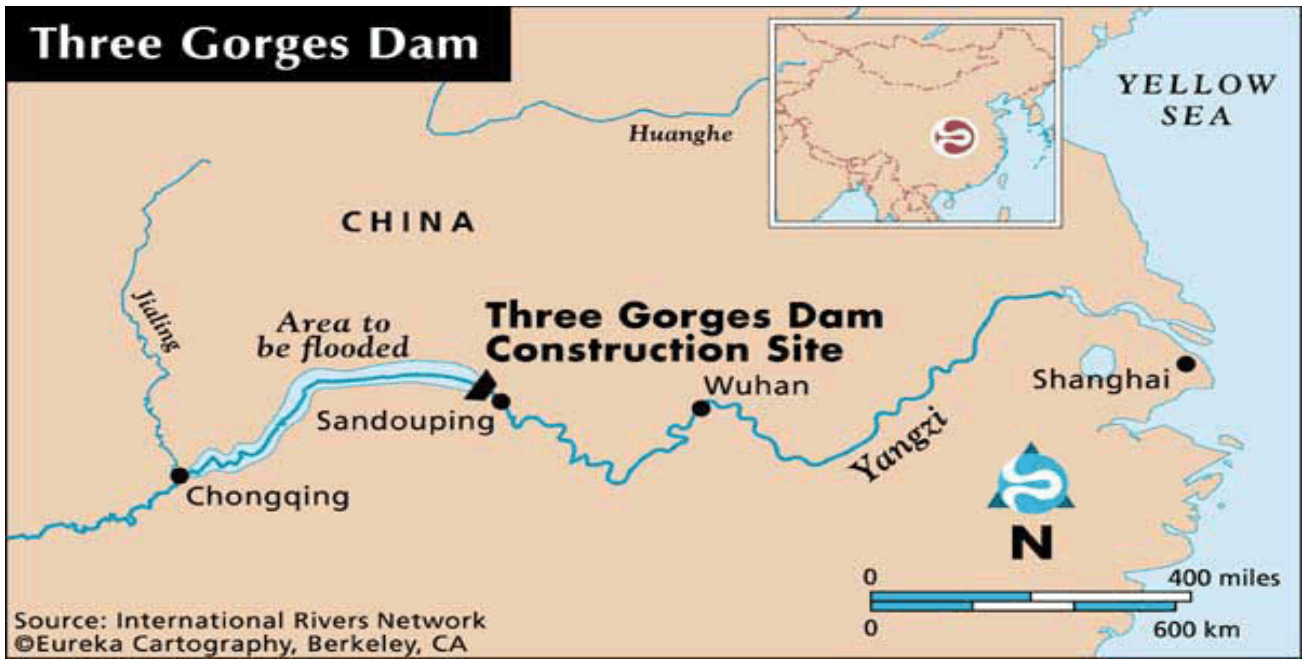
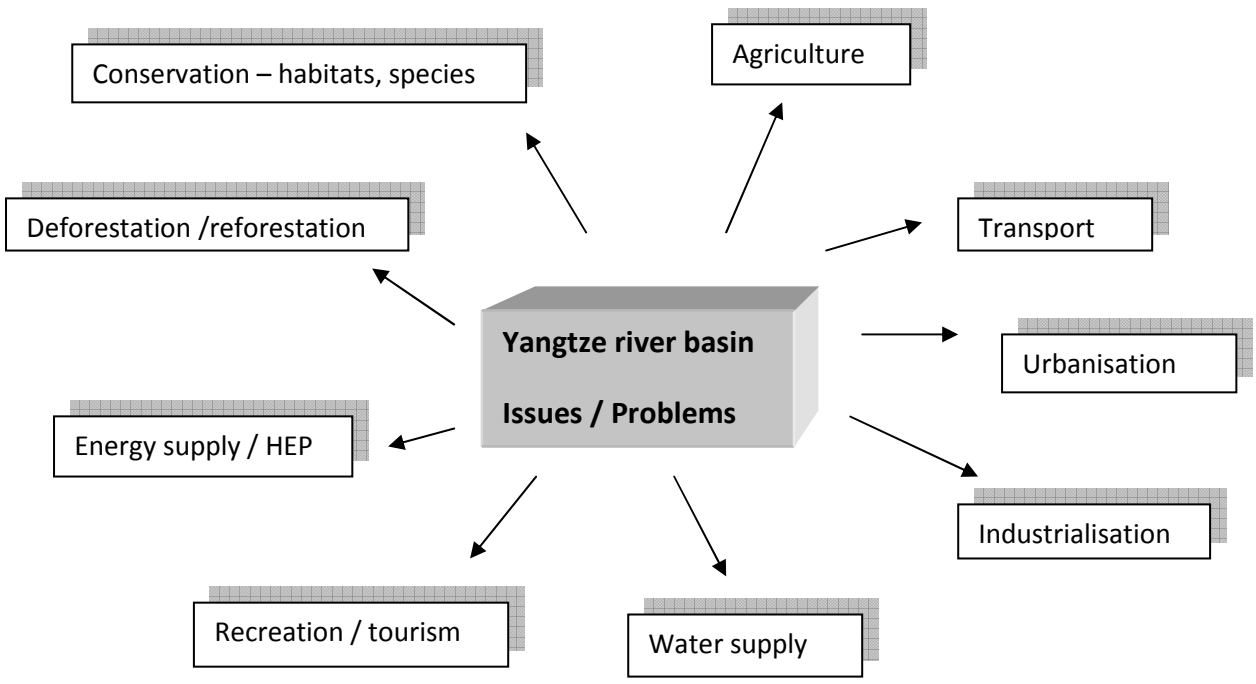
FLOOD CONTROL – RIVER BASIN MANAGEMENT

- National forest policy to protect upstream forest and replanting programme on deforested hillsides
- Introduce sustainable forest programmes
- Import more timber to preserve forests
- Relocate loggers to less sensitive areas
- Dam construction on tributary rivers to hold back increased discharge and prevent eroded sediment from entering the main river
- Convert slopes over 20 degrees of steepness to forest and compensate the farmers involved
- The Three Gorges Project 'TGP'. THE THREE GORGES DAM



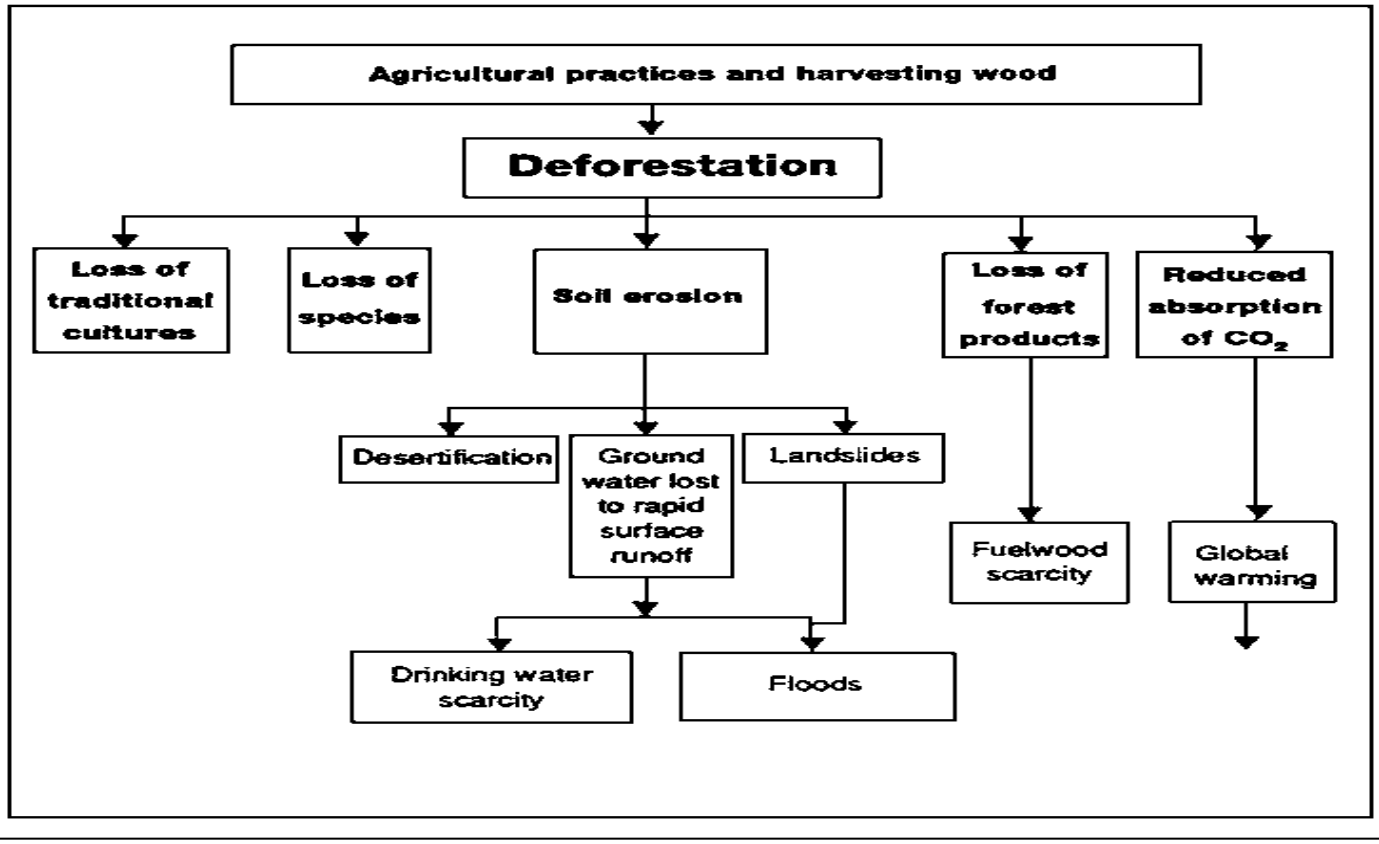


Flooding in the Yangtze basin

- Floods are very common in the summer months in the middle section of the Yangtze river basin
- Flooding is becoming more frequent and the social and economic costs are increasing
- In 1995 the costs were put at £2.5 billion
- In 1954 300,000 people were killed and almost 20 million people suffered flood damage
- In 1998 4000 were killed and dams were weakened increasing the flood hazard
- Melting of heavy winter snows and ice on the Tibetan plateau is a major cause
- Heavy typhoon rainfalls in June to August, up to 1000mm in three days, makes the situation worse

Human activities make the floods worse and more frequent :-

- Deforestation has been common in the upper and middle Yangtze basin. This has been logging for timber and to clear land for agriculture and for urban development (population growth). Around 30% of the forest cover has been lost in the last 15 years. This is not sustainable, but is common in countries such as China that are developing rapidly
- Deforestation leads to more overland flow and less interception which means that more water reaches the channel more quickly causing rapid rises in discharge and an increased chance of a flood.
- Deforestation also increases the chances of soil erosion as the rainfall hits the ground directly and the soil in not held together by tree roots. This increase in sediment is washed into rivers which make the channels less efficient and raised the river beds above the level of the surrounding flood plains.
- Wetlands and lakes have also been reclaimed for urban and agricultural developments which removes important water storage capacity when the river floods.
- Deforestation and reclamation of wetlands also has a negative impact on the environment, reducing habitats, reducing biodiversity and endangering species.



geographyjohn

GEOGRAPHY

CASE STUDY REVISION BOOKLET

THE YANGTZE RIVER BASIN AND THE THREE GORGES PROJECT (DAM) TGP, CHINA

FACTFILE :-

- 4,500 km long
- Central china
- Population in the Yangtze basin 400m
- Floods common in the middle section near Wuhan
- Source is the Tibetan plateau in the Himalayas
- Discharge is highest in the summer months due to snow and ice melt in the headwaters and heavy summer rainfall from typhoons