

New Graduate Programs for Land Administration at the University of New South Wales

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Introduction

As developing countries improve their economies there is an increasing awareness that further improvement is dependent on having a safe and secure land title system and the technological, management and administrative knowledge and experience to implement and maintain such a system. Australians have unique experience in this field due to the historical development of the Torrens Land Title System and the delineation of titles by survey. Many Australian companies and government institutions are now winning contracts through AUSAID (Australian Aid), the Asian Development Bank, the World Bank and other funding bodies, to establish land titling/administration projects in these countries. In particular they are making major contributions to the Thailand Land Titling Project and the Indonesian Land Administration Project (ILAP).

These projects include requirements for overseas education, and it was found that no appropriate courses were available in Australia, and very few internationally, and that a unique opportunity existed to establish such postgraduate programs. In addition, there is an increasing need for Australians to have postgraduate qualifications in this field to support both overseas projects, and for new staff in existing Australian institutions, who, historically have been trained in-house.

With the support and encouragement of the Australian organisations managing ILAP and the New South Wales Land Titles Office, the School of Geomatic Engineering at The University of New South Wales, Sydney, Australia, embarked on the development of appropriate courses to meet the needs of such projects. Two courses were envisaged, a graduate diploma to provide the essential background to land administration, and a further program leading to a Masters degree that allowed greater flexibility in subject choice. Areas considered appropriate to such courses included project management, change management, cadastral systems and multi-purpose cadastres, land registration and land title reform, land information systems, land law, sociology of development, records management, and other subject areas covering land valuation, surveying and mapping, and financial management. Approval has now been given for both courses, and graduate students from Indonesia commenced the Graduate Diploma course in March of 1996, with additional students joining the course in mid-1996.

The paper will briefly describe ILAP which was partly the catalyst for the development of the graduate programs, and will provide details of the courses and subjects offered.

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Preliminary observations as to the success of the course, based on feed back from the first intake, will also be discussed.

The Indonesian Land administration Project

The main objective of the project is to foster efficient and equitable land market and alleviate social conflicts over land. This is to be done by accelerating land registration in support of the Government of Indonesia's long-term registration program to register all non-forest parcels, and through improvement of the institutional framework for land administration. The second objective is to support the Government's efforts to develop long-term land management policies. The main components of the project are (World Bank):

(a) systematic registration of 1.2 million parcels in ten districts on the island of Java, relying on special systematic adjudication capitalising on economies of scale, cadastral surveying by private firms, use of new technologies such as global positioning systems, and dissemination of information to the public;

(b) development of a database of land laws and regulations, and assistance to the Government's program for reviewing and drafting land laws and regulations.

(c) long-term development of the National Land Agency's institutional capacity for land administration, mainly through support of their training and education units, training, scholarships and studies on ways to improve tenure security for customary land rights; and

(d) an integrated program of studies, seminars and workshops on selected topic areas in land management, while improving inter-agency coordination and drawing on international experience.

It is estimated that about 4 million people in Java will benefit directly from the project by having their land registered systematically, including approximately 100,000 families estimated to be below the low income threshold (World Bank).

The Graduate Diploma and Masters Programs

It was considered that a course to support land administration must be much broader than just the technical aspects of demarcation and land registration, but include economics, sociology, management and other subjects that provide a basis for understanding the socio-economic and cultural implications of introducing a new land administration system, and the management skills to do so.

An examination of the academic resources of The University of New South Wales showed a wide range of subjects that potentially could be included in a postgraduate program. The University is one of the largest universities in Australia, with approximately 30,000 students, and was recently named the top university in Australia. Approximately 10 % of

the students are from overseas, the majority of these being from eastern Asia. The University's teaching and research is broadly based and comprehensive, with Faculties of Arts and Social Studies, Applied Science, Biological and Behavioural Sciences, Built Environment, Commerce and Economics, Engineering, Law, Medicine, Professional Studies and Science as well as the Australian Graduate School of Management. In addition to a large body of students from Asia, The University also has strong links to Asian universities through various programs, and The University hosts the Asian-Australian Institute which brings together rising young politicians, businessmen, artists and academics from the whole of the Asian region. The University also has strong links with a number of European and North American universities and is developing links with universities in South America and eastern Europe.

Following a review of the needs of ILAP and based on previous experience involving the Thailand Land Titling and other projects, existing subjects were matched to these needs. Where subjects did not exist, existing subjects were modified or new subjects developed. These new and existing subjects were then melded into a two stage Graduate Diploma and Master Degree program. The two stage approach was considered the most appropriate so as to allow a wide range of staff from ILAP and similar projects, who may have different educational backgrounds, both in terms of level and content, to take courses with a recognised qualification, which is important in the Asian context in terms of career advancement. In addition the two stage approach allows a slower and more comprehensive approach which is appropriate for students where English, predominantly, is a second language.

The first stage (Graduate Diploma) essentially covers fundamentals, while additional more advanced and elective subjects are added to complete the Master program. Entry to both programs requires a four year degree or equivalent in surveying, geomatic engineering, economics, arts, law or other fields as considered appropriate. These two programs are described as follows-

Graduate Diploma in Land Administration Program

- Project Management
- Strategic Management
- Land Information Systems
- Cadastral Systems
- Land Registration Systems
- Sociology of Development

Master Engineering Science (Land Administration)

- All subjects from the Diploma plus
- Record Keeping Principles and Structures
- Reform in Land Titling and Land Registration
- Land Law for Land Administration

Plus a choice of three electives from a wide range of subjects, as follows, and additional seminar and practical experience-

- Satellite Surveying
- Spatial Information Systems
- Land Use Mapping and Administration
- Financial Management
- Principles of Geographic Information Systems
- Advanced Geographical Information Systems
- Application and Management of Geographical Information Systems
- Valuation (Introduction)
- Valuation (Valuation Theory)

Each subject has 3 hours per week of class contact over a 14 week session period, which has a credit point rating of 12. Three subjects are taken in first session (March to July) and three in second session (July to November), with a total of 72 credit points for the Graduate diploma course and 120 credit points for the Master degree program. A student may be allowed to upgrade to the Masters program from the Graduate Diploma program. Students who have satisfactorily completed the Graduate Diploma will be allowed to transfer 48 credit points to the Masters program. In the latter case satisfactory completion of the Graduate Diploma plus the three core and three elective subjects in the Master program will lead to the award of the Master Degree.

While it is hoped that all recipients of the Graduate Diploma will continue to the Master Degree program, there is the opportunity for students to leave the program at the end of the first year with a recognised award. There is also the opportunity for students to enter directly into the Master degree program. However these students would only be required to undertake one elective subject to give a total of 120 credit points. This may be the approach taken by students with good background experience and English as a first language.

In addition to the formal contact students also have a one to two hour discussion period at the end of each week with a senior academic staff member. This period is used to determine any problems the students may be having in the course relating to academic and/or administrative matters (and sometimes personal problems), a discussion of possible solutions, and also as a tutorial period to assist students in assignments or

presentations that form part of the academic program. Any comments the group may have on particular subjects are passed onto the relevant lecturer. This may be as simple as having the lecturer speak a little more slowly.

The syllabuses for the compulsory subjects in both the Graduate Diploma and the Master Degree programs can be found in the Appendix.

The First Intake of Students

The first intake of students from the ILAP joined the program at the beginning of first session (March) in 1996 and have now completed the first half of the Graduate Diploma program. A total of 12 students joined the program. Approximately half came from backgrounds in geodetic engineering and the balance equally distributed between agriculture and social and political science. A further nine students joined the program at the commencement of session 2 (end of July 1996). On arrival students are given a two week orientation program covering the University, the City of Sydney and cultural differences between Indonesia and Australia.

Initially the students found the lectures and other course work quite difficult due to the lectures being in English (and more particularly in Australian English), the more flexible question/answer format that staff introduced into the lectures, the need for students to give presentations to the other class members and the complete absence of a rote learning approach. However gradually the students overcame their inhibitions and actively contributed during lectures, and also made full use of the weekly discussion period to obtain advice on assignments and seminar presentations.

Of the three subjects taken in first session, the students found the subject Strategic Management to be the most difficult as it involved conceptual ideas applied to potential future events and circumstances. At least for most of the engineers this was an area where they had little experience, while the more practical and short term planning aspects of the other first session subjects Cadastral Systems and Project Management caused them less difficulties. Nevertheless by the end of session when assignments, presentations, class contributions and exams were assessed to give a final mark in each subject the mean results were 69.2 % for Strategic Management, 69.5 % for Project Management and 72.2 % for Cadastral Systems, with minimum and maximum for each being 61/82, 65/79 and 61/83 respectively. These were excellent results which came from subjects given by different lecturers in different academic schools (Accountancy, Civil Engineering and Geomatic Engineering) In general Australian students who also attended Strategic Management and Cadastral systems had a slightly higher average, but not significantly higher given the differences in English language skills.

Conclusions

While it is too early to judge the success of the Graduate Diploma and Master Degree in Land Administration, as this will need to be assessed after a large number of graduates

have returned to Indonesia and spent some years on the project at mid to senior levels, nevertheless early results appear promising. It is important that the programs continue to be modified on the basis of experience and feedback. In particular the programs will benefit from the contribution of experts from outside The University, both from within Australia and overseas, from the experience of those undertaking the postgraduate programs, and in the future, from the graduates on their return to their home countries.

While the initial students undertaking the programs are from Indonesia and the Indonesian Land Administration Project, it is hoped to increase the numbers from other developing countries, from emerging former eastern bloc countries and from Australian students who wish to pursue a career in land administration.

References

World Bank, 1994. Staff Appraisal Report, Indonesia, Land Administration Project. World Bank Report No. 12820-IND, Agriculture Operations division, Country department III, East Asia and Pacific Region.

Appendix

Subject Syllabuses

Project Management: Framework

An overview of project management: the nature of technical and non-technical projects; the project life cycle: the project team, organisational and behavioural aspects; the project manager; behavioural aspects of project management; the organisation and management of project resources; project success evaluation techniques; project delivery including fast track projects; management information and decision support systems; case studies in project management theory and processes; relationship to general management; functions of project management.

Strategic Management: Systems and Processes

The strategic dimensions of organisation functioning, that is, the way in which relationships are established between organisations and their environments. Topics include: environment and enterprise: strategy, structure and strategic management; strategic choice: problem solving and social-psychological models; organisational and managerial models: environmental scanning and strategy identification; strategy evaluation; financial policy and corporate strategy; designing strategic information systems; categorising and evaluating disciplinary contributions.

Land Information Systems

Land information as maps and records. Methods of data collection. Integrated surveys and coordinate systems. Legal boundaries. Land tenure. Identifiers. Computerisation of land information. Data input methods. Data storage methods. Data processing and manipulation, including management, searching, existing data base languages, and interactive data editing. Data output, including computer graphics, line printer maps, and digital plotters. Application of Arc-Info LIS software.

Cadastral Systems

Cadastral systems, types of systems, components, administration and principles of cadastral systems - cadastral systems in developed and developing countries, graphical and numeric cadastral systems, current systems in Asia, components and administration in New South Wales and other Australian states, systems of land tenure. Cadastral parcel identification systems - concepts of parcel identifiers, map based, survey plan based, administrative area, document identifier, current approaches in Asia, changes required for computerisation. Cadastral surveys, cadastral regulatory approaches - fixed and general boundaries, strata surveys, aerial photo and paper defined title surveys, survey and title searching, survey marking and preparation of plans, appropriate statutes and regulations,

registration/licensing and quality control of cadastral practitioners, the role of the private sector and examples from different jurisdictions, accuracy control and monitoring procedures. Reference systems, survey datums and GPS - introduction to national coordinate systems and datums, title definition by metes and bounds or coordinates, introduction to global positioning systems and their application in cadastral surveys. Cadastral reform and case studies - the benefits of cadastral reform, international case studies, British, Western Europe, USA, Malaysia and in particular the Thailand Land Titling project.

Land Registration Systems

Classification and analysis of registration systems - historical background to land registration systems, the earliest systems, Greek, Roman, Chinese and other Asian systems, the Domesday Book, early continental European systems, the Napoleonic cadastre, English Old Law System, the Torrens System, current systems in Asia, deed registration and title registration, hybrid systems, essential differences between systems, systems that have state guarantee of ownership and boundaries. First registration, qualified and limited titles. "Crown" or State land titles, owners rights, state rights, adverse possession. Land transactions, processes and record keeping - regulations for sale of land, leases, licences, mortgages, transfer without sale, transfer at death, subdivision of land, land development, building regulations, transfer of interests prior to sale, centralised or local record offices, benefits and disbenefits of each, single authority or multiple authorities, computerised or paper records, security of records. Performance assessment - a comparison of the benefits and problems inherent in various land registration systems, measures of performance, ease of computerisation, match with traditional existing systems, ease of establishment, establishment costs, training needs, public acceptance.

Sociology of Development

Impacts of development on people and institutions – comprehensive examination of theories of development as they have been applied internationally, with special reference to the concerns of island nations, with examples been drawn from the Philippines, Indonesia, Japan and the Island nations of the Pacific Ocean. Aspects of social anthropology, development studies and the sociology of development. The influence of economic, culture, history and society on contemporary developments in the region. Options for effective change - technology transfer in developing countries, educational issues, institutional issues, financial issues and public awareness issues, minimising the impact of change on current public and institutional structures, the culture of organisations. Sustainable development - public awareness needs, institutional awareness and education, overcoming institutional inertia, people, economic and infrastructure limits to sustainable development, institutional restructuring.

Record Keeping Principles and Structures

The subject complements and builds upon appropriate concepts and tools introduced in common core subjects and focuses them on record keeping systems. It reviews and further articulates the nature and multiple roles/functions which archives/records perform in an accountable and responsive society, explaining the evolution of key values, concepts, principles over time to the present; it provides a framework for understanding record keeping systems in their entirety, utilising the CADS (Control, Accessibility, Disposal, Storage) functional model developed by Australian Archives; it explains the basic elements and requirements for effective design, implementation, management and evaluation of records and archival programmes; traces the development of mainstream practices for the effective management of records and archives throughout their primary/administrative and secondary/research "life cycles" in both the office and repository domains; then concludes with the latest issues, trends, directions in development of current "best practices" and standards for archives/records keeping systems and programmes in non-custodial and virtual environments and in the development of cooperative archival systems and alliances.

Reform in Land Titling and Registration

Introduction to the characteristics, purpose and outcomes of reform. Review of case studies. Market forces - social, economic, political and institutional influences on reform. Planning reform projects - understanding current land use, land ownership and registration, tradition, impact of reform on current land practices, ownership delineation and methods of survey, community involvement, appeal structures, schedules of implementation, man-power requirements, training and education. Case studies - detailed study of characteristics, purposes and outcomes of various reform programmes; examples of successful land reforms in Africa, Europe, South America and Asia, detailed study of the Thailand Land Titling project. Change options and examples - analysis of the different approaches to reform in land titling and registration, centralised or distributed title offices, costs and benefits. Overcoming resistance to change - achieving community involvement, public awareness programs, overcoming institutional, social and economic resistance to change. Cost-benefit and socio-economic studies. The law and use of modern technology - impact of advanced digital transfer methods, computerised registration systems, advanced techniques for boundary measurement, and new title concepts. Rights and responsibilities of individuals and government.

Land Law for Land Administration

Principles and historical development of land law and the legal foundations of land administration. The legal basis for land ownership in established and developing countries, examples from Australia and countries with strong customary laws. Customary rights and legal rights of the state and individuals in different jurisdictions - examples of customary tenure and rights from various countries, examples of the rights of the state and individuals from developed and developing countries, the concept of eminent domain, individual and state legal rights over resources. Relationships of land law to other laws - law and society, examination of the sociological assumptions about law, society and the relationships between law, legal institutions and social ordering, commercial law, local

government and planning law, customary and common law, administrative law, public law, criminal law, law of inheritance. Interests in land and responsibilities under land laws - analysis of examples from various jurisdictions including developing and developed countries. International perspectives - comparative land law, the nature and sources of international law, the relationship between international and domestic law, international agreements, international litigation.