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# POLICY BRIEF

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## The Impact of Climate Change Induced and Environmental Challenges on Migration Dynamics in Rural Kyrgyzstan

by Lira Sagynbekova

### EXECUTIVE SUMMARY

Environmental disasters and climate induced challenges heavily impact people's livelihoods, especially those in the poorest segments of society who lack the adaptive resources and capabilities to respond accordingly. Despite the ever-growing importance of the nexus between climate change, the environment, and migration, this topic remains largely understudied in Kyrgyzstan. Climate induced (drought, abnormal rainfall, early frost) and fast-onset (mudflow, flood, landslide) and slow-onset (land degradation, soil erosion, etc.) environmental disasters have direct and indirect impacts on migration, all of which serve as drivers for rural outmigration. Due to limited working opportunities and a lack of adaptive capacity to environmental change in rural areas, many choose to migrate to internal urban centers or abroad.

Based on qualitative research conducted in two villages of Batken and Naryn provinces in Kyrgyzstan, we found that a lack of insurance mechanisms, high rates of bank and informal loans, and insufficient social support from the government make it difficult for many of the poorest to respond to environmental shocks when they happen. The migration strategy helps rural households to react and respond to shocks and for some it is their only option. For such households, remittances play a crucial role by helping to cover vital household expenses. Therefore, migration serves as a coping strategy to overcome environmental, social, and economic difficulties and as an adaptation strategy by generally leading to more resilient livelihoods and long-term investments.

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## Introduction

Due to Kyrgyzstan's terrain, 66% of its population live in rural areas,<sup>1</sup> many of whom rely on farming and animal husbandry to make a living. However, these types of livelihoods are strongly dependent on climatic and other environmental conditions, thus making rural people particularly vulnerable to climate change and environmental shocks.<sup>2</sup> Furthermore, given the fact that 90% of Kyrgyzstan's territory is mountainous, different types of natural and anthropogenic hazards such as landslides, mudflow, floods, and land degradation are greatly impacting the livelihoods of its people. For instance, according to the Ministry of Emergency Situation of the Kyrgyz Republic, 24,215 people were affected by such disasters between 2010 and 2017 in Kyrgyzstan, 13,709 of whom were displaced as a result thereof.<sup>3</sup> In addition, Kyrgyzstan is ranked as the third most vulnerable country to climate change induced impacts in the Eastern Europe and Central Asia region.<sup>4</sup>

Climate change impacts such as drought and extreme weather have become pressing challenges, especially for rural households. Inadequate income from agricultural activities, a lack of adaptive capacities to environmental stressors, and limited livelihood opportunities all serve as drivers for migration. Both external and internal migration play a crucial role in the livelihoods of many rural households today. Of note, Kyrgyzstan's economy remains

the second most remittance-dependent in the world, constituting 33.2 per cent of the country's GDP.<sup>5</sup>

## Methodology

This research is based on a desk review, focus group discussions and in-depth interviews carried out in two rural communities in Kyrgyzstan's Naryn and Batken provinces. In total, 12 focus group discussions were conducted with male-only and female-only groups with 8-12 participants in each. Additionally, 28 in-depth interviews were conducted among key informants and household members. The main objective of the focus group discussions and in-depth interviews was to identify local environmental and climate change induced challenges and how these impact migration dynamics in rural areas. This study was carried out within the framework of the Pathways to Resilience in Semi-Arid Economies (PRISE)<sup>6</sup> project.

## Climate Change Induced and Environmental Challenges as Driving Factors for Migration

Three quarters of the Kyrgyz population are located at the foothills of mountain slopes or along river basins, where a number of natural and anthropogenic hazards and climate change induced challenges are greatly impacting their livelihoods.<sup>7</sup> Due to intensive glacier melting and rainfall in springtime, many

<sup>1</sup> National Statistical Committee of the Kyrgyz Republic. *Demographicheskii Ezhegodnik Kyrgyzskoi Respubliki* 2015-2019. Bishkek, 2020.

<sup>2</sup> Lira Sagynbekova, "Environment, Rural Livelihoods, and Labour Migration: A Case Study in Central Kyrgyzstan," *Mountain Research and Development* 37, no. 4 (2017): 456-463;

Abbie Clare, Lira Sagynbekova, Gregor Singer, Chris Bene and Akyl Rakhmanberdi, "Can Subjective Resilience Indicators Predict Future Food Security? Evidence from Three Communities in Rural Kyrgyzstan," Centre for Climate Change Economics and Policy, Working paper 342 (November 2018).

<sup>3</sup> International Organization for Migration, "Migration: Facts and Figures," UN-UCA dialog, March 1, 2019.

<sup>4</sup> Marianne Fay, Rachel I. Block and Jane Ebinger. *Adapting to Climate Change in Eastern Europe and Central Asia*. Europe and Central Asia reports, World Bank, 2010.

<sup>5</sup> World Bank, "Personal Remittances, Received (Current US\$) - Kyrgyz Republic," accessed 17 April, 2020. <https://data.worldbank.org/indicator/BX.TR.F.PWKR.CD.DT?locations=KG>

<sup>6</sup> More information about the PRISE project can be found at [www.prise.odi.org](http://www.prise.odi.org).

<sup>7</sup> Antoine Chandonnet, Zuura Mamadalieva, Lidiya Orolbaevs, Lira Sagynbekova, Uran Tursunaliyev and Damira Umetbaeva. *Environment, Climate Change and Migration in the Kyrgyz Republic*. IOM, 2016; Sujata Manandhar, Stefanos Xenarios, Dietrich Schmidt-Vogt, Christian Hergarten and Marc Foggin. *Climate Vulnerability & Adaptive Capacity of Mountain Societies in Central Asia*. University of Central Asia, 2018.

regions in Kyrgyzstan are subject to flooding and mudflows.<sup>8</sup> For instance, 95% of settled areas in Kyrgyzstan are affected by mudflows and floods.<sup>9</sup> Meanwhile, landslides affect 7.5% of the country's territory<sup>10</sup> and destroy agricultural lands and social and economic infrastructure, which can sometimes be fatal. Furthermore, more than 3,500 environmental and climate related emergency situations were officially recorded between 2000 and 2014 in Kyrgyzstan.<sup>11</sup>

Our surveys in Batken and Naryn provinces revealed that climate induced and environmental challenges such as droughts, shortages of irrigation water, early frost, abnormal rainfall, long winters, mudflows, waterlogging and salinization of lands all heavily impact agricultural activities and animal husbandry. Such environmental shocks often lead to crop failure and loss of income. The situation is exacerbated by several socio-economic challenges such as the low prices for agricultural outputs, credit defaults, loss of salaried or casual jobs, low social allowances and other factors.

Mudflows come in spring and disrupt crops, roads and irrigation channels. Meanwhile, they also destroy bridges, as do floods, causing access problems that can isolate some villages or pasture areas. Abnormal rainfall affects the quality of crops, especially apricots in Batken and fodder crops in Naryn. Due to heavy rainfall, fodder grasses can rot, leaving livestock lean, which can impact the food security of households and cashflow when livestock cannot be sold. Meanwhile, a long and heavy winter can have a similar impact. Harsh climactic conditions in high mountain regions of Naryn province where winter can last for as

long as six months can impact the health of the populace, who complain in particular of high blood pressure, and foot and bone diseases. Due to these conditions and malnutrition, the populace suffer from poor health and tend to migrate to cities or lower valleys, and especially to Chui Valley and Bishkek, the country's capital city.

Droughts and a lack of irrigation water heavily affect agricultural lands, leading to crop failure, thus depriving farmers of income. For instance, one participant of the focus group discussion in Naryn mentioned: "It takes more than three years to recover from a bad year [i.e. drought or a family shock such as a death and funeral]." Other respondents noted that when they experience a drought or heavy rainfall, wheat fails to ripen, and potato harvests are low, and when there is early snowfall, the wheat products freeze under the snow.

Respondents in Naryn mentioned that the land available for rent is dry and stony and cultivation services are expensive. One respondent mentioned the following: "You pay for the lease, for the water, and in the end you don't see any benefits." The low productivity of land also happens because of land degradation. For instance, people cultivate the same crops such as potatoes every year and fail to rotate them. Therefore, people go to the cities to find work. Environmental challenges and limited livelihood opportunities make living in rural areas difficult. In turn, this encourages many rural people to resort to migration.

## Migration as a Coping Strategy

More than 700,000 Kyrgyz citizens work abroad, most of whom do so in Russia (640,000), Kazakhstan (30,000), Turkey (30,000), and South Korea (15,000).<sup>12</sup> At the same time, official statistics on internal migration do not fully reflect the real situation as temporary labor migration is often left unrecorded.

<sup>8</sup> Emil Nasritdinov, Mehriqul Ablezova, Aigoul Abdoubaetova and Jypara Abakirova. *Environmental Migration: Case of Kyrgyzstan*. Regional Center for Migration and Refugees/Social Research Center/American University of Central Asia, 2010.

<sup>9</sup> Antoine Chandonnet, Zuura Mamadalieva, Lidiya Orolbaevs, Lira Sagynbekova, Uran Tursunaliyev and Damira Umetbaeva. *Environment, Climate Change and Migration in the Kyrgyz Republic*. IOM, 2016.

<sup>10</sup> Ibid.

<sup>11</sup> Ministry of Emergency Situation of the Kyrgyz Republic. *Monitoring, Prognozirovanie Opasnykh Protseessov i Yavlenii na Territorii Kyrgyzskoi Respubliki*. Bishkek, 2015.

<sup>12</sup> State Migration Service of the Kyrgyz Republic, "Otchet Gosudarstvennoi Sluzhby Migratsii pri Pravitel'stve Kyrgyzskoi Respubliki o Prodelannoi Rabote za I Kvartal 2019," accessed April 17, 2020. <http://ssm.gov.kg/>

Additionally, most of the experts who took part in the 'Environmental Change and Forced Migration' study emphasized that among the high-risk territories, the rate of out-migration is higher in economically-depressed or post-industrial small cities and in rural areas of Kyrgyzstan.<sup>13</sup> The majority of internal migrants are concentrated in provincial centers and in Bishkek.

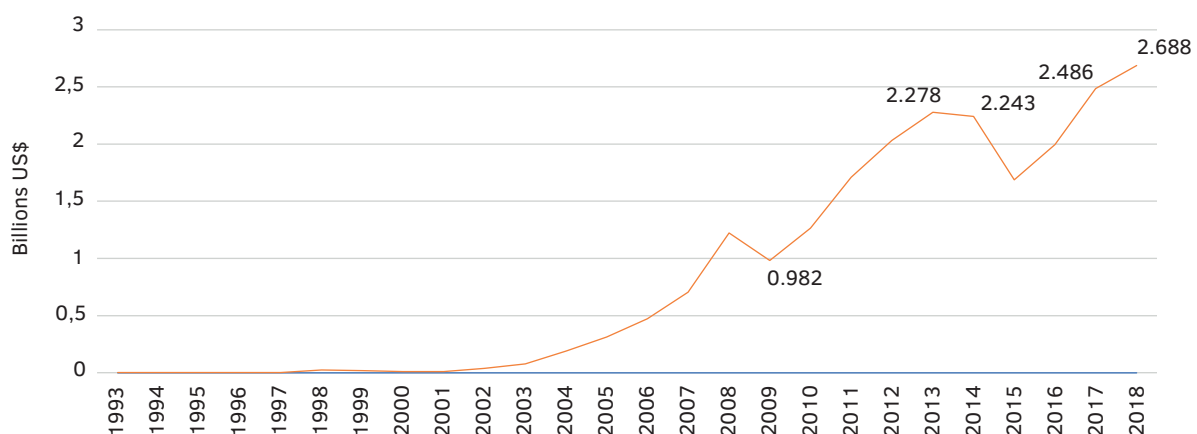
In order to respond to such aforementioned environmental and livelihood challenges, household members migrate to internal urban centers or abroad. Often the number of labor migrants significantly increases during bad years and lean seasons. The period from February to May is considered a lean season during which time many rural people struggle. Starting from March onward, able-bodied men often migrate from rural areas to cities or abroad in search for work, many of whom find jobs in construction.

When rural households experience crop failure due to drought or other environmental problems, some are not only deprived of their income but are also put at risk of not

repaying loans. During such shocks, household members often resort to labor migration as their only option. Furthermore, high interest rates on bank loans and informal loans, a lack of insurance mechanisms for agriculture and livestock, and insufficient social support from the government all make it difficult to respond to shocks and stressors. For example, when households in Batken experience a bad apricot season, labor migration is seen as an essential coping strategy. The results of the surveys show that households not only send their family members to cities in Kyrgyzstan or abroad but that there have been cases when the entire household migrates to a city because its members cannot sustain their livelihoods in the village any longer. It should also be mentioned that due to the outflow of working-age people from rural areas, there is a lack of labor force especially during the cultivation and harvesting seasons.

Remittances from international labor migrants play a significant role in supporting rural families left behind. For example, the amount of money sent to Kyrgyzstan reached 2.7 billion US dollars in 2018 (Figure 1).<sup>14</sup>

**Figure 1. Personal remittances received by Kyrgyzstan. World Bank (2020)**



Remittances sent to relatives are used for multiple purposes. Most often, the money goes towards everyday expenses, purchasing livestock and cars, repairing houses, cultivating

land, preparing children to go to school, repaying loans or for networking and social events such as weddings. Some households use migration as an adaptation strategy by investing remittances into businesses,

<sup>13</sup> Emil Nasritdinov, Mehriqul Ablezova, Aigoul Abdoubaetova and Jypara Abakirova. *Environmental Migration: Case of Kyrgyzstan*. Regional Center for Migration and Refugees/Social Research Center/American University of Central Asia, 2010.

<sup>14</sup> World Bank, "Personal Remittances, Received (Current US\$) - Kyrgyz Republic," accessed 17 April, 2020. <https://data.worldbank.org/indicator/BX.TRF.PWKR.CD.DT?locations=KG>

greenhouses, gaining new knowledge and skills, and other long-term perspectives. While remittances are sent primarily to support families left behind, especially during the cultivation and crop seasons, investment in making crops more resilient and in greenhouse and agricultural machinery can bring positive development effects to rural communities.

## Conclusion

Climate change induced and environmental challenges have direct and indirect impacts on migration dynamics in rural areas. During bad years when rural households experience severe environmental and livelihood shocks (e.g., droughts, landslides, abnormal rainfall, crop failure, low prices for livestock and agricultural outputs, and debts, etc.) labor migration serves as a coping strategy and is sometimes the only option available. As a result, during these times, the number of migrants increases significantly. Moreover, a lack of insurance mechanisms for livestock and agricultural produce, high interest rates on bank and informal loans, and a lack of support for rural entrepreneurs are further push factors for labor migration.

The migration strategy helps households to diversify their sources of income and to protect the country's economy from local shocks and stressors. As such, the remittances sent home by migrants play a crucial role in times of shocks, especially in helping to cover vital household expenses.

## Recommendations

- A better understanding of the inter-relationship between climate change, the environment, and migration is of paramount importance to the scientific and development community in Kyrgyzstan. Development of research projects on this nexus will help to raise awareness and knowledge on climate change impacts and environmental disasters.
- Climate change induced and environmental challenges of rural people should be carefully considered by the decisionmakers and policymakers at the regional and national levels and addressed accordingly with the participation of relevant government agencies.
- In order to reduce the impact of climate change on the income of rural households, more resilient crops and alternative livelihood opportunities which are less or nonvulnerable to climate induced and environmental changes should be introduced.
- Government bodies should work towards capacity building and the strengthening of technical capacities for environmental monitoring and risk warning and prevention.
- Insurance mechanisms and interest-free loans should be developed to help vulnerable groups of the rural population to overcome climate induced and environmental shocks.
- Remittances play a significant role in supporting families left behind. Conditions and mechanisms for the long-term investment of migrants' remittances and savings should be created and developed in rural areas. This can contribute to more resilient livelihoods, the development of remote agrarian regions, and the reduction of the outflow of people from rural areas.

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