 26, 1966, p. 5.
[50] *Ibid.*
[51] *Ibid.*
[52] Carrol P. Streeter, *op. cit.*, p. 74.
[53] *Fourth Five Year Plan, A Draft Outline,* Government of India, Planning Commission, August 1966, pp. 173-174.

ginning.[54] In the early '50s, there were only a few private industries in the fertilizer field whose output was very small and the Government of India, as for other key industries, had decided to reserve the beginning of new fertilizer enterprises to the Public Sector. Since then the Government produced the bulk of fertilizers, fixed the prices, and sold the fertilizers through a Government-operated fertilizer pool. But, by the mid-'50's, the Indian policy-makers had realized that the public sector's efforts in this field were totally inadequate, and, consequently, in 1956 they opened the field to private capital with the goal of getting some kind of foreign collaboration. However, the still existing state of control on price and distribution effectively prevented foreign capital from stepping in. Due to pressure since the beginning of the agricultural crisis, the Government of India came around to the decision of abolishing such controls in the autumn of 1965. But there were strong objections "by many who thought that such a decision would open the floodgates for uninhibited profiteering by foreign investors."[55] To settle the issue, a Cabinet subcommittee consisting of Subramanian and three other ministers assisted by some senior officials was formed. It decided the new fertilizer policy of the Government of India, according to which all the fertilizer plants going into production around 1968 would have a seven-year "holiday" from controls on prices and distribution. This concession was subject to the condition that the Government could pre-empt a third of the output of these plants and accordingly maintain a commanding position in the fertilizer market. On the other hand, the private investor was to have the right to a "seeding program." In other words, the investor was to be allowed, before his fertilizer plant went into production, to import a fixed quantity of fertilizer and to sell it in the area around the factory to nurse the market.

This new fertilizer policy was approved by the Union Cabinet just before Shastri left for his last journey to Tashkent. It was an integral part of the Subramaniam resolution approved by the Congress Party at the Jaipur session.

Of course the new agricultural policy could not give big returns immediately. Nevertheless, after some years, the results were amazing.

---

[54] On the fertilizer policy of the Government of India since its beginning see Inder Malhortra, "Fertilizer Expansion Deals in Danger," TSW, March 12, 1966, p. 2.

[55] *Ibid.*

A look at some statistical tables will give us a clearer idea of the kind of effort undertaken by the Government of India and its results.

Tables I and II* give the availability of chemical fertilizers from 1951-1952 to 1970-1971. It is evident that there was a very sharp increase in fertilizer total availability from 1965-1966 to 1966-1967. Although, since 1967-1968, the rate of growth diminishes, it remains nevertheless impressive, the global figure for the period 1968-1969 to 1970-1971 being around a 20.8% annual increase.

Table III gives the development of groundwater resources (viz., minor irrigation projects) between the end of the Third Plan and 1968-1969. We can see a dramatic increase especially in electric pumps and diesel pump sets.

Table IV gives the growth of areas under high-yielding varieties from 1966-1967 to 1969-1970. It is evident that there was fast expansion of these areas and, by 1969-1970, the overcoming of the targets originally set by the Indian policy-makers themselves.[56]

Table V gives the global results of the new agricultural strategy. The jump both in production and in productivity in the agricultural sector is clearly seen after the big drought of 1965-1967. These results are really remarkable, especially if we remember that, although 1967-1968 was a period of exceptionally good weather, in the following years the climate was not always so favorable (even if it was never so bad as in 1965-1967).[57]

Table VI gives the trends of the per capita income and agricultural production: the analogy between the two is immediately evident.[58]

After perusing the indications of such favorable economic results, the first question that is natural to ask is whether India has

---

[56] As it is possible to see, we have not taken into account a very important input: credit. This omission is deliberate; the problem of credit for agriculture (and of bank nationalization) is too complicated and too closely connected with the political struggle inside the Congress and with the Congress split to make it possible to fully analyze it in a few paragraphs. We have made this observation in a paper whose publication is forthcoming in *Asian Survey*.

[57] For the weather situation in the period under review, see "Business Roundup," *Record and Statistics, Quarterly Bulletin of Eastern Economist*, related years.

[58] The exceptional 1964-65 results, clearly noticeable in the graph in Table VI, were completely anomalous: they were produced by extraordinarily good monsoons (superior by 8.5% to the average).

TABLE I: AVAILABILITY OF FERTILIZERS (1951-1968)
(In thousand tons of nutrients)

Year	*Nitrogenous fertilizers (N)*			*Phosphatic fertilizers (P_2O_5) (including bonemeal)*			*Potassic Fertilizers**
	Production	*Imports*	*Total Availability*	*Production*	*Imports*	*Total Availability*	*Imports***
1951-52	16*	29	45	11	—	11	8
1952-53	55*	43	98	7	—	7	3
1953-54	62*	17	79	11	1	12	7
1954-55	70*	21	91	17	—	17	11
1955-56	80*	54	134	12	—	12	10
1956-57	79*	56	135	15	—	15	15
1957-58	78	111	189	26	—	26	11
1958-59	81	99	180	30	2	32	22
1959-60	81	164	245	49	9	58	34
1960-61	98	119	217	52	—	52	23
1961-62	145	142	287	66	—	66	32
1962-63	178	252	430	81	10	91	40
1963-64	222	226	448	107	12	119	64
1964-65	240	234	474	131	12	143	57
1965-66	233	326	559	111	14	125	85
1966-67	308	632	940	145	148	293	117
1967-68	367	867	1234	194	149	343	270

* There is no local production.
** The figures of K_2O imports up to 1964-65 are on July-June basis and thereafter on financial year basis.
Source: *Records and Statistics, Quarterly Bulletin of Eastern Economist,* XXII, May 1971, p. 146.

TABLE II: AVAILABILITY OF FERTILIZERS (1968-1971)
(In thousands of tons)

	1968-69 *Achievements*	1969-70 *Achievements*	1970-71 *Achievements (provisional)*	*Compound Annual Growth Rate* 1968-69 *To* 1970-71
Nitrogenous Fertilizers (N)	1145.05	1365.97	1470.03	15.8%
Phosphatic Fertilizers (P_2O_5)	391.00	421.02	464.02	17.9%
Potassic Fertilizers (K_2O)	160.00	209.30	229.64	28.8%

Source: *Records and Statistics, Quarterly Bulletin of Eastern Economists,* XXIII, February 1971, p. 83.

TABLE III: DEVELOPMENT OF GROUNDWATER RESOURCES
(In thousands)

	Wells in Use	*Boring of Wells*	*Deepening of Wells*	*Private Tube-wells*	*State Tube-wells*	*Diesel Pump Sets*	*Electric Pump Sets*
1965-66	5111	245	101	113	12	465	514
1968-69	5707	507	217	271	16	650	1021

Source: *Records and Statistics, Quarterly Bulletin of Eastern Economist,* XXII, November 1970, p. 16.

TABLE IV: HIGH-YIELDING VARIETIES PROGRAMS (TARGETS AND ACHIEVEMENTS)
(Area in thousands acres)

	1966-67	1967-68	1968-69	1969-70	1970-71
Achievement	4660	14,955	22,606	31,093	—
Target	7081	12,017	27,545	27,000	34,000
Achievement as percentage of target	65.8	83.0	82.0	115.2	—

Source: *Records and Statistics, Quarterly Bulletin of Eastern Economist,* XXII, August 1971, p. 211.

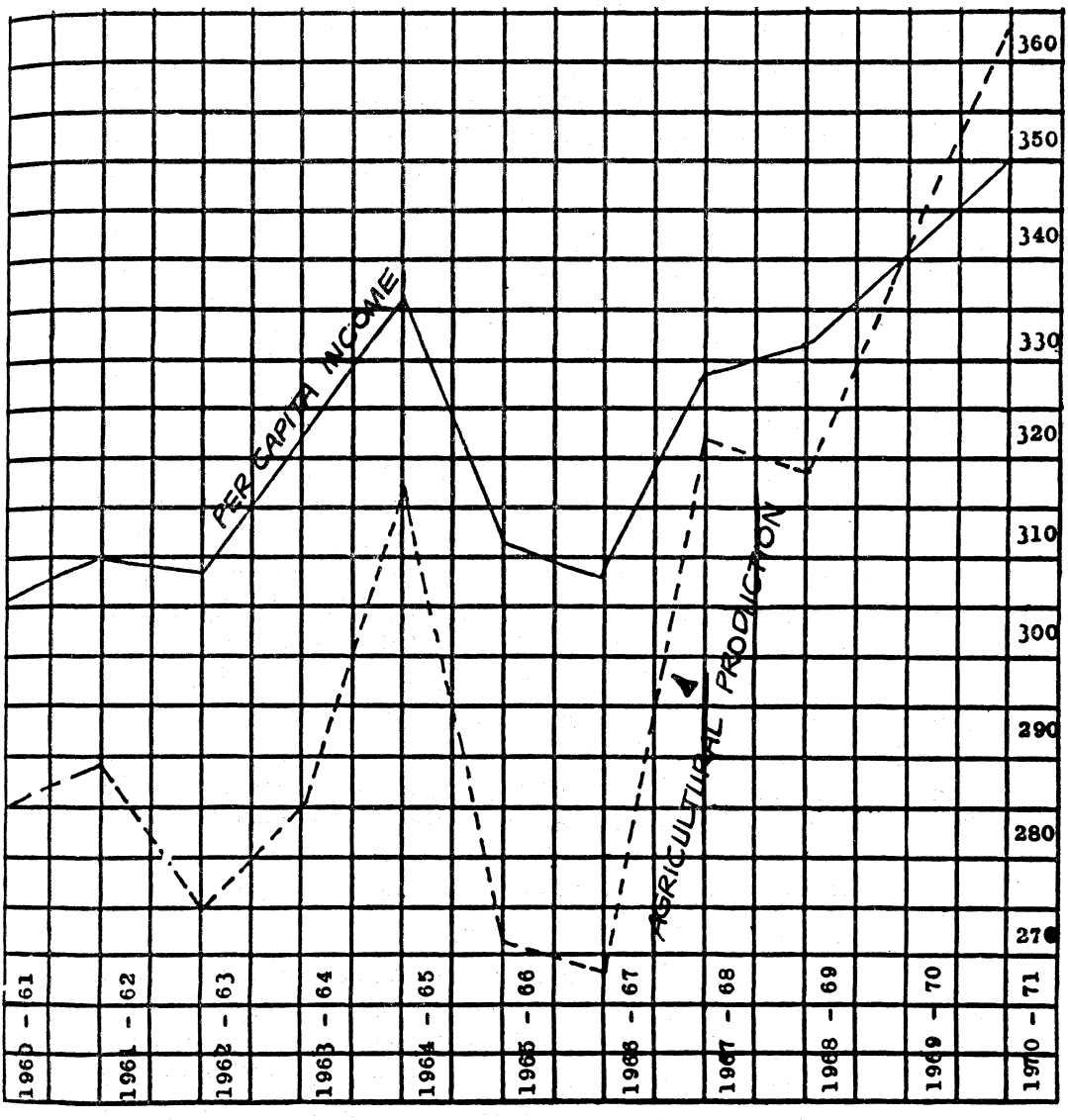
TABLE V: AGRICULTURAL GROWTH 1950-51 TO 1970-71

(*Agricultural year* 1945-50=100	*Index numbers of agricultural PRODUCTION*			*Index numbers of agricultural PRODUCTIVITY*		
	Foodgrains	*Non-foodgrains*	*All-commodities*	*Foodgrains*	*Non-foodgrains*	*All-commodities*
1950-51	87.9	105.9	95.6	92.4	95.6	95.7
1955-56	115.3	119.9	116.8	102.0	91.7	101.6
1956-57	120.8	131.5	124.3	102.4	97.8	107.2
1957-58	109.2	129.5	115.9	98.6	95.8	101.0
1958-59	130.6	139.9	133.5	112.5	102.0	111.8
1959-60	127.9	135.0	130.3	109.1	92.1	108.0
1960-61	132.1	152.6	144.2	117.3	108.1	117.7
1961-62	140.3	153.9	144.8	118.2	402.1	117.0
1962-63	130.4	151.5	137.4	111.0	101.7	112.2
1963-64	135.9	155.6	142.4	115.6	103.2	115.9
1964-65	150.2	174.9	158.9	126.3	113.3	127.1
1965-66	121.3	157.0	133.1	104.1	101.6	108.7
1966-67	123.8	142.4	131.6	106.1	97.9	102.9
1968-69	157.5	163.6	150.5	129.2	111.9	127.0
1969-70	168.6	175.3	170.3	134.8	115.8	132.3
1970-71	182.7	181.2	182.2	145.7	118.3	140.6

Source: *Records and Statistics, Quarterly Bulletin of Eastern Economist, XXIII,* November 1971, pp 17-19.

TABLE VI: PER CAPITA INCOME AND AGRICULTURAL PRODUCTION

Base — Agricultural production: agricultural year 1949-50 = 200 Per capita income: rupees.



(Drawn by the author according to the dates given in: *Records and Statistics, Quarterly Bulletin of Eastern Economist,* XVIII, February 1967, p. 7; *Ibid.,* XXIII, November 1971, p. 17; *Ibid.,* XXIII, August 1971, p. 224).

solved or is solving her development problems, if not completely at least within the limited field of agricultural food production, and from a strictly economic point of view. Unfortunately, the answer to this question must be negative. From 1970-1971 to 1973-1974 agricultural food production declined from 108 million to 103 million tons (against a background population growth of 13 million individuals per year). This was the result of the scarcity of water and the high economic cost of the green revolution. The effects of these two causes, which are endogenous, have been worsened by a third exogenous cause: the Arab oil embargo and the consequent increase of oil prices. Although, strictly speaking, outside the limits of the subjects of this article, a very rapid outline — without any claim of completeness — of the nature of the causes of the agricultural decline in the years since 1970-1971 will allow us to see in a more correct historical perspective the results of the first, economically successful, phase of the green revolution.

The main stumbling block to any agricultural development project in India, whether now or at any time, in the present political system or in any other that the Indian could choose in the future, is scarcity of water. We have already seen that, in 1966, the Government of India selected 32 million acres (out of 318 of cultivated land) as having the supply of water necessary for the application of the new techniques. As it is possible to see from Table III, this amount of land had been put almost completely under intensive cultivation in 1969-1970. Since the expansion of irrigated land was much slower than the expansion of land under the high-yielding varieties programs, the latter, since 1970-1971, has begun to expand on areas dependent on non-perennial water supplies, putting any further gain of the green revolution at the mercy of the monsoons. The full gravity of the situation can be realized if we bear in mind the following facts:

First, 30% of the land in India is arid beyond any remedy. Second, irrigation of the arable land involves the solution of very substantial technical problems. We have already said that large scale irrigation works give results only after quite a long period of time.[59] Moreover, these big projects often are failures because they were planned without taking into full account the possible harmful effects on the environment. During a Paris conference sponsored by the UNESCO (December, 1969), some hydrological experts reported that the Indus and the Ganges river irrigation systems were losing more arable land than they

[59] See footnote 12, supra.

were adding each year because of salinization.[60] Unfortunately, small-scale irrigation works (so largely used during the first phase of the green revolution) are far from being a final solution to this vicious circle. In many areas the farmers, as early as 1969, had deepened their wells so much that they are now tapping primarily "fossil" water, at a rate faster than the natural rate of recharge. In other words, they are under permanent threat that their wells may dry up at any moment in the future (especially after a long dry period).[61]

The practical impossibility of finding, at least in the short run and without any major scientific breakthrough,[62] a solution to the water problem leaves, as we have already noticed, some nine-tenths of the arable land to the mercy of the monsoons. This, in turn, means that, in spite of the rise in productivity in the irrigated lands (productivity that can still increase, being still far from the ceilings reached, e.g., in Japan) a prolonged spell of drought, which badly damages the crops on unirrigated lands, can produce a decline in total agricultural production. That is what has happened since the summer of 1971. During this period the weather has been, more or less continuously, extremely bad, especially in 1972-1973, when the worst drought in ten years was followed, in the summer of 1973, by devastaling floods in Bihar and Bengal.[63] As we have seen, this produced a decline in agricultural food production from the 108 million tons of 1970-1971 to the 103 million tons of 1973-1974. This means that the level of agricultural food production regressed roughly to that of four years previously. That, in spite of the rise of the population, was a much better position than that of 1965-1967. But, what made the 1973-1974 situation possibly worse than the 1965-1967 situation was the phenomenon of hoarding.

The new techniques on which the green revolution is based are very expensive for the farmers and, of course, are profitable for them only as far as they can get a correspondingly higher price for their production. Until 1971 the Government of India fixed the price paid to the farmers for their grain products by the State at a very high level, while the price at which agricultural food production was sold

[60] *The New York Times*, December 17, 1969.

[61] Carrol P. Streeter, *op. cit.*, pp. 116-119.

[62] In South Africa (University of Johannesburg) and in the U.S.A., studies are under way on the creation of artificial rain: this could be the only final solution of the irrigation problem.

[63] See footnote 57, supra.

in the fair-price shops was maintained artificially low. This policy was made possible by the import of low price wheat coming under the aid program. The Government of India was able to sell at retail prices that were a rough average between the expensive home production and the cheap imports.[64] With the termination in 1971 of the aid program, this policy has become impossible. The decision by the Government of India to fix the wholesale prices of grain (especially wheat) at a lower level and the attempt to enforce this decision by the nationalization of the wheat trade (enforced beginning in March 1973 and abandoned after only a year) proved abortive: as happened so often in so many different countries in a similar situation, in 1973 and 1974 the Indian farmers hoarded their production on a large scale, bringing about a famine that was not less real for the fact of being artificial. Confronted by a similar problem, the Soviet Government under Stalin reacted with the practical extermination of the *Kulaki,* the Russian wealthy farmers. But a similar method, quite obviously, while open to a revolutionary government, is not to an elected one that is, moreover, deeply compromised, especially at the State level, with the prosperous farmers, the most numerous and influential social group in India today.

A third element which has added precariousness to an already precarious situation has been, since the beginning of 1974, the skyrocketing of oil prices. Indian agriculture is heavily dependent on oil both for fuel for irrigation pumps and for fertilizer, a largely oil-based product. This has produced both a rise in the cost of the new techniques and an effective reduction in the amount of fertilizers employed by the Indian farmers, contributing, in such a way, both to the reasons for hoarding and to the decline of the Indian agricultural production.

* * *

As a conclusion to our assessment of the first phase of the green revolution, we must briefly speak of the social cost of such a strategy. The years of the rise of the green revolution were also the years of the rise of agrarian tension. The phenomenon became so preoccupying that, in 1969, the Home Ministry prepared a confidential report on it.[65] According to the findings of this report, the impressive agri-

[64] E.g., Francine R. Frankel, *India's Green Revolution* (Princeton University Press, 1971), pp. 32ff.

[65] Government of India, Ministry of Home Affairs, Research and Policy Division, *The Causes and Nature of Current Agrarian Tensions,* 1969 [hereafter HOME]. Although confidential this report ended up in

cultural development then underway was already clearly showing its social shortcomings (which were at the roots of the mounting agrarian tension) depending on the fact that it had "rested, by and large, on an outmoded agrarian structure,"[66] whose permanence was, in turn, largely dependent on the fact that the agrarian reforms, which had made "an enthusiastic start immediately after independence," had "almost ground themselves to a halt."[67] Secondly, the new technological strategy, having been geared to goals of production, "with secondary regard to social imperatives," had brought about a situation in which "elements of disparity, instability and unrest are becoming conspicuous with the possibility of increase in tension."[68] Not surprisingly, continued the report, the consciousness of injustice and wide prevalence of land-hunger had been used "by certain political parties" to organize agitation broadly based on issues of land distribution to landless workers and claims for increased agricultural wages. Besides, although there had not been, until that moment, "any sustained agitation by tenants," agitation by sharecroppers and subtenants had already taken place (in West Bengal) or had been planned (in Bihar).[69] This mounting tension was, according to the data presented in the report, an India-wide phenomenon.[70] Although the peasants' political organizations in most parts of the country were still weak, since their capacity for launching sustained agitation was limited, the tensions in the rural areas, "resulting from the widening gap between the relatively few affluent farmers and the large body of small land-holders and landless agricultural workers"[71] could increase in the coming months and years. "A bad agricultural season" — cautioned the report — "could lead to an explosive situation in the rural areas."[72]

The first basic cause of the rural tension pointed out by the Home Ministry Report does not have a direct relationship with the green revolution. However, it was by itself a product of the same political situation that had made impossible the launching of the "new

---

the hands of the Indian press, which published resumes and comments on it (see, for example, *The Times of India,* December 8, 1969). I myself was able to get extracts of it thanks to the kindness of a young staff member of the University of Delhi.

[66] HOME, p. 2.
[67] HOME, p. 3.
[68] HOME, p. 3.
[69] HOME, p. 4.
[70] Annexure 1, HOME.
[71] HOME, p. 9.
[72] HOME, p. 9.

Socialism" at Jaipur, namely of the connections between the Congress Party and those wealthy farmers who would have been the first to be damaged by any effective implementation of a serious land reform and who controlled the countryside not only because they were the owners of the largest plots of land, but also because they performed the role of moneylenders.[73] On this "outmoded agrarian social structure" had been engrafted the green revolution, with its typically capitalistic mechanism, bound to make the wealthy wealthier and the poor poorer.

According to a 1970 issue of the *Far Eastern Economic Review,* "40 per cent of the total 49 million operational landholdings in India are smaller than 2.5 acres; combined they comprise only 6.8 per cent of the cultivated area (47 per cent of India's farm families own only one acre of land, 22 per cent no land at all). About a quarter of the landholdings are larger than 7.5 acres; together these account for 70 per cent of the cultivated area, the remainder (less than one quarter) being cultivated by those with landholdings between 2.5 and 7.5 acres."[74]

To understand completely the precise meaning of these data we must consider them in the light of the findings of some scholars who, in 1969, had the chance to carry out field work on the development of the green revolution. According to the research work on the relatively prosperous region of Nadiad Taluka of Kaira district (Gujarat) by U.S. Uyas, D. S. Tyagi, and V. N. Misra of the Sardar Patel University, about 25% of the then "non-viable" (i.e., with an annual household income below 2,250 rupees) farms could be made "viable" by the adoption of hybrid bajra. In this case an extent expenditure of one hundred rupees per farm incurred on this process would yield an extra income of about 1000 rupees. But even on the assumption that it would be possible to make use of these extra inputs, using them at the maximal level of efficiency, farms below

[73] HOME, p. 29.

[74] FEER, March 12, 1970, p. 27. These figures are merely indicative being the main technical obstacle to the effective implementation of a land reform in India the lack of precise data on ownership and tenantship (see, for example, HOME, pp. 28-29). Anyway, the FEER figures are roughly equivalent to those given by *The Statesman* (January 1, 1969), according to which "more than 20 million farmers have less one hectare of farm [land] each and almost another 20 million have farms between one and three hectares. Together the two groups cover 75 percent of the country's farms and 30 percent of the cultivated land" (cited in the *Eastern Economist,* October 17, 1969, p, 743).

4.5 acres in Nadiad Taluka would not have become "viable." Thus even in a district traditionally considered as "prosperous" as Kaira is, the percentage of *potentially* economically efficient farms was no more than 30%.[75] More detailed, and accordingly more alarming, are the results of an inquiry by Francine Frankel in five districts of five different Indian states.[76] According to her findings, it is possible to divide the rural population in India into four "belts." The first is composed of the wealthy farmers, namely those own landholdings of 20 acres or more in the wheat areas and 10 acres or more in the rice areas. They have the double advantage of owning land-holding where it is possible to realize economies of scale getting the maximum return for their investments in tubewells, fertilizers, pesticides, etc., and, besides, they are wealthy enough to have the necessary capital to adopt these new techniques. The second "belt" is formed by farmers with intermediate holdings, viz., ten to 20 acres in the wheat area and five to ten acres in the rice area. These "intermediate" farmers are denied the economies of scale[77] enjoyed by larger landowners and, because they do not own the initial capital that is necessary to adopt the new techniques, they have heavily indebted themselves both with the banks and the wealthier farmers. However, the "intermediate" farmers have made use of at least some of the techniques of the green revolution, managing to get some rise in the productivity of their holdings. While their *relative* economic position (compared to that of the bigger landowners) has declined, the "intermediate" farmers are likely to remain a conservative social force because they "still respect traditional criteria of status and tend to identify with the larger landowners."[78]

The main contradiction (in the Marxist meaning) is between wealthy and "intermediate" farmers on one side and the remainder of the rural population on the other, namely small farmers and landless labor. The third "belt," the poor farmers, is the group which has been damaged the most by the green revolution. They are either owners of small holdings (less than ten acres in the wheat area and

---

[75] U.S. Vyas, D.S. Tyagi and V.N. Misra, *Significance of the New Strategy of Agricultural Development for Small Farmers* (Sardar Patel University, Vallabh Vidyanagar, 1969).

[76] Francine R. Frankel, *op. cit.* The districts are: Lundhiana (Punjab), West Godavary (Andhra Pradesh), Thanjavur (Tamil Nadu), Palghat (Kerala), and Burdwan (West Bengal).

[77] E.g., the distribution area of the smallest tubewell is about 20 to 25 acres. See Francine R. Frankel, *op. cit.*, p. 29.

[78] *Ibid.*, p. 196.

less than five in the rice area), are tenants, or — in the majority of cases — both. Because of the minimal extension of their holdings, they had not been able to make any use of the new techniques. Moreover, the green revolution has caused a rapid increase in the value of arable and a corresponding increase in rents. Accordingly, many tenants, especially those rights were based only on oral contracts — without, therefore, any form of legal protection — have to relinquish the land they had on lease. The owners, as a matter of fact, have tended to resume personal cultivation of their land, since this made it more profitable with the adoption of the new techniques. On the other hand, the owners of very small holdings often sold or "rented" their plots of land to wealthier farmers: in the 1st case the latter supply the owner with the modern inputs for cultivation and take 50% of the crops as their own share.

The effects of the green revolution on the fourth "belt," namely the landless workers (some 22% of the rural families), have been complex. In the first period this group had undoubtedly had some limited but concrete gains that, in the second period, have proved to be transitory. The final — and very important — outcome of this process has been that the social situation in the Indian countryside (at least according to Francine Frankel's findings) has begun to show signs of radical change. Until a few years ago the rural situation was characterized by the patron-client relationship between wealthy peasants and the remainder of the rural population, particularly the landless workers. In other words the rural world in India was organized — as the Cambridge historians have shown[79] — along "vertical structures" cutting through class and caste divisions and based on the idea that there are reciprocal (albeit unequal) obligations between the two parts. As a result of the changes brought about by the green revolution these vertical structures have begun to degenerate, while a polarization based on class lines has begun to emerge.

In the first years of the green revolution, its own success generated an increased level of economic activity that added to employment opportunities during the off-season (i.e., construction of houses and roads, installations of tubewells, drains, and culverts). Besides, the introduction of the new techniques and the high-yielding varieties enhanced the economic position of the agricultural laborers by increasing their bargaining position at harvest time. As Francine Frankel

[79] E.g., John Gallagher, Gordon Johnson and Anil Seal (eds.). *Locality, Province and Nation* (Cambridge University Press, 1973).

puts it, writing about the situation in Lundhiana (Punjab), "large farmers engaged in multiple cropping were greatly concerned with speedy harvesting of standing crops. In addition, with larger crops to handle, more laborers were required to complete the job within the allotted time. Finally whereas the local varieties could be harvested over a period of 20 days or so, the dwarf wheats tend to shatter unless they are harvested within ten or 15 days."[80]

The new bargaining strength of the laborers, although relative (it has been counteracted with the help of migratory labor) has put in motion a process of disaggregation of the patron-client system, a disaggregation which has been further promoted by the answer of the wealthy farmers to the changing situation. Until a few years ago the landless workers customarily received as their payment a crop share of one-twentieth of the harvest. After the introduction of the new techniques, the landowners have tried to reduce this share to one-fortieth, claiming that, on the contrary, the laborers would profit from the landowners' innovative efforts. The opposition of the laborers has contained this reduction at one-thirtieth, which according to Francine Frankel's estimate, means a gain in real income of some 25% (compared with increases of 50%, 75% or even 100% by the landowners). But the landowners, "resentful at what they consider the laborers' blackmailing tactics,"[81] have retaliated by denying laborers' traditional rights of taking fodder from the field for their animals, or additional payment in kind of fuel and vegetables, or, what is most important, the advance of interest-free loans. Besides, they have shown a clear tendency, reinforced by rising prices in food grains, to convert all kinds of payment into cash, whose value is quickly eroded by inflation. Finally, the wealthy farmers have decided to mechanize harvesting operations as quickly as possible. This last decision, had, by 1969, produced "large number of unemployed or underemployed young men in the villages... who may present serious socio-economic and law and order problems in the years to come."[82]

As a matter of fact, the years under review (1966-1971) saw a dramatic increase of agitation, some based on non-violent methods,

---

[80] Francine R. Frankel, *op. cit.*, p. 37.

[81] *Ibid.*, p. 38.

[82] *The Statesman,* May 23, 1969 (cited in Francine R. Frankel, *op. cit.*, p. 40).

others ending in bloodshed. Symptomatically, some of the areas where the green revolution had been more successful (i.e., Panjab and Thanjavur in Tamil Nadu) were among the epicenters of the agrarian unrest in those years.[83]

At this point we have the necessary element to relate the economic and social results of the green revolution to the landslide victory of Mrs. Gandhi's New Congress in the 1971 general elections. First of all, we must remember that the new economic policy was of decisive importance in putting the whole economic system on its feet again, bringing about positive results for the whole population. Besides, the policy of the Government of India of fixing the procurement price of the grain products at a high level kept the landowners happy (both the wealthy and the not-so-wealthy). On the other hand, the social discontent taking shape in those years among the tenants and the landless labor began to manifest itself in an organized form only in limited areas. Besides — and this is the most important element to remember if we are to understand the political response of the humblest classes in India in those years — since 1969, in her struggle against the Syndicate, Indira Gandhi projected herself as the champion of the poor. The *casus belli* of the showdown between the Syndicate and Mrs. Gandhi was the decision by the latter to nationalize the bank system to make possible a new policy of easy money for agriculture (and for small and very small business).[84] It was in 1969 that the Ministry of Agriculture, according to this new strategy, sponsored the extension of credit to farmers owning five acres (while, up to 1966, only owners of 20 or more acres, and up to 1967, owners of at least 15 acres were judged credit-worthy).[85] In the same period, namely after the 1969 Congress split, Mrs. Gandhi's party took up again the problem of land reform and particular importance was attached to the problem of tenants on oral lease.[86] In the period before the 1971 general elections, Indira Gandhi's political credibility was enhanced by the vigorous promotion of the new credit policy. The principle of the social value of the project for which the loans were asked was

---

[83] See Annexure 1, HOME; Francine R. Frankel, *op. cit.*, pp. 45, 109-118, 199; Mythily Shivaraman, "Thanjavur, Rumblings in Tamil Nadu," *Bulletin of Concerned Asian Scholars*, vol. 4 (Winter 1972), pp. 45ff.

[84] See footnote 56, supra.

[85] Francine R. Frankel, *op. cit.*, pp. 22, 27.

[86] E.g., TSW, November 7, 1970, p. 5.

assumed as a criterion of judgment, instead of the economic worthiness of the borrower.[87]

Important elements in making the promises of the new era of social justice credible were, in our opinion, a very few concrete steps in this direction coupled with some very concrete economic achievements. When we consider all this, Indira Gandhi's unexpected 1971 electoral victory does not seem unexpected at all but, rather, the logical outcome of a long process.

The research on which the present paper is based was made possible by a Harkness Fellowship. Therefore, I want to thank the Harkness Foundation and, particularly, Professor Giorgio Borsa, Professor Franco Ferraresi, and Dr. Robert L. Johnston, who, in the chronological order, played the decisive role in making the acceptance of my candidacy possible. Moreover, I want to thank Dr. Eugene F. Irshick for his sympathetic criticisms of this paper and Margaret and Clive Booth for their efforts in making my Italian-English legible.

[87] E.g., *The Economic Times,* August 8, 1969, and *Patriot,* August 14, 1969.