

# FIG Agenda 21 – Committing Surveyors to Sustainable Development

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**Key words:** Sustainable development, surveying profession, land tenure, land management, geographic information, environmental protection, poverty reduction.

## ABSTRACT

Dealing with surveying, planning and *management of land and water resources*, laws and systems needed for *access to land and security of tenure*, and with *geographic information* for decision making, the surveying profession is deeply involved in issues of profound importance for sustainable development. The way surveyors are trained and perform in their daily work can have a significant impact on the implementation of sustainable development.

FIG decided in 1998 to prepare a statement on how the Federation will implement the concept of sustainable development. The statement was finally adopted by the General Assembly of the Federation at its meeting in Seoul, Republic of Korea in May 2001.

This report presents the process of preparing the statement and the final outcome, the *FIG Agenda 21*.

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## 1. INTRODUCTION

The United Nations 1992 Rio Conference on Environment and Development, commonly agreed on the concept of *sustainable development* as a general principle for policies and actions in a large number of fields and sectors of societies. Sustainable development may be defined as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*". (definition by The World Commission on Environment and Development). The Rio Conference in 1992 agreed a program for the implementation of sustainable development in the twenty-first century, known as *Agenda 21*. Agenda 21 calls, inter alia, for non-governmental organisations at all levels to support the implementation of sustainable development policies.

FIG recognises that professions, and indeed the surveying profession, can play an important role in implementing Agenda 21. Dealing with surveying, planning and management of land and water resources, laws and systems needed for access to land and security of tenure, and with geographic information for decision making, surveyors are deeply involved in issues of profound importance for sustainable development. The way surveyors are trained and perform in their daily work can have a significant impact on the implementation of sustainable development.

The International Federation of Surveyors FIG decided at the its Congress in Brighton in 1998 to form a Task Force to prepare an FIG statement on how the Federation will implement the concept of sustainable development. The "FIG Agenda 21" was finally adopted by the General Assembly of the Federation at its meeting in Seoul, Republic of Korea in May 2001.

The FIG Agenda 21 demonstrates that the surveying profession understands and supports the concept of sustainable development as basis for policies and actions locally, nationally and internationally. Secondly it outlines the potential contribution from the profession in fostering and in providing for sustainable development. The statements are directed to the profession and it's own institutions, as well as to institutions and individuals outside the profession.

In some aspects it calls for a change in current practises of the profession, particularly concerning land tenure issues in developing countries and in transition economies. It outlines the ethical standards for the profession, *inter alia*, in promoting fairness and equity in land tenure issues, in respecting local cultures and traditions, in protecting and promoting the rights of the poor, women, indigenous people and other vulnerable groups in access to land, in land use planning and land management, and in access to information. Observing the rapid growth of the urban population in developing countries, the Agenda particularly stresses the importance of supporting people currently living in informal settlements.

It urges governments and schools to include sustainable development matters in relevant

curricula and in programs for continuous professional development. It encourages national associations to include appropriate references to sustainable development in their codes of conduct, and to include related topics in conferences and meetings.

The aim of the Agenda is finally to show that FIG is committed to do its utmost to develop the surveying profession to act in accordance with the principles of sustainable development.

However, adopting the statement is only a first step. The proof is in the implementation of it in the activities of FIG, in the programmes and activities of national associations, and in the daily work of the individual surveyor.

The FIG Agenda 21 has been prepared by a Task Force with the following members: Karin Haldrup (Denmark), Helmut Brackmann (Germany), Paul van der Molen (Netherlands), Michael Yovino-Young (USA), Peter Byrne (Australia), Ian Williamson (Australia), Jerome Ives (USA). Helge Onsrud (Norway) chaired the Task Force.

## **2. A WORLD IN CRISES**

Almost all societies of the world are currently undergoing change at a pace never observed before. The world's population increased from less than three billion at the beginning of the last century, to pass six billion at the start of the new millennium. Developing countries are experiencing a massive migration to urban areas, where poor people are increasingly concentrated in slums and squatter settlements in ever-expanding cities. Since 1950 the global urban population has jumped from 750 million to more than 2,500 million people. It is estimated that, in developing countries, 88 per cent of the population growth during the next 25 years will be in urban settlements. Within 30 years, two thirds of the world's population will live in cities. The urban growth is mostly informal and unplanned, often resulting in people settling in dangerous locations. Already half the world's population lives within 60 kilometres from the coastline, one-third of which is at high risk from degradation brought about by human activity.

In many countries fresh water availability is approaching crisis point. 1.3 billion people do not have access to clean water and it is estimated that five million die annually from diseases caused by water contamination.

Large areas of land for food production are lost annually to erosion and urban growth. The human-induced depletion of the ozone layer and climate change has the potential to cause major problems to health and settlements in many parts of the world.

The last thirty years have witnessed a growing understanding that the earth cannot sustain current levels of pollution and utilisation of natural resources. Human behaviour and policies must change radically and the pressure on the world's natural environment must be reduced

At the same time 25 per cent of the world's population lives in deep poverty. 1.3 billion people live on less than 1 US dollar per day; 2.6 billion do not have access to basic sanitation. It is estimated that three quarters of a billion people not receive enough food. One billion

people living in urban areas lack access to adequate shelter and more than one billion of the city dwellers are without secure tenure to houses or land.

It has become widely recognised that general change within societies – development – throughout the world must be oriented towards behaviour and actions that do not destroy the natural environment. Within this framework, it is also generally agreed that changes in behaviour and actions must be expressed in policies that simultaneously improve living conditions for the poor peoples. Removing barriers that keep people in poverty is important for the protection of the environment; but it is also a human challenge and responsibility in itself.

The world faces two major challenges - protecting the natural environment and, at the same time, removing poverty.

### **3. SUSTAINABLE DEVELOPMENT – A POLICY FOR CHANGE**

Responding to the above challenges, national governments, at the United Nations 1992 Rio Conference on Environment and Development, commonly agreed on the concept of Sustainable Development as a general principle for policies and actions in a large number of fields and sectors of societies.

Sustainable development was defined by the World Commission on Environment and Development in their report on "Our Common Future" as "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*".

Expressed in a more direct way, policies for sustainable development contains three pillars of equal importance:

- Protecting the natural environment
- Improving the social situation for the poor
- Combating poverty.

The Rio Conference agreed a program for the implementation of sustainable development in the twenty-first century. Known as *Agenda 21*, this focuses, inter alia, on the strategic importance of an integrated approach to the planning and management of land. It underlines the importance of sustainable human settlements and the proper management of land for agriculture and rural development. It stresses the link between land management and the protection of bio-diversity, forests and water resources. It emphasises the need for reliable information for decision-making. It calls for a stronger role for non-governmental organisations as partners in sustainable development. It also calls for support from national governments, regional and local authorities and the non-governmental sector, all of whom are encouraged to formulate and adopt local agendas for their respective fields of responsibility.

Since that point of departure, a number of international events have deepened and widened the understanding of the profound importance to humanity of achieving sustainability. The

report from the 1996 UN Conference on Human Settlements (Habitat II) focuses, *inter alia*, on the major challenge of fast-growing cities in developing countries - a challenge to be mastered through proper planning and land management, as well as through security of tenure as an engine for social and economic improvements. The World Food Summit (Rome, 1996) underlined the importance of good management of land in providing food for the rapidly growing world population. The World Summit on Social Development (Copenhagen, 1995) and the World Women's Conference (Beijing, 1995) refer, *inter alia*, to the importance of giving women, indigenous people and vulnerable groups equal access to land and security of tenure.

However, in spite of conferences and declarations, in many parts of the world the developments have been for the worse. The need for a change in attitudes towards sustainable development is greater than ever before. This is a challenge to all - to governments at all levels, to non-governmental organisations and to each individual, whether a professional or a non-professional person.

#### **4. WHY FIG AGENDA 21?**

FIG recognises that professions play an important role in implementing sustainable development. The surveying profession plays its part through, *inter alia*, the planning and management of land, sea and water resources; the surveying and registration of real property; and the handling of geographic information.

Even before Rio, the International Federation of Surveyors expressed its support for the concept of sustainability as a principle guideline for development. At its annual meeting in Beijing in 1991 the organisation unanimously adopted the "FIG Statement on Sustainable Development - a Challenge and a Responsibility for Surveyors".

During the following decade FIG translated its support into a number of actions. Surveying for sustainable development has been a focus of FIG congresses, annual meetings and commission gatherings. FIG's collaboration with the United Nations has been widened and deepened. During the UN Habitat II Conference in 1996 FIG organised, in collaboration with the United Nations Centre for Human Settlements and the International Federation for real Estate (FIABCI), one of the ten Habitat II Dialogues for the 21st Century – the Dialogue on Land and Rural-Urban Linkages – which provided valuable input to the Habitat Agenda. A joint UN-FIG meeting was held in Indonesia in 1996, resulting in the Bogor Declaration on Cadastral Reform. The collaboration between UN and FIG in promoting sustainable development was further developed in a workshop in Australia in 1999 which prepared the Bathurst Declaration on Land Administration for Sustainable Development. Co-operation between FIG and the United Nations Centre for Human Settlements UNCHS (Habitat) was crystallised into a Memorandum of Understanding in 1997 with a second extension, covering the period 2000–2003 being signed in May 2000.

These and other events have widened the understanding of the current and potential future contribution of the surveying profession to sustainable development, both inside the profession and within the relevant United Nations agencies. The aim of this statement is to

present this understanding in a concentrated form to a wider circle of parties and persons, and to present a number of guiding principles for the implementation of sustainable development within both FIG itself and the entire surveying profession.

*By adopting the **FIG Agenda 21**, FIG confirms its support for the concept of sustainable development, and renews its program for contributing to the implementation of sustainability in policies and actions on all levels of society.*

## **FIG Agenda 21**

### **Agenda for implementing the concept of Sustainable Development in the activities of the International Federation of Surveyors and its member associations**

#### Chapter I

##### **Preamble**

1.1 We, the International Federation of Surveyors, recognise that the world is confronted with a growing disparity between and within nations, a worsening of poverty, hunger and ill health and a continuing deterioration of the ecosystems on which humanity depends for its well being. We recognise that the only path forward to a better world for current and future generations is through integration of environment and development concerns. We understand that the concept of sustainable development is rooted in three pillars of equal importance:

Protecting the natural environment  
Improving the social situation for the poor  
Combating poverty.

1.2 We recognise Agenda 21, adopted by the 1992 UN Conference on Environment and Development, as a foundation for plans, policies and actions for sustainable development. We acknowledge that other international conferences, including the UN Conference on Human Settlements (Habitat II 1996), the UN Food Summit (Rome, 1996), the UN World Summit on Social Development (Copenhagen, 1995) and the UN World Women's Conference (Beijing, 1995) also address important social, economic and environmental issues. They include components of the sustainable development agenda, for which successful implementation depends on actions at local, national and international levels. We note that in 2000 the United Nations Centre for Human Settlements launched the Global Campaign for Secure Tenure and that the UN Commission for Sustainable Development has made security of tenure a priority matter. Both of these address issues in which the surveying profession has an important role to play.

1.3 We recognise that sustainable development can only be achieved through a global partnership. Successful implementation of Agenda 21 is first and foremost a

responsibility of national governments, supported by international co-operation and in particular by the relevant agencies of the United Nations. However, we note that Agenda 21 also calls for the broadest possible public participation and the active involvement of non-governmental organisations. We fully share the opinion that non-governmental organisations, at the local as well as the international level, can and should make a significant contribution to promoting and implementing sustainable development.

- 1.4 The exploitation and management of the world's natural resources are of crucial importance for sustainable development. In particular the good management of land, sea and water resources will be a prerequisite in ensuring sufficient food for current and future generations and in protecting bio-diversity. Proper planning and management of human settlements, both in urban and rural areas, are critical components in combating poverty and ill health and for improving the general social and economic situation of the poor.
- 1.5 It is widely recognised that access to land and security of tenure are of profound importance in improving the situation of the poor, who frequently live in informal settlements without recognised rights to shelter or to land that can provide food for basic needs. The fast-growing number of urban dwellers in non-regularised settlements in developing countries poses a tremendous challenge in combating poverty, ill health and illiteracy. In addition to keeping people in poverty, the unjust distribution of rights to land leads to violence and is the cause of major conflict in several developing countries.
- 1.6 The movement of people to urban areas in developed countries is correspondingly straining many of natural resources. Inter alia good agriculture land is being used for housing and local sources of potable water are being destroyed.
- 1.7 Much of the world's commerce depends on the shipment of goods by sea and their subsequent transshipment to land-based modes of transportation through ports. This global activity creates a high environmental risk in and around the land/sea interface. Hydrographic knowledge is fundamental to the development of safe, efficient and sustainable marine navigational infrastructure. Systems relating to navigational aids and vessel traffic control are also required for safe marine transportation. When integrated marine navigation systems are implemented, the cost of transporting goods will be reduced and the risk of adverse environmental impact will be lessened.
- 1.8 Plans, policies and actions for sustainable development depend on access to appropriate information. Issues concerning sustainable development are frequently of a spatial nature and Chapter 40 of Agenda 21 reflects this when it underlines the importance of access to geographic information. Mapping, aerial photography, remote sensing from satellites, hydrographic surveying, and geographic information systems and related communication technologies are powerful tools in raising public awareness and in helping decision-makers at all levels.
- 1.9 The surveying profession deals with the surveying, planning and management of land and marine resources, with laws and systems needed for access to land and for security of

tenure, and with geographic information in all its aspects. This makes it deeply involved in issues of profound importance for sustainable development. The way surveyors are trained and act can have a significant impact on the implementation of sustainable development.

- 1.10 Organising surveyors from all over the world, the International Federation of Surveyors is committed to do its utmost to develop the surveying profession and to help the individual surveyor to act in accordance with the principles of sustainable development. It is also committed to collaborate with all relevant agencies of the United Nations and with other non-governmental organisations in developing a mutual understanding of how surveying in all its aspects, as well as related techniques, products and services, can best contribute to the implementation of Agenda 21 world-wide.
- 1.11 The Chapters below formulate principles and programmes to which the surveying profession should adhere to help implement sustainable development. Chapters 2, 3 and 4 deal with the three main areas of activities where the profession can make a significant and tangible contribution. Chapter 5 seeks to develop the surveying profession to enable it to respond ethically and with professional competence to the challenge of Agenda 21. Chapter 6 shows how FIG itself will focus internally on sustainable development issues and how its member associations can and should contribute. Chapter 7 describes FIG's collaboration with the United Nations and with other non-governmental organisations in respect to sustainable development issues.

## Chapter II

### **Access to Land and Security of Tenure**

#### Basis for action

- 2.1 Land resources are the basis for human life: they provide soil, energy, water and the opportunity for all human activity. It is estimated that more than half the people in the developing countries are still effectively excluded from ownership or other types of secure rights to land for shelter or for producing food to cover basic needs. It is generally agreed that lack of access to land and secure tenure severely hamper social and economic development in these countries. Only a few countries exhibit true land shortages: consequently it is the current distribution of secured land holdings that hamper development. On the other hand, widespread and secure rights to real property are common among the richer nations of the world. Access to land and security of tenure are strategic prerequisites for the provision of shelter for all and for the development of sustainable human settlements affecting both urban and rural areas. They are also a way of breaking the vicious circle of poverty. (Habitat Agenda, paragraph 75)
- 2.2 The effect on economic development of being able to turn assets kept in fixed property into liquid capital is increasingly recognised. In developed countries mortgages on private homes are the single most important source for raising capital for investment. Contrary to this, developing countries in general have not adopted laws and systems that



facilitate mortgages, effectively making it impossible for people to convert their savings in property into capital for investment. Yet poor people in developing countries in total possess tremendous assets that could be turned into capital they had secure tenure and access to systems for making transactions in property safely and at affordable costs.

- 2.3 Most developing countries experience a massive migration to cities where the majority of the new urban dwellers settle in non-regularised areas, often in locations that are exposed to natural hazards (such as land slides and flooding) and to ill health, illiteracy and unemployment. They are thus effectively kept in poverty. Lack of secure tenure discourages residents from improving conditions through investment in their houses and in common services for water, sewage, roads, etc. In former socialist countries, particularly in Europe, the regularisation of rights to apartments in multifamily buildings is a major concern if problems in the housing sector are to be avoided.
- 2.4 In many countries, particularly in the developing world, the main proportion of land is owned by a small percentage of the population, whilst large numbers of people are landless and poor.
- 2.5 In every continent there are people whose customary rights to land and natural resources have been ignored. In many countries the rights of indigenous people to own, possess or use land are still not properly recognised.
- 2.6 In many countries, and particularly in developing countries, legal, cultural and social barriers prevent women and other vulnerable groups from having equal and equitable access to land.
- 2.7 In addition to national policies for the fair and equitable distribution of land, security of tenure requires appropriate institutions, especially legislation, registration systems and organisations. In many countries the current tenure and cadastral infrastructure do not render adequate and reliable services to all. This may be due to high costs, slow procedures, inadequate technical requirements, a lack of co-operation between ministries and agencies, or corruption. Field surveying of boundaries with high geodetic precision is a critical cost element in developing a cadastre and viable land markets can be facilitated without accurate property maps. Both former socialist countries, which are re-establishing private ownership, and developing countries, which are introducing private ownership and related institutions for the first time, are faced with these problems. In the latter group the issues of customary land tenure and of land grabbing, are frequently not adequately addressed.
- 2.8 Agenda 21 and the Habitat Agenda underline the close link between access to land and security of tenure and sustainable development. Both documents provide concrete programs for related actions to be taken by governments, the private sector and non-governmental organisations. In Agenda 21, Chapter 7 (promoting sustainable human settlements) and in Chapter 14 (promoting sustainable agriculture and rural development) are particularly relevant in this respect. In the Habitat Agenda reference should be made to Chapter IV, Global Plan of Action, section B (adequate shelter for all)

and in particular to paragraphs 75 and 76, as well as to paragraph 40 of Chapter III on Commitments.

2.9 FIG has for a number of years collaborated closely with the United Nations in raising awareness and developing recommendations and guidelines concerning the issues of access to land and security of tenure (see the Bogor Declaration (1996), the Bathurst Declaration (1999) and the FIG publication "Cadastre 2014" prepared by FIG Commission 7).

### Actions

2.10 To accelerate access to land and security of tenure as instruments for sustainable development, FIG will in particular:

- a. Enhance the knowledge of, and access to, the property-related principles and policies of Agenda 21 and subsequent international agreements, including those developed in co-operation between the United Nations and FIG, and actively promote the application of these principles and policies throughout the surveying profession.
- b. Promote fairness and equity in access to land and to the infrastructure that provides security of tenure, including promotion of the equal rights of women and indigenous people to possess, buy, inherit and use land. Nobody should be excluded from these basic rights on the basis of sex, religion or race.
- c. Continue to assist in developing international guidelines and models for land-related legislation and registration systems, marine-related tenure systems and surveying and mapping that respond to current and local needs and that reflect the principles contained in the points below.
- d. Ensure an understanding that current western-type land registration systems need to be re-engineered to accommodate other forms of information that may not be parcel based, inter alia to facilitate the collection of information about tenure forms such as occupancy claims, use rights, water rights and overlapping rights.
- e. Underline the need to develop practical and low-cost registration systems that facilitate the recognition of housing rights and other rights to land in informal settlements.
- f. Stress that emerging registration systems, in particular in developing countries and in transition economies, should not be overloaded with registering more data than is needed to meet urgent needs. These are normally to provide secure tenure, to facilitate the selling and buying of land, and to enable real property to be used as security for loans.
- g. Recommend, in particular to the surveying profession, that standards for geodetic precision in boundary documentation in countries that have to undertake massive registration should not exceed those required to serve basic needs. In several countries it has been demonstrated that overview maps (index maps), without detailed field surveying, are perfectly satisfactory for an emerging land market.
- h. Underline the importance of respecting local cultures and traditions in developing systems for registration of rights to land. Legislation and systems should, wherever relevant, facilitate the granting of title to groups or families as well as to individuals.

- i. Stress that in implementing a modern land registration service, systems must be coupled with policies and practical instruments that prevent land grabbing, as this can easily happen in countries where only a rich minority possesses funds for buying land.
- j. Stress that the demand for formal land tenure should come from the people in the area, and that the local inhabitants as well as the local authorities should play an active part in the related processes.

### Chapter III

## **Planning and Management of Land and Coastal Areas**

### Basis for action

- 3.1 Migration to urban areas, the sprawl of cities into wider geographical areas and the rapid growth of mega-cities, in particular in developing countries, are among the most significant causes of the transformation of human settlements. Many cities are witnessing harmful patterns of growth, of land use and of energy consumption, often resulting in serious pollution of soil, water and air; loss of valuable agricultural land; and loss of land that sustains bio-diversity. Open and green spaces are frequently not set aside for human well being. Urban settlements, on the other hand, hold out a promise for human development through their ability to support large numbers of people while limiting their impact on the natural environment.
- 3.2 Following the massive migration to cities, developing countries experience the establishment of large informal settlements. Lack of appropriate up-front planning and investment in infrastructure result in settlements that are only seldom serviced with water, sanitation, transport, schools, etc. This frequently causes serious health problems, unemployment, illiteracy and crime.
- 3.3 Sustainable development overall depends on a balanced development of both urban and rural settlements. Urban and rural areas are interdependent economically, socially and environmentally. Ensuring appropriate urban-rural linkages is of vital importance for making sustainable cities as well as sustainable rural settlements. Rural settlements need to be valued and supported with improved infrastructure and services.
- 3.4 In many countries large areas of arable land are continuously lost due to change in land use that leads to massive erosion. Uncontrolled clearing of forest frequently results in landslides, floods, and loss of the vegetation on which bio-diversity depends.
- 3.5 In many areas critical fresh water resources are polluted by the harmful effects of human settlements that do not respect the close connection between land use and the quality of ground as well as of surface water.
- 3.6 Poorly surveyed coastal areas and inadequate marine navigation infrastructure often result in marine pollution incidents that destroy fish habitats and seriously affect coastal ecosystems. These marine environmental disasters inevitably reduce food supplies from

the sea and increase hardship and poverty.

- 3.7 Good land use planning and management of land can reduce many of the above problems. However, the environmental impacts are not always appropriately assessed by politicians, planners and developers. Furthermore, the implementation of zoning plans and regulations are not always appropriately monitored and enforced.
- 3.8 Agenda 21, Chapter 7 sets out a program for the development of sustainable human settlements including (at point 7.5) program elements for:
- a. Providing adequate shelter for all
  - b. Improving human settlement management
  - c. Promoting sustainable land use planning and management
  - d. Promoting the integrated provision of environmental infrastructure; water, sanitation, drainage and solid waste management
  - e. Promoting sustainable energy and transport systems in human settlements
  - f. Promoting human settlement planning and management in disaster-prone areas
  - g. Promoting sustainable construction industry activities
  - h. Promoting human resource development and capacity building for human settlement development

Chapter 10 of Agenda 21 outlines a program for an Integrated Approach to the Planning and Management of Land Resources, taking into consideration environmental, social and economic issues. The broad objective of the program is to facilitate the allocation of land to the uses that provide the greatest sustainable benefits and to promote the transition to integrated management of land resources. In more specific terms, the objectives are (Chapter 10 point 10.5):

- a. To develop policies to support the best possible use of land and the sustainable management of land resources
  - a. To improve and strengthen planning, management and evaluation systems for land and land resources
  - b. To strengthen institutions and co-ordinating mechanisms for land and land resources
  - c. To create mechanisms to facilitate the active involvement and participation of all concerned, particularly communities and people at the local level, in decision-making related to land use and management.
- 3.9 The Habitat II conference Istanbul 1996 agreed on a large number of principles, commitments and strategies for developing sustainable settlements. These are of vital importance for land use planning and management, whether executed by national or local governments. Among these (see the Habitat Global Plan of Action, point 113) are the need to:
- a. Establish appropriate legal frameworks for public plans and policies for sustainable urban developments and rehabilitation, land utilisation, housing and the management of urban growth

- b. Promote efficient and accessible land markets that respond to community needs
- c. Develop, where appropriate, fiscal incentives and land control measures including land-use planning solutions for the more rational and sustainable use of limited land resources
- d. Encourage partnerships among public, private and voluntary groups and other interested parties in managing land resources
- e. Promote urban planning, housing and industrial siting initiatives that discourage the siting of hazardous industrial facilities in residential areas, including areas inhabited by people living in poverty or those belonging to vulnerable and disadvantaged groups
- f. Develop and support land management practises that take into account the need for everyday activities playgrounds, parks, sports and recreation areas and areas for gardening and urban agriculture
- g. Promote the integration of land use, communications and transport planning to reduce the demand for transport
- h. Develop and implement integrated coastal zone management plans to ensure the proper development and conservation of coastal resources
- i. Institutionalise a participatory approach by developing and supporting strategies and mechanisms that encourage open and inclusive dialogue among all interested parties, with special attention to the needs and priorities of women, minorities, children, youth, people with disabilities, older persons and persons living in poverty and exclusion.

### Actions

3.10 To encourage best practises in land use planning and land management for sustainable settlements and the management of land resources in general, FIG will in particular:

- a. Promote knowledge of the principles, commitments and strategies for sustainable land use expressed in Agenda 21 and the Habitat Global Plan of Action among the members of the Federation and throughout the surveying profession.
- b. Promote the application of these principles and strategies among surveyors working in the public as well as the private sector, inter alia by transforming the principles and strategies into guidelines and models for practical use in planning and land management, and mechanisms and systems for monitoring and reporting on changes in land use.
- c. Promote an understanding of the importance of up-front planning and appropriate land management for creating sustainable settlements for all those low-income groups migrating to cities in developing countries, to ensure a minimum standard for water, sanitation, drainage, and solid waste treatment.
- d. Promote an understanding of the importance of protecting fresh water resources through the
  - a. appropriate siting of settlements and harmful human activities in the management of reservoirs and water catchment areas.
  - e. Promote an understanding of the importance of protecting coastal areas in general, and related fish and wildlife habitats, from destruction, inter alia through the development of adequate marine charts and navigation systems to enhance safety in

marine transportation.

- f. Promote the importance of planners and land managers insisting on an integrated approach to planning and land management, where environmental as well as social and economic factors are taken into account.
- g. Promote the importance of surveyors demanding environmental impact assessments as part of the planning process whenever and wherever appropriate.
- h. Promote the importance of surveyors in planning and land management insisting on applying processes that actively involve all interested parties including women, children, older people and people living in poverty.
- i. Encourage nations to define their Territorial Boundaries and Exclusive Economic Zones as regulated by the United Nations Law of the Sea

## Chapter IV

### **Geographic Information for Decision Making**

#### Basis for action

- 4.1 Good decisions for sustainable development depend on access to reliable and relevant information and to a very large extent on information that is geographically referenced. The need for geographic information arises at all levels of government, from senior decision-makers to the grass roots and individual levels.
- 4.2 Considerable data exist, but access to data is often hampered by lack of standardisation, coherence and adequate services for data retrieval, including information about what data exist and where data are kept.
- 4.3 There is an increasing gap between developed and developing countries in their capacities to collect and disseminate geographic information, seriously impairing the capacities of countries to make sound decisions concerning environment and development.
- 4.4 The rapid development of technologies and methods in surveying and mapping, such as integrated geographic information systems, remote sensing, satellite positioning systems and digital networks for sharing and disseminating of data, provides a strong and important tool for decision making for sustainable development. Accessible and relevant geographic information will play an important role in planning, executing and monitoring development. Developing countries have embarked on implementing spatial infrastructures for the optimal sharing and use of geographic data in digital form. However, the majority of developing countries lack the capacity to utilise the emerging technologies and methods.
- 4.5 The recent extension of the United Nations Convention on the Law of the Sea (UNCLOS) to nations' territorial rights over vast ocean areas requires, on the one hand, national capacities to collect hydrographic and other data needed for presenting claims and, on the other, a capacity to manage the areas. There is a very real need to ensure that

these resources are integrated with the national land information systems.

### Activities

4.6 To facilitate the optimum use of geographic information in decision making for sustainable development, FIG will in particular:

- a. Help in the collection and dissemination of research, developments and best practises in the application of geographic information systems and spatial data infrastructures as well as in the use of surveying and mapping for environmental protection, planning and monitoring, and for social and economic development.
- b. Assist in keeping relevant UN agencies and other international bodies informed about developments in the use of all aspects of geographic information for sustainable development.
- c. Promote an understanding that access to relevant geographic information is a democratic right and support a policy that nobody, particularly local communities, grass root movements, people in poverty or any other vulnerable groups, should be denied that access by law, high prices or any other unreasonable means.
- d. Promote the Internet as a medium that can substantially improve the value of geographic information to involved parties at all levels of society and the importance of governmental agencies and private institutions holding such information in ways that facilitate access for all.
- e. Promote the need for countries, as well as agencies within countries and regions, to facilitate the sharing of geographic data to help in an integrated approach to the planning and management of land, settlements, coastal areas and the oceans.
- f. Promote the need for governments, agencies and institutions to document and share information about sources of available information within their respective organisations.
- g. Work with international bodies such as the International Standards Organization (ISO) to develop and implement suitable standards for the exchange of geographic information.
- h. Work with relevant bodies, including educational institutions, to ensure that there is a knowledgeable and skilled workforce available to develop and maintain geographic information systems.
- i. Promote technical assistance and co-ordination between countries that have the technology and resources for data collection, analysis and dissemination and countries that are in need of assistance in these areas.
- j. Support the United Nations and other agencies in planning and developing regional spatial data infrastructures.

### Chapter V

#### **Developing the Surveying Profession**

#### Basis for action

- 5.1 Surveyors at all levels of government as well as in private enterprises, dealing with land and property, land use planning and management, and geographic information, play an important role in developing and implementing policies, strategies and services of vital importance to sustainable development.
- 5.2 The way that surveyors act, be they in the public or the private sector, has the capacity to influence society's attitude towards sustainability.
- 5.3 Although the concept of sustainable development is generally understood by most surveyors, its practical implications, the challenges it poses and the consequent responsibilities facing the profession and individuals need to be elaborated, promoted and continuously updated.
- 5.4 FIG recognises that it provides a mechanism and an opportunity for surveyors to enhance and demonstrate their professionalism.
- 5.5 FIG recognises that the education and training of surveyors, including continuous professional development, is of paramount importance in supporting their contribution to sustainable development.

#### Actions

- 5.6 FIG is committed to doing its utmost to assist the surveying profession to respond to the challenges and responsibilities of sustainable development. FIG will in particular:
  - a. Continue to include all aspects of sustainable development and its relevance to the surveying profession in technical programmes at FIG congresses, conferences, workshops and meetings, including those arranged by individual FIG Commissions.
  - b. Assist in developing university programmes for the general education of surveyors that reflect their role and responsibilities in relation to sustainable development.
  - c. Promote the inclusion of appropriate elements of sustainable development policies and strategies in relation to the activities of the surveying profession within national programmes for continuous profession development.
  - d. Ensure that any FIG evaluation and rating of educational programmes, or similar activities undertaken by its subsidiary bodies, duly considers whether they adequately address all relevant aspects of sustainable development.
  - e. Encourage national associations to include appropriate references to sustainable development in their codes of conduct. Support the principle that these codes should, inter alia, require surveyors to facilitate equal access to land registration services; insist on integrated approaches to planning and land management; request that environmental impact assessments be carried out whenever and wherever relevant; and request that all interested parties be actively involved in relevant planning and development processes and granted access to all relevant data.
  - f. Assist in establishing professional societies in countries where there are no such bodies and when established, ensure that the societies develop appropriate codes of ethics and professional conduct.



- g. Encourage the development and maintenance of quality principles to ensure quality customer service from the surveying profession throughout the world.

## Chapter VI

### **Committing FIG and its Member Associations**

#### Basis for action

- 6.1 Agenda 21 calls for non-governmental organisations at all levels to support the implementation of sustainable development policies.
- 6.2 FIG recognises that professional associations, at the international as well as the national level, can play an important role in implementing Agenda 21.
- 6.3 FIG recognises that, in developing the Federation into an efficient and effective non-governmental organisation, it should actively support the implementation of sustainable development and formulate a set of values to which it will urge its member associations, associate members, academic members and individual surveyors to adhere.
- 6.4 FIG reiterates the policies stated in FIG publication no.3, 1991, "Sustainable development – a Challenge and a Responsibility for Surveyors". This focused on the potential for surveyors to contribute to sustainable development; committed the Federation to include environmental issues as important topics at conferences and other occasions; and encouraged national associations to do likewise.

#### Actions

- 6.5 By adopting this statement, the International Federation of Surveyors renews its undertaking to promote the concept of sustainable development, and its related challenges and responsibilities, to surveyors in all its relevant activities. FIG is thereby committed to:
  - a. Emphasising the wider understanding of sustainable development, to include policies, strategies and actions for social and economic development as well as for environmental protection.
  - b. Including sustainable development policies, strategies and actions in all relevant activities of the Federation, as well as in the activities of all its Commissions, and ensuring that national member associations do likewise.
  - c. Including appropriate responses by the profession and individual surveyors to the challenges and responsibilities of Agenda 21 in all relevant guidelines, statements and other documents.
  - d. Ensuring that concrete activities to implement FIG Agenda 21 are included in the long and short term work plans of the Federation.
  - e. Ensuring that progress on activities related to sustainable development, including

those activities undertaken by the Commissions and national associations, is regularly reported to the annual General Assembly of the Federation.

## Chapter VII

### **Collaboration with United Nations, National Governments and Non Governmental Organisations**

#### Basis for action

- 7.1 Agenda 21 (para. 27.9) urges all agencies of the United Nations to establish mechanisms and procedures for drawing on the expertise and views of non-governmental organisations in policy and program design, implementation and evaluation.
- 7.2 Agenda 21 (para. 27.10) further urges governments to establish or enhance dynamic dialogues with non-governmental organisations.
- 7.3 Since the adoption of Agenda 21 the issue of land administration for sustainable development has come to the forefront of the work of several UN agencies that are implementing Agenda 21 - in particular through the UNCHS Global Campaigns on Good Urban Governance and on Security of Tenure, and the programme of the Commission on Sustainable Development. Similar initiatives are taking place within the UN's regional activities and within other international and national organisations dealing with aid, environment and development.
- 7.4 Following the collapse of socialist regimes in East and Central Europe and other regions of the world, transition countries have embarked on large programs to re-establish property rights and registration systems, and to strengthen the institutions for land use planning and management that are needed for the effective functioning of market-based economies. However, assistance in developing appropriate solutions and models are still badly needed.
- 7.5 During the last decade (1990–2000) FIG has increased its collaboration with various United Nations agencies – notably in chairing the dialogue on urban-rural linkages during the 1996 UN Conference on Human Settlements; preparing the two UN-FIG declarations on cadastral reforms (Bogor, 1996) and on Land Administration for Sustainable Development (Bathurst, 1999); preparing a statement for co-operation between FIG and UN agencies as a result of an FIG/UN roundtable (Melbourne, 1999); and entering into a Memorandum of Understanding with UNCHS(Habitat) (Nairobi, 2000).
- 7.6 FIG has well-established relations with other international associations – notably the International Council for Research in Building and Construction (CIB) and the International Real Estate Federation (FIABCI) – in developing strategies for working on sustainable development issues at the level of international non-governmental

organisations.

### Actions

7.7 FIG is committed to further develop its links with relevant UN agencies, the World Bank and other international aid organisations, donors and lenders, national governments and non-governmental organisations. In so doing FIG will:

- a. Channel information about relevant UN programs and activities to FIG member associations and individual surveyors.
- b. Help UN agencies to develop sound strategies and policies for using the competence and services of the surveying profession in implementing sustainable development whenever the advice of the surveying profession is relevant.
- c. Collaborate with UN agencies in developing guidelines targeted at the surveying profession to optimise the profession's contribution in implementing sustainable development at all levels of society.
- d. Collaborate with UN agencies in developing guidelines and practical models for developing national surveying capacities to assist in implementing sustainable development at national, regional and local level.
- e. Participate actively as a non-governmental organisation representing the global surveying profession in relevant UN meetings to which NGOs are invited to contribute.
- f. Establish collaborative arrangements with international non-governmental organisations, and non-commercial institutions that are involved in implementing Agenda 21 and which will benefit from sharing knowledge developed within FIG concerning sustainable development and from the services of the surveying profession.
- g. Establish or further develop existing links with other international non-governmental organisations dealing with tangible issues so as to enhance, through concerted action, their contributions to sustainable development.
- h. Encourage member associations to establish proper links with relevant departments of their domestic governments so as to enhance the surveying profession's input to the implementation of Agenda 21 at the national level.
- i. Support education and training initiatives of the UN, the World Bank and other relevant institutions rendering assistance to developing countries.

### **BIOGRAPHICAL NOTES**

**Helge Onsrud** chaired the FIG Task Force on sustainable development. He has been chairperson of FIG Commission 3, and of the UN Economic Commission for Europe's Working Party on Land Administration (Previously MOLA). He has worked on a number of land administration and cadastre projects in Norway and abroad, particularly in transition countries in Europe.