

**THE UNITED NATIONS - INTERNATIONAL FEDERATION OF
SURVEYORS BATHURST DECLARATION ON LAND
ADMINISTRATION FOR SUSTAINABLE DEVELOPMENT
– A CHALLENGE FOR SURVEYORS**

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*"Sustainable development is just rhetoric
without appropriate land administration systems"*

Key words: Land administration, sustainable development, cadastre, land tenure, United Nations

ABSTRACT

The changing humankind-land relationship and current global and local drivers such as sustainable development, urbanization, globalization, economic reform and the information revolution, demand land administration responses. Of the global drivers, sustainable development may be identified as having overall significance because of its dynamic economic-political, social, and environmental dimensions. At the heart of the challenging opportunity-cost decisions for sustainable development is the pressing need for land administration systems to evolve speedily and appropriately to support the sustainable development imperative.

Current land administration systems are the product of 19th century paradigms of land markets, which have a narrow cadastral (land parcel) focus. As a result they have failed to properly support these global and local drivers. The evidence of the failure includes issues of poverty, access to land, security of tenure, development rights and environmental degradation.

World opinion on aspects of sustainable development, as represented by United Nations (UN) global summits and declarations (for example UN Earth Summit, Rio de Janeiro, 1994; UN City Summit, Istanbul, 1998; UN Food Summit, Rome, 1998), have highlighted the importance of land administration to support sustainable development, but have provided few practical implementation strategies. This ad hoc approach has resulted in rhetoric, rather than reality, in developing land administration systems to accommodate sustainable development objectives. Governments, on the other hand, have generally been willing, if not anxious, to reform land administration for sustainable objectives, but there are no clear directions or models to adopt.

As a preliminary step towards overcoming the uncertain relationship between land administration and sustainable development, a joint *United Nations – International Federation of Surveyors Workshop on Land Tenure and Cadastral Infrastructures for Sustainable Development* was organised in Bathurst, Australia followed by an international conference in Melbourne, Australia in October 1999. These initiatives resulted in *The Bathurst Declaration on Land Administration for Sustainable Development*. The workshop brought together 40 leading experts and researchers from around the world, from a wide range of disciplines, including six UN agencies, the World Bank, and the UN Director of Sustainable Development. They confirmed the pressing need to re-engineer land administration systems to manage the competing

economic, environmental and social priorities that constitute sustainable development as described in the UN's *Agenda for Development*.

The Declaration built on the FIG's *Statement on the Cadastre* produced in 1995 and the *UN-FIG Bogor Declaration on Cadastral Reform* produced in 1996.

This paper discusses these trends to reform land administration systems in the light of the findings and recommendations of the Workshop and Conference. The paper overviews The Bathurst Declaration, and appends the Executive Summary and the Recommendations. The full program of the conference, the 25 position papers and The Bathurst Declaration can be found at <http://www.sli.unimelb.edu.au/UNConf99/>

The development of The Bathurst Declaration confirms the critical role of surveyors and the FIG in pursuing sustainable development objectives. However this is only the start. There is now a clear challenge for surveyors and the FIG to pursue the objectives of the Declaration and to move sustainable development from rhetoric to reality.

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INTRODUCTION

Land, and the interaction of human societies with it, result in many economic, social, political and environmental concerns. The dialogue between these competing and overlapping concerns requires a land administration system that is able to support the ever changing relationship between humankind and land, to facilitate complex decision making and to support the implementation of those decisions. Therefore, appropriate and effective land administration is of crucial importance for sustainable development.

As previously deliberated (Ting and Williamson 1999a), cadastral trends have followed a course mapped by dynamic changes in societies and their increasingly complex attitudes to land as personal security, wealth, as an expendable commodity, as a scarce community resource, in support of environmental survival and so on.

In many western countries, the mobility of people and the rise of capital and commodification of land brought by the Industrial Revolution, gave birth to major legal and institutional changes. The Torrens system of land titling is a good example of the institutional and legal responses to the burgeoning of land markets in the 19th Century.

The last twenty years have seen a trend in many countries towards tempering the raw economic priorities with society's growing awareness and preparedness on environmental (e.g. Agenda 21) and social (e.g. indigenous rights and issues concerned with women's access to land) priorities.

Undoubtedly, the sharpest dialogue is between the economic and environmental forces. People are both the problem and the solution. The world's population now stands at 6 billion. According to the United Nations Environment Program's (UNEP) 1999 statistics (United Nations 1999)

- half of the world's population currently lives in urban areas and within thirty years this will increase to two-thirds;
- by 2025, two-thirds of the world's population will live in water-stressed conditions – with irrigated agriculture accounting for 70-75% of fresh water use;
- human-induced degradation of the soil has already affected 20% of the world's drylands and puts the livelihoods of one billion people at risk;
- more than half of the world's population live within 60km of the shoreline. One-third of those coastlines are already damaged by population stress and infrastructure (or lack thereof);
- global emissions of CO² reached a new high of nearly 23.9 billion tonnes in 1996 - nearly four times the 1950 total;
- in 1995, 25 per cent of the world's 4,630 mammal species and 11 per cent of the 9,675 bird species were at significant risk of extinction; and
- average global per capita income has now passed US\$5,000 a year but more than 1 billion people still live on less than US\$1 per day.

Interweaved with these crises are matters of poverty and the north-south divide - a tenfold reduction in resource consumption in industrialised countries is a necessary long-term target if adequate resources are to be released for developing countries.

Ten years ago, a study of the World Bank's projects (Williamson 1991) saw a move away from sporadic interventions to encompass broader issues of greater impact for the national economies and the productivity of cities. The major research topics identified in the then World Bank's Urban Development Division were:

- Municipal finance and management
- Urban infrastructure productivity and willingness to pay for urban services
- Housing markets and housing policy
- Housing finance institutions and policies
- Land management
- Urban environment policy

In the World Bank's Development Report 1989 (World Bank 1989) it was stated that:

"The legal recognition of property rights - that is, rights of exclusive use and control over particular resources - gives owners incentives to use resources efficiently. Without the right to exclude others from their land, farmers do not have an incentive to plow, sow, weed and harvest. Without land tenure, they have no incentive to invest in irrigation or other improvements that would repay the investment over time. Efficiency can be further served by making property rights transferable." (p86)

"In most countries real estate accounts for between half and three quarters of national wealth. If ownership is widely dispersed, tenure is secure, and title transfer is easy, real estate can be good collateral for nearly any type of lending. Unfortunately, these conditions are not always met in developing countries. Land distribution is often skewed, tenure (if any) insecure, and title transfer cumbersome. One key to a smoothly functioning system of land tenure is land registers supported by cadastral surveys. In many developing countries these are still woefully inadequate or missing altogether." (p87)

In 1992, the historic UN conference in Rio de Janeiro (The Earth Summit) produced Agenda 21 which stated in its preamble that:

"Humanity stands at a defining moment in history. We are confronted with a perpetuation of disparities between and within nations, a worsening of poverty, hunger, ill health and illiteracy, and the continuing deterioration of the ecosystems on which we depend for our well being. However, integration of environment and development concerns and greater attention to them will lead to the fulfilment of basic needs, improved living standards for all, better protected and managed ecosystems and a safer, more prosperous future. No nation can achieve this on its own: but together we can - in a global partnership for sustainable development."

Ten years on and seven years after the launch of Agenda 21, the Bathurst Declaration on Land Administration for Sustainable Development (1999) found that the most serious problems facing the relationship between land and people included:

- degradation of land due to unsustainable land use practices;
- lack of land for suitable urban development;

- lack of security of tenure (which in many societies impacts most severely on women and children);
- inequitable access to land by indigenous peoples and minority groups;
- access to land by women;
- increasing vulnerability to disaster;
- destruction of bio-diversity;
- lack of adequate planning and of effective land administration;
- tensions between environmental conservation and development; and
- impact of market forces on traditional economies and tenures.

As the UNEP statistics gravely emphasise, the tensions are sharpening between human behaviour and their worsening impact on the environment. This has profound implications for the survival of future generations. If land administration systems do not respond and expand to meet the challenges of society's increasingly complex relationship with land, sustainable development will not move beyond rhetoric.

BACKGROUND TO THE BATHURST DECLARATION

The International Federation of Surveyors (FIG) has been concerned about land administration issues since its establishment in the 19th Century. Recent FIG developments include the Statement on the Cadastre 1995 ("the Statement") which set out the meaning and significance of cadastre. While the Statement recognised the breadth of cadastres and their important role in land administration systems, it is technical and descriptive and focuses primarily on land registration and cadastral surveying and mapping.

The 1996 Bogor Declaration on Cadastral Reform widened the focus to concentrate on cadastral issues and land markets and recognised that countries are at different stages of the development of the relationship between their people and their land. After the Bogor Declaration, a resolution was passed at the 14th United Nations Regional Cartographic Conference for Asia and the Pacific, held in Bangkok in 1997. It urged the United Nations, in collaboration with the FIG, to hold a Global Workshop on Land Tenure and Cadastral Infrastructures in support of Sustainable Development ("the Bathurst Workshop").

The Workshop was organised by Ian Williamson in his then position as Chairperson of Commission 7 (Cadastre and Land Management), FIG and currently Director, FIG-UN Liaison, and Don Grant in his role as Australian delegate to Commission 7. They developed the vision for the Workshop which produced the Declaration and the following international conference in Melbourne where the Declaration was presented and discussed, and were the co-organisers for both initiatives.

Research in the intervening years since the Bogor Declaration has emphasised the implications of not only cadastre, but the widening definition of land administration systems and institutions, to meet the needs of current and future societies in their evolving relationship with their land - sustainable development being of primary urgency.

The changing humankind-land relationship and current global and local drivers such as sustainable development, urbanization, globalization, economic reform and the information revolution, demand land administration responses and are forcing a new land administration vision or paradigm (Ting and Williamson 1999b).

The 25 position papers (UN-FIG 1999) prepared by the international experts for the Bathurst Workshop provided an in-depth view of the diverse and complex issues facing land administration systems into the future. These experts came from a range of developed and developing countries and a diversity of disciplines and experience, including surveyors, lawyers, planners, valuers, information technologists, government administrators, academics and representatives from the private sector.

Initially, the outline of the Bathurst Declaration was formulated which included key themes. These themes were designed to be the basis of the Bathurst program. The outline and themes were distributed for comment to all the Bathurst delegates eight months in advance of the Workshop. Each participant was asked to contribute to a paper on a recommended theme based on the Workshop program. This was designed to ensure that relevant and topical materials would be available as a resource for all delegates to read in preparation for the Workshop.

Each theme was discussed in small workshop groups at the Workshop. During this time issues were identified and discussed, implications for the future were assessed and recommendations were formulated. There were specific workshops on implementation. The findings from the small group workshops were then presented at plenary sessions to allow delegates an opportunity to discuss each of the topics. This process assisted the rapporteurs to develop the ideas from their respective workshops and to draft the wording of each particular section of the Bathurst Declaration. The drafts from the workshops were circulated for comment and modification.

To ensure consistency of content and style, a compiling team was tasked to compile the pre-drafted sections of the Bathurst Declaration. The draft Declaration was discussed in small review groups, who then presented to a plenary session. The feedback was used to refine the penultimate Declaration which was circulated to participants for further comment. At a further plenary session, the final draft of the Declaration was discussed and endorsed. The Executive Summary is attached to this paper as Appendix 1.

The Bathurst Declaration was presented at the conclusion of the Workshop and was then officially launched at the following three-day International Conference on Land Tenure and Cadastral Infrastructures for Sustainable Development held in Melbourne, Australia.

THE BATHURST DECLARATION

The topics discussed in the working groups at the Bathurst Workshop reflect the issues which were considered significant for future land administration systems and sustainable development. They are listed below:

- The Dynamic Humankind-Land Relationship
- The Role of Land in Sustainable Development

- Food, Water and Land
- Land Tenure and Land Administration
- The Interface between Markets, Land Registration, Spatial Planning and Valuation
- Re-engineering Land Administration Systems

The full text of the summaries of workshop discussions are posted on the WWW (UN-FIG 1999). The following is a summary of those discussions.

1. The Dynamic Humankind-Land Relationship

The humankind-land relationship is dynamic and change is occurring at a pace faster than at any other time in history. Global economic, social and technological factors, the need for sustainable development of land, and macro as well as micro economic reform are having a substantial impact on land administration systems.

It was found that during the past century:

- there has been an exponential increase in the world population and significant changes to regional demographic patterns;
- there has been a change from predominantly rural societies to urban and peri-urban societies;
- the concept of rule of law rather than by person has been introduced universally;
- women's roles in society have been recognised more formally both in law and in the workplace;
- the cultural, economic and other distinctions separating rural and urban societies have steadily become more and more blurred;
- sustainability has emerged as a global issue because our use of the environment, the biosphere and geosphere, has reached a crisis point; and
- communications and information technology (IT) have made the globe, potentially, a virtual neighbourhood.

The workshop concluded that "most land administration systems today are not adequate to cope with the increasingly complex range of rights, restrictions and responsibilities in relation to land, which are influenced by such factors as water, indigenous land use, noise and pollution" and "governmental information systems will have to continue their present trend to become increasingly open and public ... and governments have an important role as umpire, moderator and purveyor". In short, land information and land administration systems need to be re-engineered and to evolve to face the increasing complexity of the humankind-land relationship. A new land administration paradigm is required (UN-FIG 1999).

2. The Role of Land in Sustainable Development

From a sustainable development perspective, land has various conflicting features:

- Land, as a scarce and fragile resource, is an object for environmental protection. There is a need to develop creative thinking about environmental protection.
- Land is equally an asset for economic and social development, and particularly supporting land markets. Land has the capacity for wealth generation, for attracting

and locating investment, and for opening up vital opportunities for the development of the financial sector. Yet this sometimes has to be balanced against the fact that for many communities the “commodification” of the land may not be acceptable and may not support sustainable development.

Resolution of the inherent tensions and conflicts between these two perspectives requires appropriate awareness and understanding of land tenure systems through relevant education and information as well as appropriate land information systems for informed decision-making.(UN-FIG 1999)

3. Food, Water and Land

It has been estimated that between 750 and 800 million people suffer from hunger on a daily basis, and that several hundred million of the planet’s citizens do not have access to potable water. An estimated 25,000 people die each day due to water quality issues and yet, plans to improve food production to counterbalance local food deficits will require even greater amounts of fresh water diverted to irrigation. Almost all of the world’s land and water resources available for food production have already been put to use.(UN-FIG 1999)

The workshop found that there is an urgent need to develop a much more holistic approach to land and water resource policies and the institutions, industries and professions that had developed around their artificially disjointed treatment. Well-functioning land tenure institutions are necessary for conflict minimisation and resolution whilst data infrastructure techniques are "the most powerful set of tools the experts can offer an involved public...". Also, it was predicted that "land administration specialists will be called upon to provide both policy advice and technical inputs to deal with the problem of allocating scarce land and water resources in a fair and equitable manner in the coming decades" (UN-FIG 1999).

4. Land Tenure and Land Administration

Recognising that formal land tenure systems are generally understood in the context of the relationship between land tenure and land administration, the Workshop focussed on issues such as informal tenures, customary tenures and women’s access to land.

Informal land tenure is most common in urban areas but can also occur in rural areas. In each instance, different approaches to formalisation are needed. The workshop listed some conditions that needed to be considered before formalisation and these can be summarised as:

- availability of suitable land for settlement;
- the demand for formalisation must come from the people themselves; and
- government should satisfy itself that the land is appropriate and that the legal requirements can be met.

Customary tenure was agreed to prevail in many parts of the world and could include:

- communal rather than individual rights;
- a range of land ownership and land use rights;
- spiritual and intellectual components; and

- exclusive rights and responsibilities, or, sharing by two or more groups in relation to some areas of land or water.

Apart from the necessity to identify the land and waters over which indigenous groups enjoy occupation or have interests, there needs to be proper mechanisms in each national legal system to resolve land claims. Creative methods of documentation were discussed.

Information is again important for customary tenure and the workshop conceived that it should include:

- an adequate description of the areas of land and water (whether by reference to a general boundary or otherwise) that accords with customary concepts of the area under customary tenure;
- accepted land-related transactions;
- a summary of the customary tenure rights, responsibilities and restrictions in relation to each area of land and water; and
- a description of each group of people who have customary tenure rights, responsibilities and restrictions in relation to each area of land or water.

Specific discussion was focused on women's access to land. This is of particular concern because although women are 50% of the world's population, they own less than 1% of the world's wealth. The workshop adopted the UN Beijing Declaration's statement that women should have equal right to inherit, buy, possess, use and sell property, and made specific recommendations on how a land administration system (UN-FIG 1999) needed to be structured and information flows facilitated in such a way as to achieve those aims.

There was acknowledgement that the changing humankind-land relationship and society's priorities would require changes in land administration systems (UN-FIG 1999):

- land registration systems need to be expanded in order to provide information for land market activities, for public and private land management and for customary and informal tenures, in order to support sustainable development;
- the laws concerned with information in the land registration system may need to be adapted to current technological developments, for instance, in order to facilitate electronic conveyancing;
- the statutory survey requirements on the location of pegs, boundaries and parcels need to be adapted to more flexible circumstances depending on the character of the information and the use of the information for different purposes; and
- land administration systems need to be re-engineered to accommodate other forms of information which may not be parcel based.

5. The interface between markets, land registration, spatial planning and valuation

Land markets are made up of a constantly developing portfolio of legal interests and transaction types, including both direct and derivative interests. The general rationale for land markets is that, under appropriate institutional frameworks, they will tend systematically to move land towards the most economically efficient ownership and use. The range of types of interests and transactions in land is typically related to the level of

sophistication of the related functions in the economy, particularly in the context of the financial services and related professional sectors.

There are several key requirements for a properly functioning market: an appropriate legal framework aimed at minimising risk and uncertainty over issues of ownership and use, registration of interests in land and spatial land use planning.

Land registration and the provision of related information as the basis of land transactions underpin the efficient operation of the land market by two main mechanisms: greater security for those interested in transacting on that property and reduction of the costs in both time and money by simplifying the legal and other procedures. Again this could be expected to increase the value of registered land by reducing the friction in the market.

Spatial planning may encompass a very wide range of activities and of potential interventions. There are sound arguments supporting the move towards greater local responsibility in spatial planning, and the development of more effective planning processes based on improved access to information and application of the principles of good governance and economic management.

Valuation of rights in land, whether personal or professional, are the driving force in the functioning of the real estate market. An integrated perspective of the interface between land markets, land registration, spatial planning and valuation indicates that society, through processes of good governance enabled by access to appropriate and reliable information, sets minimum requirements in terms of environmental standards and expectations, and of social tolerances. Within these boundaries different societies develop different solutions to support and enable private and public access to land and other resources through a framework of land registration, spatial planning and valuation.

6. Re-engineering land administration systems

Many land administration systems need to be re-engineered (Williamson and Ting 1999). Examples include many land administration, cadastral and land titling projects around the world which are still based on a relatively narrow land administration paradigm centered on land registration and cadastral surveying and mapping. But efficient and effective land information infrastructures are now required to meet the information demands for successful implementation of sustainable development.

The extent of the challenge to capture, process, maintain, analyse, integrate and distribute land related information varies from country to country. Land administration systems need to be more service oriented and to meet the requirements of a greater variety of users. Increasingly there is a land information focus which dominates land administration systems rather than the traditional land market focus. In re-engineering systems, attention needs to be paid to an increasing complexity of legal rights, restrictions and responsibilities and to educating the public about the opportunities created by the greater availability of data.

Land administration systems are increasingly required to handle vast amounts of data. However, the installation of hardware and software systems should be based upon a

careful analysis of current and future information flows and the need to maintain land and property records. When information systems are conceptually well designed they will become a critically important component of land administration infrastructures.

In many countries, there is growing co-operation in land administration between the public and private sectors. Clear management systems and institutional arrangements are necessary to efficiently administer land related data sets and to ensure continuing financial support. There is a need for accountability and transparency to ensure the availability, accessibility and quality of basic data sets.

In the context of developing countries, moving away from a sole focus on the cadastre as the only source of information and having other information to be part of the land administration infrastructure will allow:

- *improved administration of rural areas (formalization).*
- *regularisation of informal settlements and the management of these areas over time.*
- *an increase in the amount of information available.* There is a critical shortage of land information for decision makers in developing countries.
- *improved conflict management over land.* Land administration infrastructure is stretching beyond cadastre and should provide land information to those involved in land disputes.
- *diversification of tenure types.* A range of new tenure types that are not parcel based could be facilitated by an expanded land administration infrastructure, such as informal settlement occupancy claims, indigenous and customary rights, water rights, and overlapping rights.

In updating existing systems there needs to be a focus on user requirements. Users demand transparency, efficiency, speed, equitable access, data quality, interoperability, and value for money and service. In meeting these demands, most existing systems will need to be re-engineered. This means a new land administration paradigm is required to support sustainable development.

THE WORKSHOP FINDINGS

As a result of the above discussions the Workshop summarised the findings which are reproduced below (UN-FIG, 1999). Based on the discussions and findings, the Workshop made a number of recommendations which are summarised in the next section and reproduced in full in Appendix 2.

The Workshop took note of several of the major economic, social, technological and environmental challenges leading into the new millennium: rapid urbanisation; environmental degradation; the changing role of government in society; widening economic inequity and an increase in poverty and food shortages; and the economic and social challenges associated with increasing globalisation.

The availability of reliable information about land and its resources emerged as a vital issue in managing these challenges. If relevant and good decisions are to be made by public authorities, private resource users or community bodies, they must be based on sound information about the land and environment in order to contribute to sustainable development. This in turn requires the articulation of principles for the development

and operation of land information and cadastral systems, as well as land registration systems, which give effect to the principle of sustainable development.

The property rights in land do not in principle carry with them a right to neglect or destroy the land. The concept of property (including ownership and other proprietary interests) embraces social and environmental responsibility as well as relevant rights to benefit from the property. The registration of property in land is thus simultaneously a record of who is presumed to bear this responsibility and who is presumed to enjoy the benefit of relevant rights. The extent of responsibility is to be assessed by understanding the social and environmental location of the land in the light of available information and is subject to express laws and practices of the appropriate jurisdiction.

Laws should, as far as possible, be interpreted to express the international concept of sustainability. Nations should be encouraged to review these laws to ensure that the concept of sustainability is integrated into all basic rights, responsibilities, procedures and transactions.

Effective land administration is essential to meet these challenges. In this context, property may be viewed as the rights and responsibilities that individuals and groups of individuals have to access, use, develop and transfer land and related resources (such as water, forests and soils). Land administration may be built around the concept of individual and shared, communal, commercial and private rights. The focus may be on leasehold tenures or so-called freehold tenures. What is important is that the rights and responsibilities are formally recognised and secured.

Lack of secure property rights in the land will inhibit investments in housing, sustainable food production and access to credit, hinder good governance and the emergence of civic societies, reinforce social exclusion and poverty, undermine long term planning, and distort prices of land and services. In the wake of this economic discrimination, social apartheid can breed. Without effective access to land and property, market economies are unable to evolve and the goals of sustainable development cannot be realised.

In recognition of the fundamental role of property and access to land in responding to the challenges of sustainable development, the Bathurst Workshop delegates addressed the urgent need to strengthen the policies, institutions and infrastructure necessary for effective access to land and property. Beyond this, the Bathurst Workshop called on the international community to support an ambitious, long term program of positive action in order to significantly reduce the numbers of people around the world who do not have secure access to land and property rights.

The Workshop fully realised that there is no hope of success unless a comprehensive and rigorous action agenda is formulated and implemented. The agenda must be practical, achievable and assessable. The preparation of such an agenda will require extensive work on the part of the international community (and will build on such initiatives as the Habitat Global Campaign for Secure Tenure) and will need to consider a wide variety of policy, institutional and structural issues.

Any action agenda will first need to address the **policy issues** associated with building and sustaining effective land administration. Core principles must be articulated that

promote equal access to property for all people while respecting the sensitivity to local needs and requirements. Policies must be formulated that ensure that the processes for formalising and subsequently transferring property rights are as simple and efficient as possible. From the outset, the policy agenda must ensure that there is a balanced and integrated approach to addressing the requirements of both urban and rural society, to dealing both with land and other resources (including water, forests and soils). Every effort should be made to encourage the full and active participation of local communities in formulating and implementing the policy agenda.

Of special importance will be the need to construct **land administration institutions** that effectively address the constantly evolving requirements of the community. Land administration institutions, in this context, mean the “rules of the game”. These include the laws and regulations necessary for creating property rights (and the associated restrictions and requirements imposed by the state or the community), for registering and subsequently transferring them, for resolving disputes, for taxation purposes, and the equitable resumption of these rights. They must be responsive to local requirements and conditions, and be capable of evolving over time to deal with different needs and priorities. As well, these institutions must be open and transparent.

These ambitious goals will not be achieved unless there is a commitment to designing and implementing effective **land administration infrastructures**. These may be described as the organisations, standards, processes, information and dissemination systems and technologies required to support the allocation, transfer, dealing and use of land. One of the major challenges will be to build an infrastructure that is sufficiently robust to, amongst other things, effectively support the goal of enhancing security and access to credit, while at the same time being sufficiently simple and efficient so as to promote and sustain widespread participation. The processes for formalising property rights will necessarily involve significant community participation whilst the subsequent registration and transfer process will have to be capable of an evolving response to changing community requirements. Information technology will play an increasingly important role both in constructing the necessary infrastructure and in providing effective citizen access to information. Finally, there must be total commitment to the maintenance and upgrading of the land administration infrastructure.

RECOMMENDATIONS FROM BATHURST

The Workshop, in confirming the *Bogor Declaration on Cadastral Reform*, extended the professional debate on desirable land administration and recognising that the community of nations has committed themselves to the various United Nations Global Plans of Action arising out of the UN Summits over the last decade, made a total of 20 recommendations. The full text of the recommendations is reproduced in Appendix 2. The main principles of the recommendations may be summarised as:

- confirming the imperative for land administration to play a role in facilitating and supporting the complex decision making that is integral to sustainable development;
- recognising the necessity for land administration to evolve beyond traditional cadastral paradigms to embrace fresh understanding of the relationship between land, property and rights and the need for initiatives like decision-support systems, spatial data infrastructures etc;

- acknowledging the imperative to respond creatively to differing needs and desires for tenure systems that could deliver equity, whether to specific groups of disadvantage within or between nations;
- embracing the inter-relationship between good governance, civil society and land administration for sustainable development, and the need for accountability and benchmarking/performance indicators;
- re-iterating the need for legal, institutional and technological reforms to fulfil the call for inclusive decision-making and a holistic approach to land, water and other resource allocation/preservation issues;
- urging the importance of an inter-disciplinary approach to land administration and therefore the responsibility of nations to address the need for appropriate human resource development.

The Bathurst Workshop's key recommendations included:

1. *Providing* effective legal security of tenure and access to property for all men and women, including indigenous peoples, those living in poverty and other disadvantaged groups;
2. *Promoting* the land administration reforms essential for sustainable development and facilitating full and equal access for men and women to land-related economic opportunities, such as credit and natural resources;
3. *Investing* in the necessary land administration infrastructure and in the dissemination of land information required to achieve these reforms;
4. *Halving* the number of people around the world who do not have effective access to secure property rights in land by the Year 2010.

FUTURE ACTION

Presentations on the Bathurst Declaration and its recommendations for action will be made in the year 2000 to the UN's Regional Cartographic Conference for Asia and the Pacific in Malaysia, the UN's Commission for Sustainable Development (UNCSD8) in New York and to the General Assembly of the FIG in Prague. It is expected many other presentations of The Declaration will be made over the next couple of years.

Also, within weeks of the launch of the Declaration, it had been widely circulated to many countries and a number of key United Nations agencies which have started to act on its recommendations.

CONCLUSION

Societies around the world continue to march into a future that is dogged by changes and pressures that reflect the complexity of challenges on economic, social, political and environmental fronts. The current global drivers of environmental crises, rapid urbanization, radical economic reforms and the information technology revolution, add to the kaleidoscope of forces that both assist and obstruct the process of understanding and overcoming the challenge of sustainable development.

The Bathurst Declaration has confirmed the powerful link between appropriate land administration and sustainable development. In doing so, it has further confirmed the gradual evolution of land administration from its cadastral, market focus to an additional facilitative role for multi-purpose spatial information infrastructures that better address the complex demands for sustainable decision-making over development of land and related resources. In simple terms a new land administration paradigm is required if sustainable development is to rise above mere rhetoric.

The development of The Bathurst Declaration confirms the critical role of surveyors and the FIG in pursuing sustainable development objectives. However this is only the start. There is now a clear challenge for surveyors and the FIG to pursue the objectives of the Declaration to move sustainable development from rhetoric to reality.

The momentum of the thinking and commitment of the Bathurst Workshop's experts will lead to lasting progress only if governments, civil societies and a spectrum of professions work together to capitalise on and maintain the momentum from the Declaration with creative thinking and systematic action.

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APPENDIX 1 – Executive Summary – The Bathurst Declaration on Land Administration for Sustainable Development

Almost all societies are currently undergoing rapid change brought about by a diverse range of factors that include growing population pressures on the land, especially in urban areas. The world's population has already reached six billion people. The poor are becoming increasingly concentrated in slums and squatter settlements in our ever-expanding cities. The gender inequities in access to economic and social opportunities are becoming more evident. Within 30 years, two thirds of the world's population will live in cities. Fresh water availability is now approaching crisis point. At present consumption levels, two-thirds of the world's population will live in water-stressed conditions by the year 2025. The challenge is not only to meet world population needs for food, shelter and quality of life, but also to ensure that future generations can also have their needs met.

Insecure property rights inhibit use and investment in rural and urban land. They hinder good governance and the emergence of engaged civil society. Uncoordinated development, poor planning and management of land and its use, and the increasing vulnerability of populations to disaster and environmental degradation all compound the difficulties of meeting this challenge. Without effective access to property, economies are unable to progress and the goal of sustainable development cannot be realised.

The world is, however, changing. Growing awareness of the issues, better understanding of the consequences of actions, and greater capacity to secure and use relevant information are helping to bring about the necessary changes. These issues are forcing the re-engineering of land administration systems to ensure that they support sustainable development and efficient land markets. Land administration frameworks will be forced to respond rapidly to these unprecedented changes.

The joint United Nations and International Federation of Surveyors Bathurst Workshop¹ on Land Tenure and Cadastral Infrastructures for Sustainable Development has responded to this challenge. Land administration institutions and infrastructures will have to evolve and adapt their often inadequate and narrow focus to meet a wide range of new needs and technology, and a continually changing institutional environment. They also need to adapt continually to complex emerging humankind-land relationships at the same time as changing relationships between people and governments. These conditions should lead to improved systems of governance.

The Bathurst Workshop examined the major issues relevant to strengthening land policies, institutions and infrastructures and, in particular identified the following:

- future humankind/land relationships,
- the role of land in sustainable development,
- food, water and land policies,
- land tenure and land administration systems,
- how land markets, land registration, spatial planning and valuation interact, and
- re-engineering land administration systems.

For each of these key areas, the Workshop reviewed the existing situation within the rapidly changing land administration environment. It investigated and provided recommendations as to how land tenures, land administration institutions and infrastructures and cadastral systems should evolve to enable the challenges of change in the 21st century to be met.

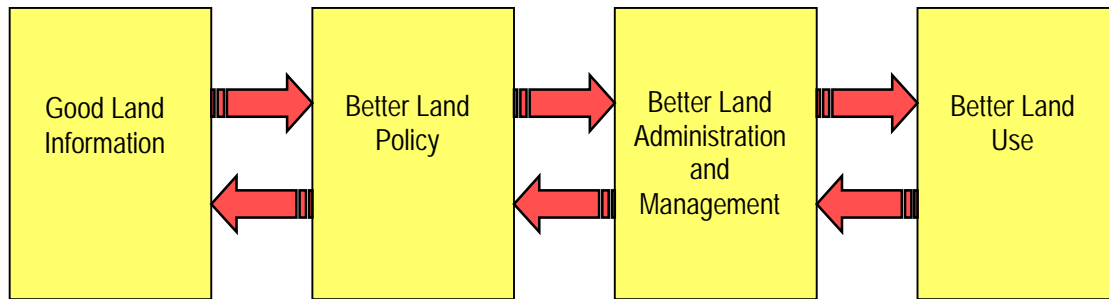
The Bathurst Declaration on Land Administration for Sustainable Development calls for a commitment to providing effective legal security of tenure and access to property for all men and women, including indigenous peoples and those living in poverty or other disadvantaged groups. It identifies the need for the promotion of institutional reforms to facilitate sustainable development and for investing in the necessary land administration infrastructure. This gives people full and equal access to land-related economic opportunities.

Most significantly, the Declaration justifies and calls for a commitment on the part of the international community and governments to halve the number of people around the world who do not have effective access to secure property rights in land by the Year 2010.

To realise this commitment, the Workshop proposes a set of recommendations. The policy and institutional reform recommendations must ensure that there is a balanced and integrated approach to addressing all tenure relationships in both urban and rural society. Full and active participation by local communities in formulating and implementing the reforms is recommended. The need to develop land administration infrastructures that effectively address the constantly evolving requirements of the community is critical. Finally, information technology is seen as playing an increasingly important role in developing the necessary infrastructure and in providing effective citizen access to it.

¹ Held in Bathurst, Australia from 18-22 October 1999

Sustainable development is not attainable without sound land administration.



APPENDIX 2 – The Bathurst Declaration Recommendations

Given that more than half the people in most developing countries currently do not have access to secure property rights in land and given the concerns about the sustainability of development around the globe and the growing urban crisis, the Bathurst Workshop *recommends* a global commitment to:

1. *Providing* effective legal security of tenure and access to property for all men and women, including indigenous peoples, those living in poverty and other disadvantaged groups;
2. *Promoting* the land administration reforms essential for sustainable development and facilitating full and equal access for men and women to land-related economic opportunities, such as credit and natural resources;
3. *Investing* in the necessary land administration infrastructure and in the dissemination of land information required to achieve these reforms;
4. *Halving* the number of people around the world who do not have effective access to secure property rights in land by the Year 2010.

The Workshop in confirming the *Bogor Declaration*, extending the professional debate on desirable land administration and recognising that the community of nations have committed themselves to the various United Nations Global Plans of Action arising out of the UN Summits over the last decade, recommends the following:

5. *Encourage* nations, international organisations, NGOs, policy makers, administrators and other interested parties to adopt and promote the *Bathurst Declaration* in support of sustainable development.
6. *Encourage* all those involved in land administration to recognise the relationships and inter-dependence between different aspects of land and property. In particular there is need for functional cooperation and coordination between surveying and mapping, the cadastre, valuation, physical planning, land reform, land consolidation and land registration institutions.

7. *Encourage* the flow of information relating to land and property between different government agencies and between these agencies and the public. Whilst access to data, its collection, custody and updating should be facilitated at a local level, the overall land information infrastructure should be recognised as belonging to a national uniform service to promote sharing within and between nations.
8. *Improve* security of tenure, access to land and to land administration systems through policy, institutional reforms and appropriate tools with special attention paid to gender, indigenous populations, the poor and other disadvantaged groups. In many nations, this will entail particular efforts in areas under customary or informal tenure and in urban areas where population growth is fast and deficiencies are most prevalent.
9. *Recognise* that good land administration can be achieved incrementally using relatively simple, inexpensive, user-driven systems that deliver what is most needed for sustainable development.
10. *Recognise* that the unacceptable rise in the incidents of violent dispute over property rights can be reduced through good land tenure institutions that are founded on quality land information data. Good land information underpins good governance. Where conflict arises, there must be inexpensive land dispute resolution mechanisms in place that are readily accessible to all parties concerned.
11. *Encourage* national and local government bodies to document and manage their own land and property assets.
12. *Recognise* that land markets operate within a range of land tenures of which freehold is but one. It is important to facilitate the efficient operation of land markets through appropriate regulatory frameworks that address environmental and social concerns.
13. In order to increase knowledge of the global situation of land administration and land tenure, the United Nations *undertake* a study of global land administration issues such as the range of tenure issues, gender, urban agglomeration, land disputes, problems and indicators with a view to producing a global atlas and related documentation. Much of the needed data are already available in different UN databases.
14. Recognising the difficulties in interpretation of the many land administration related terms, *develop* a readily accessible thesaurus, translated into appropriate languages, to facilitate a better understanding of the terminology used. Further, on the basis of selected criteria, use this to *prepare* examples of best practice in the field of land administration. This can be done using work already completed by FIG and FAO.
15. In view of the crucial importance of human resources in the management of land, *ensure* that there is sustained education and training in land administration. In particular, international agencies should seek to develop multi-disciplinary, multi-national training courses in land administration and make these available at the local level through the use of modern information technology.

16. International and national agencies, NGOs and other interested parties *to arrange* workshops and conduct studies with regard to such matters as the quality of access to land and information, gender issues, customary law and indigenous rights, land tenure systems, interaction between land and water rights, maritime cadastres, and the management of land administration systems.
17. In order to *coordinate* foreign assistance, countries seeking help should play a more active role in the coordination of aid and prepare a country profile analysis, describing the status of land administration and the need for improvements. Based on this the countries should then prepare a master plan to which all land administration, initiatives and projects should adhere.
18. In order to ensure sustainable development of territorial oceans claimed under UNCLOS, the United Nations *emphasise* the need for claimant countries to develop their capability to support effective marine resource administration through the national spatial data infrastructure.
19. *Undertake* analyses and develop performance indicators that can monitor the effectiveness of land administration and land tenure systems in relation to sustainable development and poverty alleviation.
20. That the Workshop and FIG strongly *support* the “Global Campaign for Secure Tenure” undertaken within the implementation of the Habitat Agenda, presently launched by the UNCHS (Habitat), and *commits* to promoting activities in terms of this campaign in future FIG programs.

BIOGRAPHICAL NOTES

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Ian Williamson is Professor of Surveying and Land Information and Head of the Department of Geomatics at the University of Melbourne. His teaching and research is concerned with designing, building and managing land administration, cadastral, and land and geographic information systems in both developed and developing countries. He is a Licensed Land Surveyor and Chartered Professional Engineer. He has worked in the private and government sectors in Australia and U.S.A.

He has undertaken research and consultancies worldwide including for several Australian governments, AusAID, the United Nations and the World Bank. He was Chairperson of Commission 7 (Cadastre and Land Management) of the International Federation of Surveyors 1994-98, and is currently Director, FIG/UN Liaison 1998-2000. At the University of Melbourne he has been President of the Academic Board and Pro-Vice-Chancellor. He is currently Chairperson of the Victorian Government’s Geospatial Information Reference Group. In late 2000 he will spend study leave at The World Bank in Washington DC and at the Technical University of Delft, The Netherlands.

He received the Eminent Individual Award from the Australian Urban and Regional Information Systems Association in 1996 and the Medal of the Institution of Surveyors Australia in 1997. He is a Fellow of the Australian Academy of Technological Sciences and Engineering, a Fellow of the Institution of Surveyors Australia and the Institution of Engineers Australia, and an Honorary Fellow of the Mapping Sciences Institute of Australia. He was awarded an honorary doctorate by the Olsztyn University of Agriculture and Technology, Poland, in 1998.

Professor Don Grant

AM, RFD, MEnvSt *Adel*, Hon.DAppSc *CSturt*, Hon.DSc *UNSW*, FISAust, FIEAust, CPEng, FRICS, Chartered Surveyor (UK), FAICD Dip.

Professor Grant has been the Surveyor-General of New South Wales, chief executive officer of the Surveyor-General=s Department (formerly the Land Information Centre), President of the Board of Surveyors and Chairman of the Geographical Names Board for the past twelve years. He is a Registered Surveyor and holds a Masters of Environmental Studies. In 1993 he was made a Professorial Associate in the Faculty of Science and Agriculture at Charles Sturt University and in May 1997 was made a Doctor of Applied Science, *honoris causa* at Charles Sturt University and a Doctor of Science, *honoris causa* at the University of New South Wales. Recently he was made a Professorial Associate in the Department of Geomatics at Melbourne University; and an Adjunct Professor in the Department of Linguistics at Macquarie University.

He was appointed as a Member of the Order of Australia in the 1994 Queen's Honours List. In 1998 Don was awarded the Mapping Sciences Institute, Australia, Gold Medal and the AURISA Eminent Individual Award. Don is a Fellow of the Institution of Surveyors, Australia, a Fellow of the Royal Institution of Chartered Surveyors, United Kingdom, a Fellow of the Institution of Engineers Australia and a Fellow of the Australian Institute of Company Directors. He is also the Australian representative of Commission VII of the International Federation of Surveyors.

He has worked in most States of Australia, in the public and private sectors and the defence forces, serving in Australia and abroad. He has consulted or advised in the Sultanate of Brunei, the Maritime Provinces of Canada, Greece, Sri Lanka, Hong Kong, Indonesia, Thailand, Malaysia, Zimbabwe, Pakistan and the Peoples Republic of China. As an Electoral Boundaries Commissioner he has been involved in both State and Federal Redistributions Through his role as Chairman of the Public Sector Mapping Agencies (PSMA), he has joined with all other jurisdictions in Australia to meet the national census mapping needs of the Australian Bureau of Statistics - a precursor to the creation of a National Spatial Data Infrastructure