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Earthquake mitigation from a gender perspective in Armenia

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Introduction.

Armenia is one of the Central and Eastern European and the former Soviet Union countries, which are in transition period and are going through immense changes. The people who are most affected by these changes are women and children, as they are more vulnerable. Many are missing out on the new opportunities created by the transition, and many are feeling its adverse effects. However, women have often responded to challenges with resilience and resourcefulness.

I would like to quote Carol Bellamy, Executive Director, UNICEF: “The countries of the region have an unprecedented chance to build gender equality into their new societies and lead the way into the new millennium. Measures to tackle gender discrimination must include the full implementation of the CEDAW (Convention on the Elimination of All Forms of Discrimination against Women). Such measures are essential, for the underlying aims of transition – more human societies, higher living standards, greater economic freedom, and true democracy – can only be realized through the full participation of women in the process”.

The socio-economic problems typical of a transition period for the mentioned countries were aggravated in Armenia as a result of the 1988 earthquake and the Karabagh conflict. The consequences of the reforms and of the disaster hit women the hardest. It was women’s rights and opportunities that were violated more than those of other people. Apart from anything else, women were ignored despite the discrimination, suffering and privations they suffered during their search for the self-esteem and self-assertion commensurate with their responsibilities in society.

I (later the members of our NGO “Women for Development”) had an opportunity to be at the epicenter of not only socio-economic transitions in Armenia, but also at the epicenter of the 1988 Spitak disastrous earthquake. And I had also a unique opportunity to combine simultaneously the skills and experience as a National Survey for Seismic Protection scientist, a leader of Women for Development NGO and a woman (wife and mother). This combination allowed me to obtain great experience in disaster mitigation during 12 years after the disastrous earthquake. I provided all this knowledge through a gender prism and now I want to present it to you.

Preliminarily I think it is important to show some figures about the effect of the disastrous earthquake in a small country like Armenia, which is on the way of independence and democracy. So:

- ◆ The disaster took over 40 % of the territory of Armenia with million population.
- ◆ 21 towns and regional centers, 324 villages were ruined partially or wholly. Many education, health and cultural centers were ruined.
- ◆ There were over 25 thousand victims, more than 19 thousand people became disabled: 530 thousand people were left without shelter.

- ◆ The damage caused by the earthquake amounts to nearly 10 billion USD (annex).

No figures can describe the damage caused by the earthquake on population and environment:

- 80 % deforestation of Shirak region and Gyumri for using wood as fuel in winter (during the disastrous 1988 winter and the 1992-94 energetic crisis) brought damage to the ecosystem, with dangerous landslides, ruins, permanent winds and sunburn.
- Vegetation absence and ruins (still half ruined houses and roads) increased the consistence of dust in the air, which, in turn, led to a (15 times) increase of breathing organ diseases.
- Disorder in the running water system is one of the main causes of infection diseases.

Twelve years after the disastrous earthquake, the still existing dust of the city (photo), mud and landslide possibility demonstrate that natural disasters have a long lasting adverse impact on the environment. The effects of the earthquake's material as well as changes in the eco-environment have permanent consequences on Armenia's development.

Let's observe the gender specific effects of the earthquake in Armenia, which roused in result of the above mentioned.

1. Many families became gender unequal, due to the loss of husbands or wives, which caused many socio-economic and psychological problems.
2. The loss of children, relatives, houses, life in contemporary houses (up to now), the loss of jobs led not only to men's but also women's poverty (photo). The loss of jobs led to uselessness, which in its turn sharpened the desperateness because of relative and house losses. We can cite many examples of women and men mentioning that only the existence of jobs (especially hard work, which will not leave time and opportunity for memories) would be a solution to this situation.

The men in this situation were less flexible and found the solution in aggressiveness and in discrimination against women (which in some way was self-protection) or in migration to different countries (Russia, USA, Europe). Many of them didn't return making their new families abroad.

Men brought the hardness of family living earning on women's shoulders' (problems of children, parents, in villages also farming, cattle and food for it). However, women were traumatized too; they did not have jobs and were partially disabled. They were pressed and in desperate situations. All this led to illnesses, poverty and prostitution, which do not typically characterize Armenian women. Armenian women became unrecognizable.

In addition to what was mentioned above concerning the gender specific effects of the earthquake in Armenia I would like to present the results of the women's health informative projects on the perception of gender equality within the family. The projects, implemented by us in 2000-2001, included (nearly 1000) women mainly aged 20 to 40 years, from 40 villages of the Shirak region as Disaster Zone.

The gender specific effects of the earthquake in the health sphere of the Shirak region, Armenia.

Beside the many socio-economic problems, caused by the earthquake, there were health problems, which had never occurred before. These were more vivid especially in distant rural locations. So:

- ◆ If there were well equipped and medically supplied ambulatories (where the population could get first medical aid and sometimes organized treatment) with qualified specialists in all villages, after the earthquake most of them were destroyed and thieved. There are neither doctors nor nurses in most of the villages.
- ◆ If medical service was free of charge before the earthquake, after the disaster and the socio-economic transitions, the paid service became inaccessible for 70 % of the population (living in poverty).

The degradation of living conditions as an earthquake effect, the poverty and great percentage of migration became causes of diseases, such as itch, tuberculosis, skin-venereal and fungus.

If the solution to the socio-economic problems is connected to greater funds, enhancing the population's health awareness could stop the increase of diseases caused by such socio-economic problems. Since women are responsible for health protection problems, our organization is implementing a project "To Support the Women Participation in Medical Care Issues" in 40 villages of the Disaster Zone in Northern Armenia. The goal of the project is to enhance responsibility (by participating in the solution of health problems) and the level of awareness among women through discussions. In two years, more then 1000 women were involved in the project.

During the discussions, women not only obtained knowledge on health issues, but also realized that they could and must prevent the spread of many infection diseases in their families. The idea that somebody is caring for health gave great positive energy to rural women who feel desperate. During the site visits, we have been in villages where different international organizations have built health centers after the earthquake. Their equipment and medical staff played a big role in reducing migration from those villages. For example in the Sariat village, women mentioned that the presence of the doctors from the capital, who have arrived after the earthquake, made them stay inspired with hope and belief. However, frequently the contrary was evident, when because of poor medical service, the inhabitants had to leave the village. The beneficiaries of our project were only women. We think that it is important to have talks with men too about some diseases, such as sexually transmitted diseases and tuberculosis (due to their existence in Russia). That's why we have explained to the women the need to share the obtained knowledge with their husbands and sons, especially with those who often come back and migrate.

I would like to mention that Armenian mentality doesn't allow rural women to talk on such topics with their husbands. So we advised them to overcome this taboo, explaining the importance and necessity of protecting their families, especially children,

from potential diseases caused by migration, such as sexually transmitted diseases and tuberculosis. We were happy when women were assured and agreed. They became more confident and saw themselves as part of the solution to their problems.

In these 40 villages in order to assess women's perception of gender equality in the family, we have provided a questionnaire, created by us, including a gender aspect, which has the following main blocks: age; education; marital status and family structure; who is the head of the family; discrimination in the family; awareness of women's human rights and gender equality (annex). The testing result analysis, the talks with women, women's oral stories and our observations showed that the family status of women in the disaster zone differs greatly from the one in other regions of Armenia. The unemployment level here is nearly 81 % (see scale, but in Armenia 48 % in 1999), which is connected to the fact that before the earthquake all the men and women had a job in the field or in state organizations (farms, factories, schools, medical points, etc.), which were ruined during the disaster. There is also high level of discrimination and low percentage of decision-making women in families.

To the question "do they know about human rights and their rights?" 90 % answered "no" (and 10 % had only heard that word), 100 % of women were not aware about gender equality and heard the word "gender" for the first time. As we see, the violation of women's human rights in the family as in general is more vivid during disaster situation than in normal living situations and, in order to assist women in extending the full enjoyment of their human rights, we suggest enhancing Women Human Rights awareness. Thus, we offer to implement projects for enhancing awareness of women about their rights (especially in disasters context) by providing training.

Compared to men, women in the disaster zone were more flexible and active. Many of them established their own business (knitting, sewing, cooking, trade); others began to requalify themselves in new professions. Some of the women became engaged in social activity and created NGOs. In this aspect I would like to bring the example of our organization "Women for Development" and its activities in Disaster Mitigation.

Our suppression and desperateness after the earthquake and the 1992-1994 energetic crisis seemed endless. It was necessary to save yourself in order to find a way for other women who were so desperate. It was hard for us to see 80 % of the Gyumri women spending their time in taking turns in order to receive humanitarian aid, and the remaining part getting information about humanitarian aid. However, it was very necessary to recover the city and life, to liquidate the effects of the earthquake side by side with men. It was necessary to take the initiative for enhancing the civil activity of women. Why women? Because they are the most vulnerable part of the population.

Though we, the founders of the organization (the vice president and myself), are candidates of science and chief specialists of the National Survey of Seismic Protection in Armenia, we considered our social activity not fulfilled. The hard condition of the city was pressing on us forwarding to something new. In such circumstances, in 1997 we have founded the "Women for Development" NGO, whose mission is to use the intellectual

potential of women with higher education in Gyumri for carrying out development projects in the sphere of education, health and human rights, including the following projects on earthquake mitigation.

1. Two projects for training on seismic protection skills in Armenia's schools (financed by UNICEF).

Armenia is situated in a zone of great seismic risk and, in order to reduce such risk, it is necessary to really implement seismic hazard and enhance the population's preparedness in earthquake protection, so as to reduce human victims and damages.

- The analysis of the Spitak earthquake showed that one of the several causes of human victims (including 2000 children) was population's unawareness about elementary protection skills during the earthquake. And many of the mistakes, which determined victims, were caused by this.
- The goal of the projects was to train teachers and pupils of primary and middle classes from 56 schools in the Gyumri and Shirak regions on seismic protection skills. The projects were implemented in the IDNDR frameworks.
- The projects' implementation helped to teach children how to adequately react to disastrous forces of nature, how to protect themselves, under the motto: "don't be scared be prepared!"
- The chief specialists of the National Survey for Seismic Protection (10 specialists, 5 of them are members of our organization) made visual aids about seismic protection and how to behave during earthquakes for our first project implementation.
- Great attention was paid to the psychological condition of children. Many of them experienced victims of the earthquake in their families. Therefore, whilst making the visual aids, the age and psychological factors of children were taken into consideration. Nicely illustrated pictures allowed us to provide training in form of games (annex 12) without hurting the psychology of children.

We were also interested in knowing whether boys and girls would react to the project in different ways. During the lessons, especially in the first pilot project, we chose different treatment to boys and girls. So during the lessons, we took into consideration the fact that girls were more sensitive and scared, responsible for their family and children, whilst boys (especially Armenian) were more brave, behaving like heroes, protectors and constructors. We provided interactive games with mixed and/or same sex groups (only boys or only girls in each group). The tasks were given correspondingly: to boys – how to build a robust house, how to fasten household items, for them not to fall during the earthquake, how to save friends and provide them first aid. The girls were offered to furnish the house so, that it will be less dangerous during the earthquake which will then cause minimum damage. They always played the role of nurses and women providing first aid with great pleasure.

I want to bring a vivid example which I remember. During the project's implementation, we always received words of gratitude from teachers and parents, saying that our project is very timely and necessary, but there was a case when a mother of the

1st class girl from school #12 came to us and said she didn't want her thin and sensitive daughter to take part in our project (though the girl was eager to participate). She didn't want her to listen about all that awful things once more, because the earthquake took the lives of 4 members of their family. We didn't try to persuade her to allow her daughter's participation. We only explained her the goals of our project, showed her the nice visual aids. Later we were very glad when she not only allowed her daughter to participate but thanked us for our work.

The project involved nearly 500 teachers (96 % of them were women) and 10.000 pupils (60 % of them girls) from primary classes of the Gyumri schools. And 20.000 parents, relatives were indirectly involved in our project due to the important role of women in sharing hazard information on their extended social networks.

UNICEF and the Ministry of Education and Science of Armenia supported the project of including "life skills" subject in school curriculum. One chapter of it was devoted to training children protection skills in emergency situations. Coming out of this fact, in 1998 we have implemented our second project "provision of seismic protection issues in 1st and 5th forms of Armenian schools" in the frameworks of IDNDR, supported by UNICEF. It was devoted to the 10th anniversary of the 1988 Spitak earthquake. 24 teachers, 450 pupils of 1st and 5th forms from 12 Armenian schools were involved. We knew that 7-year-old children understood better when the materials were presented in the form of comics and games. It was rather difficult to find a nice character (Mickey Mouse) for it to be the hero and the guide of training simultaneously (annex).

In this project we have differentiated tasks for each group of children (mixed and same sex) and each lesson. We included one lesson to the school seismic curriculum, during which children drew on the topics already learned. We knew that children, especially little ones, present better their thoughts and knowledge in pictures. Our experience proved it. Many pictures (annex) of children reflected the knowledge obtained by them during the training. The gender analysis of boys and girls drawing provided by us was very interesting. Even by only looking at it, one can differentiate male and female drawings. The boys have drawn ruined houses, saving works with cranes, fires, more blackness (annex). The girls mainly drew rooms or houses with curtains, furniture, dolls, children, grass and flowers, crying sons, mothers and nurses assisting the vulnerable (annex).

On the basis of these drawings and hand works, exhibitions in Gyumri, Yerevan, Atlanta (USA), Iran (annex) were organized. The photo on the seismic culture class in the Gyumri schools won the 1st prize in the United Nations 1999, World Disaster Reduction Campaign "Prevention Pays", International Photo Contest, Geneva (annex). And recently 11 drawings of children (6 of these children were girls) were sent to the Third Asian Children and adolescent's drawing competition, exhibition held from 8 to 15 October 2001, in Tehran, Iran (on the occasion of the National Week on Natural Disaster Reduction). I would like to mention that girls and boys show the same interest to such kind of competitions.

The materials and results of the project were established (exactly in Women Status Report: Impact of Transition, Armenia 1999) and presented to the International Conferences in Yerevan, Istanbul, Geneva, Tehran, and Almaty, after which suggestions were made for collaboration and experience sharing with specialists from Georgia, Azerbaijan, Iran and Kazakhstan. We have also observed that when the training was provided by our male specialists (2 from 10 are men) children were more responsible and attentive in leaning the material, but, on the other side, there was not much freedom. Male teachers didn't allow to choose correctly the way of behavior during the earthquake. The women specialists provided the lessons in a more artistic and interesting way, which, I think, it has helped children greatly to overcome the fear of earthquakes and choose measures for corresponding situations. Of course here the subjective factor of teacher plays a great role.

The seismic issues training is an element of disasters mitigation. And, from our experience, we can suggest the following recommendations: in countries with high seismic risk the Ministry of Education can include a course on seismic protection issues teaching in the school curriculum, with a special gender focus. This would reduce the seismic hazard. I would like to mention that women could play an active role in implementing such projects. So 8 specialists out of 10 from NSSP were women, 95 % of teachers providing the training were women too (in Armenian and Caucasian schools the teachers are mainly women) and parents who participated were mainly mothers. It is important to point out that very often the fathers of children thanked us for our project and this was very valuable for us.

3. The other two projects implemented by us on disasters mitigation are:

“Complex plan for operative actions of municipal services by destructive earthquake” (for example in Gyumri) and “Methods of compiling plans for operative and effective actions of municipal services in the case of destructive earthquake” for the Caucasus Republics (financed by Eurasia Foundation). Large cities of the Caucasus Republics have high seismic risk, the reasons of which are the following factors: low realization of seismic hazard and breaking the norms of seism resisting buildings. All these led to the enhancement of earthquake potential damage, one of the reduction elements of which is the preparation of the country to emergency situations.

Coming out of this, we have implemented the above-mentioned projects, the goals of which were to make a complex plan of operative and effective measures, methods during disastrous earthquakes. The plan will coordinate the first aid organization, saving works and earthquake effects liquidation. We mean mutually agreed and interrelated actions of all 12 municipal services (seismic, health, san-epidemic station, internal affairs, electric, central heating, running water, fire protection, funeral, vehicle inspection, communication service) under the complex plan. The first project was prepared and implemented for local government and services of Gyumri, the second one for developing methods of using these plans in same structures of Caucasus capitals: Yerevan, Tbilisi, Baku.

From 9 specialists, implementing the project, 5 were women and 4 were men. Women scientists collaborated with such important municipal services as san-epidemic station, gas, heat, water, electro and communication services. 11 services out of 12 were headed by men and only san-epidemic station by a woman. In the framework of the given project we have provided training and meetings with the heads of local and regional governmental structures for organizing disaster management during earthquakes. Not everybody believed that we, women specialists, could manage the training of disaster management, considering it as being male work. But our experience showed that when the woman specialist goes to the heads of governmental structures and services, the male administrators accept them with great respect and attention to their work: as during developing necessary plans of activity for municipal services also during the organization of disaster management (photo). Though strange, the administrators valued the knowledge, professionalism and sureness of women in disaster management. Coming out of the above mentioned experience we can suggest gender equality in the choice of specialists for representing and working in such spheres as disaster management, which are male dominated.

3. Women and Mass Media as Key of Earthquake Reduction (financed by USIAD).

As in any country, in Armenia too the results of the earthquake's heaviness fell on women's shoulders. In spite of all this, women must live and survive, overcome not only the economic difficulties but also think about the future, do everything for earthquake reduction together with men. It was necessary to build new seism resisting buildings, reinforce the damaged ones, which was men's work, but also teach seism protection behavior to each member of the society so as to reduce the impact of earthquakes.

For this purpose, the Women for Development organization, the members of which are witnesses of the disaster and scientific workers of Seismic Risk Redaction, planned to implement the Women and Mass Media as Key of Earthquake Reduction project. The project was implemented under UN IDNDR motto "Prevention begins with information" and achieved the following goals:

1. Seism protection knowledge was given to the population of the most vulnerable region of Armenia, the Shirak Region, involving Mass Media and NGOs implementing projects on children and women issues.
2. By practical steps, it was proved that family investment in a culture of seism protection and everyday talks on that topic would help to make it a social norm and reduce the number of victims during the possible disasters.

The project was implemented in three phases:

1. Radio and TV programs. Broadcasting of clips about seism protection behavior.
2. Seminars for NGO and Mass Media representatives of the Region.
3. A line of articles "inform for prevention" with general title in regional newspapers.

In Radio and TV programs great space was devoted to women and women organizations' actions for disaster mitigation and to the women's and mothers' role in teaching seism protection skills to their children.

The most important result of the project is that: with the help of Mass Media the wide society gained a new positive type of woman, who is not only silently carrying the heavy results of the disaster, but is also ready to provide her knowledge and ability for disasters mitigation. So we proved on our example that Gender is not myths, but realities in disasters. We see women not as weeping but as active, side by the side of strong-armed men in disasters.

I think it would be very interesting to revise the history of Armenia. The historic researches of the scientist Hamlet Petrosyan show the unusual increase of women's role during emergency situations, more exactly: during Christianity spread and adoption in Armenia, Vardanats War, Kharabagh Movement and etc. At least we saw the increase of women's activity in the Spitak earthquake disaster zone, their efforts in liquidation of disaster affects side by side with men. All these examples prove the increase of women's role and activity during emergency situations (in order to protecting their family, city and country). An historic scientist assures that this phenomenon can be explained not only by biological factors but also by culture. This issue is very interesting and needs further research.

Conclusion

So women's ability to prevent or cope and recover from disaster has not sufficiently been taken into account.

But our experience in Seismic Risk Reduction, especially in earthquake mitigation from a gender perspective, in Armenia showed:

- Due to their contribution in the education sphere, women (equally with men) can play a key role in preparing emergency relief assistance provoked by natural disasters.
- Women have the potential to be key actors in environmental management and natural disaster mitigation because of their very proactive behavior in protection and well-being of their household, their involvement in family community-based activities, and neighborhoods.
- Involving women equally with men in all levels of decision-making positions (in our example science, education, public administration and planning) will add the potential contribution they could make in environmental management and disaster mitigation.

In order to develop gender sensitive policies and measures focused on environmental management and mitigation of natural disasters we are recommending the following:

- In countries with high seismic risk, through the Ministry of Education, include gender-sensitive seismic protection courses in the school curriculum, as a measure of seismic risk reduction.
- Enhance women's participation as specialists in spheres where men dominate greatly (in disasters survey, academic field, emergency service, civil protection), which works with different levels of government system (Government, emergency service, and local gov. organs) providing jobs on saving human lives and disaster affect reduction, where also men dominate greatly.

- Enhance women's participation in governmental structures at all levels.
- Use the capacities of media representatives and utilize print, radio and television in the creation of a new image of a woman, who is ready to provide her knowledge and ability for disaster mitigation. Particularly Women and Mass Media as Key of Earthquake Reduction.
- More respect to women's human rights in emergency situations.
- Women NGO's foundation and collaboration with specialists for implementing projects on disaster mitigation.

All our experience and recommendations in the sphere of earthquake mitigation from a gender perspective will be an opportunity to enhance the preparedness level of the country and its population as regards to strong earthquakes which, in turn, will reduce the costs of earthquake effects liquidation, will lead to sustainable socio-economical development.

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