



- Visegrad Fund

Current Coronavirus Crisis and impacts on food security

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Introduction

- As there is no slowing trend of COVID-19 outbreak throughout the world, we need to start putting more effort into reflecting the current crisis also with past crises and pandemics.
- There need to be clear lessons learnt from the previous crisis and they need to be assessed, reflected and where appropriate implemented.
- Furthermore, currently majority of world population is under some sort of social distancing (in order to fight the health crisis).
 - However, this puts in risk millions of businesses, workers and farmers. Especially those “poorest of the poor” are under the biggest threat.
- Especially, there is now time to focus on what will happen in a post COVID-19 agriculture and what are the implications for food security.



Modern agriculture and COVID-19

- One of the main features of modern agriculture is its absolute dependence on technology and industry support.
- Development of agricultural technologies over last 150 years was accelerated by growing industry and enabled a significant reduction of human labour when the population employed in the agriculture is continuously decreasing.
 - Less than 2 % of population is directly employed in the agricultural sector of rich countries such as USA or some European countries. On the other hand, this value can reach up to 70 % in the low developed countries.
 - Contrast to this general global trend, the need of human labour varied among agricultural sectors and is traditionally the highest in fruit, vegetable and horticultural specialty farms where is most often associated with seasonal hand-harvest job.

Effect on agricultural production

- The modern technologies such as fertilizers, pesticides, new cultivars and animal breeds together with agriculture machinery and equipment allow this enormous increase of effectivity in agricultural production in association with reduced human labour.
- On the other side, the vast majority of population has been disconnected from agriculture and has only limited knowledge about importance and natural relationships in agri-food sector.
- Moreover, the functioning of the sector may be significantly jeopardized by a disruption to the agricultural supply of the necessary inputs due to pandemics like COVID-19, regardless of whether national or international.
- Seasonal aspect of crop production should be also considered when some inputs are required within short interval in relation to agronomic schedule.

Let's re-visit the history

- Hunger and diseases have been cohabitating with us since the beginning of humankind.
- Their impacts were more intensified when agricultural societies emerged and human population expanded.
- The change from hunting and gathering or pasturing to agriculture are considered to be beneficial for the humankind when such transition was completed.
- During a relatively short period of time reliable source of food was at disposal and new methods of storage increased the probability of survival, mostly in the severe winters of today's central Europe.
- People settled, changed their lifestyles, natality grew and mortality decreased.

Let's continue with history

- Wars, endeavour of some societies to conquest new territories and resources or to spread their cultures resulted in deaths, hunger and epidemics.
- As human settlements evolved these impacts were more often and cruel.
- Hunger was related also to the impacts of climatic changes.
- Even local and relatively short in time change of the weather was able to decrease yields to such a level that local population was exposed to famine.
- As agriculture evolved and with bettering farming procedures, the plants achieved the limits of their natural possibilities in the regions facing the threat of drought, frost or wet seasons.

So...what does
history says to
us?

- Under such situation, only one year with significant weather divergence from normality was enough start the series of events resulting in hunger.
- The water reservoirs were depleted, herds were slaughtered and finally many of farms were abandoned.
- Pauperized families (if they survived) migrated to cities with the hope to find some subsistence.
- It resulted in growing number of the urban poor.
- It is the reason why cities were overcrowded before the crisis which facilitated the spread of epidemics.



Back to the Future...

I mean present...

Main implications from the crisis for food production - Agriculture

- The sustainability, security, and stability of food supply, democratic decision-making, and fair incomes for both food providers and consumers must be at the centre of the post-pandemic food system.
- The FAO states that COVID-19 affects agriculture in two significant aspects:
 - the **supply** and **demand** for food.
 - These two aspects are directly related to food security, so food security is also at risk.
- In response, farmers are likely to engage in a more resilient business model.
- The farm-to-table trend will accelerate worldwide.
- The producers expect to add value to their produce to make production more resilient at small and large scale. Home processing of food in developed countries might witness an increase after the pandemic.

Main implications from the crisis for food production - Agriculture

- It's important to continue to invest in those critical technologies, whether it's germplasm, traits, crop protection, or digital solutions.
- A fall behind that space implies a loss of market opportunity.
- Developing countries will require adding value to farm produce and making it available to the consumers at an affordable cost.
- To ensure food safety, there is need to develop traceability tools to establish optimization opportunities, sustainability impacts, and chain of custody.
- Production has to be optimized, and supply chains have to be modernized.
- This will include the acceleration of digital agriculture.
 - Digital tools, such as artificial intelligence that alert farmers to be preemptive about pest treatments, can curb crop damage and save money.

What more can be expected?

- Changes in jobs in agriculture
- Shift to robotics
- Changes in line speeds
- Flexibility in industry
- Long-term effects (producers out of business, accelerating foreign investments, structural changes)
- **But, with changes and challenges are coming also opportunities**



Thank you for your attention!

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