



National Food Security Atlas

Kyrgyz Republic 2015: Summary



Атлас продовольственной безопасности

Food Security Atlas



Министерство сельского хозяйства и мелиорации
Ministry of Agriculture and Melioration

2014

Кыргызская Республика
Kyrgyz Republic



Всемирная Продовольственная Программа
World Food Programme

National Food Security Atlas of the Kyrgyz Republic 2015

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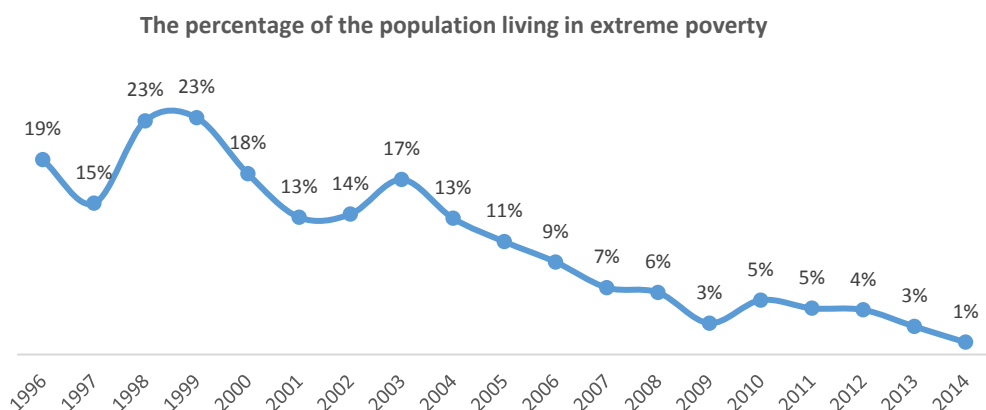
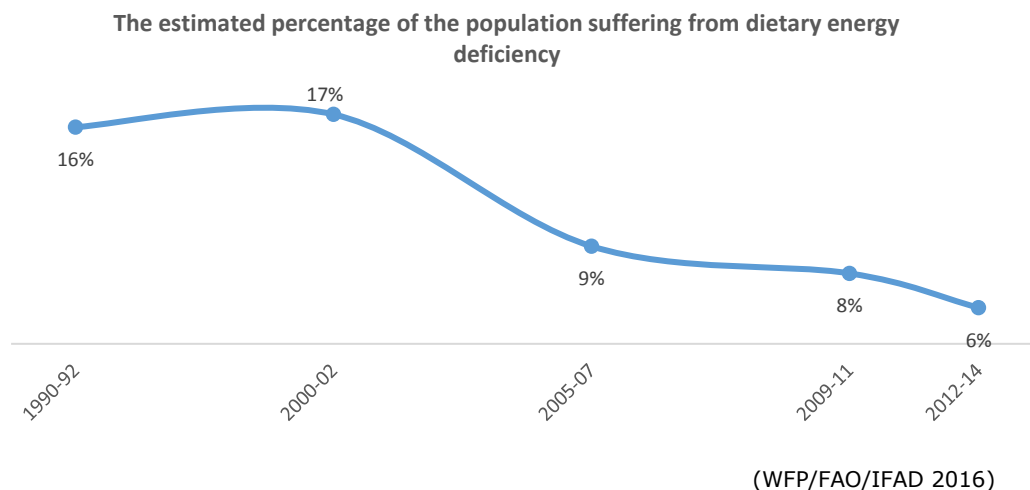
Ministry of Agriculture of the Kyrgyz Republic and World Food Programme (WFP)

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Substantial progress in achieving MDGs

Despite a drastic transition to a market based economy, the Kyrgyz Republic has achieved its first Millennium Development Goal (MDG) target to halve the number of people living in hunger and extreme poverty. The estimated percentage of the population suffering from dietary energy deficiency fell from 16% in 1990-92 to 6% in 2012-14¹. The percentage of the population living in extreme poverty has also fallen from 19% in 1996 to 1% in 2014².



National Statistics Committee of the Kyrgyz Republic

Challenges

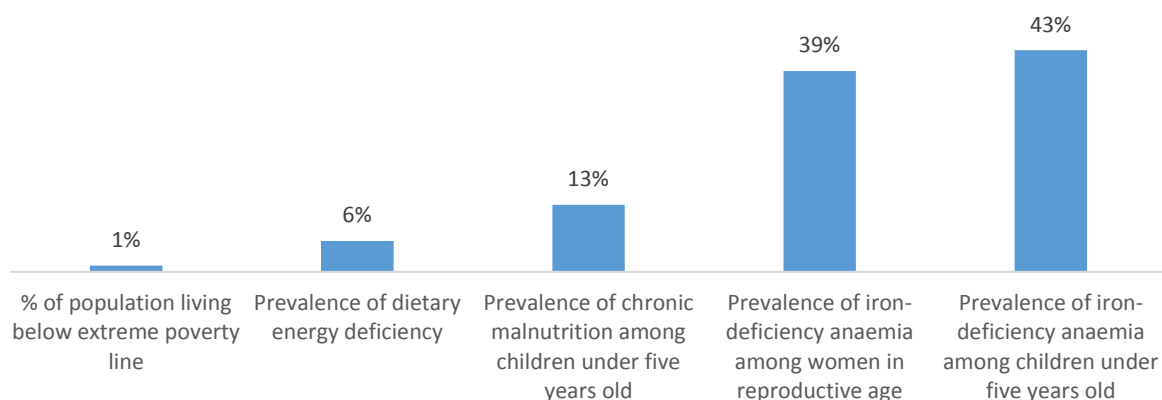
There remain, however, many areas where progress in food security needs to be accelerated. According to the latest statistics, 43% of children under five years old and 39% of women of reproductive age were diagnosed with iron deficiency anemia. 13% of children under five years old were suffering from chronic malnutrition³. These rates are significantly higher than the prevalence of dietary energy deficiency (6%), indicating **a prolonged inadequate consumption of nutritious food**.

¹ The State of Food Insecurity 2015 (FAO/WFP/IFAD)

² The National Statistics Committee of the Kyrgyz Republic

³ Multi Indicator Cluster Survey (MICS) 2014

Key food security and nutrition indicators of the Kyrgyz Republic (2014)⁴

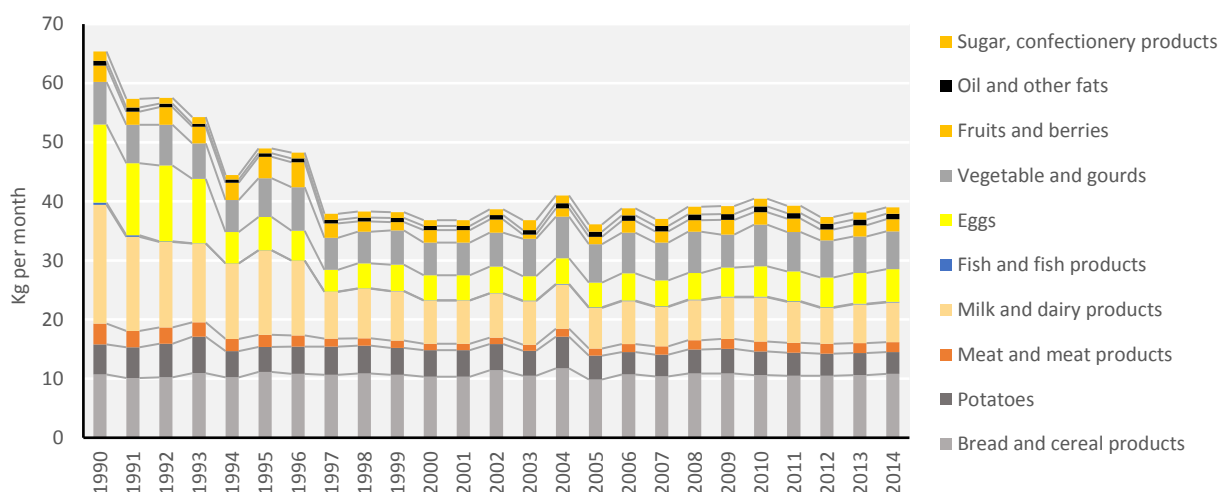


Source: National Statistics Committee of the Kyrgyz Republic, FAO/WFP/IFAD (2016), National Statistics Committee of the Kyrgyz Republic and UNICEF (2014), National Statistical Committee of the Kyrgyz Republic, Ministry of Health of the Kyrgyz Republic, ICF International (2013)

Malnutrition slows economic growth and deepens poverty through direct losses in productivity of the current population. It is estimated that undernutrition costs the economy USD 32 million in the Kyrgyz Republic annually through lost productivity resulting from increased mortality and reduced cognitive and physical development⁵.

An unvaried and monotonous dietary pattern, characterized by a high consumption of wheat, potatoes and sugar is undermining the nutritional status of individuals, particularly among the poor, who are unable to afford a nutritious diet. They are also vulnerable to economic and climatic stresses and shocks such as income losses, high food prices and natural disasters. Consumption levels of nutrient dense food, such as meat, milk and their products have substantially decreased compared to 1990, while consumption of wheat and wheat products have remained unchanged during the same period.

Average per capita monthly food consumption (kilograms, 1990–2014)



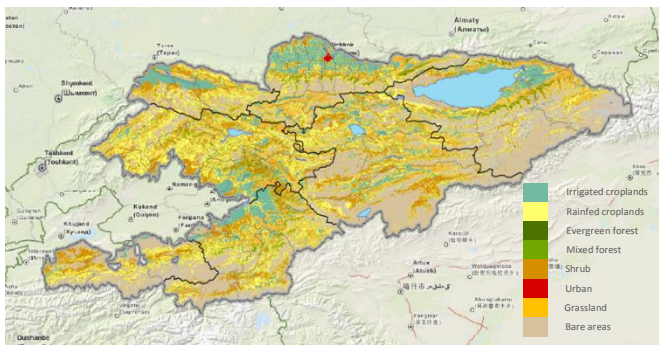
National Statistics Committee of the Kyrgyz Republic

⁴ Prevalence of undernourishment are based on the calculation of three key parameters: the average amount of food available for consumption per person, the level of inequality in access to food and the minimum number of calories required for an average person.

⁵ UNICEF and World Bank (2013)

Role of the National Food Security Atlas

Food security is highly context specific, as it involves agro-climatic and socio-economic factors, particularly in the Kyrgyz Republic where livelihood systems are highly diverse (see Map 1). For example, the profiles of northern and southern Jalalabad province are different in terms of land use, market access and natural disaster risks. The National Food Security Atlas provides an analysis of food security at the sub-national level for **a better understanding of the food security situation in each area** and for designing the measures to address context-specific issues.



Map 1. Land cover of the Kyrgyz Republic

Livelihood systems are highly diverse in the Kyrgyz Republic even within a province, due to differences in topography, agro-climatic conditions and socio-economic features. It is therefore necessary to analyze livelihood characteristics down to the lower administrative level.

WFP (2016)

The National Food Security Atlas reviews **28 indicators** selected for measuring various aspects of food security in accordance with the Food Law of the Kyrgyz Republic which defines food security as a state where physical and economic access to food is guaranteed for the population, in accordance with minimal norms of food consumption⁶. To support a better understanding of food security situation, the National Food Security Atlas groups these indicators into four dimensions of food security: **availability, access, utilization and stability**.

Availability	Access	Utilization	Stability
<ul style="list-style-type: none"> • Domestic production • Yield • Self-sufficiency 	<ul style="list-style-type: none"> • Poverty • Food consumption (kcal, protein) • Road availability 	<ul style="list-style-type: none"> • Undernutrition • Access to water sources • Educational attainment • Child feeding practices 	<ul style="list-style-type: none"> • Types and frequencies of climate disasters • Land degradation • Volatility of food prices

Food availability

Food availability is the combined aggregate availability of physical supplies of food from domestic production, commercial imports and national stocks in the area. Domestic production of the country's main staple, wheat, has fallen by 55 percent over the last 17 years as the harvested area has decreased, mainly in response to the growing of other crops, especially animal fodder. Wheat flour imports have been steadily increasing. In

⁶ Food Law of the Kyrgyz Republic

2014, they were more than four times higher than the level of 1994. As a result of its import dependency, the country's wheat market is **highly prone to international price volatilities**.

The Kyrgyz Republic has been self-sufficient in potato production since 1994. Potato production has steadily increased over the last two decades, but its **yield largely depends on rainfall** during the spring and summer as *potatoes are largely grown by smallholders* in non-irrigated areas. Vegetables are also widely grown by smallholders across the country. Vegetables are the main source of micronutrients (vitamins and minerals) in the diet of most people in the Kyrgyz Republic. The yield of potatoes and vegetables has been stagnant in most areas for the last decade (Figure 1). The **degradation of land** on which the agricultural production system is highly dependent could further marginalize smallholders in the Kyrgyz Republic (Map 2).

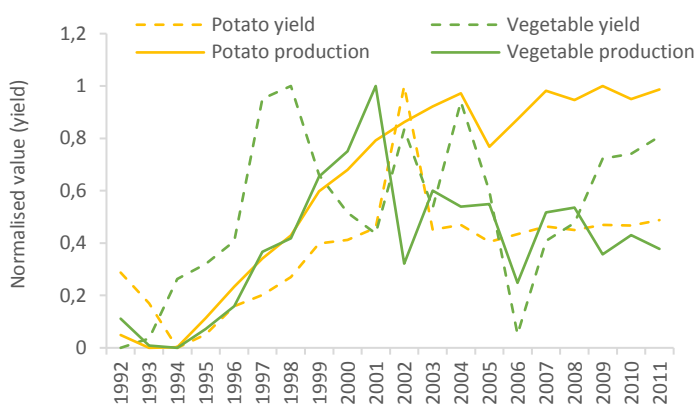
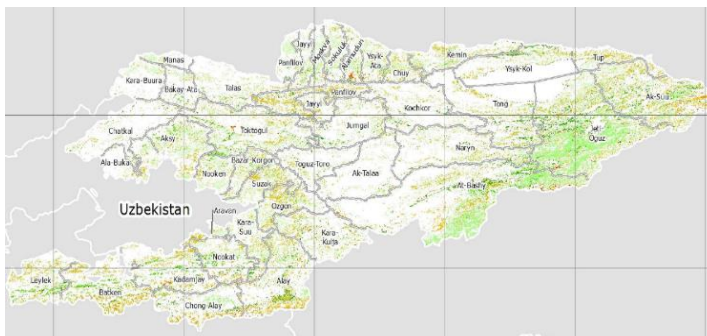


Figure 1. Trends in yields and production of potatoes and vegetables (normalized values)

Production of potatoes and vegetables has almost doubled between 1992 and 2011. The majority of this increase is linked to increases in the area under cultivation, rather than yield. Yields have decreased since 2002 for both potatoes and vegetables. Some reductions in yields appear to be linked to climate-related hazards, particularly in 2006 following a heavy snowfall and a drought.

Source: WFP/State Agency of Environment Protection and Forestry of the Kyrgyz Republic / National Climate Change Center of the Kyrgyz Republic/ Tian Shan Policy Center of the American University in Central Asia (2014)



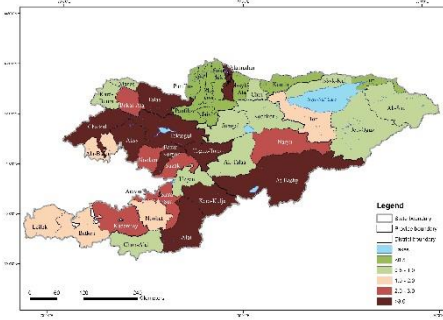
Map 2. Evaluation of changes in land cover (2001–2012)

The National Food Security Atlas conducted a spatial analysis of land cover changes for 2001–2012 using MODIS satellite imagery data. The results show that the districts most affected were Ak-Suu, Jetu-Oguz, Ton and Kemin in Issyk-Kul province, Toktogul in Jalalabad and Panfilov in Chuy.

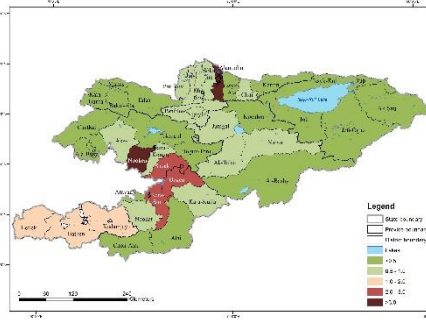
Source: Land cover data: NASA–MODIS 2001 & 2012, map produced by WFP

The analysis of the self-sufficiency level shows that the main production areas are concentrated in a fairly limited area, mainly in lowland irrigated areas of Chuy, Osh and Jalalabad provinces. Most of the other districts rely mainly on products imported from these districts, except for potatoes (Map 3, 4, 5). Potato production exceeds normative consumption in almost all districts, except for a few districts around large cities and in Batken province.

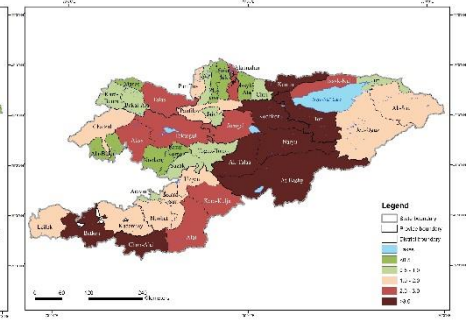
Map 3. Self-sufficiency level of wheat



Map 4. Self-sufficiency level of potato



Map 5. Self-sufficiency level of vegetables

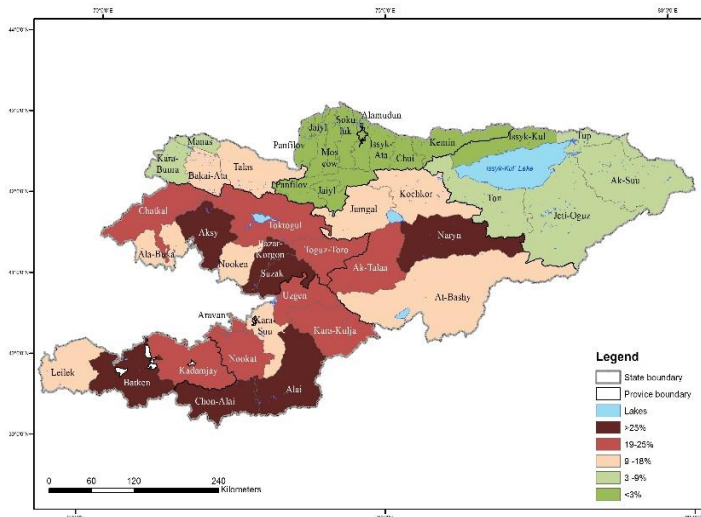


Source: National Statistics Committee, maps produced by WFP

Food access

Food access is a household's ability to acquire an adequate amount of quality food, through one or a combination of home production, purchases, barter, gifts, borrowing and formal or informal support. Therefore, food access mainly depends on a household's capability to secure food needs through purchase, home production or formal and informal support.

Household food purchasing power was estimated to be lower than the national average in Jalalabad, Batken and Naryn provinces, which also have significantly higher levels of poverty than the national average. Poverty levels are characterized by **significant regional disparities**. In most areas of these three provinces, more than a quarter of households were receiving **Monthly Benefit for Poor Families (MBPF)** in 2015 (Map 6).



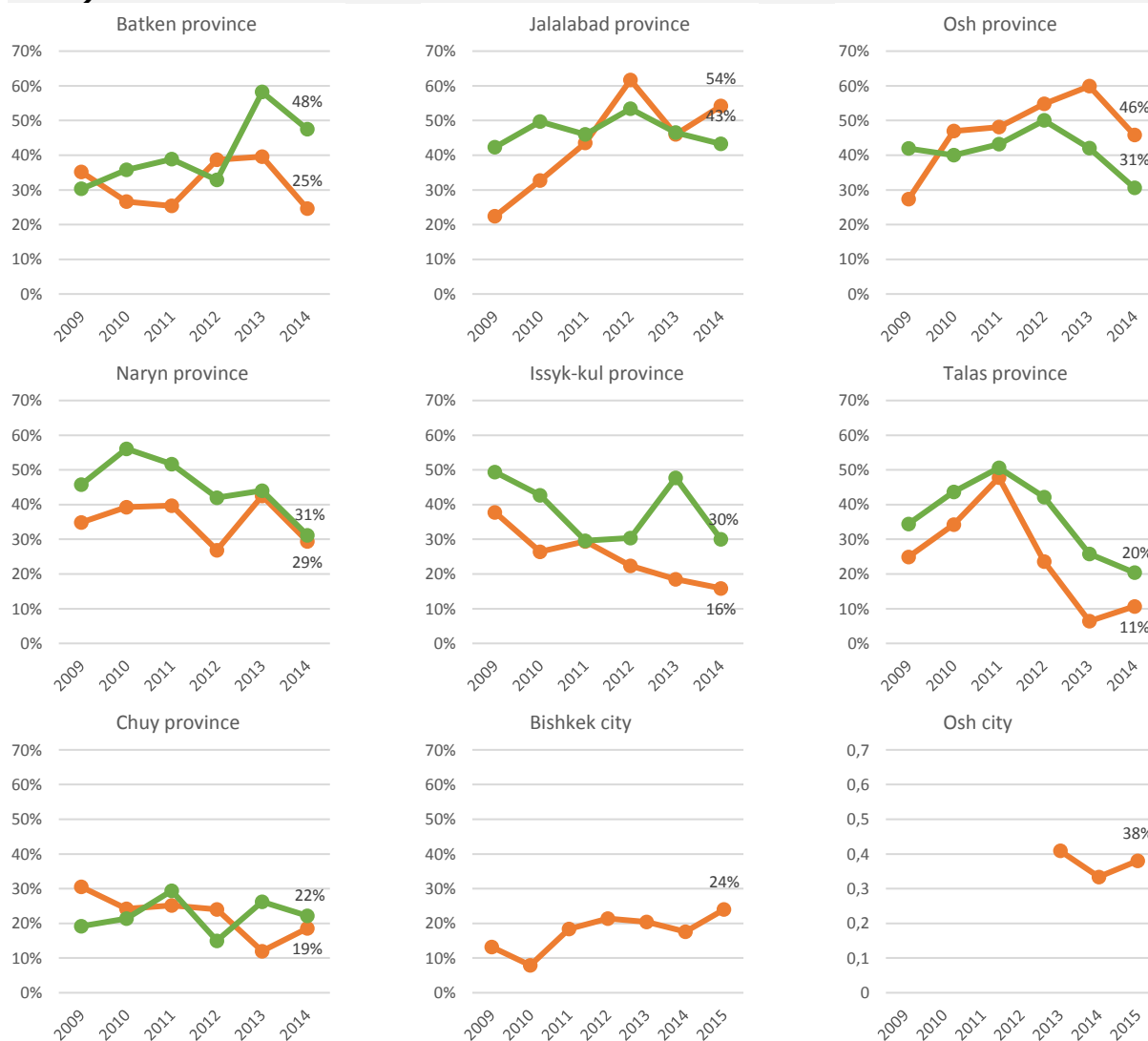
Map 6. Proportion of Monthly Benefit for Poor Families (MBPF) Recipients (%), 2014

The Monthly Benefits for Poor Families with Children (MBPF) are conditional cash transfers that are targeted at poor households with children. A family's eligibility for the benefit depends on the level of total family income that should not exceed the guaranteed minimum income (GMI) for each family member. In most areas of Jalalabad, Osh and Batken provinces, more than a quarter of households were receiving MBPF in 2014.

Source: Ministry of Social Development, maps produced by WFP

In Issyk-Kul and Talas provinces, significant progress has been made in poverty reduction over the past decade, while an **upward trend in poverty has been witnessed in the urban areas of Jalalabad, Osh and Bishkek** (Figure 2), most likely due to the vulnerability of the population to high food prices, combined with the slow growth in domestic employment (Figure 3). The situation has been stagnant in Batken, rural areas of Jalalabad, rural areas of Osh, Naryn, Chuy and Osh city.

Figure 2. Progress in poverty reduction by urban and rural areas by Oblast (2009-2014)



Source: National Statistics Committee of the Kyrgyz Republic

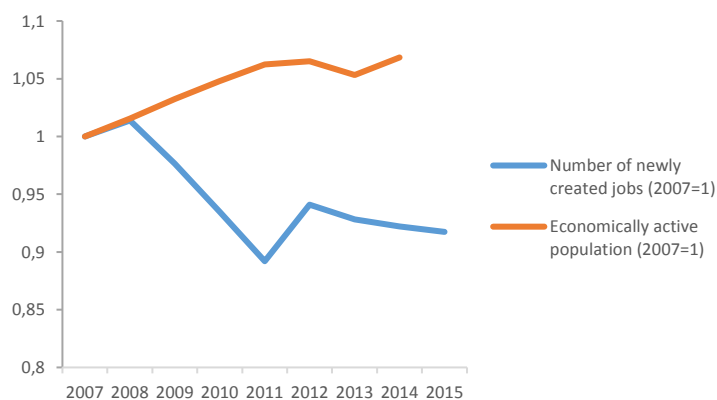


Figure 3. Number of newly created jobs and economically active population (national average, 2007=1)

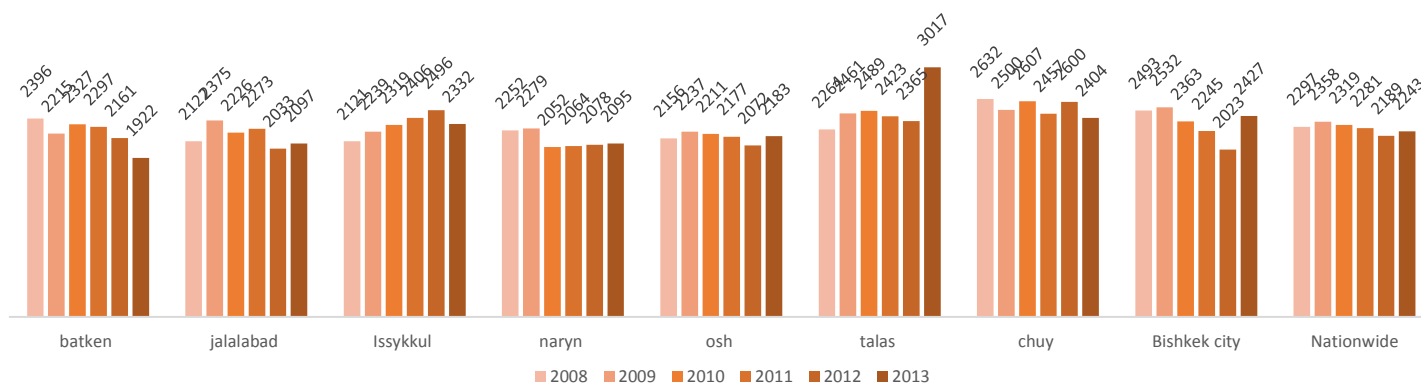
While the total number of economically active persons has increased by 7% since 2007, the number of newly created domestic jobs has seen a downward trend. This might indicate that remittances played an important role in poverty reduction, while high domestic unemployment represents a substantial risk to poverty reduction.

Source: National Statistics Committee of the Kyrgyz Republic

Recent trends in food consumption match the patterns of poverty. Both dietary energy (calories) and protein consumption levels have gradually increased in most areas,

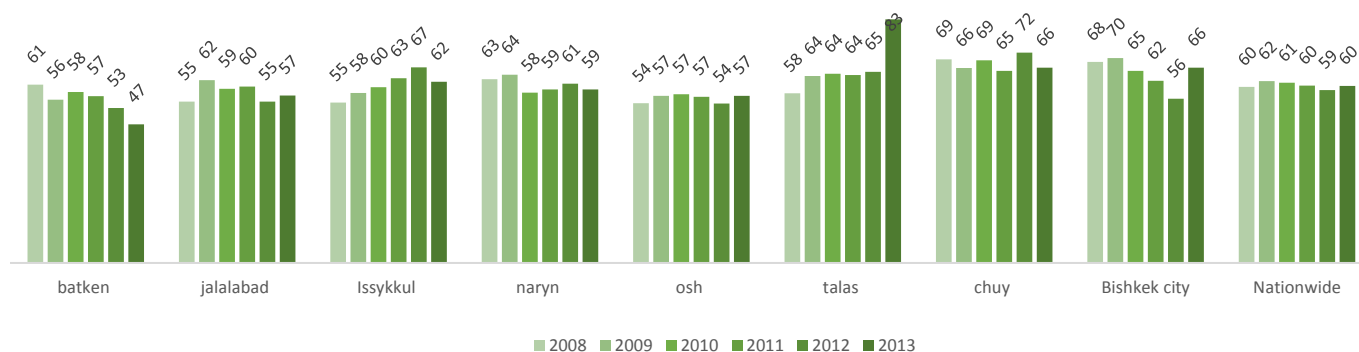
except in Batken, Chuy and Bishkek city. In Batken, calorie and protein consumption reduced by 23% and 24% respectively during 2008-2013, reflecting increased poverty during the same period.

Figure 3. Dietary energy consumption (kcal per person per day, 2008-2013)



Source: National Statistics Committee of the Kyrgyz Republic

Figure 4. Consumption of protein (grams per person per day, 2008-2013)



Source: National Statistics Committee of the Kyrgyz Republic

Food utilization

Food utilization refers to a households' use of the food to which they have access and an individuals' ability to absorb nutrients. This largely depends on the **knowledge and practices** of household members, particularly women, with regard to food preparation, the feeding of young children and other dependent individuals, including the sick and the elderly.

Infant and young child feeding practices (IYCF) directly affect the nutritional status of young children. WHO recommends the following indicators for assessing dietary diversity and dietary frequency of infant and young child feeding practices:

Dietary diversity	Children aged 6–23 months receive foods from four or more food groups.
Meal frequency	Receive solid, semi-solid or soft foods at least twice in the previous day for breastfed infants 6–8 months; three times for breastfed children 9–23 months and four times for non-breastfed children 6–23 months.
Consumption of breast milk or other milk products	Non-breastfed children 6–23 months of age receive at least two milk feedings and at least the minimum dietary diversity excluding milk feeds, and the minimum meal frequency during the previous day.

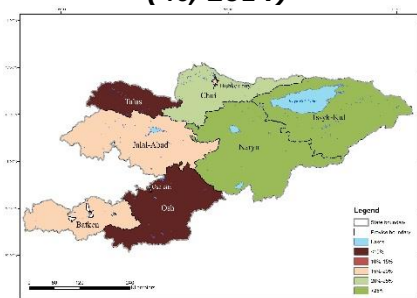
UNICEF’s 2014 Multiple Indicator Cluster Survey (MICS) showed regional variations in feeding practices in all these aspects. Less than 30 percent of children aged 6-23 months in Issyk-Kul, Osh oblast, Osh city and Batken province were fed according to all three recommended practices, while more than 40 percent of children in Chuy, Talas and Naryn provinces and Bishkek city were fed according to all three recommendations (Map 7).

Safe water is essential for maintaining health and achieving adequate nutritional status. Diseases such as diarrhea from unsafe water sources and vector-borne diseases are common problems that are strongly associated with negative nutritional outcomes. Access to safe drinking water is measured by the percentage of the population using improved drinking-water sources i.e., a source that adequately protects the water from outside contamination, in particular from faecal matter. Common examples are a piped household water connection, public standpipe, borehole, protected dug well, and protected spring and rainwater collection.

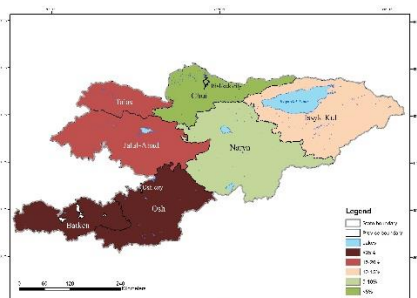
According to the 2014 MICS, on average 15 percent of the population did not have access to improved drinking water, with significant regional disparities. The prevalence rose to more than 40 percent of households in Batken province, while the rate was less than 10 percent in Chuy, Talas and Issyk-Kul provinces (Map 8).

According to the National Statistical Committee, 22 percent of the population in the country use biomass such as **firewood, coal or animal dung to cook their meals**. This is particularly common in rural areas (36 percent), especially in Batken, Jalalabad, Osh and Naryn. Not only does this result in deforestation and harmful greenhouse gas emissions, but inhaled smoke is also a key cause of respiratory diseases.

Map 7. The proportion of children under two years old fed appropriately based on all three recommended infant and young child feeding practices (% , 2014)



Map 8. Proportion of households with limited access to improved drinking water (% , 2014)



Source: National Statistics Committee of the Kyrgyz Republic and UNICEF (2014), National Statistics Committee of the Kyrgyz Republic

Stability of food security

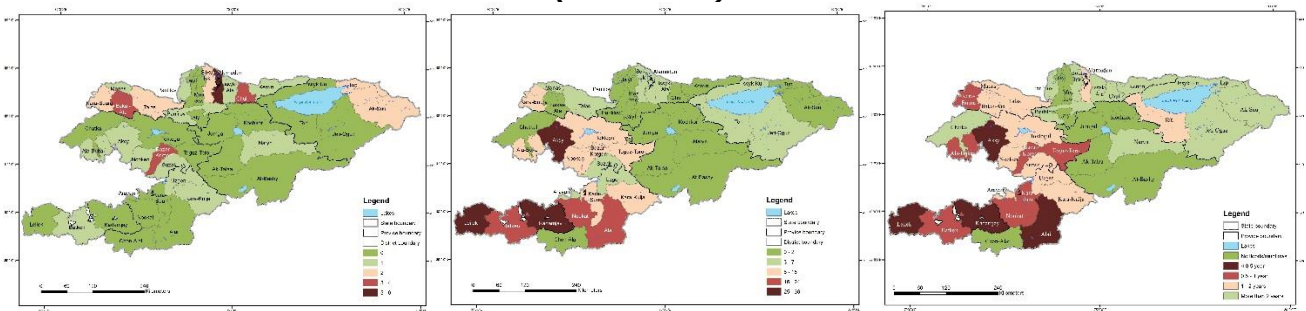
To be food secure, households or individuals must have adequate food at all times, but often food access and availability are severely hindered by natural disasters, insecurity and socio-economic setbacks. Climate-related disasters such as drought, floods and mudflows, food price volatility, and reduction of remittances are some of the most common shocks that periodically undermine the food security of households in the Kyrgyz Republic.

Climate-related disasters – especially floods and mudflows caused by heavy rains and increased melt-water from glacial lakes have become more frequent in recent years. The most vulnerable districts were in the southern and western parts of the country, especially in Osh, Jalalabad and Batken provinces (Map 9, 10, 11).

Map 9. Recurrence of floods (1999-2009)

Map 10. Recurrence of mudflows (1999-2009)

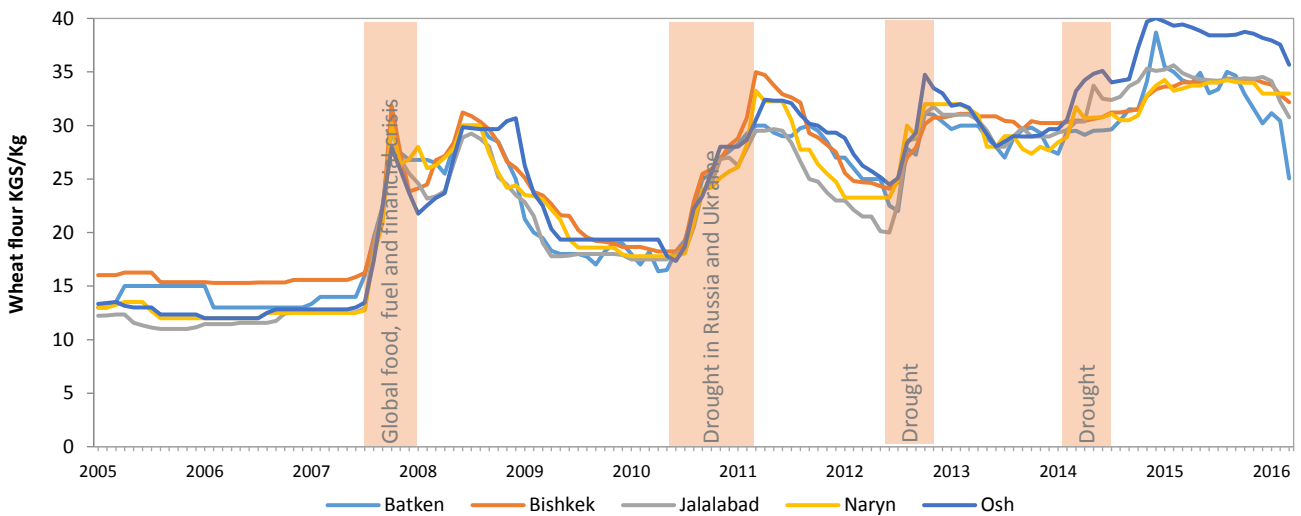
Map 11. Recurrence of floods and mudflows (1999-2009)



Source: Ministry of Emergency Situations of the Kyrgyz Republic

High and volatile food prices are a major food security risk for poor and vulnerable households as they put further economic pressure on low-income groups who already spend a large proportion of their household budgets on food. The domestic prices of basic commodities such as wheat flour, sugar and cooking oil are vulnerable to global food prices because of the country's high dependence on imports.

Figure 5. Wheat price trends (2005-2016)



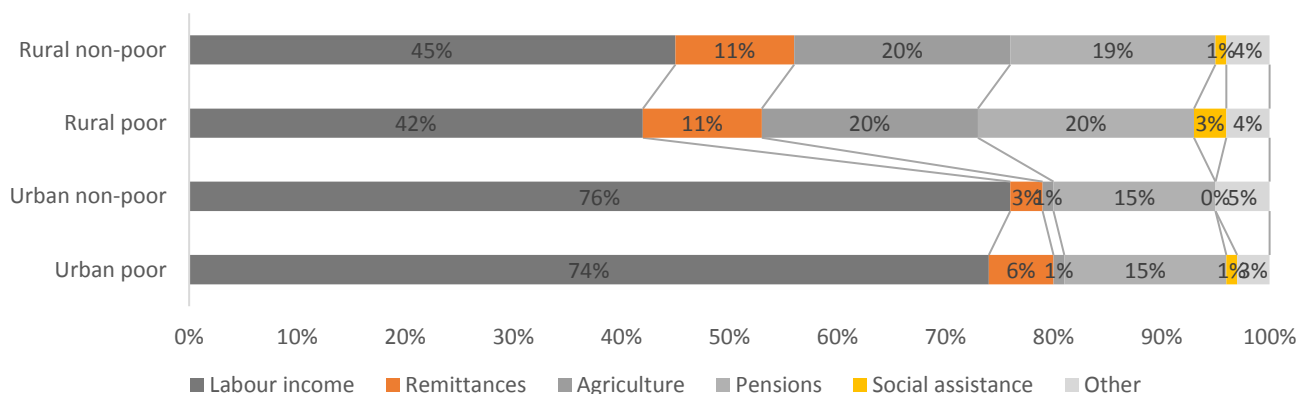
National Statistics Committee of the Kyrgyz Republic

Remittances are one of the main income sources, especially for rural households, along with wages, sales of own agricultural production and pensions (Figure 6). Remittances are highly vulnerable to changes in economic conditions and currency exchange rates of host countries (Figure 7).

The share of income from **social transfers** is small and has even declined in recent years.

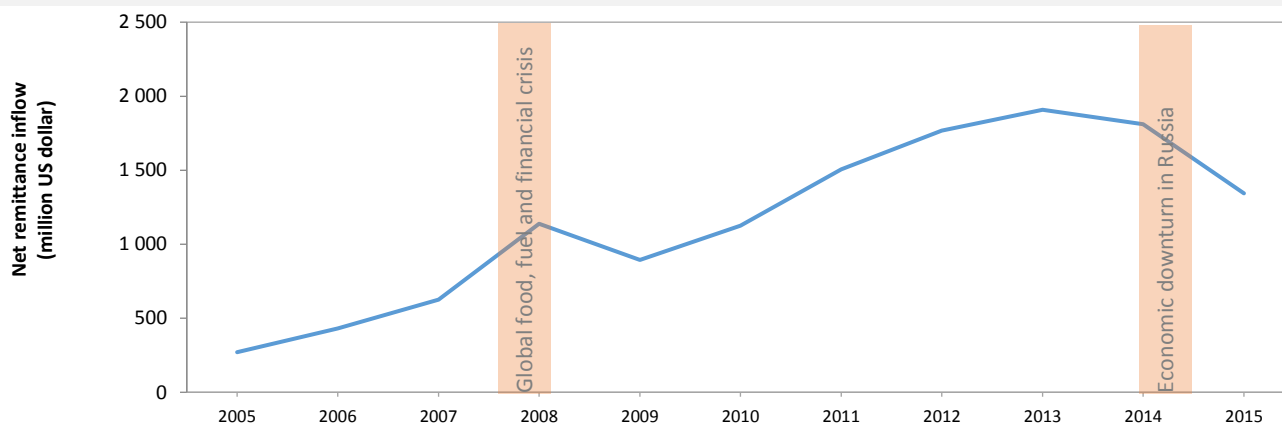
When confronted with shocks, households were most likely to 'cope' by **cutting the quality of the food they ate**, meaning that their diet was more likely to be lacking in the macro and micro nutrients, including protein, needed to lead an active and healthy life.

Figure 6. Proportion of income sources (urban and rural, poor and non-poor)



Source: World Bank (2014)

Figure 7. Net inflow of remittances (2005-2015)



Source: National Bank of the Kyrgyz Republic

Conclusions and recommendations

The following challenges have to be addressed in order to achieve the **Sustainable Development Goals 2: Achieve food security and improved nutrition for all**:

All pillars: Improve food security knowledge management systems

Notwithstanding increased economic output and reduced poverty and food insecurity at the national level, regional disparities remain prominent in many parts of the Kyrgyz Republic. **Sub-national level analysis of the food security situation** should be undertaken and made readily available, so that decision-makers can tailor food security responses to address the specific challenges faced by communities to ensure food security for all, including the poor and vulnerable.

Food security data and information should be processed, interpreted and summarized for immediate use by analysts and policy makers. This could be done by establishing a set of mechanisms that monitor and report key food security dimensions, such as market prices and agro-climatic conditions.

Availability: Address constraints on natural resources and uncertainties for agricultural productivity of climate change

Degradation of natural resources could further marginalize smallholders. Improved and adapted natural resource management practices should be introduced to manage natural resources and combat future climatic risks such as rainfall variability and temperature rises. **Diversification of agricultural crops** should also be explored to reduce dependency on climate sensitive crops. More research is needed to provide recommendations for **improved natural resource management practices and climate smart agriculture**.

Access: Strengthen social protection mechanisms, particularly productive programmes and programmes protecting consumption during external instabilities

External shocks such as high food prices and climate disasters could push a large number of the population living just above the poverty line into crisis. **Social protection**, therefore serves as a critical function in ensuring households' access to sufficient food during such crises. Given the limited amount of social transfers available to the poor and vulnerable groups through current social protection schemes, a mechanism should be established to **enhance the livelihood resilience** of the most vulnerable to stresses and shocks.

Access: Ensure food security of the urban poor

The urban poor are particularly vulnerable to economic downturns and high food prices. Since food insecurity of urban households has unique challenges compared to rural areas, **urban specific food security strategies** are required, particularly in areas where urban poverty is on the rise, such as Jalalabad and Osh. These could include improvement of horticultural production systems in peri-urban areas and micro-gardens in urban areas.

Utilization: Reduce the care burden on women and provide access to livelihood opportunities

The majority of the rural population is using biomass (firewood, animal dung etc.) for cooking, which is often time consuming for women and could cause respiratory diseases. The potential impact on livelihoods, food security, nutrition and health should be further investigated, especially in Batken, Jalalabad, Osh and Naryn where more than half of rural

households are using biomass. Fuel-efficient stoves and alternative sources of cooking fuel can be considered.

The burden on women is increasing, especially wives whose husbands have sought jobs elsewhere. They have to take care of livestock, farming, housework and childcare. Improved agricultural management practices should be introduced with a focus on women's needs.

Utilization: Promote food and nutrition education to change related practices

Lack of dietary diversity is a major nutritional concern, particularly for children and pregnant and lactating women. Food and nutrition education (FNE) should be promoted as an effective way to change practices in food and nutrition. FNE should be institutionalized into existing systems accessible for all, such as school education and community health system.

Stability: Institutionalize mechanisms to monitor, prepare and respond to socio-economic instabilities which may affect food security

Food security in the Kyrgyz Republic is highly vulnerable to climatic shocks, volatilities on the international food market, and economic conditions of host countries that affect labour opportunities. Major risks such as food prices, droughts and remittance inflows should be closely monitored and systematically linked to existing social protection programmes.

Risk monitoring and early warning systems should be strengthened and institutionalized to support decision-makers at various levels to take action and devise timely and evidence-based policies and interventions to support of vulnerable populations. Risk instruments such as insurance should also be further developed.

References

FAO, IFAD and WFP. 2016. The State of Food Insecurity in the World 2016. Rome, FAO.

National Statistics Committee of the Kyrgyz Republic. 2015. Harvesting of agricultural crops in 2014. Bishkek, National Statistics Committee of the Kyrgyz Republic.

National Statistical Committee of the Kyrgyz Republic (NSC), Ministry of Health of the Kyrgyz Republic, ICF International. 2013. Kyrgyz Republic Demographic and Health Survey 2012. Bishkek and Calverton, Maryland, NSC, MOH, and ICF International.

National Statistical Committee of the Kyrgyz Republic and UNICEF. Kyrgyzstan Multiple Indicator Cluster Survey 2014, Final Report. Bishkek, Kyrgyzstan. National Statistical Committee of the Kyrgyz Republic and UNICEF.

Sattar, Sarosh; Keller, Jennifer L.; Baibagysh Uulu, Aibek. 2015. Transitioning to better jobs in the Kyrgyz Republic: a jobs diagnostic. Washington, D.C. World Bank Group.

UNICEF and World Bank. 2013. Situational Analysis - Improving economic outcomes by expanding nutrition programming in the Kyrgyz Republic.

WFP. 2016. Climate Risk Profiles and Adaptation Practices in the Kyrgyz Republic - District profile and adaptation practices to date.

WFP, State Agency of Environmental Protection and Forestry, National Climate Change Center and American University of Central Asia. 2014. Climate Risk and Food Security in the Kyrgyz Republic.



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