



## Flooding in the Netherlands

On January 31<sup>st</sup> 1995 the Rhine was bursting its banks at the point where it enters the Netherlands. There was heavy rain over most of Europe at that particular time this year. Switzerland received three times its January average and the snow off the Alps melted early and quickly. The ground was saturated because of the heavy downpours as and that then once that had drained down it transfers into high water levels and overland flow. Most of the land which surrounds the Rhine consists of polders which are low-lying areas enclosed by protective embankments-these are called dykes. These are man made from sand and clay and they became saturated so they had more chance of collapsing so emergency work had to be carried out to stop them from collapsing. The flood happened because nearly all of the polders were flooding with the extra rainwater, which meant the extra water had nowhere to go except from across the urban areas. Also deforestation didn't help because there was nothing to help intercept the water as it ran across the valleys and forests. When the flood first happened people were provided with sandbags as temporary barriers to the flooding, the authorities installed portable pumps to help people pump out the water and many other things were put in place to help people. A problem as most roads became impassable which meant people were stranded from emergency aid, food and water. 250,000 people had to be evacuated from their homes before

people got killed from the fast flowing water, but 4 people still got killed and hundreds of homes were flooded and some got damaged beyond repair. Just over 1 million cattle were evacuated from the worst hit farmland which led to reduced intake of milk from them because of the disturbance and many got foot rot from being stood in saturated water all day. The flood damage cost millions of pounds to insurance companies and homeowners in the worst hit areas. It took many months to completely clear the devastation that the flood left behind but once it did they set about setting up new ways that could stop this from happening again. This is what they did:

- Planted trees on the Rhine drainage basin to help intercept the water
- Increased to area of parks and gardens in urban areas
- Reinforce dykes with stone blocks and steel pilings to help act against abrasion and erosion
- Early warning system
- Limit residential development on flood plains
- Remove silt from the foreland to give it a larger capacity
- Encourage homeowners to take steps to protect their own houses like removable furniture, tiled floors, sandbags, bottled water, gas cans etc.

