

Resource sheet 3: How can we protect ourselves?"

The question on the lips of the residents of Mrs McCormack's village following the disastrous events of 18th August is "How can we protect ourselves?" Many people, along with Mrs. McCormack, lost their businesses and livelihoods and now fear for the future. Reports in the press indicate that the sort of flooding the village experienced is set to become more common place, and floods that perhaps occurred once every 50 years may now take place every 5-10 years. Fortunately, the local council is pretty efficient and it's started to develop a flood management strategy. Several experts were called in to offer their advice; engineers, geographers and geologists. However, there didn't appear to be a simple solution so the council decided to put together several proposals. After several weeks of intense planning and following a bit of fine tuning, 4 options for flood management were put forward; each with distinct advantages and disadvantages.

Option 1: HARD ENGINEERING:

This is about altering the course of the river and building structures to contain it when it threatens to flood. It means straightening the river so that the water is able to flow more quickly, building levees to stop rivers overflowing, dredging rivers to make them deeper and wider, and building dams to control the flow of water.

- Advantages:**
- Should be effective in reducing the risk of flooding in the short term.
 - Its impact will be immediate.
 - Residents will actually see where money is being spent, and may feel more secure.
- Disadvantages:**
- Cost; hard-engineering is extremely expensive and local residents finance any deficit in funding through their council tax.
 - In the long term its effectiveness decreases eg: the building of embankments will soon increase the amount of dredging that needs to take place.
 - Appearance; hard engineering is an ugly business, the river become far less pleasing to the eye.
 - Damage and destruction to plants and wildlife.
 - Knock-on effects; hard engineering in one place may lead to flooding in another place downstream.

Option 2: SOFT ENGINEERING:

This means using new natural methods of flood control. It means allowing rivers to flow freely and in some places letting them flood the land. It is about reforesting areas to reduce run-off into rivers and returning farmland to its natural state.

- Advantages:**
- Environmentally friendly, respects the natural environment and encourages the growth of wildlife habitats.
 - Cheap compared to hard engineering.
 - Pleasing to the eye, the river retains its natural beauty.
 - Sustainable.
- Disadvantages:**
- Its impact is not immediate.

- Farmers will often demand large sums in compensation for loss of cultivated land.
- Local residents don't feel protected (this is a prevention strategy).
- There is a huge demand for development of the flood plain.
- It can prove very difficult, sometimes impossible to return a river to its natural course.

Option 3: RETREAT:

This would mean accepting the loss of that part of the village that was destroyed in the flood, and placing a ban on redevelopment of any area that might be at risk from flooding. A total ban on any sort of development of the floodplain would have to be introduced.

- Advantages:**
- Nobody would be at risk from future floods.
 - Money would not have to be spent on flood protection.

- Disadvantages:**
- People would have to be re-housed.
 - People would have to be compensated for the loss of their businesses.
 - There may not be enough land to re-house people in the local area.

Option 4: DO NOTHING:

This means re-building the area damaged by the floods and continuing with life as it was before the floods.

- Advantages:**
- Cost; money will not have to be spent on protection, prevention or compensation.
 - People can continue with life as it was before the flood.

- Disadvantages:**
- There is a risk that a similar flood could occur next year, again destroying buildings and businesses.
 - Unsustainable; this is not a long term strategy, flood risk is increasing as people's activities impact on drainage basins and because of climate change.