



Compendium

Good Practices and Tools on Disaster Risk Reduction in Education in Central Asia

2009

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All photos used in this compendium were provided by the Knowledge Management Initiative (KMI) participants.

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ABBREVIATIONS AND ACRONYMS

ADRC	Asian Disaster Reduction Center
AED	Academy for Educational Development
CAIAG	Central Asian Institute of Applied Geoscience
CARESI	Central Asia Region Earthquake Safety Initiative
CEM	Center of Emergency Medicine
CoES	Committee of Emergency Situations
CoES/CD	Committee of Emergency Situations and Civil Defence
DIPECHO	Disaster Preparedness ECHO
DM	Disaster Management
DRMP	Disaster Risk Management Programme
DRR	Disaster Risk Reduction
ECHO	European Commission's Humanitarian Aid Department
ESS	Engineering-Seismometric Stations
GEF-SGP	Global Environment Facility – Small Grants Programme
GFZ	German Research Centre for Geosciences
GHI	GeoHazards International
GIS	Geographic Information System
HFA	Hyogo Framework for Action
JICA	Japan International Cooperation Agency
KCGIS	Kyrgyz Center of Geo-information Systems
KSUCTA	Kyrgyz State University of Construction, Transportation and Architecture
LDMC	Local Disaster Management Commission
MBAR	Mountain Badakhshan Autonomous Region
MES KR	Ministry of Emergency Situations of Kyrgyzstan
MoE	Ministry of Education
MoES	Ministry of Emergency Situations
NGO	Non-Governmental Organization
RCST	Red Crescent Society of Turkmenistan
RS	Remote Sensing
SDC	Swiss Agency for Development and Cooperation
SDI	Serial Digital Interface
SFL	Shelter for Life
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNIFEM	United Nations Development Fund for Women
UNISDR	United Nations International Strategy for Disaster Reduction
UN-SPIDER	United Nations Platform for Space-based Information for Disaster Management and Emergency Response
USA	United States of America
USAID	United States Agency for International Development

Introduction

Education has gained higher prominence as a vital cross-cutting factor in the promotion of disaster risk reduction (DRR) in recent years. This development is largely due to the success of the 2006-2007 world campaign “Disaster Risk Reduction Begins at School”. The world campaign has shown that knowledge and education greatly contribute to building safer communities and nations.

However, despite the progress made in achieving the goals of the Hyogo Framework for Action (HFA), there is still a need for the governments in the Central Asia region to more systematically address the issues of disaster risk reduction in the area of education. In particular, they need to deal with the challenges related to children’s preparedness to emergency situations and disasters caused by natural hazards. There is also a need to share relevant experiences, good practices and lessons learned among the partners at the national and regional level with an aim to strengthen knowledge management. This will help improve disaster preparedness within Central Asia.

UNISDR¹ and UNICEF² collaborate closely within their respective programmes on disaster risk reduction in education. This cooperation is manifested in the form of various educational activities and initiatives both in the formal and informal spheres of education and is being implemented at regional level in the Central Asian countries.

In the summer of 2009, UNISDR and UNICEF announced the call for submission of good practices and tools on DRR in education within the joint short-term Knowledge Management Initiative. This initiative was implemented within the framework of the DIPECHO V project with the financial support of ECHO³. The key idea of the initiative was that the collected materials on good practices, methodologies and tools on DRR in education would contribute to the wider dissemination and promotion of DRR efforts in the education sector.

Many partners acknowledge that there are numerous examples of good practices and tools on DRR in education available in Central Asia, but the exchange of such information has at best been sporadic and remained unnoticed. In view of this, the initiative focused mostly on collection, compilation and dissemination among the stakeholders of the existing good practices and tools on DRR in education. The collected materials, presented in a form of a Compendium, will hopefully prove to be useful for our partners’ interventions, and will serve as reference material for all DRR stakeholders both in the region and beyond.

The methodology of implementation of the Knowledge Management Initiative was as follows: In May 2009, UNISDR and UNICEF agreed on the implementation of the above-mentioned joint project. It was decided to implement the project in the form of a contest in which all stakeholders, be they organizations or individuals, who

1 www.unisdr.org

2 www.unicef.org

3 <http://ec.europa.eu/echo>

had a successful experience and relevant expertise in the sphere of DRR in primary, secondary or higher education could participate. A brief guideline was prepared indicating appropriate requirements and criteria for submission of materials for those who wished to take part in the contest. In July 2009, the announcement for submission of materials was disseminated in all Central Asian countries. Various means of communication were used for the wide dissemination of the information, including placement of the announcement on websites, including those of the United Nations and ministries of education etc., forwarding via e-mail and publication in national newspapers. The announcement indicated that relevant materials submitted by various organizations or individuals would be included in the Compendium, and the authors of the three most impressive submissions would be provided an opportunity to present their works at a high-level regional conference in December. The Review Group meeting on selection of the best materials took place in Tashkent in October 2009. The Review Group consisted of experts and specialists from different countries of Central Asia with a relevant background and wide professional experience related to DRR in education.

This Compendium represents the practical aspects and methodologies relating to the implementation of programmes and projects on DRR in education, examples of which may be replicated in other parts of the Central Asian region in the future.

Since this is our first experience of a joint UNISDR/UNICEF implementation of such an initiative on the collection of good practices and tools on DRR in education in Central Asia, any comments regarding this Compendium from our partners, specialists and experts in the field will be highly appreciated.

Story 1: Children in Emergency Situations



Implementing agency:

Ecological organization Little Earth, Republic of Tajikistan

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Contact person:

Mr. Timur Idrisov, Executive Director

Duration: Since 1999

Donors:

Focus Humanitarian Assistance, AED, ProVention Consortium

In 1999, the ecological organization Little Earth (formerly For Earth – a republic-wide NGO) implemented the educational programme “Children in Emergency Situations” with the aim of raising awareness among children and their parents of the reasons why disasters occur, the underlying conditions that cause them and their potential consequences. It is also aimed at increasing preparedness to improve capacities to cope with such events.

The programme targets children, teachers and school administrations.

The main objectives of the programme are:

- Development and implementation of educational programmes for school children (middle-school age) in the field of disasters caused by natural hazards (correct behaviour before, during and after disasters, and basic skills, etc.);
- Preparation of methodological materials on preparedness for disasters caused by natural hazards; translation and adaptation of existing methodological materials for teachers and the general population;
- Training of teachers and new trainers in the skills required to conduct training in preparedness for disasters caused by natural hazards;
- Attracting the attention of schools and other state institutions to the issues of preparedness for disasters caused by natural hazards and inclusion of part of the materials in school curricula.

Every year, dozens of people die, hundreds are wounded and thousands lose shelter in Tajikistan in emergency situations and disasters caused by natural hazards. Disasters destroy roads, power lines, buildings and other forms of infrastructure. Children are the most vulnerable to disasters caused by natural hazards. In the late 1990s, it was difficult to obtain any information in the country on preparedness for disasters caused by natural hazards and the minimizing of their impacts. This subject was not taught at schools or universities, literature was difficult to find and there were few opportunities for consultation.

Only in the last several years have preparedness for disasters caused by natural hazards and disaster risk reduction in general received special attention: the scale of projects has grown, and the coverage of regions has significantly increased along with the number of organizations involved in the work.

Little Earth was one of the first local organizations to begin developing educational programmes for school children and teachers in the field of preparedness for disasters caused by natural hazards. The training courses and seminars stood out due to their interactive methodology and approach that included the involvement of participants in the teaching process, making them interesting and accessible.

Within the programme, Little Earth implemented a number of small-scale projects over several years in Dushanbe, Khorog, Rushan and Tusiyo, and in the villages of the Bartang valley. The projects were supported by Focus Humanitarian Assistance, the Academy for Educational Development (AED) and the ProVention Consortium. During this time, Little Earth developed and adapted a number of brochures and manuals that are still used by various schools and organizations. Training courses in emergency situations reached about 100 teachers and youths, while the programmes of basic preparedness for disasters caused by natural hazards involved about 2,000 secondary school children.

Special attention was paid to cooperation with school administrations during implementation of the programme. Copies of all materials and publications were always provided to representatives of school administrations, and the training was discussed at meetings and consultations with the school administrations in advance.

The training modules and seminars were prepared with the participation of local specialists and staff of the Republic's Ministry for Emergency Situations. The training included theory, practical exercises, games and other methods that facilitated the effective achievement of results and the involvement of a large number of people.

Firstly, training was organized for teachers which focused on the most common disasters in Tajikistan: earthquakes, floods, debris flows, landslides, avalanches and fires. Thereafter, the teachers, with the help of the organization's staff, would organize seminars for the selected group of secondary-school children. The children, along with their parents and members of their families, were involved through special tasks and the preparation of family action plans for disaster situations. The specialists of the local bodies of the Ministry for Emergency Situations were involved in organizing training in the locations. The teachers who were involved in initial training used the distributed materials and information for extra-curricular lessons and for integration of the subject in lessons such as geography and ecology, etc.

An essential part of the Children in Emergency Situations programme was the provision of literature and other materials to teachers, children and other participants. This had been in short supply and was the reason why practical material on preparedness for disasters caused by natural hazards, and the translation and adaptation of existing materials for teachers and the general population, was developed.

Some of the publications prepared within the programme are based on the materials of the American Red Cross. Adaptation of these materials for local conditions required considerable work.

The other publications were prepared by the staff of local organizations independently. The main objective was preparation of brochures with information on disasters caused by natural hazards that would be accessible and comprehensible by the general population. Departure from complex scientific definitions and the use of a new approach to explain the material became key to the popularity of the publications.

Over the years, Little Earth has developed and adapted the following brochures and manuals within the Children in Emergency Situations programme:

- Manual for children *When nature strikes*
- Manual for teachers *Children in emergency situations*
- Painting book *What to do when the earth is shaking*
- Painting book *How to prepare for natural disasters*
- Painting book *After the fire*
- Brochure *Earthquakes*
- Brochure *Fire*
- Brochure *Debris flow and floods*
- Brochure *Landslides and avalanches*

The publications are still being used by various schools and organizations.

These brochures became so popular that they were later used by such organizations as the Youth Groups in Protection of the Environment, the Youth Ecological Center, Merlin, Shelter for Life (SFL), CARE International, ACTED, Focus Humanitarian Assistance, and UNISDR, etc. Even NGOs from other countries, including Kazakhstan and Kyrgyzstan, requested permission for use of the publications in their work. Most of the brochures were converted into digital format and are available on the Internet. Some brochures were translated into the Tajik language.

Although the total print run cannot be assessed, because of the large number of organizations that re-printed the publications, we are speaking of many thousands of copies.

We know that some teachers who received our training within this programme still use the materials and publications in their lessons on preparedness for disasters caused by natural hazards at their schools. This is demonstrated by the many responses from school administrations and participants of the courses, and through the trips undertaken with the purpose of monitoring. Implementation of the Children in Emergency Situations

programme facilitated the integration of the theme of preparedness for disasters into school curricula.

In 2004, following the work conducted at schools, the level of knowledge acquired and in recognition of the existing potential of the programme, interest in Children in Emergencies increased among other organizations. In particular, it attracted the interest of the newly-started Central Asia Region Earthquake Safety Initiative (CARESI). The organization's representative and the coordinator of Children in Emergency Situations took an active part in the creation of the publication *Preparedness of schools for emergency situations*. This, and a number of other publications prepared by the CARESI programme, were later translated into the Tajik language and were recommended by the Ministry of Emergency Situations as supplementary material for teaching disaster risk reduction at schools of the Republic.

The experience acquired through working within Children in Emergency Situations facilitated the generation of new ideas. In 2004, the ecological organization For Earth took the first steps in creating the Center for Preparedness for Natural Disasters with the support of the ProVention Consortium. Seminars and training courses were organized as part of the project, new publications were prepared, and the service was opened to provide consultation on issues of preparedness for emergency situations.

This small initiative later grew into a project on the creation of the Professional Center for Disaster Risk Reduction, which the Swiss Agency for Development and Cooperation began implementing in March 2006. The idea of establishing the centre belonged to For Earth. A large volume of material collected through the years of work, including publications and training modules, was handed over to the centre's library and archive to allow access for the general public.

In every society children are the hope for the future. Schools, through their direct connection to children, are the comprehensive instruments of education, the cultivation of cultural values and the transfer of traditional knowledge to the younger generations. Protection of our children from disasters caused by natural hazards demands action in two priority areas: education in the field of reduction of risk of disasters caused by natural hazards, and the safety of schools. For many years, Little Earth's Children in Emergency Situations programme has pursued the implementation of these two priorities.

Story 2: Using education to reduce seismic risk for school children



Implementing agency:

NGO Man and the Elements, Republic of Kazakhstan

Contact person:

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Duration:

2001-2009

After the catastrophic Spitak earthquake of 8 December 1998, which was a tragedy for the Armenian people, and because of the increased seismic activity in Kazakhstan in the 1990s and the earthquake in Turkey in 1999, a group of Kazakh scientists decided to unite in their efforts on risk reduction in seismic areas. Special attention was paid to education and awareness-raising activities on seismic safety for children, who are the most vulnerable part of the population. With this aim the NGO Man and the Elements was established in Almaty in 1999. It comprised specialists in the field of seismology, geography and geophysics.

Our work began with the development of educational courses on the basics of seismic safety for school children of junior and secondary grades. These courses have been included in the curriculum of the Lyceum of Space Nature Study in Almaty as extra classes since 2000. During earthquakes the school children put the obtained skills into practice.

In 2003, the US-based NGO GeoHazards International (GHI) selected Man and the Elements as the lead implementer in Kazakhstan of the project "ABC. Basics of natural disasters" for the Central Asia region. The project continued for three years with the financial support of the United States Agency for International Development (USAID). Within the project the association carried out extensive work in adaptation and development of various materials that were later used in many seminars and training sessions, including those for school teachers. The project included practically every school in the city; the work included presentations and the publication of brochures, posters, manuals, pocket books and CDs. All these materials were donated to the city's schools.

Confidence in the importance of our social activities was promoted when, on 22 January 2005 at the World Conference on Disaster Risk Reduction (in Kobe, Japan), the Hyogo Declaration was adopted. This declaration emphasized the need to raise the culture of disaster prevention at all levels, from the individual to the global community.

In 2005-2007 the Man and the Elements team was one of the implementers of the United Nations Development Programme (UNDP) Kazakhstan project "Local risk management in earthquake zones of Kazakhstan". Within this project the members of the association took part in the development of textbooks for senior and middle grades of

secondary schools; prepared the sections on emergency situations that were later included in the literature recommended for universities; carried out training in children's summer camps; and designed a poster and the pocketbooks "Earthquake. Five steps for reducing risk" for elementary schools, and "For middle-grade school children – about earthquakes". Besides this, they organized the forum-theatre "Are you ready for an earthquake?" for school children of the Almaty region.

The awareness-raising activities implemented by Man and the Elements are:

- Development of training programmes on "Seismology and seismic safety basics" for school children.
- Development and publishing of the educational material Seismology and seismic safety basics (author A. Nurmagambetov).
- Development of the pocket-books Earthquake. Five steps towards risk reduction for junior-school children.
- Development of the pocket-books What we should know about earthquakes for secondary-school children.
- Development of the computer presentation for conducting training "How to behave during an earthquake? What can be done before an earthquake?" for junior-school children.
- Development of the computer presentation for conducting training "Seismic risk reduction. Basics for secondary-school children".
- Conducting of lessons in school №48 in Almaty on the special course "Seismology and seismic safety basics".
- Conducting of training on seismic safety in schools and summer camps with use of the above-mentioned materials.

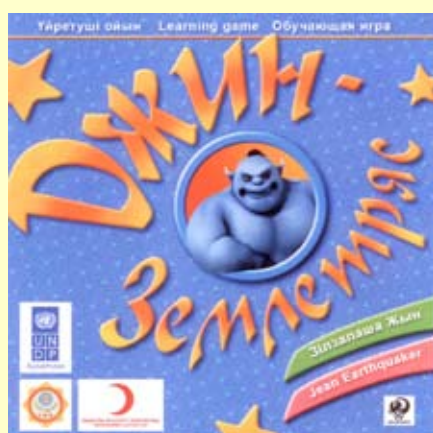
At present, the association participates in the UNICEF project "Support to disaster risk reduction among vulnerable groups of population of Kazakhstan"

Working on international projects enhanced our experience with new methodologies for training, the preparation of materials and communication with the population. Moreover, we found new friends and supporters. As a result of our activities on seismic risk reduction in education, many Almaty school children now have a general idea of the nature of earthquakes and their consequences, and can be prepared for them as well as know how to behave during and after their occurrence. Training can facilitate an adequate response to earthquakes, promoting risk reduction and the saving of life. What could be more important?

Nevertheless, there are some difficulties that Man and the Elements cannot overcome without the involvement of government authorities. The key problem is the lack of systematic training on the subject in schools and to solve it, given that over 6 million people live in seismic areas and 27 cities and towns and over 400 settlements are located there, will require the support of the Ministry of Education and Science of the Republic of Kazakhstan.

Partner organizations are GeoHazards International (US), UNDP Kazakhstan, UNISDR, UNICEF, and the Red Crescent Society of Kazakhstan.

Story 3: Animated film and computer game on rules of behaviour during earthquakes



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It is recognized that children are one of most vulnerable groups of society. This is especially relevant for those who are at school at the time of a disaster. In view of this, and in order to protect children in disasters caused by natural hazards, priority should be given to educating children in disaster risk.

The positive reception at pilot schools of the animated cartoon and the educational computer game developed within the project demonstrates the genuine interest of schoolchildren and staff in this kind of educational material. The development and wide-scale introduction of such new attractive teaching instruments for the transfer of appropriate knowledge and skills in disaster risk reduction and preparedness promotes awareness and the better understanding of the environment in which the children and their families live and work. Equipping the children with a better knowledge of the threats related to natural hazards gives them a more important role in the protection of communities and the saving of lives during crises.

The 12-minute children's animated film on the rules of behaviour in earthquakes is produced in the Russian, Kazakh and English languages in the form of a 'kidvid'. The speakers are puppet characters narrating in the style of a game about how to prepare for earthquakes and how to behave during and after them. At the close the speakers discuss the plot, repeat the key points and make conclusions. The computer

game is developed in the form of computer animation with 3D graphics and provides the opportunity to select a language (Russian, Kazakh or English). It consists of three consecutive levels.

The animation and computer game are oriented at children of pre-school and junior school age. The main idea is to explain and develop skills on earthquake preparedness as well as rules of behaviour during and after an earthquake. The following key points are specified in the educational materials:

- preparedness for earthquakes;
- strengthening of safety of apartments and residential buildings;
- rules of behaviour and order of actions during and after an earthquake.

The animation and computer game were developed within the framework of the UNDP Kazakhstan Project on "Local risk management in earthquake zones of Kazakhstan".

Presentation of these materials in pilot schools demonstrated the real interest of school children and teaching staff. Practical training was conducted in summer camps, orphanages and other institutions. Children greatly enjoyed and learned much from the animation and were excited to play the computer game "Jean the earthquaker".

These two materials were also used in 2009 in the UNICEF project "Support to disaster risk reduction among vulnerable groups of population in Kazakhstan" (DIPECHO V) as additional demonstration materials for junior-school children of general schools.

Partners of the project implementation were: UNICEF, the United Nations Development Fund for Women (UNIFEM), UNISDR, the Global Environment Facility – Small Grants Programme (GEF-SGP) and the Asian Disaster Reduction Center (ADRC).

Story 4: Adaptation, introduction and development of DRR educational materials



Implementing agency:

Tashkent social-ecological organization HAYOT

Contact person:

Mr. Khusan Tursunov, Director
khusant@gmail.com

Until recently, rescue services in most countries of the world would act retroactively, watching and waiting for a disaster before rendering assistance when one occurred. However, the experience of leading countries such as the United States of America (USA) and Japan, where major disasters caused by natural hazards are relatively frequent, shows the high efficiency of preventive measures taken before disasters strike that reduce the risks associated with catastrophes. Nevertheless, despite the evidence strong arguments are needed to persuade people of the necessity of preparing for disasters in advance, including through the provision of accessible teaching and practical materials.

One of the pioneers in the creation of such materials is the international NGO GeoHazards International (GHI). In 2002-2004 GHI implemented the project "Central Asia Regional Earthquake Risk Reduction Initiative (CARESI)". The project covered the cities of Tashkent, Dushanbe and Almaty. GHI cooperated with local NGOs in implementing the project, including the Tashkent socio-economic association HAYOT. The main accomplishment of the CARESI project was the training and preparation of instructors in each country through the programmes "ABC of preparedness for natural disasters" and "Training of groups of voluntary community rescuers".

The HAYOT experts went on to train hundreds of instructors from among school teachers and administrators, hospital staff and members of the mahalla committees of Tashkent. Ten short informational films "Five minutes for life" prepared as part of the

initiative and with the participation of HAYOT experts are widely used in the countries of Central Asia. These films deal with the following topics:

- Seismic safety initiative in Central Asia.
- Preparing family members for emergency situations.
- Fire safety.
- Preparation of schools for emergency situations.
- Preparation of medical institutions for emergency situations.
- Logistical support of buildings for promotion of their seismic resilience.
- Psychological preparedness for emergency situations.
- Non-structural risk reduction.
- First aid during emergency situations.
- Earthquake engineering with use of clay materials.

The Ministry of Emergency Situations (MoES) of the Republic of Uzbekistan recommended these films as teaching aids, distributing over 5,000 copies all over the republic. The films have also been disseminated in Tajikistan, Kazakhstan and Kyrgyzstan, are presently being shown on television in various countries, and are being used by specialists in disaster risk reduction in Nepal, India, Indonesia, Fiji and other countries.

HAYOT experts have implemented regular activities to develop and improve disaster risk reduction and disaster preparedness materials.

For many years HAYOT has successfully cooperated with many ministries and international organizations in the field of disaster risk reduction. HAYOT expert Mr. Kh. Tursunov was head of the working group of the MoES and UNICEF joint project within the DIPECHO IV programme, conducting trainings.

Positive results were achieved due to the experts' significant experience along with the availability of unique educational materials. In particular, 72 trainers were trained for six project areas with the teachers of senior staff and population training centres under the MoES receiving up-to-date knowledge and multimedia presentation materials.

Within the framework of the CARESI project, work has been conducted on the creation of unified response plans for communities and educational institutions (kindergartens and schools) and medical institutions (rural medical stations, family polyclinics and hospitals). About 300 leaders at district and oblast level have been trained within the framework of the project, under the "ABC of preparedness for natural disasters" programme. Furthermore, a great deal of work has been implemented with medical institutions. Over 300 representatives of rural medical stations, hospitals and polyclinics have received trainer certificates on disaster preparedness and modern educational materials, as well as participating in dry-run exercises to mitigate the consequences of earthquakes. The obtained knowledge was further transferred to other employees of these institutions.

Over 140 heads of schools and mahallas (local community groups) in the project areas have been trained on the ABC of preparedness for natural disasters and the programme to train groups of voluntary community rescuers. HAYOT experts Mr. Kh. Tursunov and Mr. O.Yuldashev developed the manual *ABC of preparedness for natural disasters*, including an interactive methodology for training school children and class dictations. Four original posters on earthquake preparedness were prepared, with the total circulation reaching over 15,000 copies.

In all, over 100,000 families within the project areas were involved in the training process on emergency preparedness with the help of trained school children, special thematic dictations and modified family plans (of which there were 120,000 copies).

HAYOT experts Mr. Kh. Tursunov, Ms. Sh. Tursunova and Ms. G. Ahmedova actively participated in the DIPECHO World Vision International project on "Disaster risk reduction in the city of Tashkent", training over 185 residents of 11 mahallas in the city under the adapted and enhanced programme "Training of groups of voluntary community rescuers". Scenarios were developed and simulations conducted for voluntary rescuers, and an educational video was prepared for mahalla residents. Foreign specialists who assessed the project highly evaluated the knowledge and skills of the trained voluntary rescuers.

HAYOT, in cooperation with the Life safety department of the Tashkent State Technical University, organized the training centre on disaster preparedness under the "ABC of preparedness for natural disasters" programme. During 2007-2008 the administrations and teachers on "life safety" of over 60 leading universities and about 100 colleges and academic lyceums of Uzbekistan received training through the centre.

In 2007-2008, HAYOT implemented the project "Training of groups of voluntary community rescuers" within the framework of DIPECHO IV and in cooperation with the Tashkent State Technical University under the financial support of UNISDR. The project goal was to include a module on the training of voluntary community rescuers into university curricula.

Mr. Kh. Tursunov, in cooperation with Ms. G. Ahmedova, designed the modules and held training sessions for more than 50 representatives of universities and other stakeholders. The authors prepared two methodology manuals for teachers and two films: "Training of voluntary community rescuers" and "First aid treatment at the accident site". The results of the project were presented to the Ministry of Higher and Special Education, and the educational modules were included in the curricula of the country's universities.

In April 2009, with the support of UNISDR, Mr. Kh. Tursunov and Ms. G. Ahmedova trained over 60 teachers from the life safety departments of universities in Dushanbe and Almaty, and MoES staff in these cities. Work on the inclusion of these modules in university curricula is on-going.

Also in 2009, as part of the project "Reduction of vulnerability of school children to earthquakes" implemented by the Center for Regional Development, Mr. Kh. Tursunov and Mr. B. Nurtaev prepared and published a training manual on preparedness of students for emergency situations (earthquakes), along with a set of posters. In the same year, within the InWent project "Trans-boundary disaster risk reduction for Central Asia", Mr. Kh. Tursunov developed multimedia training materials for preparing the infrastructure

of large cities to disasters. These materials were highly evaluated by regional experts and are now being disseminated in the countries of the region.

Through its various activities, HAYOT has accumulated valuable experience on the preparation of modern methodology manuals, educational films and animated clips, as well as the conducting of a range of trainings. This experience is disseminated not only in Uzbekistan but also in other Central Asian countries.

Tashkent social-ecological organization HAYOT is open for cooperation with all stakeholders in the conducting of educational trainings and the development of their educational and methodological resources.

Story 5: Seismic risk management study in Almaty



Implementing agency:

NGO Man and the Elements, Republic of Kazakhstan

Contact person:

Ms. Svetlana Tuleeva, Director, NGO Man and the Elements

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Budget of the project

Budget of the project for supporting the work with schools was US\$ 86,000. Source of funding: Japan International Cooperation Agency (JICA).

Five meetings were held in every school, with the chosen class. The meetings were not just the lessons in preparedness for emergency situations. The schoolchildren would be divided in groups and survey the area around the school, determine the risks and resources, enter the findings in their maps. Before the survey of the area, the schoolchildren were explained why a drugstore should be counted as a resource and a gas filling station as a risk, then schoolchildren enthusiastically would make the estimation of the objects in their itinerary. The schoolchildren would discuss in their groups for example the presence of a transformer in the courtyard of a residential house: some would consider it a risk, for it could cause a fire, while the others argued that in case of power lines failure the specialists could provide supply of electricity to a temporary camp for population after an emergency situation. The schoolchildren were deeply involved in the process. The senior members of the groups had to remind of the time limits for the work. Upon return to the school the groups would enter the information obtained by them enroute in a large scale map. Before the next meeting the specially invited topographer would enter the data collected by all groups in the general map, marking the risks with red and the resources with green color. In activating the map the photographs would show up made by the schoolchildren enroute during their work.

At the next meeting each group made a presentation of their respective itineraries with the use of the map prepared by the topographer. After that the schoolchildren discussed the strong and weak features of the area of the school in case of an emergency.

The schoolchildren never did such work before. They liked the whole process of assessment of risks and resources. They stated that now when walking the streets they often realize that they note the risks and resources around them. Many of them told their families about the work, and shared their new skills with their friends and acquaintances. When the schoolchildren were asked to estimate the results of the work

they were unanimous that this experience was absolutely new for them, and undoubtedly very useful and necessary to the population of the areas exposed to hazards.

By the next meeting, the schoolchildren were offered maps with possible impact and destruction caused by disasters in the districts of the city. The maps were not made up but were compiled on the basis of the strongest earthquakes that took place near the city. The scientists calculated the behavior of the building in case the epicenter is in the same place as the actual earthquakes of the past. The possible destruction was indicated in the transparent plates and small scale maps in color. The schoolchildren were again divided in groups and their task was to find their area in the map, then transfer the color scheme of the possible destruction to the map of the district. Depending on the color the schoolchildren would assign the index for possible damage to multi-storied apartment houses and neighborhoods, breakages of water and gas supply networks, destruction of bridges, etc.

At consecutive meetings the schoolchildren studied the situation of evacuation from their homes if the emergency situation happened when they are at home and not at school. The schoolchildren used the proposed presentation to study their behavior by minutes in the situation of an earthquake. They used maps of their districts to determine the nearest evacuation points, defined by the Department of Emergency Situations, the location of medical service, points for population left without shelter, and the shortest and safest routes to those places.

The project culminated in a large scale exercise with participation of all stakeholders with active participation of schoolchildren: the schoolchildren extinguished fires, learned to put up tents, provide first aid, make stretchers of available materials, find safe exits from debris and at fires. The schoolchildren liked this method of teaching, they actively participated in all proposed situations, and often found unusual and efficient solutions.

The schoolchildren independently determined the strong and weak features of their districts in emergency situations. They shared the available information with the others. The process of work made them start thinking of their safety and the ways of improving it. After the evaluation of safety of their districts the schoolchildren continued the work by themselves while on the way.

The weak point of the project was the limited coverage of schools and classes. Such activities should involve all schoolchildren. The junior grade schoolchildren, if properly explained their task, will easily determine the risks and resources, as well as the middle grades.

There were no difficulties in involving schoolchildren in the project, because schoolchildren always participate with high enthusiasm in such activities; the school administration is interested in improving the knowledge of the schoolchildren in behavior in emergency situations. Successful replication of the experience would require carrying out the work in all schools of the city and in all areas of the republic with high seismic hazard.

They liked working with real maps of their districts; some asked permission to take maps home for better explaining their families what they learned. Participation of schoolchildren in real exercises with the emergency services of the city also made deep impression. Extinguishing fire with a real extinguisher, quickly and correctly putting up a tent, providing first aid, and eating porridge with real soldiers – that is all unforgettable

for schoolchildren! That is why we consider this experience with VSA a success. We wish that many other schoolchildren and the entire population had the possibility of obtaining such experience.

Story 6: Earthquake Safety Initiative Programme


Implementing agency:

Focus Humanitarian Assistance in Tajikistan

Contact person:

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Duration: 2002 – 2010

Donors:

USAID – 2002–2005: US\$ 1 million (for the Central Asia-wide programme in Tajikistan, Uzbekistan and Kazakhstan)

SDC – 2005–2010: US\$ 309,000 (for Tajikistan)

FOCUS – 2002–2010: US\$ 189,000 (for Tajikistan)

Tajikistan is a country that is prone to earthquakes and home to some of the poorest communities in Central Asia. Given the high risk of earthquakes faced by communities in Tajikistan, since 2002 – through financial support from USAID (2002–2005) and the Swiss Agency for Development and Cooperation (2005–present) – FOCUS has partnered with GeoHazards International and the Government of Tajikistan to implement an earthquake safety programme in the country.

The Earthquake Safety Initiative Programme seeks to raise awareness, and foster preparedness and mitigation, of the risk of earthquakes in Tajikistan through the implementation of training in schools together with the dissemination of materials from the Central Asia Region Earthquake Safety Initiative, developed by GeoHazards International. The CARESI materials include books, videos, posters, models and handouts that have been developed for school administrators, school children and families and have been customized for the region. The programme has targeted urban areas (Dushanbe, Garm, Khorog, Khujand, Kurgantube and Kulyob) of Tajikistan, as these are at high risk of experiencing earthquakes. The CARESI materials are tools that teach stakeholders simple ways of reducing risk through structural mitigation as well as cost-efficient non-structural measures. These materials are developed, reviewed and customized by a regional workgroup of experts and scientists to address the specific needs of stakeholders.

The methodology of earthquake risk reduction education dissemination has been critical to the success of the Earthquake Safety Initiative Programme. The methodology combines the use of high-quality CARESI materials; professionally-developed trainers,

strong partnerships with the Government of Tajikistan and a supporting mass media awareness campaign. The programme uses the “cascading” model of information dissemination in which lead instructors train local instructors, who reach the local population directly in schools.

FOCUS partners with the Tajik Ministry of Education (MoE) and the Committee of Emergency Situations (CoES) to build the capacity of the Government staff to conduct earthquake risk awareness and preparedness trainings to school children and teachers in Tajikistan. The Earthquake Safety Initiative Programme trainings have been accepted by the Ministry of Education. Currently, FOCUS is working with the Ministry of Education to integrate training into the permanent school of civil defence curriculum. FOCUS is also working with the CoES to integrate the training into the Committee’s permanent government institution training programme.

In addition to the trainings and dissemination of CARESI materials, the programme has conducted mass media awareness campaigns to broadcast earthquake safety education to the general public through TV, radio and newspapers.

By 2010, FOCUS plans to share an Earthquake Safety Toolkit with its government and non-government partner agencies. The toolkit includes CARESI materials and supporting documents to help partners to continue the implementation of training and earthquake safety activities in other regions.

The following major results have been achieved since 2002 throughout Tajikistan as part of this programme:

- More than 100 trainings have been conducted on earthquake risk preparedness and mitigation.
- More than 20,000 school children, teachers and other individuals have been trained and received education materials on earthquake risk preparedness and mitigation.
- More than 1,000 developers have attended orientation workshops in order to conduct trainings on earthquake risk preparedness and mitigation.
- The CoES is preparing to integrate CARESI trainings into its on-going training programme.
- The Earthquake Safety Toolkit has been designed and will be shared with partners to adapt in other regions.

The Earthquake Safety Initiative Programme is considered to be a good practice because it:

- Takes an innovative approach combining multiple platforms (trainings, media,

material distribution and government partners) to spread the knowledge of earthquake safety in Tajikistan.

- Builds the capacity of government partners for longer-term sustainability of these activities (integration of the training programme into the school curriculum and government training programmes)
- Directly seeks to address the needs of urban school-based disaster risk reduction and disaster preparedness.
- Promotes the replication of other earthquake safety initiatives through building the capacity of government and non-government partners, sharing CARESI materials and the professional development of trainers.

Programme target group: Inhabitants of urban centres in Tajikistan and trainers from the Government of Tajikistan's Ministries of Education and Health and Committee of Emergency Situations.

Story 7: Introducing seismic engineering disciplines and increasing disaster preparedness at KSUCTA



Implementing agency:

Kyrgyz State University of Construction, Transport and Architecture (KSUCTA)

Contact person:

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Duration:

since 2008

This project has involved the creation of a department at the Kyrgyz State University of Construction, Transport and Architecture⁴ (KSUCTA) specialising in the field of seismic construction. The Design, Erection of Buildings and Earthquake Engineering department has been established as part of the United Nations project "Multiple approaches to the implementation of the Hyogo Framework for Action in Central Asia", with active KSUCTA participation. It is already the country's leading university department engaged in educational and research activities in seismic construction and disaster risk reduction.

At KSUCTA, the following conferences and workshops have been held in cooperation with the UNISDR Central Asian representative office:

- National seminar on methods of teaching the "Strategy of safe construction for disaster risk reduction in Central Asia" – organized on 20 December 2007 by KSUCTA;
- National seminar on methods of teaching the "Strategy of safe construction for disaster risk reduction" – organized on 27 May 2008 by KSUCTA;
- Regional conference on "Maintenance of seismic stability of buildings and the structures built with local materials in Central Asia" within the UNISDR project "Multistakeholder approach to the implementation of the Hyogo Framework for Action in Central Asia" – held on 22-23 May 2008 in Bishkek, Kyrgyzstan;
- Series of trainings "Geo-information systems for management of emergency situations", carried out by KSUCTA lecturers in Bishkek, Kyrgyzstan; Dushanbe, Tajikistan; and Tashkent, Uzbekistan in June-July 2009;
- Third Central-Asian conference "Geo-information systems in management of environment and emergency situations in Central Asia" – held on 27-28

⁴ KGUSTA was named after N. Isanov

August 2009 at KSUCTA, Bishkek;

- Meeting of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) experts from the countries of Central Asia – held on 26 August 2009 at KSUCTA, Bishkek, etc.

The Design, Erection of Buildings and Earthquake Engineering department is involved in the implementation of academic professional training programmes for holders of diplomas, bachelor degrees, master degrees and for experts in the field. Programmes include: "Industrial and civil construction", "Construction in mountain areas", "City construction and the economy", "Construction design", "Hydraulic engineering construction", and "Transport construction".

To ensure the further enhancement of teaching standards for highly-qualified experts, senior lecturer Mr. M.P. Kamchybekov, head of the department of Engineering Seismology and Seismic Micro-zoning of the Republic of Kyrgyzstan's Institute of Seismology; and senior lecturer Mr. U.T. Begaliev, head of the department of Seismic Construction of the Kyrgyz Science-and-Research Institute of Seismic Construction of KyrgyzNIIPSS, were involved in the training activities.

The Design, Erection of Buildings and Earthquake Engineering department has actively participated in many international projects, including that of the UNISDR to improve preparedness for disasters caused by natural hazards and DRR. Together with other KSUCTA departments, the department is engaged in the realization of national projects in the field of seismic construction and increasing preparedness for disasters caused by natural hazards.

A training course on "Innovations in the field of construction", developed for experts in seismic construction, was held between 15-26 December 2008 at the KSUCTA engineering-pedagogical training centre. The course programme was developed based on the recommendations of the UNISDR project "Multistakeholder approach to the implementation of the Hyogo Framework for Action in Central Asia". The course participants, who were given access to modern technologies, achievements and knowledge in DRR, noted the need to organize such courses on a regular basis. Indeed the department, which is continuously improving the content of the course, is planning to carry out professional skill-improvement courses for experts in different areas on a regular basis.

At present the department is experimenting with the use of a seismic platform to define the dynamic oscillation parameters of small buildings built of clay materials with active seismic protection.

Work on the safe construction strategy for students of technical universities was conducted with the support and participation of UNISDR within the project "Multistakeholder approach to the implementation of the Hyogo Framework for Action in Central Asia", and with the help of other partners of the project, including KazGaSA, the Tajik Technical University and Institute of Seismology of Tajikistan, Joint-stock company UzLITTI and the Institute of Seismology of Uzbekistan, etc.

With the assistance of UNISDR, the development of new programmes on seismic construction and DRR with due regard for local and regional experience has now begun.

This has facilitated the application of modern achievements in these areas, providing opportunities to benefit from the experience of other countries and international projects, and has included the involvement of skilled and highly-qualified experts in the development of new programmes and modern teaching methods.

Once an appropriate methodology had been developed for the teaching of safe construction strategy for students of technical universities, national seminars on it were held. Following preparation and discussion of the new standard curriculum developed within the project at the regional conference "Provision of seismic stability of buildings and the structures built with the use of local materials in Central Asia", a national seminar on teaching methods for the "Strategy of safe construction for disaster risk reduction" was organized by KSUCTA in May 2008 for teachers and scientists of Kyrgyz universities and research institutions.

The curricula of new disciplines have been developed taking into account recommendations and the international methodology on teaching safe construction strategy. Teaching is conducted by highly-qualified lecturers who have experience and international educations. The classes are conducted using KSUCTA resources, with specialized computer classes and a variety of modern equipment. For practical trainings, the specialized seismic construction laboratory, which includes a seismic platform and seismometric devices, is used, along with engineering-seismometric stations in Bishkek, and specialized laboratories and construction sites of the construction industry in Kyrgyzstan.

Some of the considerable achievements of the project include the introduction of new disciplines in the educational process, and improvements in the professional skills of lecturers, designers and employees of official architecture and construction bodies. Work continues to develop modern educational standards in the field of higher professional engineering, with a considerable volume of new disciplines being introduced including seismic construction and DRR.

University-educated people from a variety of fields are now receiving professional training to a high standard in seismic construction and DRR. The KSUCTA administration has made considerable advances, to the point where it is now working according to internationally-accepted training methodologies in this area.

Story 8: DRR through creation of the Information Platform Project


Implementing agency:

NGO Tajik Development Gateway

Contact person:

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Duration:

1 October 2007 – 31 December 2008

Donors: Grant from The ProVention Consortium for a total of US\$4,997

With a territory which is 92 per cent covered in mountains and almost 6 per cent covered in glaciers and snow fields, the occurrence of disasters caused by natural hazards is a typical issue in Tajikistan. The country's 9,139 glaciers contain 559 cubic kilometres of ice, and the spring and summer ice melt is always characterized by debris flows, landslides, rock falls and avalanches; in winter there are snow avalanches. The location of Tajikistan in a seismic zone is another important factor increasing the risk of natural disasters. Human activity is a further factor; due to a lack of electricity, human activity is causing irreparable damage to the Tajikistan environment.

A number of meetings were held to discuss the main objectives of the project. The objectives were:

- Dissemination of information among the population on possible emergencies caused by natural calamities typical for their areas of residence.
- Geological assessment of the changing situation by local hazards for each settlement on which information was collected and entered in the database in 2000–2001. The database is maintained by the information section of Disaster Management (DM).
- Collection of statistical information by social characteristics of villages, by schools and medical facilities.
- Updating of information at DM.
- Training of DM staff who work with the database.

Activities for the preparation and implementation of the project were carried out with the active participation of the partner Usoty department of the Committee for Emergency Situations and Civil Defense, under the Government of the Republic of Tajikistan.

Villages were selected as pilot areas and the settlements in those areas that

administratively belong to the Rushan and Darvoz districts of Mountain Badakhshan Autonomous Region (MBAR) and the Shurobod district of the Khatlon region in Bartang and Panj river valleys.

For achieving the planned results:

1. Types of natural hazards typical for Tajikistan were analyzed.
2. A methodology guide was compiled representing:
 - o All types of hazards and their descriptions;
 - o Measures that can be taken to prevent disasters;
 - o Rules of conduct in emergencies;
 - o Rules of conduct after emergencies.

Altogether 120 booklets were prepared in the Tajik language and 10 in Russian. The booklet consists of 27 pages.

3. Three questionnaires were prepared for information collection.

A field tour was organized from 14-29 April 2008, with a total of 80 villages, 65 schools and 11 Jamoats visited.

The following works were carried out during the tour:

- Geological assessment of the current state of the villages.
- Analysis of changes in geological processes threatening the settlements in the above-mentioned zone compared to the estimation contained in the database.
- Collection of social characteristics of settlements and statistical data on schools and medical facilities.
- Meetings with school teachers and administrators of Jamoats; small workshops on emergency situations, the rules of conduct during emergencies and on the content of the booklet (the booklets were distributed to all schools, Jamoats and the department of emergency situations of Rushan district at their request).
- The results of the study were entered in the database.
- A report on the results of the study: "Geological assessment of the current state of villages in Bartang and Panj river valleys".
- Methodological guidance in the use of the database and in the use of the Internet in DM staff training.

It should be noted that directors and teachers of the schools and the staff of Jamoats assisted in the organization of the small workshops, which were held in the Pamiri languages. The workshop participants assessed the booklets they received as material that could be used in "life safety" lessons. Furthermore, the material was also positively received as providing guidance on safe conduct during emergencies by school directors and CoES staff at CoES-organized exercises in Rushan district.

The following tasks were accomplished in the course of the project:

1. Education

A catalogue of common natural hazards in Tajikistan was compiled; the rules of conduct during and after emergencies were defined, and measures described to either avoid disasters or mitigate their consequences.

Seminars were held, and booklets were distributed at schools and Jamoats in the pilot areas.

Achievements:

- The information in the booklets will be used as supplementary material in lessons on the basics of life safety.
- The information in the booklets was used to guide methodology at the republic-level emergency exercises in Rushan district.

2. Research

The following geological hazards are common in the research territory: debris flows, rock falls, landslides, river erosion, avalanches, ground water table increases, salinization and flooding. The most common are debris flows and rock falls, which can be attributed to the high mountain landscape and the climatic features of the area.

The analysis of the collected data shows that in 25 out of the 80 villages studied no geological events had been observed in the last 7-8 years. At the same time, changes took place in some villages. For example:

- In the village of Basid, in Rushan district, the school building is now threatened by flooding and debris flow during the spring thaw.
- In the village of Zigar, in Darvoz district, intensive riverbank erosion is taking place close to the school (only 15 meters from the school building).
- In the village of Jangal (Chindoni, Kanch), in Rushan district, two debris flows occurred in July 2007 that destroyed three houses.
- In the villages of Razudj and Derzud, in Rushan district, a snow avalanche aggravated the current geological hazards. During one avalanche, in April 2007, a house was damaged, while a school was damaged during another.
- In June 2007, a debris flow in the village of Shkev, in Darvoz district, destroyed a small hydro power station and damaged a bridge.

It should be noted that most of the villages studied are located in the zone of high seismic activity. It could therefore be presumed that an earthquake of magnitude 6 or above would lead to an intensification of the deformation processes in the research area, causing numerous rockslides and landslides. The greatest damage would most likely occur in the villages located at the foot of steep slopes, such as: Visav, Dasht, Hidjez, Rushan, Shidz, Sanobad, Voznavd, Hihik, Kevron, Kalaihum, Dashtak, Umorak, Zing, Sangevni daroz, Patkunob, Shurgovad, Yoged, Shkev, Sangevn, Nulvand, Zhag, Hostav and Zigar.

3. Updating the database

The statistical information collected could facilitate a comparative demographic

analysis of the villages, using criteria such as number of school children and medical facilities. The grave financial situation of schools and Jamoats should also be noted: premises have not been repaired for a long time; the furniture is old; and most institutions do not have electricity, teaching aids, notebooks or even paper. The institutions function due to their directors' enthusiasm. At some schools, repairs have not been carried out since 1936; only three of all assessed schools were in a satisfactory condition, due to the assistance of international organizations.

Story 9: Increasing preparedness and the ability of communities and schools of Central Asia to respond



Implementing agency:

Red Crescent Society of Turkmenistan

Contact person:

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Duration:

1 August 2008 – 31 October 2009

The increased prevalence of disasters caused by natural hazards on a global scale has made preparedness for such events an even greater task and one which must be conducted methodically over an extended timeframe.

The aim of the 15-month DIPECHO V project was to reduce the impact of disasters caused by natural hazards on the population of Turkmenistan. The project was implemented in August 2008 by the national Red Crescent Society of Turkmenistan (RCST) with the support of the Humanitarian Department of the European Commission through the Netherlands Red Cross, and builds on DIPECHO IV.

The support strategies were aimed at improving the preparedness of local communities and organizations to decrease the impact of, and provide adequate responses to, emergency situations by means of increasing their potential to manage emergency situations and respond to disasters caused by natural hazards, thereby increasing suitability and decreasing vulnerability. The primary tasks of the project were improving preparedness for disasters caused by natural hazards and increasing the coping capacity of communities living in at-risk zones through population training on behaviour rules in emergency situations and first aid.

The DIPECHO project covered a large percentage of the vulnerable population by working in all of the country's velayats (oblasts). During the project, it created 48 local committees on emergency situations (with 10 people in each group) and 48 first aid groups in schools (10 people in each group). The major work on preparedness of the local populations to disasters caused by natural hazards was conducted in each group. In total, 96 groups were formed across the country, with each capable of responding to emergency situations and having the skills of rendering first aid.

Activities implemented within the project were:

- Increase of potential and transfer of skills and knowledge.
- Risks were assessed and plans of action on preparedness and response to emergency situations were made, updated and integrated with civil defence plans for emergency situations.
- Trainings on reduction of risks of disasters caused by natural hazards among school children and teachers.
- Distribution of information, educational and communication materials.
- Simulation and evacuation exercises.
- Information and educational materials printed and distributed (including street-light stands).
- Seminar for RCST personnel, state bodies and international organizations.
- Trainings on first aid and emergency situations for oil and construction companies.
- Increased potential in first aid training and development of information, training and communication materials.
- Training on psychological support carried out.
- Coordination of emergency management improved.
- Joint project proposals drawn up, with definition of beneficiaries, actions and activities, general indicators and monitoring and evaluation.
- Standardization of training and materials.
- Three regional seminars on improvement of exchange of best practices, monitoring and evaluation, procedures, methodologies and training materials.
- Public organizations, officials and interested parties consulted and involved in the project/private-public partnership.
- Information, educational and communicative materials published and distributed (including CARESI materials).
- Provision of materials and training to partners.
- Three campaigns on raising population awareness. About 30 per cent of local population informed of the general messages and 20 per cent understand that can use the knowledge in everyday situations.
- Increased potential of RCST personnel and volunteers to manage the project.
- Increased potential of first aid trainings, and better comprehension of information, training and communication materials.
- Improved monitoring and transparency.
- Updated and improved database on volunteers and trainers.

- Trainings and materials on psychological support developed.
- Coordination on management at emergency situations improved.
- Intersectoral issues integrated in training materials.
- Joint project offers made, with definition of beneficiaries, actions and activities, general indicators and monitoring and evaluation.
- Standardization of trainings and materials.
- Regional exchange/cross-border visits for government emergency officials and national societies and volunteer personnel.

At the beginning of the project all personnel were trained in Bishkek to an international standard in the provision of first aid.

Trainers then conducted 96 individual training courses in communities. At each course both theoretical and practical aspects were considered; during the courses, groups learned response and behaviour during emergency situations. First aid training included psychological support and help to victims during disasters caused by natural hazards as well as pre-medical aid. It was carried out by a qualified psychologist with an international practice in Israel.

Following the nation-wide implementation of the training courses in all velayats, contests were organized on first aid and on response to emergency situations, with the winning teams taking part in a national competition, held in the capital of Turkmenistan. The event was highlighted by the national newspaper.

The overall winner then went on to compete against other national teams in regional competitions across Central Asia. We are pleased to note that the Turkmenistan team won first place at the regional competitions on 25-26 September in Khujand, Tajikistan, indicating the successful and fruitful work of the DIPECHO project in Turkmenistan.

Also under the DIPECHO project, a national conference was organized in September 2009 in which representatives from ECHO Central Asia, UNISDR Central Asia and those of various state and non-state bodies in Turkmenistan took part.

Various other activities were organized during the course of the project. A good example was the art competition, which was open to volunteers and school groups across the country. The event proved to be very popular among children and produced works that were both diverse and interesting. The theme of the competition was "Your life is in your hands" and it involved the children using the knowledge they had gained during their first aid and preparedness for emergency situations training, which had been carried out as part of the project "Increase preparedness for disasters and the abilities of local communities and schools of Central Asia to respond".

The top three winners from each velayat received awards, and the overall winners were given prizes and diplomas at RCST branches. The six best works from each velayat were sent to RCST central office.

The information campaigns were so well run by the volunteers that there were more applicants for places on the programme than there were available spaces. Many people who were successful

expressed the desire to participate in the training. The printed materials published within the programme, which illustrated all kinds of first aid scenarios under emergency situations, also proved to be popular with both the population and local authorities.

Adaptation and translation into the Turkmen language of the module and manuals was carried out with the help of beneficiaries to ensure that information was perceived to be of high quality and the knowledge would be applied in practice.

Having defined the general vulnerability criteria the RCST, together with departments of civil defence and emergency situations, chose the areas that were most prone to disasters caused by natural hazards. The areas that were determined to be at highest risk were then included in the project, with the full support of state bodies and local populations.

With experts leading the training, the project attracted the interest of the country's civil defence and emergency situations authorities, as well as those at oblast level, regional hyakimliks and national education departments, all of which expressed the desire to participate both as facilitators and as the recipients of knowledge.

To live in a zone exposed to the risk of disasters caused by natural hazards means to be in constant fear of loss of shelter, property and loved ones. It is one thing to prepare, but an entirely different thing to be prepared. Everyone can undertake elementary safety measures, but if you want to save your life and the lives of people around you, you cannot succeed without accurate and coordinated work on assessment of possible risk and reaction to it before, during and after the disaster.

Story 10: Use of geo-information technologies for emergency management in Central Asia



A series of training courses "Geo-information technologies for Emergency Management" were organized and carried out within the international project "Cross-border Natural Disaster Prevention in Central Asia", implemented by GmbH InWent, Germany in close cooperation with the Central-Asian Institute for Applied Geosciences, Kyrgyzstan, and the German Research Centre for Geosciences (GFZ) in Potsdam, Germany, in five Central Asian countries in 2009.

The main objectives of these courses were:

- Professional Geographic Information System (GIS) Training for specialists of national emergency ministries and committees, state institutions and authorities, research and design institutions and the universities of Central Asian countries on using GIS for emergency management.
- Implementation and initiation of wider development of contemporary geo-information technologies for emergency management in the region's five countries.
- Development of academic programmes and teaching methods in GIS according to selected topics, knowledge and skills of the participants.
- Provision of the educational versions of GIS software to course participants for the further learning and application in their professional activities.

The main activities of KCGIS within this project were:

- The design of a new training course for GIS professionals and users targeted

Implementing agency:

Kyrgyz Center of Geo-information Systems (KCGIS), Kyrgyz State University of Construction, Transportation and Architecture (KSUCTA), Bishkek

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Duration:

June – November 2009

at the level of their GIS skills, professional interests and project activities.

- Data collection and geo-database development for the new training course.
- Preparation of teaching materials, lectures, laboratory exercises and manuals for training courses in all five Central Asian countries.
- Order and shipment of GIS software (ArcGIS 9.3) donated by ESRI Inc, USA.
- Organization and conducting of training courses in Dushanbe, Bishkek and Tashkent.

The outlines for each of the national training courses were designed in accordance with the project tasks and national specifics. The preliminary analysis has shown that the contemporary powerful tool of GIS has been used in emergency management activities in all five Central Asian countries at either an extremely low level or not at all. But international experience proves the importance and efficiency of solid GIS training for emergency management.

The design of the course content and teaching materials were carried out jointly with other project partners, such as the Central Asian Institute for Applied Geosciences (CAIAG), German Research Centre for Geosciences and the University of Karlsruhe. National GIS experts were selected in each of the five countries to organize national training and to acquire available training data. The subsequent training course on vulnerability assessment was developed in close connection with GIS training in order to combine contemporary methods and instruments of both technologies for the project objectives. National geo-data, such as topographic maps, basic GIS layers, population and seismological data, were provided by CAIAG, KCGIS and national GIS experts.

The Kyrgyz Centre for GIS was assigned as a main institution for the GIS training course design for all five countries because of its existing high academic and research potential. The Al-Farabi Kazakh National University organized training courses and carried out course teaching activities in two cities: Almaty, Kazakhstan and Ashgabat, Turkmenistan.

The national GIS training courses were successful and have been integrated into project activities. Trainees have received basic knowledge and skills on using geo-information technologies for emergency management, such as GIS theory and software, development of digital maps, basic layers, using Remote Sensing (RS) data, seismic zoning and vulnerability assessment. All course participants and partner institutions have been provided GIS software (commercial and open source), available national and regional as well as global geo-data, literature, manuals and teaching materials. All national emergency ministries, committees and institutions have learnt the importance and efficiency of GIS tools from the ongoing project activities.

Successful experience of this GIS training series for emergency management has highlighted urgent needs in such educational activities. It is recommended that new regional projects on DRR with significant GIS components be initiated. Implementation of GIS education components also would significantly improve capacity of national emergency ministries and agencies in using advanced GIS and Remote Sensing technologies as well as developing national and international Serial Digital Interface (SDI), and establishing close cooperation in these fields.

This work can be considered as a good practice of professional training in advanced geo-information technologies for emergency management in the Central Asia region. The training outline was designed with unified structure but with national data and in accordance with national priorities. The regional network of GIS specialists engaged in emergency management is established and it should be strengthened in order to provide sustainable implementation and further development of GIS and RS technologies in the region.

Training courses are supported and financed within the international project "Cross-border Natural Disaster Prevention in Central Asia" by the German Ministry of Foreign Affairs. The total budget of GIS training courses in the five countries is €13,000.

Project partners:

Al-Farabi Kazakh National University, Kazakhstan;

Institute of seismology, Uzbekistan;

Tajik Technical University, PMP International, Tajikistan;

Institute of seismology, Turkmenistan;

Central Asian Institute for Applied Geosciences, Kyrgyzstan;

University of Karlsruhe, Germany;

German Research Centre for Geosciences, Germany.

Story 11: Earthquake education – the key to saving lives



Implementing agency:

CAMP Kuhiston, Republic of Tajikistan,
www.camp.tj

Contact person:

Mr. Komron Mirzoev, Coordinator
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Duration:

2003–2005

The whole of Central Asia lies in a seismically active zone. In 1989, an earthquake registering 7.5 on the Richter scale hit the Hissor region of Tajikistan leaving more than 100 people dead and infrastructure damage amounting to US\$25 million.

The village of Nilu, situated 35 kilometres west of Dushanbe, was severely affected by this earthquake. In a bid to reduce the risks of future disasters in the area, communities there – especially the teachers – decided to act and planned several educational activities with the support of local NGO Munis (Hissor) and Shelter for Life. The communities were aware that correct behaviour was the key to saving lives during an earthquake, and the teachers began offering weekly lessons for their pupils on issues relating to disasters caused by natural hazards.

The project goal was to raise awareness among pupils and villagers in weekly classes on natural disaster risk management, preparedness, prevention and mitigation activities.

Two main activities were conducted to raise awareness about the impact of earthquakes:

- **Earthquake awareness building:** As part of the project, four members of the village organisation, mainly teachers, were trained by experts from Tajik Technical University and SFL. The knowledge they gained was disseminated to the local community through school classes and during fieldwork for adults, and was consolidated through simulations (drills). An important subject was behaviour during and after an earthquake. Small mitigation measures that could be taken in advance at home were also communicated, such as the storage of fresh drinking water; attaching objects to the wall with hooks instead of nails; and securely fixing objects that could fall during an earthquake, such as cupboards using L-brackets.
- **Shake-table demonstration:** Village masons took part in a 10-day training course, held by specialists from Tajik Technical University, in earthquake resilient construction of houses. The goal was to show the masons that with

simple methods, such as the correct placing of windows in a wall or inset of several horizontal layers of wood (so-called ring beams), the earthquake resilience of their constructions could be drastically increased. Subsequently, they built two 1/10th scale model houses, one constructed using traditional technology, the other based on the acquired earthquake resilient technology. The two models were then placed on a 'shake-table', which simulates the shaking of an earthquake. In front of the assembled community, the shake-table demonstration was begun: the house built with earthquake resilience resisted the shake, the other one collapsed. The shake-table demonstration was conducted by Shelter for Life.

The community trainings were free of charge.

Experience demonstrates that children disseminate their knowledge of disaster management to their parents at home. This method of information dissemination has turned out to be one of the most effective methods known around the world.

To guarantee the continuity and sustainability of the awareness-building measures, and to consolidate the change in attitude, the educational activities are held every two weeks in the school and village.

Story 12 Flood-recovery support for South Kazakhstan



Implementing agencies:

UNDP in Kazakhstan
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Red Crescent Society of Kazakhstan

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Duration:

10 months (from March to December 2008)

On 20-21 February 2008, an abrupt increase in temperature and heavy rain in the South Kazakhstan region caused floods that affected 51 settlements in Saryagash, Ordabasin and Arys districts. According to local authorities, 2,396 houses were flooded and 411 households were destroyed, along with 8 schools, 2 medical facilities, 2 bridges and many sections of road. One person was killed and over 13,000 lost their houses.

Such a calamity happens only once in 50 years in the South Kazakhstan region, and the population did not expect that such an enormous amount of snow would melt due to the warm wind and rain, flooding their homes and destroying their gardens and cattle.

Following an emergency intervention by the Ministry of Emergency Situations and the government of the South Kazakhstan region, which undertook measures including defining the scale of the emergency and carrying out search and rescue, evacuation and other operations, the UNDP in Kazakhstan announced the implementation of a project aimed at reducing the risks associated with future disasters.

The main goals of the project "Supporting recovery after the flood in South Kazakhstan" were reducing the population's vulnerability, enhancing the sustainable preparedness of communities and the ability to timely respond to possible disasters. The Red Crescent Society of Kazakhstan was selected as the implementing partner.

Within the first part of the project, implemented in rural communities, five local initiative groups for emergency situations were established. These groups consisted of people selected from among the most active representatives of the local population, and included the unemployed, teachers, pensioners, tractor drivers, office employees, medical workers and representatives of local authorities.

The members of the five initiative groups were trained on:

- Rules of behaviour in emergency situations.
- Methods of emergency response (evacuation, provision of main conditions for survival).
- Organization of activities of local initiative groups under emergency situations.
- Medical first aid.
- Population warning skills.
- Skills in preparation of risk maps and plans of preparing communities for disasters.

Each of the groups underwent two preparatory seminars, after which each received information handouts for working with the public.

Through the systematic efforts of all five initiative groups, the populations of the relevant villages were informed about preparedness and response to disasters, and the development of family emergency action plans. Besides, the members of the local initiative groups taught the public basic first aid skills. This work involved individual and group conversations, dissemination of handouts, presentations by members of initiative groups at village meetings, and demonstration and rehearsal of first aid provision. In addition, billboards were set up with information on preparedness and response to disasters in places with high population densities, such as local government offices – akimats, and schools, etc. The South Kazakhstan regional branch of the Red Crescent Society carried out continuous monitoring of the work of the local initiative groups throughout the project.

In the second part of the project, implemented among the urban population, eight local emergency initiative groups were established in the most vulnerable areas of the city and taught disaster preparedness skills. The groups consisted of the unemployed, pensioners, children, people with disabilities, and other vulnerable groups of the population in selected areas.

The project provided real assistance to local communities affected by the February 2008 flood through high-quality preparedness training, with a focus on flooding.

The commitment of local authorities to contribute to the project was a key factor. The city akimat and the rural authorities provided facilities for storing the local initiative groups' equipment and premises for conducting training. The staff of the South Kazakhstan regional department of the Ministry of Emergency Situations participated in assessment of vulnerability and potential, and assisted the personnel of the national Red Crescent Society in defining the most vulnerable communities exposed to various types of disasters (including floods). They also participated in the round-table discussions and assisted in a number of initiatives and activities with the public, in particular the mitigation projects.

Other crucial factors in the project's success were: the potential of the well-trained personnel and volunteers at national and local levels; the high degree of motivation of the population in preparedness for disasters; the positive image of the Red Crescent Society among the population and its experience in implementing similar projects (including those in the South Kazakhstan region).

Story 13: Educational programme "Basics of life safety"



Implementing agency:

Department of emergency situations
in Samarkand, Ministry of Emergency
Situations, Republic of Uzbekistan

Contact person:

Mr. A. Turdikulov, Coordinator for social
affairs

The educational programme "Basics of life safety" is aimed at reducing the risks associated with disasters caused by natural hazards, and is taught at all comprehensive schools on the basis of a plan developed in accordance with an order of the Ministry of Education of the Republic of Uzbekistan⁵.

All innovative projects, programmes, initiatives and actions used during the programme lessons by the teachers can serve as examples of success. In this regard, new educational technologies such as the interactive methods used by teachers of natural sciences, in particular geography, biology and physics, have proved to be highly effective.

Long life and sound health are of special importance for every individual and an essential precondition for increasing labour productivity, developing the economic potential of families and the country, strengthening national security, and improving personal well-being.

Experience from around the world shows that correct behaviour during emergencies and the proper observance of traffic regulations are among the most effective ways to protect health, reduce disease and injury, and minimise losses. The most effective way to achieve this is by increasing personal knowledge of correct behaviour through the training of all sections of society, especially school children.

In our opinion, such training should be systematically conducted among families, in mahallas and at educational institutions.

The training can take several forms, using a variety of methods and techniques. The use of pictures can be an effective way of teaching preparedness and DRR, and they are adopted in the education manuals of many countries. The following is an example of an exercise using this technique:

- Pictures should first be drawn or collected on the theme of disasters caused by natural hazards. The pictures should then be cut into sections and pupils given

⁵ Order 4 of 10 January 2000 of the Ministry of Education of the Republic of Uzbekistan

the task of organizing the pieces in the correct order and proper sequence, before being asked to describe the depicted disaster and outline what their own behaviour and actions would be in such a situation.

Another method is the photo-collage. In this method the school children are given the possibility of choice:

- The photographs of disasters caused by natural hazards are glued to a sheet of cardboard in a random order, and the school children are asked to select any of them. A pupil then describes what is depicted in the selected photograph.

This method of photo-collage yields good results in teaching the classification of disasters, as caused by natural or technological disasters, and is also useful in the preparation of emergency kits by school children. To increase the effectiveness of the lessons, classes are divided into groups (teams) and a quiz is held on the general topic.

On the basis of the principle "seeing once is better than hearing twice", the use of a slide projector is an effective way of delivering a message, including to a larger audience. School computer laboratories are also used for the showing of films, and can include students from other schools that do not have such equipment. The efficient use of multimedia resources yields good results in forming the skills necessary to take the correct actions in emergency situations.

Handouts are another successful way to convey the DRR message and are distributed to each pupil to further stimulate their active participation in the lessons. Other methods include the "miracle show", whereby school children have to guess the terms relating to disasters caused by natural hazards concealed under cardboard squares.

Lessons are also held for children at kindergartens. The lessons are tailored according to the children's ages, using games to deliver the message.

Similarly, lessons were also organized for the entire populations of mahallas, with slide shows and discussions targeted at particular age groups. Other residents of mahallas, and the staff of medical institutions, were given lectures. Posters, pictures and other visual aids were placed in mahalla centres and on the walls of medical institutions to good effect.

The family plans envisaged in the curricula also yield good results in forming the safety skills of school children and their family members.

Lessons learned:

- The provision of multimedia equipment to the main schools in the community enhances the efficiency of the classes.
- The safety of school children at schools during emergency situations and disasters caused by natural hazards largely depends on their timely warning. To this effect, it is necessary to create an electronic version of schools safety and disaster warning systems. (It would be appropriate if the relevant symbols of disasters caused by natural hazards were displayed on the monitors in classrooms, corridors and conference rooms, etc.)

Story 14: Preparedness and DRR in the education system of Bukhara, Uzbekistan



Implementing agency:
Department of emergency situations in Bukhara, Ministry of Emergency Situations, Republic of Uzbekistan

Contact person:
Mr. U. Sulaimonov,
Coordinator for social affairs

The goal of this programme is to increase disaster preparedness among the population, including secondary-school and pre-school children, through training in the appropriate actions to take before, during and after emergency situations.

The major hazards in the region of Bukhara are earthquakes and floods. The region is situated in the "nine-degree" seismic activity zone, which includes the cities of Gazli and Romitan.

As part of the education programme, five trainers promote disaster risk reduction in a series of targeted locations. The following cities and towns in the Bukhara region were selected for the programme: Bukhara, Gazli, Gizhduvan and Kagan. The most exposed to the danger of disasters caused by natural hazards are Gazli and Kagan, although the cities of Bukhara and Gizhduvan are also located in the zone of high seismic activity.

The town of Gazli consists mainly of one-storied panel houses and some two-storied buildings; it has a hospital and a multi-profile polyclinic, two schools (teaching in the Kazakh and Uzbek languages), and three pre-schools (Yulduzcha, Boichechak and Aigulek) located in two separate mahallas (Gazli and Bainalmillal). The Boichechak pre-school was selected as the pilot institution for testing the teaching programme⁶.

The town of Kagan is situated in a flood-prone zone. The pilot institutions in Kagan were the mahalla Istiklol, school №7 and kindergartens №3, №8 and №11. School №7 is a standard two-storied building with a staff of 64 and 945 school children⁷. It works in two shifts. Of the pre-schools, kindergarten № 8⁸ is a standard brick structure with

6 Boichechak pre-school is headed by Director Zhupar Durmenovna Urazboeva

7 School №7 is headed by Director Zulaiho Haidarovna Zainitdinova

8 Kindergarten № 8 is headed by Director Mamurova Risolat Ergashevna

a staff of 30 and 80 children.

Kindergarten № 11⁹ is a standard brick structure with a staff of 28 and 75 children. Kindergarten № 3¹⁰ is a standard brick structure.

The work began with meetings with administrations, active citizens, secondary-school children, children at kindergartens and residents of mahallas to explore the possibilities of reducing the risk of disasters caused by natural hazards. The provision of first aid was paid special attention, with contests organized for children in kindergartens and among secondary-school children.

The programme objectives are to raise the awareness of the population, including school children and children in kindergartens, by stimulating their interest in disaster preparedness in cooperation with organizations responsible for emergency management.

Although the risk reduction work is limited to information activities, it has succeeded in attracting the attention of children at schools and kindergartens to the need for preparedness at home and at school for emergency situations.

The programme has involved lectures, seminars and training courses, and has included drills for teachers and pupils to help consolidate the knowledge and develop the skills necessary to act correctly during emergencies.

The successes achieved through the programme have demonstrated the need to integrate the disciplines on preparedness for disasters caused by natural hazards for school children and children in kindergartens into the education system curricula.

9 Kindergarten № 11 is headed by Director Burieva Nargiza Ahatovna

10 Kindergarten № 3 is headed by Director Ashurova Durдона

Story 15: Using vineyards to protect against landslides



Implementing agency:

CAMP Kuhiston, Republic of Tajikistan, www.camp.tj

Contact person:

Mr. Komron Mirzoev, Coordinator
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Duration:

since 2003

Beside earthquakes, the village of Nilu, in the Hissor region of Tajikistan, also faces periodic flooding and debris flows. Two large watersheds lead directly to the village, guiding huge amounts of precipitation runoff, melt-water and debris towards inhabited areas.

Debris flows have on several occasions in the past covered the arable land behind the boys' school, and has even damaged the school building. But a traditional farming technique, which has been found to reduce the risks associated with this hazard, is now being taught to school children as part of a disaster risk reduction project in the village.

Farmers in the Hissor region generate much of their incomes through the growing of grapes in vineyards. These vineyards, located on hillsides, have proved their efficacy in preventing soil erosion and protecting from debris flow.

In recognition of the beneficial properties of vineyards and as part of the project teachers in Nilu have integrated practical advice on grape cultivation into weekly lessons on disasters caused by natural hazards. The project goal was to raise awareness among pupils with weekly classes on disaster management and preparedness, prevention and mitigation activities.

Biology and chemistry teachers have integrated the disaster topic into their curricula. For four-to-five hours per week, pupils learn about the impact of such natural hazards as earthquakes, erosion, flooding and debris flows.

The teachers themselves have enhanced their knowledge in courses with specialists from Tajik Technical University and trainings with Shelter for Life.

In early summer time, the theoretical knowledge was supplemented with practical work.

In cooperation with local NGO Munis, from Hissor, which organized and partly financed the grape seedlings, teachers and pupils prepared the land behind the school

and planted the grape vines. During the following months, pupils took care of the vine, irrigating and cherishing their plants.

Shelter for Life allocated US\$ 550 for planting a total of 1,400 saplings.

Experience has shown that children disseminate and share their knowledge in disaster management with their parents at home, a method of information dissemination that has proved effective the world over.

To guarantee the continuity and sustainability of the awareness-building measures, and to consolidate the change in attitude, the educational activities are held every two weeks in the school.

As “owners” of the grape vines, the children feel responsible for “their” plants.

The aim of this activity is to encourage the active involvement of school children in the project so that they will conduct disaster risk reduction measures themselves in the future.

Story 16: Implementing a DRR project in the Republic of Kazakhstan

Implementing agencies:

Republican Institute for developing the qualification of the executive and scientific-pedagogical staff in the Republic of Kazakhstan education system, Semipalatinsk State Pedagogical Institute, Republic of Kazakhstan

Contact persons:

Ms. L.A.Dorozhkina, Deputy Director, Republican Institute for developing the qualification of the executive and scientific-pedagogical staff in the Republic of Kazakhstan education system

Ms. K.I.Kaldarova, Senior Tutor, Republican Institute for developing the qualification of the executive and scientific-pedagogical staff in the Republic of Kazakhstan education system

Ms. A.K.Muhamedkhanova, Vice Rector, Semipalatinsk State Pedagogical Institute, Republic of Kazakhstan

The “Programme of preparedness and protection of the population in emergency situations” has been implemented in Kazakhstan based on the Law of the Republic of Kazakhstan “On emergency situations of natural and technological character”, in accordance with formal decisions of the Security Council of the Republic of Kazakhstan¹¹, and the Government of the Republic of Kazakhstan¹².

The programme foresees significant measures between 2004 and 2010 in further improving and ensuring the highly-efficient protection of the population, economy and environment of Kazakhstan from the impact of emergency situations. It includes the development and improvement of resources and means for prevention, reduction of loss and recovery after catastrophes, breakdowns and disasters caused by natural hazards.

The Hyogo Framework for Action, adopted in January 2005 by the governments of 168 countries, stimulates the development of cooperation and promotes a global approach in the reduction of disasters caused by natural hazards, aspiring to the involvement of individuals and communities in activities aimed at reducing losses among the population, and socio-economic and economic losses.

On 12 March 2009, a tripartite Memorandum was signed in Kazakhstan on mutual understanding in the field of disaster risk reduction in the sphere of education between the Republic of Kazakhstan Minister of Education and Science, Minister of Emergency Situations, and a representative of UNICEF.

In accordance with the development strategy “Kazakhstan 2030”, national security is the country’s principal long-term priority. Under the legislation of the Republic of Kazakhstan, emergency situations are treated as a threat to national security.

11 Decision #1 of January 15, 2003 “On the threats to the ecological security of the Republic of Kazakhstan and the measures for prevention of emergency situations of technological and natural character”

12 Decision #14 of May 27-28, 2003 “On measures for recovery after the earthquake in the Zhambyl region and the objectives of the central and local executive structures in reduction of loss from natural disasters”

The diverse nature of the Republic pre-determines its high exposure to a variety of natural hazards. They include: debris flows, landslides, avalanches, floods, droughts, extreme cold, rises in the Caspian Sea coastal water table, and forest and steppe fires. The threat of devastating earthquakes is permanent in the regions of Almaty, Eastern Kazakhstan, Zhambyl, Southern Kazakhstan and the city of Almaty.

The previous decades have been characterized by the increased probability of catastrophes, accidents and disasters caused by natural hazards, and their associated negative economic, social and ecological consequences. Kazakhstan is no exception to this global pattern. The country's annual direct loss from disasters is estimated at Tenge 3.5 to 4.5 billion¹³ (without considering global calamities caused by natural hazards). Estimates suggest indirect losses are about Tenge 15-20 billion, and the damage from human loss and treatment of the injured represents a further approximately Tenge 3 billion. The annual total is estimated at up to Tenge 25 billion.

The ageing and deterioration of capital assets, industrial buildings and structures; the intensification of the exploration and extraction of oil and gas and other natural resources; and the lack of systematic work with the population on disaster risk reduction create real preconditions for an increased threat to human lives, and especially the lives of children.

Ensuring safety is an important part of the educational process. Physically, schools can prevent danger from threatening the health or even lives of children, while at the same time teaching safe behaviour. Schools can also influence the lifestyle habits that children develop, which can have a bearing on their future well-being. Schools' influence is significant and the necessity of such work is now being reinforced by each new piece of information regarding the dangers of global change and the risks associated with disasters caused by natural hazards.

Undoubtedly, protecting the rights of children and ensuring their security are the most important objectives for state policy in the field of disaster risk reduction in the Republic of Kazakhstan.

The implementation of the disaster risk reduction project was divided into several stages.

Stage one involved:

- Creation of the Coordination Council, with the participation of representatives of the Ministry of Education and Science, Ministry for Emergency Situations, and UNICEF.
- Appointment of the implementers of the project – the Republican Institute for upgrading the qualification of the executive and scientific-pedagogical staff in the education system, and the Republican School for upgrading the qualification of executive staff in the sphere of emergency situations and civil defence.
- Seminars with the participation of the Ministry for Emergency Situations and Ministry of Education and Science on reducing the risk of disasters caused by natural hazards through education.
- Preparation of the Country Action Plan for the implementation of the project.

¹³ Approximately US\$ 23.33 million to US\$30 million (exchange rate as of 3 December 2009).

- Forming of a national team with representatives of the Republic's education system.
- Training of the national team at the Central Asian seminar in disaster risk reduction.

The objective of this stage of the project was forming a clear system of planning, implementation and monitoring of disaster risk reduction through the education system in Kazakhstan. A country strategy was drawn up for the Coordination Council and the national project team.

During the implementation of the tasks and objectives of the first stage, the following principles were taken into account:

- Was it science-based?
- Was there a systemic approach?
- Does it have a regional nature?
- Was there continuity?

The plan of action for implementation of the project in Kazakhstan included a clear scheme of implementation and coverage of the project. Five hundred pilot secondary schools took part in the project in three regions of the Republic: the city of Almaty, the Almaty region and the South Kazakhstan region. The national project team comprised representatives of the Ministry of Education and Science, the Ministry for Emergency Situations, and the national education system.

The seminar "Hyogo framework for Action and disaster risk reduction in the system of education" was organized on 28 April 2009, for the specialists of the education system.

Training and education are key to the efficient provision of knowledge about disaster risk reduction and methods of protection against disasters caused by natural hazards and other emergencies. All participants of the seminars on the theme of disaster risk reduction were oriented at inclusion on the issues of DRR and the safety of children in the education system and existing programmes of education, and to the strengthening of DRR in the mandatory disciplines: basic military training (grades 10-11) and the basics of life safety (grades 1-9).

Stage two involved:

- Study of the existing experience in education in the field of DRR.
- Preparation of training manuals on rules of safe behaviour during disasters caused by natural hazards for junior-school children (grades 4-5) and middle- and senior-school children (grades 6-11) in the state and the Russian languages.
- Creation of a methodology manual for teachers in the field of DRR in the education system in the state and Russian languages.
- Preparation of video films on disasters caused by natural hazards and the rules of safe behaviour for school children of all grades, including:

- o study of existing video materials on disasters caused by natural hazards;
 - o selection of video materials in accordance with the curriculum for translation into the state language;
 - o compilation of the list of available video materials for children (DVD film, animated cartoons, computer game “Jinn the Earth Shaker”);
 - o reproduction of all video products and dissemination in sets with the manuals.
- Testing of the manuals for the school children in the state and Russian languages.

The implementation of the DRR project in Kazakhstan was first aimed at children, to meet their specific needs, including protection of their rights. In developing the manual for students, the group of scientists and practitioners used existing methodology and scientific and educational concepts, and studied material and the international experience in the field of disaster risk reduction.

Ensuring the highest degree of protection of life and health for each student, at a time when there is an increasing threat of emergency situations of a natural or technological origin, should suggest a coordination of efforts between teachers, parents and school children. Indeed, this became the special feature in the organization of DRR in the republic’s education system.

In the school children’s manuals, the material is composed in accordance with specific age groups, as well as regional or ethnic particularities. The structure of the manual includes both advice for children on the skills necessary for safe behaviour during disasters caused by natural hazards, and also proposes the study of the coordinated actions of school administrations, teachers, parents and other community representatives in ensuring safety and disaster risk reduction.

The manual was tested by individual modules, with consideration of the children’s ages. The experts designed monitoring logs, which were maintained by the practicing teachers during classes, as well as questionnaires for the school children. Practicing teachers were also interviewed. The results of the tests were discussed at a meeting of the project working group, and a study of the feedback allowed for any necessary amendments to be made to the educational programme through adaptation of the materials in the manual.

The second stage of the project included determining the conceptual approaches to teaching disaster risk reduction issues and developing the methodological tools for teachers to apply the knowledge in the children’s manuals in the field of disasters caused by natural hazards, and to the existing threats to the children’s health and safety.

To properly facilitate the integration of DRR themes into the curricula of general secondary schools presupposes that the teachers and trainers, who play the key roles in the education process, have reached the appropriate professional levels and adopt suitable methodologies. The manual offers guidance to the teachers by elaborating: the main principles of DRR training; the role of the education system in DRR; a methodology guide for use of the manual, interactive methods of teaching; monitoring and evaluation of educational programmes; advice on working with the parents; and teaching using

the “peer-to-peer” method.

A section of the manual contains five training modules on the following themes: “Emergency situations”, “Earthquake”, “Flood”, “Fire”, “Debris flow and “Landslide”. The themes are ‘frames’ for thematic lessons on the issues of DRR and facilitate the strengthening of knowledge of safe behaviour in emergency situations.

The manual also contains additional resource materials, a glossary, a list of recommended literature and supplementary material. The present manual also provides samples of lessons using modern interactive methodologies. It is supplemented with video products on the DRR theme, prepared by the working group.

Stage three involved:

- Cascade training workshops for teachers of pilot schools:
 - o 50 teachers at the republican level;
 - o 150 teachers at the regional level;
 - o 2,000 teachers at city and district levels.
- Training of 50,000 secondary-school children of the republic by teachers trained at the workshops.
- Selection of 30 resource schools, out of the 500 pilot schools, for creation of the regional educational-methodology centres for the implementation of the project.
- Organization of round-table discussions, seminars with the headmasters of the pilot and resource schools of the project with the purpose of coordinating the work of the participating teachers, and strengthening the role of the resource schools in DRR and security of children.
- Monitoring of the implementation of the project.

The implementation of the project on disaster risk reduction and the consolidation of it within the education system in the Republic of Kazakhstan is on-going.

Story 17: Safety basics for children in Uzbekistan

Implementing agency:

Association of psychologists of Uzbekistan

Contact person:

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Duration:

4 years

The goal of this nationwide project by the Ministry of Emergency Situations and the Ministry of Education was to bring the “basics of life safety” message to pre-school and school-age children. It was implemented at a number of pilot institutions across Uzbekistan.

The project involved the development of programmes, teaching and methodological literature, posters and other educational materials on basic life safety for pre-school and school-age children. The project involved the most experienced and creative teachers, who cooperated with scientists to initiate and complete the experiment.

As part of the project, the following literature was prepared:

1. Teaching methodology manual *Theses on basics of life safety*.
2. Programme including calendars with thematic plans.
3. Painting work pads for individual work with children.
4. The play “An amazing story”, which has been running successfully for three years in the children’s theatre.
5. Twenty-five educational games designed for pre-school and school-age children.
6. Set of posters on basic life safety for pre-schools and schools.

The work conducted at the pilot sites was summarized at three national seminars, which were held in conjunction with the MoES and MoE in Tashkent, Navoi and Ferghana. At the seminars, the children acted as facilitators and gave narrated accounts of their work at the different educational institutions, presenting their pictures and books on the subject.

At the specialized lessons, children received information on behaviour during disasters caused by natural hazards such as earthquakes and debris flows through educational games, role-playing and painting in colouring books. When necessary, the material at both national and regional level was upgraded by Doctor of Pedagogic Sciences Dr. T.L. Chabrova, using her accumulated experience in the field. The material was approved by the Institute of Civil Defense.

The theses in the teaching manual are used at pedagogical colleges, schools, kindergartens and institutes that train teachers for pre-schools and schools.

The project involved the conducting of lessons at pre-schools and schools, and the development of programmes and calendars with thematic plans. Formal activities included the development of school curricula, lessons and training plans, while informal ones included role-playing. Other activities included: open lectures for adults; seminars; thematic meetings – for example those held in Bekabad in the Tashkent region involving a parents' club at a kindergarten; exhibitions of children's work, held in mahallas; the staging of the play "An amazing story" in theatres; and exhibitions of preparedness for emergencies, organized by the MoES (at extracurricular classes and seminars, etc.).

A distinguishing feature of this project is that in many of the activities the children act as facilitators, teaching the adults how to behave and act during a disaster such as an earthquake.

Furthermore, it has the potential for replication in the communities in which the children live through the 'cascading' of the knowledge that the children acquire in the classes and through the other techniques to other children and adults.

Both the mass media and specialists noted that the pilot institutions had coped well with the project. Its success was facilitated by the teaching methodology material developed by Dr. Chabrova.

The key goal of the activity was to introduce the culture of basic life safety into the Uzbek education system, and into the society in which the children and adults live.

Results achieved:

- Plan of the work of two ministries, the MoES and MoE, consolidated.
- Teaching and methodology materials prepared, for both adults and children; programmes, a stage play and republican seminars carried out; educational games played; and work pads and posters created.
- All materials tested at pilot sites, confirmed by material published in the mass media.
- Teachers of pre-school and school institutions, colleges and institutes demonstrated high degree of interest in the subject.
- Mass media publications mobilized public interest.
- Teachers became active in this field.
- Parents and teachers created clubs on basic safety.
- Children independently included the theme in their games.

Story 18: Scaling up disaster preparedness and response capacities of local communities and schools in Central Asia

Implementing agency:

Red Crescent Society of Tajikistan (RCST)
info@redcrescent.tj

Contact person:

Mr. Umed Sayduniev, Head of Disaster Management Department of RCST
e-mail: rcstjdp@mail.ru, usayduniev@redcrescent.tj

Duration:

September 2008 – present

Donors:

ECHO and Netherlands Red Cross

RCST implements its disaster management activities countrywide according to the International Federation of Red Cross and Red Crescent Societies (IFRC) mandate and statute. According to a Memorandum of Understanding (MoU) with the Committee of Emergency Situations and Civil Defence (CoES/CD) of the Republic of Tajikistan, signed in 2007 for five years, RCST plays an auxiliary role in disaster risk reduction.

RCST ensures proper cooperation with CoES/CD at all levels. Each RCST activity in different parts of the country is first actively coordinated with the Committee at national level. CoES/CD is involved in the planning of RCST activities and reconfirms its endorsement through its Letters of Support. Whenever a new project is launched, RCST signs an additional MoU with the Committee branches containing a detailed description of the planned activities and modalities of coordination thereof. Representatives of the Committee are invited to participate as observers in each project activity. RCST disaster management officers at rayon level and DM coordinators at oblast level inform Committee representatives on a monthly basis.

The main method used in the project consists of establishing good cooperation with local authorities of Sughd oblast, from the CoES and Ministry of Education, to conduct joint activities with local authorities through Local Disaster Management Commissions (LDMCs) and in schools via trained teachers. Another main methodology is cascade training, whereby RCST conducts disaster management and first aid (DM/FA) trainings for school teachers, school teachers conduct DM/FA trainings for school children, and school children disseminate the information among their classmates and family members.

RCST has established good cooperation with the CoES branch in Sughd oblast. Since 2005 RCST has implemented DIPECHO projects in the oblast and the current one is the third to be implemented in this area. For each phase of the DIPECHO projects, RCST concluded an MoU describing details, step-by-step actions and ways to coordinate.

According to the MoU, RCST should establish, train on disaster management and first aid, and equip LDMCs. It should also disseminate information materials through LDMCs for the population in order to raise their awareness and to make them more self-sufficient before and during disasters caused by natural hazards. The CoES is invited to participate in the trainings as well as conduct joint simulation exercises for communities.

Oblast branch of the Ministry of Education in Sughd oblast

RCST has established good cooperation with the oblast MoE branch. Furthermore, during each phase of DIPECHO, MoUs were signed with the MoE describing the following provisions: first, RCST train school teachers on disaster management and first aid; subsequently, the trained school teachers conduct DM/FA trainings for 75 school children in each of 118 schools.

Several kinds of activities are carried out in each school in order to prepare school children for disasters caused by natural hazards and disseminate the received information within their families.

Thanks to the MoUs signed between RCST and the MoE branch in Sughd oblast during each phase of the DIPECHO project, 8,850 school children have received disaster management/first aid trainings. As a result, 236 school teachers became trainers on DM/FA and 8,850 school children came to know more of disaster preparedness and can now provide first aid. All the school children regularly take part in earthquake simulation and evacuation exercises, as well as competitions on DM and FA, and drawing and best-essay competitions.

During the project implementation, school children receive information materials on disaster management and first aid. All 118 schools have mounted information boards describing full details of the project, including evacuation plans and lists of school children who have received disaster management and first aid trainings, and those who produced the best drawings on DM/FA.

Many new schools in eight rayons and Khujand city which were covered by the DIPECHO project expressed their willingness to be involved in the project in the future.

Story 19: Inter-disciplinary system of DRR, prevention and preparedness through educational evidence-based applied solutions

Implementing agency:

Central Asian Institute of Applied Geoscience (CAIAG), Kyrgyz Republic

Contact person:

Усупаев Mr. Sheishenaly Usupaev, senior researcher,
e-mail: Sh.usupaev@caiag.kg

In 2006, the Ministry of Emergency Situations of Kyrgyzstan (MES KR), with the technical support of the Asian Disaster Reduction Center (ADRC), carried out inter-agency research that was later introduced at training workshops in Bishkek and Osh, at all levels of the state and municipal structures, as forecasting materials in the form of:

- Books for complex forecast of disasters caused by natural hazards in Kyrgyzstan.
- Atlas of forecast maps for emergency situations.
- Manuals for training population in self-protection from disasters (1,000 copies).
- Classification of emergency situations in accordance with the standards adopted by CIS countries.
- Long-term country action programme for disaster management.
- National Strategy for Disaster Reduction (in Russian and English languages).

The sets of educational and forecast-specific information, in printed and GIS format, were handed over and introduced for practical application at governmental and non-governmental organizations with geodetic databases for the national territory; and separately to Kyrgyzstan's seven regions and 40 administrative districts, and to several aйл-окмоту (rural administrations).

The published sets of educational and multi-thematic forecasting information were formally handed over to the MoES services of the neighbouring countries of Central Asia (China, Tajikistan, Uzbekistan and Kazakhstan), and to the MoES of Russia and the ADRC, for the efficient interaction and exchange of experience.

In 2009, the small-scale educational and methodological Schematic Map of long-term assessment of seismic risk for the population and territory of Tajikistan, and the bordering territories, was published and disseminated.

The basic material has now been developed, and is at the publishing stage, for the international, regional and national (using the example of Kyrgyzstan) complex assessment and mapping of the multi-stage risk of disasters. The basics were developed in line with the new directions of applied science: catastrophes and engineering geomatics. They were approved by the Ministry of Education of Kyrgyzstan as a training manual and have been used at the Institute of Mining for the last five years as part of the special series of lectures "Science of catastrophes", at the department of Hydro-Geology and Engineering Geology.

The above-mentioned materials and methodology were used in 2007 at a series of training workshops in the Mountain Badakhshan Autonomous Region in Tajikistan. The 10-15 day workshops were held with the support of the Aga Khan Foundation and Focus Humanitarian Assistance in Khorog, and included field sites for the specialists responsible for disaster risk reduction.

Complex work was implemented in cooperation with the German Research Centre for Geosciences, in accordance with the latest technologies and new European standards, in the fields of seismology, hydro-geology and engineering geology in seismic micro-zoning of the territories of Bishkek and Tashkent.

Work was carried out with the involvement of highly-qualified young specialists from the countries of Central Asia through the organization of lectures and presentations in the sphere of disaster risk reduction in regard to various hazards.

This promoted realization and improvement of the basics of intersectoral forecasting and educational solutions to the set of problems essential for practical activities in the following priority areas:

- Capacity building of national, trans-boundary, regional and international research, educational and life-supporting activities in the context of intensifying emergency situations.
- Development and introduction at regional and international level of country programmes and development strategies to ensure safety during emergency situations, and in the field of legislative and regulatory materials in preparedness, response and management of disasters caused by natural hazards and other catastrophes.
- Provision of materials on preparedness and behaviour in the management of emergency situations to administrative and other authorities, educational institutions at all levels and the population.
- Monitoring the tendencies of global climate change and seasonal fluctuations of the seismic hazard and related multi-layer emergency situations and disaster risk.

In a development that is unique among the countries of Central Asia, the group of MoES specialists of the Kyrgyz Republic, led by Professor, Doctor of Geology and Mathematics Sh.E.Usupaev, developed, published and distributed a book detailing all of the country's hazards. Some 300 copies of the *Book for forecasting the totality of hazardous processes and phenomena* were distributed to schools, universities, bodies responsible for civil protection, and among the population. The book included, for the first time, a 1:1,000,000 scale seismic hazard map with long-term earthquake predictions. It

was compiled based on the terms of reference of the MoES by Mr. E.Mamyrov and Mr. M.Omuraliev in Kyrgyzstan.

At the training IVER-2002, held under the NATO project Partnership for Peace, the new book and mid-term seismic hazard prediction map of Kyrgyzstan and the adjacent areas of Central Asia was presented to the international experts, representatives of the Ministries of Emergency Situations of the CIS countries and the general public. A few copies of the book were handed over to libraries.

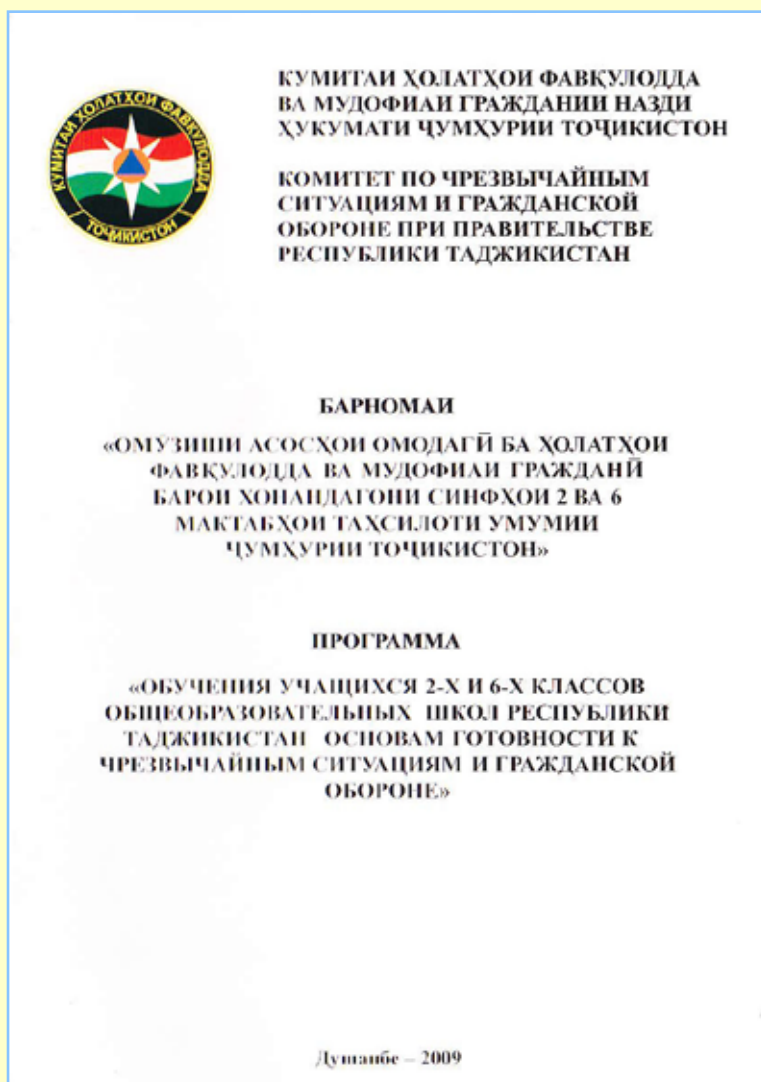
The key goal of the implemented activities was as follows: development and introduction of a 'set' of required knowledge and skills for the population, including school children and local self-governance bodies, based on field and applied monitoring, research and analysis, and summarizing of the revealed patterns in the development of hazards; and the comprehensive implementation of the results of the science-based applied activities in reduction of risk of disasters and catastrophes at all levels of the state, society and communities.

As a result, close relations were established; the population was trained in protection against emergency situations, the new sets of information were prepared for specialists, and a package of training materials was introduced in the field of disaster risk assessment and reduction. Sets of measures for management and prevention of emergency situations were recommended for use for various levels of international, regional and national bodies. Both theoretical and applied rationales were offered regarding expedient introduction of the latest efficient technologies to resolve the issues of earthquake prediction and the consecutive secondary multi-stage emergency situations.

In terms of the temporal forecast of hazards, sufficiently encouraging patterns were established for the multi-year seasonal and multi-year monthly intensification and occurrence of disasters, based on the proper orbital rotation of the solid nucleus of the Earth and transfer of negative geo-deformation to the higher-located geological spheres of the planet and its subparts.

All of the above prediction materials are utilized, corrected annually, updated and presented one year in advance to the emergency services and other interested organizations and institutions to facilitate preventive measures being taken, along with actions for ensuring the safety of the population and territories and their protection from disasters caused by natural hazards and other catastrophes.

Story 20: Emergency preparedness and civil defence training for school children in Tajikistan



Implementing agencies:

Committee for Emergency Situations and Civil Defence under the Government of the Republic of Tajikistan (CoES RT)
e-mail: info@mchs.tj

United Nations Development Programme, Disaster Risk Management Programme (UNDP DRMP)
e-mail: khusrav.sharifov@undp.org

Transformations in Tajikistan's political situation and the increased frequency of emergency situations of a natural or technological character have required a revision to the way in which the country approaches civil protection and training.

Until recently, during the period of the former Soviet Union, the main focus of civil protection was on the protection of the population and territories from the effects of weapons of mass destruction. This theme constituted up to 80 per cent of the content of the educational programme dedicated to civil protection.

However, when the country gained independence there was a change in the structures and relations both within and outside Tajikistan that required amendments to the way in which protection was approached. This was compounded by an increase in the frequency of emergency events caused by both natural and technological hazards that necessitated the development of a new educational programme and training methods that took account of the new demands for protection.

With the purpose of creating a new programme to focus on the new hazards facing Tajikistan, a Working Group was formed to design programmes at the CoES. The work was carried out with the active participation of UNISDR, teachers of a number of schools of the city of Dushanbe, the NGO For Earth, the Academy of Pedagogical Science, and executive officials of the Ministry of Education.

The result of the joint work was the complete revision of the content and the themes of the programme, with a re-distribution of priorities. At this point, 90 per cent of the programme is aimed at the issues associated with disasters caused by natural and technological hazards, while the remaining 10 per cent addresses the area of civil defence. In connection with the change of content, the title of the programme was altered to "Basics of emergency preparedness and civil defence".

The main goal of the programme is the training of second- and sixth-grade school children of secondary comprehensive schools in the basics of preparedness for emergency situations and civil defence. The programme targets the training of children in all comprehensive schools of the Republic.

The programme aims at providing the school children with basic knowledge of the following:

- Factors leading to emergency situations (technological and natural).
- Types of emergency situations and their outcomes.
- Protection methods and rules of conduct in emergency situations.
- Actions according to instructions and signals.
- Modern types of weapons.
- Development of the skills necessary for the use of face masks and gas masks, and the use of available materials and means.
- Cultivation of skills in first aid and mutual assistance during injuries, including bleeding, burns, etc.

The methods of teaching will vary depending on the grade and age of the school children. However, the methodology of teaching is based on:

- Brief narration by the teacher.
- Demonstration of the methods or actions, with explanations.
- Rehearsal of actions/methods.

The programme was approved by the Ministry of Education and was recommended for use in all the country's general education institutions from the 2009 academic year.

Development and publication of the programme was financed by the UNDP Disaster Risk Management Programme.

The first results of the collaboration will be determined by the end of the 2009-2010 academic year. However, it is already clear that this experience can be considered a success because the teaching of the programme at schools is one of the important steps in enhancing the level of overall awareness of emergency situations and forming the necessary skills. Besides, this programme is the first of its kind in Central Asia.

The programme is included in the curriculum of all Tajikistan comprehensive secondary schools.

Story 21: Professional development of lecturers through a programme based on a modular accumulation system

Implementing agency:

Institute of Development and Re-training of Staff in the Education System in Astana

Contact person:

Ms. Olga Nakatkova, Head of the educational work and supplementary education office, Institute of development and re-training of staff in the Education System in Astana

The system of professional development of lecturers was approved by the Institute of Development and Re-training of Staff in the Education System in 2009 and aims at creating the opportunities and conditions to allow lecturers continuous professional development through independently-designed programmes that are in accordance with the aims of the educational institution in which they are taught. The system allows lecturers greater input into the ways in which the programmes are implemented.

Under the new system, training is carried out through educational programmes that include modules on the improvement of professional skills.

The design of the professional educational development system assumes the compulsory inclusion in its structure of a module dedicated to the fundamental problems of modern educational development, psycho-educational theory and regulatory foundations.

Key elements of the professional development programmes, which are aimed at both academic and administrative staff, are independent educational modules that are completed as part of the 'accumulation' system. As a rule, the modules represent the substance of the course.

The compulsory component of the educational programme is the description of educational forms and methods, and the final assessment of the audience.

The safe behaviour of children during emergency situations is a key concern of the educational institutions of Astana and forms part of a training course organized by the Office of educational work and supplementary education. A training module on "The culture of safety of students in emergency situations of a social nature" is a component of a training course on the "New approach to working with children on safe behaviour during emergency situations"¹⁴.

The development of the subject was carried out on the basis of the normative documents¹⁵ regulating supplementary education activities in the Republic of

14 The course is implemented by the Office of educational work and supplementary education, as a structural subdivision of the Professional development institute at the training facility on: "The model of lecturers' professional development in the supplementary education system in conditions of changeover to 12-year education on the basis of a modular-accumulation system in IUQRCSE, Astana.

15 The documents are: The Republic of Kazakhstan "Law on education"; The Law of the Republic of

Kazakhstan.

Education in schools on the subject of safe behaviour during emergencies is provided in the subjects military training and basics of life safety, and through activities including specific campaigns and Civil Defence days, etc. The Civil Defence programme assumes cognitive activities and the formation of psychological preparedness and strength of will. The course basics of life safety is intended to develop among pupils a conscious attitude to issues of personal safety and the safety of others in emergency situations.

The system of extracurricular education also addresses this issue through the use of such verified techniques as instruction in safety measures, thematic interviews and purpose definition.

However, the level of activities is not yet sufficient and additional educational institutions are now aiming to socialize and orientate new generations in the skills necessary for proper behaviour through a variety of socio-cultural activities. In this context, it is important not only to ensure the control and quantification of knowledge but also to deepen and expand the acquired skills to the level where there is a degree of automatism, to develop a culture of safe behaviour.

The low motivation of the heads of methodology services of supplementary education institutions in the direction of the improvement of professional development is noted. It is recognised that the network interaction resources are not being effectively used between the state structures and the following bodies: the Ministry of Emergency Situations of the Republic of Kazakhstan; the Committee on the state control on emergency situations and industrial safety; the Special research centre of fire safety and civil defence; the Committee of fire safety of the Ministry of Emergency Situations of the Republic of Kazakhstan; the Fire fighting service and rescue operations; the Center of Emergency Medicine (CEM); the Agency of the Republic of Kazakhstan on emergency situations; the Agency of the Republic of Kazakhstan on public health services; the Department on emergency situations; the Republican crisis centre; and the Fire Service Department, etc. Innovations are insufficiently studied or included in practical activities.

The goals of the professional development school are:

- Preparation of teacher-practitioners at institutions for supplementary education to work with children on safe behaviour in emergency situations throughout their training.
- Provision to teachers of additional knowledge on new forms and technologies in their work with children on safe behaviour in emergency situations.

Kazakhstan “The languages in the Republic of Kazakhstan”; of 11.07.1997, 151-I; The State education development programme of the Republic of Kazakhstan for 2005- 2010; the Law of the Republic of Kazakhstan of 05.07.1996, 19 “On emergency situations of a natural and anthropogenic character”; Law 51-II “On changes in the Law of the Republic of Kazakhstan”; the Law of the Republic of Kazakhstan and the Civil Defense form 7.05.1999; Law 100-I “On Civil Defense” (with changes and additions); the Law of the Republic of Kazakhstan of 08.02.2003, N 387-2 “On emergency situations”; regulatory framework of the First Aid Service in emergency situations of the Republic of Kazakhstan; the charter of IUQRCSE; regulations on the module accumulation system.

- Formation of practical abilities on the application of new forms and technologies for safe behaviour.
- Exchange of experience of teachers on safe behaviour in extreme situations.

Objectives:

- To organize work at the facility with master-classes, seminars, training and other interactive forms of education with the participation of representatives from the state services and agencies on the basis of the Institute of Development and Retraining of Staff in the Education System and educational institutions – the project participants.
- To introduce new forms and technologies on safe behaviour of children in emergency situations into teachers' practice. As part of the project, to include 80 per cent of teachers at institutions for supplementary education in professional development from 2009 till 2012.

Educational module

“Culture of safety of school children in emergency situations of a social nature”

Author: Ms. O.I.Nakatkoa,
Head of department of tuition and
supplementary education

Explanatory note:

The programme of professional development within the educational module “Culture of safety of school students in emergency situations of a social nature” is offered as supplementary education to the following groups: class tutors, deputies to school headmasters for educational work, teachers of junior grades, and teachers of specific subjects (including physical training, basic skills for life provision, valeology (the study of health), basic military training, geography, physics, chemistry, biology, history, etc.).

Today, emergency situations of the natural, anthropogenic and social nature have become a reality of life for every person. Of special concern are the emergency situations of a social nature: wars, terrorism, kidnapping, drug addiction, etc.

The teacher’s role in child safety at educational institutions is paramount. The activities of the teacher and the methodological level adopted determine the students’ correct and safe behaviour in daily life and in dangerous situations. The degree of security from dangers increases if these skills are developed to automatism, and actions are carried out in due time and competently. All this forms in the children a culture of safety, which makes it especially important that teachers are prepared from all educational disciplines.

The module programme examines the key ideas of the topic: the classification of extreme situations, reasons for their development, risk factors, norms, rules and conditions of safety. The practical part aims at the appraisal of personal skills for coping with emergency situations and the skills of taking correct decisions and actions. Practical activities aimed at enhancing the subject skills will be organized. The module provides information on the legislative framework of the Republic of Kazakhstan in provision of personal safety, society and the state, and a list of methodological literature.

The programme uses a block structure for a total of 12 hours.

Upon completion of the programme, a corresponding entry is made in the personal qualification book.

Story 22: Preparing schools and communities for emergency management in the Amu Darya river area



Implementing agency:

Society of nature protection,
Department in Lebap velayat,
Turkmenistan

Contact person:

Ms. Inga Taganova

Duration:

2007-2008

The project was implemented with the support of ECHO, Netherlands Red Cross, and Red Crescent Society of Turkmenistan

The deteriorating quality and quantity of water is threatening the supplies of fresh water for consumption and in the future will turn into a serious factor limiting development. This is the situation across the world and it is one which is repeated in Central Asia.

The situation is so serious in the largest river in Central Asia, the Amu Darya, that its turbidity level is now among the highest in the world. The once free-flowing river, which starts at the confluence of the rivers Vakhsh and Pyandzh and flows for 1,415km into the Aral Sea, has become shallow and its waters now practically never reach the sea.

This is an issue which affects a large number of people. The Amu Darya has an area of 309 sq.km and crosses the territories of four countries: Tajikistan, Afghanistan, Turkmenistan and Uzbekistan. The river is fed by a number of tributaries, including the Gunt, Bartang, Sherabat, Vandzh, Kyzylsu, Kafirnigan and Suhandarya, and flows via several cities: Hayratan, Shortapa (Afghanistan), Bossaga, Eldzhik (Turkmenistan), and Akaltyn, Termez (Uzbekistan).

In the future, water availability will become a serious factor limiting development. This is caused by the increasing deficiency of water resources resulting from factors involving interstate water allocation, strict limits on water consumption, changes of river flow regimes by the regional hydro-economic system, worsening of water quality

and salinization of soil.

This deficiency of fresh water makes it imperative that ways are sought to more reasonably use fresh water and protect it from pollution.

The main focus of this research is that, on the basis of the analysis of modern ecological conditions of water objects, the reasons for and degree of fresh water pollution in small rivers and irrigation channels can be determined and resolved, and measures for its protection from pollution and silting can be developed.

For the achievement of the research goal the following tasks have been set:

- Examination of pollution degree by chemicals and products of soil erosion of small rivers and other water sources.
- Establishment of influence of dominant ecosystem on physical and chemical characteristics of grey soil.
- Examination of influence of mineral fertilizers on chemical structure of soil along small and medium rivers; influence of herbicides on microorganisms and the nutritional components of soil.
- Study of silting intensity, vegetal invasion of irrigation canals and surface evaporation depending on the vegetation cover.
- Definition of content of salt in ground-water along irrigational systems.
- Development of protection measures for water objects from pollution by chemicals and silting by products of soil erosion.

In the context of such deteriorating ecological conditions, the project "Preparation of schools and communities" was implemented in Lebap velayat, which is situated on both sides of the Amu Darya. The project, which ran from 2007-2008, involved 240 participants from the three oblasts Serdarabat, Garashsyzyk and Galkynysh.

Volunteers were trained in first aid provision and rules of emergency management. The project included exchange visits, refresher training, competitions, and trainings with the fire service, departments of emergency situations, state automobile inspection, as well as under the "peer-to-peer" programme.

The competitions involved the selection of the 15 best participants from the etraps (oblasts) Serdarabat, Garashsyzyk and Galkynysh. They were invited to participate in a competition in Turkmenabat, held in Secondary School №29.

The participants were divided into three teams, with each team presenting creative poems and songs. After team presentations, the rapid response team of Lebap velayat demonstrated how to pitch a tent quickly and correctly (in just three minutes), which the teams then discussed along with the subject of population evacuation in an emergency.

Three scenarios were then presented: an earthquake, flood, and fire. Time was given to each team for the rendering of first aid according to the rules of "correctness and expediency, speed, careful planning, efficiency and calmness".

In regional competitions the most active participants were determined according

to the selection criteria and awarded prizes. The best volunteers took part in Republican competitions, with the five-person team from Lebap velayat winning first prize at the national event. The competition was held in the capital of Turkmenistan, Ashgabat.

The project "Preparation of schools and communities" has proved to be one of the most successful projects of the Red Crescent Society of Turkmenistan and at this stage its activities are being actively replicated across Turkmenistan, involving the mass media and state sector.

Since 2009, the project has been operating under a different title. "Improvement of preparedness for disasters and ability of communities and schools of Central Asia to act" uses multiple platforms including new training methods and multimedia equipment to promote the development of preparedness education in high schools and bring the project message to communities.

Nature will always be the basic source of human life. Pollution of the atmosphere, water and soil and the exhaustion of natural resources affects the interests of all people. The elimination of such "overpressures", to which people subject nature, cannot always be solved by individual states and can be carried out only on the basis of comprehensive international cooperation.

Although the protection of the environment within national territories is the business of individual countries, it is through the coordination of efforts, interaction of economies and cooperation in scientific developments that abilities can be considerably enhanced and means found to solve ecological problems.

This is the reason why ecological problems are on the priority lists of modern international relations. It is why they are discussed at various world forums, including the United Nations.

LIST OF TOOLS

#	Name of tool	Organization	Contact person	
1	Manual <i>Earthquake Safety</i> for school children	NGO "Little Earth"	Timur Idrisov forearth@yandex.ru	Tajikistan
2	Manual <i>Fire Safety</i> for school children	NGO "Little Earth"	Timur Idrisov forearth@yandex.ru	Tajikistan
3	Manual <i>Floods and mudflows</i> for school children	NGO "Little Earth"	Timur Idrisov forearth@yandex.ru	Tajikistan
4	Manual <i>Landslides</i> for school children	NGO "Little Earth"	Timur Idrisov forearth@yandex.ru	Tajikistan
5	Coloring book <i>How to get ready to disasters</i>	NGO "Little Earth"	Timur Idrisov forearth@yandex.ru	Tajikistan
6	Pocket-books <i>Earthquake. Five steps towards risk reduction</i> for junior-school children	NGO "Man and elements"	Lyudmila Bakhareva lbakh@mail.ru	Kazakhstan
7	Pocket-books <i>What we should know about earthquakes</i> for secondary-school children	NGO "Man and elements"	Lyudmila Bakhareva lbakh@mail.ru	Kazakhstan
8	Presentations for conducting of trainings <i>Seismic risk reduction. Basics for secondary- school children</i>	NGO "Man and elements"	Lyudmila Bakhareva lbakh@mail.ru	Kazakhstan
9	Book: <i>Seismology and seismic safety basics</i> , author A.Nurmagambetov	NGO "Man and elements"	Lyudmila Bakhareva lbakh@mail.ru	Kazakhstan
10	CD game <i>Jean-Earthquaker</i> and the Cartoon film	UNDP Kazakhstan	Alexandr Kravchuk alexandr.kravchuk@undp.org	Kazakhstan
11	Video films <i>Five minutes for life</i>	Public Ecological Organization "HAYOT"	Khusan Tursunov khusant@mail.ru	Uzbekistan
12	Posters on the rules of conduct during disasters	Public Ecological Organization "HAYOT"	Khusan Tursunov khusant@mail.ru	Uzbekistan
13	Plan of actions during natural and technological disasters in schools of the city of Tashkent	Public Ecological Organization "HAYOT"	Khusan Tursunov khusant@mail.ru	Uzbekistan

14	Manual on emergency situations preparedness for school children	FOCUS Humanitarian Assistance	Malik Ajani Jr. majani@focushumanitarian.org	Tajikistan
15	Manual on reduction of non-structural risk	FOCUS Humanitarian Assistance	Malik Ajani Jr. majani@focushumanitarian.org	Tajikistan
16	Poster on the rules of conduct during disasters	FOCUS Humanitarian Assistance	Malik Ajani Jr. majani@focushumanitarian.org	Tajikistan
17	Poster on reduction of non-structural risk	FOCUS Humanitarian Assistance	Malik Ajani Jr. majani@focushumanitarian.org	Tajikistan
18	Pocket book on emergency situations preparedness for school children	FOCUS Humanitarian Assistance	Malik Ajani Jr. majani@focushumanitarian.org	Tajikistan
19	Manual on rules of behavior in emergency situations	NGO "Tajik Development Gateway"	Valentina Spivak spivak_valentina@tajik-gateway.org	Tajikistan

EUROPEAN COMMISSION



Humanitarian Aid

What is European Commission's humanitarian aid?

Since 1992, the European Commission's Humanitarian Aid department (ECHO) has funded relief to millions of victims of natural and man-made disasters outside the European Union.

Aid is channelled impartially to the affected populations, regardless of their race, ethnic group, gender, age, nationality or political affiliation. Part of the department's mission is to raise public awareness of the issue at stake.

Working with partners in the field

For humanitarian aid, the Commission works with around 200 operational partners, including specialized United Nations agencies, the Red Cross/Crescent movement and non-governmental organizations (NGOs).

A key donor

The European Commission is one of the biggest sources of humanitarian aid in the world. In 2008, it provided €937 million for humanitarian programmes. This does not include the aid given separately by the European Union's 27 Member States. The Commission's support went to projects in the than 70 countries. The funds are spent on goods and services such as food, clothing, shelter, medical provisions, water supplies, sanitation, emergency repairs and mine-clearing. The Commission also funds disaster preparedness and mitigation projects in regions prone to natural catastrophes.

