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Ideas, interest and institutions in policy change: *Transformation of India's agricultural strategy in the mid-1960s*

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Abstract. Over the last ten years, policy change in the third world has become a matter of considerable intellectual and practical importance. For the theoretically inclined, how one explains changes in the behavior of the state is the main issue. Both Marxian and liberal orthodoxies had a tendency to 'read off' state behavior from the power relationships at the level of the society, though differing in the way they conceptualized power. The return of institutional and state-centric explanations over the last decade has attempted to reverse this bias by looking more closely at the power struggles *within* the state institutions. For the practically inclined, the powerful intellectual rationale behind so many policy recommendations has often been puzzlingly lost in the maze of politics. What 'interests' impede the implementation of good 'ideas,' what 'institutions' block 'getting policies right' – these are some of the key questions on the agenda of international development institutions. Responding to these varied concerns, this paper analyzes a particularly successful case of policy change. While most of third world was still experimenting with land reforms and cooperatives as the ways to develop agriculture, India in the mid-1960s switched to producer price incentives and investments in new technology, a change that is widely believed to have turned India from a food-deficit to a food-surplus country. The focus is on how ideas, interests and institutions interacted to produce the change.

Introduction

An acute crisis marked India's food economy in the mid-1960s. Two successive droughts during 1964–66 brought food production down to the level of 1956–57, creating near-famine conditions and leading to doomsday predictions about India's economic future. According to many in the West, this was the beginning of India's long famine, something akin to what one normally hears about the Sub-Saharan Africa these days. Using an analogy from the battlefield, one of the 'popular' books of the mid-1960s argued that those wounded in the battlefield were of three types: the slightly wounded who could be cured with small degrees of medical attention, the more seriously wounded who required surgery but could be saved, and those so seriously wounded that they were generally left to die for it was pointless to attend to them. India belonged to the third category: 'no matter how one may adjust present statistics ... it will be beyond the resources of the United States to keep famine out of India during the 1970s' (Paddock and Paddock, 1967: 217).

Between 1967–68 and 1970–71, however, India's food output rose consistently upward. In 1965–66 and 1966–67, India's food output was 72.3 and 74.2 million tons respectively; in 1967–68, food production touched 95 million tons and by 1970–71, it was 108.4 million tons, one and a half times higher than the output achieved in 1965–66. India's public foodgrain reserves, almost wholly dependent on 10 million tons of American wheat supplied under Public Law 480 in 1965–66, had 8.1 million tons of domestically procured supplies in 1971. In the same year, India unilaterally terminated the imports of PL 480 wheat from the US. Still later, by 1986–87, public stocks of foodgrain soared to 30 million tons. Largely as a result of these stocks, the *drought* of 1987–88, one of the worst in the century, did not lead to a *famine*.

Though some gaps continue to mar the performance of the food economy,[1] increases in food production over the last two decades and India's ability to feed itself are, on the whole, economic achievements that few had thought possible in the mid-1960s. Of particular note has been the source of output increase. Though, at 2.7 per cent per annum, the trend growth rate of foodgrain production between the mid-sixties and 1985–86 has been the same as that between independence and the mid-sixties, *yield increases* have been the primary source of output increase after the mid-sixties, as opposed to *acreage expansion* which largely accounted for production gains before that. With the expansion of arable land virtually exhausted by the mid-sixties, production, in the absence of yield increases, would have remained stagnant as it indeed had between 1960/61–1966/67, while the population continued to grow at 2.3 per cent per annum. In some ways, the disaster averted has been a bigger achievement than the output increase.

What accounts for India's agricultural turnaround? A decisive shift in public policy – or, put another way, a change in the form of state intervention in the agricultural economy – is by now widely accepted to be the main reason. Between 1947–64, India had an institutional strategy that emphasized land reforms and cooperatives in agriculture. Over a period of three years between 1964 and 1967, India's agricultural strategy was fundamentally changed, from one that was based on institutional reorganization of agriculture to one that accepted the existing institutional structure as given but sought to increase production through price incentives and a change in India's technological base in agriculture.

This paper analyses the political economy of policy change in the mid-sixties. The central question addressed is: What forces led to the *change in state behavior*? The wider relevance of the question is worth briefly stating.

The two dominant modes of analysis in political science, liberal and Marxian, at least in their pristine form, have had a tendency to look for changes in the power relationships at the level of society and 'read off' changes in state behavior from them.[2] Despite their differences, both in liberalism and Marxism, men and institutions at the top levels of formal power are not factors that can determine state behaviour in critical ways. Since the late seventies and early eighties, the theoretical comfort and purity of these positions has been challenged by empirical work.[3] An alternative theory of the state has not emerged but state-centric research and emphasis on institutions has by now returned.[4]

The concern with policy change is not simply academic. Since the onset of the 1980s, the international development agencies, such as the World Bank and USAID, have been somewhat preoccupied with the problem of policy change. Public policy, they believe, is critical to economic development. Policies respecting the market mechanism can quicken development as East Asia shows. Contrariwise, economic policies tampering too much with the market mechanism can halt development, as the agricultural performance of the Sub-Saharan Africa illustrates. Yet, years of policy advice and policy dialogue, says the Bank, have not led to desirable policy changes in many countries in Sub-Saharan Africa. What 'interests' impede the implementation of good 'ideas' in some countries while they go through in others, what 'institutions' block 'getting policies right' in some, but not in others: these are the key pieces of a puzzle that the international development institutions would like to solve.[5] Whether or not one agrees with the World Bank on the substance of its policy advice, there is no denying the fact that empirical studies of policy change that might provide cognitive guideposts are few and far between.[6]

Set against this backdrop, this paper analyzes the transformation in India's agricultural policy in the mid-1960s. The argument will be that the primary sources of policy change lay within the state. There is no evidence that pressures were exerted on the central government by organized interest groups in the society in favor of a price- and technology-oriented strategy. Price-based interest groups appeared on the political scene much after the policy change. However, to say that the societal groups played no role at all would also not be correct. Given that the state governments in India were heavily influenced by the upper landed classes, and these classes, by the mid-1960s, had more or less frustrated the efforts of the central government to transform rural India *via* land reforms and cooperatives, a strategy that could secure the cooperation of state governments as well as increase food production in the country was needed.

The international actors, the World Bank or the United States, were also involved in the process of change. They were not responsible for the *conception* of the new alternative, a claim made in some quarters. But without their financial support, *implementation* of the new agricultural policy would have been much more difficult than it actually turned out to be. The external actors leaned against an open door; they did not force the door open. In short, in the reformulation of agricultural strategy, the Indian state showed more autonomy vis-à-vis the civil society and international system than is typically conceded by both the liberal and Marxist theories of the state.

The argument is developed as follows. Since the policy originated in the state, I first 'get inside' the state institutions and ask: Who made policy, with what institutions, what allies, what ideas and what motivations? Then, I take the next step and ask: What forces outside the state were involved with, or affected by, the decisions of the state? Were those affected also the authors of those decisions? Moreover, did these forces emerge from within India's civil society or from the international system? Both documentary evidence and extensive interviews with decision makers – in the manner of 'oral history' – are used as building blocks for the argument. In and of themselves, documents of state policy in India can be confusing. Once supplemented with interviews of policy makers, they begin to make sense.

I begin with the political context of the mid-1960s and the content of the 'new agricultural strategy.' This is followed by a detailed analysis of the questions listed above.

The political context: changing institutional and ideological parameters of economic policy

The origins and evolution of India's economic policy from independence to the mid-sixties can be analyzed in terms of two types of 'policy actors' – political leaders, particularly those of the ruling party, and bureaucrats, particularly those in the Planning Commission. The political leadership provided the *design;* the planners fashioned the *details* of the design. Political leaders operated with two sets of considerations – ideologies and interests. Decision makers in the economic bureaucracy operated with the economic theories of the time and, one should also suppose, with a regard for what could preserve or expand their newly created power under Nehru. The dominant economic theory of development in the 1950s – with its emphasis on planning, the industrial 'big push' driven by public investment in capital goods, and institutional change in agriculture – meshed well with a Fabian socialist world view of the political leadership, just as the dominant Keynesian economic theory of the 1950s mingled neatly with a social democratic political design in the West.

The ruling Congress party, however, did not have a unified economic philosophy. Factional conflicts within the ruling Congress party were *inter alia* over economic designs for the country. Nehru's institutional view of agriculture was shared by the left of center faction in Congress. Emphasizing land reforms, cooperatives, and political institutions of local self-government (the *panchayats*), the institutional view of agrarian transformation dominated policy making under Nehru. The left view was, however, resisted by the right of center faction that had greater control over the organizational wing of the party at the state and lower levels. Not inappropriately, these latter leaders were also called the 'state bosses'.[7] They were opposed to what they viewed as a pernicious attempt at ushering in Communism in India through land reforms and cooperatives – an attempt, they thought, Nehru orchestrated with the help of intellectuals in the Planning Commission. Thus, the power configuration in the ruling party was such that Nehru won the battle for *policy making* in agriculture but he lost the battle for *policy implementation* to the 'state bosses'.

An immediate consequence of Nehru's death in 1964 was that the institutions and men that made economic policy, and the ideology that underlay their functioning, changed significantly. It was a brief moment of change since Lal Bahadur Shastri, Nehru's successor in June 1964, himself did not live beyond January 1966. However, in a matter of 18 months, decisive shifts in India's economic policy took place.

Why was Shastri chosen by the Congress party to replace Nehru and what policy impact did it have? A widely accepted reading of the event is that the potential candidate from the right of center, Morarji Desai, was unacceptable to the left of center (Frankel, 1978: 243–5). At the same time, Desai was also considered too independent by other important members of the right of center faction. Shastri was chosen because 'minimax,' as it were, was the dominant strategy of the main actors: compared to Nehru, he was not 'tall' but he was known enough in the party to be presented as a head of the government and weak enough to considered malleable by the organizational stalwarts. Moreover, Shastri was uncontroversial enough to be acceptable to both groups.

Once elected, however, this background determined Shastri's political maneuvers. Two facts stood out: compared to Nehru, a relatively small political stature and a thin ideological anchorage. The former meant that he had to build his power, the latter that his key bureaucratic appointments were of an amorphous kind, not driven by considerations of ideological conformity, as was the case with Nehru.[8]

In matters of economic policy, these two facts came together in a remarkable but quiet assault Shastri launched on the Planning Commission, the *bete noire* of the anti-Nehru faction. He redefined procedures and administrative rules concerning the top economic bureaucracy of the country. First, the tenure of the members of the Planning Commission was made fixed-term; under Nehru, they were supposed to enjoy an indefinite tenure. Second, the office of the Cabinet Secretary – the top bureaucratic office in the country to which secretaries of all the ministries were responsible – was de-linked from the Planning Commission; under Nehru, the Secretary of the Planning commission also served as the Cabinet Secretary, which gave the Commission a unique position in the bureaucracy. And finally, Shastri created a Prime Minister's Secretariat with its own team of experts on policy. A Prime Minister's secretariat had two important political effects: on economic policy, it weakened the supremacy of the Planning Commission; and on policy matters in general, it created an alternative source of policy advice, reducing Shastri's dependence on the Cabinet where some of the powerful state bosses were present as Ministers. As argued by Frankel, creation of this new institution introduced a *quasi*-Presidential feature in a parliamentary form of government (Frankel, 1978: 251). It increased the power of the Prime Minister's office over all other offices in the country. A strong man like Nehru did not need such bureaucratic strengthening; his charisma and political stature ensured that *de facto*. A weak man like Shastri had to ensure it *de jure*.

The ideological amorphism of Shastri had significant effects, too. As his Principal Secretary, the head of the P.M.'s Secretariat and, therefore, the top bureaucrat in the country, Shastri appointed L.K. Jha, a senior civil servant and a trained economist who was more inclined towards the market mechanism than was customary for economic bureaucrats in India at that time. At the same time, however, Shastri did not fundamentally change the composition at the Planning Commission. Ashok Mehta, appointed the head of the Planning Commission under Nehru in 1963 and a respected socialist thinker, continued to hold his position. However, since the authority of the Planning Commission had been greatly reduced, the view prevailing in the Prime Minister's office becamme more decisive in the conduct of economic policy. The amorphous ideological setting and political flux created an opening for a policy battle that, in the past, was always overwhelmed by Nehru's ideological certitude and political stature.

Shastri, like his predecessor, might not have been a leader with a powerful ideological *vision* but he did have *instincts* and predilections which were an additional and powerful factor in the new political and ideological set up. Compared to Nehru, he had greater political experience of party functioning at the state and local levels and moreover, in contrast to Nehru's urban aristocratic and Oxbridge background, Shastri had rural origins.[9] The way this context influenced the policy parameters is interesting. Because of his political stature and ideology, Nehru thought he could change India; Shastri, on the other hand, had to work towards his own political consolidation rather than towards changing India by championing deeply held policy designs *but* – and this is critical – if the policy struggle was more or less evenly matched, he as Prime Minister could tilt the scales. Shastri's instincts and predilections, thus, could be decisive in situations of stalemate and near stalemate. As we shall see below, this indeed turned out to be the case.

Change in agricultural policy

If Nehru was the inspiration behind India's institutional strategy, C. Subramaniam, India's Food and Agriculture Minister between 1964 and 1966, was the architect of policy change. A politician who had developed a reputation for efficient administration in the state politics of Tamil Nadu and for emphasizing the role of science and technology in policy, Subramaniam was brought to New Delhi in 1962 by Nehru himself. Nehru made him the Minister of Steel and Heavy Industries, a Ministry central to Nehru's industrial strategy and one where Nehru especially valued technocratically inclined colleagues.

Upon Nehru's death, the first personnel decision made by Shastri was to invite Subramaniam to head the Food and Agriculture Ministry. Once in charge of the Food Ministry, however, Subramaniam saw the same connections between science and agricutlural production as between science and steel production. He also saw economic production inextricably linked to economic incentives.

Subramaniam did not, however, singlehandedly bring about the transformation. His task was facilitated by the new political and ideological constellation: the taming of the Planning Commission and the rise of the Prime Minister's Secretariat; the change in the power balance within the Congress party, reflected, most of all, in the rise of the state bosses after Nehru's death; the ideological shifts toward a right of center view accompanying these changes in the institutional and power balances; and, finally, the pro-rural instincts of the Prime Minister.

Subramaniam's agrarian model[10]

Subramaniam's agrarian model can be divided up in three components: the economic, the technological and the organizational. The economic component consisted in the view that price incentives would motivate farmers to produce more since it would be profitable to do so. Technology was required since acreage expansion had reached its limits, making production increases dependent on yields per acre. And organizational effort was needed because in order for the first two components to work, institutions had to be created for determining what the level of prices should be and how to implement them. Also necessary was a research and administrative structure that would generate or adapt appropriate, yield-increasing technologies and transmit them to farmers. Let us look at each element in detail.

Price incentives. The first paper Subramaniam prepared for the Cabinet was on price policy (Subramaniam, 1979: 5). Subramaniam explains his understanding of the role of prices in production and how it evolved:

> 'My move from steel and heavy industries to agriculture was a big change as far as the nature of the work and job was concerned, but perhaps this in itself was an advantage because I was able to look at agriculture with a completely new perspective. For example, in industry, no industrial unit can progress and succeed unless it is a profitable concern. If it is a losing concern, no industry can prosper. I looked at agriculture from a similar point of view and, after study and analysis, came to the conclusion that Indian agriculture was a losing concern for the farmer. He did not receive a return commensurate with his labour, or with the investment he was prepared to make. This was mainly because of the price policy which had been adopted since independence...' (Subramaniam, 1979: 4).

Contrast this with Nehru's position.[11] Nehru also considered food prices important but for reasons of planning and industrial production, not for food production: '...next to food production, the question of foodgrains is of vital importance ... If the price of foodgrains goes up, then the whole fabric of our planning suffers irretrievably.[12]

Subramaniam, like Nehru, was conscious of the need for keeping food prices in check but keeping the *consumer* price of food in control, according to him, was not equal to keeping the *producer* price down. The solution for the problem of high food prices, instead, lay in achieving long run increases in food production – for which price incentives to producers were necessary in the first place (Subramaniam, 1972: 187). The required cycle, therefore, was first increasing production via raising producer prices, with higher production eventually leading to a lowering of consumer prices.

Saying that producer incentives had to be the basis of a long-run production policy, however, was not enough. What the incentive levels should be, how they would be implemented and what impact producer incentives would have on consumer welfare was also to be clearly thought through:

> 'The main problem in settling the price policy in a developing country is to keep the consumer interests in mind. An affluent country can afford to keep its consumer prices of foodstuffs relatively high; the average level of incomes is high and individuals spend relatively smaller parts of their incomes on food. But in a poor economy like ours, the consumers spend a substantial part of their incomes on food, and high food prices create complications in the economic situation. At the same time, the farmer lives on the very margin of subsistence and he has also to pay high prices for most of his inputs. We have, therefore, to reconcile the dilemma of compensating the farmer adequately and maintaining a reasonable price level for the consumer...' (Subramaniam, 1972: 24).

For this formula to work, in addition to food subsidies, two institutions were also needed: one that calculated what prices were reasonable to producers and one that bought up surpluses from producers at those prices. When excessive price increases took place due to production shortfalls, the government would release food stocks to lower prices and when prices came down due to a good harvest, the government would buy up quantities at price levels that protected producers. The Agricultural Prices Commission (APC hereafter) and the Food Corporation of India (FCI hereafter), were thus born as two of the institutional centerpieces of the price strategy, the former to make price recommendations and the latter to buy and sell grains at the recommended price.[13]

Technology policy. Science and technology were the second critical component of the new strategy. In one of his first speeches after taking over as the Food Minister, Subramaniam argued: 'If we have to make advancement in agriculture, it has to be based on science and technology.'[14] He then explained what he meant by this. The new, biologically developed, high-yielding variety

(HYV) seeds – 'the miracle seeds' – had changed the nature of agriculture in the mid 20th century, introducing a new logic in cropping practices:

> 'The crux of the new approach is the introduction of intensive cultivation using new high-yielding varieties of seeds backed by more and better plant nutrients, effective plant protection and adequate water supply. Some experts ... have expressed doubts as to the feasibility of the high yields ... It is strange that these experts should admit that while such high yields are possible in other countries they are not possible in ours ... What other countries can do we can also do.'[15]

Notice the package introduced; hybrid seeds, plant nutrients (chemical fertilizers), plant protection (pesticides) and controlled water (irrigation). Because of its foreign exchange implications, the most controversial element in this package was chemical fertilizers. Domestic production of chemical fertilizers being at an embryonic stage in India, large scale imports would be needed. If anything, the foreign exchange situation was tighter in the mid-sixties than any time since independence. Yet, convinced that without fertilizers required increases in production were not possible, Subramaniam called them absolutely indispensable:

> 'The king-pin of agricultural development in the modern age has been adequate fertilization of the soil. I am aware that there are two schools of thought on this: some people feel that we should resort increasingly to the use of organic manure. I do not disagree with that ... we have to use our available organic manure also ... It is, however, true that the history of other countries is a standing evidence of the fact that revolutionary breakthroughs in agricultural productivity have come about mainly by ... increased use of fertilizers ... (T)aking the country as a whole, India uses today roughly 2 to 3 tons of fertilizers ... per thousand hectares of arable land. This compares with the world average of 7.86 tons, Japan's 124 and our neighbour Ceylon's 6.25 ...' (Subramaniam, 1972: 21).

Contrast this position with Nehru's again. Nehru had argued that relying on fertilisers was 'a dangerous tendency because it took away the minds of cultivators from the use of ... manures ... used in other countries'[16] and then, went on to cite the example of China where agricultural production had increased at a faster pace than India 'without any tremendous use of fertilisers.'[17]

Just as implementing the new price policy called for the Agricultural Prices Commission (APC) and the Food Corporation of India (FCI), the science and technology policy also had its institutional requirements. Subramaniam placed the highest emphasis on research and extension. If his first cabinet paper was on price policy, his second (Subramaniam, 1979: 12) was on the importance of strengthening scientific research institutions and of giving 'financial inducements' to agricultural scientists 'so that proper men of quality (are) attracted to these professions' (Subramaniam, 1972: 11). In the event, research institutions were reorganized, a new agricultural research service was established, collaboration with international agricultural research institutes was strengthened, and upward revisions in the pay scales of agricultural scientists took place (Subramaniam, 1972: 63–71; 76–84; 264–71). And, finally, in order to make sure that the results of research reached farmers, the extension service was restructured. Under Nehru, the extension agent, the so-called Village Level Worker, was expected to play multiple roles – inform farmers about education opportunities, teach them health care, plant care, and sanitation, as well as spread new scientific research. Subramaniam de-emphasized the 'generalist' role of extension agents, emphasized their technical training in agricultural universities, and increased their numbers so that villages could be adequately covered (Subramanim, 1979: 40–1).

In short, whereas Nehru's agrarian model was institutional and synthetic in the sense that agricultural productivity in that model was a function of nothing less than a political and social restructuring of India's rural life brought about by land reforms, cooperatives and institutions of local self-government, the scope of Subramaniam's model was more limited and focused. Not opposed to institutional change in principle, he was, however, convinced that the institutional strategy had little chance of success. On land reforms, he argued: 'Unfortunately one could not wait until the land reform legislation was implemented effectively. We had been trying for this over the last ten years but owing to political and other factors it had not proved possible to implement it properly...' (Subramaniam, 1979: 28). And on cooperatives, the second key component of Nehru's strategy, his argument was: 'Where cooperation is not in a position to deliver the goods, shall we wait indefinitely for the cooperatives to become effective instruments?'[18] Subramaniam believed that in the context of the mid-1960s, the institutional approach amounted to 'mere slogan shouting,' stressing that a more 'pragmatic approach' was needed. The choices were clear: 'Would you like to have ... high production and attain self sufficiency within the country ... or would you prefer to continue dependence upon food imports indefinitely?' (Subramaniam, 1979: 28). The institutional approach, he argued, would lead to the latter; his own approach would usher in the former.

The exponents of the institutional approach, however, did not relent. They believed that their ideological designs were superior, designs that were being consigned out of power now. Those supporting Subramaniam thought he was correcting an anti-agriculture bias in India's development policy. In the end, the structure of post-Nehru power politics and a skillful strategy by Subramaniam, aided by the eventual return of good weather, produced a victory for his policy design. The intervening struggles, however, were nothing short of cataclysmic: the main contours are reviewed below.

Battle for policy change: struggles within the state institutions

The most intense policy struggle took place between the Food and Agriculture Ministry on the one hand and the Finance Ministry and the Planning Commission on the other. Also involved were the Prime Minister's Secretariat and the Congress party. This struggle can not be understood in purely political terms. Part of the battle was driven by the 'technical' parameters within which these ministries or bureaucracies customarily operate. Food prices and investments in agricultural technologies intersect with the respective concerns of these bureaucracies in crucially significant ways. I set forth below the logical structure of these competing concerns. Having done so, I shall move to an empirical account of these struggles and how they were resolved.

The logic of intrabureaucratic politics

The intrabureaucratic struggle over the food economy hangs on two very different economic views of food prices: *inter*sectoral and *intra*sectoral. Since food prices are one of the most critical prices in a developing economy affecting the general price index, industrial wages, industrial profitability etc., the intersectoral view is more concerned with the economywide impact of food prices. On the other hand, since producer price incentives are considered important for raising food production, the intrasectoral view focuses essentially on intra-agricultural implications of food prices. Raising producer prices is desirable, indeed necessary, in the latter view but the former view considers such raises troubling since increases in producer prices typically also lead to increases in consumer prices, unless a heavy state subsidy drives a wedge between the two.

To the Finance Ministry, the general price level in the economy and macro balances (budget, trade, foreign exchange) are matters of great concern.[19] Food prices are intimately connected with both of these concerns. First, food prices can be highly inflationary for the economy since they have a large weight in the various price indices. Second, they affect budget balances: if raising producer prices for food can not be passed on entirely to consumers, a food subsidy is inevitable; moreover, for inducing farmers to use new technology, if it is necessary first to subsidize fertiliser use or capital investments on the farm, another level of subsidy is created. Third, if the agricultural strategy is heavily fertiliser-based, fertiliser imports can affect the trade balance, requiring foreign exchange outlays. These expenditures can presumably be met if revenues can be raised: by imposing an income tax or user levies on those benefitting from the state-subsidized new technology. But in order for that to happen, the subsidy must be provided to begin with. If resources can not be adequately raised but new programs must be run, the requisite levels of deficit financing become necessary; they may, in turn, cause inflation. One can make the connections even more complex but let us stick with our simple model of the customary considerations that drive a Finance Ministry.

Food prices are of concern to the planners, too.[20] First, due to their effect on the price level in the economy, they determine the *real* value of the planned investments even when nominal magnitudes stay the same. Second, by affecting the real incomes of the population, food prices determine the effective demand in the economy which, in turn, feeds back into the growth rates of various consumer industries directly and, since consumer industries get their machines from the capital goods industries, they also link up with the capital goods industries indirectly. Third, food prices affect wages, hence profitability in industry. And finally, in the early stages of development, resource transfers from agriculture are expected to finance industrialization but raising food prices and financing new technology in agriculture entail an investment shift away from industry, including the possibility that a surplus from other sectors might have to be raised to finance agricultural development.

The Food and Agriculture Ministry has its considerations, too.[21] If prices and technology are considered critical for increases in food production, as the Food Minister came to think, then, clearly an intersectoral view of food prices, that customarily dominates the perspective of the Finance and Planning Ministries, can not be the perspective of the Food and Agriculture Ministry. In such a situation, it must of necessity be a intrasectoral view that links increases in producer prices with increases in food production. Besides, if technological investments are also required in agriculture, then whether these entail a shift away from industry is not the primary concern of the Food and Agriculture Ministry. Its primary task is to increase food production. Thus, whereas the institutional strategy has the merit – at least in principle – of coalescing the concerns of the Food Ministry with those of Planning and Finance, an intrabureaucratic struggle is built into the very logic of the price and technology strategy.

Clearly, as to which of these views would prevail can not simply be a 'technical' matter. The responsibility of resolving these differences, in a parliamentary system of government, rests with the Prime Minister, the head of the government. Imagine the various positions a Prime Minister could take: because of his own world view; because of political calculations; based on financial implications; or a mixture of all these. Consider the *ideological* side first. If the Prime Minister is inclined towards an institutional position, the Food and Agriculture Ministry will have to accommodate Planning and Finance; if he is convinced of a price and technology vision, the reverse will be true. The head of the government might also have some *power* considerations in mind: he could go with a minister who is more powerful regardless of where his sympathies lie; he could think of how his party, or the larger society, would react to the decision. The decision might also depend on certain political exigencies – how close the elections are and whether the decision would have any electoral impact. And a final set of considerations could be *finan-*

cial: Is a price and technology strategy, even if desirable, affordable? What readjustments in the current financial priorities of the government could possibly be made?

What this array of choices indicates is how critical the role of the leadership can be in policy changes. The leader has his own world view, has to contend with the importance of factions if they exist in the party, has also to think of larger social considerations. Moreover, abstracting from these political considerations and speaking purely technically, there are two versions of rationality competing here: intersectoral rationality of Finance and Planning, intrasectoral rationality of Food and Agriculture. An agricultural strategy considered ill-suited and expensive, even dangerous, for the rest of the economy by Finance and Planning might be considered necessary by Food and Agriculture. Thus, even economic rationality or technical correctness has no uniquely acceptable definition.

How was this abstract logic played out in India? How was the intrabureaucratic difficulty resolved?

Towards an empirical account

The actual process of agricultural policy change can be divided up in three parts: i) the formulation of strategy (1964–65); ii) the battle for resources and political support required to implement the strategy (1965–66); and iii) the implementation (1966–67). Competing technical issues outlined above kept surfacing, their intensity depending upon the ideological convictions of the protagonists involved and their power positions.

Conception: putting ideas and institutions in place

The Finance Minister was the first to raise objections when Subramaniam introduced his ideas on price policy: 'there was a heated debate in the cabinet ... with particular opposition from Finance Minister, T. T. Krishnamachari. He argued the other side; how could we afford to increase food prices, particularly for industrial labour and for the urban population? It would lead to much discontent...' (Subramaniam, 1979: 5).

Shastri's pro-agriculture position helped Subramaniam.[22] Aware of the opening provided by the Prime Minister but conscious at the same time of the opposition of the Finance Ministry, Subramaniam's strategy was to generate larger support for his ideas. On June 24, 1964 – shortly after the Cabinet meeting where the Food and Finance Ministers clashed – Subramaniam presented his price-oriented analysis of agricultural problems to the state Chief Ministers (Subramaniam, 1972: 187–92). Then, he sought to elicit the support of experts, particularly those that were also holding powerful positions in the economic bureaucracy. He also wanted to get a professional view on what prices to have in the current agricultural year (1964–65).[23] In a dexterous move, he asked the Prime Minister to appoint a committee with his own Principal Secretary, L. K. Jha, as the chairman to look into foodgrain producer prices for 1964–65 as well as to evolve the terms of reference for an agency that would look into prices on a continual basis in future. Subramaniam knew Jha's economic views.[24] Jha was more inclined towards a technocratic than an institutional position. Jha was also well-placed for Subramaniam's purposes. As the head of the P. M.'s Secretariat, he could be a bridge between Subramaniam and the Prime Minister, between the Central Government and the state Chief Ministers, and could exercise considerable influence on the economic bureaucracy, too.

The Jha Committee was constituted on August 1, 1964. Its composition reflected the intrabureaucratic dimension of the problem.[25] On September 24, the Jha Committee submitted its report to the Prime Minister. It was accepted.

The Committee's main argument supported Subramaniam:

> '...one of the most important problems facing the national economy is that of augmenting agricultural production in a big way. This would be brought about mainly through the adoption of improved technology and additional investment required for this purpose. To the extent that the price policy can assist this process, it should be its major objective to do so' (Foodgrains Prices Committee, 1965: 17).

The Committee also endorsed that a separate governmental agency for determining producer prices every year be created to 'provide incentive to the producer for adopting improved technology to the widest possible extent and for maximizing production' without, however, losing sight of the 'likely effect of the price policy on the rest of the economy, particularly on the cost of living, level of wages, industrial cost structures etc.' (Foodgrains Prices Committee, 1965: 20–1). Until Nehru's time, the latter, intersectoral considerations had overwhelmed the former, intrasectoral concerns. The Committee stressed both and this was the first time producer incentives were strongly emphasized by experts, not simply by the Food and Agriculture Minister.

Subramaniam made some more key bureaucratic changes. The agriculture secretary, the *bureaucratic* head of his Ministry, was a senior civil servant, but he could see agriculture only 'in the files.' Subramaniam, acting as the *political* head of the Ministry, replaced him with another civil servant who was known to have specialized in agriculture at the field level and shared Subramaniam's views on prices and technology.[26] Subramaniam also reorganized the decision making structure of the Indian Council of Agricultural Research (ICAR). Piqued that the highest policy making body in agricultural research was headed by a generalist civil servant whereas the counterpart body in industrial research – the Council of Scientific and Industrial Research (CSIR) – was headed by a scientist, he appointed a scientist, noted for his work on rust in wheat, as the director general of the ICAR.[27] Finally, upon the acceptance of the Jha Committee report, the Agricultural Prices Commission

(APC) and the Food Corporation of India (FCI), the two institutional pillars of the price component of the new thrust, also came into being in January 1965.

Thus by the end of 1964 – within seven months of assuming charge – Subramaniam had 'set his house in order,' received the support of the Prime Minister and his Secretariat, created the institutions required for his policy design, and had the proposal for policy shift accepted *in principle* in the Cabinet. Policy details, however, were still to be worked out. The response of the Congress party had to be ascertained. And the financial implications of the new strategy were to be thought through. Implementation of the policy change required all these.

Struggle for party support and financial resources[28]

Factional struggle within the Congress party erupted once again. The party met at Durgapur for its annual session in January 1965. A new agricultural policy had not yet been laid out in detail; only the signs of what was coming were present. The debate was, therefore, pitched at a general level (Frankel, 1978: 264–6): whether socialist principles were being abandoned, whether the goal of equity was being sacrificed over a concern with production. The more radical fringes of the left of center, now organized as the Congress Forum for Socialist Action, mounted an attack on the new directions in the offing and called for a return to Nehru's ideals. Their vociferousness was, however, met by the power of the party's middle tiers, consisting of state Chief Ministers, and the other 'state bosses.'

Ultimately, a compromise resolution was passed. The party reaffirmed the goal of 'progress towards a socialist society' but recognised the need for 'quickening the pace of production, both agricultural and industrial' (Frankel, 1978: 266). This was convenient political prose for saying that there were sharp divisions in the party.

The next few months were spent by the Food and Agriculture Ministry on working out the details of the new agricultural strategy. Meanwhile, Subramaniam also decided that his strategy should be tried on a pilot basis so that the seed-water-fertiliser package could be tested first and some experience gained. The concept of a National Demonstration Program was thus born with the 1965–66 season as its starting point (Subramaniam, 1979: 47–50). A small amount of new seeds – 200 tons – would be imported from Mexico. A thousand plots with good irrigation would be identified. Seeds and fertilizer would be distributed to the farmers owning these plots. No farmer would be asked to sow the entire crop with the new inputs; rather, 'in the midst of traditional agriculture, ... two hectares (would be) cultivated with the new technology' (Subramaniam, 1979: 48). This way, the risks would not be high and if the farmer made a loss, the government would recompense him.

While, in the end, this way of phasing the strategy turned out to be a clever move, Subramaniam's short run political problems worsened with the involvement of foreign agencies in the country's economic policy. Faced with

India's increasing demand for foreign aid to support its investment effort, the World Bank started a six month long expert evaluation of India's economy in January 1965. External involvement in India's charged political atmosphere only increased the level of controversy over policy. Subramaniam began to get accused of promoting an 'American idea'.

Battle for resources. Matters came to a head later in the year when the full financial implications of the new strategy were laid on the table. Two issues became clear. The agricultural proposals implied that a) the agriculture-industry balance of plan allocations would have to change drastically and b) because of the finances required, particularly foreign exchange, India's development strategy would have to be ideologically reformulated. There would be greater role for private investment, both domestic and foreign, larger reliance on the world market, and lesser attention given to the intrarural equity goals of state policy.

In August 1965, as the last stages in the preparation of an approach paper to the *proposed* Fourth Plan (1966–71)[29] drew near, the Food and Agriculture Ministry released its comprehensive outline of the new strategy for agricultural production. To price incentives and new technology was also added a 'betting on the strong' approach (Ministry of Food and Agriculture, 1965b: 1–3). The new inputs would not be spread evenly; that would be suboptimal. Rather, 'a few areas with assured rainfall and irrigation' would be chosen for a 'concentrated application' of the new inputs so that maximum production results could be realized. This was directly against Nehru's attempt to develop backward areas especially through public investment.

The foreign exchange component of the new strategy over the five year plan period (1966–71) was projected to be Rs 1,114 crores (i.e. Rs 11.14 billion, which converted to about $2.8 billion at the then official exchange rate) (Frankel, 1978: 277–8). This was a little over *six times* the total amount allocated to agriculture during the preceding third plan (Rs. 191 crores). The three largest imports were going to be fertilizers, seeds and pesticides since the domestic production of these inputs was much below the expected requirements.

For such a large allocation to take place, foreign exchange allocations for industry, it was clear, would have to be drastically cut. Further, in order to generate or expand domestic capacity in fertilisers, pesticides and seeds, foreign and domestic private investment seemed to be the only practical source; the state simply did not have enough resources of its own. Fertilizers were especially troublesome. Until 1965/66, fertilizers were more or less completely a public sector monopoly. At the initiative of Subramaniam, foreign investors had already been consulted early in the year. Bechtel International, an American company, was prepared to set up five large factories in collaboration with the Government of India, but, given India's import substitution thrust and the insistence of Bechtel on complete managerial and technical control during construction and substantial control over prices, marketing and distribution, India's Finance Minister had rejected the proposed arrangement.

The proposals of the Agricullure Ministry, therefore, required a severe cut in investment in the planned industries and/or an ideological reformulation of the import substitution strategy. Predictably, the Planning Commission found the proposal unacceptable. It proposed a cut of 46 per cent in the outlay projected by the Agriculture Ministry – with fertilizers receiving a 58 per cent cut.

The Planning Commission had its reason, though they appeared increasingly weak. The planners had once again made a plan which ran into the by now customary – and to some, highly irritating – financing problems. The planners did reduce the projected investment of Rs 15,620 crores to Rs 14,500 crores. Also, to accommodate the wishes of the political masters that agriculture be given higher priority, investment for agricultural sector was increased from 21.8 per cent of the total public outlays in the 1964 proposal to 22.8 per cent in the new 1965 proposal and industrial investment was reduced from 21 per cent to 19.8 per cent respectively (Frankel, 1978: 282).

But the proposed reduction hardly solved the two big constraints: domestic savings and foreign exchange. The planners estimated the resources that could be domestically raised but, the cut in investment outlay notwithstanding, a 'savings gap' of Rs 3650 crores was still left. Only a large increase in public savings could fill this gap. Convinced that new urban taxes were not possible any more, the planners demanded that one fourth of the 'gap' be filled by taxing the rural sector, which had contributed barely 2.6 per cent in the total tax revenues of the last three plans. This was exactly the opposite of what the Agriculture Ministry was proposing. It was arguing for a larger investment in agriculture, not for higher rural taxes.

The foreign exchange constraint was even more serious. Exports for the plan period were expected to touch Rs 5100 crores but imports and debt servicing required Rs 6650 crores – that is, a 'foreign exchange gap' of Rs 1550 crores existed, even before the demand of food and agriculture ministry for Rs 1100 crores worth of foreign exchange came. It was estimated that if this demand was met and if the foreign exchange component of *investment* expenses was also included, external assistance worth Rs 4000 crores was required. Essentially, this meant that foreign aid would have to go up from its third plan level of \$1.1 billion per annum to \$1.7 billion per annum. Moreover, this also meant that the foreign exchange and savings gap together constituted nearly half of the total financial requirement for the Fourth Plan.

The Planning Commission, therefore, made it clear that the only affordable way to increase food production was to return to Nehru: to 'concerted and well-coordinated efforts of the Community Development organization, Panchayati Raj institutions and cooperatives' (Planning Commission, 1965: 28).

Both the proposals – of the Agriculture Ministry and the Planning Commission – were presented to the National Development Council where the central government and the state Chief Ministers were to pass their judgment on the plan. The views of the state governments were known to be pro-agriculture. The Prime Minister also supported Subramaniam. He asked the Planning Commission to give another thought to the fourth five year plan, repeating that agriculture be given greater attention (National Development Council, 1965: 285).

Resolution of the struggle and policy implementation

Three months later, during which Shastri was, among other things, preoccupied with the brief war that broke out between India and Pakistan, he opted to resolve the policy battle via realpolitik. Instead of asking Finance Minister Krishnamachari to resign on policy grounds, Shastri essentially secured his resignation on personal grounds. In a somewhat mysterious way, an old case of suspected corruption against the Finance Minister abruptly re-surfaced – and this time, with particular virulence.[30] The Prime Minister instituted an inquiry, upon which Krishnamachari himself submitted his resignation. One of the strongest opponents of the policy shift and the most important proponent of Nehruvian economic policies at the Cabinet level thus made an unceremonious exit from power, not on grounds of ideology and policy but to save himself from further personal ignominy. Within a day of Krishnamachari's resignation, a 'pliable' Finance Minister, Sachindra Chaudhri, was appointed.[31]

Subramaniam's victory was even more complete later that year. Upon Shastri's sudden death barely two weeks after Krishnamachari's resignation, Mrs. Gandhi was elected by the Congress party to head the government on January 19, 1966. Mrs. Gandhi did not disturb the Cabinet composition significantly. But one of her first acts facilitated Subramaniam's task. In addition to his current responsibilities as the Agriculture Minister, Subramaniam was also made a member of the Planning Commission. He had 'by-passed the Planning Commission till early 1966' (Subramaniam, 1979: 50), which led to controversies and conflicts. Now, he was a member of the Planning Commission. The intrabureaucratic tension was resolved and the results were dramatic. In September 1965, planners had asked for a return to community development, panchayats and cooperatives. A year later in August 1966, with Subramaniam in the Planning Commission, the new draft outline of the Fourth Plan read as follows:

> 'If our dependence on imported foodgrains has to cease, it is necessary to make far greater use of modern methods of production ... A new strategy or approach is needed if we are to achieve results over a short span of time. During the last four years as a result of the trials conducted in several research centers in India on exotic and hybrid varieties of seeds, a breakthrough has become possible. These varieties are highly responsive to a heavy dosage of chemical fertilisers ... The long term objective is to organ-

> ise the use of high-yielding seeds together with a high application of fertilisers over extensive areas where irrigation is assured' (Planning Commission, 1966: 175).

The planners also accepted the price component of the strategy:

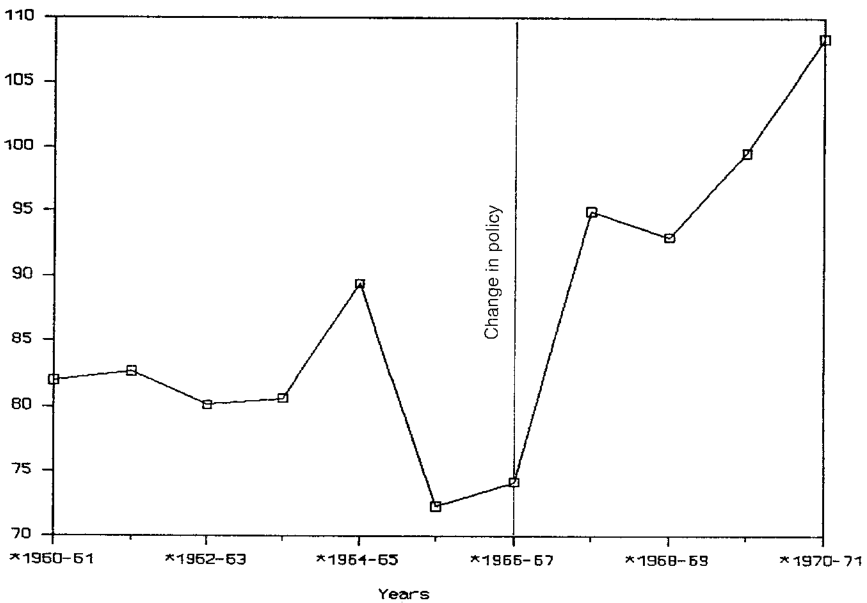
> 'A ... factor which contributed to slow growth in agricultural production was the absence of an effective price policy. Price support policy in the past was aimed at eliminating distress. But this did not provide the incentive needed for dynamic agricultural growth ... Since January 1965, an Agricultural Prices Commission has been set up to keep the price situation under constant review and to advise the Government on price policies. Price and marketing policies will assume added significance during the Fourth Plan period in the context of a massive effort for securing rapid increases in production' (Planning Commission, 1966: 174).

Meanwhile, the National Demonstration Program – the two hectares cultivated with new seed-water-fertiliser technology 'in the midst of traditional agriculture' – also started bearing fruit. Though due to a second successive drought in 1966–67, the foodgrain production at 74.2 million tons was barely up from 72.3 million tons in 1965–66, the islands of two hectares were doing exceedingly well: 'Farmers used to come there as on a pilgrimage to see this new wonder and finally, when the harvesting was being done, everybody was amazed that this level of productivity could be achieved on their own land' (Subramaniam, 1979: 48). For 1966–67, the Food and Agriculture Ministry had planned to import 5000 tons of wheat seed, but 'demand picked up so much' that ultimately, India ended up importing 18000 tons.

The fertiliser expenses were also met. The changed Finance Minister was only too willing to comply: 'I approached the Finance Minister for resources for the import of fertilizers. At the time of the controversy, the Finance Minister had been very much opposed to the use of scarce foreign exchange for the import of fertilisers for these new varieties, but by the time I made my approach another Finance Minister had been appointed who was more open to influence. We thus secured the foreign exchange and mounted an important programme for fertilizers' (Subramaniam, 1979: 37).

1966–67 was the first year of the implementation of new strategy. Out of a total of 130 million hectares under crops, 2.4 million hectares were to come under new seeds in 1966–67.[32] India's foodgrain output rose substantially from 74.2 million tons in 1966–67 to 95 million tons in 1967–68. Two successive droughts have hardly ever been followed by a third bad year in India. In 1967–68, the monsoon did return. But even the most unsparing critic of the new strategy could not have attributed a rise of 20 million tons in a year to the weather alone. By 1970–71, India was producing 108.4 million tons (Fig. 1). The area under HYV seeds, starting with 1.9 million hectares in 1966–67,

Fig. 1. Foodgrain production in India, 1960–61 to 1970–71.



Source: Ministry of Food and Agriculture, *Indian Agriculture in Brief*, Various Issues, New Delhi: Government of India.

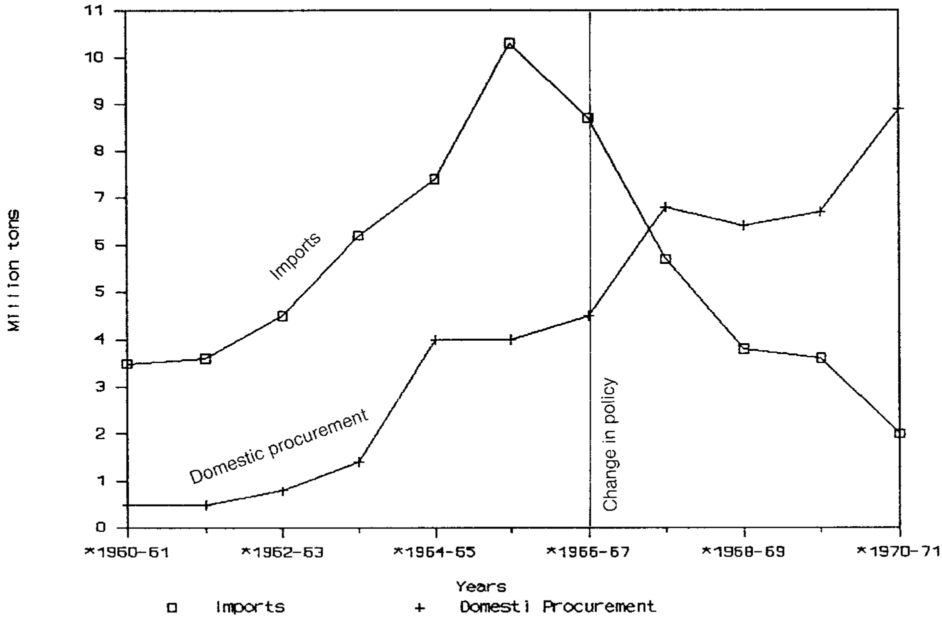
had gone up to 15.4 million hectares in 1970–71, which was higher than expected. The new technology had caught the fancy of farmers in the irrigated belt. A green revolution had arrived.

Also, consider what happened to imports (Fig. 2). Between 1960/61 and 1965/66, food imports, mostly American wheat, rose while domestic procurement lagged far behind. After the policy change, domestic procurement rose to exceed imports and by 1970/71, the equation had completely reversed.

How autonomous was the Indian state?

An explanation of state policy in terms of struggles within the state is methodologically incomplete. The state operates in a context: the civil society and the international system. Did the forces outside the state influence its actions? At what point – at the origin of policy or during its implementation? I take up first the more often cited source of India's policy change, the pressure exerted by the West. Then I move to its domestic correlate, the dominant class in Indian agriculture.

Fig. 2. Imports and domestic procurement, 1960–61 to 1970–71.



Source: As in Fig. 1.

The role of external actors

Three external actors were involved in India's agricultural policy: the World Bank, the United States Government and the private US Foundations. Did they 'lean against an open door' or did they open a door that was closed.[33]

The belief that the policy change in the mid-sixties was a result of Western and/or American pressures, exerted directly via the U.S. Government as well as orchestrated via the World Bank and the Ford and Rockefeller Foundations, is widely prevalent in left circles in India and elsewhere. But it is not confined to the left only. The external actors themselves have made that claim. The World Bank in a public report argues:

> '*Changes began in 1966.* A number of foreign experts working in India for the Rockefeller and Ford Foundations began *pressing* the Indian government to import high-yielding wheat varieties ... The Indian government decided that the potential of the (new) technology far outweighed its risks ... IDA (soft loan window of the World Bank) was closely involved with this decision. It had carried out a massive study of Indian agriculture in close collaboration with the government of India ... *As a result of this*

study, an Agricultural Prices Commission was established ... The Food Corporation of India was created ... Largely as a result of this organizational efforts India now maintains comfortable stocks of rice and wheat' (World Bank, 1983: 44) (emphasis added).

In order to judge this claim, it is necessary first to disaggregate the sources, examine what their respective recommendations actually were, at what point was the advice given or influence used, as also what levers they had for influencing the state. It is also necessary to juxtapose this with another set of facts: what developments were under way in India's agricultural policy, and at what points did the break in policy occur in terms of ideas, institutions and actual implementation? The latter facts have already been presented.

The World Bank

Let us take the World Bank first. India's economic policy was reviewed by the Bell Mission of the World Bank in the mid-sixties. Its basic critique of Nehru's agricultural policy was as follows: 'While additional labor does add to production, increased labor alone will not add enough to keep pace with the needs of a growing population ... There must be steps to ... provide price incentives, to back incentives with adequate supplies of needed imports and to promote the credit basis for investment by large and small farmers alike' (World Bank, 1965: 37). The 'needed imports' were mainly fertilizers, pesticides and farm machinery.

The Bell Mission was particularly severe on India's price policy. The Mission argued:

i) Producer prices should be 'high enough to make investment in increased inputs profitable ... the Government cannot carry consumer interests to the point of offering disincentive to farm production.'

ii) There should be institutions to support this price policy: 'While not being a monopoliy buyer or seller, (the government) must try to command the market situation at pre-determined low and high points. To eliminate fluctuations by curbing both extremes, it must command stocks and some assured inflows such as imports...' (World Bank, 1965: 47, 51).

These recommendations are clearly about the desirability of having i) a price and technology policy in place of a labor intensive, cooperatives-based policy, and ii) an institution like the Food Corporation of India to implement the policy. In that sense, they are no different from Subramaniam's approach.

But these recommendations were given in October 1965. Even if it is argued that only the formal recommendations were given in October 1965 and the Mission had started its work in January 1965 (therefore its views must have been known), the fact remains that these policies and institutions were already in place *before the Bell Mission started its work.* Subramaniam's price policy paper to Indian cabinet was submitted in June 1964; the Jha Committee was appointed on August 1, 1964; its recommendations were accepted in October 1964 and, on the basis of the Jha Committee and Subramaniam's views expressed as early as June and July 1964, the Food Corporation of India (and Agricultural Prices Commission) had already come into existence in January 1965.

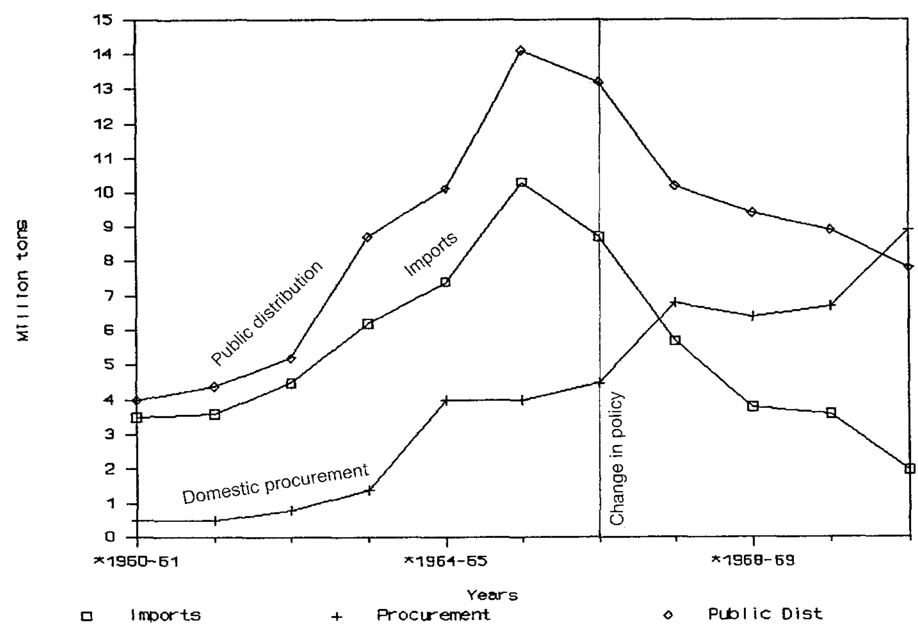
Moreover, since 1956 India's Food and Agriculture Ministers had been arguing for price incentives and technological investments in agriculture – much like Subramaniam though never with the same finesse.[34] What they always ran against was Nehru's institutional view supported by his power position, which, added to a lack of professional support for them in the economic bureaucracy, turned out to be the cause of their failure at the level of policy making. A more favorable political context, on the other hand, made a critical difference. Thus, both in terms of ideas and institutions, a causal case in favor of the World Bank can not be made.

The role of the US: a brief chronology and some conclusions

The American involvement was of two kinds: of the Government and of private foundations such as the Ford and Rockefeller Foundations. I take up the US Government first. No less a figure than President Lyndon B. Johnson himself claimed that the shift in India's strategy was 'the first important direct result of our new policy.'[35] What was the 'new' American policy and how did it develop? A brief historical reconstruction of facts is necessary.

Figure 3 shows India's dependence on imports (predominantly American

Fig. 3. Imports, procurement and public distribution, 1960–61 to 1970–71.



Source: As in Fig. 1.

Wheat) for its public distribution requirements in the 1960s. India and the US had signed the first of their many agreements under Public Law (PL) 480 in 1957. The US undertook to supply wheat to India at concessional terms, terms that included payment in rupees for part of the shipments. The agreement represented a marriage of convenience. Given India's foreign exchange cosntraint, full payment in dollars would have been very difficult of India. The foreign exchange thus saved could be used for imports of capital goods. Moreover, compared to Indian wheat, American wheat was very cheap. Wheat imports thus provided a means to circumvent the political difficulties associated with procuring food domestically at low procurement prices for public distribution in the cities. For the United States, exports to India, a large country with a large need, offered a way to reduce its accumulating wheat surpluses.

In 1956, the US started with 3.1 million tons of wheat exports. Over the next decade, however, wheat exports rose to reach a peak of 8, 10 and 8 million tons in 1965, 1966 and 1967 respectively. While imports from the US were never a large proportion of India's overall production – even quantities as high as 8 to 10 million tons constituted only between 12 to 15 per cent of the total output – the public distribution system for the cities by the mid-sixties became almost completely dependent on wheat imports.

Trouble began in 1965. As India's dependence mounted with the first big drought, the US reserves entered a period of decline. In 1961, the American wheat stocks stood at 38.4 million tons; by 1965, they had declined to 22.2 million tons. Moreover, the prediction for the 1966 crop was bad; production was expected to fall sharply.[36]

In the autumn of 1965, faced with declining stocks at home and increasing demand from India, President Johnson himself took charge of wheat exports. He put wheat supplies on a 'short tether.' Wheat under PL 480 would be supplied but shipments would be released on a short run, month-to-month basis. The Government of India would submit its food needs every month and President Johnson's clearance would depend upon a reform in India's agricultural policy: giving price incentives to producers, increasing fertilizer production under private auspices, and bringing more acreage under irrigation. These demands were communicated to the Indian government in the fall of 1965 (Paarlberg, 1985: 148). The curious paradox is that Subramaniam had already moved in this direction a year back and the Food and Agriculture Ministry, as pointed out earlier, had already prepared its detailed policy proposal for the consideration of the National Development Council by August 1965.

Another complication was added soon. The outbreak of the Indo-Pak War in October 1965 led to the suspension of US aid and later, resumption of aid was made conditional upon policy reform that went on to include economic policy in general, not just agricultural policy. The changes recommended were the same as those suggested by the Bell Mission of the World Bank, which included greater role in the economy for domestic and foreign private capital, and a devaluation of the currency. Two kinds of aid, thus, got entangled: economic aid and food aid. A second year of drought followed, putting both under greater stress.

Robert Paarlberg's research has thrown some new light on the intrabureaucratic politics surrounding food aid in Washington. He demonstrates that, by the spring of 1966, the State and Agriculture Departments were arguing that agricultural reforms in India were already in place and, moreover, a second crop failure might lead to conditions of famine: therefore, a short tether policy was uncalled for (Paarlberg, 1985: 144–57). The White House, however, remained uninfluenced.[37] In June 1966, India finally devalued the rupee by 36.5 per cent, a decision that led to countless political difficulties for the fledgling government of Mrs. Gandhi.[38] Johnson resumed US aid but, still, 'kept the short tether on. No one would starve because of our policies. India would receive the grain it needed but on a month-to-month basis rather than a year-to-year basis' (Johnson, 1971: 229). The short tether was not relaxed even after Subramaniam, during his many trips to the US,[39] declared in November 1966 that without 2 million tons of immediate shipment, the food stocks in India would be completely exhausted by mid-January.[40] The short tether policy remained intact until the spring of 1967 by which time the crisis resolved itself since it became clear that, with good weather returning, India was going to have a record crop. Dependence on US wheat, thereafter, continued to decline till India unilaterally terminated the PL 480 agreement on December 31, 1971.[41]

How do we judge the impact of the US policy between 1965 to 1967 on India's agricultural policy? Change can be said to have been caused by external actors only if the preferences of India's decision makers were different from those of external agents. One should also distinguish between the change in agricultural policy and currency devaluation. It is clear that Indian leaders did not want to devalue the currency on their own. The two ministries concerned with such a decision, Finance and Commerce, had rejected it outright. Devaluation took place in the face of *counterpreferences* of Indian decision-makers.

But what of agricultural policy? Let us look at Subramaniam's account first:

> '...Johnson always had a sense of self-importance.If anything good or important was happening in the world, it should be a Johnson initiative ... he thought the ... Indian farmer, the Indian minister and the Indian scientist were not adequate, and that he should take a hand in the initiation of this strategy. He reiterated in speeches that India should adopt this new technology, which, as a matter of fact, created problems for me in India. The speeches gave ammunition to those who were attacking me on the grounds that I was following American advice ... *We had already announced and taken these steps and I had to tell people that President Johnson was telling us nothing new ... The fact that we had to send our requirements of foodgrains to (President Johnson) every month created many diffi-*

culties, not only among the communists but amongst people who were sympathetic to America. Unfortunately, it has to be recognised that America gives generously but does not know how to give. I reached the conclusion that they would give and still create a feeling of enmity...' (Subramaniam, 1979: 53, emphasis added).

Readers of this account and of the chronology outlined above might wonder what exactly drove the White House policy during 1965–67. Devaluation took place in June 1966. Other key policy suggestions – including allowing greater private initiative in the fertiliser sector – had also been accepted by mid-1966. But the short tether policy continued till the spring of 1967, *by which time agricultural reforms were already close to three years in existence and had gone through one year of full implementation.* Paarlberg documents the case that many objectives got mixed up – agricultural policy, economic policy, foreign policy – and argues that ultimately what kept the policy going was India's stance on the US policy in Vietnam. Indeed, as American pressure increased, the domestic criticism of the Indian government for its subjugation to the US became increasingly virulent, which in turn made it imperative for the Indian government to criticise the US policy in Vietnam even more strongly. Paarlberg comments that 'it was in some ways surprising that Johnson did not understand this' (Paarberg, 1985: 166). Chester Bowles, the US ambassador to India, was also convinced that agricultural policy was not the main reason for the continuance of short tether; India's foreign policy was (Bowles, 1971: 534–58).

Does this mean, however, that the US played no role in evolution of India's agricultural policy? Another distinction is necessary – between the origins of the new agricultural policy and its implementation. While the *origins* of the new agricultural policy were not affected by the US government since the policy was already in place, its *implementation* was. The reason simply is that the new agricultural policy was foreign exchange intensive. To recapitulate, according to the planners, India's export income was expected to go up by Rs 5100 crores between 1966–71 but the foreign exchange required for implementing the plan worth Rs 9100 crores, 180 per cent above what it was projected to earn.

It is here that the World Bank and the US stepped in. Without the foreign exchange, the implementation of new agricultural policy would have been much slower. It would not have been impossible for, given the intense struggle in India in the changed political context, it is unlikely that the Planning Commission would have forced the Agriculture Ministry to cut its outlay, without the Commission cutting its own industrial outlays simultaneously. Thus, in the end, the primary role of the US and the World Bank consisted in facilitating the implementation of the new agricultural policy by providing resources for importing fertilisers and other allied inputs upon which depended the success of the new policy. They did not cause the change.

The role of Ford and Rockefeller Foundations

Since 1954, the Rockefeller Foundation had taken the lead in setting up institutions of agricultural sciences in India. Supported further by the Ford Foundation, this effort had led to the development of a substantial pool of agricultural scientists and qualified manpower by the mid-sixties (Lele and Goldsmith, 1989). An important result of such institution building was that a large infrastructure for conducting research and verifying the results of the new HYV seeds was already in place when Subramaniam reorganized the institutions of agricultural sciences in 1964 for the new strategy. Eventually, when the potential of the HYV seeds, particularly those developed by Norman Borlaug of Mexico, was brought to Subramaniam's notice by the personnel of the Rockefeller Foundation in Delhi, he was impressed by the scientific evidence presented. Tests under laboratory conditions in India seemed to confirm the results (Subramaniam, 1979: 22–3). Next, it was a matter of testing the new seeds on actual farms. The institutions and manpower which already existed facilitated the complex scientific and experimental tasks involved in introducing new technology. Rockefeller Foundation also provided the resources to import the new seeds later when Subramaniam was faced with foreign exchange difficulties.

What conclusions can we draw from this? There is no doubt that HYV seeds were an entirely new element in the production package in the mid-sixties. However, without the political context in which Subramaniam worked, this fact itself would have been of little consequence. To repeat, minus the new seeds, which were not available before the mid-sixties, India's Agriculture ministers had been asking for a generic strategy based on prices and technology since 1956. A Ford Foundation study published in 1959 had supported the view of the Agriculture Ministers (Government of India, 1959). Yet the Ford Foundation was unable to displace Nehru's institutional view. Instead, the outcome was a small pilot project, known as the Intensive Agriculture District Program (IADP) covering only 13 districts. Moreover, the results of this program were mixed and did not provide an unambiguous support to the idea of concentrating fertilizers and organizations effort on areas with assured irrigation (Desai, 1969). The difference in the mid-sixties was that, while new seeds were available, a crusading Agriculture Minister had also taken charge, the political context had changed and the agricultural crisis was deeper.

Rural society and public policy

This brings us to the role of the groups within India's countryside. Three analytically separable issues are involved here: How organized were the social groups in the countryside? What was their relationship to agricultural policy *per se*? And, finally, did they want a price and technology policy as opposed to an institutional one?

Examining the relationship between agrarian demands and public policy, the first study of interest groups in Indian polity published in 1962 concluded:

> '(Agricultural) Policy is debated – often hotly debated – within the Ministries of Community Development and Cooperation, and Food and Agriculture, the Planning Commission, and the Congress Party. Other political parties, intellectuals in general, have heatedly discussed the relative merits and defects of ceilings on landholdings and most recently, proposals for cooperative farming. But one could write the history of the postwar agrarian policy in India, and of the political struggles which have entered into making such policy, with little or no reference to farmer organizations' (Weiner, 1962: 149).

In his study, Weiner looked at two types of rural groups – big landowners and landlords on the one hand and the small peasantry and the landless on the other. Neither group had any impact on policy formulation. Policy implementation was, however, a different matter. Let us see how the process worked.

Landlord influence or pressure, most effective at the local level, progressively eroded as one moved up the hierarchy, from the local setting to the central government in Delhi. At the local level, the effectiveness of influence was not because landlords were 'organized.' They belonged to many castes and even when, in a given area, they came from a single caste, there were intense internecine conflicts. Moreover, by declaring landlords oppressors, the left nationalist factions at the top echelons of Congress had destroyed the ideological legitimacy of any landlord groups that might have formed to fight the government. In the circumstances, a micro-strategy – i.e. individual and *discrete* as opposed to group-orchestrated and *organized* – appears to have been the strategy of most landlords. Rather than fighting the Congress party as an organized interest group or class, they simply infiltrated the party to protect their interests. Their objectives were aided by the fact that the Congress party needed these 'men of power and prestige' to reach out to the countryside. The declared oppressors were also the 'natural leaders' at the local level. This paradox has by now become a standard academic observation.[42]

Some landlords actively applied pressure in the state capitals, pressure aimed at shaping land reform legislation in a manner that would permit enough legal loopholes: giving land ceilings an individual as opposed to a family definition, raising in the process the effective land ceiling for a given family.[43] The mechanism for this was getting elected on a Congress ticket for the state legislative assemblies and manipulating legislation there. *The state capitals were, however, the uppermost layer of landlord power. New Delhi was virtually devoid of any significant landlord influence.*

What about the small landowners and the landless? Were they organised? What impact did they have on state policy? Many organizations had attempted to organise the peasantry, including some led by the ruling Congress party.[44] These various bodies had their pockets of influence but there were no effective *nationwide* peasant organizations.[45] In areas where the peasant organizations were strong, they had some impact on policy implementation (land reforms were better implemented); elsewhere, they had little influence; and in any event, they were not strong enough to have any impact on policy formulation.

As to why the Indian peasantry could not be organized, *a la* the Vietnamese or Chinese peasantry, is too complex a question to investigate in detail here. Briefly, given the dependence of peasants on landlords and the structure of landlord power, the only way peasants could have become a powerful force was if a political party had mobilized them to counter the power of landlords and provided them protection. The most powerful party, however, turned out to be dependent on landlord support. This vicious circle could not be broken, except in the two states of West Bengal and Kerala which came under Communist influence.[46]

What were the attitudes of these groups, organized or unorganized, towards a price and technology policy? Weiner sums up again:

> 'One encounters a marked change in attitudes toward agricultural policy as one leaves the office of ministers and planners in New Delhi and enters the homes of state legislators. At the top, there is support for more substantial land reform measures, for greater concentration of public resources and skilled personnel in limited areas, and for higher rural taxes; while at the state and local level, the sentiment is against tampering with the prevailing land system, is in favour of greater public investment throughout the rural areas and is reluctant to see any major increases in taxes. The differences in viewpoint are clearly related to differences in political position; the distance of the national leadership from rural political pressures disposes them toward a program which they justify primarily on economic grounds, while state and local leaders are sensitive to sentiments within constituencies and are therefore disposed towards policies based on political considerations' (Weiner, 1962: 152).

Two things are obvious. First, a set of attitudes towards policy existed at the lower levels but there was no organized lobbying. Second, missing even from the attitudes was a notion of price incentives and technology; at best, a general inclination towards higher public investment existed.

But does this mean that the rural groups played no role at all? A positive formulation on prices and technology may not have been present at the social level but a hostility towards institutional reorganization existed among the landlords who exercised considerable influence on state governments. Even if the rural interest groups did not lobby for an alternative, this political reality indicated what could *not* be done. Cooperation of state governments was important because implementation of agricultural policy, under India's constitution, is within the purview of states, not under the central government which essentially makes policy.[47]

Conclusions

Evidence demonstrates that the sources of change in India's agricultural strategy in the mid-1960s, which is believed to have led to the country's agricultural turnaround, lay primary within the state institutions. The non-state actors were of two kinds – foreign and domestic. The external actors facilitated the implementation of the strategy through financial support or by supplying information to decision makers in a political climate that was more conducive to a policy change than before. They could not bring about the changes in the face of counterpreferences – that is, when the *key* decision making elite in India had a view different from that of the external actors, as under Nehru. Once the elite changed substantially, once the counterpreferences turned weak in the political structure, once the new preferences close to the view of the external actors emerged with a power base in the domestic setting, a new strategy came into being.

Mobilized interests (groups or classes) in the civil society did not determine the change either. Interests in the Indian countryside were, first of all, not organized enough. Secondly, no groups, whatever the level of organization, were clamouring for a price and technology strategy. This does not, however, mean that the civil society did not have any impact on state policy. It was abundantly clear that the institutional strategy was not succeeding and had little chance of success: classes that the institutional strategy aimed at defeating were precisely the classes that held power in the countryside. Evolving a more pragmatic alternative to the institutional strategy, therefore, seemed increasingly necessary as years under Nehru passed by. *But what this alternative should be was left unspecified by the classes that held power in the villages.* The competing alternatives were envisioned by political leaders within the state institutions and the struggle for an alternative was essentially fought within these institutions – between the various factions of the ruling party along with their bureaucratic allies.

It is worth adding, however, that the considerable state autonomy witnessed at the point of policy *origin* has become considerably diluted over time as strong interests have formed around prices and input subsidies (fertiliser-water-pesticides) in the 1970s and 1980s, resisting any changes in a different policy direction. Producer prices were hardly an issue in agrarian unrest in the mid-1960s; they are *the most* important issue now. Over the last decade, peasant mobilization for 'remunerative' agricultural prices has spread to many states – Uttar Pradesh, Maharashtra, Karnataka, Tamil Nadu, Gujarat and Punjab. And the overall impact of the new mobilization has been such that all political parties – ruling or in opposition, urban or rural-based, leftist or rightist – have been supporting the demand for 'remunerative' agricultural prices (Rudolph and Rudolph, 1987: ch. 13). It bears stressing, however, that the price-based mobilization did not precede the new agricultural policy; it emerged a decade after the change. Clearly, a change in policy has led to a new definition of agrarian interests in terms of prices and subsidies, illustrating how state policy itself can bring about a change in the way groups view their interests and come to constrain state action.

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Notes

1. Output of only some crops, though they turned out to be the critical ones, has increased, not that of the entire agricultural sector. Also, production may have gone up but problems of distribution continue to be severe.
2. Based on a larger discussion in Chapter One of Varshney (1989). A recapitulation of the central tendency of theories is presented here, not the variance around them.
3. For a listing of these works, see Theda Skocpol's introduction in Peter Evans, D. Ruecshmeyer and Theda Skocpol, 1985.
4. For a recent exchange on the state and political institutions, see the 'symposium on the state' in *American Political Science Review*, September, 1988. The symposium features, among others, Gabriel Almond and Eric Nordlinger.
5. See *World Development Report 1986,* New York: Oxford University Press for the World Bank, especially Part II.
6. Two exceptions that come to mind are Chalmers Johnson, 1982 and Francine Frankel, 1978.
7. The important leaders of this faction and their respective states were: Morarji Desai, Gujarat; Atulya Ghosh, West Bengal; Sanjiv Reddy, Andhra Pradesh; S. Nijalingappa, Mysore; S. K. Patil, Maharashtra; and C. B. Gupta, Uttar Pradesh; and Mohan Lal Sukhadia, Rajasthan. They were powerful in their respective states but, except for Morarji Desai, their national stature was limited.
8. Nehru's *political* pluralism notwithstanding, his top *bureaucratic* personnel, particularly those he appointed to the Planning Commission, shared his Fabian socialist world view – personnel such as V.T. Krishnamachari, Professor Mahalanobis, Tarlok Singh and Gulzarilal Nanda.
9. Shastri's positions can be inferred from interviews with his associates and from his actions. In my interviews, C. Subramaniam, Shastri's Food Minister, and L. K. Jha, his Principal Secretary, made claims about his rural origins influencing his economic perspective. See Appendix. More evidence is available in Frankel, op cit, pp. 246–249.
10. I have abstracted Subramaniam's model from two books and my own interview with him in Madras, December 14, 1984. Having more or less similar titles, these two books offer different ways of getting inside the world of policy. The first book, *A New Strategy in Agriculture: A Collection of the Speeches by C. Subramaniam* (New Delhi; Indian Council of Agricultural Research, 1972), is a volume that puts together his speeches *during* his tenure as a Food Minister between 1964–1966. The other volume, called *The New Strategy in Agriculture* (New Delhi: Vikas, 1979), reproduces the lectures Subramaniam gave at the Austral-

ian National University in 1978. In the second book, Subramaniam offers important insights into the political battles over policy whereas the earlier volume was more a statement of intent. I shall refer to the first book as *Speeches* and the second as *The New Strategy*.

11. For details of Nehru's institutional view, see Varshney, 1989, ch. 2.
12. *Fortnightly Letters to Chief Ministers,* 1948–63, Delhi: Nehru Memorial Museum, August 1, 1957.
13. Speech in Coimbatore, November 28, 1964, in *Speeches,* p. 24.
14. From a speech delivered in Coimbatore on July 17, 1964, in *Speeches,* p. 9.
15. Speech in Kanpur, February 2, 1966, in *Speeches,* p. 40. An earlier statement about the centrality of seeds is available in Subramaniam's speech, delivered on January 1, 1965, to the National Development Council (ibid., p. 31).
16. Cited from *Fertiliser News* (New Delhi, December 1965, p. 10) in Arthur Goldsmith, 1988.
17. *Fortnightly Letters,* op. cit., August 12, 1956.
18. Subramaniam's Speech to the Agricultural Committee of the National Development Council, printed in full in Appendix I of the Ministry of Food and Agriculture, 1965.
19. Interviews with decision makers – the various Finance Ministers, Finance Secretaries and Chief Economic Advisers (CEA) since 1965 – have been used to construct these positions. See Appendix.
20. Interviews with deputy chairmen and members of the Planning Commission at various points. See Appendix.
21. Interviews with Ministers of Food and Agriculture, and Agriculture and Food Secretaries. See Appendix.
22. Interview with Subramaniam, op. cit.
23. India's agricultural year runs from June to May, starting with the monsoon (*kharif*) crop sown in June and harvested three months later. The second main crop is grown in winter (*rabi*) – sown in November and harvested in March/April. Paddy is the main *kharif* crop, wheat the main *rabi* crop. Among the other major foodgrains, pulses are *kharif* crops and gram is grown in winter.
24. Interview, L. K. Jha, Delhi, December 23, 1986.
25. Other than Jha, the other high ranking members of the committee were T. P. Singh (Secretary, *Planning* Commission), B. N. Adarkar (Additional Secretary, Ministry of *Finance*), and S. C. Chaudhri (Economic and Statistical Adviser, Ministry of *Food and Agriculture*). Professor M. L. Dantwala was the academic economist. Dantwala went on to chair the first Agricultural Prices Commission formed in January 1966.
26. *The New Strategy,* pp. 51–52. Also Interviews, Subramaniam and Sivaraman (Appendix). C. Sivaraman was appointed secretary. As a career civil servant in Orissa, he had specialized in agricultural programs and problems.
27. *The New Strategy,* p. 13–14. Dr. B. P. Pal, the director general, was the first scientist to head the ICAR.
28. This section is indebted to, and builds upon, Francine Frankel's seminal research on this period, op. cit., (Chapters 7 and 8).
29. Partly because of the political struggles over planning, the Fourth Plan, originally scheduled for 1966–71, could not come into being till 1969. The period 1966–69 continued to be one of unresolved struggles. Many outlines of the Fourth Plan were written and debated.
30. Krishnamachari was accused of misusing his office to grant special favors to a firm managed by his sons. As to how this case became politically important in December 1965 is still not clear. The usual hypothesis is that the timing was politically intended.
31. Chaudhri had absolutely no experience in public finance. Moreover, he was on the managing board of several private companies. Nothing more than these facts was especially known about Chaudhri. It was hard to avoid the impression that the Prime Minister want-

ed to end the recalcitrance of the most important economic ministry in the country. The left of center faction could not defend Krishnamachari due to the uproar over suspected corruption.

32. The *projected* figures in this paragraph are from *The New Strategy,* p. 45, the *actual* figures from *Fertilizer Statistics,* p. II-33 and p. II-107.
33. The metaphor is from L. K. Jha, 1973, p. 97.
34. The two longest serving food ministers under Nehru, A. P. Jain (1955–1959) and S. K. Patil (1959–1963), were strongly in favor of producer price incentives. Details in Frankel, op. cit., pp. 140–45, and pp. 230–35.
35. Lyndon B. Johnson, 1971, p. 225. Those who have formed judgments only on the basis of the Johnson Presidency archives have been led to a similar conclusion. An example is Carlyn Castore, 1982, 'The United States and India: The Use of Food to Apply Economic Pressure – 1965–67,' in Sydney Weintraub, ed., *Economic Coercion and the US Foreign Policy,* Boulder, Colorado: Westview Press.
36. For a detailed account of Indo-US food aid relationship, see Robert Paarlberg, 1985, Also, James Bjorkman, 1980. The figures quoted here are from Paarlberg, p. 146.
37. Cf: 'I stood almost alone, with only a few concurring advisors, in this fight to slow the pace of U.S. assistance ... This was one of the most difficult and lonely struggles of my life.' Lyndon B. Johnson, 1971, p. 225.
38. Domestic criticism cut across ideological lines. The *mildest* criticism was that it was neither 'sound economics, nor honourable politics.' Devaluations also figured in the 1967 elections and contributed to the unpopularity of the Congress party. For political details, see Frankel, op. cit., pp. 296–302.
39. This includes a trip, reports Paarlberg, to the LBJ ranch in Texas where Subramaniam was especially summoned to give a report on progress in the food economy. Johnson announced his decision to release the next shipment to India (ibid., p. 167).
40. Food in quantities required by India *at concessional rates* was not available from other sources. Requests for wheat went to Canada, Australia, France, the Soviet Union, Mexico and Argentina.
41. However, 'in a curious turn of events in the spring of 1968, it suddenly became in the US interests to expand food aid shipments; wheat production was up, farm prices were down. Accordingly, the Department of Agriculture and the State Department approached the Indian government to suggest that India take more PL 480 wheat than it had already requested' (Paarlberg op. cit., p. 156).
42. For a remarkable demonstration of how the Congress leaders viewed the political utility of the landlords, see Paul Brass, 1984. Brass has been able to get access to the personal files of Charan Singh who, for close to three decades after independence, held important government positions in Uttar Pradesh and in Delhi.
43. See, for example, F. Tomassan Januzzi, 1974.
44. For a description of the peasant movement before 1947, see A. R. Desai, 1968, pp. 188–194.
45. For a study of peasant organizations in South India, see K. C. Alexander, 1981.
46. Why Communist influence did not expand beyond these states is yet another difficult question to answer. No studies of why the Communists succeeded in these states but remained a weak political force nationally are available.
47. Subramaniam, needless to add, was conscious of this: '...I had to deal with the state governments for unless they fell into line it was no use introducing this strategy' (*The New Strategy,* p. 25).

Appendix

List of political leaders and officials interviewed

Those associated with the food and agriculture ministry
Mr. C. Subramaniam, Food and Agriculture Minister, 1964–67, interview in Madras, December 14, 1984; Mr. Rao Birendra Singh, Food and Agriculture Minister, 1980–86, Delhi, September 18, 1986; Mr. C. Sivaraman, Agriculture Secretary, 1965–67, Madras, December 13, 1984; Mr. G. V. K. Rao, Agriculture Secretary, 1977–79, Delhi, November 6, 1984; Mr. S. P. Mukherjea, Agriculture Secretary, 1982–84, Delhi, December 20, 1984; Mr. B. C. Gangopadhyay, Food Secretary, early to mid eighties, Delhi, December 21, 1984.

Those associated with the finance ministry
Mr. Pranab Mukherjea, Finance Minister, 1980–84, interview in Delhi, January 21, 1987; Mr. H. M. Patel, Finance Minister, 1977–78, Delhi, December 2, 1986; Chowdhry Charan Singh, Finance Minister 1979, Delhi, December 17, 1984; Dr. L. K. Jha, Finance Secretary in the 1950s, and Principal Secretary to Prime Minister Lal Bahadur Shastri (1964–66), Delhi, December 23, 1986; Dr. Ashok Mitra, Chief Economic Advisor (CEA), mid-1960s, also Chairman of the Agricultural Prices Commission later, Calcutta, December 25, 1984; Dr. Manmohan Singh, CEA, early seventies, later, Governor of the Reserve Bank of India and Deputy Chairman of the Planning Commission, Bombay, December 7, 1984; Dr. Bimal Jalan, CEA, early eighties, Delhi, December 22, 1984.

Those associated with the planning commission
Dr. D. T. Lakdawala, Deputy Chairman, 1977–79, Interview in Ahmedabad, December 9, 1984; Professor Sukhamoy Chakravarty, Member, early 1970s, January 27, 1987; Professor Raj Krishna, Member, 1977–79, Delhi, January 23, 1985; Professor Hanumantha Rao, Member, Delhi, November 23, 1984.

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