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NAPC

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On

**Investment in Agriculture of
Developing Countries and Perspectives
for World Food and Agriculture until
2050**

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Introduction

The National Agricultural Policy Center (NAPC) with the support of the Arab Fund for Economic & Social Development (AFESD) organized a seminar on “Investment in Agriculture of Developing Countries and Perspectives for World Food and Agriculture until 2050”. The seminar was held within the activities of the 2009 Agricultural Policy Forum series of the NAPC. Professors Hartwig de Haen¹ and Stephan von Cramon² from University of Göttingen in Germany cooperatively delivered it on 2 September 2009, at the NAPC premises in Damascus.

The seminar devoted to discuss the recent developments of world food security (FS) focusing on key drivers of future increased demand for food, feed and biofuels, in addition to provide more recent details about FAO projections on status and major challenges for global food and agriculture towards 2050. As well as, it aimed to explore what investments are necessary to ensure that the world will be able to produce enough food at affordable prices to meet future needs.

The audience was composed of national and international attendants, representatives of Syrian Ministries and institutions as well as Arab and international embassies and organizations.

Synthesis of the presentation

❖ The first part of the presentation, delivered by Prof. de Haen, discussed the recent developments of world food security.

According to 2003 -2005 FAO data on dietary energy supply, the total number of overweight people was 1.6 billion and of the obese 400 million. On the other hand, prevalence numbers of undernourished were 850 million in 2003 -05 with another 150 million were estimated in 2005 - 09. The daily average of Kcal per person extremely varies between developed and developing countries, in which people having micronutrient deficiency of mineral, protein, and calories reached to 2 – 3 billion.

It appears that the number and proportion of undernourished people vary between regions of the group of developing countries. In particular, the latest crisis of high food prices in 2007 escalated the number of Asia and the Pacific' undernourished to 40 million followed by Sub-Saharan Africa with 23 million.

FAO- SOFI 2008 indicates that the rural poor are hit the hardest by the increase in food staples prices and significantly declining their purchasing power. As reported, the lower income ten countries are Pakistan, Bangladesh, Malawi, Tajikistan, Guatemala, Nicaragua, Panama, Ghana, Malawi, and Albania. Syria stands out among this group.

The expert underlined the major drivers of future increased demand for food, feed, fibre and biofuels. They include population, income, urbanization and saturation, and prices for food and energy.

Available data indicates that the foreseen population growth in both developed and developing countries shall triplicate by 2050 in comparison to 1965 statistics. The predicted number of the world population will exceed 17 billion in 2050 and mainly concentrating in the cities.

¹ Prof. de Haen, a FAO former Assistant Director-General, is a NAPC Scientific Committee member. He headed the Economic and Social Department (1995 - 2005) and the Agriculture Department (1990 – 1994) of the Food and Agriculture Organization of the United Nations (FAO). Before joining FAO, he was Professor of Agricultural Economics at the University of Göttingen, Germany.

The lecturer assured hopefully that although the recent global financial crisis is still hitting the world and increasing the rate of unemployment and poverty generating a global stagnancy, the global recovery is expected to be improved in the next coming years. Referring to the World Bank base line projections of annual income growth for (2005 – 2050), the global income will increase by 2.9%, while of the developed countries by 1.6 % and developing countries by 5.2 %, of which presenting a huge economic change that would call not to consider them as developing countries by then. Moreover, the expected share of these countries in global agricultural output will significantly rise from 20 to 55 percent in 2050.

Consequently, the anticipated global income growth will lead to higher proportion of food consumption per person with more diversification. As might be expected, the change of dietary habits in many developing countries coupled with improvement in food quality will be reflected positively on the aggregate demand for food.

Such change in consumption habits is largely due to a transition towards a modern urban lifestyle. Diets have become more diverse, with shifts away from cereals and roots & tubers towards more meat, dairy products, fruits and vegetables, sugar, and vegetable oils. This trend is expected to continue as the average per capita incomes increases, and will result in a growing convergence of diets for a growing number of countries around the globe.

The FAO outlook for world crop prices of 2009-2018 seems rather optimistic assuming an approximate stabilization for real prices of wheat, rice, coarse grains, oilseeds, vegetable oils, and sugar for that duration. In comparison to 2008, a noticeable decline in food prices is recorded for the current year.

One of the key factors affecting the world food production is the increased demand on raw agricultural crops for ethanol fuel production (Biofuels). According to “F.O. Licht’s World Ethanol and Biofuels Report’, this technology is expected to substantially increase the pressure on food crops availability toward 2030. The expected growing shift to biofuels in the world is derived from the increase of global oil prices. The major producers of biofuels in the world are Brazil, China, EU, and USA.

Considering the above-mentioned features of world food production, the expert assured that the world is not on track towards the global goals of hunger reduction. The world target of halving the number of hungry population by 2015 and disappearance of hunger in the near future actually appear progressively more remote. It appears that, compared to the mid 1990s, the number of hungry people in the developing world is no longer declining but growing since 1995 up to now, after the slight and slow decrease reported before. However, it is possible to change this trend when activating the role of the world governments by mustering their sincere efforts, reinforcing their commitments and pledges, and most importantly engaging in the mobilization of a true political will to eradicate hunger in their countries.

In this context, several attempts were taken by international organizations to draw a proper strategy to ensure the world food security by 2050. Primary results of the FAO ‘possible scenario’ clarify that potential sources for global food security involve the growth of world arable land by 11 %, cereal production 59%, ruminant meat production 65%, other meat 80%, and the aggregate agricultural production 71%. While, the growth sources for developing countries include increasing yields by 71%, plantation area 21%, and multiple cropping 8%. As for food consumption and calories taken projections in 2050, the scenario suggests an average of 3600 kcal/day in the industrial countries and 3000 kcal/day in developing countries, while the prevalence of hunger is estimated to cover 5 % of the population.

At present, 1.5 billion hectares of land worldwide are invested in crop production. FAO estimates that another 2.8 billion hectares are suitable “to some degree” for rainfed crop production expansion. The suitable land is concentrated in Latin America and Sub-Saharan Africa. However, cropland expansion is restricted by environmental costs, lack of infrastructure, distance from markets, and poor land quality. Thus, we need to distinguish technical potential from economic potential (which changes with prices). Moreover, we

should note that the distribution of remaining suitable land is much different from the distribution of hungry people, who mostly are in Asia and 75% of them working in agriculture

Taking into consideration that developing countries produce half of the world grain production, the FAO perspective suggests a total increase in their grain production to 3000 Mill. tons, and, at the same time, a rise in their net grain import up to 300 Mill. tons in the coming years towards 2050.

Turning the attention to the adverse effects of world climate change in recent years on the natural resources, the lecturer expressly focused on the most influential factor 'irrigation and scarcity of water resources' that highly affecting the agricultural production of both plant and animal. According to FAO data and projections, the relative scarcity of water varies from country to another. Noticeably, the region with poorest capacity of renewable water resources is the Near East & North Africa.

The expert then addressed that efforts to reach the target of ensuring stabilized food security must be stepped up by applying lessons learnt from successful countries principally characterized by good governance and absence of conflict. Most of these countries attained more rapid economic growth fundamentally based on agriculture, which still the backbone of the economies of the majority of the poor countries.

In addition, they were able to achieve their food security relying on the "Twin-Track Strategy". This approach combines two tracks: the first, encouragement of investment in agricultural productivity and promotion of rural development initiatives to increase employment, incomes and food production. The second track is to ensure immediate access to food for the neediest. This would preferably be achieved by the foundation of effective social safety nets.

Furthermore, there is evidence that liberalized trade and integration in world markets is a success valuable factor that facilitates not only access to food for food deficit countries but also exports, which generate income and foreign exchange.

Prof. de Haen concluded his presentation pointing to major challenges faced by global food and agriculture as the following:

- Ensuring adequate and sustainable food supplies through addressing natural resource degradation; increasing and stabilizing yields; responding to climate change by using scientific methods and research to develop new varieties adaptive to local environment; reducing the competition between the demand on food and biofuels; and continue trade liberalization;
- Ensuring access to food for the poorest through social safety nets; and
- Enhancing investment in capital and productivity growth

❖ Prof. Stephan von Cramon delivered the second part of the seminar. He started his presentation summarizing the world food security between 1975 and 2005. On average, the global food availability increased from 2400 to nearly 2800 kcal/person/day in developed countries and from 2200 to 2600 kcal/person/day in developing countries. As a result, the prevalence of hunger fell from 20 to 16% between 1990/92 and 2003/05. However, over the same period the absolute number of under-nourished individuals grew from 840 to 850 million.

This situation with multiple emerging challenges since the nineties (e.g. climate change, energy prices, and biofuels production) call to explore potential investments necessary to ensure that the world will be able to produce enough food at affordable prices to meet future needs.

To find out the solution, the expert addressed to begin by studying past levels and trends of investment in agriculture. Considering that food production is correlated with capital, labour, and variable inputs, investment therefore determines changes in the capital stock. Then, it is important to estimate the needed capital for investment.

In this context, FAO is developing a comprehensive physical measure to arrive at global and country estimates of the capital stock in agriculture (ACS). The measure would include fixed and human capital in farms, infrastructure, dissemination of research, education, and technology, and in up and downstream industries. The FAO started this initiative a year ago and still needs more work.

The expert clarified that measuring the ACS requires assessing land development, livestock, machinery, and structures. Then the quantities assessed multiply with 1995 US\$ prices taken from FAOSTAT, country reports, and trade data. The ACS measure will be applied on over 220 countries/entities covering the period from 1975 to 2007.

In relation to this concern, Mr Cramon detailed the main findings of the work done so far on ACS assessment:

- Results: 1) the fixed capital stock in primary agriculture has been growing at a declining rate over the last three decades (1.1% p.a. from 1975-1990; 0.5% p.a. from 1991-2007) in the developed countries. The reasons would be referred to prices decline and political changes applied by the EU. Principally, modifying the EU agricultural policies causes the increased decline in agricultural investments and productivity, whereas the European farmers tend to be rationale and limiting of their reliance on high technical methods.

As for Syria, the expert presented a graph showing the evolution in ACS of Syria from 1975 to 2005. It shows that Syria achieved a remarkable increase in the annual growth rate by 2.6 percent compared with 0.8 percent of global growth rate.

- Results: 2) the gap increased between higher rates of ACS growth in developing countries and lower rates in developed countries in 1980s and 1990s, but is closing. This is mainly due to economic transition of Eastern European countries (Germany and Soviet Union) that affects negatively the annual growth rate of developed world since the mid of 90's.
- Results: 3) ACS growth has lagged behind growth of the agriculture working population in Sub-Saharan Africa and South Asia leading to falling capital/labour ratios.

Results: 4a) in the last thirty years, ACS growth has lagged behind growth in the agricultural working population in countries with the highest prevalence of hunger.

- Results: 4b) ACS growth also has lagged behind growth in the agricultural working population in the countries with the highest depth of hunger. This is mainly took place in developing countries presenting a very disturbing situation of food security.
- Results: 5) Progress towards the WFS target of halving the number of hungry is positively correlated with growth in ACS per agricultural worker (1990-2005). The countries making extensive progress towards WFS targets in the developing world headed by Brazil are Vietnam, Thailand, China, and Nigeria.
- Results: 6) Government expenditure on agriculture is positively correlated with ACS growth in a sample of 44 developing countries, particularly through supporting the private investments.
- Results: 7) there is no evidence of a slowdown in the growth of sector-wide agricultural Total Factor Productivity (TFP) at the global level, but a continuous growth in world food productivity; and
- Results: 8) Determinants of TFP growth in 37 developing countries during (1980-2005), mainly correlated with the government expenditure on agriculture, which is very important to improve and increase the agricultural production. In addition, the direct involvement of the government decreases the regression results.

The expert assured that estimations of gross and net investment in the ACS in developing countries for (1976 -2006) determine a total value of the needed investments in agriculture by 65 billion US\$ to cover their future needs. Taking into consideration that net investment is

the increase in the ACS from one year to next, and gross investment assumes a 5% annual rate of depreciation.

In addition, the share of official development assistance directed to agriculture in (1980-2007) signal an annual setback by 3 - 4%.

Finally, Prof. Cramon put emphasis on the main conclusions of his presentation including the following:

1. The fixed capital stock in primary agriculture has been growing at a declining rate over the last three decades;
2. The gap between high rates of ACS growth in LDCs and low rates in DCs grew in the 80s and 90s, but is closing;
3. Capital/labour ratios have been falling in the countries with the highest prevalence and depth of hunger;
4. Progress towards the WFS target of halving the number of hungry is **correlated** with growth in ACS per agricultural worker;
5. Government expenditure on agriculture plays an important role in stimulating investment and productivity growth in agriculture; and
6. The challenge of feeding the world can only be met if public and private investment in agriculture substantially increases in the coming years.

❖ The NAPC Director Mr. Atieh El Hindi gave an explanation to highlight the state of food security in Syria, with reference to the ongoing study on "Food Security in Syria" carried out by the NAPC that to be published by the end of this year. In addition, a workshop should be organized by then on the findings of this study.

As he assured, Syria is having an adequate nutritional status with an average 3200 kcal/capita/day, which is closing to the developed countries rate. Syria therefore is at the forefront of the developing countries. As estimated, the daily consumption of protein is 85 gr and of fat is 90 gr per capita, which approaching to global average. However, the weakness concerns only the source of protein whether from animal or vegetable and the balance of both types.

He also stressed the importance of investment in sectors development involving the agricultural to ensure food supply. Such investments have more magnitude after the recent crisis of hiked global food prices, world financial crisis, and the increased shift toward biofuels production relying on food crops. Where 25% of maize production in the USA is used in this new industry. All of these factors as well have worsened more the situation of world food security.

He pointed to a meeting is going to be held on "the right to food" in Geneva at the end of this month, and that the issue of investment will come up for discussion at the meeting with special focus on the impacts of investments on poverty progress. At present, Large-scale acquisitions and leases are one of the key new trends that emerged out of the 2008 global food crisis. Some major food importing capital and exporting countries have indeed lost confidence in global markets as a stable and reliable source of food for their national food security. As a result, many developing countries that have rich natural resources, particularly Sub-Saharan Africa, permitted the developed countries to establish and expand their agricultural investments in their land. This in turn led to eviction of indigenous people from the land they cultivate for the benefit of foreign companies, whereas the government formally owns much of the land, and the landusers have no property titles on the land they cultivate in these countries. That is to say, foreign investment may not act, always, as a means for poverty eradication, in the contrary it may lead to increase poverty and hunger in poor countries unless it is based on clear and adequate policies.

In this meeting, a declaration should be submitted on the right of the landusers of these countries in land tenure and in work aiming to properly secure their rights in non-eviction to avoid increasing their poverty.

Summary of Discussion

The lecturers responded to questions posed by the audience as the following:

- Average number of poor people in Syria

Mr. Atieh El Hindi, clarified that the proportion of the poor in Syria has increased as a result of severe drought hitting the country over the last three years with the recent rise in food prices and agricultural input prices. Whereas, the income of most of the Syrian rural household is being subjected to a substantial reduction that limits or even destroys their ability to ensure their food requirements, noting that the Syrian citizen spends 42% of their income on food. The government therefore with some international organizations distributed food aid in some areas hit by the drought.

- Importance of the right to food

Prof. de Haen said that there are partial problems in the right to food. He added that FAO is concerned about the emerging problems in the countries of Africa resulting from increased foreign investment in cultivated land, which may lead to expulsion of local population. FAO also emphasizes that producing biofuels must not be at the expense of food production.

The expert stressed that rich countries and international community have a great responsibility in bringing about global changes and the adoption of adequate ways to effectively achieve world food security.

- Food stockpile

Prof. de Haen explained that food stockpile are of great importance to secure the stability of provision of food supply, but it is expensive and involving a significant loss. Instead, when the state has a reserve of hard currency it can then import the food from global market.

- Possibility of eliminating hunger and poverty:

Prof. Cramon commented that eliminating hunger and poverty is not possible, but it might be reduced. Therefore, it is necessary to increase the productivity of food crops without relying on genetically modified varieties.

- Foreign direct investment FDI necessity

In his view, Prof. Cramon addressed the dependence on foreign direct investment FDI may not lead to achieving food security. As for example, what happened in Ukraine, where FDI focused firstly on investments in cigarettes production and the establishment of casinos and clubs, but when the political decision changed investment has shifted to livestock production and has achieved great development in this sector.

Annex (1) List of Participants

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Annex (2) Presentation Slides

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