

TOWARDS FACING GLOBAL FAMINE: MODELING FOOD DISTRIBUTION ACCORDING TO IRAQI CASE

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Abstract

The total population facing malnutrition and hunger is about one billion at the global level. As the global population increases from 7.3 billion in 2015 to 9.2 billion in 2050, the total new population that needs to be fed until 2050 is 2 billion. This was in addition to the one billion people facing starvation. Additional food products should be combined together to feed an additional population of three billions in thirty five years to come. Due to the constraint of agricultural land and food production deficit to meet the food security standard of a population of more than nine billion, global famine is expected to prevail unless hard work is done at both the national and the international scales in two dimensions under the help of the United Nations (FAO, WFP, and UNICAFE). The first dimension is increasing total food output to meet the need of all the people for a healthy and active food requirements. In the second dimension which is due to the wide discrepancies of income distribution between countries and within countries, it is necessary to adopt subsidized food distribution system at the national scale for countries where their population largely or partially cannot afford to obtain the required food at all time. The core of this paper is the second dimension with reference to Iraqi food distribution system adopted during thirteen years of comprehensive sanction, and it was proven to be successful in saving Iraqi people from famine. It was mentioned that the public food distribution which was recently adopted in India covers 800 million persons. This paper proposed guidelines for building infrastructure like silos and large warehouses for strategic reserve to secure the flow of food. This has to be facilitated by preparing transport network to carry food from ports or local farmers to silos and warehouses, and to deliver food through network of private retailers so that beneficiaries can obtain food from their residential

areas. National aid is required for counties facing malnutrition and starvation.

Keywords: Facing Global Famine, Iraqi and Indian Food Ration Systems

Introduction

Population Growth and the Need for Food

Population size is expected to increase at global level from 7.302 billion in 2015 to 8.012 billion in 2025, and to 9.150 in 2050[1]. However, an additional population of two billion needs to be fed. Despite the reduction in population growth and in putting that into consideration, there are one billion people suffering from malnutrition and hunger. Therefore, the additional population which needs to be fed in thirty five years to come will not be less than three billions. Hence, this represents one-third of the global population.

Based on the constraints of limited agricultural land and insufficiency of food production on one side and the population increase in more than two billions on the other side, this century will be dominated by phenomena of large scale humanitarian crises. "The idea that food availability tends to fall short of long-term food requirements is an old one; and is often associated with the doctrine of Thomas Malthus (1766-1834) that agricultural output tends to grow arithmetically, i.e. in a linear fashion, while population grows geometrically, i.e. in an exponential growth curve. This result in a tendency that the gap between food supply and food demand, needs to widen over historical time, with famine acting as the mechanism to close the gap"[2].

Food security can be defined "as the accesses by all people at all times to enough food for an active and healthy life. It is essential elements are the availability of food and the ability to acquire it. On the other hand, food insecurity is the lack of access to enough food".[3] "Food security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preference for an active and healthy life" (World Food Summit, 1996). Consequently, the lack of access to enough food is caused by either shortage of food or the inability of household to pay for food at the market prices.

If there is food insecurity at the global level, large number of countries will be acute in the near future and global famine will be eminent if hard work is not done at both the international and national levels in two policy dimensions simultaneously. However, the first involves increasing the total food output, while the second involves adopting food distribution system to maintain food security for low income households. Therefore, the latter is the core of this paper. FAO, WFP, and UNICAF can play significant

role under the umbrella of United Nation in co-operation with all members of U.N. countries to expand their activities in this direction.

Moreover, free market economy alone cannot remedy the global malnutrition and hunger without the public sector assistance. Also, public sector alone cannot achieve same objective without the main role of the free market economy. Traditionally, there has been significant emphasis in food policy practices in increasing agricultural production and productivity. However, this was aimed at meeting the demand of the growing population for food at both the local and international levels, which is a correct policy. In contrary, no sufficient attention is paid for food distribution systems which shorten the gap between total demand and total need. Also, it paves access to all people who cannot afford to acquire enough food.

Currently, the total global production of grain meets the total global demand, but does not meet the total need of 7.3 billion persons .Total demand does not reflect total need. Total demand refers to the aggregate purchasing power available for food, while total need is the quantity of an active and healthy food needed per person multiplied by the total global population. The difference between the total need and the total demand, reflect food shortage. Therefore, filling this shortage eliminates hunger. Still, one billion persons suffer from malnutrition and starvation. This represents 14% of the total global population because they cannot afford to obtain enough food for an active and healthy life under prevailing market prices.

Food insecurity prevails not only in net importing food of low income developing and under-developed countries, but it prevails in some of the net exporting countries as well. An outstanding example is India which is currently one of the main exporting countries of food; hence, at the same time, the largest portion of its population has no access to an active and healthy food. India is the second largest exporter of rice after Thailand, and the tenth largest exporter of wheat among the wheat exporting countries.

In contrary, India according to UNICEF, WHO, and the World Bank harmonized dataset, ranks 8 among 150 countries in malnutrition prevalence after Afghanistan, Timor-Leste, Burundi, Eritrea, Papua New Guinea, Madagascar, and Guatemala. According to the Global Food Security Index ranks 105 for 2012, United States, Denmark, Norway, and France ranked highest in food security. Brazil, China, and India fell in the middle peak ranking at 31, 38, and 66 respectively. However, India has made significant achievement in improving constantly the reduction of hunger which ranks among countries to rank 55 in 2014. Currently, they are adopting public food distribution system which will be mentioned in the latter part of this study.

Furthermore, an immediate revision of current food distribution policies is required at national scales for countries which basically suffer

from malnutrition and hunger. High income countries whether they produce surplus of food to meet the need of their people and for export (e.g. U.S.A, OEECD, Australia CANADA, United Kingdom etc.), or they can afford to import full requirement of the need of their people but have no natural recourses to produce grain, currently have no problem of food insecurity. However, this position will not continue in the future if their food production grows lower than the growth of their population in the coming 35 years, or if their financial recourses are not sufficient to keep pace with the increase of the population over time to import the full requirement of their people.

Even rich net importing food countries like Gulf States who have no natural resources to produce food, have to prepare themselves for any unexpected and sudden international shortage due to natural disaster like climate change or large scale impact of insects on food production or unexpected situation which prevent the flow of the shipment of imported food like war or embargo as it did happen in Iraq during thirteen years of comprehensive U.N. sanction between 1990-2003.

I.

Iraqi Food Ration System Saved Iraqi People from Famine During 1990-2003 Sanction.

This part of the study is summarized from the article which was recently published by the author [4]:

Before sanction, an average of \$2.5 billion Iraq used to import food through ministry of trade; and they sold in subsidies prices to meet local needs. The calories provided per person per day were 3200, which is almost equal to that of European countries.

Security council adopted resolution 661(6th August, 1990) which prevented Iraq from importing any commodity including food where 85% of its need of food is imported, exporting any commodity basically crude oil and oil product which generate 95% of income revenue, and froze all Iraqi assets abroad and prevented any transport mean to carry commodities from and to Iraq. Local production of wheat and rice meets 15% of the local needs of these two commodities. In addition, sanction was imposed at the end of the harvest season of wheat and rice.

Food stock of the ministry of trade meets the local market need for four months only. In addition, all quantities of imported food and other commodities were banned from entering Iraq, and was sent back to their origins despite the fact that the cost of these commodities were paid and some were confiscated by port authorities

Under the above constraints, I as a minister of trade, developed and adopted food ration system which covered all Iraqis. However, this also covered foreigners where sanction was threatening the life of all residents in

Iraq. Residents were allocated to the nearest retailer to their houses from among 45000 private retailers; and they were treated equally in term of quantity, quality, and prices. Consequently, the price of food basket was fixed at 12 cent US/person /month, and it continued during thirteen years of sanctions to avoid the impact of sanction on deteriorating the purchasing power of household.

U.N. adopted Iraqi Food Ration System (IFRS) in oil-for- food program during 1997-2003. Thus, the food basket provides 2450 calories per person per day compared with 1300-1800 calories between 1990 -1996. Furthermore, \$ 1.7 billion of food was equally delivered yearly through oil-for-food program between 1997-2003. The population of Iraq increased by 40% from 18.5 million at the beginning of sanction to 26.5 million in 2003 when the sanction was lifted.

U.N. considered IFRS as the largest and most efficient food distribution system in the world as stated in Washington post (Feb.3, 2003)[5]. Security Council called its resolution 1472 (28th, March, 2003), nine days after starting the war against Iraq, to keep the system running. Thus, IFRS was successful in preventing famine during thirteen years of sanction and is still running in Iraq.

Indian Public Food Distribution System 2013

India has the second largest population of 1.2 billion in the world after china. It is the third largest producer of wheat (93.3 million metric tons in 2013), the second largest producer of rice (99 million MT), and the largest producer of pulses (18.5 million MT). At the same time, India was considered to be the second largest exporter of rice after Thailand and the tenth largest exporter of wheat. Despite that, India is considered the largest country in the world having the problem of malnutrition and hunger.

Two years ago, Indian government adopted public distribution system according to the National Food Security Act, 2013. It is the largest food distribution system in the world now, covering two-third of the population of 800 million. This system provides five k.g. of grain (wheat or rice or pulses) per person per month at a subsidized price (150 calories) utilizing 22.7% (48 million MT) of the total local production (210.8 million MT).The price was fixed in Act (2013) to be 3.1 cent U.S/k.g for wheat, 4.7 cent U.S/k.g for rice, and 1.6 cent U.S/ k.g for pulses. Furthermore, the Act contained providing pregnant women, lactating mothers, and some categories of children with daily free meals of around 600 calories [5].

Despite the variations between Iraqi system and Indian system which is 30 times larger than the former size of the population, and lower in term of calories per person per day (150) compared with 2450 of Iraqi during sanction, Indian policy of adoption of public food distribution system

covering 800 million reflects the importance of treating food insecurity at national scale. Thus, Iraq has been using this system since 25 years ago.

Instability and Its Impact on Food Production

The instability in the middle-east and some other parts of the world crippled the agricultural production and enlarged food insecurity in these countries. For example, before civil war erupted few years ago in Syria, Syria was the only country in the middle-east that had self-sufficiency in food and was one of the main exporters of grain and agricultural products. Its production of wheat for some years reached twice the needs of the population. The total production of wheat ranged between 4-5 million MT. After the civil war, Syria imported around 2.3 million MT of wheat in 2014. Due to the instability in the region, food production declined not only in Syria, but in Iraq, Yemen, and other countries as well. External and internal refugees in these countries are the largest in the region. Sudan and Yemen filled in the 5 and 8 rank of the worst countries affected by hunger according 2014 Global Hunger Index. Therefore, instability will continue to work as negative factor in increasing food shortage and food insecurity which require both temporary and long term schemes of food distribution systems for countries that are unstable.

Policy Orientation of Food Distribution Systems for 2015

Building strategic grain reserve is the first essential step to maintain the flow of food. Silos, warehouses, mill flour, mill rice, and private retailer network are the main components of food distribution systems in addition to transport network. The following steps in the global program can be adopted:

- 1- Population projection of each country for each coming years until 2050.
- 2- Forecast of population need for food according to international nutrition calories.
- 3- Estimate of storage capacity for food of constant strategic reserve for the period of 9-12 months. Large silos and warehouses is usually a public investment.
- 4- Estimate of milling capacity required for wheat, rice, and maize. This activity is mainly a private sector investment.
- 5- Private retailer grows organically as population grows in urban and rural areas at local and national, and international scales.
- 6- Transport network is mainly private sector and expands organically as food distribution expands.

Conclusion

Infrastructures mentioned above can be developed in stages during the coming 35 years. Rich countries like Gulf States due to their financial capacity, needs to speed-up the implementation of silos and build up strategic grain reserve as a one year requirement to maintain food security. Hence, this is because they totally rely on the importation of food and any sudden cut or long delay of shipments will keep these countries dependable only on the strategic reserve as they have no potential to grow grain locally. In the meantime, low income countries need international aid to fulfill the implementation of the infrastructure program in several stages, as well as to build the required reserve for each country.

Subsequently, the program guideline mentioned above is the responsibility of both the private and the public sectors. Public sector should adopt subsidized policy for the provision of food through food distribution system with international aid for low income countries interim of financing or food product.

The storage capacity developed by the ministry of trade maintained a one year strategic reserve of grain when war against Iraq began in March, 2003. In addition, the flow of food continued during the war and until mid-2004. Thus, this was when strategic reserve was consumed, and disruption of flow of food began since then.

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