

# Extract from Eastern Waters Study-Strategies to Manage Flood and Drought

in the Ganges-Brahmaputra Basin—by Peter Rogers, Peter Lydon and David Seckler, April 1989

## Causes of the Flood :

The causes of the 1988 flood were examined for evidence of discontinuities or long-term environmental changes, such as a trend to larger floods. First, there is no statistically reliable evidence that the physical extent and severity of flooding have increased over the 100 years for which data are available.

Second, deforestation of the Himalayas is not likely to have a significant effects on the extent of the floods in the plains and the delta below. Growing human population is increasing pressure on the mountain and hill forests, and the scarcity of firewood and local soil erosion related to this are serious problems calling for remedies to maintain the wood and agricultural productivity of the hill lands and the quality of life in hill environments. But generalizations that changes in mountain tree cover are responsible for siltation and floods in the densely populated plains below are not justified. Apart from the finding that physical floods are not in fact increasing in severity in this period, natural causes are fully adequate to explain the flow and siltation levels of the region's rivers without reference to the effects of man. The high monsoon rains in the mountains, combined with steep slopes and seismically unstable terrain, ensure that this zone will have rapid runoff and high sedimentation whatever the land cover may be, as was true before human settlement in the region.

Another cause for alarm in the region is the apprehension that the global climate may be warming, causing the seas to rise, snow in the Himalayan watershed to melt more rapidly, and perhaps rainfall to become more sever in this region. Although this is a matter of wide scientific debate, no evidence of these effects is found in the Eastern Waters basin. Even the 0.5 degree Celsius rise, which is asserted to have already happened during this century, is very hard to distinguish from statistical noise (non-trend variations) in the voluminous temperature data. It is extremely unlikely that these effects have had any impact so far on the magnitude of the recent floods in Bangladesh. Water planners in Bangladesh, and else-where, should take careful note of developments in this regard but immediate alarm in Bangladesh about the greenhouse effect appears to be very premature.