III. ONE NUCLEAR BOMB

EFFECTS OF A NUCLEAR BOMB

A nuclear bomb has impacts even if it is not used

Uranium Mining and production of fissile material

The suffering caused through Uranium mining is mostly ignored by media and civil society. Of course most of the Uranium is mined for nuclear power and not for nuclear bombs but it feeds the same nuclear fuel cycle and the fuel used for power can also be used for bombs after reprocessing. Uranium mining not only destroys the environment and is dangerous for the workers working in the mines – mostly indigenous people. It also causes conflicts in the regions about mining rights and working places as well as about the more limited resources of land and water needed for mining. In the fuel cycle also a lot of radioactive waste is produced. The radioactive tailings, produced through the extraction while the Uranium milling, are a crucial pollution of the environment in the mining areas which nobody is able to control. Learn more about it in the chapter of nuclear fuel cycle.

Money spend for bombs not for food

Every 3.6 seconds a children dies of hunger. The industrial countries cutting their budgets on development aid but also on their own social systems while military spending is increasing – you get what you pay for. 40 Billion US-Dollar does the US spend every year on weapons – the same amount of money the United Nations would need to reach the UN Millennium Development Goals by 2020.

The effects of a detonation of a nuclear bomb are

- The Heat Wave: Burns as a direct effect of the explosion and massive fires resulting from the explosion.
- The Pressure Wave: Injuries from the blast of the explosion as well as from flying objects resulting from the pressure wave created by the blast.
- The Radiation: Leads to as well short-term as long-term injuries.
    - The short term effects is called Radiation Sickness and results in symptoms due to central nervous system dysfunction; nausea, vomiting and diarrhea from injury to the gastrointestinal tract leading to fatal dehydration and malnutrition; and life-threatening infections and uncontrolled bleeding due to failure to produce new blood cells.
    - The long-term effects of radiation are malformations of newborn children of mothers exposed to radiation and a variety of cancers, especially lymphomas and thyroid cancer.
- Additional to the above the trauma of experiencing a nuclear explosion and being confronted with death and injuries cause mental disabilities similar to those experienced in other contexts of war like acute stress disorder, post-traumatic stress disorder and depression.

The effects of a 1 MT nuclear explosion on the ground

- Ground Zero: all life and structures are obliterated.
- 0-1.5 km: All life is extinguished in seconds due to the formation of a large fireball resulting from the ignition of the atmosphere.
- 1.5 - 5 km: Collapse of larger buildings and destruction of smaller structures. Burns and lethal injuries resulting from debris being carried by the wind.
- 5 - 10 km: Third degree burns to exposed skin. Destruction of small buildings. Asphyxiation due to a developing firestorm.
- 10 - 20 km: Second degree burns and injuries caused by pressure wave.

METHOD: TARGET "X"

MATERIAL: permission for event, map of your city, red markers, calculator, big red cross out of fabric

TIME AND LOCATION: School compound or city center, preparation time and 2-4 hours for event

With this method you can raise public awareness and educate about the effects of a nuclear bomb. You put up a big red cross on the ground to mark a hypothetical "ground zero" of an explosion of a nuclear bomb. You can put up pictures from Hiroshima and Nagasaki as well as spread flyers with information explaining the action. You need to hang up a map of the city you are located the action and mark the place you are standing as ground zero. Than you can draw the circles as below to mark the range of effects and hang up a sign with the filled in table from below.

Here a 12kt bomb is used – similar to the Hiroshima bomb. Fill in the number of the population of the target city. To calculate the total deaths, multiply the approximate population by the fatality rate and then divide it by 100.

Band	***Distance***	***Average population***	***Fatality Rate***	***Total Deads***
A	0 - 0,5 km		98%	
B	0,5 – 1,0 km		90%	
C	1,0 – 1,5 km		46%	
D	1,5 – 2,0 km		23%	
E	2,0 – 5,0 km		2%