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# Rising Food Crisis and Financial Crisis in India:Impact on Women and Children and Ways of Tackling the Problem

S. Mahendra Dev

Indira Gandhi Institute of Development Research, Mumbai
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**S. Mahendra Dev**
**Indira Gandhi Institute of Development Research (IGIDR)**
**General Arun Kumar Vaidya Marg**
**Goregaon (E), Mumbai- 400065, INDIA**
**Email (corresponding author):**

**Abstract**

*The objective of the study is to examine the impact of rising food prices and financial crisis on the impact of women and children in India. It identifies the pathways for dealing with the effects of these two crisis on households particularly women and children. It also outlines the desirable macro and sectoral policies and measures, particularly in relation to social protection, which would mitigate the negative effects of the crises and effectively protect households against them through a special focus on the issues of nutrition, health, education and enhancement of child protection.*

**Keywords:**

Rise in food prices, financial crisis, food and nutritional security, women, children, social protection

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# Rising Food Prices and Financial Crisis in India: Impact on Women and Children and ways for Tackling the Problem*

**S.Mahendra Dev**

**Director (Vice Chancellor),**
**Indira Gandhi Institute of Development Research,**

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# Rising Food Prices and Financial Crisis in India: Impact on Women and Children and ways for Tackling the Problem

**S.Mahendra Dev**

## 1. Introduction

During the last few years, there has been a significant increase in global food prices due to several structural and cyclical factors. The global cereal prices increased 150 per cent during 2005 to second quarter of 2008. Although there was a decline in food prices in the second half of 2008, these prices are still higher than those in the beginning of this decade. India is less exposed to outside world in the case of food grains and other commodities. The increase in food prices in India was much lower as compared to sharp increase in global prices due to various measures. Cereal prices in India increased only 23 per cent as compared to global price increase of 150 per cent during 2005 to 2008. However, the food prices in the last two years have been higher than those in the period mid-1990s to 2004. Presently, the inflation for food articles (more than 10%) is higher than the general inflation (below 6%). The volatility in food prices is likely to continue and would harm the poor.

Even before the food crisis, the poor and vulnerable were significantly left behind. Rising food prices would further undermine the food security and livelihoods of the most vulnerable by eroding their already limited purchasing power. Poor people spend 60 to 70 per cent of their income on food and they have little capacity to adapt as prices rise and wages may not adjust accordingly. Thus, the situation in India can still pose a threat to food and nutrition security of the country.

Apart from the problem of rise in food prices, India is also facing the adverse impact of global financial crisis since the 3rd quarter of 2008. The current financial crisis originated in the financial sector of the United States and is being transmitted to countries around the world through several channels. The sub-prime mortgage lending and collapse of housing market, flawed regulatory systems have affected the financial institutions around the world. India has largely avoided the impact on banking system. However, the crisis has adverse impact on liquidity situation and the economic growth in India. This in turn can have adverse affect on the poor and food security of the country.

Although the underlying causes for the rise in food prices and financial crisis are different, they are interconnected through their implications on financial stability, food security and political security (Braun, 2008). At the global level, the capital was diverted from the collapsing housing market to speculation in agricultural futures. Speculative activities were partly responsible for the rise in global food prices. The food crisis increased general inflation and impact on macro economic policies. Similarly, the financial crisis can have impact on employment, poverty, agriculture investment and social sector expenditures. Therefore, both food and financial crisis may have adverse impact on food and nutritional security of India and undermine the poverty reduction efforts and the gains over the last several years if large sections of the population do not cope with rise in prices and financial crisis. These two crises can potentially further exacerbate and deepen existing vulnerabilities in India for the poor and disadvantaged groups including women and children. The coping strategies due to these crises could have adverse impact on the food security and human development of women and children.

The objective of this study is to examine analytical issues that would identify the pathways of the effects of the rising food prices and financial crisis on households, particularly women and children. It also outlines desirable macro and sectoral, in particular social protection, policies and measures that would mitigate the negative effects and would have the strongest effect on protecting levels of living of the households, in particular on nutrition, health, education and enhance child protection.

Specifically, it would provide answers to the following questions.

(a) What are the macro policy/structural issues underpinning the price rise and financial crisis? (Section 2)

(b) What are the pathways in which these shocks affect households and in particular that lead to poor outcomes for children? (Section 3)

(c) What are the coping mechanisms of these households which would adversely impact on women and children?

(d) What are the policies at macro and sectoral level and social protection measures needed in order to protect from these two crises?

## 2. Macro policy Issues on the Rise of Food Prices and Financial Crisis

### Global Situation

There are five major drivers of rising global food prices. They are: (a) long term supply problems; (b) rise in oil prices; (c) Changes in demand due to bio fuels; (d) depreciation in dollar and low interest rate in the US and speculative activities; (f) export restrictions of developing countries. Thus, surge in food prices is 'both a *real* and a *monetary* phenomenon and both *market-driven* and *policy-induced'*. (p.3, Lustig, 2008).

Some of the structural factors like long term supply problems, oil prices and change in demand due to bio fuels could be responsible for the rise in food prices[1]. It may be noted that monetary and other factors were also responsible for increase in food prices at the global level. Depreciation of dollar is one of the factors. However, food price increase was noticed even if we take Euros or other currencies. Therefore, other factors are also important. Low interest rates in the US led to shifting of portfolios away from interest-bearing instruments into other assets including commodities. Particularly the post-2007

[1] On rise in global food prices, see ADB (2008), Sadiq (2008), ODI (2008), IFPRI (2008), Oxfam (2008)

increases in food prices could be mostly a monetary policy phenomenon including global inflationary pressures. Rising food prices pose significant macroeconomic challenges for developing countries. This is because global overall inflation increased including oil prices and not just prices of food commodities. The sub-prime crisis also led to shifting of funds to commodities as speculation activities. The rise in food prices accelerated further by policy interventions such as export restrictions, price controls etc. These measures curtailed the supply of some commodities in world market.

The reasons for global financial crisis are well known. The crisis in the financial sector originated in the US and transmitted to other countries. The financial sector in the US is largely unregulated. In this environment, mortgage lending to subprime borrowes had rapidly expanded in the US in 2000s. It is known that by definition, the subprime borrowers either have prior default history or incomes to qualify for the loan they seek in the prime market. Lenders could sell the mortgages they issued to other financial institutions like Lehman Brothers. These financial institutions in turn packaged a large number of the mortgages into a mortgage-backed security and issued bonds of varying risks and returns backed by it. Bonds with the highest value would carry the highest risk. Financial institutions and individuals around the world invested in these instruments. As long as the US housing market boomed, mortgage-default rates remained low and remained attractive. But once the housing market collapsed, it impacted the balance sheets of financial institutions that invested in the mortgage-backed securities and their derivatives, which turned toxic following large scale defaults in the US housing market. The financial crisis affected liquidity and economic growth in many countries. The US and European countries had to announce bailout plans. The US is suffering from recession now.

## Indian Situation

The global food, oil and financial crisis have affected India also although the impact is much lower than some of the other countries[2].

*Trend in Food Prices*

There have been three patterns in the trends in food prices in India as compared to global food prices. First pattern is that Indian inflation in food prices **increased** from 2005-06 to 2006-07 when global prices increased. Of course, the rate of increase was much lower in India. Second pattern is that inflation in food prices **declined** in 2007-08 as compared to 2006-07 when global prices rose significantly. In the third pattern, global prices declined but Indian inflation in food prices started increasing in recent months (third quarter of 2008). These patterns show that global impact on India is limited because of less exposure.

FAO food price index indicates that it increased more than 80 per cent during the period 2005-2008. The wholesale price index in India for food articles (foodgrains +non-foodgrains) increased 21 per cent over this period (Fig A1 in Appendix). Cereal prices in

[2] On rise in Indian food prices, see CENTAD (2008), Dev (2008)

India rose only 20 per cent as compared to 170 per cent increase of global prices during 2005-08 (Fig A2 in Appendix). Similarly, Indian wheat prices rose only 21 per cent as compared to 170 per cent at global level (fig A3 in Appendix). Rice prices in India increased only 16 per cent as compared to 230 per cent of global price increases during 2005-08 (Fig A4 in Appendix).

In the case of India, increase in food prices was higher in 2006-07 as compared to 2007-08. The inflation of foodgrains, food articles and wheat in 2006-07 was 10.2%, 7.8% and 13% respectively. As compared to this, inflation in the same commodities in 2007-08 was 4.7%, 5.5% and 4.3% respectively.

India almost insulated from the global impact of high price rise in wheat and rice. It does not mean that price increase in the prices of these two commodities is insignificant. Wheat prices increased significantly in the year 2006-07 by about 13%. There are several reasons for increase in wheat prices during January 2006 to January 2007. The decline in wheat output to 69.4 million tonnes in 2005-06 coincided with a bad international wheat year. World wheat production was estimated to be around 587 million tonnes as against production of 628 million tonnes in 2004-05 (corresponding to India's agriculture year of 2003-04) and sharp increases in international wheat prices. This is one of the reasons for higher wheat prices. The Government has taken several measures to stabilize the price of wheat such as (a) release of adequate quantities under targeted public distribution scheme (TPDS) and other welfare schemes, (b) rising domestic supplies through Open Market Sales Scheme, (c) ensuring adequate stocks in all the regions in the country together with supplementing the domestic availability with import of 5.5 lakh tonnes through State Trading Corporation, and (d) by permitting private trade to import at zero duty. However, higher international prices continued to push the landed cost of the imported wheat in each successive tender (GOI, 2007).

Because of perceived supply-demand mismatch and private trade offering prices above the minimum support price (MSP), Government procurement was lower than the target fixed for 2006-07. Stock of wheat at 6 million tonnes in November 2006, was lower than 10.3 million tonnes recorded in October, 2005. The upward trend in year-on- year inflation in wheat prices commenced in August 2006 (12 per cent) and reached 20 per cent in November 2006. In 2007-08, there was record production of wheat at around 78.4 million tonnes. India also procured at a record level of 22.6 million tonnes in the same year. As a result, the prices were low in the year 2007-08.

In contrast to wheat, the price increase in rice was very low at 2.9% in the year 2006-07. Rice price increased to around 7% only in 2007-08 and it hovered around 5 to 8% in 2008-09. The price increase in India was very low as compared to rise in global rice prices. The inflation of pulses in India was 30% in 2006-07 but showed an absolute decline (-4.5%) in 2007-08.

As compared to other commodities, oilseeds and edible oils recorded higher inflation in 2007-08. Oilseeds showed 24% increase in prices in 2007-08 and it is still high in 2008-09 although it declined. The continued increase in oil prices was on account of higher demand, lower estimated *rabi* crop as well as rising global prices. The global prices of oilseeds rose by 70% to 90% in March 2008 over March 2007. Surge in demand including demand for bio-fuels, low stocks, higher oil prices contributed for the price rise. Soybean seeds at global level showed an increase of 78.6% in March 2008 over March 2007. In India, Soyabean seeds recorded 30% inflation in 2007-08 and this price rise continued in 2008-09. Inspite of record production of 10 million tonnes, soybean prices showed high inflation partly because of high global prices.

Domestic consumption of edible oils is estimated at over 10 million tonnes per year, while domestic production has been hovering around 6 million tonnes. Import of edible oils (mainly soyabean and palm group of oils), which bridges the gap between domestic supply and demand, was 4.7 million tonnes and 4.3 million tonnes in 2004-05 and 2005-06, respectively. There was a decline of edible oils from 27.98 million tonnes in 2005-06 to 24.28 million tonnes in 2006-07. As a result, imports increased to 4.7 million tonnes. Because of higher global edible oil prices, domestic prices also increased in 2006-07. The same situation continued in 2007-08. The global inflation was 100-106% in March 2008 over March 2007. The inflation in edible oils in India was 14% and 20% respectively in March 2007 and March 2008. Thus the price increase in India is much lower than that of global prices.  In the case of food products under manufactured goods, the inflation in oil cakes and dairy products was high 2007-08. The price rise in oil cakes was nearly 40% in 2007-08. Increase in the price of oil cakes led to rise in prices of dairy products.

The trends in food prices in India and global level show that the impact of global rise in food prices on India are limited. Domestic production shortfalls in wheat and maize, and dependency on imports of pulses and edible oils, transmitted the international price shocks to domestic prices. However, the increase in food prices in India was much lower as compared to sharp increase in global prices. Food prices in India particularly for wheat and pulses were higher in 2006-07. This is much before the sharp increase in global prices in 2007-08. In fact, inflation for foodgrains and food articles was lower in 2007-08 in India as compared to those of 2006-07. In the case of oilseeds and edible oils, the global impact on India seems to be much more than other commodities.

It is true that in the past few months, the prices of major cereals at global level have fallen by about 30 to 40 per cent as a result of the economic slowdown and favourable weather conditions. In the case of India, the food price inflation started increasing in fourth quarter of 2008. The consumer price index for agriculture labourers and industrial workers also increased in recent months.

*What are the reasons for the lower rise in Food Prices in India*?

The policy stance was to attempt insulation of domestic prices from the high world prices by combining different measures including high subsidies, lower tariffs and export restrictions.

First, one of the reasons for global price increase was increase in oil and fertilizer prices. Indian subsidies on Oil and fertlizer subsidies have insulated the global transmission of prices. Only small part of diesel prices was passed on to farmers and consumers. Second, there was 16% increase in foodgrain production over three years from 198 m.t. in 2004-5 to 231 m.t. in 2007-08. Third, large scale imports were mainly in case of edible oils and to some extent in pulses. Wheat was also imported in 2006-07 (5.5 million tonnes) and 2007-08 (1.8 million tonnes). Simultaneously India was exporting rice varying from 3 to 5 million tonnes per year till 2007-08. Fourth, import duties for wheat, pulses and edible oils were either reduced or permitted at zero duty. Fifth, some administrative measures were undertaken. There was a ban on export of rice,wheat, edible oil and pulses. Ban was imposed on futures trading in eight commodities viz., rice, wheat, pulses (urad, tur, chana), potato, rubber and soy oil. Food stock limits were imposed under Essential Commodities Act from August 2006. State Governments have been given powers to take effective action on hoarding of food stocks.

Apart from the above, India’s policy of procurement, bufferstock and public distribution also made impact on insulating from global prices. In order to give incentives, Government increased the minimum support prices (MSP) significantly in recent years. There was only marginal increase in MSP of wheat and paddy during 2000-01 to 2004-05. On the other hand, there was more than 50% increase in MSP of wheat in the last three years (2005-06 to 2007-08). In the case of paddy, there was nearly 50% increase over three years 2006-07 to 2008-09. The procurement was low in 2006-07. But it increased significantly in 2007-08. There was a record procurement of 22 million tonnes of wheat in 2007-08 as compared to 9 m.t. in 2006-07. Inspite of some weaknesses, the public distribution system (PDS) has been able to contain prices and help the poor. Central Issue Price of rice and wheat for PDS has not been revised since 2002.

*General Inflation in India*

The general inflation in India was 4.4%, 5.4% and 4.7% in the years 2005-06, 2006-07 and 2007-08 respectively. It started hardening from January 2008. It increased from 8.0% in April to nearly 13% in September before declining to below 6% in December 2008. The high general inflation also affects the poor and vulnerable sections.

What are the reasons for increase in general inflation in India? Increase in global crude oil prices was one of the main reasons for increase in general inflation in India. Global crude oil prices increased 150 per cent during February 2007 to August 2008. Recent decline in inflation in India was mainly due to decline in crude oil prices to less than US $ 40. The increase in inflation to around 13% in the middle 2008 was on account of supply side pressures such as the one-off increase in domestic petrol and diesel prices, continuous hardening of prices of petroleum products that were not administered, rise in prices of wheat and oilseeds and adjustment in steel prices, and increased demand side pressures (RBI, 2008). The prices of non-administered petroleum products increased in the range of 19-56 per cent over end March-2008. Apart from fuel prices, the intermittent but sharp increase in basic metals prices in line with international trends, along with iron ore prices were the other major factors that have contributed to inflation during 2008-09. Manufactured products’ inflation hardened to 11% in August/September which, apart from metals, was due to increase in the prices of edible oils and oil cakes as well as recent firming up of textile prices.

Due to concerns over slowdown in growth in relation to earlier expectations, Central banks in many developed countries reduced their policy interest rates. As a result, there was higher liquidity in search of higher yields. India with strong macro fundamentals attracted large capital flows during 2007-08 driven by external commercial borrowings, portfolio flows and foreign direct investment (FDI) inflows. Capital flows significantly higher than the current account deficit and hardening of inflation necessitated pre-emptive monetary policy actions to dampen excessive demand pressures. A number of fiscal and supply-side measures were undertaken by Indian Government. The RBI undertook monetary measures in the form of increase in CRR and policy interest rates in response to the evolving macroeconomic, monetary and liquidity conditions to stabilize inflationary expectations.

*Financial Crisis in India*

Even before the financial crisis, there were problems regarding economic growth including growth of industry and services partly because of tight monetary policy which was due to higher inflation. The global financial crisis has impact on India indirectly in terms of liquidity problems and lower economic growth. Developments, on both international and domestic fronts, particularly from mid-September 2008, have impacted domestic liquidity conditions. The bankruptcy/sell out/ restructuring of some of the world's largest financial institutions beginning mid-September 2008 brought some pressures on the domestic money and foreign exchange markets, in conjunction with temporary local factors such as advance tax outflows (RBI, 2008 a).

The global financial environment deteriorated with the number of troubled financial institutions rising, stock markets weakening and the money markets coming under stress. Central banks in several major advanced and emerging market economies responded to these extraordinary developments by synchronised policy actions, including measures for liquidity infusion. The RBI has acted swiftly to augment liquidity in the system by reducing CRR (cash Reserve Ratio), SLR (Statutory Liquidity Ratio) and the repo rate (the rate at which RBI lends to banks). These measures started in September, 2008 have continued till January 2009. The repo rate has been reduced during October 2008 to January, 2009 from 9% to 5.5% - a decline of 3.5% percentage points.

Now the problem of general inflation has come down. Inflation is expected to be less than 5% by March 2008. However, the consumer price index and food articles are still showing higher inflation. As shown below, the global financial crisis will have significant impact on economic growth, employment and food security of poor in India[3].

## 3. Pathways that Lead to poor outcomes for Women and Children

[3] On the impact of global crisis on India see Chandrasekhar and Ghosh (2008)

The FAO Director-General Jacques Diouf noted recently that the financial crisis, following hard on the heels of the soaring food crisis which threw an additional 75 million people into hunger and poverty in 2007 alone, may well deepen the plight of the poor in developing countries. He said that 'last year it was the pain' and 'next year could be the fire'. " Commodity prices are currently dropping, mainly on expectation of favourable crop prospects but also because of a slowing world economy, among other factors. This could mean a cutback in plantings followed by reduced harvest in major exporting countries. Given continuing low grain stocks, this scenario could lead to another turn of record food prices next year – a catastrophe for millions who by then would be left with little money and no credit" (FAO, 2008)

Both food and financial crises would affect the conditions of women and children. Here we discuss the pathways for the poor outcomes for these vulnerable groups.

**I Pathways of poor outcomes due to rise in food prices**

There are several pathways that lead to poor outcomes in nutrition, health and education of children due to increase in food prices. One can group them into four heads (1) impact on poverty; (2) macro economic impact and its affect on employment and social sector (3) impact on nutrition and social protection programmes (4) women's well being and intra-household decisions.

**(a) Impact on Poverty**

The impact of soaring food prices in any country depends on various factors including: (a) the extent world market prices are passed on to domestic prices; (b) the initial poverty line and the number of people clustered around the poverty line; (c) the number of net buyers or net sellers of the commodities; (d) the share of poor people's budgets devoted to food overall and staples in particular; (e) the extent of own-consumption relative to market purchases; and (f) the effect of food price increases on real wages of poor people (World Bank 2008).

A recent study in eight countries estimates that the rise in food prices between 2005 and 2007 increased poverty by 3 percentage points on average. Extrapolating these results globally suggests that, as a result of the rise in food prices, total world poverty may have increased by 73-105 million people (World Bank 2008).

FAO's food insecurity numbers in 2007 show that 75 million more people were added to the total number of undernourished relative to 2003-05. The rising prices have increased 41 million hungry in Asia and 24 million hungry in sub-Saharan Africa. India has around 231 undernourished population.

High food prices would have different effects on net sellers and net buyers. However, net buyers are large in number including all urban poor and majority of rural poor. It is true that net sellers are likely to benefit from rising food prices. However, the constraints on agriculture may prevent the farmers to respond in the short run. Some of the small

producers who have a marketable surplus could become worse off with higher prices. This is because typically a small producer sells the surplus immediately in the post harvest season, when prices are low, and buys food when prices are high.
In India, the rising food prices would have adverse impact on the poor as (a) poor have large share of expenditures on food; (b) there are many more poor households who are net buyers of staple food than net sellers.

Poor typically spend 50% to 70% of their total expenditure on food. In India, the share of food in total expenditure declined over time (Table 1). However, the bottom 30% of the population still spends 66% of their expenditure on food in rural areas. The share of cereals in total expenditure declined over time. Here again poor spend nearly 30% of their expenditure on cereals (Table 2). They still get more than 60% of calories from cereals. Thus, cereal consumption is going to be important for the poor in future also.

Table 1.Percentage budget share of total food by bottom 30% middle 40% and top% of population

| | Rural | | | | Urban | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Bottom 30% | Middle 40% | Top 30% | All | Bottom 30% | Middle 40% | Top 30% | All |
| 1970-71 | 84.07 | 81.04 | 71.29 | 76.67 | 79.96 | 75.01 | 62.48 | 68.87 |
| 1990-91 | 73.71 | 70.41 | 59.40 | 65.51 | 70.69 | 64.58 | 48.05 | 56.55 |
| 1993-94 | 69.83 | 66.47 | 52.61 | 59.99 | 66.35 | 59.78 | 43.78 | 51.82 |
| 2004-05 | 66.07 | 61.98 | 47.48 | 55.18 | 59.87 | 50.40 | 34.50 | 42.52 |

Note: The shares are in 1993-94 constant prices
Source: NSS Consumer Expenditure Surveys, Government of India

Table2. Percentage budget share of cereals by bottom 30% middle 40% and top% of population

| | Rural | | | | Urban | | | |
|---|---|---|---|---|---|---|---|---|
| Year | Bottom 30% | Middle 40% | Top 30% | All | Bottom 30% | Middle 40% | Top 30% | All |
| 1970-71 | 53.65 | 43.65 | 29.49 | 38.15 | 38.85 | 28.19 | 13.37 | 21.58 |
| 1990-91 | 39.37 | 30.68 | 18.22 | 25.93 | 27.55 | 19.13 | 9.49 | 15.12 |
| 1993-94 | 35.68 | 27.87 | 15.72 | 22.95 | 25.59 | 17.14 | 8.18 | 13.32 |
| 2004-05 | 29.34 | 22.04 | 12.49 | 18.28 | 20.59 | 13.29 | 6.29 | 10.21 |

Note: The shares are derived from the expenditures at constant prices (1993-94 prices)
Source: NSS Consumer Expenditure Surveys, Government of India

The increase in food prices erodes the purchasing power of the poor. The incomes of the poor will fall and those who are near (and above) the poverty line are likely to become poor. The progress towards achieving poverty and hunger MDGs would affect for some time to come. The impact on poverty would have four effects on the poor. These are: (a) nutrition status of pregnant and lactating women and of pre-school children; (b) the health status of women and children; (c) increase in child labour and withdrawal of children from school; (d) the distress sale of productive assets. All these have potential long term impact and will reduce the ability of individuals and households to reduce poverty. It is true that increase in agricultural production would benefit the poor in terms of wages and employment. But, adjustment in wages, employment and capital flows to agriculture and rural areas will take time to reach the poor.

Apart from reduction in food consumption, the purchasing power would decline. The loss in purchasing power would affect buying of other goods and services which are essential for health and nutrition of women and children such as water, sanitation, education, lighting, health care etc.
The persistence of high food prices could lead to irreversible damage to the human capital of the poor and a significant reversal in the progress made towards achieving the Millennium Development Goals.

**(b) Macro economic impact and affect on employment and social sector**

Rising food, commodity and oil prices have increased the general inflation. Apart from food price rise, increase in general inflation would hurt the poor and vulnerable sections. While India relies less on food grain imports, its reliance on petroleum products and other commodities like edible oils is large. As a result, given the sharp increase in oil and commodity prices, it has experienced terms of trade loss and had impact on current account balances. It has adverse economic and social impact on the poor. Earlier, the loss of income in terms of trade has been compensated by remittances and exports of services. Now, the global financial crisis will affect these external flows to the country.

General inflation could rise due to higher food prices. If wages also rise as a consequence, inflation could spiral, causing inflationary expectations with the general level of prices rising further. Higher food prices can reduce economic activity in the country as inflation will reduce consumption, savings and investment. Combination of all these activities would slow down aggregate demand. Due to higher inflation in India, RBI tightened monetary policy resulting in high interest rates. Rise in interest rates would result in reduced aggregate demand and slowing down of the economy. The economic slowdown may reduce employment and has adverse effect on the poor households. This would lead to problems for women and children.

On the other hand, increase in food prices may provide opportunities for farmers to increase agricultural production. It may raise household and women's employment which would benefit the children. At the same time, women's employment may result in less time for child care (including breast feeding and preparation of weaning foods for infants) (Plan and ODI, 2008). Rise in demand for agriculture may also increase child labour. But again, since increase in agricultural production would lead to lower prices, women and children may benefit.

The reduced economic activity due to rise in food prices and general inflation would affect the social sector like education and health. At the macro level, reduction in economic growth would lead to reduction in tax/GDP ratio. This would have adverse impact on social sector expenditures. Even if growth does not decline, increase in food prices and the resultant increase in subsidies, tax concessions etc. can reduce freedom of Governments to raise social sector expenditures. This may adversely affect women and children in terms of education and health outcomes.

**(c)Impact on Nutrition and Social Protection programmes**

Rise in food prices would worsen nutrition especially among infants (0-24 months), pregnant and lactating mothers. Children suffer long term consequences from short term shocks. Countries hardest hit by the food crisis already have highest preexisting malnutrition rates. The malnutrition situation would worsen further with increase in food prices.

The food price rise would affect the food consumption of households which in turn reduces consumption of women and children. Also, the households may spend more on cheaper, high calorie staples and less on foods rich in protein and vitamins, such as meat, fish, dairy, fruit and vegetables, reducing the quality of their diet. This will have significant negative consequences for morbidity, mortality, cognitive abilities, and growth.

According to Bouis et al (2008), there are four basic factors for the above conclusion as given below.

"(I) Expenditures on non-staple foods by poor consumers comprise 40-60% of total expenditures on food.
(II) Demand for food staples (rice, wheat, maize etc. depending on the geographical region and culture) is highly inelastic. Income and price elasticities for food staples in the aggregate are low.
(III) In diets, minerals and vitamins are concentrated in non-staple foods; energy is concentrated in staple foods
(IV) Current intakes of vitamins and minerals are already too low, resulting in high prevalence rates of micronutrient deficiencies. Modest decrease in current intakes of minerals and vitamins will drive these prevalence rates significantly higher, with severe consequences for the nutritional status of the poor and public health" (p.1, Bouis et al, 2008).

The micronutrient malnutrition will be a widespread health consequence of high food prices. According to Klotz et al (2008), increased staple food prices around the world are forcing households to reduce their consumption of micronutrient rich foods, which will have a range of health consequences, depending on the pre-existing nutritional status of a population. They also indicate that "the manifestation of high food prices will be observed in terms of micronutrient-deficiency-induced morbidity and mortality, a potential 'lost generation' of unhealthy children, and irreversible economic loss" (p.12).

Rise in food prices would affect the social protection programmes particularly the food based schemes. For example, India has food supplementation programmes such as ICDS and mid-day meal for primary school children. Government of India provides subsidized foodgrains and bears cost of converting foodgrains into hot cooked meal by including pulses, oils and vegetables. These social protection programmes benefit large segment of the vulnerable sections.

General inflation and rise in food prices would affect these programmes in two ways. One way is through the macro economic decline due to inflation. The expenditures on these programmes would be affected similar to those on education and health. Secondly, the cost of these programmes would be higher because of food price rise. If the government does not increase the expenditures, the quality of the food based schemes will be diluted. For example, the quality of food grains may be diluted and vegetables and oils may be reduced. Thus, decline in quality of these schemes would adversely affect the nutrition of women and children.

**(d) Women's Well Being and Intra-household Decisions**

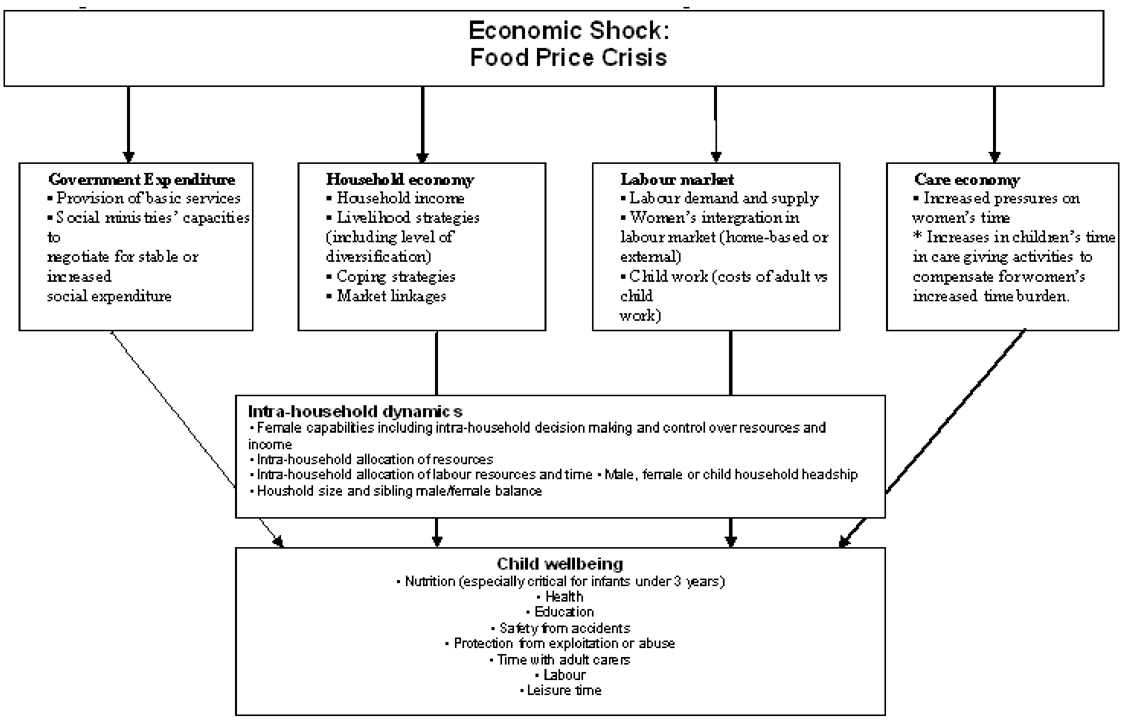
The high food prices have different impacts on women consumers and producers. The rise on food prices could increase incentives for producers. But, due to constraints on input supplies and other factors, the past evidence suggests that higher prices many not necessarily stimulate production by female farmers (Quisumbing, 2008). At the household level, women's time burden may increase with rise in food prices as they try to manage the household budget with increasing expenditure on food and/or paid employment, affecting children's nutrition and reducing caring time. Intra-household dynamics are important to know the impact of rise in food prices on children. Intra-household allocation of resources to children depends on several factors such as women's empowerment and education, the household wealth and asset base, social protection measures reaching the household etc (Plan, 2008). One of the coping mechanisms of the households relates to decisions about children's activities and time. In some cases, children may be withdrawn from school to take up paid work activities. In some other cases, children will have less time to study and leisure because of involvement of paid or unpaid activities.

The impact of rising food price shock and children's well being is given in Fig. 1.

*Impact of High Food prices on Children*
A study on Young Lives (an International Study of Childhood Poverty) indicates that high food prices will have impact on children in two ways (Dercon, 2008). First one is the short run impact of family budgets. The constraint on family budget would not only lead less food available or cheaper food purchased but there is also less funds for non-food items such as health and education. Secondly, it will have long term impact on children's health, psycho-social well being and their educational achievements.

The project on Young Lives for four countries reveal interesting results regarding impact of poverty and stunting on children. There is a significant impact on learning and achievements in India. A comparison of educational and psycho social indicators for average children from the poorest quintile with the richest quintile shows the wrinting skills were substantially lower in India's poor as compared to that of the rich (Table 3). The reading skills, grade aspiration gap are lower for the poorest quintile. Similarly, the educational and psychosocial indicators are lower for the stunted children as compared to non-stunted children for India (Table 4).

Fig 1: Linkages between Food Price Shocks and Children's Wellbeing




Source: Plan (2008)

Table 3. Educational and psychosocial indicators (comparing average children from the poorest quartile with the average children from the richest quartile)

| | India | Ethiopia | Peru | Vietnam |
|---|---|---|---|---|
| Grade deficit (in years) between poorest and richest quartile | -0.3* | -0.8* | -0.9* | -0.6* |
| Writing Skills:% of children that write without difficulty (deficit in percentage points) | -24.7* | -10.7* | -14.2 | -14.3* |
| Reading skills :% of children that can read without difficulty (deficit in percentage points) | -11.2 | -10.8 | -7.1* | -9.3 |
| Sense of Shame/embarrassment index (deficit in percentage points) | -5.1* | -4.3* | -18.8* | -9.4* |
| Grade aspiration gap (in years) | -1.2* | -0.7* | -0.7* | -1.4* |

Richest and poorest 25% of households defined in terms of household total consumption per capita
*Denotes statistical significance of spending power to explain outcomes, at 10% or less
Source: Table modified from Dercon (2008)

Table 4. Educational and psychosocial indicators comparing (average) stunted and non-stunted children

| | India | Ethiopia | Peru | Vietnam |
|---|---|---|---|---|
| Grade deficit (in years) between stunted and non-stunted children | -0.3* | -0.9 | -0.5 | -0.4 |
| Writing Skills:% of children that write without difficulty (deficit in percentage points) | -7.0 | -18.1 | -13.4 | -6.8 |
| Reading skills :% of children that can read without difficulty (deficit in percentage points) | -2.5 | -15.6 | -2.3 | -5.4 |
| Sense of Shame/embarrassment index (deficit in percentage points) | -3.0* | -0.6 | -10.3* | -2.4 |
| Grade aspiration gap (in years) | -0.4 | -0.4* | -0.4 | -0.7* |

*Denotes statistical difference at 5%
Source: Table modified from Dercon (2008)

*East and South East Asian Experience during crisis*

The East and South East Asian financial crisis in 1997 indicates that the crisis did affect a range of indicators such as micronutrient status, immunization coverage rates and health care expenditures (Bhutta et al, 2008). A study on East and South East Asia (Bhutta et al, 2008) estimated the potential impact of the food crisis and current global financial crisis on nutrition and health indicators. It shows that maternal anemia could increase 10 to 20% if it is unaddressed (Table 5). Similarly, malnutrition, child mortality could also increase. It can also have significant impact on health and nutrition outcomes. Table 6 provides differential impact on lowest quintiles and upper income quintiles. For example, the impact on wasting could be 79% for lowest income quintiles as compared to 25% for upper income quintiles.

Table 5. Estimated Impact of Food crises on Mortality and nutrition indicators (if Unaddressed

| Indicators | increase after crisis (%) |
|---|---|
| Maternal Anemia | 10-20 |
| Low Birth Weight | 5-10 |
| Stunting | 3-7 |
| Wasting | 8-16 |
| Child Mortality | 3-15 |

Source: Bhutta et al (2008)

Table 6 Estimated Impact of Food Price Crisis and Insecurity on health and nutrition outcomes

| Nutrition and Mortality Indicators | Excess following Crisis (%) | Estimated impact in lowest income quintiles (%) | Estimated impact in upper income quintiles (%) |
|---|---|---|---|
| Maternal Anemia | 10.5 | 12.0 | 8.4 |
| Low Birth Weight | 35.7 | 45.0 | 19.6 |
| Stunting | 22.4 | 8.0 | 9.7 |
| Wasting | 49.0 | 79.0 | 25.3 |

Source: Bhutta et al (2008)

**II Pathways that Lead to Poor Outcomes due to Financial Crisis**

The financial turmoil which started in the US financial system as a result of defaults of sub-prime mortgage loans has blown into an unprecedented financial crisis. It has affected the international money, credit, equity and foreign exchange markets. The global situation deteriorated massively after mid-September 2008 following the collapse of Lehman Brothers, one of the top five investment banks in the US. There has been a massive choking of credit since then and a global crash in stock markets. The slowdown that was expected in the global economy became much worse with the US, Europe and Japan moving into recession. A crisis of this magnitude in industrialized countries is bound to have an impact on India.

The financial crisis originated in the US being transmitted to other countries through three principal channels (Panagariya, 2008). First, it has directly affected the financial institutions all over the world due to investments in mortgage-backed securities and their derivatives, which turned toxic following large-scale defaults in the US housing markets. Second, the financial crisis has created a liquidity problem. The US firms which needed liquid resources withdrew their funds from stocks and bonds in other countries. Decline in the prices of stocks and bonds had impact on local investors who pulled back fro the market. This led to choking of credit all over the world. The third source of transmission is the impact on real sector. The financial crisis led to recession in the US. This led decline in demand of goods from other countries in the US. This has affected the exports of developing countries.

While India has largely escaped the first transmission, it has not been able to avoid the other two channels. The direct exposure of Indian banking system to the sub-prime market abroad is almost absent, there may be very limited investment by a few Indian banks in the collaterized debt obligations which had underlying entities with sub-prime exposures. However, the indirect impact of the crisis, transmitted through capital flows, financial markets and trade (real sector) would affect India. The foreign exchange reserves have declined in India and created a liquidity crisis due to global crisis as well as earlier tightening of monetary policy earlier. The exports from India would also be affected.

The growth rate of GDP in India is expected to decline to around 7% in 2008-09 as compared to 9% growth in 2007-08. This is partly due to the financial crisis and partly due to the tight monetary policies which in turn was due to high inflation. It is expected to go decline further to less than 6% in 2009-10. Lower growth may affect the employment prospects. It may have adverse impact on social sector expenditures as tax/GDP ratio may go down with lower growth.

More importantly, the impact of the financial crisis is likely to have negative effects on the agricultural sector and food security. The pathways through which the agricultural markets will be affected are on both demand and supply sides (FAO, 2008a). The slowing down of economic growth would affect demand for agricultural commodities. Prevailing uncertainty and consequent negative market expectations could further dampen demand. The falling demand may put further downward pressure on agricultural commodity markets. In general, lower food prices are good for consumers but reduce incentives for producers to make the necessary investments which would improve food security in the medium term. However, decline in food prices would not be sufficient to compensate the consumers from the reduction in household incomes due to recession, fall in employment and remittances from abroad.

On the supply side, reduction of agricultural prices may result in cutback in agricultural production. Although oil and fertilizer prices declined, in general, input prices can be sticky and would affect the supply of agricultural commodities. The financial crisis is likely to have negative impact on agricultural credit which is widely regarded as major constraint to agriculture in developing countries. **Farmers who took advantage of rising agricultural prices to invest in raising production may find themselves unable to pay off their debts because of falling output prices.** As banks cut lending because of financial crisis, it would be difficult for small farmers to make new investments. The financial crisis may reduce agricultural investment at macro level and cut back on social protection expenditures.

The combination of falling agricultural prices, reduction in agricultural investment and access to credit may have negative effect on agricultural production. It would have serious implications for food security. Poverty reduction efforts may be stalled because of low employment and volatility in food prices. The negative impact on household income would affect the well being of women and children.

## 4. Vulnerabilities and Coping mechanisms for households and impact on children

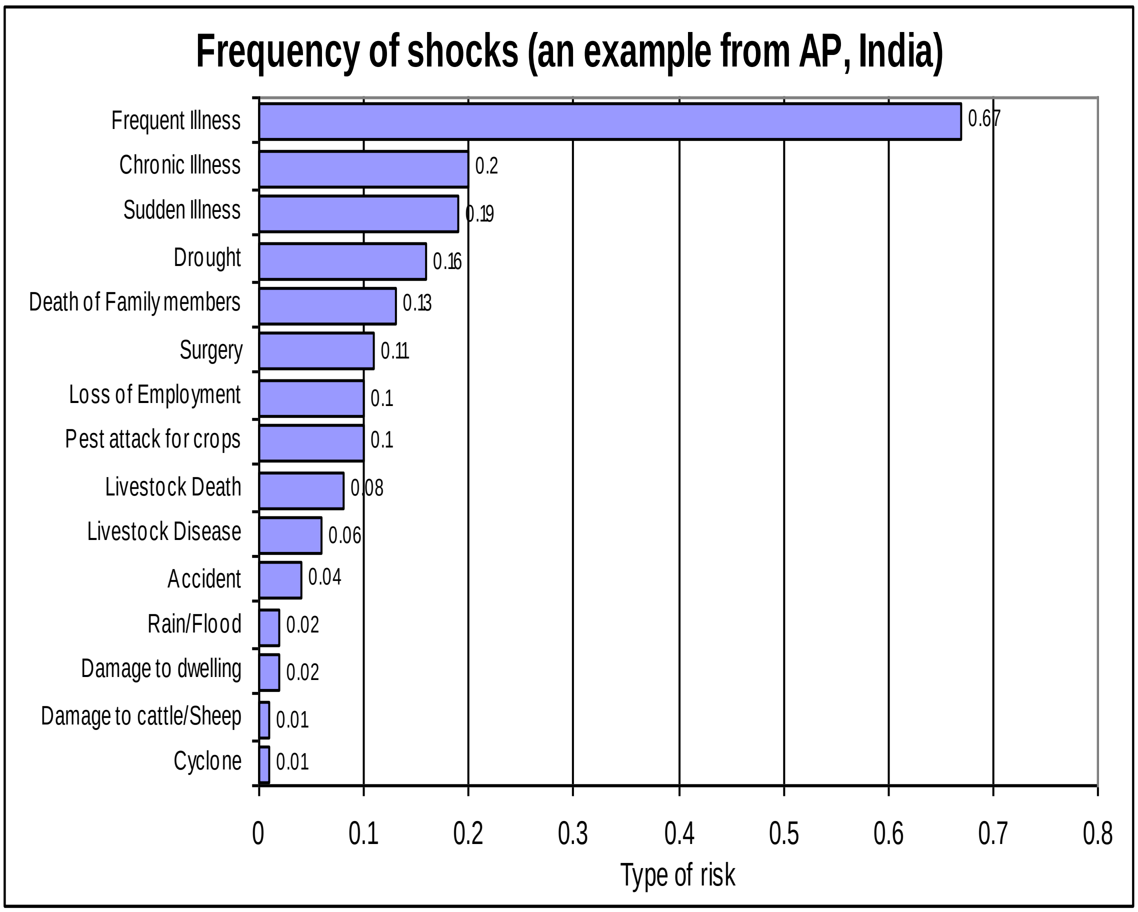
The term vulnerability refers to the relationship between poverty, risk and efforts/ability to manage risk. Risks and the inability to effectively manage these risks could force poor below the poverty line and if already living below poverty line, deeper into poverty. On the other hand, reducing vulnerability through effective and efficient risk management may contribute acutely poverty reduction. Therefore, any effort towards poverty eradication/reduction need to be based upon a good understanding of risks, constraints and opportunities faced by the poor. Further, these efforts should help people manage risk and avoid falling into poverty.

There is enough evidence to suggest that poor and poorest of the poor households are vulnerable to a range of risks affecting individuals, households or whole communities which can have a devastating affect on their livelihoods and well being. They have higher exposure to a variety of risks at individual or household level. Some of them are (a) health shocks: illness, injury, accidents, disability; (b) labour market risk: many work in informal sector and have high risk of unemployment and underemployment; (c)harvest risks, life cycle risks, social risk and special risks for vulnerable groups. In addition, they have community risks such as droughts, floods, cyclones, structural adjustment policies etc.

Some evidence from Andhra Pradesh shows that among the individual risks, health risk dominates over all other risks (Fig 2)**.** Second highest idiosyncratic shock is death of family members followed by loss of employment and pest attack for crops. In the collective risks, drought is the dominant in the state.

A village level study in three states viz., Orissa, Karnataka and Madhya Pradesh for the year 2006 shows that drought was the dominant risk followed by sudden health problems, cyclone/floods and pest attack (Dev et al, 2006)[4] (Fig. 3). When all idiosyncratic risks for all states are considered together, sudden health problem dominates as the principal risk for all quartiles (Table 7). Under covariate shocks, drought dominates other risks followed by cyclone/flood for all quartiles. The percentage of households reporting drought risk is about the same for the bottom two quartiles but increases for the top two quartiles. As for health risk, the proportion reporting is substantially higher for the poorer two quartiles compared with the top two quartiles. Further, among the top two quartiles, the proportion reporting drought risk is much higher than the proportion of households reporting health risk. For the poorer two quartiles, drought and health risks are followed by death of family member or livestock epidemic. For the richer two quartiles, the percentage of households reporting cyclone/flood and pest attack is also high.

**Fig.2. Frequency of Shocks in Andhra Pradesh**




Source: District Poverty Initiative Project, Andhra Pradesh

[4] Major part of this section is drawn from Dev et al (2006)

According to this study, there are state level differences in the level of risks. In the relatively more developed state like Karnataka, the incidence of health risk is about one half of the incidence of drought (which is not surprising because Karnataka has a large proportion of arid zone) whereas in a relatively poorer state like Orissa health risk dominates (which is also not surprising given the preponderance of malaria) alongside covariate risks. Madhya Pradesh is somewhere in between – health risk is about two-thirds of weather-induced covariate risks. Another interesting difference is that in Orissa not only health risk is hitting humans, but it is also hitting livestock – highest proportion of households experienced epidemics of livestock in Orissa in comparison with the other two states.

*Coping Mechanisms*

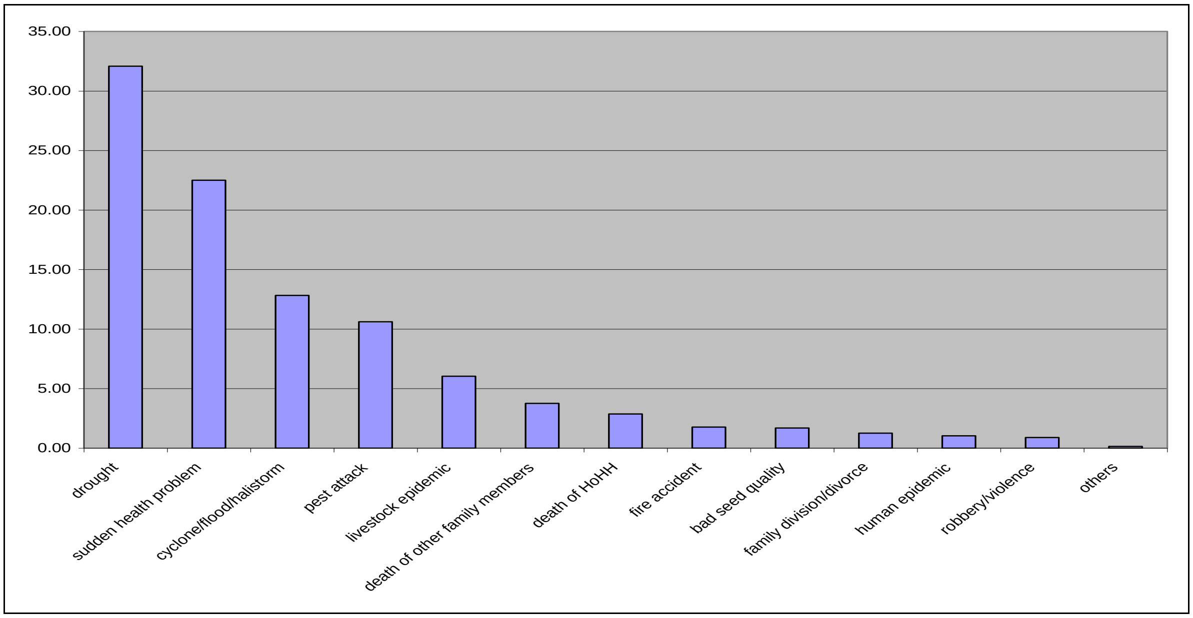
Most of the coping mechanisms followed by households are: borrowing, sale of assets, spending from savings, assistance from relatives and govt., expanded labour supply, child labour, bonded labour, reducing consumption, migration etc. In South Asia, borrowing seems to be the leading one. However, excessive borrowing leads to disastrous consequences. It is known that farmers' suicides and handloom weavers' suicides in Andhra Pradesh have been primarily due to indebtedness.

Table 7. **Percentage of Households Reporting Risk events by the type of risk events and by quartiles: 2006**

| State | Total of Three States | | | | |
|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Total |
| Drought | 27.91 | 26.19 | 34.62 | 39.64 | 32.08 |
| Cyclone/flood/hailstorm | 5.81 | 10.42 | 16.57 | 18.64 | 12.83 |
| Pest attack | 1.74 | 4.46 | 16.86 | 19.53 | 10.62 |
| Bad seed quality | 0.00 | 0.60 | 2.96 | 3.25 | 1.70 |
| Livestock epidemic | 2.62 | 8.04 | 6.51 | 7.10 | 6.05 |
| Fire accident | 1.45 | 1.19 | 2.07 | 2.37 | 1.77 |
| Robbery/violence | 1.45 | 0.89 | 0.59 | 0.59 | 0.88 |
| Human epidemic | 0.87 | 1.49 | 0.59 | 1.18 | 1.03 |
| Death of head of hh. | 2.91 | 3.27 | 2.96 | 2.37 | 2.88 |
| Death of other family members | 3.49 | 2.98 | 5.03 | 3.55 | 3.76 |
| Sudden health problem | 28.78 | 23.81 | 18.64 | 18.64 | 22.49 |
| Family division/divorce | 1.16 | 1.19 | 2.07 | 0.59 | 1.25 |
| Others | 0.29 | 0.30 | 0.00 | 0.00 | 0.15 |

Note : Q1 refers to lowest quartile while Q4 refers to richest quartile based on wealth index.
Source: Dev et al (2006)

**Fig 2. Percentage of households reporting different risk events (Total of Three States)**




Source: Dev et al (2006)

The above mentioned study on three states (Dev et al, 2006) also provides some evidence on coping mechanisms. All states taken together, adjustments in labor market (which include working longer hours and women and children joining the labor market) seem to be the dominant coping strategy (32%), followed by borrowing (24.8%), for the bottom quartile for all states (Table 8). For the richest quartile, financial adjustment is higher than labor market adjustment.

The study also indicates variation in the coping strategy across states (not given in the Table). In Orissa, borrowing is the dominant coping mechanism followed by changes in the labor market, possibly reflecting low employment opportunities in the state. The opposite pattern is to be noticed for Madhya Pradesh where the dominant coping strategy is in the labor market. In Karnataka, a high proportion of households in the bottom two quartiles are coping shocks with both labor market adjustments and financial adjustments. For the richest two quartiles, asset depletion appears to be the dominant coping strategy.

**Table 8. Percentage of households using different coping strategies**

| | Q1 | Q2 | Q3 | Q4 | Total |
|---|---|---|---|---|---|
| Asset depleting | 2.22 | 8.07 | 9.19 | 8.82 | 7.41 |
| Adjust labor market participation | 31.48 | 28.42 | 22.43 | 19.40 | 24.66 |
| Financial adjustments | 24.81 | 24.21 | 20.00 | 27.71 | 24.21 |
| Intra hh. adjustments | 1.85 | 1.75 | 3.78 | 6.30 | 3.71 |
| Depend on aid | 5.93 | 6.32 | 7.30 | 4.03 | 5.82 |
| Others | 7.04 | 4.56 | 8.92 | 4.53 | 6.28 |
| None | 26.67 | 26.67 | 28.38 | 29.22 | 27.91 |
| All | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Source: Dev et al (2006)

A study on Andhra Pradesh provides vulnerabilities of poor in three regions viz. Telangana, Rayalaseema and Coastal Andhra (SERP, 2001). The findings are summarized in Box 1.

**Box 1 Summary of findings on a Study in Andhra Pradesh**

1 Across the regions health risks have been the highest, the other being nature related, death and accidents. Health risks constitute 50% of the total household level risks reported.

2 Health risks of the total risks reported were highest among the SCs & STs. BCs reported both on health and nature related risks, and OCs mostly on nature related ones.

3 Reporting of risks appear to be linked to the primary livelihood option.

4 A large number of risks have been reported in 1998. Both household and community level risks were high during this year. Possibly health risks are related to the community level risks.

5 Loss of work/wages and ill health has been the most common impact of risk on the livelihoods.

6 Almost all households responded to risk by borrowing thus falling into the debt trap. Adoption of reduction and mitigation strategies was almost nil for household level risks

7 Lack of awareness/information results in non-adoption of reduction and mitigation strategies.

8 Preference to allopathic private health care was prevalent in all social groups as a response to health risks.

9 Community level risks vary across regions. Rayalaseema and Telangana report drought while cyclones/ floods are common in coastal region.

10 The results suggest that the sequence in which livelihood assets should be built must take into consideration the livelihood strategies of the group, and the consequent risks to which they are most vulnerable.

Source: SERP, 2001

## Vulnerabilities and Impact on Children

The vulnerabilities have short term and long term impacts on children. Decline in food consumption and expenditures on health would have impact on nutrition of children. As mentioned earlier, other effects are: reduction of expenditure on non-food items like health and education, family selling productive assets, children drop out of school, increased use of child labour, become indebted etc.

The study on Andhra Pradesh shows that the impact of risk responses was increased indebtedness. The extent of borrowing that took place from moneylenders and the rich farmers is quite high (nearly 90%) (SERP,2001). Increased indebtedness is not only a short-term burden, but it can also limit the ability of poor households to invest in future income-generating activities including children.

Looking at the responses for the different groups, some SCs, STs, and BCs had to revert to attach labour. Impact due to migration affected their children's education and health. Interestingly, dependency on family and friends was most popular among the BCs, limited with SCs and not reported by STs, reflecting on the poverty status of these groups in general who are little able to assist each other financially (SERP,2001).

*Rising Food Prices and Household Responses:* A Rapid Price Impact Survey 2008 in Bangladesh was conducted by the World Bank to know the household responses to price rise (Viswanath, 2008). Around 1200 rural and 800 urban households were interviewed in this survey. The results of the survey are given in Table 9. It shows that around 43% households in rural areas reduced their educational expenses while 9% of rural households have taken children out of school.

**Table 9 Household Responses to the Food Price Increase (%): Bangladesh**

| | **Urban** | **Rural** | **Total** |
|---|---|---|---|
| Reduce Quantity of Food Intake | 72.3 | 77.9 | 75.7 |
| Switch to lower quality food | 86.9 | 87.8 | 87.5 |
| Reduce non-food expenditures | 86.0 | 86.5 | 86.3 |
| Spend savings/sell belongings | 43.5 | 46.5 | 45.3 |
| Take out loans | 46.3 | 59.9 | 54.5 |
| Gift/help from community members | 0.9 | 9.3 | 6.0 |
| Take children out of school | 6.5 | 8.8 | 7.9 |
| Decrease education expenses | 32.5 | 43.2 | 39.0 |
| Work more/increase production | 24.6 | 39.8 | 33.8 |
| Stop loan payment | 3.1 | 6.1 | 4.9 |

Source: Viswanath (2008)

*Hunger Index in India*: The vulnerabilities across states in India can be examined by looking at the hunger index of IFPRI. The hunger index shows that relatively developed states like Gujarat, Maharashtra and Karnataka have higher rank of hunger index as compared to states like Uttar Pradesh and Rajasthan and closer to states like Orissa and Chattisgarh (Table 10). It shows that poverty and hunger are not strictly correlated and vulnerability of children is high even in developed states like Gujarat, Maharashtra and Karnataka.

**Table 10: Hunger Index and Components in India: States**

| State | Prevalence of calorie under-nourishment | Proportion of underweight among children<5 years | Under-five mortality rate, reported as deaths per hundred | India State Hunger Index score | India Hunger Index Ranking |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| **India** | **20.0** | **42.5** | **7.4** | **23.31** | |
| Andhra Pradesh | 19.6 | 32.7 | 6.3 | 19.54 | 3 |
| Assam | 14.6 | 36.4 | 8.5 | 19.85 | 4 |

| | | | | | |
|---|---|---|---|---|---|
| Bihar | 17.3 | 56.1 | 8.5 | 27.30 | 15 |
| Chhattisgarh | 23.3 | 47.6 | 9.0 | 26.65 | 14 |
| Gujarat | 23.3 | 44.7 | 6.1 | 24.69 | 13 |
| Haryana | 15.1 | 39.7 | 5.2 | 20.01 | 5 |
| Jharkhand | 19.6 | 57.1 | 9.3 | 28.67 | 16 |
| Karnataka | 28.1 | 37.6 | 5.5 | 23.74 | 11 |
| Kerala | 28.6 | 22.7 | 1.6 | 17.66 | 2 |
| Madhya Pradesh | 23.4 | 59.8 | 9.4 | 30.90 | 17 |
| Maharashtra | 27.0 | 36.7 | 4.7 | 22.81 | 10 |
| Orissa | 21.4 | 40.9 | 9.1 | 23.79 | 12 |
| Punjab | 11.1 | 24.6 | 5.2 | 13.64 | 1 |
| Rajasthan | 14.0 | 40.4 | 8.5 | 20.99 | 7 |
| Tamil Nadu | 29.1 | 30.0 | 3.5 | 20.88 | 6 |
| Uttar Pradesh | 14.5 | 42.3 | 9.6 | 22.17 | 9 |
| West Bengal | 18.5 | 38.5 | 5.9 | 21.00 | 8 |

Source (IFPRI, 2008)

It may be noted that social disparities overwhelm regional disparities regarding poverty and vulnerability and incidence of malnutrition. For example, the numbers in Table 11 show that SC/ST and Muslims are suffer from more poverty and vulnerability as compared to OBCs and other castes. The incidence of malnutrition (chronic energy deficiency) among women is the highest for SCs/STs, followed by OBCs and muslims. The malnutirtion among women for OCs is much lower than other castes. This is true of all the states in India.

**Table 11: Incidence of Malnutrition Among Women (Chronic Energy Deficiency): 2005-06**

| State | Total Population | SC/ST Population | OBC Population | Muslim Population | Others |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| **India** | **35.6** | **42.7** | **36.0** | **35.1** | 27.5 |
| Andhra Pradesh | 33.5 | 38.4 | 37.0 | 27.6 | 22.2 |
| Assam | 36.5 | 34.5 | 30.4 | 46.0 | 31.4 |
| Bihar | 45.1 | 58.4 | 43.3 | 49.6 | 31.4 |
| Chhattisgarh | 43.4 | 46.6 | 44.8 | 28.9 | 26.2 |
| Gujarat | 36.3 | 48.0 | 40.5 | 37.0 | 22.9 |
| Haryana | 31.3 | 36.4 | 33.1 | 49.0 | 26.6 |
| Jharkhand | 43.0 | 44.6 | 45.3 | 47.3 | 26.5 |
| Karnataka | 35.5 | 41.8 | 34.9 | 26.9 | 31.7 |
| Kerala | 18.0 | 24.1 | 18.6 | 15.6 | 18.0 |
| Madhya Pradesh | 41.7 | 48.7 | 42.2 | 37.4 | 27.7 |

| | | | | | |
|---|---|---|---|---|---|
| Maharashtra | 36.2 | 43.6 | 36.1 | 23.8 | 34.5 |
| Orissa | 41.4 | 50.6 | 39.6 | 63.5 | 30.7 |
| Punjab | 18.9 | 26.7 | 18.0 | 22.5 | 14.4 |
| Rajasthan | 36.7 | 44.1 | 33.3 | 36.1 | 32.3 |
| Tamil Nadu | 28.4 | 36.1 | 26.8 | 20.7 | 8.3 |
| Uttar Pradesh | 36.4 | 43.6 | 35.4 | 36.4 | 28.3 |
| West Bengal | 39.1 | 45.2 | 39.2 | 37.4 | 31.5 |

Source: Compiled from Kannan (2008). The data is from NFHS-3 data

## 5. Possible ways of tackling the Problem of adverse impact on Children

In this section, we discuss the policies at macro and sectoral level and social protection measures needed in order to protect from the two crises and improve the well being of children. It is clear that the food price and financial crises have a number of potential implications for children's well being and that policy and programming should seek to minimise the negative impacts. In this context, it is important to ensure that we need to have measures that combine policies aimed at alleviating household poverty along with specific child-focused policies.

### (a) Macro Policies

The macro policies should follow pro-poor and people centric policies. Growth and equity objectives should be pursued simultaneously rather than 'growth first and equity next' approach. Here we are concerned with policies that mitigate household poverty in order to reduce the negative impacts on women and children and improve their well being.
Several Governments have responded in varying degrees to contain the rise in prices as well as to mitigate the adverse effects on the poor. As mentioned above, Indian government have used several policies to contain prices. So far the policies taken by the government in the first round were aimed at stabilizing food prices. The Government of India has used instruments like trade bans, administrative controls on private trade, import tariffs, subsidies etc. to contain food prices. **However, medium to longer term agenda should be to improve agricultural productivity and improve working of social protection programmes.**

The recent decline in prices should not be taken to mean that the problems of hunger and poverty have been solved. The impact of the financial crisis will be felt at the macro level, with potentially negative affects on employment, agricultural sector and food security.

In order to reduce the impact of financial crisis, India has taken several monetary and fiscal measures. The Reserve Bank of India has taken several measures to address the issue of rupee liquidity and foreign exchange liquidity. They include, *inter alia*, reducing the CRR (Cash Reserve Ratio) in phases from 9.0% to 5.0%, lowering the repo rate from 9.0% to 5.5%, cutting the SLR (statutory liquidity ratio) by one percentage point to 24%.

RBI has pumped 1,80,000 crores of liquidity in the market. The public and private sector banks are expected to reduce interest rates in order to improve liquidity and credit situation in the country.

The Government has also taken fiscal measures to improve demand in the economy. In the first stimulus package, government reduced excise taxes and announced Rs.20,000 increase in government expenditure on infrastructure. In the second stimulus package announced on 2nd January, 2009, the measures include the following: ECB (External Commercial Borrowings) access, approval norms further liberalized, FII investment limit incorporate debt hiked to $15 billion from $6 billion, Rs.25,000 crores liquidity support to NBFCs through SPV (special purpose vehicle), Rs.20,000 crore recap plan for PSU banks over the next two years, states allowed to raise Rs.30,000 crores much through market borrowing, incentives to exports etc.

The monetary and fiscal measures announced by the RBI and Government are in the right direction to improve liquidity and investor confidence in the economy. But, **there are different views on the policies that have to be taken to come out of the financial crisis**. One view is that demand should be increased through direct fiscal action by the government. The objective of the larger government spending must be the reversal of the squeeze on the living standards of the people. “In short, the new paradigm must entail *inter alia* a foodgrain-led growth strategy (on the basis of peasant, not corporate, agriculture), sustained through larger government spending, which simultaneously rids the world of both depression and financial and food crises” (Patnaik, 2008). In other words, stimulus package has to be towards the agricultural sector and primary food producers.

Another view is given by the National Commission for Enterprises in the Unorganized Sector (NCEUS). According to NCEUS, immediate attention has to be given ‘to protect the livelihood security, employment and income of the vast majority of the people who are either poor or vulnerable and in doing so also stimulate overall economic growth’. The higher economic growth of the Indian economy in the last 20 years bypassed 77% of the people. Most of them are illiterate or have only primary level education, and suffer from malnutrition and ill-health. Most of them are unemployed or belong to the working poor, or self employed unorganized workers. Among the farmers, 84% are marginal and small farmers operating not more than 2 hactares of land. Agricultural labourers who are the bottom layer of the occupational structure, include a majority of workers from SCs and STs, and constitute around 89 million. The smallest segment of the unorganized sector (with investment below Rs.5 lakh in Plant and Machinery) gets less than 2% of net bank credit while investment below Rs.25 lakh get 4.3% of formal sector credit.

NCEUS is of the view that given the global financial meltdown on the economy and particularly the poor who are the unorganized workers, a major response is urgently required. The Commission advocates a major fiscal stimulus comprising of : (a) programmes to boost pro-poor public investment in physical and social infrastructure; (b) programmes/schemes which protect and promote incomes of the poor; (c) expansion in scope and coverage of social security schemes of the unorganized workers.

In general, pro-poor macro policies have to be followed to reduce household level poverty. These are given below[5].

First, equity is important for its own sake and for higher growth. If we reduce personal, rural-urban and regional disparities, growth will increase. There is no trade-off between growth and equity if we define equity in terms of empowerment and increase in the participation of the poor.

Second, agriculture development should be given priority for more pro-poor growth.

Third, macro-pro poor policies should increase in employment. The trade, fiscal, financial and monetary policies have not been pro-employment. Thus, priority should be given to the policies that improve quality and quantity of employment growth. Priority to public investment in physical (irrigation, roads, communications, transport, electricity etc.) and human infrastructure (health, education etc.) is considered one of the important factors responsible for raising quality employment. Also, priority to rapid growth in agriculture and rural non-farm sector are important for poverty reduction.

Fourth which is related to third one is that structural change in economy should follow agriculture-industry-service sequence. In GDP shares, India jumped from agriculture to services without concentrating on manufacturing. The share of employment in manufacturing in Malaysia is 50%, in Korea 62%, in China 31%. On the other hand, the share of employment in manufacturing in India is only 12% while the share of agriculture is more than 55%.

Fifth, equality of opportunities is important. Even if we do not follow equitable distribution of assets, every one should get equal opportunity for better education and health. We also need to pay more attention to provide clean water, access to health care and high quality education to all. At national level, public action should see that states such as Bihar, M.P., Chattisghad, Jharkhand, U.P. and Orissa and the poor in other states enhance opportunities for improving education, health and incomes.

Sixth, South East Asian and East Asian experience shows that globalization with better initial conditions have increased employment and incomes for workers and led to reduction in poverty. Developing countries should learn from China on agricultural growth, rural non-farm employment, public investment and human development. The impact of growth on poverty reduction is quite significant.

Seventh, development of technology is important for inclusive growth. For example, the spread of green revolution to the poorer states in India shows its potential for reducing regional disparities in development. Also, small farmers benefited from technology. This is because gains from technology are widely distributed. Similarly, the experience with information technology is equally encouraging and holds the prospect for raising productivity in agriculture and industry.

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[5] These are taken from Dev (2008)

Eighth, **the focus of reforms can now be shifted to more efficient delivery systems of public services.** It has been recognized that better governance is very important for pro-poor development. This is important for better implementation of sectoral policies and social protection programmes.

Ninth, we underline the importance of women's economic and social empowerment for pro-poor growth.

Tenth, all over the world it is recognized that decentralization in terms of transferring power to local councils is important for development. For many state governments in India, decentralization means devolution of power from Centre to states. The experience of decentralization in terms of greater devolution of functions, finances and powers to PRIs and urban local bodies in many states has not been satisfactory.

Lastly, rights approach plays an important role in improving implementation for development programmes. Right to food, right to health and right to education, right to employment and right to information etc. puts pressures on governments to deliver the services to citizens. Basically we have to go beyond supply side and focus on demand side. Social pressures are needed for public action. Better monitoring systems have to be developed at Central, state, district and village levels to realize rights.

The above macro pro-poor policies are expected to help increase the incomes for the poor households and reduce the negative effects of higher food prices and financial crisis. Improvements in household incomes can have positive effects on the well being of women and children

**(b) Sectoral Policies**

Growth in agriculture, rural non-farm sector, and sectoral level policies on health and nutrition and women's empowerment are important in order to tackle the problem of rise in food prices and financial crisis.

**Raising Agriculture Growth**

Agriculture growth is one of the important components in resolving food price crisis and financial crisis. With the onset of financial crisis, economic growth has slowed. Low economic growth is likely to have second round effects for investment and productivity with direct impact on food prices and food security (Braun, 2008a).

IFPRI[6] examines the following two recession scenarios during the period 2005 to 2020 at global level (Braun, 2008a).

Scenario 1: Economic growth is reduced by 2 to 3 percentage points depending on world regions, and agricultural productivity and investments are maintained by wise policy.

Scenario 2: Economic growth is reduced as in scenario 1, and agricultural investment and productivity also decline, in line with the reduced economic growth

[6] International Food Policy Research Institute

Food prices would increase significantly under Scenario 2. Poor people are likely to consume less calories due to recession. Globally, 16 million more children will be malnourished in 2020 compared with baseline scenario. However, if, developing countries can maintain agricultural productivity and investments under a recession (Scenario 1), the negative effects of financial crisis can be avoided. Under this Scenario, rise in cereal prices and malnourished will be lower and per capita calorie consumption is much higher by 2020.

The analysis by IFPRI at global level indicates the importance of agriculture on food security of households, women and children. Therefore, India has to focus more on agriculture sector.

Growth of agriculture decelerated from 3.5% from 1981-82 to 1996-97 to around 2% during 1997-98 to 2004-05 although there are signs of improvement in recent years (more than 3.5% in the last three years). Yield growth has also declined. Farmers' suicides have continued/increased in some states. Farming is becoming a non-viable activity. There are also other problems. Further scope for increase in net sown area is limited. Land degradation in the form of depletion of soil fertility, erosion and, water logging has increased. There has been decline in the surface irrigation expansion rate and reduction in ground water table. exposure of domestic agriculture to international competition, volatility in prices. Disparities in productivity across regions and crops and between rainfed and irrigated areas increased. Long term factors like steeper decline in per capita land availability and shrinking of farm size are also responsible for the agrarian crisis. Land issues such as SEZs, land going to non-agriculture, alienation of tribal land etc. are becoming important.

The Steering Committee report on agriculture for 11$^{th}$ Plan (GOI, 2007a) has identified the possible reasons for deceleration in agriculture since mid-1990s. According to the report, the major sources of agricultural growth are: public and private investment in agriculture and rural infrastructure including irrigation, technological change, diversification of agriculture and fertilizers. It looks like that the progress on all these sources slowed down since mid-1990s.

Because of demographic pressures, there has been significant increase in small and marginal farm holdings. These farmers have to face the challenges of globalization. Risk and uncertainty has also increased as cultivation has spread to marginal lands. The diversification of agriculture also raised concerns on food security.

What are the challenges for achieving 4% growth and equity in agriculture? The supply and demand side constraints have to be removed to raise growth. The support systems have to be tuned to improve productivity and incomes of farmers with emphasis on small and marginal farmers and dry land areas. One of the differences between 'green revolution' in the 1960s/1970s and the present 'second green revolution' is that risk is higher in the latter approach as it has to concentrate more on dry land areas. Trade liberalization has also raised the risk and uncertainty. Thus, policies have to keep in mind increasing risk in agriculture. Agriculture policies have to be gender sensitive as the share of women is increasing. Cost reduction in agriculture is important to compete in globalised world. Crop sector may not be able to grow at 4% per annum. But horticulture and allied activities like dairying, poultry and fisheries have to grow at the rate of 6 to 7% to achieve 4% growth in agriculture.

There are basically six factors which need to be focused in the short and medium terms. These are : (a) infrastructure (b) land and water management (c) research and extension; (d) inputs including credit; (e) marketing including price policy and (f) diversification and development of rural non-farm sector. Institutions have to be developed in all these aspects.

Investment in irrigation and rural infrastructure is important for agricultural growth. It is known that public investment in agriculture is lower than the requirements needed for achieving 4% growth. *Bharat Nirman* Programme is in the right direction but the progress has to be much faster.

The decline in productivity growth is attributed, among other things, to deterioration in soil quality and water shortages including ground water depletion. Therefore, land and water management should be given number one priority. Both investment and efficiency in use of water are needed. Land issues are becoming important. Investment in irrigation, watershed development and, water conservation by the community are needed under water management. In order to improve soil quality, the Government can restructure the fertilizer subsidies in such way that it would reduce the consumption of nitrogen (N) and encourage phosphatic (P) and potassic fertilizers.

As the National Commission on Farmers mentions there is a knowledge gap in the existing technology. Therefore, extension becomes crucial for improving agricultural productivity. In view of high variability in agro-climatic conditions particularly in unfavourable areas, research has to become increasingly location-specific.

It is true that there have been some improvements in flow of farm credit in recent years. However, **four distributional aspects of agricultural credit are important**. These are: (a) not much improvement in the share of small and marginal farmers; (b) decline in credit-deposit (CD) ratios of rural and semi-urban branches; (c) increase in the share of indirect credit in total agricultural credit and; (d) significant regional inequalities in credit.

Most important problem for the farmers is output price fluctuations. There is a big gap between producer prices and consumer prices. For example, some times farmers get 50 paise per Kg. of tomatoes while the consumers pay Rs.15 in urban areas. In order to protect farmers from national and international price volatility, price stabilization fund is needed. There are different models for marketing collectively by the small and marginal farmers. These are: self help group model, co-operative model, small producer co-operatives and contract farming.

To conclude, there are many policy challenges for Indian agriculture. Both price and non-price factors are important. Differences between green revolution period and the 'second green revolution' are the following: (a) globalization challenges, volatility in prices (b) shrinking farm size (c) dry land farming challenges (d) environmental stress. Small farmers are certainly going to remain in India the next decade or more. Main goals of agriculture are: (a) raising agricultural growth productivity rise, move towards high value agri. and rural non-farm and maintain food security (b) shared growth (small farmers, lagging regions, women etc. and (c) sustainable growth. There are six deficits in agriculture : (a)**investment, credit and Infrastructure deficit, (b) research and extension (technology) deficit, (c)market deficit, (d) diversification deficit, (e) institutions deficit, (f) education/skill deficit.** Younger generation does not want to go for agriculture. Group approach is needed for inputs and marketing. Deficiency in agriculture and rural infrastructure is biggest problem for agricultural development . Small farmers can respond positively with infrastructure. There is a need for massive increase in outlays for agriculture and rural infrastructure by simultaneously improving the delivery systems. Government is thinking of big push to education in 11th Plan. Such a big push is needed for agriculture sector

**Rural Non-Farm Sector**

Poverty can not be removed with 55% of workers in agricultural sector. There is a need to promote rural non-farm sector. India currently produces about 50 million tonnes of fruits and 90 million tonnes of vegetables. Only 2% of these fruits and vegetables are processed as against 23% in China, 78% in Phillippines, 83% in Malaysia. Half of those engaged in agriculture are still illiterate and just 5% have completed higher secondary education. Even in 2004-05, around 60% of rural male workers and 85% of rural female workers are either illiterate or have been educated upto primary level. In other words, education and skills are constraints. India can learn from China on rural transformation. China experienced a structural transformation in the last three decades. The state's role has been decisive in building up the physical and social infrastructure (including land reforms). India should learn from China on reforms in agricultural growth, rural non-farm employment, public investment and human development. The impact of growth on poverty reduction is quite significant (Rao, 2007). China started with agricultural reforms. Agricultural growth was quite high. The economic and institutional reforms in the whole economy created space for rural non-farm sector (TVEs and others). Diversification towards rural non-form sector in China is one of the important factors responsible for rural poverty reduction (poverty is only 3%). This was partly due to agricultural productivity. Ions

**Sectoral Intervention on Nutrition and Health**

Economic growth alone can not address the problems of nutrition and health of women and children. Sector specific interventions are required in order to improve nutrition and health outcomes. For example, a package consisting of expanded child and material immunization, antenatal care coverage, nutritional supplementation (including promotion of exclusive breast feeding) and home based neo-natal services (including treatment of pneumonia) is likely to bring about significant reduction in both infant mortality and child malnutrition (Deolalikar, 2004). There is also a need for synergy across sectors. There is a need for synergy between the processes directed at improving drinking water facilities, sanitation and public hygiene, access to elementary education, nutrition and poverty alleviation and the processes that improve access to public health and medical services.

**Women's Emowerment and Impact on Child well being**

Advancement in women's status and well being would have a positive spillover impact on child well being. A comprehensive review on the linkages between women's empowerment and child well being brought out clearly that there are four mechanisms for transmitting the effects of women's empowerment to child well being (Jones et al, 2007). They include maternal education, economic empowerment, intra-household decision making power and community level empowerment. Mother's education is positively associated with better child education, health and nutrition outcomes. Women's economic empowerment, that is greater access for women to financial resources not only improves the status of women within the household but also leads to more investment in their children. As a result of greater economic resources, women's empowerment may translate into better outcomes for children because mothers are likely to advocate the interest of their children in intra-household bargaining and to be taken seriously by their male partners. Finally, greater individual and household level empowerment may spill over into the empowerment of women at the community level and a more active role in demanding or even providing better child related services (Jones et al 2007)

**(c) Social Protection Measures**

Comprehensive social protection programmes are required to address the negative effects due to food price crisis and financial crisis. The social protection measures are basically non-contributory targeted transfer programs to the poor and vulnerable groups. There are three main motivations for social protection, which are broadly complementary. They are: protection (ex post) motivation; insurance (ex ante) motivation; other considerations like poverty alleviation, income distribution, aiding growth promotion[7]. Often, these motivations overlap. For example, a programme with protection motivation could also alleviate poverty.

If we leave everything to market and growth, we cannot take care of risk and inequality. Certain redistributive policies can be good for growth. Presence of social protection measures can maintain acceptable minimum floor for social cohesion and can prevent irreversible losses of human capital in hard times. The state has a role in helping the poor in times of insecurity and in ensuring minimum levels of provision to those unable to gain from the growth process. Government interventions will blend elements of both redistribution and insurance (World Bank 1990). The recent theory and evidence "offers a new perspective on social protection policies in poor countries, suggesting that there is scope for using these policies to compensate for the market failures that perpetuate poverty, particularly in high-inequality settings" (Ravallion 2003).

[7] Subbarao (2003)

India has many social protection programmes. The present major schemes for the poor in India fall into four broad categories: (i) food transfer like public distribution system (PDS) and supplementary nutrition (ii) self employment (iii) wage employment and (iv) social security programmes for unorganized workers. There are also many direct programmes for women[8]. Some of the social protection schemes have to be scaled up and effectiveness has to be improved in order to reduce the negative effects of food price rise and financial crisis.

**(i) Public Distribution System (PDS) and Nutrition Programmes**

PDS and nutrition programmes can help to improve food security of households and children.

**PDS**

The Public Distribution System (PDS) is one of the instruments for improving food security at the household level in India. The PDS ensures availability of essential commodities like rice, wheat, edible oils and kerosene to the consumers through a network of outlets or fair price shops. These are supplied at below market prices to consumers. With a network of more than 462,000 fair price shops (FPS) distributing commodities worth more than Rs. 300 billion annually to about 160 million families, the PDS in India is perhaps the largest distribution network of its kind in the world. The Targeted PDS (TPDS) was introduced in 1997 and under this scheme special cards were issued to families below poverty line (BPL) and foodgrains were distributed at a lower price for these families compared to those above the poverty line (known as APL families).

The main problems in TPDS are given in two recent documents: (1) Report of the High Level Committee on Long -Term Grain Policy (GOI, 2002) and (2) Performance Evaluation of Targeted Public Distribution System (TPDS) (Programme Evaluation Organisation, Planning Commission, 2005)[9].

According to these documents, there are basically four problems in the present TPDS: (a) High exclusion errors; (b) non-viability of fair price shops; (c) not fulfilling the price stabilization objective and, (d) Leakages. The leakages vary enormously between states. In Bihar and Punjab, the total leakage exceeds 75 per cent while in Haryana and Uttar Pradesh it is between 50 and 75 per cent.

The basic problem in PDS is lack of public accountability. Accountability is one of the important components of the principles involved in rights perspective.

The Sixth Commissioner’s report on PDS provides several recommendations to address the problems in TPDS. On large exclusion errors, the report says that those are excluded groups because of misidentification, should get universal coverage under AAY/BPL. In other words it should be the responsibility of the state governments to proactively identify all of these categories and cover them all with the AAY/BPL cards.

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[8] See Economic Survey 2004-05

[9] For problems in PDS and targeting see Swaminathan (2000)

The Report also gives recommendations on accountability and transparency. Some of these recommendations are : (a)any appeal by the BPL/AAY card holder or person claming to be eligible for BPL/AAY card should be dealt with in a period of 60 days; (b)the action taken report on any vigilance committee report should be submitted to vigilance committee members and Panchayat and Gram Sabha in not more than 60 days period. (c)the GoI and States should print on all ration cards, rates and quantities of subsidized food grains, where cardholders can file complaints, etc ; (d)The specified fee, for any BPL ration cardholder, to obtain extracts from the records of a fair price shop owner should in no case be higher than 50 paise per copy and the time frame of 15 days for providing the extracts of records should be strictly followed; (e) the list of names and addresses of BPL and AAY card holders should be displayed in public in order of eligibility, in every fair price shop and panchayat building[10].

During the 11th Plan, some Plan schemes are proposed for strengthening PDS. These are: (a) Food Credit Cards/Computerization of PDS Operations; (b) Curbing of leakages /Diversion of Foodgrains meant for TPDS; (c) Generating Awareness amongst TPDS Beneficiaries about their Entitlement and Redressal Mechanism and Monitoring Training and ; (d) Awareness of Negotiable Warehouse Receipt System

**Nutrition Programmes.**

ICDS: The Integrated Child Development Services (ICDS), launched in 1975, aims at the holistic development of children up to six years of age with a special focus on children up to two years, besides expectant and nursing mothers. This is done through a package of six services - health check ups, immunisation, referral services, supplementary feeding, nonformal pre-school education and advice on health and nutrition. Inspite of its expansion in the last three decades, the impact on child nutrition and protecting the rights of the children is quite limited.

The ICDS, which has been in existence for over three decades, was intended to address the problem of child and maternal malnutrition, but has clearly had limited impact. Child malnutrition has barely declined at all in a decade and a half, anaemia among women and children has actually risen and a third of all adult women were undernourished at the end of 1990s and also in 2005–06. It has also had limited coverage. Therefore, the answers are increasing coverage to ensure rapid universalization; changing the design; and planning the implementation in sufficient detail that the objectives are not vitiated by the design of implementation (GOI, 2008).

First, the ICDS has to be universalized. Second, the current scheme does not focus on 0–3 year children. But malnutrition sets in in utero and is likely to intensify during the 0–3 year period, if not addressed. In fact, this window of opportunity never returns in the lifetime of the child. A child malnourished during 0–3 years will be marred physically and mentally for life. The design of the scheme has to address this problem frontally.

[10] Also see Saxena (2008) for the problems in PDS

Mother's malnutrition has knock-on effects on child malnutrition. Exclusive breastfeeding for six months is necessary to avoid unnecessary infections to the baby, develop the baby's immunity, and ensure growth. The baby must begin to receive solid, mushy food at 6 months (i.e. together with breastfeeds) for the baby to continue to grow in the way nature intended her to grow. The ICDS scheme accordingly needs to be restructured in a manner that addresses some of the weaknesses that have emerged and is suitable for universalization. The programme must effectively integrate the different elements that affect nutrition and reflect the different needs of children in different age groups (GOI, 2008).

Apart from the above, preliminary findings of FOCUS (Focus on children under Six) survey conducted in May-June 2004 in six states brings out some of the problems and regional disparities in the working of ICDS (Dreze, 2006). This study shows that Tamil Nadu scores over Northern states in infrastructure, quality of pre-school education, immunization rates, mother's perceptions and, quality of anganwadi workers.

Saxena (2008) provides several recommendations for improvement of ICDS. According to this study, ICDS is reaching only 12.5 per cent of children in the age group 6 months to 6 years. The 11$^{th}$ Five Year Plan document aims at halving the incidence of malnutrition by the end of the Eleventh Plan and reduce anaemia among pregnant women and children to under 10%. To achieve these objectives, ICDS has to be restructured with higher allocations of funds and effective implementation.

**Mid-day Meal Scheme**

The mid-day meal scheme (MDMS) has been revised and universalised at the primary level from 1 September 2004. Recently, the MDMS has been extended to Upper Primary School from 1 October 2007. MDMS is supposed to cover about 18 crore children by 2008–09.

There are problems with MDMS regarding financial allocations and the quality of the scheme. The Sixth Report of the Commissioner appointed by the Supreme Court also points out inadequate infrastructure for mid-day meals. Of the sixteen States that sent data to the Commissioner in this regard, thirteen stated that less than 45 percent schools have a separate kitchen.

The 11$^{th}$ Five Year Plan has given the following action points for improving the performance of MDMS. These are: (1) MDM to be managed by the local community and PRIs/NGOs, and not contractor-driven: civic quality and safety to be prime considerations; (2) Sensitize teachers and others involved in nutrition, hygiene, cleanliness, and safety norms to rectify observed deficiencies; (3) Involve nutrition experts in planning low cost nutrition menu and for periodic testing of samples of prepared food; (4) Promote locally grown nutritionally rich food items through kitchen gardens in school, etc.; (5) Revive the School Health Programme; disseminate and replicate best practices adopted by States; (6) Provide drinking facilities in all schools on an urgent basis; (7) Display status regarding supplies, funds, norms, weekly menu, and coverage in schools to ensure transparency; (8) Central assistance to cooking cost should be based on the actual number of beneficiary children and not on enrolment; (9) Promote social audit; (10) Online monitoring (GOI, 2008b).

**Other Child-specific measures**: ICDS and mid-day meals are child-specific programmes. One of the household responses to food price rise and financial crisis is that children have less time to study or spend less time in school or drop-out of school. The short term measure can be to increase funding to school feeding programmes so that the quantity and quality of children get is not compromised (Plan, 2008). Long term measure is to provide incentives to continue the children in school. School feeding programs, financial incentives for children in school, quality of education etc. are some of the long term measures. Of course, social protection programs for households can raise household income and reduce child labour. Increased pressure on women due to employment may affect the children adversely. The government has to ensure continued funding to existing public provision of childcare services. Support can be given for increased women's employment by providing community or public child care facilities. Care responsibilities can be incorporated in the design and implementation of policies and programmes. Another coping mechanism of households is reduction in spending on basic services like health and education. This would affect the children adversely. Health care should be given more finances and incentives have to be provided for schooling.

(ii) **Self Employment**

The focus of self employment programmes is on the provision of productive assets to households in the target group, or on the provision of credit meant to finance the purchase of assets. SGSY (*Swarnajayanti Gram Swarozgar Yojana)* is the Government's major self employment programme in rural areas. The self help group movement in general, apart from SGSY groups, has been spreading all over the country. For example, we have 2 to 3 million lakh SHGs under NABARD's SHG-bank linkage programme and more than 3 crores are accessing credit. Similarly, Small Industrial Development Bank of India (SIDBI) and Department of Women and Child Development (through the Rashtriya Mahila Kosh, Swayamsidha and Swashakti schemes) also provide micro finance to the poor.

There are two important models in the country on poverty alleviation for self employed. One is Kerala Model and the other is Andhra Pradesh model. *Kudumbashree* programme in Kerala has made significant progress in reducing absolute poverty among its members. This programme's interventions and processes have resulted in a sustained process of empowerment of its women members.

Similarly, Government of Andhra Pradesh is implementing a statewide rural poverty eradication programme based on social mobilization and empowerment of rural poor women. This programme is popularly known as 'Velugu' or Indira Kranthi Pathakam (IKP). Under this, District Poverty Initiatives Project (DPIP) was introduced in six districts and extended to other districts under Rural Poverty Reduction Programme (RPRP).

The DPIP project of Andhra Pradesh provides important lessons on social and economic empowerment of women. The group approach to self employment programmes is in the right direction in the country. Earlier findings on interventions in A.P. show that the poorest of the poor are not participating in the existing self-help groups. The repayment schedule suitable to the poorest of the poor should be adopted. The improvement in skill base, given the other asset base, can also be a solution to tackle the problems of the poorest. Proper livelihood planning, bulk purchases of inputs and collective marketing of outputs help the poorest of the poor to organize their economic activity effectively. Thus micro-credit alone cannot address the problems of the poorest. Interventions in commodity markets are also needed. The second issue is how to make the existing groups sustainable over time. The low growth of the economy and existing class relations are posing constraints for the relatively better off among the poor in improving their well-being (Galab and Rao, 2003). The process of empowerment of women can not be sustained unless their livelihood concerns are aptly addressed. There is a need to undertake viable economic activities , which can improve incomes much faster. It may, however, be noted that the self help groups have certainly empowered the women to some extent in several parts of the country.

**(iii) Wage Employment Programme**

By now it is well recognized that rural works programmes (RWPs) have become important instruments in the strategies for alleviating poverty and hunger in many developing countries.

Enacting national employment guarantee act is one of the key electoral promises of the ruling coalition in Centre under the Common Minimum Programme (CMP). The bill was passed by the Parliament in August 2005 and became National Rural Employment Guarantee Act, 2005 (NREGA). This is a step towards legal enforcement of the right to work, as an aspect of the fundamental right to live with dignity

This Act provides at least 100 days of guaranteed wage employment in a year to at least one adult member of every rural household at the stipulated minimum wage. It is an obligation for the government to provide employment for those who seek work. Panchayats participate in planning and monitoring of the scheme. Social audit is one of the important aspects of NREGA. Initial reports on the working of NREGS have been positive although there are problems at the ground level.

It is a great opportunity to generate employment and create productive assets. If these are linked to overall development, the need for these schemes would be less in future. If it is implemented effectively, NREGS is going to be the biggest social security programme for the unorganized workers.

**(iv) Social Security Programmes for Unorganized workers**

It is well known that only organized workers constituting less than 10% of total workers in India get all social security benefits. In other words, more than 90% of Indian workers who belong to unorganized sector do not have contingent social security benefits. The social security problems of the unorganized workers can be divided into two sets of problems. The first one is the *capability deprivation* in terms of inadequate employment, low earnings, low health and educational status which are related to general deprivation of poorer sections of the population. The second one is *adversity* in the sense of absence of adequate fall back mechanisms to meet contingencies such as ill health, accident , death, and old age (NCEUS, 2006).

At present Central Government, State Governments and NGOs provide social security benefits to some unorganized workers. But, these initiatives constitute less than 10% of the unorganized workers. The National Commission for Enterprises in the Unorganised sector (NCEUS) proposed a universal but minimum level of social security for the unorganized workers. It consisted of (i) sickness and maternity, (ii) disability and death, and (iii) old age security in the form of a national pension for those belonging to BPL households and a contributory provident fund for those belonging to APL households. The NCEUS proposal has estimated to cost only half a per cent of GDP to the government for all the unorganized workers.

**Measures of fiscal stimulus and social protection to reduce negative effects of financial crisis**

As mentioned above, the NCEUS proposed several urgent measures and fiscal stimulus to protect the informal economy. These measures are given below.

*(a) Enhance pro-poor public investment*: This includes expansion of rural infrastructure consisting of rural infrastructure, roads providing connectivity, housing, drinking water, sanitation and rural production infrastructure.

(b) *Strengthen and expand NREGP* : With few exceptions, the employment generated under NREGA is less than 100 days. The Commission provides suggestions for strengthening and expanding NREGA.

(*c ) Introduce an Urban Employment Guarantee Programme:* In order to complement NREGA, an urban employment guarantee programme has to be introduced. The activities can include low income housing especially for slum dwellers, electrification, water supply, slum improvement, low cost waste management etc.

*(d) Stregnthen and expand self employment programmes:* A number of measures have to be taken to graduate micro finance to livelihood finance. The measures can assist both farm and non-farm workers who are likely to face reduced prospects of employment in the wage market.

*(e)Special Programme for Marginal and Small farmers:* Institutional Credit for small and marginal farmers have to be improved. Special programmes like land improvement, minor irrigation, capacity building, training etc. can be given to these farmers.

*(f) Enhancing access to credit to micro entereprises:* In times of financial crisis, the small producers will be rationed out of the credit market. Steps have to be taken to increase credit to unorganise sector micro enterprises.

*(g)Create a National Fund for Unorganized Sector:* A national fund for unorganized sector has to be established in order to step up credit and developmental effort for this sector.

*(h)A programme for Skill Development in the Informal Economy:* The government has provided measures to expand skill training. But, they remain mostly to organized workers. There is a need to have a programme for receiving on-job training in unorganized enterprises. This scheme aims at workers who have primary but less than secondary level education.

*(i) A National minimum social security for informal workers*: As mentioned above, the Commission proposed a universal but minimum level of social security for all the unorganized workers in the country.

*(j) Strengthen and expand investment in human development of the poor and vulnerable*: The families and children in the informal economy suffer from capability deprivation. Given the conditions of poverty and vulnerability and low human capabilities, there is a need to strengthen and expand programmes that improve human development of these households. Here the programmes such as Sarva Shikshan Abhiyan (SSA), National Rural Health Mission (NRHM), public distribution system (PDS), Integrated child development services (ICDS) should be expanded and strengthened to the unorganized workers.

In order to save the informal sector from collapse, the NCEUS) has sought Rs.58,000 crores special package to implement all the above programmes. If implemented, these programmes would create about 57 million additional jobs over the next five years.

**Investing in Social protection Programmes**: The social protection programmes discussed in this section can help the families to cope with the double crisis of rise in food prices and financial meltdown. These programmes also include child specific policies like ensuring adequate nutrition, school feeding programmes, health and education for children.

At the international level, there are many examples of good social protection programmes. Cash transfers are preferred to food or other in-kind transfers as cash increases the purchasing power of the households[11]. Conditional cash transfers that have worked well include the food-for-education program in Bangladesh, Mexico's PROGRESA program and the Bolsa Escola in Brazil.

**Governance**

[11] See Rashid (2008)

The focus of reforms can now be shifted to more efficient delivery systems of public services. It has been recognized that better governance is very important for equitable development. This is important for better implementation of sectoral policies and social protection programmes. Social mobilization, community participation and decentralized approach are needed. It may, however, to be noted that governance has to be contextualized in relation to socio-economic environment. Appropriate institutions are needed for better implementation of policies and programmes. For example, rural institutions in areas like land, water, marketing of agricultural and non-agricultural products, credit, technology and infrastructure are needed for better governance. Similarly, people's centric programmes and institutions are needed for better implemention of social protection schemes. Finally, rights approach plays an important role in improving implementation for development programmes. Right to food, right to health and right to education, right to employment and right to information etc. puts pressures on governments to deliver the services to citizens.

## 6. Concluding Observations

The objective of this study is to examine analytical issues that would identify the pathways of the effects of the rising food prices and financial crisis on households, particularly women and children. It also outlines desirable macro, sectoral and, social protection policies and measures that would mitigate the negative effects and would protect/improve levels of living of the households, in particular on nutrition, health, education and enhance child protection.

The poor and vulnerable were significantly left behind even before the two crises. Rising food prices and financial crisis would further undermine the food security and livelihoods of the most vulnerable by eroding their already limited purchasing power. Poor people spend 60 to 70 per cent of their income on food and they have little capacity to adapt as prices rise and wages may not adjust accordingly. The food crisis increased general inflation and had impact on macro economic policies. Similarly, the financial crisis can have impact on employment, poverty, agriculture investment and social sector expenditures. These two crises can potentially further exacerbate existing vulnerabilities in India for the poor and disadvantaged groups including women and children if appropriate steps are not taken. The coping strategies due to these crises could have adverse impact on the food security and human development of women and children. India has done well in insulating itself from the global food price rise. The increase in food prices in India was much lower as compared to sharp increase in global prices due to various measures. Cereal prices in India increased only 23 per cent as compared to global prices increase of 150 per cent during 2005 to 2008. However, volatility in food prices and financial crisis in India can pose a threat to food and nutrition security of the country.

One can group the pathways that lead to poor outcomes in nutrition, health and education of children due to increase in food prices into four heads. These are: (1) impact on poverty; (2) macro economic impact and its affect on employment and social sector (3) impact on nutrition and social protection programmes (4) women's well being and intra-household decisions. Basically, it operates through two mechanisms. First one operates through household poverty while second one works through child specific factors. The impact of financial crisis is likely to have negative affects on agriculture and food security.

The combination of falling agricultural prices, reduction in agricultural investment and access to credit may have negative effect on agricultural production. It would have serious implications for food security. Low economic growth will have impact on finances of the country. It can have adverse impact on social sector expenditures and social protection programmes. Poverty reduction efforts may be stalled because of low employment and volatility in food prices. The negative impact on household income would affect the well being of women and children.

The study also documents vulnerabilities and coping mechanisms for households and impact on children. The vulnerabilities have short term and long term impacts on children. Decline in food consumption and expenditures on health would have impact on nutrition of children. Other effects are: reduction of expenditure on non-food items like health and education, family selling productive assets, children drop out of school, increased use of child labour, become indebted. The hunger index across states shows that poverty and hunger are not strictly correlated and vulnerability of children is high even in developed states like Gujarat, Maharashtra and Karnataka.

It may be noted that social inequality is high in India across all the states in India. **The poverty and vulnerability is high for SCs/STs and Muslims as compared to OBCs and other castes.** This is true of almost all the states. The malnutrition among women is high among SCs/STs, OBCs and Muslims as compared to other castes. Thus, social inequality is equally or more important than regional inequality.

The study discusses the policies at macro and sectoral level and social protection measures needed in order to protect from the two crises and improve the well being of children. The macro policies should follow pro-poor and people centric policies. Growth and equity objectives should be pursued simultaneously rather than 'growth first and equity next' approach. The macro policies should try to mitigate household poverty in order to reduce the negative impacts on women and children and improve their well being. In order to reduce the impact of financial crisis, India has taken several monetary and fiscal measures.  However, stimulus package has to be more towards the agricultural sector and primary food producers. Another view is given by the National Commission for Enterprises in the Unorganized Sector (NCEUS). According to NCEUS, immediate attention has to be given to protect the livelihood security, employment and income of the vast majority of the people who are either poor or vulnerable and in doing so also stimulate overall economic growth. The package has to include unorganized or informal sector.

Sectoral policies has to concentrate on agriculture and rural non-farm sector. There should also be sectoral policies towards nutrition and health. The Comprehensive social protection programmes are required to address the negative effects due to food price crisis and financial crisis.

India has many social protection programmes. The present major schemes for the poor in India fall into four broad categories: (i) food transfer like public distribution system (PDS) and supplementary nutrition (ii) self employment (iii) wage employment and (iv) social security programmes for unorganized workers. There are also many direct programmes for women. Some of the social protection schemes have to be scaled up and effectiveness has to be improved in order to reduce the negative effects of food price rise and financial crisis. Child specific programmes are also needed. A study on East Asia and South East Asia showed that social protection and other intervention programmes can reduce the adverse impact on health and nutrition of the poor and vulnerable. The social protection programmes discussed in the study can help the families to cope with the double crisis of rise in food prices and financial meltdown. These programmes also include child specific policies like ensuring adequate nutrition, school feeding programmes, health and education for children.

## References

ADB (2008), "Food Prices and Inflation in Developing Asia: Is Poverty Reduction Coming to an End?" , Asian Development Bank, Manila

Ahmed, Sadiq (2008), "Global Food Price Inflation: Implications for South Asia, Policy Reactions and Future Challenges", paper presented at the conference on "South Asia Regional Conference on Managing Food Price Inflation" organized by the World Bank, November 15-16, Dhaka

Bhutta, Z,A., F.Ahmad Bawany, A.Feroze, A.Rizvi (2008), "The Impact of the Food and Economic Crisis on Childhealth and Nutrition", Draft Working Paper prepared for UNICEF conference East Asia and the Pacific Islands, 6-7 January 2009, Singapore

Braun, Joachim von (2008), "Food and Financial Crisis: Implications for Agriculture and the Poor", IFPRI, Washington D.C.

Bouis, Howarth (2008), "Rising Food Prices will Result in Severe Declines in Mineral and Vitamin Intakes of the Poor", Harvestplus, IFPRI, Washington, D.C.

CENTAD (2008), "High Food Prices in India: Factors, Consequences and Mitigation", Centre for Trade & Development", Study Report, New Delhi

Chandrasekhar, C.P. and Jayati Ghosh (2008), "India and the Global Financial Crisis", Macro Scan, Business Line, October 2008

Dercon, Stephan (2008), Children and the Food Price Crisis", Young Lives Policy Brief 5, Department of International Development, Queen Elizabeth House, University of Oxford.

Dreze, Jean (2006), 'Universalisation with Quality: ICDS in a Rights Perspective', *Economic and Political weekly,* Vol XLI, No.34, Aug 26-September 1.

Dev, S.Mahendra, K.subbarao, S.Galab and C.Ravi (2006) "Safety Net Programs in India: Outreach and Effectiveness: Village Level Perspectives in Three States", background paper prepared for a study on social protection by the World Bank

Dev, S.Mahendra (2008), "Inclusive Growth in India: Agriculture, Poverty and Human Development", Oxford University Press, Delhi

Dev, S.Mahendra (2008a), "Food Prices in India: Trends and Policy Reactions", paper presented at the conference on "South Asia Regional Conference on Managing Food Price Inflation" organized by the World Bank, November 15-16, Dhaka

FAO (2008), "Financial Crisis could deepen food crisis", www.fao.org/newsroom/news/2008/10000937/index.html

FAO (2008a) “Agricultural Commodity Markets and the Financial Crisis”, Food Outlook, November, 2008, FAO, Rome

FAO (2008b) “The State of Food Insecurity in the World 2008”, FAO, Rome

IFPRI (2008), “High Food Prices: The What, Who and How of Proposed Policy Actions”, Policy Brief, May 2008

IFPRI (2008a), “The India State Hunger Index: Comparisons of Hunger Across States”, Purnima Menon, Anil Deolalikar, Anjor Bhaskar, October 14, New Delhi

Galab S. and N. Chandrasekhara Rao (2003), ‘Women Self-help Groups,Poverty Alleviation and Empowerment’, *Economic and Political Weekly,* Vol.38, No.12 and 13, March 22-29, pp.1274-83.

GOI (2007), Economic Survey 2006-07, Ministry of Finance, New Delhi

GOI (2007a), “Report of Steering Committee on Agriculture for the XIth Plan”, Planning Commission, Government of India

GOI (2008), “Draft 11th Five Year Plan”, Planning Commission, Government of India

GOI (2008a) “Mid-Year Review 2008-09”, Ministry of Finance, Government of India

Jones, Nikola, Madhuri Mukherjee and S.Galab (2007), “Ripple Effects or deliberate intentions? Assessing Linkages between Women’s Empowerment and Childhood Poverty”, UNICEF/Young Lives Social Policy Paper 002, May

Kannan, K.P. (2008), “Dualism, Informality and Social Inequality: An Informal Economy Perspective of the Challenge of Inclusive Development in India”, Presidential Address, 50th Annual Conference of the Indian Society of Labour Economics, December 13-15, 2008, Giri Institute of Development Studies, Lucknow

Klotz, C., Saskia de Pee, Thorne-Lyman, A., Kraemer, K. and Bloem, M. (2008), “Nutrition in the Perfect Storm: Why Micronutrient Malnutrition will be a Widespread Health Consequence of High Food Prices”, Sight and Life, Magazine Issue, Basel, Switzerland

Lustig, Nora (2008), “Thought for Food: The Challenges of Coping with Soaring Food Prices”, Working Paper number 155, Centre for Global Development

NCEUS (2006), “Report on Social Security for Unorganized Sector” National Commission for Enterprises in the Unorganized Sector, Delhi

NCEUS (2008), “The Global Economic Crisis and the Informal Economy in India: Need for Urgent measures and fiscal stimulus to protect the informal economy”, Note submitted to the Prime Minister of India, National Commission for Enterprises in the Unorganized Sector, Delhi

ODI (2008), “Rising Food Prices: A Global Crisis”, ODI Briefing Paper, London

Oxfam (2008), “Double-edged Prices”, Oxfam Briefing Papers, October 2008

Panagariya, Arvind (2008), “What global crisis means for India?”, **Economic Times,** 27 November, 2008

Plan and ODI (2008), “Understanding the Impact of Food Prices on Children”, Plan UK, London

Patnaik, Prabhat (2008), “The Present Crisis and the Way Forward”, The Hindu, November 14, 2008

Quisumbing, A., Ruth Meinzen-Dick, and Lucy Bassett (2008), “Helping Women Respond to the Global Food Price Crisis”, IFPRI policy brief 7, Washington D.C.

Rashid, Mansoora (2008), “Safety Nets: South Asia and World wide: Addressing Chronic

Poverty and Coping with Shocks", power point presentation at the conference on "South Asia Regional Conference on Managing Food Price Inflation" organized by the World Bank, November 15-16, Dhaka

RBI (2008), 'Annual Report 2007-08', Reserve Bank of India, Mumbai

Rao, CHH (2005), "Agriculture, Food security, Poverty and Environment", Oxford University Press, New Delhi.

Ravallion (2003), "The Debate on Globalization, Poverty & Inequality: Why Measurement Matters", *World Bank Policy Research Working Paper 3038.*

Ruel, M. and John Hoddinott, (2008), "Investing in Early Childhood Nutrition", Policy Brief No.008, IFPRI, Washington, D.C.

Saxena, N.C. (2008), "Hunger, Undernutrition and Food Security in India", mimeo

SERP (2001), "Livelihood Assessment Report", Society for Elimination of Rural Poverty, Hyderabad

Subbarao (2003), 'Systematic Shocks and Social Protection: Role and Effectiveness of Public Workfare Programs', Human development Discussion Paper, World Bank, Processed.

Swaminathan, M. (2000), "Weakening Welfare: The Public Distribution of Food in India', Left word books, New Delhi

Viswanath, Tara (2008), "Impact of Rising Food Prices on Poverty: South Asia Region", power point presentation at the conference on "South Asia Regional Conference on Managing Food Price Inflation" organized by the World Bank, November 15-16, Dhaka

World Bank (2008), "Double Jeopardy: Responding to High food and Fuel prices", G8 Hokkaido-Tokyo Summit.

World Bank (2008 a) Rising Food prices: Policy Options and World Bank Response", World Bank, Washington, D.C.

# Appendix

Fig A1

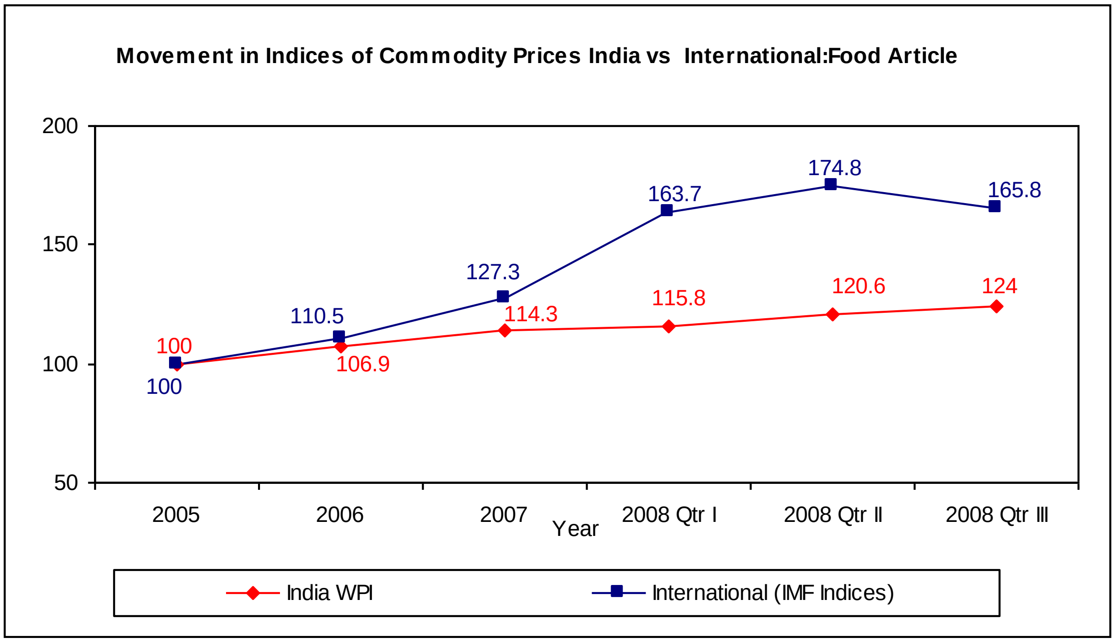



Fig A2

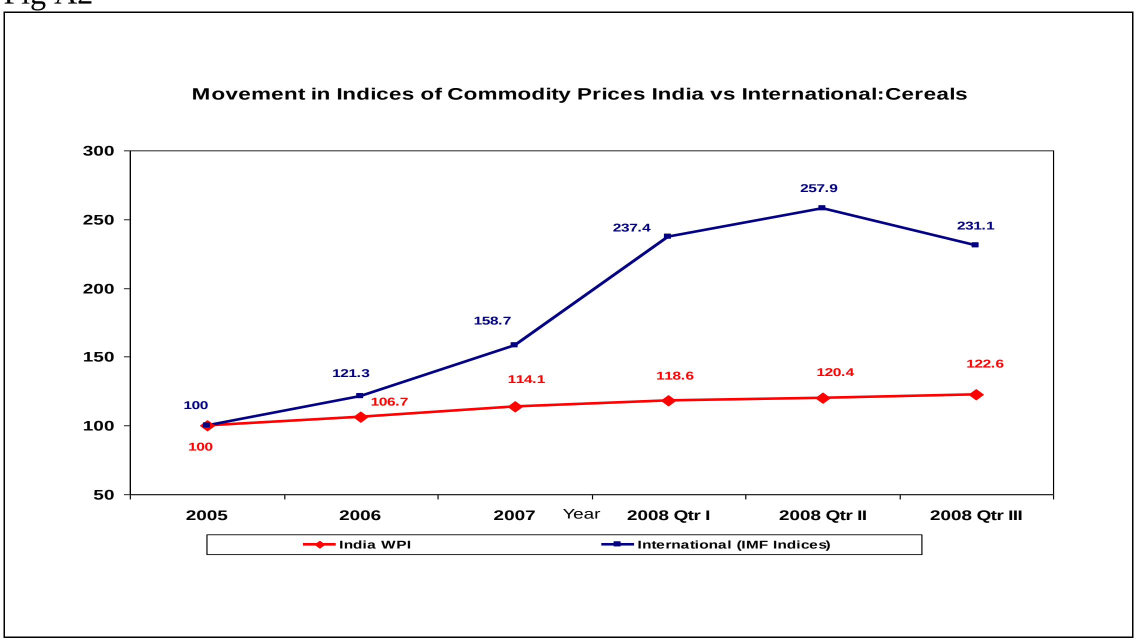
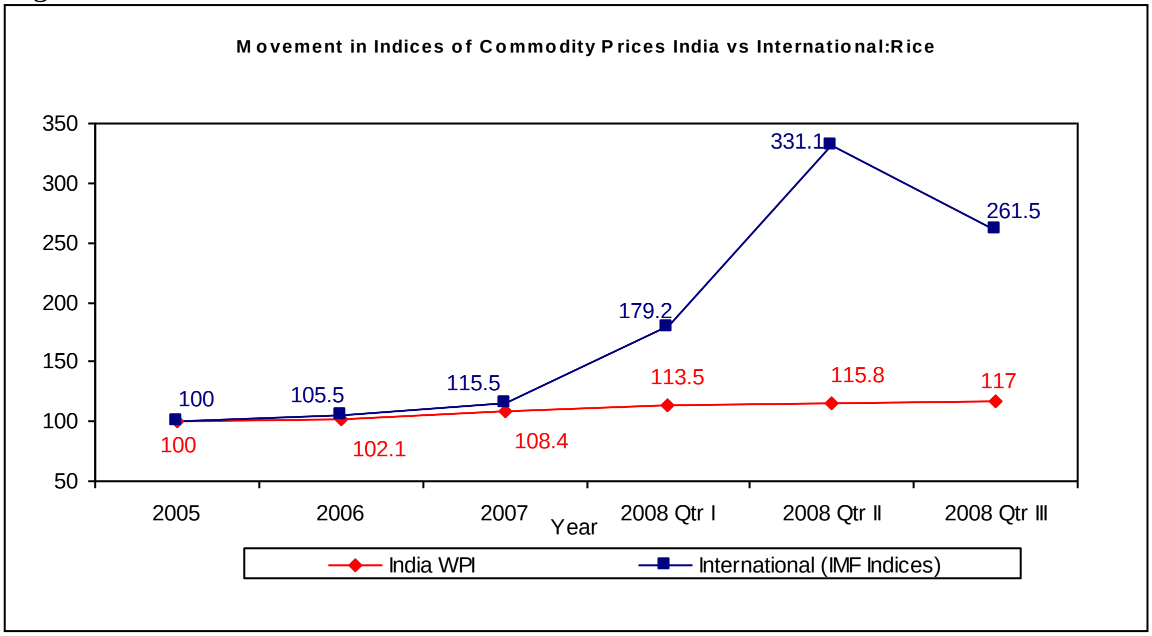


Fig A3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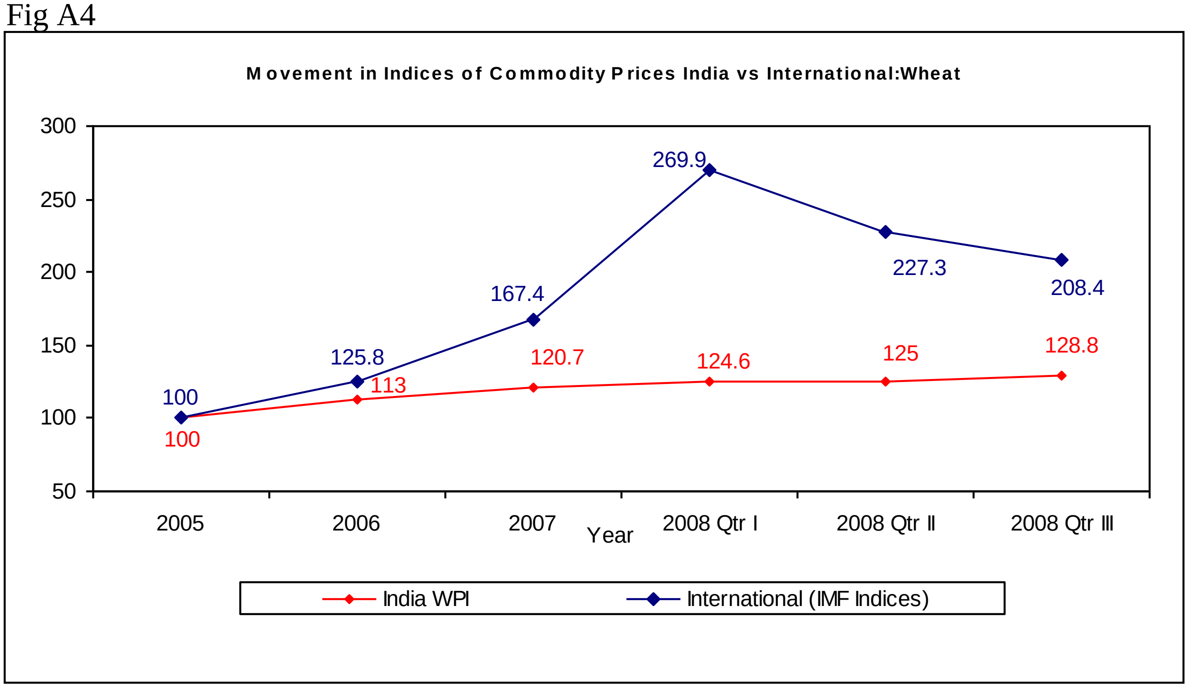
300
250
200
150
100
50
331.1
261.5
179.2
100
105.5
115.5
113.5
115.8
117
100
102.1
108.4
2005
2006
2007
2008 Qtr I
2008 Qtr II
2008 Qtr III
Year
India WPI
International (IMF Indices)

Fig A4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300
250
200
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100
50
269.9
227.3
208.4
167.4
125.8
100
113
120.7
124.6
125
128.8
100
2005
2006
2007
2008 Qtr I
2008 Qtr II
2008 Qtr III
Year
India WPI
International (IMF Indices)