# Report for the 27<sup>th</sup> General Assembly FIG Working Week in Athens, 23-27 May 2004

### FIG Commission 8 – Spatial Planning and Development Report on Activities 2003–2004

#### 1. General

The activities of Commission 8 will be focused in the years 2002-2006 on physical planning at all levels, undertake and learn from case studies and enhance understanding and knowledge of all planning systems. The Commission is aware of the importance of sustainable development, environmental issues in planning and environmental impact assessments (EIA) in spatial planning procedures and the commission will also highlight the issues that are dealing with the quality of life in greater cities and the importance that safety will be in greater cities as an top-issue in the upcoming years. Those issues will be the key issues throughout the plan period.

In September 2003 Paul Lohmann, the Chair of Commission 8, informed the Council that he has to give up his position as the Commission Chair due to personal reasons. The Council has been looking for candidates to take over the chairmanship for the remaining period of Lohmann's term of office. In conjunction to the nominations for Commission Chair Elect and Chair for 2006-2010 the Council asked nominations also for the new Chair for 2004-2006. The candidates were encouraged to apply the chairmanship either for 2004-2006 or for the period 2004-2010. This exceptional period was considered possible to allow longer term to build up Commission 8, which is very important, both inside FIG and for the UN cooperation.

Based on the decision of the Council from Marrakech the new chair will be elected by the General Assembly in Athens.

#### 2. Working Groups

In the current work plans 2002-2006 the work of Commission 8 was divided over three working-groups:

#### **Working Group 8.1 - Urban Regeneration**

The chair of this working group Mr. Harry Greenberg died in May 2003 and it is unlikely that the working group will be able to continue and implement its work plan by FIG congress 2006. The goal of this working-group was to deal with inner-city-problems and regeneration of established urban areas.

#### Working-group 8.2 - Public Private Partnership

Chair: Prof. Kari I. Levainen (Finland)

In the last years Public-Private-Partnership has become more and more important in the planning and development of project in the city-areas and land-projects. The aim of the working-group is to combine the strength of the instruments of the public-part and the private

part/money that comes form the private partners. The chair of this Working Group has informed that there has not been much progress with this WG.

#### Working-group 8.3 - Global Urbanisation Process in Large Cities

Chair: Diane Dumashie (United Kingdom)

The name of the Working Group has been changed to Informal Settlements: Women in land tenure and the relationship to housing rights and disaster preparedness.

The research considers if land economics and tenure is pivotal in solving the problems of urban settlements, particularly in settlements that face intense pressures from social, economic and physical factors, such as those located along coasts. There is substantial knowledge and research available in land economics and tenure, little has been to look at it from the perspective of the effects on women, their housing needs in the context of natural disaster areas that are common to the Coastal in the regions of Africa, [Asia] and Caribbean.

The purpose, then, of this research is threefold and is to consider:

- 1. Some land economic factors specifically spatial planning and land rights as they apply to strategy in the urban/rural interface settlements.
- 2. If a relationship exists between Women's tenure position and their ability to sustain housing given their role as the 'home maker', and
- 3. The extent to which land economic issues arising from the research contribute to policy and practice, recognising disaster mitigation in coastal areas.

Working group 8.3 is tasked to consider policy issues associated with:

- Global urbanisation problems and processes
- Special problems of informal settlements in large cities
- Relationship between land allocation and development economics applied to temporary housing settlements
- Coastal and environmental pressures and solutions.

The focus of the WG will be on informal settlements but crossing the issues of - Coastal Urbanisation, Gender and land tenure.

#### The project will:

- Facilitate communication, e.g. produce a library of good practice guidance, Suggest briefing workshops at FIG congress etc
- Provide a single point of reference for practitioners to be informed of the Habitat Agenda process and how this is progressing.
- To Collect ideas and build up a network for the exchange of experiences and sustainable models, working closely with the other FIG-commissions, and building upon the recommendations of the FIG Task force on sustainable development and UNCHS(Habitat).
- To disseminate information and seek to collaborate with international surveying networks. This is with a view to develop and conduct an awareness raising campaign which includes distribution of a summary leaflet.

The Chair has prepared a new work plan for the WG and contacted other commissions to participate in the process.

## **Working Group 8.4 - Disaster Management – Preventing Environmental Catastrophes** by Spatial Planning and Land Management

Chair: Prof. Theo Kötter (Germany)

The Council decided in August 2003 to establish a new Working Group on risk and disaster management. Prof. Theo Kötter from Bonn, Germany was invited to chair this joint commission working group. Prof. Kötter attended the Regional Conference in Marrakech and had the first meetings with the WG members and parners like UNEP. The draft work plan and time schedules are attached to this report.

#### 3. Events

Commission 8 contributed to several joint sessions at the Regional Conference in Marrakech and will be involved in three sessions at the Working Week in Athens. In addition Prof. Kötter will make one of the keynote presentations.



#### FIG - WORKING GROUP 8.4 "RISK MANAGEMENT" PROF. DR.-ING. THEO KÖTTER, BONN, GERMANY

|                            |  | Post-disaster phase   |   |  |
|----------------------------|--|---|---|--|
| type of disaster           | assessment of risk   | mitigation  | preparedness  | recovery   |
| Flood                      | specific data acquisition: - hydrologic data - geologic data - yegetation data - rainfall - water level - soil   | - flood mitigation - development of flood risk reduction strategies that involves engineering, settlement development, public administration, community- based strategies and land use planning | flood risk management with<br>Remote Sensing and<br>Geographical Information<br>Systems (GIS): creation of a<br>GIS database for flood areas /<br>zonation  | incorporation of disaster<br>mitigation components in<br>reconstruction activities |
| A SOLUTION OF THE SOLUTION | - flood risk analysis and<br>mapping (development of<br>hazard and vulnerability maps) - vulnerability and flood<br>damage assessment - capacity analysis                              | multi-disciplinary treatment of<br>the flood problem / integration<br>of water management<br>authorities  | development of flood warning system   |  |
|                            |  | protection measures (e.g. banks) in the building process  |   |  |
|                            | analysis with satellite digital and/or remotely sensed data  | nomination of flood risk areas  | flood preparedness information network  |  |
|                            | creation of flood risk scenarios   | development of a land<br>development priority map<br>sustainable urban<br>development; prevention of<br>sealing in certain areas;<br>avoidance of land degradation                              |   |  |
| Drought                    | data acquisition: - water related data (e.g. drainage condition, presence of rivers and streams) - meteorological data - hydrological data - agricultural data (e.g. cropping pattern) | nomination of drought risk areas (mapping!)   | Land based information system for drought analysis that provides tools to handle, store, process, distribute and interpret the water related data needed for assessing the spatial and temporal variation of drought severity | incorporation of disaster<br>mitigation components in<br>reconstruction activities |
|                            | drought analysis: development of hazard and vulnerability maps   | choice of compatible locations for human settlement   | drought monitoring using satellites (METEOSAT etc.)   |  |
|                            | creation of drought risk scenarios   | sustainable agricultural land use<br>Avoidance of deforestation   |   |  |
| (Land-)Slide / Avalanche   | data acquisition:<br>geological, topographic and<br>climatic condition of the area<br>and human factors such as<br>land use changing and road<br>construction                          | sustainable urban<br>development; prevention of<br>human settlement in certain<br>areas; avoidance of unplanned<br>urbanization   | Landslide monitoring with<br>surveying techniques:<br>- GPS<br>- Elec. Dist. Meas. (EDM)<br>- Surveying Triangulation<br>- Geometrical Levelling<br>- Terrestial Photogrammetry<br>- Aerial Photogrammetry                    | incorporation of disaster mitigation components in reconstruction activities       |
|                            | development of hazard and<br>vulnerability maps: analysis<br>and prediction of slope failures<br>in space (spatial distribution)<br>and time (temporal distribution)                   |   | visualization of landslide prone<br>areas in 3D view for hill area<br>planning  |  |
|                            | creation of risk scenarios<br>landslide hazard zonation<br>Landslide identification  |   |   |  |
| Earthquake                 | earthquake hazard risk data:<br>data on active faults,<br>geological structure, soil type,<br>topography and infrastructure  | earthquake mitigation:<br>development of an earthquake<br>risk and mitigation strategy  | monitoring of deformation: - GPS - radar interferometry - remote sensing - Synthetic Aperture Radar   | incorporation of disaster mitigation components in reconstruction activities       |
|                            | development of hazard and vulnerability maps   | earthquake prediction: Satellite thermal survey is a tool for investigations of seismoactive regions and earthquake predictions sustainable urban development; prevention of                    | (SAR) Earthquake Data Information System  |  |
|                            | integrated earthquake scenarios  | human settlement in certain areas development of building   |   |  |
| Walana a                   | Seismic hazard zonation  | standards   | no an itaria a  | incomposition of discretes   |
| Volcano                    | data acquisition: - seismic vulnerability - geologic data - land use   | sustainable urban<br>development; prevention of<br>human settlement in certain<br>areas   | monitoring: - GPS - satellites - remote sensing   | incorporation of disaster<br>mitigation components in<br>reconstruction activities |

|                    | development of hazard and<br>vulnerability maps<br>creation of risk scenarios |   |   |  |
|--------------------|---|---|---|--|
| Wind Storms        | data acquisition: - frequency - magnitude - location                          | underground transmission lines  |   | incorporation of disaster<br>mitigation components in<br>reconstruction activities |
|                    | development of hazard and<br>vulnerability maps<br>creation of risk scenarios | land-use regulation, development of building codes  |   |  |
| Fire               | data acquisition: - vegetation data - rainfall - soil                         | avoidance of unplanned urbanization   | Near-real time monitoring of fire events - satellite data | incorporation of disaster<br>mitigation components in<br>reconstruction activities |
|                    | development of fire hazard<br>maps and vulnerability maps                     | Creating and implementing comprehensive urban development strategies and land use plans   | Early warning (fire intelligence) systems                 |  |
|                    | Fire risk modelling in expected climate change scenarios                      |   |   |  |
| technical disaster | data acquisition: - locations of technical disasters                          | geodetic supervision of<br>protection measures (e.g.<br>collecting tank) in the building<br>process                                     |   | incorporation of disaster<br>mitigation components in<br>reconstruction activities |
|                    | development of hazard and vulnerability maps                                  | localization of the source of<br>danger<br>sustainable urban<br>development; prevention of<br>human settlement in<br>neighbouring areas |   |  |



FIG - WORKING GROUP 8.4 "RISK MANAGEMENT", CHAIR: PROF. DR.-ING. THEO KÖTTER, GERMANY

compile part II

arrange paper

### working plan

spring '04: working week, Athens

responsibility assignment

ermediate part

autumn '04: regional conference, Jakarta

intermediate result part I (theory) part I (theory)

- analysis and assessement of danger and vulnerability
- urban and land use planning, land management
- risk monitoring
- forecasting and early warning systems

spring '05: working week

completion part I (theory)

part II (practice)

best practice

autumn '05: regional conference

intermediate result part II (practice)

spring '06: working week

completion part II (practice)

15.-20.Oct. '06: FIG world congress, Munich

presentation of the paper