

MPRA

Munich Personal RePEc Archive

Agricultural Crisis in India: The Root Cause and Consequences

Dhas, Albert Christopher
The American College, Madurai

30. November 2009

Online at <http://mpra.ub.uni-muenchen.de/18930/>
MPRA Paper No. 18930, posted 30. November 2009 / 09:40

Agricultural Crisis in India: The Root Cause and Consequences

Dr. R. Albert Christopher Dhas
PG & Research Department of Economics
The American College, Madurai, Tamil Nadu

Agriculture (including allied activities) accounted for only 18 per cent of the Gross Domestic Product (GDP-at constant prices) in 2007-08 (Economic Survey 2008-09), but it is a source of income and employment for more than two-thirds of the nation's population. The role of agricultural sector remains critical as it accounts for about 52 per cent of the employment in the country, apart from being the provider of food for the people, fodder for livestock and raw materials to industries. In fact, agricultural sector contributed 12.2 per cent of national exports in 2007-08 (Economic Survey 2008-09).

Based on the fact that the relative contribution of agriculture to the GDP has been declining over time, it could be stated that this sector has lost its importance as the backbone of Indian Economy. Agriculture is now being seen by many as a sector of "cows and poultry", and the crop husbandry as a dismal area. In general, the poor performance of agricultural production and food production is not a healthy sign for the economy. The recent trends in the agricultural sector of India need to be looked at in the context of globalization process and its impact on Indian economy. The present paper is an attempt in this direction.

The objective of this paper is to examine the issue of Agricultural Crisis in India, its root cause, consequences of the crisis and to highlight the major suggestions for its development. The entire discussion is organized in three sections. Section 1 examines the recent trends in agriculture and the issue of agricultural crisis in India. Section 2 examines the root cause for the observed trends in agriculture in India and analyses the consequences. The third section provides the summary.

Section 1

Trends in Indian Agriculture and Its Crisis

Agriculture was considered to be the backbone of Indian economy and its contribution to the National Income was estimated as about 57 per cent in the early fifties. This position got altered steadily and significantly since independence (Table 1). In 2000/01, the contribution of agriculture to GDP was halved again to about 26 per cent. In 2007-08, it is estimated that agriculture contributes only 19.78 percent to the GDP. Though it is expected that in the process of development the sectoral contribution to the GDP would change, the issue is whether the observed trends in India's agricultural sector's share over time is justifiable or desirable?

Table 1

Trends in Share of Agriculture and Allied Sectors in India's GDP

Period	1950/51	1960/61	1970/71	1980/81	1990/91	2000/01	2005/06	2007/08
Percentage Share	56.70	52.48	46.00	39.93	34.04	26.18	21.65	17.80

Source: Computed from Economic Survey: 2008-09.

It is interesting to note that the growth rates of agriculture in India's GDP had been growing during early periods, but in the last few years, it is constantly declining. This is evident from the table 2, which presents the long-term growth rates of agriculture in comparison with the whole economy.

The growth performance of agriculture has been always lower than that of the total economy since the early independence period say pre-green revolution era (1951-52 to 1967-68). The divergence is the highest during the Tenth Plan Period where the total economy was growing at 7.77 per cent, the agriculture and allied sector was witnessing a growth of 2.47 per cent only. The growth rate of agriculture was relatively high during the eighties and early nineties say 3.52 and 3.66 per cent respectively. However, during the 9th Plan, the growth rate of agriculture dripped down to 2.50 and further to 2.47 during the 10th Plan Period.

Table 2
Average GDP Growth Rates—Overall and in Agriculture in India

(% per Year at 1999–2000 Price)

Period	Total Economy	Agriculture and Allied Sectors	Crops and Livestock
1. Pre-Green Revolution: 1951–52 to 1967–68	3.69	2.54	2.65
2. Green Revolution Period: 1968–69 to 1980–81	3.52	2.44	2.72
3. Wider Technology Dissemination Period 1981–82 to 1990–91	5.40	3.52	3.65
4. Early Reforms Period : 1991–92 to 1996–97	5.69	3.66	3.68
5. Ninth Plan Period: 1997–98 to 2001–02	5.52	2.50	2.49
6. Tenth Plan Period : 2002–03 to 2006–07	7.77	2.47	2.51

Source: 1. National Accounts Statistics 2008 (New Series), Central Statistical Organization, Ministry of Statistics and Programme Implementation, New Delhi.
2. Eleventh Five Year Plan (2007–2012), Agriculture, Rural Development, Industry, Services and Physical Infrastructure, Volume III, Planning Commission, Government of India, 2008.

The deceleration in the economy and the agricultural sector during the Tenth Plan period could be closely looked at, by examining the growth rates of GDP by its sectors. The growth of GDP at factor cost (at constant 1999-2000 prices) was at 6.7 per cent in 2008-09 representing a deceleration from a high growth of 9.0 per cent and 9.7 per cent in 2007-08 and 2006-07 respectively. The deceleration of growth in 2008-09 was spread across all sectors except mining & quarrying and community, social and personal services. The growth in agriculture and allied activities decelerated from 10 per cent in 2003-04 to 4.9 per cent in 2007-08 and further to 1.6 per cent in 2008-09, mainly on account of the high base effect of 2007-08 and due to a fall in the production of non-food crops including oilseeds, cotton, sugarcane and jute than in 2007-08 (Table 3).

Table 3
Rate of Growth of GDP at Factor Cost at 1999-2000 Prices

(in per cent)

Sector	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Agriculture, forestry & fishing	10.0	0.0	5.8	4.0	4.9	1.6
Mining & quarrying	3.1	8.2	4.9	8.8	3.3	3.6
Manufacturing	6.6	8.7	9.1	11.8	8.2	2.4
Electricity, gas & water supply	4.8	7.9	5.1	5.3	5.3	3.4
Construction	12.0	16.1	16.2	11.8	10.1	7.2
Trade, hotels & restaurants	10.1	7.7	10.3	10.4	10.1	9.0*
Transport, storage & communication	15.3	15.6	14.9	16.3	15.5	
Financing, insurance, real estate & business services	5.6	8.7	11.4	13.8	11.7	7.8
Community, social & personal services	5.4	6.8	7.1	5.7	6.8	13.1
Total GDP at factor cost	8.5	7.5	9.5	9.7	9.0	6.7

Source : Economic Survey :2008-09.

Note: * indicates that Trade, hotels & restaurants, transport & communication (together) grew at 9 per cent, 2008-09.

The performance of agriculture by crop categories also clearly indicates the slowing down process of agriculture in India (see Table 3). Though the onset of deceleration in agriculture began from early nineties, it became sharp from the late nineties. The cereals output was growing at the rate of 4 percent in the fifties and sixties, and thereafter it recorded a steady decline and the growth rate was only 1.28 per cent during the 10th Plan Period. The growth rates of pulses and oilseeds declined drastically during the 9th Plan, but improved during the 10th Plan. The growth rates of fruits and vegetables output showed a steady decline from early nineties.

Table 3
Growth Rate in Output of Various Crop Categories of Agriculture
(Gross Value of Output at 1999–2000 Price)

Period	Cereals	Pulses and Oilseeds	Fruits and Vegetables	Other Crops	All Crops
1951–52 to 1967–68 (Pre-Green Revolution Period)	4.19	2.98	2.67	2.42	3.00
1968–69 to 1980–81 (Green Revolution Period)	3.43	0.97	4.82	2.98	3.00
1981–82 to 1990–91 (Wider Technology Dissemination Period)	3.52	5.41	2.84	1.71	2.97
1991–92 to 1996–97 (Early Reforms Period)	2.36	2.92	6.07	2.18	3.09
1997–98 to 2001–02 (Ninth Plan Period)	1.49	–1.43	4.11	3.82	2.25
2002–03 to 2006–07 (Tenth Plan Period)	1.28	4.29	2.97	3.58	2.46

Source: The same as for table 2.

Pulapre Balakrishnan, Ramesh Golait and Pankaj Kumar (2008) observed the slow growth of the agricultural sector since 1991. The study documented the movement of the factors that have been recognised as determining agricultural growth during this period with a view to identify the proximate causes of the slowdown. The study revealed that the factors responsible for slow growth are a stagnation of public investment for almost a quarter of a century, a slowing of irrigation expansion since 1991 and a downscaling of production due to farm fragmentation. The study argued that smaller farm holding-size, by making it more difficult for the majority of Indian farms to access new technology, and adopt more efficient forms of farm production organisation, may have adversely affected agricultural growth.

The poor performance of agriculture could be attributed to a large number of factors such as natural resource base (including rainfall), technology, infrastructure (including irrigation), and the economic environment comprising price signals and institutions. The Steering Group

for the Eleventh Plan identified technological change, public investment, and diversification as the most important determinants of growth. The Steering Group analysis showed that progress on technology and public investment slowed down from early 1990s. However, the negative effect in growth was offset by private investment which improved during 1990–97. As a result, growth continued to be relatively high in this period. However, terms of trade turned against agriculture from 1999–2000 to 2004–05 and reduced profitability of farming quite sharply (Table 4).

Table 4
Trends in Growth Rates of Area, Input Use, Credit and Capital Stock in
Agriculture —1980–81 to 2005–06

(% per Year)

Particulars	Period I	Period II	Period III
	1980–81 to 1990–91	1990–91 to 1996–97	1996–97 to 2005–06
Technology [#]	3.3	2.81	0.00
Public sector net fixed capital stock	3.86	1.92	1.42*
Gross irrigated area	2.28	2.62	0.51*
Electricity consumed in agriculture	14.07	9.44	-0.53@
Area under fruits and vegetables	5.60	5.60	2.71@
Private sector net fixed capital stock	0.56	2.17	1.17*
Terms of trade	0.190	0.95	-1.69*
Total net fixed capital stock	2.00	2.06	1.28*
NPK use	8.17	2.45	2.30
Credit supply	3.72	7.51	14.37*
Total cropped area	0.43	0.43	-0.10
Net sown area	-0.08	0.04	-0.22
Cropping intensity	0.51	0.39	0.12

Note: # Yield potential of new varieties released of paddy, rapeseed/mustard, groundnut, wheat, maize, and cotton; * Upto 2003–04; @ Upto 2004–05.

Source: Eleventh Five Year Plan (2007–2012), Agriculture, Rural Development, Industry, Services and Physical Infrastructure, Volume III, Planning Commission, Government of India, 2008.

The trends in the area, input use, capital stock and technology also reflect the agricultural crisis and the farmer’s response accordingly. Though it is difficult to infer the cause and

effect relationship based on the above data, the trend over time reveal the behaviour and/or needs of cultivators and the changing cultivation practices in India. The Gross Cropped Area(GCA) and Net Sown Area(NSA) showed a negative growth rate in the period III.. The cropping intensity had declined from 0.5 to 0.1 between the periods I and III. The use of inputs such as fertilizers, electricity and irrigation (as measured by irrigated area), technology and fixed stock had been declining during the reference periods.

The above trends clearly indicate the crisis in Indian agriculture. In this backdrop, we shall discuss the root cause of agriculture crisis in India in the next section.

Section 2

The Root Cause and Consequences

The root cause of the crisis in agriculture is that agriculture is becoming an economically unviable activity when compared to other enterprises. It means that the profitability of agriculture is low or nil or negative, and therefore, the income derived from these activities are not sufficient enough to meet the expenditure of the cultivators. The poor farmer is squeezed between high input costs and low returns. The issue of viability depends on numerous social, economic and cultural factors which would have substantial subjective elements. It would also vary from crop to crop, time to time, region to region and group to group as well. As farmers are considered to be rational in their decision making, no wonder they give up crop cultivation and shift their occupation or keep themselves unemployed instead incurring loss in doing agriculture. The land, the major low-cost input of agriculture becoming a high-cost input as the opportunity cost of land use becoming high. This factor must be playing a major role in reducing the land kept for agriculture and converting the same for other enterprises and services, as land is a scare factor of production.

The problem of income deficit in agriculture arises from three basic causes: first, adverse terms of trade (which means farmers pay more in real exchange terms for the goods and

services they buy than what they get for those that they sell); second, low productivity of resources engaged in agriculture leading to low level of production, and third, the excessive use (dependence) of inputs such as labour, fertilisers, pesticides, etc., causing the cost of cultivation shooting up compared to that of the final sale value of the crop output.

When agriculture is not yielding remunerative income the life of the farmers become very desperate. As a first step, they alter their crop pattern by cultivating profit yielding crops (commercial crops), provided if the land and climate are suitable for such shift. If the problem persists, the smart farmers give up the agriculture activity and take up alternative occupation and convert the land for alternative uses. Once the agricultural land is converted for alternative uses, it becomes totally irreversible again for agriculture. As such, decline in the agricultural land area sets the motion of crisis on, leading to the situation of permanent crisis.

Though the root cause of agricultural crisis could be attributed to the real economics of crop cultivation, several price and non-price factors have played major role for the agricultural crisis in India. A few such factors are:

Dependence on Rainfall and Climate:

Unlike other sectors, agriculture depends largely on the natural climate including rainfall. Nearly 60% of India's farmers depend on rains for irrigation and a failed monsoon means crops such as rice, wheat, soyabean, sugarcane and cotton take a severe hit. To protect the fall in prices during times of harvest, the government has hiked the minimum support price for paddy and pulses, and increase them time to time. These support prices are beneficial to farmers, only if they could harvest the crop. If the crop failed due to adverse climatic conditions and poor rainfall, the risk is more felt by the farmers. Though the initiatives such as modern irrigation system and energisation of wells make agriculture less dependent on monsoon, it can not completely do away with the nature and climate.

Liberal Import of Agricultural Products:

The fall and fluctuations in the prices of agricultural products is directly related to the liberalisation policy of the government. The policy of removal of quantitative restrictions and lowering of import duties adopted in India were according to the agreements of the World Trade Organisations (WTO). The main reason for the crash of prices of agricultural products, especially of cash crops, in India was removal of all restrictions to import these products. For example, when the Government of India reduced the import duty on tea and coffee from Sri Lanka and Malaysia, their prices in the domestic market got reduced drastically. Similarly, liberal policy of importing silk has affected the domestic mulberry cultivators and silkworm rearers. Thus cultivation of such products became unprofitable and so their production was fully or partly stopped.

Reduction in Agricultural Subsidies:

In order to encourage crop cultivation, the Government of India announced several subsidies time to time. Providing subsidies were unavoidable as the cost of cultivation was increasing and any modernisation required huge additional cost and burden for cultivators. Moreover, to raise the output of agriculture and to improve the productivity levels additional investment were encouraged upon. In the post-reform period, the government reduced different types of subsidies to agriculture, and this has increased the production cost of cultivation. No doubt that this move has adversely affected the agricultural sector. It has increased the input cost and made agriculture less profitable.

Lack of Easy Credit to Agriculture and Dependence on Money Lenders:

In general, the lending pattern of commercial banks, including nationalised banks, to agriculture is not simple. It is part of the policy of privatisation that banks, even nationalised banks, look for profit over their social responsibilities to the people. This has forced the farmers to rely on moneylenders and thus pushed up the expenditure on agriculture. The National Commission for Agriculture, headed by Dr M.S. Swaminathan,

also pointed out that removal of the lending facilities and concessions of banks during the post-reform period have accelerated the crisis in agriculture (cited in Mathew Aerthayil:2008). Low incomes on one side and relatively high consumption needs on the other side squeeze the farmer into a situation of overdue payments and possible defaults on loans. Under high cost conditions of cultivation based on modern technology, the crop failures hurts the farmer's equation very badly, causing difficulties in paying back their loans and pushed into indebtedness. When the farmers were not able to pay back loan with high interest, they fell into the debt trap, with suicides as a extreme response. Studies show that most of the farmers' suicides were due to the debt trap. Farmer suicide is reported mainly from the high-tech agriculture belts, such as Andhra Pradesh, Karnataka, Tamil Nadu and Punjab (Bhat and Vijaya Kumar: 2006). All these states have embraced capital intensive and 'cutting edge' technology in the name of boosting production. In areas where traditional agricultural practices and organic farming are prevalent, such as Orissa, Jharkhand, Bihar, Chhattisgarh, suicide is unheard of. Though the government response has ranged from reducing or deferring interest, rescheduling, extending, and twice in the last 20 years, waiving the overdues, these measures have invariably acted as palliatives, with the problem recurring periodically and almost predictably, with a greater magnitude each time. The crisis of indebtedness will recur, because of basic structural factors specific to Indian agriculture.

Decline in Government Investment in the Agricultural Sector:

An unfortunate trend over the past two decades has been that expenditure control efforts following fiscal shocks such as the Pay Commissions awards have led to cutbacks in agricultural investment and extension. During the period between 1976–80 and 2001–03 public investments in agriculture declined from over 4% of agriculture GDP to 2%. Most of the subsidies are on fertilizer, power, and irrigation water and these have actually contributed to the degradation of natural resources. Further, a considerable amount of Plan expenditure on agriculture is not on investment but on subsidies not accounted for in the above list. Simplistic fiscal rules such as protecting Plan expenditures more than non-Plan expenditures add to the problem (For details refer, Eleventh Plan Document).

Decline in public investment on agriculture is based on the policy of minimum intervention by the government enunciated by the policy of globalisation. The expenditure of the government in rural development, including agriculture, irrigation, flood control, village industry, energy and transport, declined from an average of 14.5 per cent in 1986-1990 to six per cent in 1995-2000. When the economic reforms started, the annual rate of growth of irrigated land was 2.62 per cent; later it got reduced to 0.5 per cent in the post-reform period.

Conversion of Agricultural Land for Alternative Uses:

On the one hand, the demand on land for non-agricultural uses has been steadily increasing. On the other hand, farmers are unable to cultivate any crop due to the unviable nature of agriculture. This makes the conversion of cropland for non-agricultural purposes easy and effective. In addition to the above fact, as part of the economic reforms, the system of taking over land by the government for commercial and industrial purposes was introduced in the country. As per the Special Economic Zones (SEZ) Act of 2005, the government has notified more than 400 such zones in the country. Since the SEZ deprives the farmers of their land and livelihood, it is harmful to agriculture

The consequence of agricultural crisis in India is very vast and likely to hit all the other sectors and the national economy in several ways.

As a first step, it affects the domestic food production significantly. This would lead to import of foodgrains for large human population. This has an immediate effect on the prices of agricultural commodities, rising up the cost of living. As the basic requirement food becoming costlier for the mass, naturally it affects the health and nutrition of the people badly and aggravates the poverty levels.

The crisis would displace huge labourers and farmers from agricultural employment. These displaced labour forces will have limited opportunities of getting alternative employment and therefore, they would become unemployed and dependents. Moreover, the fall out actions such as migration from rural to urban for want of jobs and imbalance in the labour market would bring several social and economic set backs on the economy.

As agriculture is not attractive to farmers, they discontinue their agricultural activities and shift the land for non-agricultural uses. Though this will be of beneficial to other growing sectors, it is pitiable that the fertile land that is suitable for cultivation are getting converted for other activities. Once these lands are put into use for activities other than cultivation, it is not possible to bring them back to agriculture. Thus, the land loss for agriculture will be permanent and great. In this context, the agricultural crisis would be also a permanent crisis and trap.

At the macro level, the decline in agricultural production would necessitate increase in import of foodgrains. The dependence on food imports would drain the foreign exchange and India thereafter will become a net importer of grains, capital, technology and money.

Section 3 Summary of findings

Agriculture in India is undergoing a structural change leading to a crisis situation. The rate of growth of agricultural output is gradually declining in the recent years. The relative contribution of agriculture to the GDP has been declining over time steadily. The performance of agriculture by crop categories also clearly indicates the slowing down process of agriculture in India. The onset of deceleration in agriculture began from early nineties and it became sharp from the late nineties. The trends in the area, input use, capital stock and technology also reflect the agricultural downfall and the farmer's response accordingly. It is alarming that India is moving towards a point of no return,

from being a self-reliant nation of food surplus to a net importer of food. All these trends indicate that the agricultural sector in India is facing a crisis today.

It is argued that the root cause of the crisis was that agriculture is no more a profitable economic activity when compared to other enterprises. It means that the income derived from these activities is not sufficient enough to meet the expenditure of the cultivators. And therefore, unless agriculture is made a profitable enterprise, the present crisis cannot be solved.

The related factors responsible for the crisis include: dependence on rainfall and climate, liberal import of agricultural products, reduction in agricultural subsidies, lack of easy credit to agriculture and dependence on money lenders, decline in government investment in the agricultural sector and conversion of agricultural land for alternative uses.

It is argued that the consequence of agricultural crisis in India is very vast and likely to hit all the other sectors and the national economy in several ways. In specific, it has adverse effects on food supply, prices of foodgrains, cost of living, health and nutrition, poverty, employment, labour market, land loss from agriculture and foreign exchange earnings. In sum, it revealed that the agricultural crisis would be affecting a majority of the people in India and the economy as a whole in the long run. And therefore, it can be argued that the crisis in agriculture is a crisis of the country as a whole.

The only remedy to the crisis is to do all that is possible to make agriculture a profitable enterprise and attract the farmers to continue the crop production activities. As an effort towards this direction, the government should augment its investment and expenditure in the farm sector. Investment in agriculture and its allied sectors, including irrigation, transport, communication, rural market, rural infrastructure and farm research, should be drastically increased, and the government should aim at integrated development of the rural areas. Implementation of National Rural Employment Guarantee Scheme can also become a means of revival of the rural economy.

The rural economy, particularly agriculture, will be greatly benefited through programmes meant for economically backward sections, including the Integrated Child Development Schemes, Public Distribution System, Mid-day Meals Scheme for schoolchildren, Rural Health Insurance and the National Rural Employment Guarantee Schemes. All these programmes would increase the purchasing power of the rural people and indirectly help agriculture itself.

The solution of the problem is not in a few “packages” but in drastic changes in the present economic policies related to agriculture. No other sector’s growth and development must be at the cost of agriculture. All farmers, agricultural labourers, societies, Government and People’s Organisations should work collectively to revive agriculture and “Save India from Agriculture Crisis”.

References

1. Aerthayil, Mathew (2008): “Agrarian Crisis in India is a Creation of the Policy of Globalisation”, *Mainstream*, Vol XLVI, No 13.
2. Balakrishnan, Pulapre, Ramesh Golait and Pankaj Kumar (2008): *Agricultural Growth in India since 1991*, : Development Research Group (DRG), Study No-27, Reserve Bank of India, Mumbai
3. Bhat KS and S.Vijaya Kumar (2006): “Undeserved Death: A Study of Suicide of Farmers of Andhra Pradesh (2000-2005)”, Allied Publishers Private Ltd, New Delhi.
4. Economic Survey 2008-09 and previous years.
5. Kapila, Rak and Uma Kapila (2008): *Indian Economy : A Journey in Time and Space*, Academic Foundation, New Delhi.
