Strengthening Preparedness for Chemical Accidents in Armenia using the Flash Environmental Assessment Tool (FEAT)

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- Political will to lead the process for development of a strong resilient country;
- Close cooperation between the Government and UNDP is already established, with a common position on developing a DRR/CCA oriented approach in Armenia;
- Willingness to promote national coordination and information management mechanisms through the further development of DRR National Platform and Crisis Management Center;
- Post 2015 Framework and DRR/CCA are considered among the national priorities in the context of the Government Development Programme for 2015-2019.

- Introduction of technological hazard risk reduction, with a specific focus on chemical accident preparedness in disaster risk reduction framework of Armenia
- Testing Flash Environmental Assessment Tool (FEAT) methodology to a number of facilities in Armenia; identifying gaps and developing recommendations for improvement in the management of chemically hazardous facilities
- Integration of environmental emergency preparedness and chemical accident preparedness elements in the education and qualification of specialists
- Identification of gaps in chemical accident legislation and provide recommendations.

Key national legal instruments:

- RA Law “On Waste”
- RA Law “On “State Regulation of Technical Safety”
- RA Law “On Automobile Transportation of Hazardous Goods and Harmful Containers”
- RA Law “On Licensing”
- RA Law “On Environmental Impact Assessment”

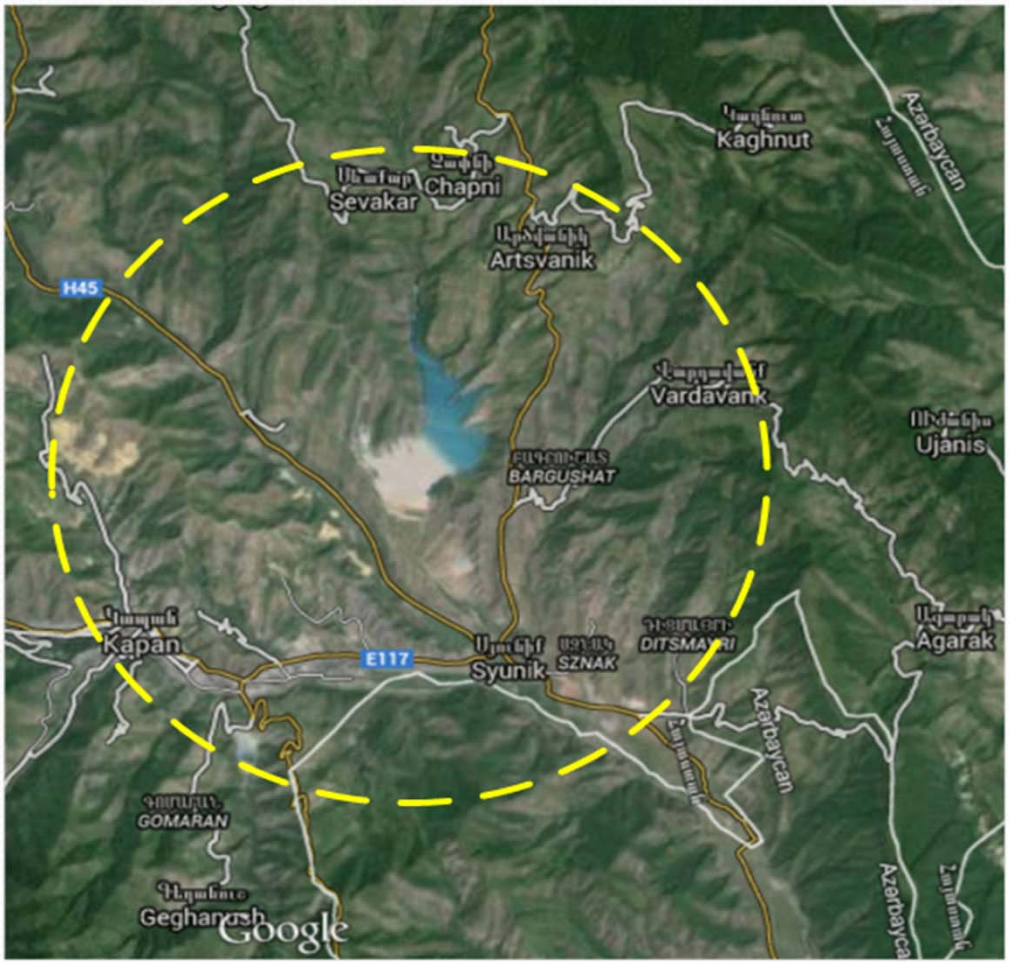
- RA Government Resolution N702 dated November 11, 1998 “On Charter Endorsement of Safety Certificate of Industrial Objects in Armenia”
- RA Government Resolution N97 dated December 8, 1995 “On Regulation of Import, Export and Transit Carriage of Hazardous and Other Waste to, from and on the Territory of Armenia”
- RA Government Resolution N293-N dated March 17, 2005 “On the Endorsement of the List of Chemical Substances and Dangerous Chemicals Prohibited in the Republic of Armenia”
- RA Government Resolution N250-N dated March 18, 2010 “On the Endorsement of the List of Potential Hazardous Materials Transferred along the Territory of the Republic Of Armenia”
- RA Government Resolution N861-N dated July 8, 2010 “On the Endorsement of Population Protection Plan in Case of Emergencies at Chemical Objects or Chemical Threat and Establishment of Recovery Actions in Case of Emergencies at Chemically Dangerous Objects”.

- Import and export of chemical substances
- Classification of chemical substances by hazard level
- Trade of chemical substances
- Storage of chemical substances

GHS Hazard label	Exposure distance (Average distance)				
	Human		Environment		
	Lethal	Health	Soil	Lake	River
Hazardous operation nr.	**1 Narit, Yerevan**				
Hazardous operation	Chloroprene rubber production				
Hazardous substance	Ammonia				
Form, quantity	80.000 kg				
Physical hazard					
Flam. Gas 1	< 0,2 km	< 0,3 km			
Liq. Gas	0,4 km	0,6 km			
Health hazard					
Acute Tox. 2	0,1 km	1 km			
Asp. Tox. 1	any	any	any	any	any
Skin Corr. 1B	contact	contact	>10 km	1,8 km	>10 km
Environmental hazard					
Aquatic Acute 1			> 10 km	2,8 km	> 10 km
Aquatic Chronic 2			7,3 km	1 km	> 10 km

Hazard Map 1Narit, YerevanThe 1 km radius is plotted indicating the Exposure Distance for Human Direct - Health regarding Ammonia.

GHS Hazard label	Exposure distance (Average distance)				
Human		**Environment**			
Lethal	Health	Soil	Lake	River	
Hazardous operation nr.	**6.1 Kajaran, Copper molybdenum mining**				
Hazardous operation	Arsenic				
Hazardous substance	0,01% of total tailing dam (9.000.000 kg)				
Form, quantity	Liquid (in mixture, dissolved)				
Physical hazard					
Liq. Gas	NA	NA			
Flam. Gas 1	NA	NA			
Health hazard					
Acute Tox. 1	1,3 km	5 km			
STOT RE 2	1,3 km	3,9 km	9,1 km	1,3 km	7,8 km
STOT SE 1	any	any	any	any	any
Environmental hazard					
Aquatic Acute 1			> 10 km	> 10 km	> 10 km
Aquatic Chronic 1			> 10 km	> 10 km	> 10 km



Hazard Map **2** Copper molybdenum mining, Kajaran

The **10** km radius is plotted, indicating the exposure distance for environmental hazards on soil, lake and river for arsenic and sulphuric acid.

- - The Department of Chemical Substances of the National Centre of Technical Safety of the MES is responsible for national policy on hazardous substances and for the identification of hazardous industrial activities;
- - Regional authorities bear the responsibility for implementing land use planning with local authorities being responsible for describing necessary safety and protection measures in permits;
- - The Centre for Monitoring Environmental Impact of the Ministry of Nature Protection (MoNP) is responsible for assessing the potential impact of chemical accidents and for approving permits;
- - The Rescue Service of the MES is responsible for identifying, selecting and implementing adequate emergency preparedness measures in collaboration with the facility owner.

- 1. Assess and analyze links and differences between existing normative guidance and FEAT methodology; for example, applying FEAT on 1-3 facilities and comparing results with existing safety passports and response plans
- 2. Assess possibility to include FEAT elements into the environmental impact assessments required by the new MoNP law "On Environmental Impact Assessment"

  FEAT to be used to assess negative impacts of planned chemical hazardous facilities

- 3. Development of FEAT software with addition of mathematical algorithms for a more precise calculation depending on the influence of weather conditions
- 4. Integration of developed FEAT software into Crisis Management National Centre's software and database
- 5. . Based on (1), assess need to develop one national or (multiple) individual preparedness action plans and need to improve facility response plans

- the Ministry of Nature Protection to conduct a more detailed examination of possible negative consequences for environmental objects in the event of an accident at a chemically dangerous facility at the stage of its design;
- the bodies of state administration and local self-government to increase the level of preparedness to protect the population in the event of an accident on a chemically dangerous object in the territory under their jurisdiction;
- the rescue forces to conduct emergency rescue operations ensuring physical safety of rescuers in the absence of chemical monitoring data;
- the chemically dangerous objects to promptly adjust their action plans in the event of emergencies;
- all emergency response services in the area of chemical contamination to promptly determine the zone of physical impact of the chemical substance on a person, the zone of impact on human health and the zone of consequences for environmental objects.