



# TAJIKISTAN

Tajikistan is a landlocked country located in central Asia, covering an area of over 143 000 km<sup>2</sup> with 7 million inhabitants. Mountains occupy 93% and glaciers 6% of the territory. Hydropower provides 98% of the national energy with 70% of the population earning its living from agriculture.

Tajikistan is exposed to all types of natural disasters from earthquakes to frequent landslides and glacier lake outburst floods, and related-damage has increased 2-3 times. Every year 600 families are subjected to forced migration from the effects of natural disasters that make their land and villages inhabitable.

The number of days with extremely hot weather has doubled since 1940 and on average glaciers have retreated of one third while the drought index has increased with severe drought events occurring in 1971, 2000 and 2001<sup>1</sup>. A major cold wave affected Tajikistan in 2007, freezing rivers and interrupting hydropower production.

## CLIMATE CHANGE AND HEALTH

Climate change related health effects are expected from an increase in the frequency and intensity of extreme weather events, such as heat-waves and droughts and changes in hydrological cycles causing drought, mudflows, landslides, glacier lake outbreak floods, avalanches. Longer term consequences are expected to impact on the nutritional

status of the population from a reduction in agriculture and pasture productivity. Changes in biodiversity and ecosystems have a potential for infectious disease outbreaks and for changes in the ranges of water and foodborne diseases.

One of the main problems in Tajikistan is related to the precarious health care infrastructure; in particular in most health facilities, heating, water supply, sewage and sanitation, electricity and communication systems are unsatisfactory. Any extreme event can affect the health system even more. Most rural schools and medical institutions lack proper sanitation and water facilities.

## PROTECTING HEALTH FROM CLIMATE CHANGE IN TAJIKISTAN

To address and prevent potential health threats from climate change, the project *Protecting health from climate change in Tajikistan* undertakes an assessment of the health impact, vulnerability and adaptation to climate change, with a particular focus on the health system as a basis for the development of a national health adaptation strategy.

Capacity building activities, at national and subnational level, are carried out to help improve the early identification of potential infectious disease risks and outbreaks and contribute to improve disease surveillance systems.

1 Makhmalaliev et al. *The second national communication of the Republic of Tajikistan under the United Nations Framework Convention of Climate Change*. Dushanbe, State Agency for Hydrometeorology of the Committee for Environmental Protection, 2008 ([http://unfccc.int/essential\\_background/library/items/3599.php?such=j&symbol=TJK/COM/4%20E#beg](http://unfccc.int/essential_background/library/items/3599.php?such=j&symbol=TJK/COM/4%20E#beg), accessed 17 November 2009).



Health care infrastructures are being strengthened to avoid damage from extreme climate events.

Photo: WHO/S. Keshimova

Specific action aims at transferring cost-effective technologies to improve water and energy security for health care institutions.

Activities also include a contribution to WHO information platforms by sharing data, tools, results and lessons learnt.

This project fills an important gap in knowledge about the health effects of climate change and adaptation mechanisms. The first workshop on developing a climate change health protection strategy in Tajikistan gave direction to policy action and strengthened the responsibilities of decision-makers and key technical experts.

## SHOWING THE HEALTH EFFECTS OF CLIMATE CHANGE THROUGH DOCUMENTARY FILMS

The health effects of climate change capture more and more attention of scientists, the international community and the citizens in Tajikistan. This project aims at showing the effects of the changing climate in the country and raising the awareness especially of children and the young generation that risk to bear the biggest burden in the future.

A long and short version of a documentary film is planned to be produced and broadcasted through the national television Safina. Media article accompany the images with publication of written stories. The video is planned to be presented at the Fifth Ministerial Conference on Environment and Health in March 2010.

## MAKING HOSPITALS AND COMMUNITIES RESILIENT TO CLIMATE CHANGE: A TOOL FOR HEALTH ADAPTATION

Water safety in health care facilities is key for the safety of medical and support staff, patients and people who flock to hospitals under emergency situations i.e. from floods, droughts, cold waves. In the framework of this project, water safety plans for hospitals are developed, including:

- detailed mapping of the water and sanitation system
- identification of the hazards
- assessment of the risks
- risk management process and identification of control points

- advice on improvement of the operation
- maintenance of infrastructure for production and distribution.

Small scale water supply systems are the most predominant source of water, 55% of which resulting from untreated surface waters. Due to the lack of disinfection systems, a demonstration project on chlorination system is implemented using hypochlorite prepared in situ by electrolysis of common salts. The selection of the small scale system depends on the results of a questionnaire distributed to national authorities.