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EMERGENCY MAPPING FOR INFORMAL SETTLEMENTS
AS THE GEOINFORMATION BASE FOR PLANNING BASIC SERVICES

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Emergency Mapping for Informal Settlements as the Geoinformation Base for Planning Basic Services

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Summary

The informal settlements, townships, temporary camps and other human posts need at least basic services such as potable water, electricity and sanitation. Other services such as food supply, medical aid and shelters are usually arranged in case of disasters and large human migrations. A proper and efficient services need should be well estimated and simply implemented. All requirements can be achieved as results of evaluation with use of the geoinformation decision support system GDSS, suggesting services sorts and quantities.

A core data of the system can be obtained with the use of the emergency mapping technology which combines the latest computer techniques and simple methods operated by local people what effects in educational needs and jobs creation. This is a holistic approach to the problem of servicing informal settlements by two directional co-operation of service team and serviced people. Therefore, services, education and job creation (even very temporary) should be simultaneously regarded. Good help services mean complex solution - synergy of co-operation.

Motto: citation from the South African R.D.P. Policy on Science & Technology, Clause 4.4.8.7.

"The democratic government must develop programmes to make university-based science more responsive to the needs of the majority of our people for basic infrastructure, goods and service.

Scientific research should link up with technological advance in industry, commerce and services and in small and micro production. In particular, there must be research into appropriate and sustainable technologies for the rural areas."

1.   MOTIVATION STATEMENT

Considering Africa's wide need for

1) planning and efficiently implementing the social and environmental programmes of the African governments;

2) upgrading the infrastructure and facilities of impoverished communities in the face of rapid socio-environmental change;

3) emergency rehabilitation of human beings, the ecology, and the biosphere;

4) applying scientists to engineer realistic solutions to the urgent problems faced by rural or informally settled people;

5) job creation in the midst of rural or informal settlements;

6) engineering education at all levels related to projects intended,

and

Noting the need, within informal settlements, for

up-to-date, detailed information required for all spatial planning and socio-environmental engineering

It is perceived that

a programme of Emergency Mapping (E-Map™) for Informal Settlements is desirable, applicable, and appropriate.

Emergency Mapping in Informal Settlements will provide:

1) rapid, large scale ($\approx$ 1:5000 - 1:1000), photogrammetric maps of informal settlements as base layers of the geonformation decision support system - GDSS with the use;

2) reliable and up-to-date geometrical and thematic documentation from which three-dimensional environmental information relating to human settlement and hazards may be obtained;

3) a flexible, geoinformation system, database of information accessible and relevant to local and national government administrators, planners, researchers, and non-governmental organisations;

4) project-based education and employment for engineering and mapping assistants within rural or informally settled communities.

2.   PROPOSAL

A general proposal is therefore made that:

Emergency Mapping (E-Map™) for Informal Settlements be undertaken by the regional centres and help organisations, supported by accredited experts, and in co-operation with the relevant ministries.

More specifically, it is proposed that:

1)   a pilot unit of Emergency Mapping for Informal Settlements be established within the chosen institution such as an existing African regional centre, university, international or government organisation;

2)   such unit can be formally assisted and advised by originators of the E-Map™ concept.

3)   originators offer, on a non-profit base, a concept of technology, educational programmes and courses for local assistants, including educational materials and training.

3.   ADVANTAGES

The advantages of implementing the proposal to establish a unit of Emergency Mapping for Informal Settlements within the chosen institution are the following:

1)   Reliable, up-to-date, large-scale maps and geoinformation systems of informal settlements and environmentally sensitive areas may be produced using E-Map™ technologies;

2)   Creation of project-based employment and education of engineering assistants for projects;

3)   A formalisation of working guidelines for a standard in Emergency Mapping for Informal Settlements, appropriate to the African situation, or regions thereof;

4)   The establishment and consolidation of international co-operation in respect of Emergency Mapping, job creation, education of projects assistants, and technologies within Africa.

4.   PRELIMINARY ACTION PLAN

The following paragraphs list the essential, preliminary project stages which should be executed in temporal order.

1) Acceptance, in principal, of the E-Map™ project by the Economic Commission for Africa.

2) Consultations with state institutions related to settlements' matters, universities and other educational institutions, and international, non-state organisations, sponsors.

3) Deciding on structure and functions of the pilot E-Map™ Unit at the chosen institution.

4) Submission of project proposal to the Economic Commission for Africa and relevant ministries and government agencies;

5.   ACTION PLAN SUBSEQUENT TO APPROVAL OF THE PROJECT

Upon approval of the project, a detailed action plan should be formalised in consultation with interested and affected parties. Such a plan must consider the following:

1.   Establishment of the pilot E-Map™ Unit, securing space;

2.   Acquisition of requisite equipment for: spatial data capture, processing, map editing and system management;

3.   Recruiting of suitable operational staff;

4.   Compilation of new courses, under-graduate and post-graduate university courses in engineering, tailored to the educational requirements of local needs;

5.   Initiation of new inter-disciplinary and international research projects, utilising the E-Map™ technology, and in sympathy with the motivations.

6.   Implementation of E-Map™ technology for the mapping of Informal Settlements and decision support, in accordance with local, regional, and national authorities.

6.   FINAL CONSIDERATIONS

I.   The high advanced and automated technologies exist but

II.   The poverty, hunger, slavery, illiteracy still exist in Africa.

III.   Unemployment in some African townships excess 50% of local population.

What do those people from townships need first of all?

The answer is simple and find this answer out yourself
- Just go there and talk to those people.

They want food, shelters and jobs.

Therefore, all forms of help and services for those people should combine simultaneously job creation and educational training for technology assistants, participating in high technology projects.

The E-Map™ concept is aware of that.

7.   ACKNOWLEDGEMENTS