

**JOINT MEETING OF ACTION TEAM ON GNSS AND GNSS EXPERTS OF UN /
USA REGIONAL WORKSHOPS AND INTERNATIONAL MEETING 2001-2002
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PRESENTATION

**REPORT ON THE SURVEY FOR THE THEMATIC AREA OF
AGRICULTURE AND MANAGEMENT OF NATURAL RESOURCES**

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1 INTRODUCTION

This brief report deals with the presentation and analysis of the initiatives and follow-up actions of the UN / USA Regional Workshops and the International Meeting of Experts on the Use and Applications of GNSS, held in 2001 and 2002.

Recommendations of the regional workshops

(A) Asia and Pacific Region

1. The need to increase farm production efficiency;
2. The need to reduce pollution;
3. The need to establish an information exchange network on precision agriculture technology;
4. The need to implement a pilot project on precision agriculture, involving private sectors.

(B) Africa and Western Asia Region

1. The need to implement pilot project on precision agriculture, involving private sectors;
2. The need of UN-OOSA support on project implementation;
3. The need of studies on an efficient rangeland management system.

(C) Latin America and Caribbean Region

1. The need for human resource development in GNSS related technologies for agriculture;
2. The need to implement pilot project on precision agriculture involving private sectors;
3. Tax reduction on the importation of GNSS equipment;
4. The government to implement the rural cadastral surveying for land information systems;
5. The need of low cost DGPS signals for precision agriculture.

(D) Eastern and Central Europe

1. Development of a test-bed procedure on precision agriculture;
2. Validation and control of GNSS technology acceptance in the context of precision farming;
3. United Nations should consider: (a) the need to increase public awareness on precision agriculture; (b) ways for developing countries to apply GNSS technology; and (c) examples on how to integrate GNSS into agricultural practices.

In the International Meeting of Experts on the Use and Applications of GNSS, held in Vienna, in November 2002, based on the analysis of the regional recommendations, the team responsible for the thematic area of Agriculture and Management of Natural Resources identified two main situations regarding the need for support to the adoption/increase of the use of the GNSS technology. Such situations involved two different user profiles, independently of the region: (1) low-profile farmers; and (2) more advanced farmers, dealing specifically with precision agriculture.

Two project proposals were then generated, one for each situation, and they were presented and discussed in the meeting:

(1) Pilot projects on the use of GNSS technologies for land use planning under low-profile agricultural regions of the world

Objectives: (a) To implement pilot projects at regional level into four different countries, generating cartographic databases for a better agricultural production management; (b) The use of GNSS technology to implement regional infrastructure and land use planning for agricultural areas.

(2) Establishment of a global GNSS information exchange network for developing countries for a sustainable agricultural development.

Objectives: (a) To establish standards and procedures needed for precision agriculture technology based on GNSS in a database exchange network for developing countries; (b) To provide training on the use of GNSS in precision agriculture for different users levels; and (c) To gather related information on the use of GNSS in precision agriculture.

Budgets for both proposals also were presented and discussed.

2 DISCUSSION ON THE PROJECT PROPOSALS

As far as we know, there was no step ahead after the last meeting, related to the project proposals. No further contact was made between UN OOSA and the members of the thematic group in agriculture and management of natural resources. This situation resulted in isolated activities of some participants in their countries, which will be presented and discussed in a specific item in this report.

As a suggestion, we can discuss the possibility of the establishment of a **specific action team for agriculture and management of natural resources**, to take care of the two projects. Such action team should be established with at least one representative of each region, according to the regional workshops, namely: Asia and Pacific, Eastern and Central Europe, Africa and Western Asia, and Latin America and Caribbean. The action team could be responsible, for example, in the first project, for identifying countries and local institutions interested / able to implement the pilot projects, as well as locally discuss strategies. The role of UN OOSA could

be to identify and contact possible sources of financial support, but the most important thing would be the institutional support provided (the strength of the UN support can not be disregarded). The action team would be, in a first moment, an interface between UN OOSA / funding sources and countries / institutions willing to develop pilot projects.

3. DISCUSSION ON THE SURVEY

Regarding the evaluation of the follow-up initiatives, through the answers to the specific questionnaire sent by UN OOSA, the number of returns was relatively low (Table 1), do not allowing a significant analysis of the situation.

Table 1 – Answers to the questionnaire sent by UN OOSA.

Persons / country	Country	Region
2	Brazil	Latin America & the Caribbean
1	Argentina	
1	Colombia	
1	Japan	Asia & Pacific
1	Malaysia	
1	Vietnam	
1	Rep. of Maldives	
1	Nigeria	Africa & Western Asia
1	Slovakia	Eastern & Central Europe
4	Romania	
1	Bulgaria	

Nevertheless, some considerations can be made.

1. The number of answered questionnaires was balanced between regions, except for Africa and Western Asia, with only one response.
2. There was a balance between specific projects (either research and operational) in agriculture / management of natural resources and projects considered as of support (e.g. services of DGPS).
3. Regarding education, specifically in this thematic area, there was a predominance of short courses (four versus one at undergraduate level and one at graduate level).
4. Most of the people stated they experienced difficulties in their initiatives in their countries or regions. Such difficulties, ordered by decreasing frequency they were mentioned, were the followings:
 - (a) Lack of financial support;
 - (b) Technical problems (e.g. support to hardware development);
 - (c) Lack of high-level trained professionals;
 - (d) Lack of multi and interdisciplinary teams;
 - (e) Lack of equipment (e.g. receivers) for training and education purposes;
 - (f) Lack of governmental support;
 - (g) Lack of compatibility among different point-of-views from the different sectors involved (public, commercial, end users etc.);
5. Regarding the kind of assistance expected from UN OOSA, the large majority answered that it should be through financial support (mainly for projects, including pilot projects, but also for training and education). A significant number of people answered that the support should be through the increase of awareness on benefits of the GNSS technology,

by means of workshops, courses, and publications, at national and international levels, based on the specific needs of users. Also is expected that UN OOSA acts as a kind of "bridge" between the academic and political sectors, as well as between the academic and manufactures / suppliers segments, since the access to equipments, in sufficient number for activities like training and research, is very difficult (mainly due to the high costs).

Suggestion: Four **short courses** (two weeks) – 2004/2005: Principles and Applications of GNSS, based on regional/users needs.

At last, we would like to thank the colleagues who answered the questionnaires, helping us to prepare this report.