## The EUROPEAN UNION's

Thematic Programme for Environment and sustainable management of natural resources, including energy



Project: Poverty Alleviation by Mitigation of Integrated high mountain Risk

### "PAMIR"

## January (1) 2012

A monitoring mission to the PAMIR project in Gorno Badakshan Autonomous Oblast (GBAO) of Tajikistan was undertaken by ECORYS Research and Consulting Company between November 10<sup>th</sup> to November 22<sup>nd</sup> 2011. The main goal of the mission was to evaluate the project implementation process and its efficiency. The mission was accompanied by the project coordinator Ms. Gulnaz Jalilova and a country research team leader Mrs. Rukhshona Broimshoeva from Focus Humanitarian Assistance in Khorog. During the mission, several meetings have been held with involved local organizations: Jamoat, Pamir Botanical Institute and Regional Centre for Emergency Situations. Further, the mission was continued in Kupruki Safed Village of the Rushan District, and conducted the meeting with the PAMIR research team members and village leaders to get the ideas of the field conditions. The next day, the mission took place in the Archiv nursery demonstrative plot, Ishkashim with the project partners Leshoz, German Technical Cooperation (GIZ) and other involved local tenants in order to discuss about the project implementation and its challenges and possible outcomes.



**Representatives** from the PAMIR Project, implemented in the Kyrgyz Republic by the Kyrgyzstan Mountain Societies Development Support Programme (MSDSP KG) traveled to GBAO Tajikistan, to familiarize themselves with the PAMIR project achievements in Tajikistan. This visit took place on October 17-22, 2011 by two project staff: social mobilizer and senior geologist. The Kyrgyz team participated in the Hazard and and Social Vulnerability Risk Assessment (HSVRA) process in the targeted villages with the Tajik team members.

This exchange visit provided to the Kyrgyz team with lessons learned by the Tajik counterparts in establishing and functioning mechanism of the cooperation between countries, map developing, geological reconnaissance and the development of pro-active approaches to involve government officials and interested parties in implementing project.



# **Information bulletin #4**

*In November* 20 to December 19, 2011, Mr. Chiranjeewee Khadka, International expert, travelled to Tajikistan and Kyrgyzstan to conduct one project team leaders' meeting/workshop and several stakeholder meetings on developing the concept proposal and methodology for preparing national action plans (NAPs). The NAPs will be prepared based on the experiences of PAMIR project and on-going development in the field of Disaster Risk Reduction (DRR), Poverty Alleviation and Environmental Protection in Afghanistan, Kyrgyzstan and Tajikistan. During the team leader meeting, they set up several ideas for conducting the research for developing the national and local action plans by employing the top-down and bottom-up approach (including Delphi survey and Multiple Criteria Decision Making Analysis (MCDMA).



Further, in order discuss, share ideas of proposal of conducting the research study and to get the major concern in formulating the Delphi questionnaire, the team members conducted the face-to face meeting with several organizations and personnel and increased capacity for negotiating strategies on integration of three above mentioned dimensions. In this context, Mr. Khadka also explained how to develop the common understanding of the key concept and identify the key areas of sustainable livelihood, natural resource management and poverty alleviation.



Moreover, the participants also discussed about their role and involvement in developing the national action plans process and participation in national workshops which are going to be held in August-September 2012. Further, the discussion with the several policy makers and expert groups was to ensure for taking the ownership of PAMIR project results and identify the innovative approaches for sustainable livelihood and natural resource management by knowledge-sharing process.

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Information bulletin #4

Starting from September of 2011 Focus Tajikistan undertook the Hazard and Social Vulnerability Risk Assessment (HSVRA) of ten communities in Rushan district of Gorno Badakhshan Autonomous Oblast within the framework of "PAMIR" project. The purpose of the HSVRA is to assess the geological hazards and the socio-ecological vulnerabilities of communities, while recognizing and building on the indigenous knowledge and practices of the villagers related to natural hazards and disasters. The complete assessment process for each community takes from three to five days and is carried out in a participatory manner by actively engaging local men, women, youth, village leaders and local government officials throughout the process. The HSVRA is conducted by an integrated field team of senior geologist, junior geologist, community mobilizer, structural mitigation engineer and GIS specialist.

During the assessment process the senior and junior geologists are responsible for thoroughly assessing each community from geological and geo-morphological perspective, using worksheet and topographic maps, identifying all hazards and proposing potential evacuation routes and safe havens.



The community mobilizer conducts the social and ecological assessment of the community and with support from the GIS specialist, uses participatory appraisal (PRA) technique to conduct the community mapping processes. The social assessment builds upon existing knowledge and practices of villagers. This participatory mapping process enables villagers to discuss, describe and map out their villages and location of assets, as well as the hazards they face. The community map depicts vital community infrastructure, identifies the places of past disasters and current hazards, and suggests potential evacuation routes. In the process, community members are encouraged to share how they have acted during past disasters, their coping mechanisms, and the lessons drawn on how to be prepared for and respond to future disasters. The social assessment enables an analysis of villagers' knowledge, attitudes and practices towards natural hazards. The community mobilizer uses the community maps to conduct baseline survey and identifying and visiting vulnerable households. The data collected is later used to prepare for a follow-up workshop and training on community disaster awareness and preparedness.

The GIS specialist photographs and, using the GPS, gathers the location and attribute data of critical facilities and infrastructure, village boundaries and land use.

During HSVRA, the engineer is responsible for identifying potential structural mitigation projects in each community and undertaking relevant measurements. The date is used to design and develop detailed project specifications for each potential structural mitigation project. Mitigation projects are designed to protect households and important socio - economic infrastructure located in high risk zones, thus safe-guarding the long-term development of a community.



On the last day of the HSVRA process a meeting is hold with the village leadership and active members of the community. The HSVRA information is validated and tasks are assigned to fill in any gaps to finalize the Village Disaster Management Plan (VDMP) and the associated training. A ceremony is held to acknowledge the communities' assistance during the process and a letter of appreciation is presented to the village head on behalf of FOCUS and the assessment team.

#### Apprenticeship for government partners

Project PAMIR offers apprenticeships to build capacity in risk assessment, mapping and modelling of government partners responsible for risk management, such as, Tajik Main Geology under the Republic of Tajikistan and Committee of Emergency Situations and Civil Defence under the Republic of Tajikistan. From September to November 2011, FOCUS Tajikistan hosted two representatives from Tajik Main Geology for on-the-job training with project specialists in risk assessment, risk mapping and modelling. "The risk assessment and mapping was an effective process and is relevant to our work. I will share the learned skills with my colleagues back at work and implement in field works in other parts of Tajikisan" –said at the end of the apprenticeship the representative from Tajik Main Geology Department Zaripov Ahmadion.



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With one year of the project PAMIR completed, Focus, Afghanistan has been able to carry out field activities and produce Hazard and Social Vulnerability Assessment (HSVRA) reports for at least 10 villages in two districts of Badakhshan, Afghanistan. Field activities kicked off in early September and continued all the way to the end of November while the production of HSVRA reports and Village Disaster Management Plans were also accomplished in this quarter of the year.



Meanwhile, the detailed structural mitigation proposals for each of the assessed villages were also produced yet the most interesting part for the local beneficiaries remained to be the one-day Village Disaster Awareness and Preparedness workshops. In the workshops, geologists shared their findings about the villages and interpreted the Hazard and Risk Maps to the communities; Mitigation Engineer shared his proposals for structural mitigation of hazards in the communities.

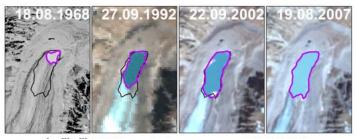


In addition, Evacuation Drills and formation of Evacuation teams in the communities added further interest to the participating members of the communities. On the district level, the activities were concluded with two well-attended District Seminars in each of the two target districts namely Ishkashim and Wakhan.



After the successful completion of the field work by the Applied Geology Institute (BOKU), post-processing of the data obtained is going on. The work focuses on:

- Multi-temporal mapping and analysis of high-mountain lakes. At the moment, a mapping campaign is performed in order to see the changes in lake size since the late 1960s (see Figure). The dataset will be analyzed in detail in order to better understand the dynamics of lake evolution and its role for present and emerging hazards.
- Geophysical survey of landslide bodies in Tusion (Shakhdara Valley, Tajikistan): the results of the geoseismic and the geoelectric surveys are analyzed with regard to the geological characteristics of the landslide bodies and the depths of the sliding surfaces. In addition, it is attempted to detect ongoing movements using remote sensing techniques (Differential Radar Interferometry DInSAR). The interpretation of surface topography regarding landslide features shall be facilitated by high-resolution digital elevation models which are derived by stereo matching of satellite imagery and photos taken from the helicopter.
- Modelling of a possible lake outburst flood in the headwaters of the Garm-chashma Valley (Tajikistan): Computer modelling techniques are used for improving the understanding of possible impacts of different scenarios of sudden drainage of a specific glacial lake. In particular, possible process chains caused by damming of the main river, as it had happened in 2008, will be taken into account. These analyses will help to assess the hazard the lake poses to the population of the Garm-chashma Valley.
- The situation at Lake Shiva (Afghanistan) is too complex to be treated completely within the PAMIR project. Only a preassessment based on field work and satellite imagery interpretation will be feasible. However, a project proposal for a closer analysis of the lake and the dam with regard to possible emerging hazards, but also to the potential for hydropower generation will be submitted to FOCUS.



0 20 500 m Lake extent Lake extent on August 19, 2007 Multiple, Jack Costs (1982) Lake (2007) Development of lake Varshedzdara between 1968 and 2007

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