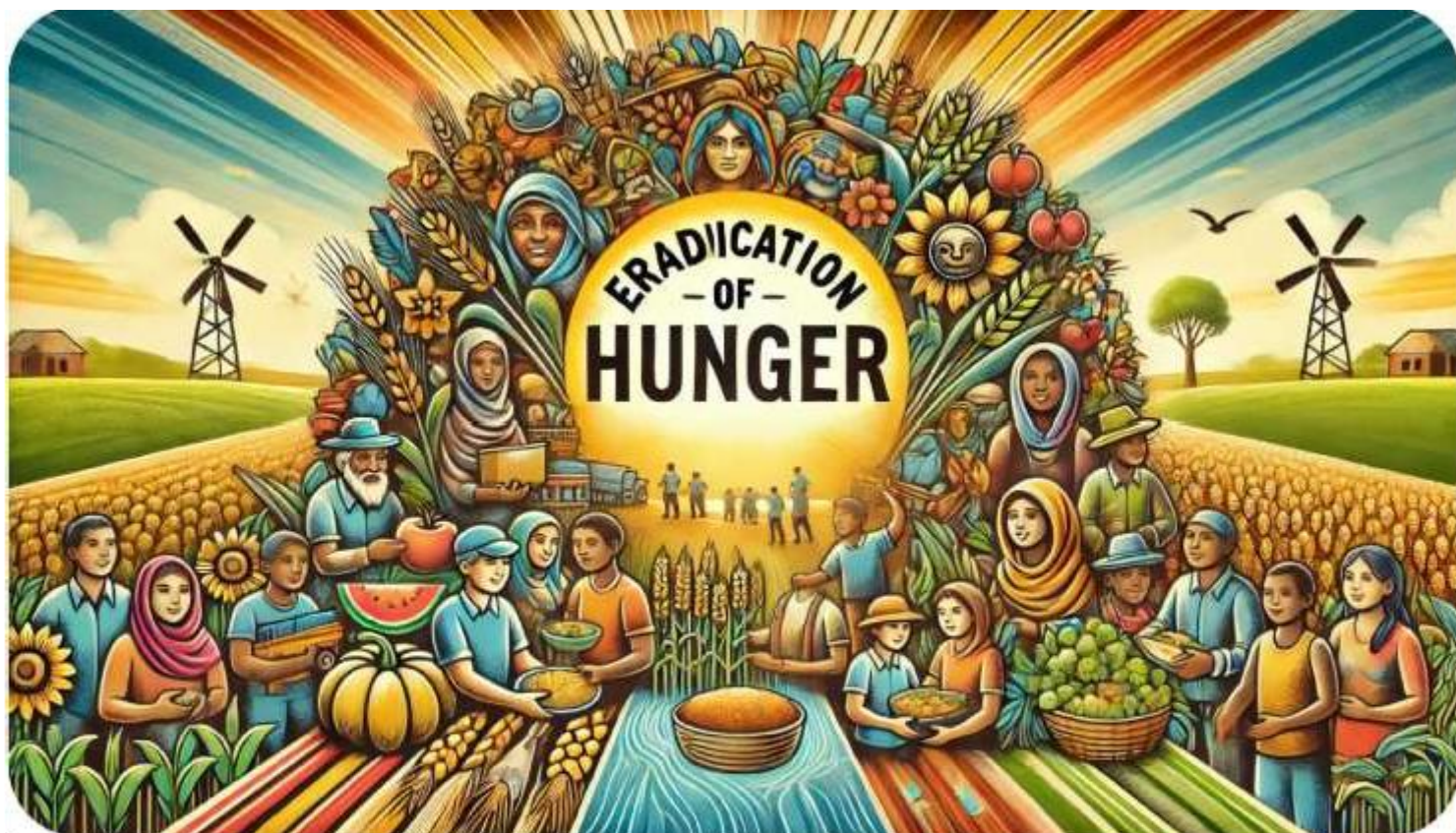


NP JSC "South Kazakhstan University named after  
M. Auezov"



"Zero Hunger"



Shymkent 2024

## **Introduction**

Hunger is a global problem associated with malnutrition and insufficient consumption of food, which are necessary for maintaining health and vital functions. According to the UN, more than 820 million people in the world suffer from chronic malnutrition, and the situation is aggravated by environmental, political and social factors. The UN Sustainable Development Goal No. 2 is to eliminate hunger, achieve food security and improve nutrition by 2030. The importance of solving the problem of hunger lies in the fact that it is directly related to improving public health, reducing poverty and economic instability.

## **Causes of hunger**

Hunger has multi-layered and diverse causes that need to be understood in order to effectively combat it:

**Economic factors.** One of the key causes of hunger is poverty. People with low incomes cannot afford to buy enough food, as well as foods rich in nutrients. Poverty also deprives people of access to land that could be used for food production. In developing countries, agricultural sectors often suffer from a lack of investment, which leads to lower yields and, consequently, food shortages.

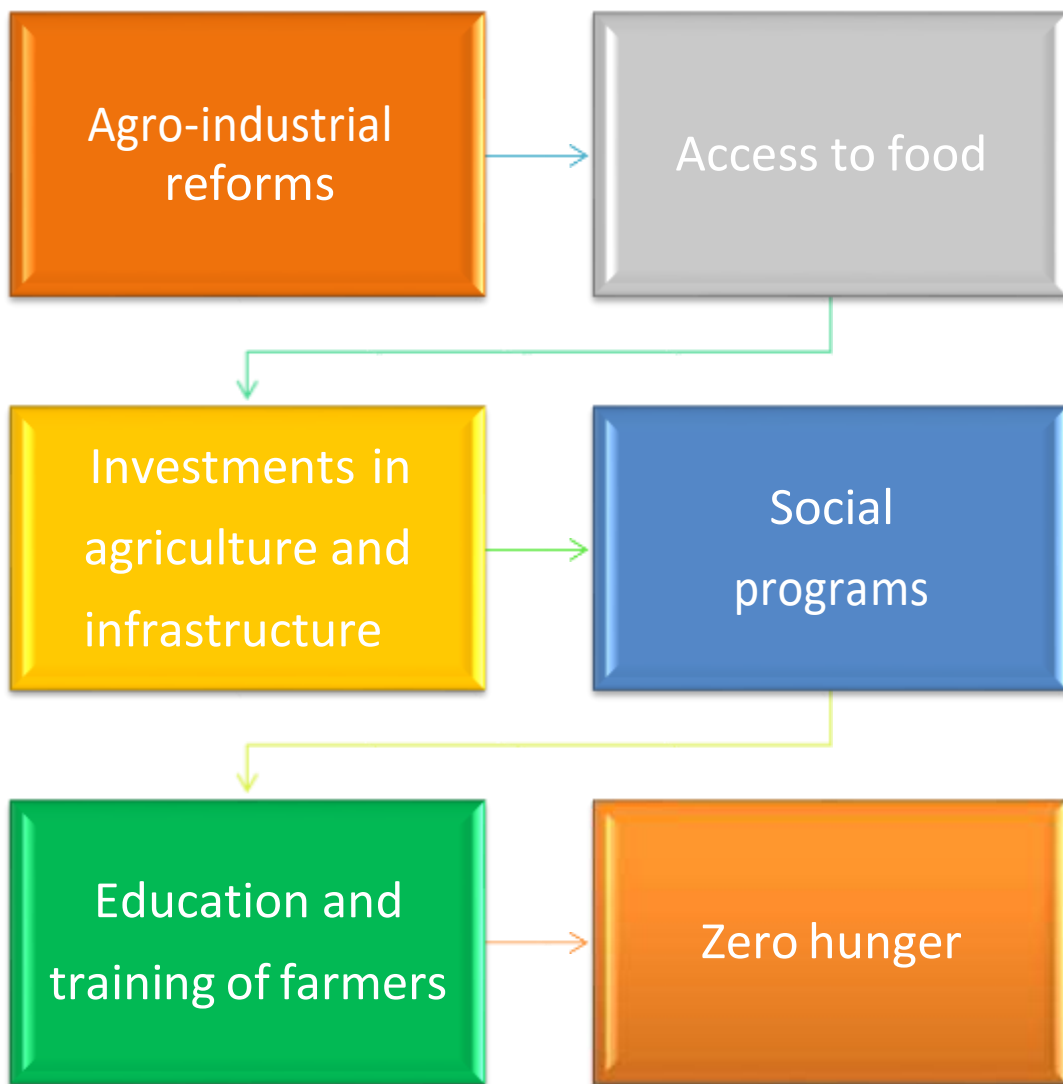
- **Social reasons.** In some regions, social problems such as inequality, discrimination and lack of access to education limit people's ability to ensure food security. Insufficient education leads to farmers using outdated farming methods that do not produce high yields. Poverty is also often passed down from generation to generation, forming a vicious circle of hunger and poverty.
- **Political factors.** Political instability and armed conflicts lead to the destruction of agriculture, population displacement and food insecurity. In countries such as Syria or South Sudan, military actions have led to a sharp deterioration in the food situation. In addition, corruption and inefficiency of government institutions in some countries hinder the efficient allocation of resources.
- **Environmental reasons.** Climate change, soil degradation and natural disasters are serious environmental factors that affect food production. Droughts, floods and desertification significantly reduce agricultural productivity, especially in vulnerable regions such as sub-Saharan Africa. Climate change is exacerbating the problem, as not all countries can adapt to the new conditions of agriculture.

## **The consequences of hunger**

The consequences of hunger are diverse and extremely destructive for society:

- ❖ **Physical consequences.** Chronic malnutrition leads to impaired physical and mental development, especially in children. This is manifested in slower growth, decreased immunity and increased mortality among infants. Adults suffering from hunger also lose their ability to work, which directly affects their ability to earn and support families.
- ❖ **Social consequences.** Hunger causes social problems such as increased crime and social tension. People suffering from hunger are often forced to resort to desperate measures such as theft or migration in search of work and food. This, in turn, leads to the destabilization of the regions and an increase in migration flows.
- ❖ **Economic consequences.** Hunger also harms the economy, as it reduces labor productivity and increases health care costs. Malnutrition affects the physical and mental development of workers, which limits their ability to be productive. In poor countries, hunger leads to lower economic growth, widening the gap between developed and developing countries.

## Measures to eliminate hunger



Fighting hunger requires a comprehensive approach that includes both short-term and long-term solutions:

- ✓ **Agro-industrial reforms.** Agricultural reforms aimed at supporting small farmers and the introduction of modern technologies play an important role in eliminating hunger. Increasing the availability of fertilizers, improved seeds and irrigation technologies will help increase yields. It is also important to invest in sustainable agriculture to minimize the impact on the environment.
- ✓ **Access to food.** To eliminate hunger, it is necessary to create food distribution systems that will ensure access to food even in the most remote and poor regions. Important measures include the creation of food banks, nutrition programs in schools and kindergartens, as well as assistance in emergency situations such as natural disasters.
- ✓ **Investments in agriculture and infrastructure.** Increased investment in agriculture will help improve market access, especially in rural areas. This includes improving roads, transportation systems, and food storage. This way, farmers will not only be able to produce more products, but also deliver them to markets fresh, which will prevent food loss.
- ✓ **Social programs.** Government programs to support the poor play an important role in the fight against hunger. Basic income programs or food subsidies will help poor families get access to enough food.

Assistance programs also include training farmers in new technologies and farming methods, which allows them to increase their yields.

- ✓ **Education and training of farmers.** Education plays a key role in eliminating hunger. Training farmers in the use of modern technologies and farming methods helps to increase agricultural productivity. It is also important to spread knowledge about the rational use of natural resources and sustainable farming methods.

### **International efforts**

The fight against hunger requires global efforts, and international organizations play a key role in this:

- ◆ **The United Nations and the World Food Program (WFP).** The UN plays a central role in the fight against hunger through various aid programs and the Sustainable Development Goals. WFP delivers food to conflict and disaster zones, providing millions of people with vital food. They are also developing long-term strategies to combat hunger, including support for agriculture and the development of nutrition programs for children.
- ◆ **FAO (Food and Agriculture Organization).** FAO plays a key role in global efforts



to eliminate hunger by providing technical assistance and advice to countries in the field of agriculture and food security.

**International assistance programs.** Programs of assistance to poor countries from the World Bank, the International Monetary Fund (IMF) and other organizations provide funding for initiatives aimed at eliminating hunger and improving food security.

### **Successful examples of countries**

Some countries have been able to make significant progress in eliminating hunger through comprehensive reforms:

- v **Brazil.** In the early 2000s, Brazil launched a large-scale anti-hunger program "Zero Hunger", which included food subsidies, social programs and agricultural development. This program has helped to significantly reduce the level of hunger in the country
- v **Ethiopia.** Ethiopia, one of the most vulnerable countries in Africa, has been able to make progress in the fight against hunger through agricultural reforms and farmer support programs. In particular, programs have been implemented to improve access to resources and technologies for farmers



## **Problems and challenges on the way to eliminating hunger**

Despite global efforts, there are significant challenges:

- ✚ **Political instability.** In countries with armed conflict, food programmes often cannot function effectively. Instability prevents both humanitarian organizations and local authorities from implementing assistance programs.
- ✚ **Climate change.** Climate change continues to be one of the biggest threats to food security. Droughts and floods make agriculture less predictable and make access to food resources more difficult.
- ✚ **Inequality.** Social and economic inequalities make it difficult for the poor to access resources. Often, the most vulnerable groups of the population suffer from a lack of food, while other parts of society have access to an abundance of food.

The fight against hunger is a global challenge that requires a comprehensive approach that includes economic reforms, improved education, investments in agriculture and infrastructure. International efforts to eliminate hunger must be combined with country-level measures to achieve lasting change. The complexities associated with political instability and climate change require joint action by all countries and international organizations.

### **The practical experience of the world's universities in eliminating hunger**

The National University of Singapore has created the NUS Sustainability initiative, which includes the Food for Thought program aimed at fighting hunger.

Harvard University offers a course on sustainable food systems.

**Educational campaigns:** Organizing events dedicated to global hunger awareness, such as World Food Day, with the participation of students and teachers.

**Gardening on campus:** Creating university gardens and farms for the production of organic food. An example is a university project in Wageningen (Netherlands), where students and staff grow food for the local community.

**Food recycling programs:** Implementation of systems for redistributing excess food from campus canteens to help those in need. Such programs are successfully implemented at the University of California at Los Angeles (UCLA).

**Hydroponics and Aquaponics projects:** Universities such as MIT are introducing innovative methods of growing products without using soil,

which helps optimize resources.

**Proposed measures of the South Kazakhstan University named after  
M. Auezov**

**Food Monitoring Applications:** The introduction of platforms like Too Good To Go that allow students and staff to redirect excess food

**Food Safety Research Centers:** Interdisciplinary research laboratories are being created exploring ways to increase yields, reduce food losses and improve nutrition quality.

**“Students Against Hunger” Programs:** Volunteer initiatives where students participate in food collection and distribution.

**Courses and lectures:** Educational programs are being developed on the problems of global hunger, food security and sustainable agriculture