

ESTIMATION OF DAMAGES AT THE DIFFERENT STAGES OF MAN-MADE DISASTER

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Man-made disaster is the result of problems in man-machine systems. These are caused by unpredictable infringements in work of technologic systems and also in realization of technologies used by human factor, errors, mistakes, checking of staff who works with complex technical equipment.

Let us examine stages of Man-made disasters origin:

- 1 stage – prognostication and prevention;
- 2 stage – beginning of catastrophe;
- 3 stage – rehabilitation and renovation.

Estimation of needs and resources is necessary with any type of catastrophe in spite of origin and duration. Estimation of damages and expenses is necessary at every stage of disaster vital cycle. The first stage could last for years. At this stage arise prevention expenses. These are expenses for working out and realization of negative events averting measures. Prevention measures are to avoid emergency situations resulting in complex damages with different characteristics. Thus the less costs are allotted for environment protection measures the more damage it brings. While estimating one should define the level of opportunity to protect their lives of those people who could suffer from this problem.

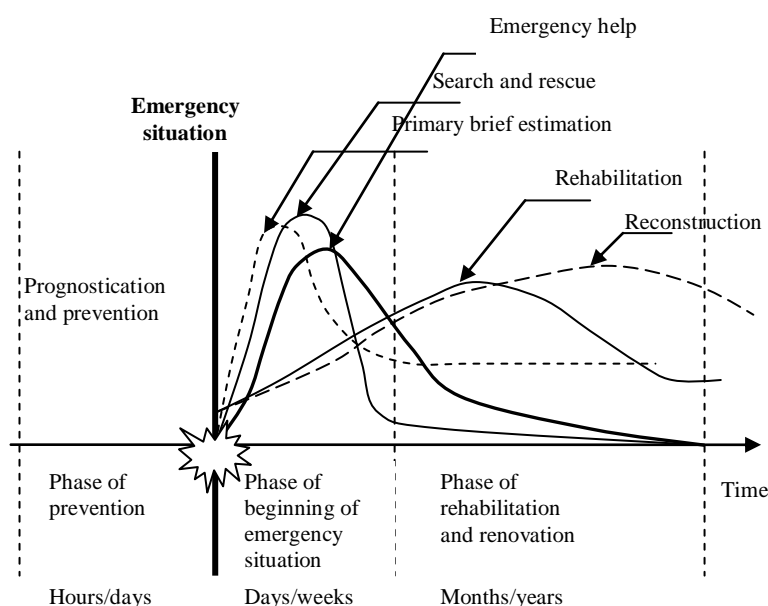
The second stage lasts from few days to few weeks. At this stage most weighty expenses are those that are spent on search and rescue of people suffered from catastrophe. At this stage number of people in disaster risk zone, resources needed to respond to catastrophe (organizational, material, material-technical resources) are defined.

The third stage is rehabilitation and renovation. It could last from few months to few years. At this stage most weighty expenses are intended to reconstruction of basic funds. This time damage caused by the catastrophe is estimated.

Let us construct a diagram of progress of basic expenses when catastrophe arises.

Expenses for search and rescue appear at the same time with catastrophe origin. It lasts few days as time for search and rescue of people suffered from the catastrophe is needed. After that expenses are extremely reduced.

Expenses for emergency first aid are needed at the phase of catastrophe origin and almost simultaneous to expenses for search as both of them are connected to each other.



Img. 1 - Emergency situation losses at the different phases of catastrophe

Expenses for emergency help. Number of victims of catastrophe becomes obvious in few days after the catastrophe. Then number of ill people comes down still even after few months (years) there are disable people who need medical treatment. Though these expenses appear at the phase of man-made disaster beginning. But even at the phase of rehabilitation they still are but in less amount and it is reduced by years.

Expenses for reconstruction appear in few days after the catastrophe. At the phase of rehabilitation they are maximum.

So according to the diagram damages are considered to become apparent unevenly at the different stages of catastrophe. Thus they are to be discounted while coming into being to be taken into account of time.

This point of view let assess expenses into special funds tended to liquidation of emergency situation and for planning and prognostication of future catastrophe of the same type.

