

THE HONG KONG INSTITUTE OF SURVEYORS

LAND SURVEYING DIVISION

RESEARCH REPORT

2017

Pilot Study on the Land Survey Law and Regulations among “Belt
and Road” Countries

Principal Investigator : Sr Dr Conrad Tang

Sri Lanka cadastral system reported by Dr Homindra Divithure

1. PROJECT BACKGROUND

The scheme of Belt and Road is China's national strategy on the connectivity and cooperation among involved countries. Facilities connectivity is one of the five key major goals of the Belt and Road initiatives. Many of Belt and Road countries are emerging markets and developing countries. Infrastructure development will form the first phase of the Belt and Road Initiative. Land surveying technology and services in supporting infrastructure development is indispensable in construction projects. Hong Kong equips world-class architectural, surveying and engineering services companies to provide a full range of services in the Belt and Road initiatives.

Observing survey laws and following relevant regulations are the fundamental rules for land surveying professional services and business. And, cadastre varies from country to country. Giving the opportunities of exploring the surveying markets in the OBOR countries, immediately there is a lack of information on the survey law and regulations among these jurisdictions. In addition, there is no conceptual framework to structurally illustrate jurisdictional legal and institutional land survey requirements for the purpose of business among Belt and Road countries. To deliver land survey services outside Hong Kong, local land survey professionals need to have the knowledge on relevant law and regulations in advance. Most of involved Belt and Road countries are developing countries and many of them do not use English or Chinese as their official language. There are industrial needs to gain some referenceable "Need-to-Know" information on different land survey law and regulations among Belt and Road countries.

In 2018, the Hong Kong Institute of Surveyors received a project budget of two million Hong Kong dollars from the Professional Services Advancement Support Scheme Secretariat of the Hong Kong SAR Government. And, the project included Kazakhstan, Pakistan and Sri Lanka as the target visiting countries with Peoples Republic of China as the hub of the project. In this report, the cadastral system information to the three visiting countries as well as their current cadastral survey operation and its professional and personnel system are the aims of study.

Dr Homindra Divithure, Senior Lecturer of the Department of Surveying and Geodesy, Faculty of Geomatics, Sabaragamuwa University of Sri Lanka (Email: divithura@geo.sab.ac.lk), provides a detailed introduction to the cadastral system and surveying profession in the country. As proposed in the HKIS PASS project, Dr Homindra Divithure would present the findings on the cadastral development issues of Sri Lanka to the members of HKIS in Hong Kong. During the period of 2019 and 2020, Hong Kong, like the rest of the world, is affected by COVID19. The written report is recorded below. And, Dr Divithure appeared on the HKIS Workshop on Web “*Sharing of the Latest Market Requirements: Practicing Qualification, Procedure, Applications, Market Opportunities in Belt and Road Countries: China, Sri Lanka, Pakistan and Kazakhstan*” on 5 September 2020. His PowerPoint presentation is attached in Appendix 1.

2. CADASTRAL SYSTEM AND SURVEYING PROFESSION IN SRI LANKA

Sri Lanka has two types of cadastral system operating in the country and is in the process of cadastral system migration from deeds registration to titles registration. The deeds system, which was introduced in 1863, is well established, and the titles registration system, which introduction is on-going, was initiated in 1998.

There is no universally accepted or unique cadastral system in the world. Every country has its own cadastral system (Williamson, 1985), (Stuedler & Kaufmann, 2002). Both the deeds registration system and the cadastral surveying system in Sri Lanka are the direct results of the twofold land policy of British Ceylon (1796 – 1948). Although both systems have long been in place, they are not able to address the present land administration needs of the country. The deeds registration system has several drawbacks, such as low efficiency and ineffectiveness. On the other hand, the cadastral system fails because of incomplete land ownership information.

In 1998, the Sri Lankan government introduced the land titles registration and cadastral survey programme as a remedy for the above problems. Unfortunately, the programme has not lived up to the expectations since its inception. Now, the well-established deeds system is incapable of catering for the land administration needs, while the land titles registration programme is hampered by insufficient progress (Divithure & Tang, 2013).

2.1 Deeds based cadastral system

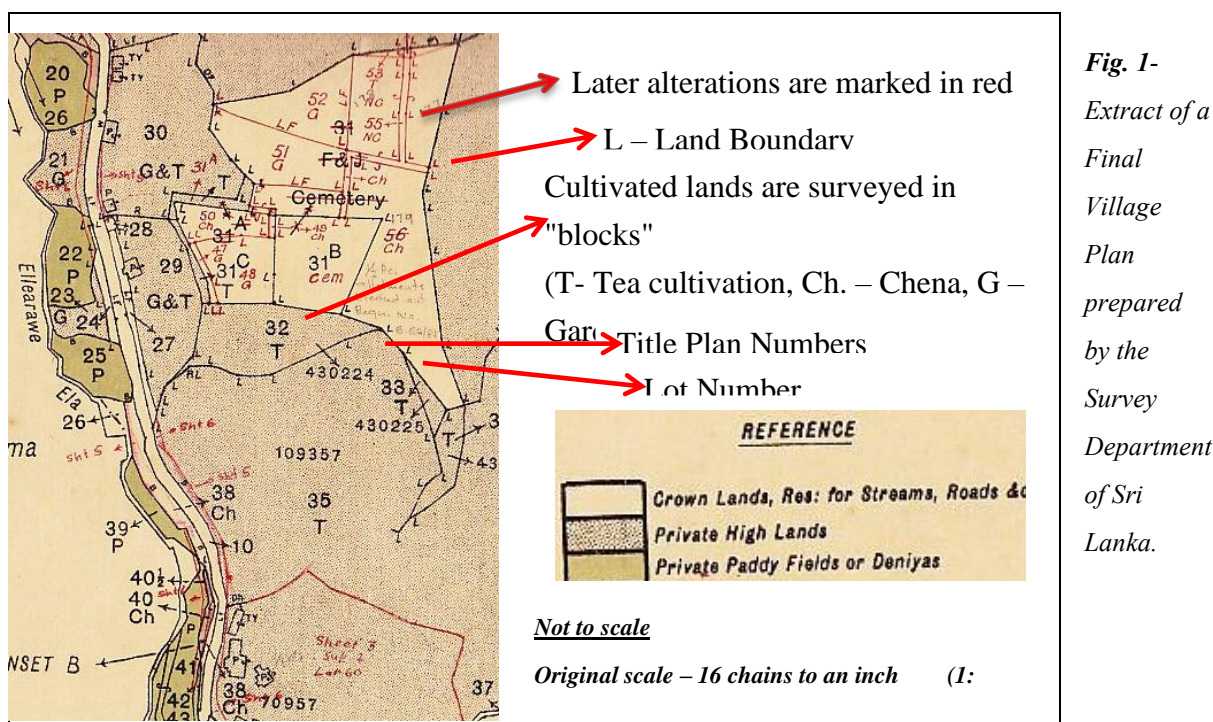
The deeds based cadastral system is well established in Sri Lanka. The British introduced it to Sri Lanka under the provisions of the Documents Registration Ordinance No.8 of 1863, with land registration and cadastre as two separate operating entities. Two government departments administer the two entities separately. The Survey Department is responsible for cadastre and the Registrar Generals Department for land registration. However, the systematic coverage of private land ownership information is absent in this system. The Survey Department maintains a series of plans on different scales demarcating government land ownership, but does not have sufficient land ownership information on private lands. The Registrar Generals Department administers land transactions by registering deeds. The only reason for land surveys in this land transaction process is to verify the land extents. Private land surveyors are involving in these land surveys, which are not connected to the national coordinate system. These land survey records are not maintained centrally and are kept with the individual surveyors (Thavalingam, 2003). This cadastral system was the result of the twofold land administration policy of British Ceylon: one concerning government land management and the other concerning the establishment of a secure system of land transactions.

2.2 State land and cadastral surveys

The British (1796 – 1948) mainly focused on government land administration issues in the later part of their rule in Sri Lanka. Considering the availability of government land, they

hypothetically divided the country into three parts: (1) developed areas (villages); (2) highly populated areas (towns); and (3) undeveloped areas (forest lands). Each category was treated separately for land surveying (Divithure, 2014).

For the first category, village plans were prepared with villages as the smallest administrative unit. This programme was started in early 1897 and called “Block Surveys” and later “Mapping-Out Surveys”. Block Surveys helped prepare systematic village plans separating private and crown (state) lands. Village headmen and land surveyors determined village boundaries. Land surveyors surveyed topographical features and administrative boundaries. They also surveyed cultivated lands in "blocks" without showing the internal boundaries between the claims of private owners. The Survey Department prepared a separate Village Plan showing each village. The plan was called Final Village Plan (FVP) after investigation, verification and amendment of claims between the government and private parties. The Land Settlement Department handled land investigations and claims in this process. The Survey Department archived the original FVP and handed over copies to the respective Government Agent, the permanent officer responsible for government land administration in an area (King, 1952). These plans are still used by the Survey Department. Subsequent subdivisions of government lands are properly recorded and original plans are altered accordingly. These plans are archived by the Survey Department and also in the Land Ledgers of the Divisional Secretaries (300 in Sri Lanka) (Thavalingam, 2003). Most of these plans are connected to the national coordinate system. Figure 1 is an example for the FVP prepared and maintain by the Survey Department (Divithure, 2014).



Concerning the second category, the Survey Department prepared Preliminary Plans (PP) for highly populated areas (town areas). Because of limited availability of government land, systematic land ownership adjudication was not carried out in these areas. If the department carried out surveys in the areas which had been previously covered by preliminary plans, these later surveys would be properly recorded as supplements. Most preliminary plans are not connected to the national coordinate system. Thus, these preliminary plans are rarely used for cadastral purposes.

In the third category, the Survey Department used topographic plans to demarcate large tracts of government lands in undeveloped areas. The Department had started the topographical survey at the scale of 1 in. to 16 chains and later 2 in. to a mile. They surveyed undeveloped areas (generally forest lands) at the scale of 1 in. to a mile (King, 1952). These initial topographical plans were also called Topographical Preliminary Plans (Topo PP). After further investigation and ownership verification, the plans were finalised as Final Topographic Plans

(FTP). These were connected to the national coordinate system and the alterations were marked in as supplements. Figure 2 is an example for the FTP prepared and maintain by the Survey Department.

Apart from the above three major types, the Survey Department prepared other cadastral maps and plans within more than 200 years of their existence, all of which were prepared for government lands, in support of various government policies. The department however, do not have systematic coverage of private land ownership information.

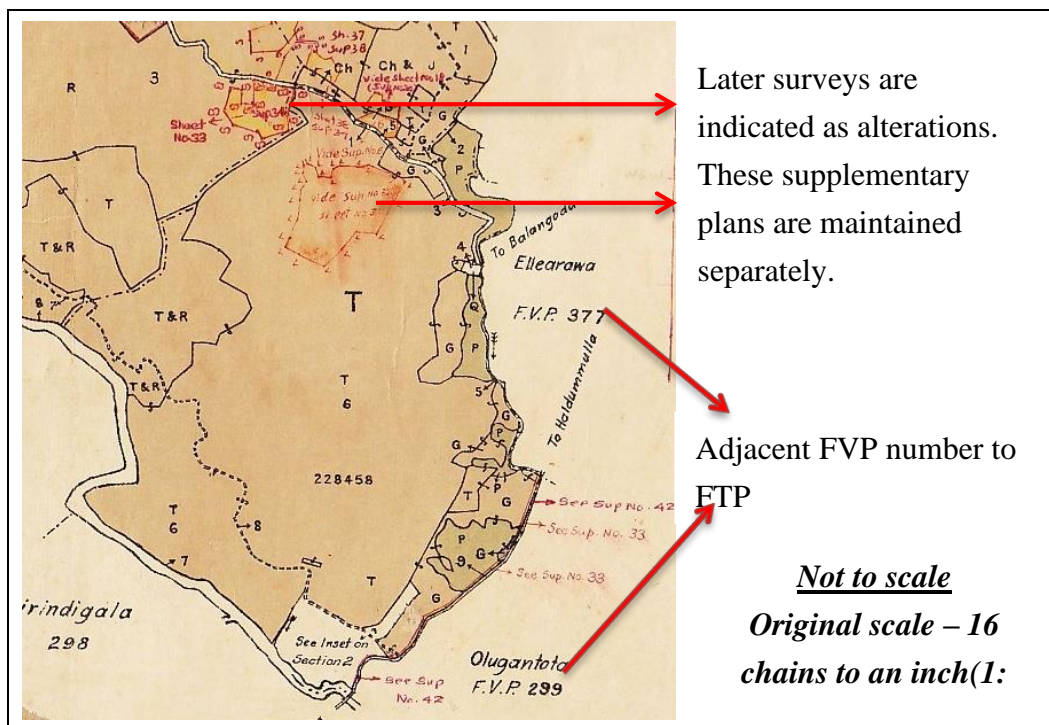


Fig. 2-Extract of a Final Topographical Plan prepared by the Survey Department of Sri Lanka.

2.3 Cadastral surveys under the land titles registration programme

There were several attempts made by the British to introduce title registration system in the period of their occupation in Sri Lanka (1796–1948), albeit unsuccessful. In 1998 the title registration programme was introduced to Sri Lanka. The Registration of Titles Act No.21 of 1998 was introduced in April 1998 as the legal base for the programme, which was financially assisted by the World Bank from 2001 to 2006 and launched as a “learning and innovation

project” (World Bank, 2007). Since 2007, it has been a national programme under the Ministry of Land and Land Development. During this initial compilation stage government subsidy, the whole programme and no expense required from the landowners. The programme was named “*Bim Saviya*” (Land Strength) and having three key objectives: (1) introducing the title registration system; (2) establishing a digital land information system; and (3) making arrangements to settle unsettled cases of land ownership (“*Bim Saviya Objectives*”, 2010).

The Survey Act No.17 of 2002 plays a prominent role in land titles registration in Sri Lanka. All the cadastral surveys are legally guided by this act, which authorises the Surveyor General to regulate land surveys, especially cadastral surveys, and provides sufficient legal base for establishment of the Land Survey Council to regulate the professional conduct of land surveyors (Survey Act, 2002). All these cadastral surveys are connected to the national survey control system (GN 99). Minor controls are undertaken by using Global Navigational Satellite Systems (GNSS) and Electromagnetic Distance Measurement (EDM) techniques. The Survey Department guidelines for the third order control traverses are adopted for these minor controls. Detailed surveys are mainly undertaken by using the Total Station instruments (EDM technique) with accuracy not less than 1:10,000 (Survey Department Sri Lanka, 2003). The efforts to introduce air survey and remote sensing methods were unsuccessful due to the dense vegetation of the selected areas at the initial stage of the title registration programme (Divithure, 2014).

The Survey Department carries out cadastral surveys systematically. Surveyors survey all the land parcels in a village/block and prepare a cadastral map. The land parcels claimed by more than one party or having undefined boundaries are surveyed according to the claims after receiving letters of consent from individual parties. Surveyors only survey the outer boundaries of land parcels with boundary disputes. These are treated as single land parcels on the cadastral map. Remarks are made to identify disputed land parcels. All the state lands are shown on the

cadastral map. The land parcels claimed by different government agencies are shown separately on the map (Survey Department Sri Lanka, 2003).

The Survey Department prepare cadastral maps to show all land parcels in one village to the scale of 1:2000 in the digital format. The maps are numbered with six digits with the first two identifying the district and the next four the village in the district. The cadastral plan for each land parcel is prepared in the digital format by field surveyors who measure the land extent in hectares up to four decimal places (Survey Department Sri Lanka, 2003).

2.4 Inadequate progress of the land titles registration programme

Inadequate progress has been made and severely affected the programme since its inception, even when it was funded and guided by the World Bank. The completion report of the World Bank highlighted the issue of the programme's unsatisfactory progress. For example, until 2006, there had been only 5228 title certificates issued and 22637 land parcels registered, of which 14676 were of state land. Moreover, most of the land parcels already had clear titles and the security of land tenure came under the deeds registration system. Land parcels with unclear titles, for example, those with boundary disputes, were not properly addressed by the titles registration programme. Some critical factors of this low performance were identified in the World Bank's report as: (1) inconsistency of political support for the programme; (2) inability to define and put in place the legal, regulatory and institutional framework in consistency with the large scale land titling programme; (3) insufficient capacity building to support a broad national programme of land titles registration; and (4) unbalanced efforts given to the land adjudication and the cadastral surveying activities (World Bank, 2007).

Although the title registration system represents a significant improvement on the rudimentary deeds registration system, it still leaves a lot to be desired in terms of implementation and maintenance (Williamson et al., 2010). The costs of the title registration are readily

ascertainable and available to see and criticise, but, its opportunities and benefits are mostly hidden and not available for the public scrutiny. Undoubtedly, introduction of the title registration system is expensive and its success will require perseverance and determination of the government (West, 1969). As land is a politically sensitive issue, decisions on land registration are highly political (Larsson, 1991). Fortunately, despite the implementation failures and initial problems mentioned above, the Sri Lankan government is still in a favourable position for implementation of the land title registration programme. Thus, it is important to make every effort to reduce the visible cost of registration through making the process more efficient and economical (West, 1969).

2.5 Survey profession in Sri Lanka

Although professional surveyors do not play a major role in the deeds-based cadastral system in Sri Lanka, the title-based cadastral system is dominated by them. Successful completion and rapid furtherance of the systematic and updated cadastral system depends mainly on the number of professional surveyors involved in the cadastral related matters. Sustainable and long-term human resource enhancement is a mainstream component of a cadastral reform project (Stuedler, Rajabifard & Williamson, 2004; Enemark & Williamson, 2004; Rajabifard & Williamson, 2004). At present, there are around 985 private professional surveyors and around 800 government surveyors operating in Sri Lanka (Survey Department, 2019). When comparing these figures with the total number of land parcels and the incomplete cadastre of the country, it can be seen that there is an urgent need for increasing the number of professional surveyors in the cadastral surveys in Sri Lanka.

2.6 Survey education

When considering the historical context of land surveying profession in Sri Lanka, there are evidences for land surveyors' involvement in surveying activities at the latter part of the Dutch

occupation in the country. Dutch land surveyors, and local people trained under the Dutch surveyors, were involved in land surveying activities. The licence from the Dutch East India Company (VOC) was needed to conduct land surveys in Sri Lanka. Dutch administration sanctioned the resolution in 29th April, 1745, a set of rules for surveyors, for measuring lands. Under the Dutch, the cadastral surveys gradually spread throughout the maritime provinces of the country (Brohier, 1937).

The English, after the Dutch, further developed the surveying profession in Sri Lanka. “The British influence has been deep, deeper even than in India” (Jennings, 1949, p.25). The British administration used maps and plans (based on cadastral surveys) to implement their land policies in Sri Lanka. These had largely been ignored by their predecessors. They established the Survey Department, the oldest government department in the country to date, by a proclamation dated 2 August, 1800. British Surveyors and the trained surveyors available in the country were involved land surveying activities in these early days of British Ceylon. The only way to get professional training in this period was to train under the senior surveyors. There are evidences that. G. Snider, the superintendent of surveys in Colombo District, conducted private tuitions for land surveying and mathematics in this early period of British Ceylon. However, British citizens were recruited for all the positions of senior surveyors and assistant surveyors for nearly eighty years after the establishment of the Survey Department. Surveyor General W.C.S. Ingles in 1896 introduced a training program for land surveyors under the Department. Local people who followed the above training programme was able to join the Survey Department as apprentice surveyors or they could pass the licensing exam conducted by the Surveyor General and work as a private professional surveyor. Around in 1908, the people who successfully completed the courses conducted by the Technical College, Maradana, directly joined the Survey Department as apprentice surveyors. However, this method of requirement was abandoned in 1910 and the Department took the full responsibility

of conducting survey training programmes. In 1924, the Department established their surveying school in Diyatalawa. In 1967, the surveyor training school was upgraded and named as the Institute of Surveying and Mapping, with the help of United Nations Development Programme (UNDP). Passing the General Certificate of Education (Ordinary Level) - GCE O/L - and successfully completing the surveying and levelling course conducted by a Technical College were considered as the basic requirements for applying to the Surveying and Mapping Institute. The Institute was later upgraded as a Diploma awarding Institute first and later as a Degree awarding Institute (Survey Department, 2010).

A year before the commencement of the titles registration programme, in 1997, BSc Surveying Sciences degree programme was introduced for first time in to the University system in Sri Lanka. The degree programme was started in Sabaragamuwa University, functioning under the Ministry of Higher Education in Sri Lanka. Since then, the programme has produced nearly 50 graduates annually. To date, the university has produced around 850 surveying graduates. In year 2005, the Survey department upgraded their recruitment criteria to the degree level by allowing these graduates to join with the Department.

2.7 Institutions in Surveying Profession

Survey Department is the national mapping organization in Sri Lanka and headed by the Surveyor General. Around 1889, Surveyor General established licensing criteria for private professional surveyors, facilitating the Land Registration Ordinance no. 15 of 1889. The legal acceptance of the private practice by surveying professional was established with this new initiative. This Ordinance was later amended and altered in several occasions and named as Surveyors Ordinance. The Ordinance was last amended in 1956 (Surveyors Ordinance No. 28 of 1956) and was cancelled with the introduction of the Survey Act No. 17 of 2002. Since then, this Act is in force to regulate the surveying profession in Sri Lanka.

The Land Survey Council (LSC) was first established in year 2003 by fulfilling the requirement of the Survey Act No. 17 of 2002. There are seven members in the council as; the Surveyor General as ex-officio chairmen, the Additional Surveyor General as ex-officio Vice-Chairman, the Director of Institute of Surveying and Mapping (ISM) as ex-officio member, three registered surveyors nominated by the Surveyors Institute of Sri Lanka (SISL) as members and one academic representative from University Grant Commission of Sri Lanka as a member. The duties and functions of the Council vested mainly to the development of the land surveying profession in regulating surveying education and training, accrediting and maintaining professional standards, procedures and ethics.

Survey Institute of Sri Lanka is the professional surveyors' organization in the country. The Ceylon Licensed Surveyors Association, presently known as Surveyors Institute of Sri Lanka (SISL), was established in year 1926 as a voluntary group focusing to achieve common goals of the profession. Registered licensed surveyors can become a member of the SISL. The membership of the Institute is gradually grown up from 20 at the inception to 970 at present (The Surveyors Institute of Sri Lanka, 2020). It is a founder member of the Commonwealth Association of Surveying & Land Economy and the Organization of Professional Associations (OPA). It is also a permanent member of the International Federation of Surveyors (FIG)

2.7.2 Problems in the Profession

There are four main entities when considering the surveying profession in Sri Lanka as;

Education and training – Sabaragamuwa University of Sri Lanka

National Mapping Organization – Survey Department

Professional Surveyors Organization – Survey Institute of Sri Lanka

Governing Body – Land Survey Council and the Survey Act No 17 of 2002

Unhealthy cooperation and collaboration of these key entities create major problems which hinder the development of the surveying profession in the country, and can be summarised as follows;

Even though increasing the number of land survey professionals is important for introduction and the smooth functionality of the new land title registration programme, a narrow path is available to become a surveying professional in Sri Lanka. A person registered with the Land Survey Council and obtaining an annual license from the Council is considered as a professionally qualified land surveyor in Sri Lanka. Two main qualifications are considered to register with the Land Survey Council according to the Survey Act No.17 of 2002 as academic and practical. Unavailability of well-defined, clear and democratic criteria to get the practical qualification to the level of satisfaction of the LSC is badly influence the development of surveying profession.

There is no clear procedure and criteria available to train surveying graduates to the level requested by the Land Survey Council. The number of academically qualified surveying graduates entering the job market annually is around 50. After two more years it will increase up to 100 surveying graduates annually. The only avenue available for an academically qualified person to get this practical training is to join with the Survey Department. There are around 150 surveying graduates seeking this training opportunity to date. The Department is not willing to absorb that number of cadre to the Department due to funds and resources limitations.

From the other side of the story, the Surveyor Institute of Sri Lanka only accepts the academically and professionally qualified persons as their members (cooperate). To date there are two categories of such qualified persons available as; a). Government surveyors working in the Survey Department of Sri Lanka and b), Retired government surveyors worked in the Survey Department of Sri Lanka. Both this category of people can obtain their registration and annual license from the Land Survey Council and the membership from the Survey Institute.

The accumulated result of all the above-mentioned consequences are academically qualified surveyors in the surveying industry doing land surveys but not having professional acceptance (legally and from the professional organization). With this negligence of absorbing academically qualified surveying graduates to the profession, many of them seek overseas job opportunities. Sri Lanka provides entry level surveyors for international job market but fails to absorb their portion in to the surveying industry. The situation is further exaggerated with the vacuum of the qualified surveying professionals created by the land title registration program in Sri Lanka.

2.8 Conclusion

The incomplete coverage of cadastral information, particularly concerning private land ownership, and the rudimentary deeds registration system are prominent in the cadastral system of Sri Lanka. A new land registration and cadastral survey programme was introduced recently by addressing these development lags in the cadastral system. The inadequate progress is most attributed and severely affected for the successfulness of the programme since its inception.

In the present context, Surveying profession was first introduced by the Dutch in Sri Lanka. Both the surveying education and the surveying profession were gradually evolved under the British Ceylon and having their great influence. Unhealthy cooperation and collaboration of four main entities of the surveying profession - Education and training, National Mapping Organization, Professional Surveyors Organization, Governing Body - create major problems which hinder the development of the profession in Sri Lanka.

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Dr Homindra Divithure made a presentation of the Sri Lanka system in the Workshop of introduction and comparison to the cadastral law and operation between the project countries on the web broadcasting event in November 2020. The presentation information are attached as Appendix 1.

Appendix 1. Presentation of Dr. H. Divithure

Introduction to the Cadastral System in Sri Lanka

By
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Agenda

1. Concepts and Terminology
2. Historical context - cadastral system in Sri Lanka
3. Present context - Cadastral system in Sri Lanka
4. Problems and Limitations
5. Survey Profession in Sri Lanka
6. How to become a professional surveyor in Sri Lanka

Concepts and Terminology

Cadastre

► A "cadastral system" is defined as the combination of cadastre and land register, with cadastre more spatially focused and land registration more legally focused,


Cadastral System

The diagram illustrates the relationship between Cadastre and Land Registration. Two interlocking gears are shown. The left gear, labeled 'Cadastre', contains icons for a map and a surveying instrument. The right gear, labeled 'Land Registration', contains icons for a document and a person. Curved arrows indicate a clockwise flow between the gears, suggesting a cyclical or interdependent relationship between the two components.

Historical context - cadastral system in Sri Lanka

Introduction to Sri Lanka

- ▶ Total land area around:- 65,610 sq.km.
- ▶ Approximately 8.5 million land parcels
- ▶ Population 1881:- approximately 2,76million
- ▶ Population 2003:- approximately 20m.
- ▶ Population density :- 300 per sq.km.
- ▶ Deeds registration system and recently introduced (1997) Title registration system



H. Dewasiri

Historical Context

- ▶ Sri Lanka has a documented history extending over 2500 years which reveals the country's adaptation to different external influences over the years
- ▶ Portuguese – (1505-1658)
- ▶ Dutch – (1658 – 1796)
- ▶ English – (1796 – 1948)

H. Dewasiri

Ancient Sri Lanka (before 1505)

- ▶ Land - Social assets rather than a private property
- ▶ King has the sole authority over land
- ▶ Village is the lowest administrative level
- ▶ All occupied lands were divided in to "pangu" or allotments – varied in size and importance

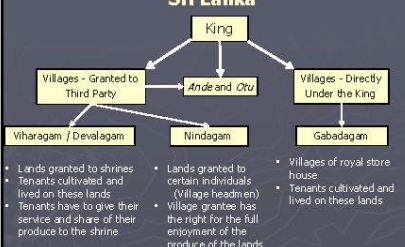
H. Dewasiri

Ancient – People Land Relationship

"The country, being wholly his, the king farms out his land, not for money, but service; and the people enjoy portions of land from the king; and, instead of rent; they have their several appointments: some are to serve the king in his wars, some in their trades, some serve him for labourers, and others are as farmers to furnish his house with the fruits of the ground; and so all things are done without cost, and every man paid for his pains – that is, they have lands for it" (Fellowes & Knox, 1817).

H. Dewasiri

Basic types of land grants - in ancient Sri Lanka



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graph TD
    King[King] --> ThirdParty[Villages - Granted to Third Party]
    King --> AnceOtu[Ance and Otu]
    King --> DirectlyUnderKing[Villages - Directly Under the King]
    ThirdParty --> Viharagam[Viharagam / Devalagam]
    ThirdParty --> Nindagam[Nindagam]
    DirectlyUnderKing --> Gabadagam[Gabadagam]
  
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- Lands granted to shrines
- Tenants cultivated and lived on these lands
- Tenants have to give their service and share of their produce to the shrine
- Lands granted to certain individuals (Village headmen)
- Village grantee has the right for the full enjoyment of the produce of the lands
- Villages of royal store house
- Tenants cultivated and lived on these lands

(Source Dewasiri, [2008, p.108])

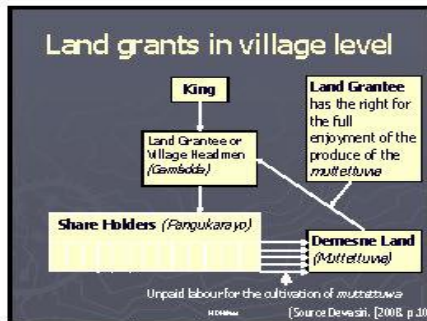
H. Dewasiri

Basic types of land grants - in ancient Sri Lanka

The central fact was that the king had absolute control over the manner of land disposal in the country.

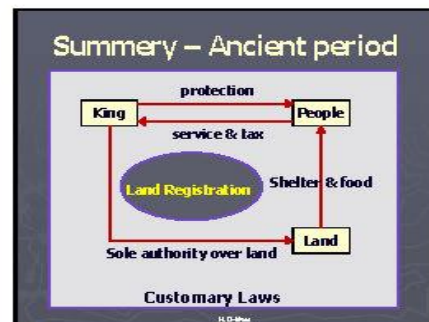
He reserved a portion of land for his own use (*Gabadagam*) and the rest was mainly used for the maintenance of social arrangements practiced in the country.

H. Dewasiri



- ### Land grants in village level
- ▶ Each *Fangu*holder was liable to contribute towards the maintenance of the common wealth of the Kingdom.
 - ▶ This might consist of personal service called *rajakariya*, or by payment in money or in kind. This personal service might consist of labour upon *mittetuvva*lands, village servants (blacksmiths, potters, washers, carpenters, etc.), specific service providers attached to shrines or other services directly or indirectly in the favour of the king.

- ### Cadastral System in Ancient Sri Lanka
- ▶ The king maintained records of lands – bundle of palm leaves
 - ▶ Known as "lekammiti"- 4 types
 - ▶ land was measured by considering the sowing capacity not the extent of land area
- Source - (Dhammedsa, 2010)



- ### Portuguese Ruling Period (1505 -1658)
- ▶ In 1505 A.C., Portuguese advent Sri Lanka
 - ▶ Naval power over the Indian Ocean region
 - ▶ Economic benefits particularly the cinnamon and Elephant trading's
 - ▶ Importance of a proper administrative structure which supported by a land information system for the revenue collection purposes
 - ▶ They introduced their own land registration system called "**Thombo**"

- ### Dutch period (1658 – 1796)
- ▶ Dutch continued with the *Thombo* and registration system
 - ▶ More **structural developments** of *thombo* were found in this period
 - ▶ **Dutch Thombo - Hoofd or head thombo & land thombo**
 - ▶ The term survey as applied related to early Dutch *tombo*s merely implied an inspection of various lands
 - ▶ No land boundary survey measurements or a qualified surveyor's involvement seems to have been practiced in the land survey process

Cadastral Maps and plans

- ▶ The system of land registration was further developed by accommodating *cadastral maps and plans* – coincide with the golden era of Dutch cartography
- ▶ It is not clear what unit of linear measure was adopted by the Dutch surveyors, but locally they used *Rhenish Roede* (equal to 18.75 links, approximately 12 feet) as a linear unit

H. De Haas

Cadastral Maps and plans

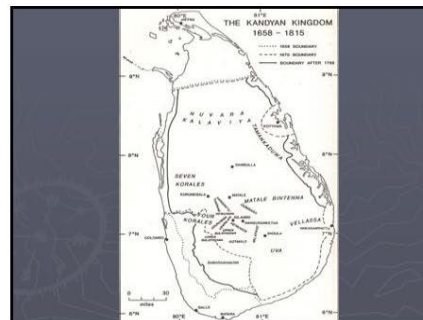
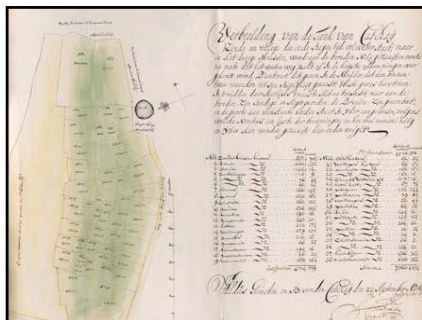
- ▶ Dutch introduced "Land & Quantity Surveyor" position to Sri Lanka in 1659
- ▶ A license from VOC was required to Practice as a Land Surveyor in Sri Lanka
- ▶ "Adriaan de Leeuw" is the first such surveyor
- ▶ "Jan Christianansz Torzee" is famous Dutch Surveyor in Ceylon

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Cadastral Maps and plans

- ▶ The Dutch surveyors used compasses and ropes as principal but rudimentary land surveying instruments in Ceylon.
- ▶ The dual types of land measurement system, the Sinhalese method based on determining the sowing extent and that using basic surveying instrumentation introduced by the Dutch, created much confusion in the process of land registration.
- ▶ However, since the Sinhalese land measurement varied geographically, the conversion factor also differed geographically

H. De Haas



Land Registration Attempts

- ▶ In 1863, another attempt at land registration was made in British Ceylon after the failure of Governor North's previous attempt.
- ▶ The system of registration of documents affecting lands was introduced under the Land Registration Ordinance No. 8 of 1863.
- ▶ After some years, a new title registration system commenced in three sub-urban villages, namely Dehiwala, Wellawatta and Kirillapone, in the capital city of Colombo, pursuant to the Land Registration Ordinance No. 5 of 1877.

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Land Registration Attempts

- ▶ Implementation of this title system island wide was abandoned after a few years of operation, mainly due to the high costs involved.
- ▶ Even nowadays, a land transaction in Dehiwala, Wallawatta and Kirulapona must be carried out in accordance with the title registration regulations under which a survey plan must be prepared by a licensed surveyor and registered in the Survey Department.

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Land Registration Attempts

- ▶ The previous deeds registration system continued to be in use in Sri Lanka and was legally guided by the Document Registration Ordinance of 1927.

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Block Surveys

- ▶ The term 'Block Survey' is used to mean a survey to show all undoubtedly state lands en block, all undoubtedly private lands en block and those lands which are under cultivation but for which private title cannot be established (i.e. claimed lands) individually according to the claims.
- ▶ Criteria for deciding undoubtedly state and undoubtedly private lands are specified.

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Block Surveys

- ▶ The Survey Department conducts a systematic survey treating a village as an unit.
- ▶ The boundaries between state and private lands are defined with permanent marks (i.e. landmarks specified in the Crown Landmarks Ordinance) when they are not otherwise defined by natural or artificial permanent features.

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Block Surveys

- ▶ Claimed lands, too, are individually defined in this manner.
- ▶ After the survey a plan and details of claims, in the form of a Block Survey Village Plan and Tenement List are issued to the settlement officer.

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Block Surveys

- ▶ land settlement officer decides the nature of settlements on the land covered by the survey and request the Surveyor General to effect any further surveys that are found necessary to implement his settlement decisions

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Block Surveys

- ▶ The Survey Department conducts the demarcation surveys to satisfy these requirements.
- ▶ The settlement proceedings in a village come to an end with the issue of the settlement officer's final report (which is published in the government Gazette) and the final village plan by the surveyor general

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Block Surveys

- ▶ After the issue of the Final Village Plan and the Final Report, the functions of state land administration in a village vests with the Government Agent.
- ▶ All disposition of state lands on Crown grant and long term leases are properly recorded in the Final Village Plan and Tenement Lists.

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Block Surveys

- ▶ These plans, however do not cover the entire Island. Colombo District is not covered by this series of plans. They also do not show the individual claims of undoubtedly private lands.

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Block Surveys

- ▶ About eighty percent of the country is covered by village plans prepared by the Surveyor General demarcating State (Crown) land.
- ▶ These plans are on the scales of 1/3168 (4 chains to an Inch), 1/4000 or 1/6336 (8 chains to an Inch)

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Existence of SD

- ▶ Although the survey department has been preparing plans for nearly two hundred years, there is no systematic survey covering the island showing individual property limits.

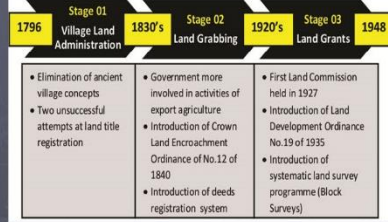
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FVP

- ▶ Even in 81% of the land covered by the Block Survey Village Plan or the Final Village Plans the individual property limits of the private lands are not shown..

F. Dethlers

British in Sri Lanka (1796 – 1948)



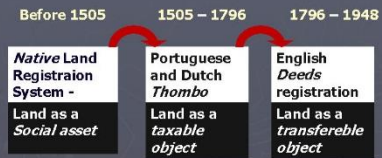
H. Dethlers

Twofold land policy under British

- 1- focused on government land management
 - ▶ Systematic government land surveys
- 2- establishing a legal mechanism for private land transactions
 - ▶ Deeds registration system

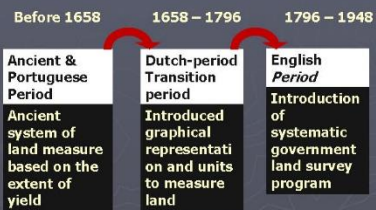
F. Dethlers

Evolution of Land Registration System



F. Dethlers

Evolution of Cadastral Survey System



H. Dethlers

Present context – Cadastral system in Sri Lanka

H. Dethlers

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Title Registration

- ▶ Two Major Components - Land Adjudication & Cadastral Surveying
- ▶ The Registration of Titles Act No.21 of 1998 was introduced in April 1998 as the legal base for the programme
- ▶ financially assisted by the World Bank from 2001 to 2006 and launched as a "learning and innovation project"

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Title Registration Program

- ▶ Since 2007, it has been a national programme under the Ministry of Land and Land Development
- ▶ During this initial compilation stage government subsidy the whole programme and no expense required from the landowners
- ▶ It was named as "Bim Saviya"

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Title Registration Program

- ▶ It has three key objectives

1. Introducing the title registration system
2. Establishing a digital land information system
3. Making arrangements to settle unsettled cases of land ownership

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Title Registration Program

- ▶ Four major government departments

Ministry of Land and Land Development	Land Adjudication Role in title registration - Determine and survey land boundaries Objectives - Individual property registration Operations - 87 personnel, 12 district and 111 regional survey offices
Ministry of Public Administration and Home Affairs	Land Information Department Role in title registration - Collect land ownership information Objectives - Information of land and provide land information Operations - 40 staff of 1 office
Ministry of Public Administration and Home Affairs	Land Information Department Role in title registration - Register of government land Objectives - Information of government land Operations - 83 personnel offices
Ministry of Public Administration and Home Affairs	Department of Land Management Role in title registration - Register land titles Objectives - Land and land management, registration and title Operations - 41 staff of land registration

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Problems and Limitations

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Political Influence

- ▶ Government support and their determination are vital for successful implementation of a titles registration system in a country
- ▶ Political environment of a country is highly influential for this type national programme

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Political Influence

- ▶ Area selection for implementing the titles registration programme
- ▶ There is no specific criterion for area selection laid by the Titles Registration Act; (section 1 of Registration of Titles act, No.21 of 1998).

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Political Influence

- ▶ If the implementation fails to reach the political aspirations, it is highly likely the politicians will lose their faith and rally against the programme
- ▶ Funding and necessary legal support are two major requirements for this type national level programme from the government

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Political Influence

- ▶ Developing economies like Sri Lanka, there are many other factors influenced on the government's decision of funding and legal support, for an example; political, social and economic stability of the country.
- ▶ In the civil War period, huge amount of funds drained to the war related issues. Since after the end of civil war in 2009, government mainly focus to address immediate development lags of the country

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Administrative issues

- ▶ *Many of the difficulties in titling land have been aggravated by shortcomings in the agencies responsible for land administration. These shortcomings are essentially bureaucratic obstacles, corruption and capacity limitations (Jones, 2010)*

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Administrative issues

- ▶ simple institutional setting for titles registration projects
- ▶ Land titles registration projects in Thailand, Indonesia, Lao People's Democratic Republic, and the El Salvador have been proved the single agency approach is highly successful

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Administrative issues

- ▶ This is because the goal of the whole project can easily manageable and having less ministerial influences
- ▶ The problem is that each agency focuses their own mandates, those are well established and tightly bond with individual organizational cultures
- ▶ It is highly likely to face extreme resistance or failures of any restructuring exercises in altering these mandates

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Administrative issues

- ▶ The World Bank exercise of titles registration introduction to Cameroon and Tunisia supplied an example
- ▶ Both the potential titles registration projects considered by the World Bank failed due to the complexities of institutional arrangements
- ▶ The institutional arrangement of the titles registration programme in Sri Lanka resulted many practical problems in the field

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Administrative issues

- ▶ Incompatibilities and poor coordination between departmental and titles registration programmes' norms and targets
- ▶ Tight regulations imposed by some departments
- ▶ It seems that the departmental structure is decentralised but not the decision making power
- ▶ It is administratively beneficial to decentralise the decision making power as well, at least up to the divisional level

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Capacity issues

- ▶ professional land surveyors do not play a major role in the deeds based cadastral system in Sri Lanka
- ▶ the titles based cadastral system is dominated by them
- ▶ Successful completion and rapid furtherance of the systematic and updated cadastral system mainly depends on the number of professional surveyors involved in the cadastral related matters

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Capacity issues

- ▶ At present, there are around 1000 private professional surveyors and around 800 government surveyors operating in Sri Lanka
- ▶ Around 350 government surveyors and around 200 private professional surveyors involve in titles registration related matters
- ▶ Generally the government surveyors' monthly norm is to complete survey of 40 land parcels

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Capacity issues

- ▶ Education and training
- ▶ Involvement of the private sector
- ▶ Optimise available human resource
- ▶ Alternative cadastral surveying and mapping technologies

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Legal issues

- ▶ Ancient Sri Lankan society was strongly affiliated with land and was considered land as a social asset rather than a private property
- ▶ The traditional land tenure system was based on kingship nexus
- ▶ The country was under some form of western power for 443 years before independence in 1948
- ▶ The ancient land tenure system was shaped by each foreign power in different proportions in the pursuit of profit from the resources of the country

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Five Factors to Consider

- ▶ the remains of the ancient forms of land tenure
- ▶ post-administration failures of land ownership reform policies
- ▶ rudimentary type of deeds registration system
- ▶ undivided shares of land ownership
- ▶ different land laws practicing for intestate succession

Survey Profession in Sri Lanka

NMO

- ▶ Survey Department is the national mapping organization in Sri Lanka and headed by the Surveyor General
- ▶ The Department is mainly responsible to fulfil the land survey requirement of the Government
- ▶ Survey Act No. 17 of 2002 is in force to regulate the surveying profession in Sri Lanka

Land Survey Council

- ▶ The Land Survey Council (LSC) was first established in year 2003 by fulfilling the requirement of the Survey Act No. 17 of 2002
- ▶ The duties and functions of the Council vested mainly to the development of the land surveying profession in regulating surveying education and training, accrediting and maintaining professional standards, procedures and ethics.

Land Survey Council

There are seven members in the council as,

- ▶ the Surveyor General as ex-officio chairman,
- ▶ the Additional Surveyor General as ex-officio Vice-Chairman,
- ▶ the Director of Institute of Surveying and Mapping (ISM) as ex-officio member,
- ▶ three registered surveyors nominated by the Surveyors Institute of Sri Lanka (SISL) as members and
- ▶ one academic representative from University Grant Commission of Sri Lanka as a member.

Survey Institute of Sri Lanka

- ▶ Survey Institute of Sri Lanka is the professional surveyors' organization in the country
- ▶ The membership of the Institute is gradually grown up from 20 at the inception to 970 at present (<http://sisl.lk/>).
- ▶ It is a founder member of the Commonwealth Association of Surveying & Land Economy and the Organization of Professional Associations

How to become a professional surveyor in Sri Lanka ?

Employability

- ▶ Employment rate is 100%
- ▶ Around half of the graduates – working in government sector (mainly the Survey Department)
- ▶ Around one quarter of the graduates are working in private sector (local)
- ▶ Around one quarter of the graduates - foreign employment

Problems facing by surveying graduates

There are four main entities when considering the surveying profession in Sri Lanka as;

- ▶ Education and training – Sabaragamuwa University of Sri Lanka
- ▶ National Mapping Organization – Survey Department
- ▶ Professional Surveyors Organization – Survey Institute of Sri Lanka
- ▶ Governing Body – Land Survey Council and the Survey Act No. 17 of 2002

Problems facing by surveying graduates

- ▶ Unhealthy cooperation and collaboration of these key entities create major problems which hinder the development of the surveying profession in the country
- ▶ Narrow path is available to become a survey professional in Sri Lanka

Problems facing by surveying graduates

- ▶ Unavailability of well-defined, clear and democratic criteria to get the practical qualification to the level of satisfaction of the Land Survey Council (LSC)
- ▶ The number of academically qualified surveying graduates entering the job market annually is around 50 or more

Problems facing by surveying graduates

- ▶ The only avenue available for an academically qualified person to get this practical training is to join with the Survey Department
- ▶ There are around 150 surveying graduates seeking this training opportunity to date

Problems facing by surveying graduates

- ▶ The Department is not willing to absorb that number of cadre to the Department due to funds and resources limitations
- ▶ The accumulated result of all the above mentioned consequences are academically qualified surveyors in the surveying industry doing land surveys but not having professional acceptance (legally and from the professional organization)

Problems facing by surveying graduates

- ▶ With this negligence of absorbing academically qualified surveying graduates to the profession, many of them seek overseas job opportunities
- ▶ Sri Lanka provides entry level surveyors for international job market but fails to absorb their portion in to the surveying industry
- ▶ The situation is further exaggerated with the vacuum of the qualified surveying professionals created by the land title registration program in Sri Lanka