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COMMISSION ON LAND USE/COVER CHANGE**

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PROGRESS OF IGU-LUCC

Entering a new phase

During its first phase (1996-2000) and second phase (2000-2004), IGU-LUCC organized or sponsored over twenty meetings, published more than ten books and atlases, and promoted a number of projects related with LUCC in many countries. They have not been a mere accumulation of unrelated events, but have been coordinated, progressive and extremely productive events that have high potentialities of future development, as shown below.

The meetings organized by the Commission have been of two kinds, namely those held as part of IGU congresses, and those organized by its members. The former takes the form of congress sessions, where a wide range of people present their research results, meet each other and exchange information and ideas. They have played an important role in promoting LUCC-related research in many regions in the world and in enlarging and consolidating the IGU-LUCC community. The latter are also open to anyone but their main themes are more narrowly focused. The main theme of the Commission's latest symposium held in Moscow in 2003 was "Global and Regional Land Use/Cover Changes", while that of its first symposium held in Brisbane in 1997 was "Information Bases for Land Use/Cover Changes", reflecting the increasing concern of the Commission on the synthesis of the findings of regional LUCC studies and on the regional-global issues.

IGU-LUCC has been using its network for dissemination of information on the meetings and other activities organized by the LUCC Programme and other related organizations as well as by itself. The Commission has also been deeply involved in regional LUCC-related meetings, such as the "International Colloquium on Land Use/Cover Change and Environmental Problems in Asia", which has been successively

held in Japan (2001), India (2002) and Indonesia (2003), and is due to be held in China in October 2004. The development of this regional initiative, which contributes greatly to the consolidation of the Asian LUCC community, reflects the rapidly deepening land-degradation and land-use problems in Asia and the growing concern of the local LUCC researchers and IGU-LUCC on them.

Publication has generally taken four forms, namely proceedings of the commission symposia published by their organizers, specialist books published by international publishers, and atlases and newsletters published by the Commission itself. IGU-LUCC has had two books published from Science Publishers in the last three years, and a third one is in the press now. The second book is entitled *Land-use Changes in Comparative Perspective*, while the third one is entitled *Understanding Land-Use and Land-Cover Change in Global and Regional Context*. They represent the Commission's effort to encourage regional to global LUCC studies with comparative and multiple scale views needed for the globalization of the LUCC study. The CJLUC (China-Japan Comparative Study of Land Use/Cover Changes) Project, which IGU-LUCC supports, is an example of such a bi-national regional study.

The Commission's commitment to the LUCC historical information bases has been demonstrated in its series of publications, especially in the publication of *Atlas – Land-Use/Cover Changes in Selected Regions in the World*. Volume 1 of the atlas contains contributions from eight countries/regions and Volume 2 from five, and the forthcoming Volume 3 from five. This atlas publication scheme has encouraged the creation of LUCC historical information bases in those participating countries/regions, and there are already some offers of contributions to Volume 4. It is an important achievement of the Commission, but the area covered by the scheme so far is still far from enough. Further effort has to be made to increase the number of participating countries/regions.

IGU-LUCC is entering its third phase in August 2004. The LUCC Programme comes to its end in a year's time, but it does not mean that its mission can be accomplished by then. In fact, much of the uncompleted tasks of the LUCC Programme will have to be tackled under the new framework of forthcoming Global Land Project. The achievements of IGU-LUCC since the last issue of its Newsletter in December 2002, which are outlined below, tell where the Commission is now standing, and what it should do during this transitional period. I am sure that IGU-LUCC finds its way and keeps its stride under the new leadership of Professor Alexander Mather.

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Recent Meetings

- “Workshop on Global and Regional Land Use/Cover Changes” during 18-20 July 2003 in Moscow, Russia, under the framework of the “International Conference on Society-Environment Interaction under Conditions of Global and Regional Changes” (Moscow – Barnaul/Altai); 30 participants from 8 countries; 18 papers and 7 posters;

The workshop consisted of two days of paper/poster sessions and one-day excursion. Topics: Global trends of land use/cover changes and their backgrounds; Integration of environmental and socio-economic knowledge of land use/cover changes; Regionality of land use/cover changes; Problems and hot issues of land use/cover changes in Eurasia; Land use management and policy in different regions.

Forthcoming Meetings

- The Commission jointly organises a Pre-congress event on “Land use and rural sustainability” with IGU Commission on Sustainable Rural Systems during 10-14 August 2004. The event includes an excursion across Scotland (Aberdeen – Cairngorms Nat. Park – Loch Ness – Isle of Skye – Glen Coe – Loch Lomond – Glasgow), and a paper session at University of Aberdeen.
- The Commission will hold several sessions in the Main Congress of IGC-UK 2004 Glasgow. The session themes include: forest land use/cover change; urban land use/cover change; rural land use/cover change; land use/cover change in marginal areas; modelling and comparing land use/cover change; information bases for land use/cover change.
- The Commission sponsors the “4th International Colloquium on Land Use and Land Cover Change and Environmental Problems in Asia” arranged for 15-16 October 2004 in Beijing, China. The themes include: LUCC monitoring and LUCC dynamics; LUCC and Millennium Ecosystem Assessment; deforestation and afforestation; LUCC and urbanization; LUCC and food security; LUCC and water issues. The colloquium will be followed by excursions in Beijing, to Changjiang River Delta, and to Sichuan Basin.
- The Commission sponsors the “1st Gottingen GIS & Remote Sensing Days – Environmental Studies” held during 7-8 October 2004 in Gottingen, Germany. The special topics are: remote sensing & GIS in land use/cover change; hydrology; hazard forecasting & management; forest ecology & forest management. see <http://www.ggrs.uni-goettingen.de>

Publications since January 2003

Himiyama Y., Mather, A., Bičík I. and Milanova, E. V. eds. (2003): *Land Use/Cover Changes in Selected Regions in the World – Vol. 3*. IGU-LUCC. (IGU-LUCC Research Reports IL-2003-01). (due to be published in August 2004) □ ISBN 4-907651-03-8

Milanova, E. V., Himiyama, Y. and Bičík, I. eds. (2004) *Understanding Land-use and Land-cover Change in Global and Regional Context*. Science Publishers. (due to be published in January 2005)

Himiyama, Y. ed. (2001, 2002, 2003): *CJLUC Project Report: China-Japan Comparative Study of Land Use/Cover Changes Vol. I, II, III*. CJLUC.

Educational Activities

IGU-LUCC maintains its support for the Children's Environmental Map Contest held in Asahikawa, Japan in October each year. For information about the Contest, contact Prof. Himiyama at himiyama@asa.hokkyodai.ac.jp

Continuation of IGU-LUCC 2004-2008

Statement of the Commission's Mission for 2004-2008

The Commission will continue its mission as an IGU commission in order to enhance research on land use/cover change in general, and in particular to contribute to the IGBP/IHDP LUCC Programme and to the newly established IGBP/IHDP GLP Project. The Commission has been successful in forming a large international research community to support LUCC, and it will be further developed to support GLP. Geographers can, and should, make a variety of contributions to these important international environmental projects from both natural science and socio-economic perspectives. The Commission will use not only its own network and symposia but also its expertise for the promotion and advancement of LUCC and GLP.

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Objectives for 2004-2008:

- a. To promote the study of land use/cover changes throughout the world as a geographical research focus.
- b. To promote the production and the use of land use information bases, including land-use maps, of both the present and the past.
- c. To coordinate the comparative study of land use/cover changes and their driving forces in different regions.
- d. To contribute to the LUCC Programme and the newly established GLP Project.

Major types of activity:

a. Symposia to discuss specific aspects of the above objectives. The Commission plans to hold at least one open symposium every year in different parts of the world. It is regarded as essential to establish ongoing work so that these regional conferences are seen as the culmination of continuing efforts, and not merely as isolated occasions.

b. Networking of people and institutions concerned with land use changes. Land use changes are studied by many individuals and organisations in every part of the world, but they lack a reasonable research network. Therefore, world-wide coordination of existing efforts is essential for the globalisation of land use research, which has had a strong tendency of being local or national at best. The Commission will continue to improve its newsletter and website as effective means of enhancing the networking.

c. Cooperation with other IGU commissions. As land use is such a fundamental topic in geography, there are other commissions, such as the Commission on Sustainability of Rural Systems, which have related interests. Joint symposia with other commissions will be conducted.

d. Promotion of national/regional research on land use. The Commission has promoted and supported national level research conducted by its members. It has cooperated with regional initiatives, such as those in Asia and Europe, and establishment of new regional networks is under consideration.

e. Publication of books, papers and atlases. The Commission will publish books on land use/cover changes, including the proceedings of the symposia organised or co-organised by the Commission. It will also promote the publication of textbooks and more advanced specialist books. Newsletters and Research Reports will be improved and strengthened further. The Commission will continue to cooperate with *Land Use Policy*, a leading international journal of land use, to promote and publicise ongoing research of the field. The most substantial publication scheme of the Commission

remains to be the publication of the atlas on “land use/cover change in selected regions in the world”.

Recent and prospective publications

The volume of research on land use/cover change is expanding rapidly and perhaps even exponentially. The literature is rich and diverse, encompassing a wide range of approaches and themes. Amongst recent publications are special issues of two journals.

The *International Regional Science Review* devotes Volume 27(3) (July 2004) to the theme of tropical deforestation, under the editorship of Robert Walker. In his introduction, Walker talks of how the literature has “exploded in the last decade”, and of how “land-cover and land-use studies practically constitute a discipline in their own right”. This introduction is followed by a paper by Walker on ‘Theorizing land-cover and land-use change: the case of tropical deforestation’. Thereafter, there are papers on modelling change in Bolivia and southern Mexico and articles on the role of road improvements and of transferable development rights in relation to tropical deforestation. With a focus on the new-world tropics and a flavour appropriate to a regional-science publication, this special issue will be of interest to numerous researchers in the fields of tropical deforestation in particular and land-cover change more generally.

The July 2004 issue of *Land Use Policy* (Volume 21.(3)) has the theme of ‘Land use and sustainability indicators’. It contains ten papers assembled by guest editors Haberl, Wackernagel and Wrabka. The concept of the ‘ecological footprint’ is prominent: amongst the papers of particular interest to the IGU-LUCC community are ‘Actual land demand of Austria 1926-2000: a variation on Ecological Footprint assessments’, by Karl-Heinz Erb, and ‘Resource flows and land use in Austria 1950-2000’, by Fridolin Krausmann et al’.

The Earth’s Changing Land: An Encyclopedia of Land-Use and Land-Cover Change

Work on this major, two-volume project is currently in progress, under the editorship of Helmut Geist. The encyclopedia is being published by the Greenwood Publishing of Westport, Connecticut, USA. Aimed at the ‘educated reader’ and the library market, the encyclopedia is intended to elucidate the nature, causes and significance of change in land use and land cover, over a time-scale of the last 300 years. Entries will range in length from 150 to 4000 words, with a small number of major pieces on themes such as the history of land cover and a large number of articles of more specific

topics such as von Thünen. Publication will be a milestone in the evolution of land use/cover science, and is eagerly awaited.

News

CAP reform and ‘single farm payment’

A major change is about to be introduced in the European Union’s Common Agricultural Policy. In effect, it switches financial support for farmers from production-related measures to direct payments. Subject to certain conditions, farmers will receive direct payments irrespective of production. The land-use implications of this switch are potentially profound.

The background is well known. Support channelled in the traditional way through production-related measures encouraged increased production. For example when payments are geared to numbers of livestock, there is an incentive to increase livestock numbers. Whereas 50 years ago Europe was short of food and needed to encourage more production, it now has plenty of food and over-production is a greater problem than under-production. The cost of support, and of storage of surplus production, is huge. It is also trade-distorting, and falls foul of the World Trade Organisation rules. Hence ‘de-coupling’ of support from production will now take place.

‘Cross-compliance’ is necessary in order to qualify for payments: in other words, farmers will have to satisfy environmental and animal-welfare criteria in order to qualify for payment. In addition, payments will be ‘taxed’ to support wider rural-development measures. Clearly this reform represents a major change. The full implications for land use, and especially for the spatial patterns of land use, remain to be worked out.

National parks for Scotland

Until recently, Scotland was one of the few countries with no national parks. Following the re-establishment in 1999 of a Scottish Parliament (after a break of nearly 300 years), with limited powers within the framework of the United Kingdom, it now has national parks. One of the first legislative measures to be enacted by the new Parliament was the National Parks (Scotland) Act of 2000. The priority given to this act reflected its perceived symbolic importance in relation to national identity. The enabling act was followed by the creation of two parks, around Loch Lomond to the north-west of Glasgow and the Cairngorm Mountains in the Central Highlands.

Scottish national parks are distinctive in terms of their aims as defined by the Act. These are:

- a) to conserve and enhance the natural and cultural heritage of the area
- b) to promote sustainable use of the natural resources of the area
- c) to promote understanding and enjoyment (including enjoyment in the form of recreation) of the special qualities of the area by the public, and
- d) to promote sustainable economic and social development of the area's communities.

The unusual – and controversial – feature is (d). It was included because of fears on the part of some local communities that designation as a national park would inhibit development. Some people, however, are concerned that there may be a basic incompatibility between the aims related to conservation and those related to development.

IGU-LUCC Office

It is expected that the Commission's office will move from Japan to Scotland after the International Geographical Congress in August 2004, and that the Commission's website will be administered from there (<http://www.abdn.ac.uk/~geo028/igulucc.htm>).

Suggestions for Commission activities and news and other information of interest to members will continue to be welcomed. Please e-mail to a.mather@abdn.ac.uk.

While it is intended to maintain existing activities, it is always good to have a collective mind that is open to new initiatives. Ideas that might develop into initiatives are especially welcome. For example, could electronic conferences on specific topics of interest to groups of members be fruitful?

Land use has been a central theme in Geography for many decades, but our interest has not always been manifested in ways that have had major impacts either on policy or on the wider scientific community. The existence of IGU-LUCC provides a means whereby we can enrich our research, especially through networking and collaboration, and potentially increase its impact. A fuller tribute to Professor Himiyama for his vision and drive in establishing the Commission will be paid in due course. In the meantime let us continue to build on what has been created by using our imaginations and energies as creatively as we can in expanding the activities and output of IGU-LUCC.