

# SUPPLEMENTI di GEOGRAFIA FISICA e DINAMICA QUATERNARIA

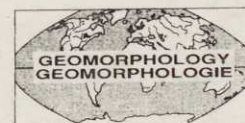
SUPPLEMENTO III - 1997

TOMO 1

The International Association of Geomorphologists  
L'Association Internationale des Géomorphologues

## FOURTH INTERNATIONAL CONFERENCE ON GEOMORPHOLOGY

QUATRIÈME CONFÉRENCE INTERNATIONALE  
DE GÉOMORPHOLOGIE



Organized by/Comité d'organisation  
GRUPPO NAZIONALE GEOGRAFIA FISICA E GEOMORFOLOGIA  
del Consiglio Nazionale delle Ricerche

Bologna (Italia) - 28-VIII / 3-IX, 1997

## ABSTRACTS / RÉSUMÉS

COMITATO GLACIOLOGICO ITALIANO - TORINO  
1997

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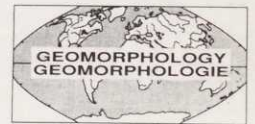
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that it not only jeopardises the cultural and economic set up but also claims lives and properties in the Basin. Landslide treatments, in the basin area, are seen to be taken up by the construction engineers and geo-technical experts almost every year from Govt. level. But sorry to say that only constructional works on the slide affected spots and filling procedures of sinking areas have become totally unsuccessful to heal up the problems. Rather, treated areas become prone to more severe slides and subsidences in the preceding years. It happens because their treatments are targeted to the rectification of individual spots, without verifying the deep-rooted causes which practically enhances landslide susceptibility as well as slide and subsidence occurrence.

Therefore, this paper attempts to determine the various susceptible zones of slope failure through intensive investigation of different natural and anthropogenic causes. Moreover a detailed case study of a very ideal slide cum subsidence in the basin has been carried out to realise the exact nature and causes behind the occurrences.

The methodology for such purpose has been based on intensive field survey, topographical map and aerial photo analysis on various factors like relief, drainage, bedrock, regolith and soil, legacies from the past and anthropogenic factors by means of a 'check list' in numerous field sites of the basin.

Thus, four categories of landslide susceptible zones have been determined and it is identified from the case study that the extraneous or human induced causes are the triggering factors for slides and subsidences over the basin area.

Finally, the appropriate remedial measures have been prescribed for the different slide susceptible zones and slide cum subsidence affected areas to arrest this menace over the basin under study.

KUM KUM BHATTACHARYYA

### Human perception and adjustment in the riverine sand bars: a case study of the Lower Damodar river, India

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Control structures are common features of the economical-ly important tropical rivers. The Lower Damodar river, a subsystem of the Ganga river is no exception to this. The river has been controlled by means of embankments, canals, weir, barrage and dam. As a consequence, a chain of sandbars have emerged within the river bed below the control structures and most of them subsequently have been settled by the refugees from the then East Pakistan. The community of the migrants was forced to live in such isolated riverine sandbars due to specific sociopolitical fac-

tors. These sand bars were perceived as unproductive by the local agrarian community. The refugee community has a distinct position in the social space. Due to their specificity in the social space, the perception of resource potentialities of the barren sandbars are distinctively different from that of the local people.

Though flood frequencies have been reduced in the post dam period yet sandbars get inundated atleast partially whenever excess water is released from the control points. The refugees have accepted this flood-risk and have taken some pragmatic measures in their own landuse system, which is flexible and adjusted to the floodprone micro-environment. At present every available space of sandbars is being used here objectively and rationally. As the human perception and appraisal of environment have been changed so the concept of resource evaluation has been widened. Thus the sandbars between the Panchet reservoir and Palla village, so long a land of no use have become a valuable resource base for the migrated people. Some important findings are noted below:

1. By controlling the river during the monsoon period, flood frequencies have been reduced and stabilization of sandbars has taken place.
  2. Sandbars are growing through anthropogenic influences.
  3. The migrated people due to their distinct position in the social space are more rational towards hazard assessment and resource appraisal.
  4. The controlled sector between the Panchet reservoir and Palla village is becoming less hazardous and more resourceful with the mitigation of annual flood discharge.
- The paper is a critical review of the perception and application of the geomorphic knowledge about the hazard reduction and resource evaluation of the riverine sandbars by the refugees to fortify their physical space in the riverbed.

AUGUSTO BIANCOTTI & MICHELE MOTTA

### Morphotectonic evolution of the Ligurian Alps and their forelands

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The Ligurian Alps form a belt of nappes. Their Ligurian side skirts the sea, whereas on the Po Valley side they are hounded by the Quaternary deposits of the Cuneo plain and the Langhe, the name of a hilly area where Oligo-Miocene continental slope deposits have buried the Lower Oligocene mountainous morphology.

Examination of the literature and fresh geomorphological and morphotectonic evidence enables an account to be given of the main stages in the evolution of this interesting area, which lies between the main arch of the Alps and the Apennines.

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