

Preservation of agrobiodiversity and community adaptation to climate change in the mountains of Tajikistan

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Introduction

Globally changing climate and its unprecedented pace and impacts pose the hardest challenges to the humanity. The mountain communities of Central Asia are the first to be hard hit by the impact of global climate change due to their severe geographic and climatic living conditions, high dependence on natural resources for livelihood and lack of means and resources for adaptation. Fragility of mountain ecosystems coupled with remoteness and isolation of communities living in the mountains, prone to natural disasters, make them highly vulnerable to the consequences of global climate change: glaciers melting, decrease of biodiversity and water resources, pastures degradation and deforestation, which aggravate the socio-economic and environmental problems of the mountain communities and increase their poverty level.

Moreover, there is a high potential of risks of conflicts over competed natural resources conflicts at local and trans-boundary levels. Survival in harsh mountain environments forces the communities to cope and adapt to the rapidly occurring changes. A lot of traditional knowledge and time-tested practices have been scaled up, but nevertheless, natural coping capacities evolved over hundreds of years with local communities may be threatened with dynamics and pace of the of global climate change.

Agro biodiversity and climate change situation in Tajikistan

Tajikistan is one of the ancient states in Central Asia. The republic borders upon China (in the east, 430 km), Kyrgyzstan (in the north, 630 km), Uzbekistan (in the west, 910 km), and Afghanistan (in the south, 1,030 km). Population of this mountainous country has been engaging in farming and agricultural development since the beginning of time. Agriculture has always been a primary

source of life for the people of this agrarian country. Such environmental conditions of the country as the length of daylight hours, great temperature differences during a year and high concentration of ultraviolet radiation as well are significant factors for change in a number of morphological and genetic indicators of flora and fauna specimens of Tajikistan.

In this connection, Tajikistan is the origin land of such crops as wheat, onion, garlic, leguminous plants, melons, fruit and other crops (N.I.Vavilov). Ancestors of the modern inhabitants of the district had been the authors of many varieties since historic time. Many peoples of the world including population of India, China, Afghanistan, Iran, Central Asian and European countries use achievements of ancient Tajik people, varieties and hybrids of agricultural crops and breeds of animals raised by them up till now.

However, many native varieties and breeds of animals adapted for a long evolutionary period were lost due to delivery and introduction of other varieties, forms and breeds of animals in the 70-90s of the last century and taking outside the country. At present, the need for study and revival of native agro biodiversity, traditional knowledge and skills in the field of agriculture on the territory of Tajikistan, Afghanistan and other Central Asian countries arose again.

Tajikistan is a mountainous country with numerous settings especially vulnerable to climate hazards. These include: glacier-dependent river basins supplying hydro power and water resources for irrigation; fragile mountain ecosystems and isolated forest stands that protect watersheds, and mountainous and riverside terrain prone to land-slides and extremes in land degradation. Effective management of these eco-system-based risks to resource-dependent critical sectors will increase the demand for adaptation policy reform, capacity building, and incremental adaptation investments at the national level.

Our action for preservation of agro biodiversity and adaption of community to climate change in the future in mountain areas of Tajikistan

In duration of 2007-2011 specialists of our NGO "Cooperation for development" in 30 rural villages working with local community on strength of

knowledge farmers, women and young population on climate change and adaptation to it. Our specialists typing the books - "Climate change and adaptation to it", (January, 2010) and "Local agro biodiversity and traditional knowledge in agriculture need to be preserved» in English, Russian and Tajik languages (May, 2011) and distribute its to 15 rural communities populations (more than 1000 beneficiaries). Also we organize of seeds foundations and nurseries for multiplications of forest and fruit trees in 15 rural communities (places).

Besides by us it is spent works on training of rural schoolboys about change of a climate and its negative influence on biodiversity preservation on

places. For this purpose we choose 20 rural schools and in a school site at support of the schoolboys (on 20 pupils - senior pupils at each school of only 500 pupils) green corners, and also nurseries on reproduction of local grades of fruit and forest trees, which are steadier by a drought and high temperature. Schoolboys with are trained at skilled farmers - trainers of feature of a grafting of valuable grades and steady against climate change. Thus through conducting of more training course for rural farmers, women and youth and learn them about methods of practical application of traditional methods, we do improving of community adaptation capacity to change of a climate in the mountain conditions of Tajikistan.