

Full Length Research Paper

World food scenario: Emerging trends and issues

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Global food scenario has been under heavy odds. This has been due to spiraling food prices and scarcity of food grains all over the world. The result is that the specter of a hungry world that stood at 800 million roiled into unrest and political upheavals. One of the contributory factors is more population and lesser output of food grains. There is also a saying that the Asian Economies and the US have also contributed towards global food crisis. A lot of efforts have been made out both at international and national levels. But there is some improvement in trends and situation and it is hoped that worst may be over. The need is to take more effective measures to tackle the most alarming and burning issue that the world is facing. The present paper reviews emerging issues and trends in respect of global food situation and crisis. The year 2007 is considered to be the worst year ever for global food crisis and prices in recent past. In this year, increasing food grain prices and shortage of food grains supply world over have resurrected the specter of a hungry world, roiled with riots and political insecurity and stability. One of the most relevant concepts has been given by Thomas Robert Malthus two centuries ago in regard to causes of food crisis. According to this concept 'population would grow till it outstrips food grains production, and then famines, wars and epidemics would intervene to restore the balance' (Varma, 2008). This is what is happening today.

Key words: Food scenario, emerging trend.

INTRODUCTION

Trends in population and food grains output

In the year 1950-1951, the global population was nearly 2.5 billion and then there has been a gradual increase in it (Table 1). At the end of the 20th century the global population had touched a figure of 6.0 billion marks, meaning a phenomenal rise of about 3.5 billion in just half a century. In the words of UN Population Division, the global population would be between 8 and 11 billion by the end of 2050 (United Nations Population Division; New York, 2007 - 2008). This would depend on what factors that is taken into account. This means that there will be an addition of 3 billion of people to this earth and it would be very difficult for the governments all over the world to feed everyone on the landscape of the earth.

On the other side of it, total global output production of food grains has witnessed an overall rise of more than 3 times. In 1950 - 1951, it was just 631 million tons and by the year 2007 - 2008, it has touched a figure of 2,075 million tones. This means between 1950-1951 and 2007 - 2008 the global population has recorded a rise of more than 2.2 times, whereas global output of food grains has registered an increase of more than 3.3 times. During this

period, the per capita consumption of food grains has witnessed a rise of just 1.2 times (Chart 1). Likewise, there is also an increase in whole range of food required by a human being namely-meat, dairy products, fruits, vegetables, sugar, etc.

When the rise in global output of food grains is higher than the global increase in population, the question does arise: why is there global food crisis and why are so many people still hungry having even no time meal? According to UN population division, there are still 800 million hungry people world wide. The simple answer is that the food is not equally available to all in this world. Let examine emerging trends in global food scenario in terms of continents.

The total world production of cereals in 2006 - 2007 was 2012 million tons and this figure went up to a level of 2108 million tons in 2007 - 2008, that means an increase of 4.7%. The total output of cereals in developed economies has witnessed a rise of 8.0%, that is, from a level of 856 to 925 million tons (Chart 2). The total production of cereals in developing countries recorded a

Table 1. Global population and food grains output 1950-1951 and 2007-2008.

Year	Population (billion)	Output (million T)	Per capita availability (kg)
1950-1951	2.5	631	248
1960-1961	3.1	824	272
1970-1971	3.8	1079	286
1980-1981	4.5	1429	321
1990-1991	5.3	1768	334
2000-2001	6.1	1843	301
2007-2008	6.6	2075	314

Source: UN population division and FAO statistics.

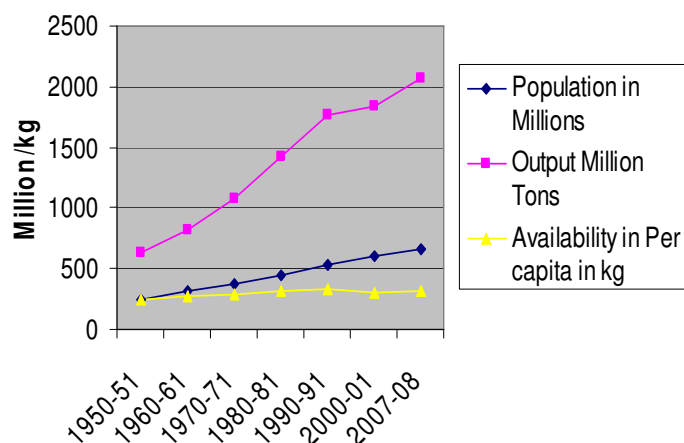


Chart 1. Global population and food grains output 1950-1951 to 2007-2008. Source: Prepared by the author from the data given in Table 1.

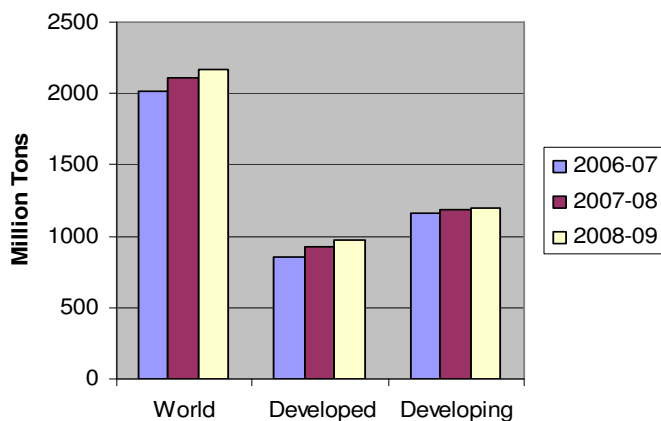


Chart 2. World cereal output 2006-2009. Source: Prepared by the author from data FAO, Rome, Italy.

rise of 2.3%, that is, from a level of 1157 to 1183 million tons. When compared, the rise of these three segments, it is clear that it is higher in case of developed economies. This indicates that developed nations have

performed better than global world and developing economies. The estimates of cereal production for 2008-2009 in terms of global production, output in developed economies and production in developing economies stood at 2164, 966 and 1199 million tons, respectively. The estimated rise is 2.6, 4.4 and 1.3%, respectively.

ISSUE OF GREAT CONCERN

There is a true saying that in years to come, the output of food grains would not be able to sustain the ever rising population. This is a fact and really does require a serious thinking and the need of exploring the options to deal with it. The question does arise: how much can the earth yield? There is much truth to this fact/question. There is a limit to cultivate land and this presently accounts for 11% of the total land space of the earth, that is, 13.2 billion hectares as the remaining of the land is shared by forests, settlements, grasslands. Similarly, there is also a limit to water, a sine-quo-non for agriculture development world over.

Now, what is most important is to estimate the need of the population in respect of food grains. This is because there has been alarming disparities in terms of consumption of cereals worldwide. An American consumes around 1,046 kg which is the highest in the world, whereas global per capita availability of food grains during 2007-2008 is just 314 kg. This indicates that global per capita availability is more than 3 times below the per capita availability of food grains in the US. If this is a requirement then the total need of the global output of food grains would be around 7 billion tons, which means three and half times of existing output. The result would be that the planet would become a wasteland by the end of 2050 (Varma, 2008).

NORTH VS SOUTH

This is another vital and strategic issue, as there are disparities in terms of acreage under cultivation of food grains and the output of food grains (Chart 3). The vast

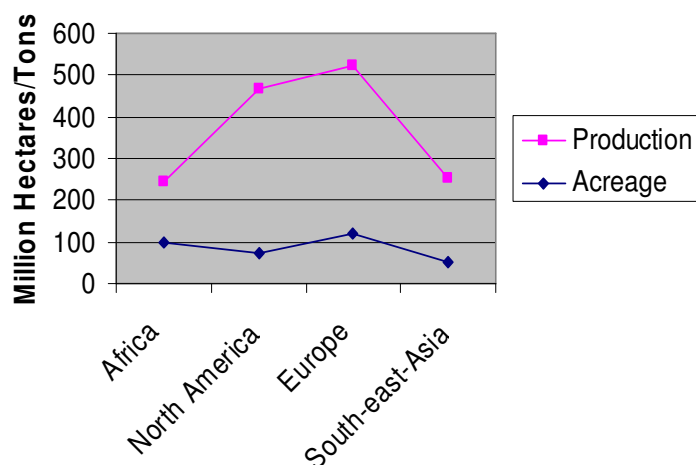


Chart 3. Land under Food Grains and Production of Food Grains in terms of continents in 2007. Source: Prepared by the author from FAO, Statistics; Rome, Italy; 2007.

Table 2. Trends in yield-Kg per hectare in major producing Nations in 2007.

Country	Yield of rice	Yield of wheat
US	7,694	2,825
China	6,265	4,455
India	3,124	2,619
Nigeria	1,440	1,127

Source: As Table 1.

continent of Africa, the total land under cultivation of food grains is 99 million hectares and the same produced 146 million tons of food grains. In another continent (North) which consists of USA and Canada, the total acreage is 71 million hectares and the production stood at 398 million tons. All these indicates that the North continent is producing 252 million tons more than African continent, despite the fact that its acreage is 18 million less than acreage under cultivation in African continent. This calls for an immediate policy of tapping the vast potential that African continent does have for producing more and contribute significantly to the global supply of food grains.

Similar trends are in existence in other continent of the world (Chart 3) or other parts of the globe. Such alarming disparities could be meaningfully measured in terms of yield per hectares (Table 2). For instance, every hectare of land in China produces 6265 kg of rice and 4455 kg of wheat, whereas the United States has a figure of 7,694 kg rice and 2,825 kg wheat, respectively. There is a clear division between developed nations and developing nations in terms of yield of major components of food grains namely-rice and wheat. According to FAO cereal yield per hectare is nearly 4 tons in the developing

nations and it is more than 6 tons in case of developed economies.

It is also true that the alarming disparities are not confined to cereals, but are also there in case of other crops around world. For example, vegetable output per hectare is more than 10 tons in Africa and 9.6 tons in South-east-Asia. But in case of North America, it is around 26 tons and in regard to Europe it is about 21 tons. These noticeable disparities are because of the availability of inputs and other needed resources. In developed economies, more and better resources are available to farmers. If same types of resources are made available in other parts of the world, then there is no reason why these countries would not produce more crops, and the yields would be a part of the developed economies. Hence, it is the matter of availability of inputs and other resources that may bring about higher productivity, which may result into higher production for meeting the food demand of the respective people.

THE WORST MAY OVER

The worst may over for spiraling food prices world wide. The reason is the arrival of a bumper crop in most of the food grains exporting economies. In the current year, that is, 2008 - 2009, the global cereal output is likely to register a rise of 2.6% to a record level of output of 2165 million tons (Table 3). Wheat production may touch a new record and rice output looks all set to increase marginally at a critical juncture when global cereal reserves stand depleted to a low record in the last 25 years.

Here, another question does come up: 'should the expected growth in 2008 - 2009 output materialize, will the present tight world's cereal supply situation ease out in the season of 2008 - 2009?' (Food Situation Report, 2007; FAO; Rome, Italy). The major chunk of the increased output is estimated to be in wheat because of the expansion of sowing in major grain producing economies. The heartening fact is that the wheat production is likely to touch a new record level of 647 million tons in 2008 - 2009 and an increase of nearly 7% over the figure of 2007 - 2008. Governments of some Asian economies have extended incentive for the cultivation of rice and accordingly the rice output is also foreseen to rise marginally by nearly 2%.

The most noteworthy trend and situation is that the climatic conditions in major producing economies so far are favorable, but the final outcome will depend upon how the weather behaves in the rest of the year 2008 - 2009. The global apex body: Food and Agricultural Organization (FAO) is having a sort of upbeat in regard to cereal output, with a word of caution on prices horizon. The nearby wheat futures (May, 2008) are already down by a margin of US \$ 50 per ton since last February, but still more than 130% over the corresponding period of last year, that is, 2007. The FAO blames the current high

Table 3. Global cereal scenario (continent-wise) for 2006-2009, figures in million tons.

Continent	2006-2007	2007-2008	2008-2009	% change
Asia	913.2	930.1	931.5	0.1
Africa	144.4	143.4	146.6	8.3
Central America	37.4	40.1	41.5	3.6
South America	110.7	130.5	131.5	0.7
North America	384.5	462.1	435.5	-5.8
Europe	404.6	388.7	438.1	12.7
Oceania	19.8	22.9	40.8	77.8
World	2012.9	2108.5	2164.0	2.6

Source: FAO; Global cereal supply and demand brief; Rome, Italy.

prices on supply tightness, export restrictions, strong demand for imports and a weak US dollar. This could mean that a bumper crop may arrest the northward march of prices but may not bring about a crash in the near future.

Table 3 reveals some of the alarming trends to be looked at by FAO and other global agencies for analyzing and taking policy measures to overcome the trends:

1. There are noticeable disparities in terms of increase in the global cereal output ranging between -5.8% to nearly 78% in the figures of 2008 - 2009 over the figures of 2007 - 2008.
2. The lowest change has been recorded in case of Asian continent.
3. The highest change has been recorded in case of Oceania.
4. The negative change has been registered in case of North America.

A look at the end of March 2007, the prices of staple-cereals like wheat and rice in 2008 were twice as high; and maize nearly a third higher, raising severe concerns in low income food deficit (LIFD) economies in Asia, Africa and Latin America. Many economies including traditional exporters of food grains have imposed restrictions on exports, creating panic and price rise further.

The low income food deficit countries (LIFDC) have their own cereal output and the same is likely to rise only marginally, but early prospects in bigger economies namely-India and China point to a slight drop in output. Most of these economies would again end up importing food grains. The import bill of LIFDC during 2007 - 2008 as a group is estimated to rise considerably for the second consecutively year (Global Food Scenario, 2008). In the year 2006 - 2007, food prices went up by 37%, followed by a 56% increase during 2007 - 2008.

The global cereal stocks are expected to fall to a level of 405 million tons which went down by a margin of 5% from already reduced levels. According to FAO projections, the global stocks of cereal have fallen even in

major exporting economies. As a result, Australia, Canada and the European Union (EU) 3 of the 5 major exporting nations, have less exportable surplus in 2007 - 2008 and the global trade in wheat is also forecasted to decline (Price rise: Worst may be over; Food Situation Report, 2007).

IS ASIA AGGRAVATING THE GLOBAL FOOD CRISIS?

Asia's response to tightening global grain supplies has aggravated the global food price inflation and uncertainty (Asia's Export Tightening; The Times Business; New Delhi; May 19, 2008). Export bans and price floors imposed by grain exporters including China, Pakistan, Vietnam and India have raised price volatility and uncertainty in the global food market in general and global rice market in particular, resulting into lesser supplies. These trends and situation have been contributing significantly to the surge in price especially since the end of 2007 (Asian Development Bank; Manila Report for 2007).

Among the importers, precautionary demand for food stock in many economies is contributing to food grain price rise. Sustained procurements in global markets have been made by Bangladesh and the Philippines. The soaring food prices are the outcome of the same and strong political and economic factors which are at play in the food policies of developing Asian economies, so that the effect of strident and higher global market prices has not been fully transmitted to domestic prices (Haruhiko, 2008).

The required crackdown by Dhaka and Manila on private traders accused of hoarding food grains were difficult to implement and have in fact increased prices in the domestic market of many economies. Lack of efficient logistics systems and infrastructure for food grain marketing and distribution has tightened the market further in Afghanistan, Bangladesh, Nepal, the Philippines and Tajikistan.

Asian Development Bank (ADB) has recently pointed out that it would provide US \$ 500 million in immediate

assistance to member nations that are hit hardest by the soaring food prices. The Asian Economies should correct distortions arising from interventionist price and trade policies. According to ADB, soaring food prices could affect a billion people in Asia home to two-thirds of the global poor and where spending on food accounts for 60% total average expenditure. The food problem could cut into decades of economic gains in the Asia-Pacific Region.

IS UNITED STATE (US) ALSO RESPONSIBLE FOR GLOBAL FOOD CRISIS?

A bio-fuels backlash has erupted in major ethanol producer, the United States, as lawmakers and experts debate the merits of converting food to fuel to support US's age old preference for the automobiles. With gasoline at record prices in US petrol, and soaring corn, rice and wheat costs sparking a global food crisis, many policy makers have questioned the wisdom of the President of United States, calling for higher US crops, like corn to fuel production. Why are we putting food in our gas tanks instead of our stomachs? (Richard, 2008).

Biofuels are derived from food stuffs namely: corn, soybeans and sugarcane and plants like switch grass and their cellulosic waste. Touted just months ago as an answer to spiking gas prices, bio-fuels are enduring closer scrutiny by the US lawmakers alarmed by high cost of food staples and how they are sapping millions of US households. Members of the president's own republican party is turning on him, and called on congress to undo 'US ethanol mistake'.

In recent weeks, the correlation between government bio-fuels mandates and rapidly increasing food prices has become undeniable. At a time when the US economy is facing recession, congress needs to reform its food-to-fuel policies and look at alternatives to strengthen energy security.

In US, bio-fuels are refined to produce fuel similar to those made from petroleum, but their growing use has been cited along with poor harvest because of drought, surging demand in Asia as living standards have risen, higher transport costs and trade restrictions for the rapid increase in food prices. A moratorium on bio-fuels from food grains in 2008 would lower corn prices by 20% and wheat prices by 10% in 2009 and 2010 (Joachim, 2008).

What should be abandoned is the use of our current food supplies to turn them into ethanol, especially in the US and the existing programme of food-to-fuel is a lousy bargain. In December 2007, the President of United States of America has signed the Energy Independence and Security Act that calls for a six fold rise in the use of ethanol, to 36 billion gallons or 136 billion liters per annum by 2022 (Renowned US Economist, Jeffrey Sachs, 2008).

The US is the largest producer of corn-based ethanol in the world and the Government of US considers it as a key way to reduce dependence on foreign oil and curb

fossil fuel emissions, the main source of man made global warming.

STRATEGY FOR MEETING CHALLENGES

In order to resolve the food crisis on sustainable basis on the one hand and on the other hand to wipe out poverty from the globe especially from the developing countries in general and LIFDC (Low Income Food Deficit Countries) in particular, a monumental shift from the existing path of development has become inevitable and the need of the hour. This is what is immediately required to redesign and reschedule the preferences on both national and international levels. The following are the guide posts of the strategy:

- a. To make needed investment in irrigation.
- b. To adopt soil testing at a regular basis.
- c. The developing economies in general and LIFDC in particular must take policy of land reforms on war footing.
- d. To follow the rule of law in case of ceiling laws.
- e. Redistribution of land holdings in LIFDC.
- f. Make marketing system more effective in developing and LIFDC economies.
- g. To improve rural credit access to the farmers in major producing developing economies.

PROSPECTS

The things are looking up. Besides the expectation that major producing nations of wheat and rice might lift ban on exports of wheat and rice, the crop prospects look bright in the United States and Australia. While the developing nations namely India, Thailand and Vietnam have better wheat and rice outlook and therefore, it is expected that the crisis would be eased out. But the fact is that the future looks uncertain if economies continue to neglect agriculture, as has been the case for decades.

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