

Development Strategy: the State and Agriculture since Independence

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Abstract

There is a widespread belief that India is currently in an agrarian crisis. A spate of suicides by farmers in the states of Andhra Pradesh, Karnataka, Madhya Pradesh and Maharashtra since the 1990s is seen as a tragic symptom of the crisis. In the large and growing literature on the factors contributing to the crisis to some common themes emerge: the role of systemic economic reforms since 1991, the opening of the Indian economy to external competition and investment after decades of insulation; the impact on India of implementing the Agreement on Agriculture of the Uruguay Round of Multilateral Trade Negotiations; the alleged neglect of agriculture in the planning process since the mid-eighties; the decline of public investment in agriculture in response to rising fiscal deficits at the Centre and the States; and above all, the slowing of the growth of agricultural output (particularly food grains) as well as a stagnation in yields per hectare of land since the nineties.

Without dismissing the above-mentioned factors altogether, this paper argues that the fundamental factor that is at the root of the current state of agriculture is India's pursuit, until the 1991 reforms, of a state-directed, state-controlled and state-dominated development strategy of import substituting industrialization with emphasis on heavy industry and insulation from the world economy. This strategy completely ignored the lessons of economic history: successful development lies in the transformation of economic structure by shifting a substantial part of the large initial share of labour force in agriculture and other low productivity activities in the informal sector to more productive off-farm activities through rural and urban industrialization with emphasis on labour-intensive manufactures to supply growing domestic and world markets and raising agricultural productivity. Leap-frogging the labour-intensive manufacturing stage of development altogether and focusing on information technology intensive services sector to bring about the transformation is not simply not feasible. This paper elaborates this main point by looking at major policy interventions in agriculture since independence relating to **agrarian structure** (reforms of land tenure, ownership and tenancy), **market structure** (restrictions on domestic spot markets and banning of futures markets, interventions in credit markets, restrictions on participation in world trade, state trading, subsidies on prices of inputs and outputs) and public investment. It will argue that there was no coherence, and little coordination among the centre, states and other policy making institutions in the decisions on the myriad interventions and their effectiveness in achieving their intended objectives was also limited in most cases. Above all the interventions were mostly intended to improve the welfare of those dependent on agriculture while keeping them in agriculture and to raise yields and output, and not for transforming traditional agriculture.

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1. Introduction

There is a widespread belief that India is currently in the midst of an agrarian crisis. The report of the Expert Group on Agricultural Indebtedness appointed by the Ministry of Finance claims that “Indian agriculture is currently passing through a period of severe crisis. Although some features of the crisis started manifesting themselves in certain parts of India during the late 1980s, the crisis has assumed a serious dimension since the middle of the 1990s. One of the tragic manifestations of the crisis is the large number of suicides committed by the farmers in some parts of India.” (EGAI, 2007, p13).

The contributory factors to the crisis according to the committee have both long-term structural and institutional as well as short term manifestations: “The long-term structural features are a sharp decline in the share of agriculture in the Gross Domestic Product (GDP) accompanied by a very low rate of labour force diversification away from agriculture. This has resulted in declining relative productivity of agriculture vis-à-vis that of the non-agricultural sector. A large dependence of working population on land has also resulted in a steep decline in per capita land availability. There has been an increase in the marginalisation of ownership and operational holdings. The increasing pressure on land resources is accompanied by severe stress on the availability of water resources in the country and unequal regional distribution of available water. On the credit front, the functioning of the rural cooperative credit institutions has deteriorated in many parts of the country. The emphasis on economic efficiency has led to the neglect of social priorities in lending by the commercial and regional rural banks. Targeted and priority lending are under pressure. The result is growing dependence on non-institutional sources of credit at very high rates of interest. It is only recently that some efforts have been made to rejuvenate the credit system in the country. Except for a few crops, the procurement mechanism does not serve the purpose of ensuring minimum prices to agricultural producers in many parts of the country.

The crisis has been exacerbated further by rapid environmental degradation and plateauing of the existing agricultural technology. The liberalisation of the economy has failed to give a big push to agricultural exports and to increase income and employment in agriculture. The gradual withdrawal of the state from active participation in development activities has resulted in a steep decline in public investment in agricultural infrastructure in general, and in agricultural science and technology in particular. This has resulted in deterioration of rural

infrastructure, stagnation of agricultural research and development, and neglect of extension services.” (ibid, p. 13)

Many articles have appeared in the news media on the agrarian crisis in general and farmers’ suicides in particular. A series of four articles by the Magsaysay award winner, P. Sainath were published in *The Hindu* (November 12-15, 2007) on farmers’ suicides based on Nagaraj (2007). The Indira Gandhi Institute of Development Research submitted a report a year ago authored by Srijit Mishra to the Maharashtra government on farmers’ suicides in that state (IGIDR, 2006).

Some common themes emerge from the recent literature on agrarian crisis; the role of economic reform since 1991, particularly aspects of opening of the Indian economy to external competition and the implications for India of the Uruguay Round agreement on agriculture; presumed neglect of agriculture in the planning process since the mid-eighties, decline in public investment in agriculture in response to rising fiscal deficits at the centre and states, and above all, the slowing of the growth of agricultural output, particularly food grains, as well as stagnation in yields per hectare since the early nineties. The following, by an economist from the left of the political spectrum expresses the theme, albeit in an extreme form “Professor Utsa Patnaik in her Safdar Hashmi Lecture entitled *The Republic of Hunger* demonstrates the decline in per capita food availability during the period since 1991. Between 1990/92 and 1998/2000, the number of undernourished in India grew by 18 million. This was the picture before the serious stagnation of the period 1998-2005.”

Food security in India has worsened during the reforms period not only in terms of availability, but also in terms of access and absorption, given the near stagnation in rural employment, the depth of the rural and agrarian crisis, the decline in the rate of growth of urban employment and the abysmal levels of investments in public health, drinking water and sanitation., dictated by the cuts in subsidies and expenditure of governments owing to the obsession with the fiscal deficit.” (Athreya, 2007, 126-127).

Both Prime Minister Singh and Finance Minister Chidambaram have repeatedly commented on the agrarian crisis. In his interaction with news media at the annual Economic Editors’ conference, Mr. Chidambaram is reported to have expressed concern at the slow growing farm sector and the need for policy attention to issues like stagnant farm yield rates in many major crops, declining per capita availability of food grains and the need for additional

public investment, while claiming that “these issues are high on the agenda of the Government and though it has taken many initiatives on these counts, much more needs to be done.” [http://www.hindu.com/2007/11/13/stories200711352621500.htm].

Prime Minister Singh, in his recent address to the full Planning Commission, while stressing a renewed focus on agriculture, drew attention to the need to address the burden of subsidies on food, fertilizers and recently on petroleum. He said “Cabinet colleagues and the Planning Commission [have] to reflect what these mean for our development options and what development options these subsidies are shutting out. Do they mean fewer schools, fewer hospitals, fewer scholarships, slower public investment in agriculture and poorer infrastructure? It is important that we restructure subsidies so that only the really needy and the poor benefit from them and all leakages are plugged.” <http://www.hindu.com/2007/11/12/stories/2007111250781500.htm>

The same news report quotes a senior official of the Planning Commission “The Centre supplies rice at a differential price structure for APL and Below Poverty Line (BPL) categories. Even there the Centre accepts a subsidy. But the States are going further to sell rice at Rs. 2 a kg. It is for BPL families in some States and to all family cardholders in others. We know of States that are footing a food subsidy burden of nearly Rs. 2,000 crore a year. This has to stop somewhere. For some years now, we have been advocating a clear targeting of subsidies, especially on the food and PDS fronts. The Planning Commission, the Central Government, and the National Development Council will have to work on building a political and national consensus on this issue. After all, we are also receiving several complaints about diversion of PDS food grains to the open market and smuggling to neighbouring states. We have to look at the totality of this problem and hammer out a solution.” The official was referring only to the direct subsidies on food in the budgets of central and state governments. Estimating the shares of producers and the farmers in fertilizer is not a simple matter. Still the share of farmers is unlikely to be small. Adding indirect subsidies on sale of electricity and water from public irrigation to farmers at a price below user cost (or even free of cost in the case of electricity in some states) and other myriad farmer-oriented subsidies, the total farm subsidy burden is large.

It is well known that all countries, regardless of the ideology driving their economic policies, have intervened and continue to do so even now, in their agricultural sector. The facts that international trade in agriculture was largely kept out of the disciplines applicable to non-agricultural trade in the General Agreement on Tariffs and Trade (GATT) concluded in 1948,

and the attempt during the Uruguay Round of multilateral negotiations (1986-1993) to bring these disciplines to bear on agricultural trade had only a limited success, and that disagreements over agriculture have stymied the Doha Round of negotiations are symptomatic of these interventions. It is ironic that even though labour force in agriculture is less than 5% of total labour force in rich countries and agriculture's share in GDP is also modest has not reduced the appetite for interventions, as the latest farm bill under discussion in the US legislature testifies.

Central and State governments in India have also intervened in agriculture massively. However, the effectiveness of the interventions in achieving whatever objectives they were intended in to achieve (which were not always clear), their coherence in the sense of different interventions being mutually consistent, if not reinforcing each other, in achieving a common set of objectives at least social cost, was always in doubt. In large part, the lack of coherence was due to the fact that policy interventions were often made in a piecemeal fashion, by different institutions and by central and state governments. Although the five-year and annual plans at the central and state levels were in principle the framework through which a coherent set of objectives could have been formulated and a coordinated set of policies implemented for achieving them, in practice this was not the case.

The range of interventions was extremely wide and so numerous that it is virtually impossible to list them all. However, it is possible to classify them into four broad and meaningful categories: those relating to (1) agrarian structure (land tenure, ownership of land, access to land through share cropping and other forms of tenancy, etc.); (2) market structure (regulation of markets, restrictions on the operation of futures markets, restrictions on the movement of agricultural commodities on private account within India across states and across districts within states, restriction on exports and imports through stipulation of minimum export prices, constraints on private trade, canalization and state trading, import tariffs and export taxes, quantitative restrictions); (3) prices of inputs and outputs (subsidies on transportation, fertilizer, irrigation water, electricity and other fuel, procurement and subsidized sale through the public distribution system (PDS), subsidized credit; (4) Public investment in irrigation and infrastructure and incentives for private investment in agriculture. The interventions were not only numerous and extensive, but also varied over time in number and their severity, mostly in an unanticipated and unpredictable fashion, thus making decision making environment highly uncertain for farmers, traders and others with vital interests in agriculture. I have already alluded

to the fact that states and centre intervened, often on the same issue. For example, the centre announces its procurement prices at the beginning of each season and many states supplement with their own add-ons to the prices announced by the centre and procure grain on their own account as well. Clearly, as mentioned earlier, the range, number, complexity and the unpredictable variability of the policy interventions precluded their being mutually consistent in sub-serving a well-defined, inter-temporal social objective. Of course, such policies as a subset of policy interventions had (or were rationalized as having their own objectives, but there is no evidence that the specific objectives and the associated policy instruments were designed as an efficient way of achieving the overall social objectives.¹

It so happens, twenty-five years ago on the occasion of the Indian Statistical Institute's Golden Jubilee International Conference on Review of the Indian Planning Process, I was asked to present a paper on "Was Agriculture Neglected in Planning" (Srinivasan, 1982). I argued that the phrase "neglect of agriculture" did not have well-defined operational meaning. Although under plausible alternative meanings of the phrase, I could not find such neglect, I concluded that the lack of neglect did not mean the absence of policy failures. I identified three interrelated failures relating to institutional change, employment generation (or labour "absorption" as it was called then) and in reducing, if not eliminating, abject poverty. In discussing labour "absorption," I pointed out the fact that in the thirty years since 1950, the productivity of workers "absorbed" in agriculture has grown at a rate slower than those employed in non-agricultural activities. But it was beyond the scope of my paper then to analyze whether a different strategy of development could have resulted in a significant withdrawal of labour from agricultural activities and in accelerating the growth of output and employment in non-agricultural activities – a theme to

¹ The Constitution of India (1950) lays down the distribution of legislative (and policy making) powers of the centre states into three lists: Union list consisting of areas in which the parliament (and central government) have exclusion powers, a state list of areas in which the state legislature (and state governments) have exclusive authority and a concurrent list of areas in which both the parliament (central government) and the state legislatures (and state governments) have power with the important premise that Union law will prevail over state law. However, with the appointment of an extra constitutional body, namely the Planning Commission in March, 1950 through a resolution of the Central Cabinet soon after the adoption of the Constitution in January, 1950 and the institution of five-year plans formulated by the Planning Commission for articulating a national development strategy, the constitution assignment of powers vastly expanded the powers of the centre. The Finance Commission, a constitutional mandated body, in its report in 1973 remarked "A national plan has necessarily to comprehend the entire range of developmental activities, cutting across the delimitation of powers between Centre and the states. In this process, the Government of India and the Planning Commission have acquired a voice even in matters recognized to be within the Jurisdiction of the States." (Cited in National Commission on Agriculture (1976), Part II, p. 95). In the three decades and more since the report, the powers of the central government have expanded further

which I return later here. However, I had also pointed out that in fact the neglect and failures with respect to non-agricultural sectors, particularly manufacturing, in large part because of our obsession with the import substituting industrialization on our development strategy were not only conspicuous but also ultimately resulted in an avoidable locking up of millions of rural Indians in agriculture and other lower productivity primary activities. In fact, “stagnation of industry since the mid-sixties,” akin to the “stagnation of agriculture in the nineties” was then a topic of discussion.

EGAI (2007, p27) claims that “another important manifestation of the crisis in agriculture is the stagnant if not deteriorating, terms of trade for agriculture after the introduction of economic reforms . . . Figure 1.6 gives details of barter and income terms of trade (TOT).” In fact, of the three TOT depicted in Figure 1.6, barter TOT as computed by the Director of Economics and Statistics of the Ministry of Agriculture shows a rising and not a falling trend. Although the other two TOTs (one of which is income TOT) did show stagnation or a very mild decline after 1997, this trend could be hardly deemed a manifestation of a crisis. In any case, the tendency to over-interpret short term and reversible trend be it of output growth or of the TOT is not new. My friend Ashok Mitra (1977, pp141-142) wrote in the middle seventies that “in recent years, the domestic terms of trade in the country moved continuously in favor of farm products in general and within the farm sector in favor of these specific crops that are marketed by . . . the richer sections of peasantry. This shift in terms of trade can be viewed as mirroring the political arrangement entered into by the urban bourgeoisie with the rural oligarchy . . . the developing shift in terms of trade in favor of the farm sector is a major price paid by the industrial bourgeoisie to cement their political arrangements with the rural oligarchy.” It turned out that the rising trend in agriculture’s TOT on which Mitra based his thesis of a grand alliance between the rural oligarchy and the urban bourgeoisie was confined to the sixties and was not seen either before or thereafter. (Srinivasan, 1982, pp 42-43)

The main point of this paper is that, although relatively recent trends in terms of trade, output, yield, credit and agricultural trade could have contributed to the current state of Indian agriculture, the fundamental or ultimate contributory factors are not these. The latter arise from our not fully recognizing the basic fact of history of economic development: successful development lies in the transformation of economic structure over time that is associated with a shift of a large proportion of the initial population and work force dependent upon agriculture,

other primary activities and informed sector including service sector to more productive sectors. This transformation was brought about through industrialization, primarily of manufacturing industry. Our development strategy, based as it was on import substituting industrialization with emphasis on heavy industry, and rationalized by very long-term growth considerations in an economy insulated from world markets, not only delayed the transformation, but also created a self-fulfilling prophecy that it would be infeasible for the non-agricultural sectors to grow at a rapid enough rate to provide more production employment opportunities for an increasing share of the labour force in agriculture. For example, the National Commission on Agriculture (1976) states “An overwhelmingly large proportion of the total labour force, i.e., about 72 percent, is employed as agricultural workers at present. Even in the most optimistic view of the creation of additional employment opportunities in the urban, non-agricultural occupations, the transfer of the labour force from agricultural to non-agricultural jobs will be rather slow. But the new labour force will continue to depend on agriculture and allied non-agricultural occupations even in 2000 A.D.” (NCA, 1976, Part III, p. 82).

In stark contrast to this pessimistic view, the memorandum of the Chairman Jawaharlal Nehru, to the sub-committees of the National Planning Committee of 1938, stated “more important is the planning of different kinds of industries, large, medium and cottage, which alone may effectively mitigate the present pressure on the soil. Within a decade the aim should be to produce a balanced economic structure in which about half the population would depend on agriculture (IIPR, 1988, p. 55 emphasized). Alas, after six decades after independence, more than half (60 percent or so) still depend on agriculture.

Having failed thus far to expand the share of manufacturing in employment, to think that we can leap-frog the stage of manufacturing in development altogether and rely on the information technology-based service sector to bring about the missed transformation would be a mistake. Thus a focus on the agricultural sector, necessary and desirable though it is in the short and medium run, by itself will not address the fundamental factor behind the current state of agriculture.

In the rest of the paper I will elaborate my main point by briefly looking at the major policy interventions in agriculture.^{2,3} I will argue that these interventions more or less took it for granted that with projected population growth and a stagnant or at best slowly declining share of population dependent on agriculture, the absolute numbers of those employed (as cultivators, tenants and landless workers) will continue to grow. I will contend that even if one viewed the current situation as an agrarian crisis, ad hoc responses to it by modifying the existing set of agricultural policy interventions and adding new ones of the same type without expanding and deepening the reform process that set the economy on a development strategy and path fundamentally different from that of the first from decades of planning, would not resolve the crisis.

2. Agrarian Structure: Land Tenure, Ownership, Tenancy and Cultivation.

The interim report the Subcommittee on Land Policy, Agricultural Labour and Agricultural Insurance was considered by the National Planning Committee of the Indian National Congress at its fourth session at the end of June, 1940. The Committee resolved that “the cooperative principle should be applied to the exploitation of land by developing collective and cooperative farms . . . collective or cooperative farms should be begun on ‘cultivable waste’ land, which should be acquired, where necessary by the state immediately” (IIAPR, 1998, p215).

Professor Radhakamal Mukherjee, a member of the committee did not want to rule out peasant farming in small heritable holdings and wanted it to continue along with cooperative and collective farming. At its fifth session in September, 1940 the chairman of the Land Policy Subcommittee presented a further note. After consideration of the note, the full committee reiterated its earlier resolution that “cultivation of land should be organized in complete collectives; wherever feasible . . . other forms of cooperative farming shall be encouraged

² I will not be covering interventions for which the direct targets were not producers, consumers, traders and other agents involved in agriculture. These include development programmes, integrated rural intensive agricultural development programmes, agricultural research and extension and public investment.

³ The literature in the English language alone on Indian agriculture, including reports of committees and commissions appointed by the government at various points of time such as the important Report of the Royal Commission on Agriculture in 1929 and the fifteen volume report of the National Commission on Agriculture of 1976, debates in the two houses of Parliament and state legislatures, as well as reports in the news media, is very vast and diverse. I cannot and will not pretend to cover this vast body of writings. I will draw selectively only on some of the major contributions that are essential to my argumentation.

elsewhere.” (IIAPR, 1988, pp. 8-230) One member, G. M. Sayed, was of the view that compulsory collectives should be the only ideal laid down.

After independence, the committee on agrarian reforms (chaired by J.C. Kumarappa) in its report of 1950, concluded that collective farming to be suitable essentially for the development of reclaimed waste land. After examining three other alternatives, namely capitalist farming, state farming and individual peasant farming, it categorically rejected capitalist farming as its adoption in its view “would deprive the agriculturists of their rights in land [and] turn them into mere wage earners,” was unenthusiastic about state farming, except once again, on reclaimed waste land, and opted for individual peasant farming.

The idea of cooperative farming surfaced in the form “cooperative village management” in the First Five Year plan with the village as the unit of land management with individual families or groups of families cultivating blocks of land allotted by the village management body. However, right of ownership of the village land would be recognized and compensated through an ownership dividend at the end of each harvest. Dandekar (1974, p. 53) acidly comments that “This was a rather naive concept based on a utopian notion of a village and plain ignorance, or unwillingness to see the truth, about village community functioned.”

The Second plan, according to Dandekar “offered lip service though with less conviction,” to cooperative village management and the third plan made no mention of village management and thereafter the concept was quietly dropped. The idea of bringing together holdings below a certain level into small cooperative farms did not proceed very far either. It also went out of consideration after the Third plan.

Although the problem of landless agricultural workers was recognized and the need to provide increased employment opportunities (on and off farm) was also recognized as Dandekar (1974, pp 84-85) points ideas on increasing employment opportunities “were not very clear, in any case, they were not elaborated . . . what was said with respect to the landless workers in the First Five Year Plan was plainly evasive.” In particular, there was no understanding that the development strategy being capital intensive by its very design could not generate the rising employment opportunities for such workers. Indeed the implicit presumption then was the problem of their employment was to be solved within the agricultural sector itself. Dandekar (1974, p. 87) points out that “the Eighth Plan emphasized that landlessness was a root cause of poverty and that access to land was a major source of employment and income; that such access

could be achieved either by a more equitable distribution of land or providing security of tenure to tenants and share croppers who are the actual cultivators.”

In his summing up of the official approach to transforming the traditional agriculture, Dandekar (1974, p. 89) correctly argues that the so-called “land problem,” which the First Five Year Plan claimed overshadowed all other problems, was “an excessive burden of population which the land has to bear and a satisfactory solution is supposed to be to let the land continue to bear this burden,” again illustrating the lack of recognition of the lessons of development history. With land continuing to bear the burden, the land policy was land reform: ceilings on land holdings and security of tenure for tenants. Again Dandekar is right in stressing that the land reform policy did not recognize that by keeping a growing rural population on land, land reforms simply created a growing population of non-viable farmers (small and marginal farmers). The history of legislation on land ownership, illustrates Dandekar’s point.

2. Land Reform

2.1 Abolition of Intermediaries

At the time of independence the prevailing land tenure system was complex. Without going into the well-known and oft told history of its evolution from pre-Mughal and Mughal India to East India Company days and its modifications in areas controlled by the British crown, let me just cite P.S. Appu (1996, pp. xv-xii), an authority on land reforms: “The agrarian structure at the time of independence had several features that inhibited agriculture. These were the existence of rent-receiving parasitic intermediaries between the actual tillers of the soil at the bottom, and the government at the top, great inequity in the ownership of land, concentration of agricultural lands in the hands of the upper classes who shunned physical labour and took little personal interest in farming, widespread prevalence of insecure tenancies on extortional terms inhibiting the optimum utilization of the tenants’ land, a preponderance of miniscule uneconomic holdings and to the extreme fragmentation and subdivision of holdings.” The post-independence land reform agenda naturally included the abolition of intermediaries between the state and the cultivator, tenancy reform, reducing concentration of land ownership and the consolidation of land ownership and the consolidation of fragmented holdings. However, not all items in the agenda were effectively implemented. I would add the important qualification that in implementing them the possibility of significantly reducing the population dependent on land was more or less dismissed.

Appu (1996) after discussing the inefficiency and slowness of the implementation of the legislation abolishing intermediaries across states due to various reasons including resistance by intermediaries, nonetheless concluded, and cites Gunnar Myrdal and Wolf Ladejinsky in his support, that the social and economic powers of the former intermediaries came to an end with the implementation of legislation. However, he noted (Appu, 1996, p. 79) that the reforms had some major weaknesses: it allowed the intermediaries to retain a substantial amount of land for their “personal cultivation,” a term that was so “loosely defined in the legislation that no rights were conferred on tenants-at-will and share croppers,” resulting in millions of tenants and under-tenants being evicted. Also the payment of compensation to the former intermediaries resulted in heavy public expenditure. (Appu, 1996, pp. 72-79)

2.2 Tenancy Reform

After the introduction of the Permanent Settlement in the early years of the 19th century, there was a large scale eviction of tenants. The colonial government responded by legislating a measure of protection to the tenantry, starting with the Rent Act of 1859 and culminating in the Bengal Tenancy Act of 1885, which extended security of tenure and fixity of rent to a claim of tenancy. The other provinces also enacted similar laws.

Tenancy reform in the post-independence period evolved over a period of several decades. Appu (1996, pp. 95-96) lists three important guidelines laid down in various five-year plans. These were (i) there should be an upper bound on rent at one-fifth of gross produce; (ii) tenants should be accorded permanent rights in the land they cultivate subject to a limited right of land owner to resume land under tenancy for “personal cultivation” and (iii) in respect of non-resumable land, landlord-tenant relationships should be ended by conferring ownership rights on tenants.

Appu discusses the differing definitions of the tenants in the tenancy reform legislations of various states, in particular, whether share-croppers are to be deemed tenants. The first Five Year Plan defined that owners of land in a holding not exceeding a family holding as small owners and those holding land in excess of a family holding but less than the limit for resumption for “personal cultivation” (three times the family holding) as middle owners. The Second Plan defined “basic” holding as the minimum area needed for profitable cultivation and a family holding as three times the basic holding. Owners of land less than a basic holding were to be deemed free to resume their entire holding for personal cultivation. Owners holding between

one and three basic holdings would be allowed to resume half the area of their holding under tenancy, subject to a lower bound of a basic holding. The Second plan also elaborated the phrase of “personal cultivation” to mean such a cultivator bore the entire risk of cultivation, supervised it himself for a member of his family and supplied a minimum amount of labour himself. Although it was recognized that the supply of a minimum amount of labour is difficult to enforce in practice, the plan suggested that it should be an important criterion for land that is to be resumed for personal cultivation.

Appu (1996, p. 91) wryly remarks that “all these meticulous exercises in hair splitting in verbal juggling aimed at reconciling the conflicting interests of landowners and tenants, seems to have been undertaken ignoring the realities of the power equation in the countryside and the character and capability of the administrative machinery . . . the basic fact is that the policy of ‘land to the tiller’ could not have been carried out without hurting the private property rights. But the policymakers were unwilling to wound and afraid to strike.” The charge of ignoring ground realities and overestimating the honesty and capability of administrative machinery that Appu levels in the context of tenancy reform is equally applicable to India’s planners from the fifties to now. Let me now turn to the data on land ownership and tenancy.

Table 1: Estimates of reported incidence of leasing out and leasing in of land by households from various rounds of NSS

All-India		Rural			
sl. no.	characteristic	1971-72 (26 th rd)	1982 (37 th rd)	1992 (48 th rd)	2003 (59 th rd)
(1)	(2)	(3)	(4)	(5)	(6)
1.	Percentage of households leasing in land	25%	18%	15%	12%
2.	Percentage of area leased in to total area owned	12%	7%	9%	7%
3.	Percentage of area leased out to total area owned	6%	4%	5%	3%

Source: NSS (2003a) Report No. 491

Table 2

Percentage of tenant holdings and area leased in by broad size-class in 2002-03

ALL-INDIA size class (ha) or category	Rural		
	% of tenant holdings	% of area leased in	% share in leased- in area
= 0.002	4.7	3.1	0.1
0.002 - 0.5	10.9	9.3	12.3
0.5 - 1.0	12.0	8.3	17.9
marginal	9.8	8.6	30.3
small	10.7	6.8	22.1
semi-medium	10.3	6.3	21.8
medium	7.8	4.2	14.6
large	13.8	6.1	11.2
over 1.00	10.2	5.8	69.7
all sizes	9.9	6.45	100.0

Source: NSS (2003b) Report No.492

Table 3

Changes in the percentage of tenant holdings by category of operational holdings, 1960-61 to 2002-03

ALL-INDIA category	Rural percentage of tenant holdngs				
	60- 61 (17th)	70- 71 (26th)	81- 82 (37th)	91- 92 (48th)	02- 03 (59 th)
marginal	24.1	27.0	14.4	9.3	9.8
small	25.1	27.8	17.9	14.9	10.7
semi-medium	23.6	24.8	15.9	12.2	10.3
medium	20.5	20.0	14.5	13.1	7.8
large	9.5	15.9	11.5	16.7	13.8
all	23.5	25.7	15.2	11.0	9.9

Source: NSS (2003b) Report No.492

Table 4

Change in percentage of area leased in by category of operational holdings

ALL-INDIA	Rural				
	percentage of area leased in				
	60-61 (17th)	70-71 (26th)	81-82 (37th)	91-92 (48th)	02-03 (59 th)
marginal	16.6	18.9	9.7	8.7	8.6
small	14.0	14.6	8.5	8.5	6.8
semi-medium	11.7	11.7	7.3	7.4	6.3
medium	9.6	8.7	6.6	6.9	4.2
large	8.3	5.9	5.3	11.4	6.1
all sizes	10.7	10.6	7.2	8.3	6.5

Source: NSS (2003b) Report No.492

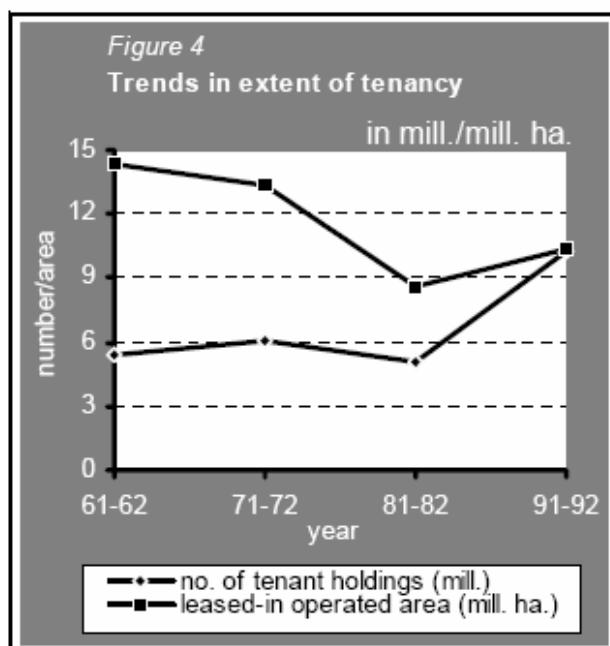
Table 5

Trends in percentage distribution of leased-in area by terms of lease

ALL-INDIA	Rural						
	percentage distribution of leased-in area						
	60-61 (17th)	70-71 (26th)	81-82 (37th)	91-92 (48th)		02-03 (59 th)	
terms of lease				incl. n.r. cases	excl. n.r. cases	incl. n.r. cases	excl. n.r. cases
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. fixed money	25.6 (23.2)	15.4 (12.7)	10.9 (11.9)	19.0 (23.3)	22.7	29.5 (26.0)	29.8
2. fixed produce	12.9 (12.4)	11.6 (10.5)	6.3 (7.6)	14.5 (17.9)	17.4	20.3 (19.2)	20.6
3. share of produce	38.2 (42.0)	47.9 (50.7)	41.9 (38.7)	34.4 (42.1)	41.1	40.3 (43.3)	40.8
4. other	23.3	25.1	40.9	32.1	18.8	9.9	8.8
5. all terms	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: NSS (2003b) Report No.492

Figure 1:



Source: NSS (1993)

Several conclusions emerge from these data. First, the incidence of tenancy as measured by percentage of households leasing in, percentage of area (out of total area owned), leased in or leased out has been steadily decreasing from 1971-92 to 2003 (Table 1). Second, the percentage of tenant holdings as a proportion of operational holdings and the percentage of area leased in every category of the size of operational holding (marginal, small, semi-medium and large) has been declining during 1960-61 to 2002-03 (Tables 2 - 4) with one exception that the percentage area leased in marginal holdings remained unchanged between 1991-92 and 2002-03. Third, sharecropping has been the dominant farm tenancy accounting for roughly 40% of the leased in area since 1960-61, except for 1970-71 when it was 48%. The proportion of leased-in area under fixed produce rent and also under fixed money rent, after declining between 1960-61 and 1981-82, has been increasing since then (Table 5). Fourth, Figure 1 shows the trend in the absolute number of tenant holdings and the leased-in operated area. After declining until 1981-82, both increased thereafter, though not in proportion to the increase in total number of operational holdings.

NSS (2004) claims that “though the measures of land reform undertaken since independence appear to have deterred the growth of exploitative tenancy, there is still a huge proportion of tenanted land in total operated area”. What is most remarkable about farming in rural India is the significantly high proportion of total tenanted operated land by a small proportion of holdings.” What is remarkable is that NSS does not define what is meant by exploitative tenancy, let alone what its growth would have been in the absence of land reform. Nor does it say why concentration in leased-area is unduly high. Should one view the 9.9 percent of tenant holdings in operational holdings (Table 2) as “high”? If so, why? It is true that marginal farmers operating less than one hectare of land account for 10 percent of operational holdings and 30 percent of leased in land. The 30 percent of holdings operating more than one hectare account for 70 percent of leased land (Table 2). As compared to the share of operated area at 23 percent and 77 percent respectively (NSS, 2003b, Table 3.4) for the two groups, leased in area is more concentrated. But this more relevant comparison is not surprising. Be that as it may, one could see the evidence of eviction of tenants and resumption of land for personal cultivation by landowners in the sharp fall in the percentage of tenant holdings from 25.7 to 15.2 (Table 3) and in area leased from 10.6 to 7.2 between (Table 4) 1970 and 1981-82 in the decade of the Green Revolution as compared to the stability of these percentages prior to 1970-71.

In concluding the discussion of tenancy reforms, let me turn to “Operation Barga” of the left front government of West Bengal after its assumption of power in 1977. This programme registered the share-croppers (bargadars) and thus assured their rights. It is widely believed to have contributed to the remarkable acceleration of growth in the output of rice from an average of 2.85 percent per year during 1950-51 to 1975-76 to 4.45 percent per year during 1976-77 to 1998-99. Output of foodgrains also shows statistically significant acceleration in growth between the two years, though not as dramatic as in the case of rice output. The primary contribution to acceleration in output growth is the acceleration in growth of yield per hectare of land (Sengupta, et al., 2004; Tables 5, 7, 12 and 14). It would be hasty to conclude from the observed acceleration in output and yield growth that it was mostly due to the land reforms (particularly tenancy reforms) of the left front government since 1977.

Bardhan and Mookherjee (2007) argue that first of all that the extent of tenancy in West Bengal was too small to explain the acceleration in growth of total output through acceleration of output on tenanted land. NSS data show leased-in land to total operated has declined from 12.3 percent in 1981-82 to 9.3 percent in 2002-03. Moreover, the effects of tenancy reform could be confounded with the effects of many other changes that took place at the same time, such as changes in the market environment or in farm input supply programmes delivered by the government that may have been correlated with the tenancy reform. Further, there is a possibility of the endogeneity of land reform implementation with reform implemented in villages with more progressive farmers and in the decision whether to register or not by tenants being driven in part by productivity improvements arising from reasons unrelated to the registration programme. Their study was based on a disaggregated data from a panel of farms spanning 1981-95. This panel was from 89 sample villages. Their main finding is that while there was a statistically significant effect of tenancy registration (Operation Barga) on productivity of tenant farmers, there was also a large general equilibrium spillover effect on non-tenant farmers. Thus “the productivity effects of tenancy reforms were overshadowed by farm input services and infrastructure spending by local governments” (Bardhan and Mookherjee, 2007, p. 1). Also “the predicted effect of the programme on average farm yields at the level of village was only 5%, substantially smaller than the effects of farm input supply programmes But the incidence of leasing being very low, the aggregate impact of this was small (ibid, p. 33).

To conclude the discussion of tenancy reform, as Operation Barga of West Bengal illustrates, registering tenants and protecting their legitimate and legal rights alone could improve the productivity of tenant farmers modestly. However, with the incidence of tenancy for the country as a whole being small in 2003 with only 6.5 percent of the operated area being leased in, the effect of tenancy reform, though appropriate and desirable, on overall productivity of agriculture will be small. Productivity gains of a substantial nature would depend on other policies besides tenancy reform.

2.3 Ceilings on Land-Ownership

The policy on ceiling on land-ownership and agricultural property has been driven solely by consideration of social justice in a context in which a large proportion of the population will remain dependent on agriculture for their livelihood. Appu, writing in 1972 (reproduced as Appu, 1996, p. 268) put the case simply and eloquently. “In this country a simple and effective means for ensuring a measure of social and economic justice will be radical redistribution of land. Agriculture has had and will continue to have for years to come, a dominant position in the Indian economy. It contributes nearly 50 percent of national income and over 70 percent of the population depends on agriculture and allied occupations for subsistence. The country’s industrial being small, even if the future programmes of industrialization meet with a great measure of success, for years to come the bulk of India’s population which is increasing at the very high annual rate of 25 percent will have to depend on agriculture for its livelihood. In such a situation social and economic justice calls for a more equitable distribution of the available agricultural land.” (Emphasis added).

The origin of the policy of ceilings of landholdings in the post-independence era is the report of the Agrarian Reform Committee of the Congress (chaired by J.C. Kumarappa) submitted in 1950. Although the report itself was never formally adopted or modified by the All India Congress Committee, it influenced all subsequent debates as well as legislation relating to ceilings over several five-year plan periods prior to and after the Green Revolution. The Committee evolved three norms for holdings sizes: Basic, Economic and Optimum. The economic holding was defined as one that would, based on the prevalent agro-economic conditions, afford a reasonable standard of living to the farmer and his family, provide full employment to his family, and a pair of bullocks. Under the assumption that the rehabilitation of the large number of uneconomic holdings would not be feasible, the committee defined the Basic

holding as one, though smaller than an Economic holding, was nonetheless viable, thus determining the lowest viable holding size. While viability considerations determined the lower limit of holdings size as the Basic holding, social justice considerations led to committee defined upper limit or ceiling as three times the size of Economic holding, which it called the Optimum holding. In effect, the committee expected holdings below the Basic holding to be exempt from any land ceiling laws and only land above the Optimum holding was to be acquired by the state.

Khusro (1973) notes that by the end of the 1950s almost all Indian states had land ceiling legislation on their books. Like most economists he too uses the cliché lack of political will for the absence of a realistic and effective ceiling legislation that was seriously enforced: “No wonder the implementation of ceiling laws (with minor exceptions) never met with any success anywhere and land was neither saved or redistributed” (p. xviii). He applauded the recommendations of the Central Land Reforms Committee of 1971 as having sought to plug the many loopholes of the earlier ceiling legislation and based on his own analysis in the rest of his study, he justified the recommendation of the Committee of a ceiling of 10-18 acres on best lands and 34 acres on bad lands. His justification of the need for ceilings is “not for their own sake but for the sake of releasing lands for distribution to the landless and the marginal farmers” (p. xix). The need for releasing land, in his view arises from the fact that “must be faced that agricultural populations cannot be displaced in the case of the Fourth [1969-74] or Fifth [1976-79] Five-Year Plans, nor the land-man ratio in agriculture altered to any significant extent . . . It is clear that the process of a net shift of agricultural population will have to be at work before the impact of the shift can be registered, not to mention the all-important fact that for many years the process may not begin at all. If substantial net shifts . . . are ruled out, it becomes necessary . . . the need for a more effective absorption of agricultural population within the agricultural sector” (pp. 98-99). Khusro offered a nine point agenda of an integrated strategy for a new agrarian structure, incredibly assuming that “all major (planks) of land reforms, i.e., ceiling imposition, tenancy legislation, consolidation of holdings and cooperative farming . . . are desirable and feasible” (p. xxiv-xxvi).

The success of the Green Revolution in its first decade in the western half of the Indo-gangetic plain has spread in the eighties in the eastern half and that the agrarian scene in the nineties was radically different from that at independence. Recognizing this Appu (1996, p. 205) writes that “. . . not only the agrarian situation has changed. Significant changes have taken place in the

political, social and economic environment with it. If political will in favor of meaningful land reform was weak at independence and weaker still later on, it is non-existent today. Land reform has practically disappeared from the agenda of most political parties” (ibid, 2005). Appu cites late Professor Dantwala as believing that land reform was a lost cause and late Professor Dandekar for the view that the rationale for tenancy reform and land ceilings, namely to promote owner-cultivation no longer holds and, therefore, ceiling laws should be abrogated and that all restrictions on the leasing of agricultural land should be removed. Appu quotes Dandekar to the effect that “one must admit that [ceiling on land holdings] has totally failed, that it has been circumvented by various means . . . one need not be surprised. The surprising thing is that it was accepted . . .” (Appu, 1996, p. 208). Other distinguished agricultural economists such as V. S. Vyas, Hanumantha and Rao, while recognizing the need for a rethinking of land reforms, surprisingly believe that there is still a role for ceiling laws.

Even after four decades of land reforms ranging from abolition of intermediaries and imposition of ceiling laws, not much has changed in the distribution of land ownership except for the predictable decline in average area owned from 1.78 ha per household in 1961-62 to 0.73 ha in 2003 due to the demographic pressure of the increase in the number of rural households. However, the proportion of landless households has remained at around 11 percent over four decades (NSSa, 2003a, statement 2). The gini coefficient of concentration of land ownership has remained virtually constant at around 0.72 (NSS, 2003a, statement 3), the share in total number of rural households (of total owned area) owning less than a hectare of land has increased in four decades from 66 percent (8 percent) to 80 percent (23 percent) and that of households owning more than 10 hectares has decreased from 3 percent (28 percent) to 0.5 percent (12 percent) during the same period (NSS, 2003a, statement 3).

Turning to the distribution of operational holdings, which gives a picture of access to land through tenancy, once again there is not much of a change, except for the doubling of the number of operational holdings from 51 million in 1960-61 to 101 million in 2002-03 and more than halving of the average area per holding from 2.63 ha to 1.06 ha during the same period. The share of holdings of less than a hectare of land (of total operated area) went up from 39 percent (7 percent) to 70 percent (22 percent) in four decades and the share of holdings of more than 10 ha of area (of total operated area) decreased from 4.5 percent (29 percent) to 0.8 percent (12.5 percent) during the same period (NSS, 2003b, Tables 3.2, 3.3 and 3.4). The gini concentration

ratio rose from 0.583 and 0.586 respectively in 1960-61 and 1970-71 to 0.629 and 0.641 respectively in 1980-81 and 1991-92 and then fell to 0.624 in 2002-03 (NSS, 2003b, Table 3.5). It turns out that there was a faster rise in the share of small and marginal holdings as well as their shares in total operated area. Interestingly in West Bengal, the share of marginal holdings (of total area) and the area operated by them rose much more to 88.8 percent (58.3 percent) between 1970-71 and 2002-03 as compared to corresponding shares of 69.8 percent (22.6 percent) at the All India level. Moreover, the gini concentration ratio fell substantially from 0.494 in 1981-82 (to which it had risen from 0.433 in 1970-71) to 0.430 in 1991-92 and further to 0.313 in 2002-03. This confirms the success of operation Barga of West Bengal. In Kerala there has been a steady fall in concentration ratio from 1970-71. (NSS 2003b, Table 3.6) While the performance of West Bengal and Kerala is expected in this regard, surprisingly Bihar and Jharkand also show a fall in the gini ratio after 1981-82. The two most agriculturally developed states of Punjab and Haryana show the most prominent rise in the concentration ratio since 1970-71. In Punjab the share of land in large operational holdings began to rise after falling between 1970-71 and 1991-92, while in Haryana it fell between 1970-71 and 1981-82 and then rose between 1981-82 and 1991-92 only to fall substantially thereafter. (ibid, Table 3.6) Clearly the picture across states with respect to changes in the distribution of operational holdings differs, but they do not contradict the conclusion that overall the land reform programmes after 1960-61 made only a very modest impact and it is the pressure of growing number of households cultivating land that explains the change in the distribution of ownership and operation. It is unlikely that there will be much of a change in this in the future.

2.4 Interventions in Prices and Markets for Agricultural Commodities and Agricultural Inputs

I noted in the introduction that the range of government interventions was extensive and diverse. There does not appear to be a single overarching objective to guide and bring coherence to the choice of the diverse set of interventions. Nonetheless, one can meaningfully divide them broadly into the interventions that are related (i) to the public distribution system (PDS) for foodgrains and a few other essential commodities; (ii) to the attaining self-sufficiency in foodgrains through increased production and productivity; (iii) to support the adoption of the high yielding varieties of seed that required assured supply of irrigation and intensive use of

fertilizer and pesticides; (iv) to international trade in agriculture; (v) restrictions on futures markets; (vii) agricultural taxation.

It will take too long to discuss in depth the many interventions under each of the categories. I will be selective and discuss only a few. Before doing so let me make two observations. First, poverty eradication and ensuring social justice have been the overarching objectives of policy in India and it cannot be otherwise. This does not mean that policies such as the PDS, for example, or some of the price subsidies, rationalized by invoking the objective either were the best compared to alternative policies that could have been used to subserve the same objectives or they were effective in reaching the poor for whom they were intended. Second, given the experience with dependence on food aid, and particularly being subjected to blackmail by the U.S. President Johnson who threatened to withhold food aid under U.S. PL 480 at the time when India suffered two serious and successive droughts in 1966 and 1967 in order to punish India's opposition to the Vietnam War, the objective of attaining self-sufficiency in foodgrains at the shortest time was eminently justified. Again, one could argue whether the objective should have been self-reliance in the sense of having the resources to import food on commercial terms when needed rather than doing away with imports altogether as self-sufficiency implies. Also, it is an open question whether it should have been foreseen that the policies (e.g., subsidies on fertilizer, irrigation and electricity, price supports, credit subsidies, etc.) that were essential to ensure the successful adoption and use of the Green Revolution technologies would create vested interests in keeping them in place even after the need for them had diminished significantly.

The interventions relating to PDS and their evolution over time illustrates many of the problems such as the changing objectives, failure to reach the intended beneficiaries in large part, budgeting costs beyond what would have been needed because in part of the inefficiencies of the public sector organization, Food Corporation of India, running it and the spillover to other policies such as on international trade.

From its origins in the limited food rationing system in metropolitan cities during the Second World War, over the years it was extended from urban areas essentially to all of the country. Until very recently the system was universal with no means testing and targeting. Recently, a means test in the name of dividing the households into two groups -- those below the

poverty line (BPL households) and above the poverty line (APL households) -- has been introduced with the extent of subsidy being higher for the BPL households.

In order to reduce the cost to the exchequer of acquiring the needed supplies for the PDS, the states (and districts within the states) that were deemed food surplus states and districts were cordoned off with a ban on movement of foodgrains by private traders between states and between districts within states, thus segmenting the market. Only a few states contributed a large share of the grains bought. The central government set the amounts to be acquired and the prices at which the food grains were to be acquired for the system. These so-called procurement prices were based on the recommendation of the Agricultural Prices Commission.⁴ Until years after the Green Revolution, procurement prices were below the ruling post-harvest market prices so that there was an element of taxation involved in sales to the system, and for this reason a system of compulsory levies on wholesale traders for wheat and millers for rice was instituted.

A system of minimum support prices (MSP) at which the government stood ready to purchase any amount offered was also instituted so as to protect farmers from a price collapse in bumper harvest years, and also to encourage farmers to adopt yield raising new technology without fear of a price collapse if the output rose substantially. MSPs were set below procurement prices. But over time, the distinction between the two disappeared and in effect, the government stood ready to purchase whatever was offered at the announced procurement prices. Inevitably, this led to political pressure not only for raising procurement prices, but also for lowering standards for the grains to be procured.

Food Corporation of India (FCI) was the public sector agency that procured the grains, stored them and transported them for distribution. The cost of storage and transportation as well as the overheads of FCI were added on to the procurement price to determine the so-called economic cost of procurement. The price at which grain, wheat and rice are issued by the Central Government to states for distribution to BPL and APL families are the so-called "issue prices," with the Central Government reimbursing the difference between the economic costs and issue prices to FCI. This is the food subsidy, which amounted in 2002-03 to Rs 4.14 and Rs 6.00 per kg for wheat and rice respectively for BPL households. The corresponding subsidies for APL households were lower at Rs 3.74 and Rs 3.35 (after July 2002). The total cost of food subsidies

⁴ To save space I will not discuss the add-ons by states to the procurement prices announced by the Centre and the procurement by states.

amounted to about 1 percent GDP that year (MOF, 2007, pp. 104-105). It is clear that any inefficiency in FCI and/or increase in procurement prices would raise the subsidy cost at unchanged issue prices.

The second objective of the procurement system besides distributing grains at subsidized prices through the PDS is to ensure price stability through the maintenance of buffer stocks⁵. With government standing ready to purchase any amount at minimum support prices, in years of bumper harvest the stocks with the government soared. For example, in July 2001 stocks of rice and wheat rose to 61.7 million tonnes as compared to the stock of 24.3 million tonnes for smoothing the difference between procurement and off-takes for the PDS. With rising stocks, indoor storage capacity was not enough and grain had to be stored in the open, thereby increasing storage losses. Mounting costs of storage forced the government to allow exports of foodgrains by private traders with export subsidies as needed. By the same token at times when stocks were low and there was pressure on market prices, government allowed imports as in 2006-07. The spillover from the policy of maintenance of public stocks for PDS and for stabilization purposes, with stocks in turn being influenced by minimum support and issue prices, to exports and imports of foodgrains is clear.

I would argue that a cash transfer to the poor to enable them to purchase adequate food and other essential commodities to the services would be superior to the public sector involvement in the purchase, storage and distribution of food. The suggestion that non-poor would claim to be poor to take advantage of the transfer certainly cannot be ruled out. But the issue is whether such leakages would be much more than the documented leakages from the current PDS from the use of bogus ration cards and diversion of PDS supplies, etc. As long as the identification of the poor at the local level is done in a transparent way using generally accepted norms, there is no reason to believe the transfer scheme would invite more leakages than the PDS. In any case, for well known reasons the out-of-pocket costs to the poor of accessing the subsidized foodgrains from the PDS have deterred significant numbers of the poor from accessing it in many parts of the country, as has been documented in many studies. Yet, the vested interests in maintaining the current PDS and indeed expanding it are far too strong politically to abolish it in favour of much better alternatives for safety nets for the poor.

⁵ The stock of foodgrains was also used for the food-for-work and a few other poverty alleviation programmes.

Policy interventions aimed at raising agricultural output and yields, particularly of foodgrains, date back to the Grow More Food campaigns of the early post-independence period. However, the number and intensity of interventions increased significantly after the introduction of the cultivation of high yielding dwarf varieties (HYVs) of rice and wheat in the late sixties. The background to the shift in policy attention to agriculture was the perception that agriculture did not receive sufficient attention it deserved in the second and third five-year plans. Reports by the Ford Foundation and also of the World Bank had drawn attention to the urgency of devoting more resources as well as greater policy focus on agriculture. Lal Bahadur Shastri, who succeeded Jawarhalal Nehru as Prime Minister in 1964 also wanted to devote more plan investment and outlays to rural and agricultural development. As mentioned earlier, growing dependence on food aid under US law PL 480 and the attempt of President Johnson to blackmail India during the critical period of 1966 and 1967 when India suffered two severe droughts in succession contributed to a shift in policy emphasis towards agriculture. It so happened that this was the period that HYVs of wheat and rice from international plant breeding and research stations in Mexico and the Philippines became available.

Although deriving the large potential output increase from planting HYVs required assured supply of water and substantial use of chemical fertilizers, there were no economies of scale per se in their cultivation. Also, tenants could benefit from their cultivation. Millions of farmers who were stuck in agriculture while cultivating holdings of less than a hectare either as owners or as tenants could therefore benefit from cultivating HYVs, as long as they could afford to purchase the necessary inputs, invest in irrigation (shallow water, tube wells, etc.), able to sell their products without heavy transaction costs and did not suffer an undue risk of price collapse in case they succeeded in raising their marketed surplus substantially. Also, the fact that few small and marginal farmers had the ability to store their output beyond the harvest time (so that sales could be made at a higher than farm harvest price) and to purchase inputs on a cash basis, access to credit was important well. Enabling the vast number of small and marginal farmers in areas with assured water, either from public irrigation canals and underground aquifers or from assured rainfall, would not only have a major impact on output but also a favourable effect on rural income distribution. These considerations justified appropriately designed interventions such as subsidies for fertilizers, irrigation water, electricity and diesel subsidies for running

pump sets, minimum support prices and credit as well as public investment in irrigation and rural roads.

The interventions unfortunately were not well designed. First, all farmers regardless of the size of their holdings were entitled to the various subsidies. Thus, the facts that the constraints that would have precluded small and marginal farmers adopting HYVs did not operate in the case of farmers with larger holdings, and risk adjusted returns to them on resources spent cultivating HYV, even if they used somewhat less than optimal amounts of purchased inputs, were shown to be significantly higher than an alternative use of resources on their own farm (or even in non-farm activities) did not play any role in the design of interventions.

Second, in part because the interventions were not selectively targeted and in part because of their weaker positions in the rural power structure, the small and marginal farmers did not share in the subsidies to the extent they would have had they been more powerful or if the subsidies were effectively targeted at them.

Third, the non-targeted nature of the subsidies increased the overall budgetary cost of the subsidies even allowing for the lesser participation of small farms.

Fourth, the fact that large farmers from the beginning were fully entitled to the subsidies meant that they acquired a vested interest in the continuation of and increases in subsidies. Given their strength in the power structure, they were able to exercise their vested interests effectively.

Fifth, the negative externalities from falling water tables arising from several farmers drawing water from the same underground pool, rising water-logging and salinity and of residues from fertilizers and pesticides polluting streams because of inadequate investment in drainage, etc., were exacerbated by the electricity subsidies, and not charging use cost for surface irrigation.

Sixth, the rationale for the interventions was largely based on the idea that HYV technology being new, its significant potential benefits as well as potential risks, while presumably known to the authorities, were not fully known by the large farming community, so that without initial and generous subsidization, the technology would not be adopted. This rationale also meant that once these farmers were induced to adopt the new technology and realized its benefits in their own fields, the subsidies could be phased out. However, once the powerful vested interests in the continuation and expansion of subsidies became organized, the phasing out of subsidies became improbable. The net result was that the budgetary costs of the

subsidies rose over time, with the gross subsidy on electricity sale to agriculture alone amounting to Rs 27,333 crores in 2006-07 or a little over 0.5% of GDP at market prices.

Seventh, the administration corruption involved in the dispensation of the subsidies was significant.

The last intervention I would like to mention is the National Rural Employment Guarantee programme, now being extended to the entire rural population. The programme guarantees 100 days of unskilled wage employment to each rural household opting for it. In 2006-07 a budgetary allocation for the scheme was Rs 11,300 crores (roughly 0.25% of GDP at market prices). This scheme has to be viewed basically as a poverty alleviation scheme as well as one that attempts to ameliorate the consequences of the failure of the development strategy to generate adequate rural employment opportunities. The guaranteed employment is supposed to be on public works that in principle would augment the economy's productive capacity. Evidence thus far on the functioning of the programme is mixed: in some districts there have been large leakages of the budgeted amount through corruption. In others, poor have benefited from the scheme. Even if the scheme had been uniformly successful, it cannot be other than a safety net for the poor and not a means for them to climb out of poverty once and for all by securing productive and secure employment in the economy's mainstream.

To sum up this section in spite of attempts at land reforms over decades, the distributions of land ownership and operational holding have not changed substantially. The landless together with owners of small and marginal holdings continue to be the overwhelming majority of rural households. Among operational holdings also small and marginal holdings are the overwhelming majority. The area under tenancy has remained small and whatever success tenancy reform has had, its effect on agricultural output has been extremely modest. The subsidies on agricultural inputs and offering minimum support prices, many of which were initiated in support of providing incentives for the adoption of HYV cultivation lost their rationale over time and have become stewards to vested interests at the cost of the exchequer.

Even an outside observer such as Alan Greenspan (2007, p32) has noted that "Growth of agricultural productivity has slowed since the 1980s. Although weather has been partly to blame, a highly subsidized government-directed agriculture that prevents market forces from adjusting acreage usage is the main culprit. The government in recent years has expended more than 4 percent of GDP on subsidies mainly on food and fertilizers, which state subsidization of power

and irrigation has added measurably more.” Realist that he is, Greenspan remarks “Regrettably, the dismantling of large farm subsidies seem no more likely in Delhi than it does in Paris or Washington.” He could have added while Paris and Washington can afford them, Delhi cannot.

Most conspicuous failure is that of India’s development strategy to create off farm jobs. Even as late as 2004-05 over 60 percent of usually employed rural males and even higher proportion of rural females are employed in agriculture. To quote Greenspan (2007, p320) again, “For India to become a major player in the international area that it aspires to be, it will need to build factories that entice a very large part of its agricultural workers to urban enclaves, to produce labour-intensive exports the time honored path of the successful Asian Tigers and China.”

3. Agricultural stagnation, Indebtedness, External opening and Farmer Suicides

I noted earlier (EGAI, 2007) has claimed that “the most important manifestations of the crisis are deceleration of agricultural growth combined with increasing inefficiency in input use thereby affecting the profitability of agricultural production. The growth of agriculture in both in terms of gross product and in terms of output has visibly decelerated during the post-reform period compared with that during the eighties. For example, growth rate of GDP from agriculture decelerated from 3.08 percent during 1980-81 to 1990-91 to 2.61 percent during 1992-92 to 2002-03 at 1999-2000 constant prices. The annual growth rate for all crops taken together decelerated to 1.58 percent during 1990-91 and 2003-04 from a growth rate of 3.19 percent during 1980-81 to 1990-91 (EGAI 2007, p23).

The distinguished groups of experts, headed by a prominent econometrician did not elaborate whether what they call deceleration is indeed a statistically significant decline in growth rates between the two periods since as is well known, agricultural output fluctuates from year to year. Also, the comparison of growth time spans of decades starting in 1980-81 and 1992-93 is arbitrary except that the reform process started in a systemic way in 1991. A purely econometric analysis would have asked whether there were any structural breaks in the data. Nor do they comment on the quality of underlying data. Those who know the process of agricultural data collection and the National Statistical Commission (2004) have commented on the deterioration in the quality of agricultural statistics relating to area, yield and production.

A somewhat more sophisticated analysis of all the data for 1950-2004 is by Vaidyanathan (2007a). He also subdivides the time span into three: 1950-70 covering the pre

and the early phases of green revolution, 1970-87 the period covering dynamic phase of the Green Revolution and 1987-2004 as the liberalization period. Based on the best fitting linear quadratic or log linear quadratic regressions, he finds that:

(i) with output as real gross value added (GVA) in agriculture from National Accounts Series (NAS), gross cropped area (GCA) from Ministry of Agriculture, with yield defined as the ratio of GCA, trend growth rate of output per annum was 2.4% during 1950-70, 2.7% during 1970-87 and 2.5% after 1987. In effect, there was no evidence of a significant deceleration in growth rate of output since 1987, although R^2 of the regression went down from 87% in 1950-70 to 85% in 1987 and 84% in 1987-2004 suggesting an increase in volatility of output over time. Crop area growth trends show a deceleration (negative quadratic term) in each sub-period, but different pace of change as well as the extent of deceleration; progressive and **sharp** increase in volatility around the trend. Vaidyanathan, comes to the appropriately cautious conclusion that, “Based on these estimates the current concerns about a sharp deceleration in growth of output and yields in the past decades would seem misplaced”.

The trends in official indices of gross cropped area, production and yields tell a different story for the period 1987-2004. The annual rate of growth of index production was estimated at around 2.98% in 1950-70 and a lower 2.57% in 1970-87 with no significant trend during 1987-2004. Growth in area showed deceleration within and between the first two periods, again with no significant trend in the last period. Vaidyanathan finds that the correlation between the series of GVA and indexes of production, etc., put together by the Ministry of Agriculture was higher than 0.95 during the first two periods but dropped sharply in the last period.

The GVA, by definition, is value added and not gross output. There are well known issues relating to the deflation of nominal value added to arrive at real GVA (e.g., single deflation by the price index of output versus double deflation consisting of deflating nominal value of output by an output price index and subtracting from it the real value of non-factor inputs obtained by deflating their nominal value by an input price index). The Ministry’s indexes are derived by weighting output of each crop by its share in gross value of output at base year prices. Although these well known conceptual differences and measurements between the two series are important, the fact that the correlation between them dropped in the third period (1987-2004) after being high in the first two suggests that the problems with data gathering and measurement which always existed have apparently worsened in recent years, a fact alluded to by the National

Statistical Commission. Vaidyanathan (2007a) is absolutely right in saying that “pending a careful examination of the reasons for the [growing] differences between the series and the possibilities of reconciling them or assessing their relative merits, there is clearly warrant for caution in bringing inferences about recent trends in agricultural growth.”

The decadal surveys by the NSS of assets and liabilities provide a rich source of data on indebtedness of farmers and their access to institutional credit. EGAI (2007) draws extensively on this body of data. I will also draw on these data but very selectively to make a few points on rural indebtedness, sources of borrowing and interest rates in particular. First, the share of cultivators among rural households has steadily declined from 72.4% in 1971 to 59.7% in 2002 (NSS, 2005a, statement 2), with significant interstate variations in the decline. Second, land continues to be the largest component (68% in 2002 and 69% in 1971) of the asset portfolio of cultivators. Interestingly, non-cultivator households have increased the share of land in their portfolio from 32.3% in 1971 to 38.2% in 2002 (ibid, statement 2). Third, although following the nationalization of most commercial banks in 1969, their rural branches increased substantially and after liberalization many new financial products were offered by banks, still the share of financial assets in the portfolio of cultivator and non-cultivator households did not increase from their low values. However because the share of non-cultivator households with higher share of financial assets in their portfolio in rural households increased, the share of financial assets in the portfolio of all rural households rose from 1.1% in 1971 to 2.2% in 2002. Fourth, the incidence of indebtedness (ignoring some minor issues of comparability over time), having drastically declined from 43% in 1971 to 20% in 1981, has increased slowly since then to 27%. There are substantial interstate differences in the extent of indebtedness but the pattern of change over time is broadly similar across states. There is no evidence that the incidence of indebtedness rose much more rapidly in the decade of the nineties than it did in the decade of the eighties (ibid, statement 29). However, the debt-asset ratio of rural cultivator households having declined from 4.13% in 1971 to 1.61% in 1991, increased in the nineties to reach 2.49% in 2002 (ibid, statement 35).

On sources of borrowing and hence of accumulated debt, rural households (cultivator and non-cultivator) borrowed more than they repaid in 1971-72, 1981-82, 1991-92 and 2002-03, with differences increasing substantially from being relatively small in 1971-72 (NSS, 2006, statement 2R and 3R). The proportion of households reporting cash borrowing, after falling from

29.3% (23.4%) for cultivators (non-cultivators) in 1971-72 to 20.6% (16.7%) in 1981-82, began rising steadily to 22.4% (18.4%) in 2002-03. However, there is no jump in the proportion between 1991-92 and 2002-03. The proportion of cultivator households reporting cash repayments fluctuated without trend. However, the proportion of non-cultivator households reporting repayments increased steadily.

EGAI (2007, Table 3.2) reports that the share of institutional sources in the debt of cultivator households rose from 7.3% in 1951 to 61.1% in 2002, the most dramatic increase being from 31.7% in 1971 to 63.2% in 1981 after the nationalization of banks in 1969. Since 1981 it has fluctuated without trend. The share of moneylenders, having fallen from 69.7% in 1951 to 16.1% in 1981, began increasing thereafter, particularly in the nineties from 17.5% in 1991 to 27.8% in 2002. Also debt incurred for productive purposes (farm and non-farm businesses), after having risen from 40.1% in 1961 to 71.6% in 1981, has fallen to 67.9% in 2002. Of the 8.7% increase in the proportion of non-productive debt between 1981 and 2002, 7.7% was accounted for by increase in household expenditure. Clearly, both the rise in the share of moneylenders in debt after 1991, and in the increase in the incurring of debt for household expenditures are undoubtedly disquieting. Also, as noted earlier, the incidence of indebtedness also increased after 1981, although there is no evidence of acceleration in the increase in the nineties. However, the debt/asset ratio of rural cultivator households, though it also increased in the nineties, is still very modest at 2.49% in 2002. In sum, the farmer indebtedness picture in the aggregate has indeed deteriorated in the nineties. There are also substantial interstate variations in almost every dimension of indebtedness and its trend over time. Unfortunately, EGAI (2002) does not attempt the undoubtedly difficult deep causal analysis. To the best of my knowledge no such analysis exists either in the vast academic literature either.

The proportion of cash debt that was interest-free has declined from 18% in 1981 to 8% in 2002. The dominant share continues to be debt with a simple interest rate and it has remained stable at around 69%. Debt at compound rates of interest has doubled from 11% in 1981 to 21% in 2002. Of the 69% of debt on simple interest in 2002, only 25 % were at a simple rate of interest of less than 15% per year. Of the 21% of debt on a compound interest rate basis, 10% were at interest rates between 10% and 15% and another 10% at interest rates above 15%. Interest on rural cash debt from non-institutional sources was basically three: 18% free of interest, 33% at rates below 20% and 25%, and 40% at an exorbitant 40% or above. Interest on

institutional debt was concentrated at two levels: 57% of debt was at rates between 10% and 15% and another 34% at rates between 15% and 20%. Clearly, the growth of the share of moneylenders in the debt after 1981 and the high rates of interest they charge make the evolving debt scene even more disturbing.

Turning to the post-reform trade liberalization and agriculture, EGAI (2007, p. 30) claims “Agricultural trade has been gradually liberalised beginning with mid-1990s. All-India product lines have been placed under Generalised System of Preferences (GSP). By 2000, all agricultural products were removed from Quantitative Restrictions (QRs) and brought under tariff system. Canalisation of trade in agricultural commodities through state trading agencies was virtually removed and most of the products are brought under Open General Licensing (OGL).”

First of all, the term GSP is used in the documents of GATT/WTO to denote tariff preferences granted by developed countries on imports of a subset of commodities imported by them from a number of developing countries. It has nothing to do with India’s tariff regime. What the experts must have had in mind was that with the Uruguay Round Agreement on agriculture, all restrictions on agricultural imports were converted into their presumed tariff equivalents. As is well known, many WTO members including India took advantage of this process to set tariff bounds on agriculture at very high levels, so that with these high bounds and the reduction in them that they committed to as part of the agreements had no effect on actual applied tariffs on a most favored nation (MFN) basis. For India, the simple average bound tariffs by India on agricultural products was a whopping 114.2%, while the actual average applied level on a MFN basis in 2005 was only 37.6%. Nearly 90% of the bound tariff rates exceeded 50% (WTO, 2007).

Since the government has the freedom to raise applied tariffs to their bound levels at its discretion, a large gap between applied and bound levels creates uncertainty about trade policy. The expert group did not elaborate as to when canalisation was actually removed. As recently as in 2001 when mounting stocks led the government to allow exports of foodgrains, private traders needed permission to export. Even in 2007, to go by media reports, government has “allowed” wheat to be imported. An appropriate characterization of India’s trade policy with respect to agriculture, is that it is primarily driven by short-term domestic price trends, with a rise in the domestic price of onions or of raw cotton leading to a ban on their exports, or rise in domestic prices (or stocks) of rice or wheat leading to their import (export). The variation in trade policy

with respect to vegetable oils is another example of short-term considerations influencing them. There is as yet no long-term liberalized trade in agriculture. Moreover, India did not have to do anything with respect to its domestic support measures to agriculture since these were within the limits set in the Uruguay Round. Whether the situation will change against India in any agreement on agriculture in the Doha Round, is pure speculation, as of now. The expert group clearly did not convincingly establish that India's trade liberalization which was not significant contributed to the crisis.

Gross Capital Formation in agriculture (GCFA) as a percent of agricultural GDP, both at current prices rose steadily from 10.3% in 2000-01 to 14.1% in 2005-06, having fluctuated around an average of 9.5% between 1990-91 and 2000-01 and 9.5% in the nineties before then.(EGAI 2007, Table 1.11) Because of the more rapid growth in non-agricultural GDP, GCFA as a proportion of GDP declined from 1.92% in 1990-91 to 1.37% in 1990-00 according to old GDP series and from 2.2% in 1999-00 to 1.9% in 2005-06 according to new GDP series (MOF, 2007, Table 8-19). The decline had begun in the 1980s when rapid growth in non-agricultural GDP began. The share of public sector in GCFA increased from around 18% to 24% between 1999-2000 and 2005-06, having declined from its high value of 43.2% in 1980-81. (EGAI, 2007, Table 1.11) The decline in public sector GCFA is partly due to the decline in public sector investment as a share of GDP during the period from the late 1980s. The fact that GCFA as a proportion of GDP did not decline in recent years, largely due to rises in private investment, which is widely believed to be more production than private investment, suggests that the argument that decline in GCFA is a contributory factor to the crisis is not consistent with the data.

Among the contributory factors of the agrarian crisis cited by EGAI (2007), agricultural indebtedness seems to have some firm empirical support. Deceleration in output growth is not firmly established. Per capita net availability of cereals and pulses has fluctuated with no pronounced downward trend (MOR, 2007, pp. 5-21). It did not decline as claimed by Athreya (2007). I have already noted that the evidence of a decline in terms of trends for agriculture asserted by EGAI (2007) is unconvincing. In fact the ratio of manufactured price index, in the wholesale price index has shown a declining tendency since 1993-94, suggesting an improvement of agriculture's terms of trade (MOF, 2007, pp. S-64). The case of trade

liberalization and decline in public investment in agricultural having contributed to the crisis is not supported by the data either.

Finally turning to the tragic farm suicides, the data analyzed descriptively by Nagaraj (2007) and cited in Sainath (2007a-2007d) are indeed alarming. However, only tables from Nagaraj (2007) are available and until the full paper is available, it is impossible to say whether a deeper-causal analysis would be included in the paper. A number of papers on the suicides have been published in the *Economic and Political Weekly* as well. EGAI (2007, Chapter 4) also discusses the available data. Among the studies, the only study that attempts an analysis of the factors that might be associated with the likelihood of an individual committing suicide is IGIDR (2006). EGAI (2007) cites some findings from this study in Chapter 4. The study refers to sociological (e.g., precipitating items) and neurological (e.g., predisposition to suicide) aspects of suicide, but its empirical analysis touches on only a few socioeconomic factors that might be involved but not in any depth. No information on neurological aspects was available to the analysts. The methodology of the study was deliberated at a workshop in which economists, sociologists, a psychiatrist, bureaucrats and media persons participated. It was largely based on a primary survey consisting of three components: household interviews, focus group discussion and village level information. The analysis was based on interviews of households of 115 suicide victims spread across 105 villages from Amaravati (1), Wardha (21), Washim (29) and Yavatmal (60) districts of Maharashtra. Based on group discussions conducted in the villages, the study put together a control group of households that had not experienced a suicide but were similar to the households that had experienced a suicide in terms of ownership of land and other assets. In all, 106 control households were identified in 103 villages. The households that had experienced a suicide cannot obviously be a random sample of the households from the villages studied, nor can the control group of households since they were in fact chosen to be comparable to the other households. Since most findings of the study are based on a comparison of the two groups of households, because of the non-random aspects of the samples one cannot generalize of the results of the comparison to the population of households of the study villages.

The study had the following objectives:

- * To analyze the agrarian scenario in the selected districts of Wardha, Washim and Yavatmal.
- * To look into the trends and patterns of the recent suicide scenario in Maharashtra.

- * To study the nature and extent of indebtedness among deceased farmers.
- * To identify and examine other socio-economic factors leading to suicidal death by the deceased farmers.
- * To compare the suicide (case) with non-suicide (control) households.
- * To suggest policy measures.

It turns out cotton is the traditional cash crop in the selected districts. The study shows that profitability of cotton cultivation has been declining over the years and attributes the decline to high subsidies by the USA leading to price distortions, low import tariffs in India and the failure of the monopoly cotton procurement scheme in Maharashtra. “Withdrawal of the state is evident from declining public investment in agriculture, poor government agricultural extension service, diminishing role of formal institutions in rural financial markets among others.” Unfortunately, the study does not substantiate any of these claims.

The age-adjusted suicide mortality rate (SMR) per 100,000 of population has remained in the range of 20-21 for males since 2001 while that for females has been declining since 1999. However, SMR for male farmers trebled from 17 to 53 between 1995 and 2004. Difference in incidence of suicides across caste and size-class of land holding are not statistically significant, though the rates for scheduled caste and scheduled tribe and for marginal and small farmers are slightly higher. Based on police records of cases of suicide, for male (females), 31 percent (41 percent) of suicides are attributed to family problems, 24 percent (20 percent) due to illness other than insanity, and 23 percent (20 percent) due to miscellaneous reasons. Economic problems accounted for 11 percent of small farm males and 3 percent for females. The study is rightly cautious not to over-interpret these data since attributing to a single cause of an event which could have many interrelated causes could be highly subjective and can lead to measurement biases and errors.

Of the fourteen risk factors identified in the 111 suicides studied, the most frequent (87%) was indebtedness along with the associated harassment for repayment of loans, with next most frequent being deterioration in social status (74%). Crop failure was associated in 45% of the suicides. Most of the remaining 11 factors related to personal or family problems including illness. At a minimum (maximum), at least 2 (at most 9) of the 14 factors were associated with the 111 suicides, the average being 4.8. The study estimated a step-wise logistic regression of log odds of a household experiencing suicide. Outstanding debt and not owning a bullock are the two

variables that raise the odds significantly. However, in the regression restricted to household pairs with similar land holdings, only debt per acre is significant. On the other hand, in the regression restricted to same caste household pairs, not owning a bullock and family size are statistically significant. If we restrict the regression to pairs of households with similar land holdings and the same caste, only not owning a bullock is significant.

Unfortunately, not much can be inferred from the study about the agrarian crisis as being a contributory factor to rising suicides. After all any one, farmer or one with a non-farm occupation, can accumulate debt for many reasons that he or she cannot service. While not owning a bullock is a serious constraint for a farmer, it is often the case that farmers sell off their bullocks to repay debt or when faced with a serious adverse shock to their income.

Contrary to simplistic assertions that the burden of debt and trade liberalization are the main causes of suicides, Vaidyanathan's (2006) analysis shows that no more than 20% of households were indebted even in the states where suicides are high or have been affected by import liberalizations. Also import liberalization that occurred was not due to India implementing its commitments under the WTO Agreement on agriculture, which, as noted earlier, did not require India to reduce its subsidies and India's commitment to reduce its high bounds on tariffs had no effect on actual tariffs.

4. Summary and Conclusions.

It is widely believed that India is in the midst of an agrarian crisis. The Expert Group on Agricultural Indebtedness appointed by the Ministry of Finance and Chaired by the eminent econometrician Professor R. Radhakrishna, former Director of the Indira Gandhi research Institute for Development Research, Mumbai, on page 13 of its report of July 2007 firmly asserted that "Indian agriculture is currently passing through a period of severe crisis...the crisis has assumed a serious dimension since the middle of the 1990s. One of the tragic manifestations of the crisis is the large number of suicides committed by the farmers in some parts of India."

The Expert Group and contributors to the growing literature on the crisis have attributed the crisis to several factors: the role of systemic economic reforms of 1991; the opening of the Indian economy to external competition and investment after decades of insulation; the impact of India's implementation of its commitments under the Agreement on Agriculture of the Uruguay

Round of Multilateral Trade Negotiations; neglect of Agriculture in the planning process since the mid 1980s; the decline of public investment in agriculture; slowing of the rate of agricultural output; stagnation of yields per hectare of land and growing indebtedness of farmers.

The empirical evidence offered in support of most of the factors identified in the literature and by the expert group is weak, if not nonexistent, with one notable exception, namely growing farm indebtedness. First, the process of reforms covered the external, financial, fiscal, and industrial and infrastructure sectors and most of the reforms did not directly impinge on the agricultural and rural sectors. Of course the reforms could have affected the two sectors indirectly – for example, fiscal reform and consolidation could have affected public investment in agriculture adversely. It is true that aggregate public investment as well as agricultural investment as a share of aggregate GDP fell in the 1990s. However fiscal consolidation in the form of reduction in fiscal deficits as a per cent of GDP happened only in the first half of the nineties after which the process was reversed. Moreover, faced with the task of reining in growth of public expenditures, the authorities chose to do it through cutting capital rather than current expenditures. For example there was no significant reduction in subsidies as a per cent of GDP. This being the case, it is not convincing to argue that fiscal reform forced a reduction in public investment in agriculture. Moreover agricultural investment as a per cent of agricultural GDP in rose since 200-01. This in turn implied that the reduction as a per cent of aggregate GDP was due to faster growth in non-agricultural GDP relative to agricultural GDP. Also the growth of private investment in agriculture in large part mitigated the effects of the fall in public investment. To the extent that private investment is more productive than public investment, even if it did not substitute rupee for rupee of public investment, it could still have largely, if not more than, offset the output loss from the reduction in public investment.

The Expert Group seems to have misunderstood India's commitments under the Agreement of Agriculture of the Uruguay Round. Contrary to its assertion, according to the WTO's Fourth Review of India's Trade Policy early in 2007, even as of April 1 2006, canalization and state trading covered foreign trade in rice, wheat and other food grains and some vegetable oils. Although quantitative restrictions on imports were removed in 2002, after an adverse decision against their use by the WTO's Dispute Settlement Mechanism, many agricultural imports are

included among the 300 items whose imports are being monitored since they are considered sensitive. WTO's Review points out that tariff continue to be used in support of the overall goals of food self-sufficiency and price stability. The tariffs are raised or lowered from time to time depending on domestic market conditions. India bound its tariffs on agricultural products at a very high level in the Uruguay Round (simple average of 114.2%). With the average applied MFN tariffs in 2005 being 37.6%, there was plenty of room to raise tariffs (up to the bound level) or down (to zero) according to the Government's discretion. Under the circumstances, it is inappropriate as well as a wild exaggeration, to claim that import competition from the implementation India's commitments at the WTO have contributed to the agrarian crisis.

Prima Facie, it would seem that agricultural output growth had slowed in the 1990s as compared to the eighties. But other than the fact that reforms were initiated in 1991, there is no particular reason for this periodization and comparison. A more convincing periodization of the period 1850-2004 by Vaidyanathan (2007), into pre and early green revolution periods (1950-1970), the dynamic and mature phases of the green revolution (1970-1987) and economic liberalization (1987 -2004) leads to different conclusions, depending on whether data on real gross value added by agriculture (GVA) from National Accounts or the Index of Agricultural production of the Ministry of Agriculture is used in the trend analysis. While GVA data not support the hypothesis of growth deceleration either in output or yield per hectare of land in the period 1987-2004, the analysis with the Index does. As Vaidyanathan rightly observes, given the conceptual differences between the two data series and the well known deterioration in agricultural data collection and compilation, without an in depth analysis of the differences between the two data series, it will be premature to conclude that the hypotheses of growth deceleration and its contribution to the agrarian crisis, are well founded. Moreover, the data in the latest Economic Survey do not show any downward trend in the nineties in the per capita availability of cereals and pulses.

The NSS data show that the incidence of indebtedness among farmers has increased slowly from 20% in 1981 to 27% in 2002, although there is no evidence of a faster rate of increase during the decade of the nineties. Moreover, the share of the institutional sources of credit has been fluctuating since 1981 after rising dramatically from 31.7% in 1971 to 63.2% in 1981, in part due

to the expansion of bank branches in rural areas after nationalization of banks in 1969. Unfortunately the share of money lenders, having fallen from 69.7% in 1951 to 16.1% in 1981 began rising thereafter reaching 27.8% in 2002. Debt incurred for production purposes also declined after 1981, most of the decline being accounted for by increase in debt-financed household expenditure. Thus the rise in the incidence of farm indebtedness, the share of money lenders as a source of debt finance and in the use of debt for financing household expenses is disquieting. However without a casual analysis of these trends one cannot draw a firm conclusion that they contributed to the agrarian crisis. Nor can one dismiss the hypothesis that they did. But EGAI (2007) attempted no casual analysis nor have others, to the best of my knowledge. I do not offer one either.

The contention of this paper is that the current agricultural situation, whether one describes it as a crisis or not, is the inexorable consequence of India's development strategy since 1950 until the systematic reforms of 1991. This strategy completely ignored the lesson of economic history that successful development involves transformation of the economic structure through massive shift of work force and population away from low productivity use in agriculture and primary activities and into manufacturing and other tertiary activities. India's industrialization focused on capital intensive import substitution across the board with emphasis on the development of heavy industries and insulation from world markets. This inevitably led to more than 60% of the rural work force still being engaged in agriculture and allied activities in 2004-05 after five decades of industrialization.

This contention is confirmed by the history of agrarian reforms since independence. Other than the abolition of intermediary tenures, soon after independence, attempts at reforming land ownership and tenancy have not been very effective. These were founded on the expectation that a growing absolute number of people and worker will continue to depend on land. In any case land reforms did not significantly change the distribution of land ownership and tenancy. Concentration in ownership holdings did not change and that in operational holdings has remained unchanged since 1970, after having risen somewhat from its level in 1960-61.

The set of interventions introduced in the seventies to support the adoption of HYVs, primarily of rice and wheat, was driven by the need to attain self-sufficiency in food grains. While successful in achieving it, the interventions by their very design created vested interests that successfully lobbied for their perpetuation and increase. The net result was an increased burden on the fisc of subsidies to food, fertilizers and electricity. The interventions associated with the PDS for food grains, motivated primarily by consideration of social justice and providing access to food for the poor, were not cost effective as compared to other potential policies for achieving the same objectives with the intervention. The political economy of PDS also precluded reforms of the system to make it more cost effective. Most importantly, the two sets of interventions associated with the PDS and self-sufficiency in food promoted concentration on cereal agriculture rather than diversification into other crops. The net result is that while consumer demand is shifting away from cereals, the policies on the supply side are still focused on cereals.

The focus of future policies has to be to promote labour intensive industrialization in rural and urban areas to supply rising domestic and global demand. Although the growth of the service sector, particularly that of IT enabled services, has been impressive, it would be fool hardy to believe that service sector growth alone would bring about the needed economic transformation in the long run. Of course in short to medium run, policies for increasing agricultural productivity and relieving farm distress would be appropriate.

The Eleventh Five Year Plan has increased the allocation of resources for agriculture significantly as compared to the tenth plan. An increase in resources, if is not accompanied by policy changes that make the rise of resources more effective than in the past would obviously limit what can be achieved with the increase. Vaidyanathan's (2007 b) notes on the agricultural strategy in the eleventh plan emphasizes this point, through he does not phrase the issue in this way. He points out that the plan's target of achieving a 4% annual growth of agricultural output is very unrealistic as compared to the growth record of 1950-2004 or of recent decade or no. Of course, past growth record is no predictor or a constraint on a more ambitious future growth target, if the latter is associated with the new set of policies different from the past to support. After all, India was able to accelerate its GDP growth significantly since the eighties as

compared to the so called “Hindu rate of growth” of around 3.75% per year during 1950-80 with hesitant reforms in the 80s and systematic broad based reforms after 1991 that broke decisively from the earlier development strategy. My reading of Vaidyanathan’s notes suggests that the policies proposed in the plan do not differ radically from those of the past, but are merely “more of the same”. He stresses the institutional weaknesses have limited the effectiveness of past policies. For example, availability of adequate moisture is a major constraint on the use of yield raising (land augmenting) technologies. But given the large share of rainfed areas and the deterioration of land quality through imprudent use of water in irrigated areas (in large part due to policy created incentives) a shift away from current irrigation practices and from the pattern of investment in creating investment capacities is called for. The plan is focused mostly on accelerated expansion of irrigation facilities. Vaidyanathan is on target in saying that none of these could be deemed new programmes and in the past their implementation has been plagued by serious deficiencies due to lack of accountable and transparent implementation. The plan offers no evidence to believe that these deficiencies have been eliminated.

Vaidyanathan argues that “the notion high output prices and input subsidies protect the incomes and livelihood is misplaced. The best way to raise rural in assess and employment is through increasing agricultural productivity” I would argue that although policies to increase agricultural productivity are no doubt desirable, the problem for raising incomes and livelihoods the rural poor consisting of non-viable farmers and landless cannot be solved without enabling them to abandon agriculture as an occupation and to engage in more productive off farm activities, many of which would be rurally based .

The generation of oft employment activities at an adequate pace and amount will not come about without a change in industrialization and foreign trade policies. Also without efficiently functioning land markets and distortion free markets for agricultural inputs and outputs, the small land owners will not be able to divest their land holdings and the needed restructuring of farms into viable holdings will not come about. Had there been an efficient system of land ownership records and a network of thick and efficient markets for land, anyone wishing to acquire land currently in one private wise (for example in farms) for another private use (say in SEZs) would have been able to do so at a fair market value without the state having to intervene

in a heavy handed and inequitable fashion. Slogans such as no farm land should be allowed to be put to any other use are mere slogans without rationale. A rational policy would insist on land being put to its best social use either for farming or elsewhere.

Even after the reforms of 1991 on that decisively broke away from insulation from world markets, India is still one of the most protected among developing countries. Our bound tariffs are high and much above their applied levels particularly compared to China. FDI inflow to India is far less as compared to China. Above all the way China has used FDI in its exporting activities to become the world's third largest exporter and in gaining in market shares particularly of labour intensive manufacturers as compared to India is remarkable (Tables 6 and 7) Fenestrata and Hong (2007) attribute to Dooley et al (2004) the suggestion that China needs to create jobs for 200 million persons from the countryside or 10-12 million per year in the urban areas, and growth in exports will explain about 30% of those employment gain. Fenestrata and Hong (2007) in their evaluation of Dooley's suggestion find that export growth during 1997-2002 accounted for a third of the employment growth of 7.5-8 million workers per year. Although during 2002-05 exports grew faster, and in principle explain the entire employment growth, taking into account the employment generation from the rise in domestic demand, especially for investment, exports still accounted for a third of the total employment. The two authors do not say whether part of the investment growth was itself induced by export growth. Still 2.5 million a year or so in new jobs from exports are still large. India's total exports in a year in recent years less than just the increment in China's export in year! India's export growth has obviously not been the driver of growth of GDP or employment.

Table 6: Shares of China and India in World Exports and Imports

Source: WTO (2006), Tables II and III.

	1948		1953		1973		1983		2006	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
China	0.9	1.1	1.2	1.7	1.0	0.9	1.2	1.1	7.5	6.3
India	2.2	3.1	1.3	1.4	0.5	1.5	0.5	0.7	0.9	1.3

**Table 7 : Shares of China and India in Markets for Labour Intensive exports
China and India's participation in World and major export market**

	1978- 1981	1982- 1984	1985- 1987	1988- 1991	1992- 1994	1995- 1997	1998- 2000	2001- 2003	2004- 2006
World Markets									
China									
Garments	3.93	6.93	8.74	14.95	18.78	19.70	20.45	22.71	23.26
Fabrics	5.15	7.48	8.28	8.25	7.87	8.87	9.36	12.51	21.61
Leather and leather manufactures	0.41	0.61	0.75	2.55	2.94	4.07	4.82	7.00	10.83
Jewelry	1.13	1.05	1.36	2.69	5.97	7.14	9.48	6.43	8.30
Others	1.07	1.93	3.27	7.73	14.60	16.90	18.10	13.18	21.47
India									
Garments	3.95	3.43	3.46	3.82	4.40	4.97	5.27	3.94	4.25
Fabrics	2.04	1.38	1.45	1.43	1.99	2.10	2.42	2.61	2.46
Leather and leather manufactures	8.85	7.45	7.13	5.52	4.03	3.42	3.44	3.45	3.25
Jewelry	0.61	1.02	1.40	2.18	2.21	2.97	4.61	6.10	9.87
Others	0.31	0.24	0.20	0.25	0.29	0.30	0.31	0.36	0.39
North American Markets									
China									
Garments	3.73	8.00	8.81	13.19	21.30	21.42	20.59	13.98	18.94
Fabrics	3.73	5.31	5.61	5.66	6.25	5.84	6.52	5.85	10.68
Leather and leather manufactures	0.14	0.45	0.49	2.57	6.67	7.65	8.44	11.09	15.97
Jewelry	0.50	0.42	0.25	1.77	3.99	5.51	8.13	6.75	8.15
Others	0.72	1.51	2.98	9.92	20.89	25.62	26.57	13.98	20.11
India									
Garments	4.89	4.14	4.12	4.60	5.80	5.56	5.34	4.02	4.60
Fabrics	6.02	2.64	2.69	2.98	4.62	5.93	5.73	2.60	2.41
Leather and leather manufactures	9.38	8.89	6.51	4.09	3.05	2.33	2.05	1.72	1.67
Jewelry	0.39	0.83	1.34	2.46	4.57	7.01	9.60	11.07	15.62
Others	0.19	0.11	0.14	0.22	1.28	1.09	1.01	0.27	0.28
European Markets									
China									
Garments	1.84	2.40	3.15	6.25	10.04	10.34	11.80	8.15	14.34
Fabrics	1.54	2.15	2.08	1.78	1.70	2.05	2.92	4.75	8.57
Leather and leather manufactures	0.33	0.37	0.31	0.86	1.14	1.27	1.89	2.37	3.68
Jewelry	0.47	0.26	0.51	1.41	3.07	4.08	5.97	1.99	3.33
Others	0.40	0.71	1.22	2.94	6.41	6.76	7.99	6.49	11.31
India									
Garments	3.90	3.47	3.61	4.26	5.39	6.00	4.65	4.10	3.39
Fabrics	1.54	1.18	1.30	1.60	1.99	2.28	2.26	2.46	1.68
Leather and leather manufactures	9.90	8.51	8.26	7.65	7.45	7.09	6.12	2.48	3.96
Jewelry	0.88	1.23	1.59	1.91	2.60	3.39	4.28	3.71	3.52
Others	0.33	0.27	0.22	0.29	0.86	0.87	0.71	0.53	0.42
<i>*Note: India figures reflect only 2004-2005 data.</i>									

To say, as I do, that India had to engage in labour intensive rural and urban industrialization, in part focused on supplying export market, is not to say that this is easily done. Besides further opening the world markets and FDI, infrastructural constraints such as power, rural and urban roads, ports etc have to be eased as well. Shifting the policy focus to one of moving millions from the farms to more productive activities off farm will not only accelerate growth, but will make it more inductive as well. Merely chanting the mantra of “inclusive growth” as the Eleventh Plan does, as if it is a new vision, is like chanting mantras for anything else – to seek presumably divine intervention to bring about a change with having to do anything one self. I will leave it to other to judge whether invocatory chants are productive.

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