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நில அளவைச் சஞ்சிகை

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THE FRONT COVER



Over the past thirty years, Asian Association on Remote Sensing (AARS) has advanced to an internationally recognized conference, providing useful information to people all over the world.

The twenty-ninth Asian Conference on Remote Sensing (ACRS) was successfully held at Galadari Hotel, in Sri Lanka 10-14 November 2008. Sri Lanka had the honour to host the conference for the third time. This conference was jointly organized by Survey Department and AARS.

The cover page shows the welcoming address of twenty-ninth ACRS in Sri Lanka by Mr. B.J.P. Mendis, Surveyor General and Executive Chairman of the Organizing Committee of the Conference.

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EDITOR

G.D.S.K. Gunaratne
 Snr. Supdt. of Surveys,
 Research & Development Branch,
 P.O. Box 506, Surveyor General's Office,
 Colombo 05, Sri Lanka,
 Tel: +94-11-2368602, Fax: +94-11-2368601
 E-mail: ssrd@sltnet.lk

A GLIMPSE OF THE 29th ASIAN CONFERENCE ON REMOTE SENSING

by

Dr. K.Thavalingam

Additional Surveyor General (Central)

Surveyor General's Office, P.O. Box 506, Colombo 05, Sri Lanka.

Email : sgadd@sltnet.lk

The Birth of Asian Conference on Remote Sensing (ACRS)

In the late 1970's, the ERIM Symposium was the most famous one where information on the latest and most advanced remote sensing technologies was exchanged amongst leading specialists in the field. Therefore, many Asian remote sensing scientists gathered at Manila in 1978 to attend the first ERIM Symposium held in Asia. Two years later, in 1980, the ERIM Symposium was held in San Jose, Costa Rica.

During the Symposium, Prof. Shunji Murai invited some of the Asian scientists including Prof. Yong Shi-ren and Prof. Chen Qi-chen, China Mainland; Prof. K. M. Chiao and Prof. A. J. Chen, China Taipei; Mr. Manu Omakupt, Thailand and Mr. C. Nanayakkara, Sri Lanka, to a party.

Towards the end of the party, Mr. Manu Omakupt lamented : "Why did Asians have to travel all the way to San Jose just to attend a symposium on remote sensing?"

The answer was simple: there were no Conferences on Remote Sensing organized in Asia by Asians.

This triggered heated discussions and it was finally agreed that it was time to organize an Asian Conference on Remote Sensing (ACRS). The following decisions were made:-

- The first conference should be organized in an Asian country in 1980.
- The venue should not be Japan but a developing country in Asia. Because it is very expensive to have it in Japan. In addition it provides an opportunity for Japanese to visit Asia, establish rapport and understand their culture and way of life.
- The conference should be an annual event.
- The conference should not be Western oriented and have Asian identity.
- Prof Shunji Murai would be the coordinator of the first conference because Japanese should contribute to Asian people as secretariat.

Since 1980, ACRS has been held every year in Asian countries/regions continuously for the last 28 years. Bangkok was chosen as the venue of the first ACRS. The following are the countries, where the conferences were held in a systematic manner

| | | | | |
|--------------|-------------------------|-------------------------|-------------------------|-------------------------|
| Thailand | 1 st (1980) | 9 th (1988) | 16 th (1995) | 25 th (2004) |
| China | 2 nd (1981) | 11 th (1990) | 20 th (1999) | 30 th (2009) |
| Sri Lanka | 4 th (1983) | 17 th (1996) | 29 th (2008) | |
| Malaysia | 10 th (1989) | 18 th (1997) | 28 th (2007) | |
| Nepal | 5 th (1984) | 23 rd (2002) | | |
| Singapore | 12 th (1991) | 22 nd (2001) | | |
| Mongolia | 13 th (1992) | 27 th (2006) | | |
| India | 6 th (1985) | 15 th (1994) | | |
| South Korea | 7 th (1986) | 24 th (2003) | | |
| China Taipei | 21 st (2000) | | | |
| Bangladesh | 3 rd (1982) | | | |
| Iran | 14 th (1993) | | | |
| Indonesia | 8 th (1987) | | | |
| Philippines | 19 th (1998) | | | |
| Vietnam | 26 th (2005) | | | |

The twenty-ninth ACRS was successfully held at Galadari Hotel, in Sri Lanka 10-14 November 2008. Sri Lanka had the honour to host the conference for the third time. This conference was jointly organized by Survey Department and Asian Association on Remote Sensing (AARS).

In 1983, the fourth ACRS was held in Sri Lanka when late Mr.S.D.F.C Nanayakkara was the Surveyor General. Its inaugural Ceremony was held at the BMICH and subsequent technical sessions at the Pegasus Reef Hotel, Wattala. The 4th ACRS was inaugurated by His Excellency the late J.R. Jayawardena, President of the Democratic Socialist Republic of Sri Lanka. The late Mr. Gamini Dissanayake, Hon. Minister of Lands, Land Development and Mahaweli development was one of the principal speakers at the inaugural ceremony.

In 1996, the seventeenth ACRS was held at the Lanka Oberoi Hotel in Sri Lanka when Mr.M.P. Salgado was the Surveyor General. Honourable D.M. Jayaratne, then Minister of Agriculture, Lands and Forestry of Sri Lanka inaugurated the conference. Mr.D.M. Ariyaratne, Secretary, Ministry of Agriculture, Lands and Forestry, was one of the main speakers at the inaugural session.

This time in the year 2008, Mr. J.R.W. Dissanayake Secretary, Ministry of Land and Land Development inaugurated the 29th ACRS. Among the speakers at the opening session were Prof. Shunji Murai, Secretary General, AARS, Prof. Orhan Altan, President, International Society For Photogrammetry and Remote Sensing and Mr. B.J.P. Mendis Surveyor General and Executive Chairman of the Organizing Committee of the Conference. A large number of participants from Asian and non-Asian countries and other organizations participated in the 29th ACRS.

The objectives of the 29th ACRS were:

- To discuss Asian problems in remote Sensing and GIS
- To exchange academic, applications and technical information
- To promote regional cooperation among member countries and
- To promote operational applications of remote Sensing and space technology.

The conference programme included Keynote speeches, Plenary Sessions, Student Sessions, Poster Sessions, AIT workshop, ERDAS Workshop, ITC workshop, White Elephant Session and commercial exhibitions.

The contents of technical presentations high lighted with the applications of Remote Sensing to Forest Resources, Asian Tsunami, DEM/3D Generation, Coastal Zone/ Fisheries, Water Resources, Data processing, Digital Image Processing, Disaster risk mitigation, Global Environment and GIS applications in Social themes, Land Use/ Land Cover, GIS application in Resource Management / Change detection and GIS decision Support and Models. The organizing committee selected three best speakers and also two best posters among the exhibits.

The White Elephant Session was held in the afternoon of Tuesday with eminent professors with a focus upon Thesis Writing, Project Proposal Writing, Presentation Techniques and Economic Aspects of Photogrammetry and Remote Sensing, which are fundamental issue, to all scientists. White Elephants were Emeritus Professor Gottfried Konecny, Prof. Armin Gruen, Professor Ian Dowman and Prof. Shunji Murai.

A visit to Sri Lanka Survey Department, mainly technical one, was organized by the Organizing Committee.

Two sessions of the Annual General Conference of the AARS were also held on 11th and 13th under the Chairmanship of Mr. B.J.P. Mendis Surveyor General and Executive Chairman of the Organizing Committee of the Conference.

ITC Alumni Cocktail at main Hall was organized on 12th of November.

One of the important events of the 29th ACRS was the Welcome Dinner hosted by us to honour the conference participants and delegates. We organized a cultural event in two parts. The first was meant to exhibit our local culture through professional artists. A significant feature of the cultural show was the synthesis of Upcountry, Low country and Sabaragamuwa dancing and drumming, which was an excellent entertainment of foreign delegates and participants. The cultural show presented by the participants of the conference added fun and glamour to the occasion. The country representatives wearing their native costumes danced to the rhythm of the music and enlivened the audience. At the end of the show, Prof. Shunji Murai gave away awards of cash prizes out of his own pocket to first three best performer countries based on the evaluation made by the panel of judges. . The first prize was won by Sri Lankan participants, who staged a drama, which is based on the Sinhala film released in 1947.

During the closing ceremony, Prof. Shunji Murai expressed the gratitude of the AARS to the host organizers for successfully holding the Conference. He appreciated the coordinator, Local Organizing Committee of ACRS 2008, for his hard work and excellent e-mail correspondences with foreign participants better than ever before. He further noted that this is the first time the organizing committee of ACRS displayed the history of ACRS. It is a novel and excellent idea to recollect the past conferences. He made a request to continue to maintain this History Album in future as well. The representative from China extended his country's invitation for everyone to participate in the next ACRS to be held in China.

During the entire period, the goodwill and the spirit established by the scientists of various countries, and the good network of human relationships were bonded among all. The social evening of the conference took a great step in the formation of rapport and understanding.

The conference always keeps an open policy to all scientists and rapport topics of discussion are not only concentrated on remote Sensing but also concerned other technologies and applications of spatial information like GIS, GPS and network.

Over the past twenty eight years ACRS has advanced to an internationally recognized conference, providing useful information to people all over the world. We hope that the ACRS conferences will continue to grow and that one day may encompass quarter of the Universe.

All departmental staff coordinated and co-operated as one team for the success of the conference. There is no "I" in this Team work.

"Teamwork is the ability to work as a group toward a common vision, even if that vision becomes extremely blurry"

----- *END* -----

JOKE:

Engine Trouble

Udurawana was on board in a plane from Colombo to New York

Fifteen minutes into the flight, the captain announced, "Ladies and gentlemen, one of our engines has failed, but we still have three engines left. So there is nothing to worry about. Our flight will take an hour longer than scheduled,."

Thirty minutes later the captain announced, "One more engine has failed and the flight will take an additional two hours. But don't worry, we can fly just fine on two engines."

An hour later the captain announced, "One more engine has failed and our arrival will be delayed another hour. But don't worry, we still have one more engine left."

Udurawana turned to the man in the next seat and sighed, "If we lose the last engine also, we'll have to be up in the air forever !"

**ඉඩම් හිමිකම් ලියාපදිංචි කිරීමෙහි ලා
මිනින්දෝරු දෙපාර්තමේන්තුවේ කාර්යභාරය**

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වර්ෂ 1800 අගෝස්තු මස 02 වන දින මිනින්දෝරු දෙපාර්තමේන්තුව ආරම්භ කළ දින සිට විවිධ කාර්යයන් සඳහා ලංකාවේ ඉඩම් මැන පිඹුරුගත කිරීම සිදුකරන ලදී. මෙසේ මනින ලද ඉඩම් පිළිබඳ මිනින්දෝරු දෙපාර්තමේන්තුව තුළ ලේඛණගත කිරීමේ ක්‍රියාවලියක් පැවතුනද පෞද්ගලික ඉඩම්, රජයේ ඉඩම් හෝ සමාගම් සතු ඉඩම් ලියාපදිංචි කිරීමේ ක්‍රමයක් 1860 ගණන් වන තෙක්ම නොපැවතුණි.

ඉඩම් ලියාපදිංචියේ විවිධ අවස්ථා

- ◆ රජවරුන්ගේ පාලන කාලවලදී ඉඩම් වල අයිතිය රජු යටතේ පැවති අතර වගා කිරීම සඳහා ඒ ඒ අයට පවරන ලදී. එම අස්වැන්නේ කොටසක් පාලකයාට හිමිවිය. මේවා පසුකාලයක "ගබඩා ගම්" ලෙස හඳුන්වන ලදී. මේවා ලිඛිතව ලියාපදිංචි නොකළත් ව්‍යවහාරයේ පැවතුණි.
- ◆ දේවානම් පියතිස්ස රජු යටතේ ඇතුළු පිට බැඳි නගලකින් මායිම් සලකුණු කර මහාසංඝයා වහන්සේලාට මහමෙවුනා උයන වෙන්කර දීම රජකාලයේ හිමිකම් ලියාපදිංචි කිරීම පිළිබඳ හොඳම නිදසුනකි.
- ◆ රජවරුන් සඳහා පක්ෂපාතිව වැඩකළ අය සඳහා පවරා දුන් ඉඩම් "නින්දගම්" ලෙසද හිමිකම් තහවුරු කර දී තිබුණි.
- ◆ විහාර දේවාල වල පැවැත්ම සඳහා පවරා දෙන ලද ඉඩම් විහාර දේවාල ගම් ලෙස සන්නස් පත්‍රවල ලියා වෙන්කර දීමට කටයුතු කරන ලදී.
- ◆ එක් ජනවර්ගයක් හෝ ගම්මුත් විසින් කාලයක් හුක්ති විදීමේ ආ ඉඩම් "පරවේණි" ඉඩම් ලෙස ව්‍යවහාරයේ පැවතුන අතර ඒවා එලෙස වෙන්කර දී තිබුණි.
- ◆ ඒ හා සමකාලීනව සෙල්ලිපි වලින් ලියා දුන් ඉඩම් ලියාපදිංචියක් ද මුල් කාලයේ දැකිය හැකි වන අතර එය පසුව තඹ පත්‍රවල, සන්නස් පත්‍රවල ලියා වෙන්කර දීමේ ලියාපදිංචි ක්‍රමයක් පැවතුණි.
- ◆ මහනුවර යුගය වන විට මෙම ඉඩම් පිළිබඳ ලේඛණ "ලේකම්මිති" යනුවෙන් හඳුන්වන ලදී.
- ◆ පෘතුගීසි අවධිය වන විට මෙම ඉඩම් වෙන් කරදීම "තෝම්ඹු" මාර්ගයෙන් සිදුකළ බව සාක්ෂි ඇත.
- ◆ ඉංග්‍රීසි පාලන සමය වනවිට එක් එක් අයට ඉඩම් වෙන්කර ලියාපදිංචි කිරීමේ අවශ්‍යතාවය වඩාත් උත්සන්න විය.
- ◆ මේ තිසාම ඉඩම් කළමනාකරණය පිළිබඳ මූලිකම ඇතිකළ ආඥා පනතක් ලෙස "රජයේ ඉඩම් අනවසරයෙන් අල්ලාගැනීම වැළැක්වීමේ ආඥාපනත" ඉදිරිපත් කරන ලදී.

මෙම ආඥා පනත යටතේ කිසිවකු විසින් අයිතිවාසිකමක් ඉදිරිපත් නොකරන ඉඩම් සියල්ලක්ම රජයට අයත් බව ප්‍රකාශ කරන ලදී. මෙයද එක්තරා අන්දමක හිමිකම් ලියාපදිංචි කිරීමේ අවස්ථාවක් ලෙස සැලකිය හැක.

මෙලෙස රජයට අයත් ලෙස සලකන ලද ඉඩම් වටින් වර එක් එක් අයගේ ඉල්ලීම මත මිනින්දෝරු දෙපාර්තමේන්තුව විසින් හිමිකම් පිඹුරු සකස් කිරීමෙන් පසුව ඉංග්‍රීසි ආණ්ඩුව විසින් පුද්ගලයන්ට පවරා දීම සිදුකරන ලදී.

මෙලෙස පිඹුරු සකස් කර හිමිකම් ලියාපදිංචි කිරීම ආරම්භ කිරීමට මුලදී අදහස් කලේ ඉඩම් සඳහා පැවති ඉල්ලුම අධික වීමත් ඒ හා සමගම හිමිකම් පිඹුරු සකස් කිරීමේ අපහසුතාවයත් නිසා ඉඩම් ලියාපදිංචි කිරීම සඳහා ඔප්පු නිකුත් කිරීමේ ක්‍රියාවලිය 1863 අංක 8 දරණ ලේඛණ ලියාපදිංචි කිරීමේ ආඥාපනත යටතේ ආරම්භ විය. මේ සඳහා 1866, 1877 වසර වල කරන ලද සංශෝධන මගින් සන්නස්, ඉඩමකට හිමිකම් කියන වෙනත් පැරණි ලේඛණ, තල්පත් වල ලියු හිමිකම් වැනි දෑ ලේඛණ ගත කිරීම ආරම්භ කරන ලදී.

මේ අනුව බලන කල හිමිකම් ලියාපදිංචිය පිළිබඳ සංකල්පය සහ අවශ්‍යතාවය 1860 ගණන් වල ඇතිවූවක් බව පෙනේ. ලේඛණ ලියාපදිංචිය යටතේ ඉඩම් ඔප්පු ලියාපදිංචි කිරීම ආරම්භ කළ ද 1927 දී පත්කරන ලද ඉඩම් කොමිසම මගින් ද හිමිකම් ලියාපදිංචියේ වැදගත්කම අවධාරණය කර තිබුණි මෙම ඉඩම් කොමිසමේ සාමාජිකයන් වූයේ L.H. එල්පින්ස්ටන් (ඇටෝර්නි ජනරාල් - සහාපති), C.V. ඩ්‍රේන් (ආදායම් පාලක), M.T. අක්බාට් (සොලිසිටර් ජනරාල්), A.H.G. ඩෝසන් (මැනුම්පති), M.T. ආකිබෝල්ට් (ඉඩම් නිරවුල් කිරීමේ නිලධාරී), සර් D.B. ජයතිලක, K.

බාලසිංහම්, D.S. සේනානායක, D.H. කොතලාවල, A.F. මොලමුදේ, H.M. මාකස්, P.B. රඹුක්වැල්ලේ, E.R. තම්බිලුන්තු, V.S.D.S. වික්‍රමනායක, W. දොරේසාමි යන ප්‍රභූන්ගෙන් සමන්විත විය.

මෙම කොමිසම විසින් ඉඩමකට පිඹුරක් නොමැතිව කිසියම් හෝ අයුරකින් ඉඩම් නිරවුල් කිරීමක් කළ නොහැකි බවත් නීතියක් වශයෙන්ම ඉඩම පැවති ගමෙහි පිඹුරක් සකස් කර, එහි එක් එක් ඒකකයක් ලෙස ඉඩම් පෙන්නුම් කළයුතු බවද නිර්දේශ කරන ලදී. ලේඛණ ලියාපදිංචි කිරීමේ ආඥාපනතේ ඇති දුර්වලතා මගහරවා ගැනීම සඳහා 1928 දී ද එය නැවත සංශෝධනය කරන ලදී. මේ කාලය තුළ දෙවන ලෝක යුද්ධය ඇතිවීම, ඉඩම් මැනීම සඳහා වැය වන අධික වියදම සහ හිමිකම් ලියාපදිංචි කිරීමේ නව ක්‍රමයක් සඳහා ආයතන ව්‍යුහය සකස් වී නොතිබීම නිසාත් "හිමිකම් ලියාපදිංචි කිරීමේ ක්‍රමයක්" ඇතිවීම පස්සට තල්ලුවිය.

නැවත වතාවක් 1955 දී පත්කරන ලද දෙවන ඉඩම් කොමිසන් සභා වාර්තාවෙන්ද "හිමිකම් ලියාපදිංචිය" පිළිබඳව අවධාරණය කර සිටියත් විවිධ හේතූන් මත නැවත වතාවක් "හිමිකම් ලියාපදිංචි කිරීමේ ක්‍රමය" ප්‍රමාදවන්තට විය.

නැවත වතාවක් 1987 පත්කරන ලද ජාතික ඉඩම් කොමිසම මගින් ඉදිරිපත් කරන ලද අතුරු වාර්තාවෙන් "හිමිකම් ලියාපදිංචි කිරීමේ ක්‍රමය" අතිවාර්ෂයෙන්ම කළයුත්තක් බව පෙන්වා දෙන ලදී. අවුරුදු 100ක් පමණ විවිධ මතභේද වලට හා තර්ක විතර්ක වලට භාජනය වීමෙන් පසුව ඉඩම් ලියාපදිංචි කිරීමේදී නිරවුල් හිමිකම් ලියාපදිංචි නොවීම සහ පවතින ඔප්පු ක්‍රමය තුළින් නිර්මාණය වී ඇති විවිධ ගැටළු නිසා ශ්‍රී ලංකාවේ ඉඩම් හිමිකම් ඇලුතින් ලියාපදිංචි කිරීමේ ක්‍රමයක අවශ්‍යතාවය ඉතා දැඩිව ඉදිරිපත් විය. ඊටත් දශකයකට පමණ පසුව 1998 අංක 21 දරණ හිමිකම් ලියාපදිංචි කිරීමේ පනත සම්මත කර ගැනීමට එවකට සිටි ඉඩම් ඇමතිවරයාට හැකියාව ලැබීම ශ්‍රී ලංකාවේ ඉඩම් කළමනාකරණයේ සුවිශේෂී අවස්ථාවක් ලෙස හැඳින්විය හැක.

හිමිකම් ලියාපදිංචි කිරීම සඳහා මිනිත්දෝරු දෙපාර්තමේන්තුවේ කාර්යභාරය

1998 අංක 21 දරණ හිමිකම් ලියාපදිංචි කිරීමේ පනතේ පහත සඳහන් වගන්තින් හිමිකම් ලියාපදිංචිය සඳහා ඉඩමක් මැන පිඹුරු සකස් කිරීම සඳහා බලපවත්වන්නේය.

- ◆ හිමිකම් රෙජිස්ටරයක ලේඛණගත කිරීමේ ඒකකය කැඩස්තර සිතියමේ පෙන්නුම් කර ඇති ඉඩම් කොටසක් විය යුතු බව 4වන වගන්තියෙන් දැක්වේ.
- ◆ ලියාපදිංචි කිරීම, ඒ ඉඩමේ කොටසක් හිමිකමට අදාළ නියමිත විස්තර, හිමිකම් රෙජිස්ටරයේ සටහන් කිරීමෙන් ක්‍රියාත්මක කළයුතු බව 5වන වගන්තියෙන් දැක්වේ.
- ◆ මෙම පනත යටතේ සෑම ඉඩම් කොටසකම හිමිකම් ලියාපදිංචි කිරීම, තත්කාර්ය සඳහා සකස් කරන ලද කැඩස්තර සිතියම අනුව විය යුතු බව 10වන වගන්තියෙන් දැක්වේ.
- ◆ හිමිකම් ලියාපදිංචි කිරීමේ පනතේ 1වන වගන්තිය යටතේ ප්‍රකාශයට පත්කරනු ලබන ප්‍රදේශයක් සඳහා කැඩස්තර සිතියම සකස් කරන ලෙස හිමිකම් නිරවුල් කිරීමේ කොමසාරිස්වරයා විසින් ඉල්ලා සිටීමෙන් පසුව එම ප්‍රදේශය සඳහා කැඩස්තර සිතියම සකස් කර එම සිතියම වල සහතික පිටපත් හිමිකම් නිරවුල් කිරීමේ කොමසාරිස් වෙත ලැබීමට සැලැස්විය යුතුබව 11වන වගන්තියෙන් දැක්වේ.
- ◆ පසුව කරන ලද තීරණ පෙන්නුම් කිරීම පිණිස කැඩස්තර සිතියම සඳහා අතිරේක මැනුම් කළයුතු වේ නම් එය සිදුකර මායිම් සම්බන්ධයෙන් අවශ්‍ය විග්‍රහ කිරීමක් හිමිකම් නිරවුල් කිරීමේ කොමසාරිස් වරයා විසින් මැණුම්පතිවරයාගෙන් ඉල්ලා සිටිය යුතු බව 23වන වගන්තියේ I කොටසින් දැක්වේ.
- ◆ එම සංශෝධන හා මායිම් පිළිබඳ විග්‍රහ කර සංශෝධිත කැඩස්තර සිතියමක් හිමිකම් නිරවුල් කිරීමේ කොමසාරිස් වෙත යැවිය යුතුබව 23 වන වගන්තියේ II වන කොටසේ දැක්වේ.
- ◆ මේ පනත යටතේ යම් අතිරේක මැණුමක් අවශ්‍ය බව දිසා අධිකරණයක් මගින් දැන්වුවහොත් එම ආඥාව ක්‍රියාත්මක කළයුතු බව 25වන වගන්තියේ දැක්වේ.
- ◆ හිමිකම් ලියාපදිංචි කළ ඉඩමක් කොටස් කිරීම සහ හිමිකම් ලියාපදිංචි කළ ඉඩම් කැබලි දෙකක් ඒකාබද්ධ කිරීම සඳහා සැලැස්මක් සකස් කළ හැකිබව 36වන වගන්තියෙන් දැක්වේ.
- ◆ සභාධිපතිය දේපළ ලියාපදිංචි කිරීම සඳහාද ගොඩනැගිලිවල සිරස් අතුරු බෙදීම පෙන්වන පිඹුරක් සකස් කළ යුතුබව 50 වන වගන්තියෙන් දැක්වේ.
- ◆ සභාධිපතිය පිඹුරු මැනුම්පතිවරයා වෙනුවෙන් සහතික කර ඉදිරිපත් කිරීම පිළිබඳව 51වන වගන්තියෙන් දැක්වේ.

ඊට අමතරව පවතින වෙනත් අණපනත් යටතේ මිනිත්දෝරු දෙපාර්තමේන්තුවට පැවරී ඇති බලතල ද මෙම මැණුම් කිරීම සඳහා උපයෝගී වේ. මායිම්ගල් ආඥා පනත, ඉඩම් සංවර්ධන ආඥාපනත, ඉඩම් අත්කරගැනීමේ පනත ආදිය ඉන් සමහරක් වේ. මෙලෙස හිමිකම් ලියාපදිංචිය සඳහා අඥාපනතකින් සහ අනිකුත් අණපනත් වලින් ලැබීඇති බලය අනුව කඩඉම් සිතියම සකස් කිරීම මිනිත්දෝරු දෙපාර්තමේන්තුව සතු කාර්යභාරයකි.

මෙහිදී මෙම ක්‍රියාවලිය සමස්ථ දිවයින පුරා සම්පූර්ණ කිරීමේ අවසන් විවිධ අවස්ථාවල විවිධ අන්තරාකූලීම් සිදුකරන ලදී. මෙම අන්තරාකූලීම් වලින් ලබාගත් ප්‍රතිඵල සහ ඒවායින් ලැබූ අමිනිටි ප්‍රතිඵල පිළිබඳව මෙම ලිපිය තුළ සාකච්ඡා කිරීමට අවස්ථාවක් නොමැති අතර ඉදිරි කලාප වලදී ඒ පිළිබඳ විස්තර ඉදිරිපත් කිරීමට උත්සහ කරමි. කෙසේ වෙතත් හිමිකම් ලියාපදිංචි කිරීම සඳහා කඩඉම් සිතියම් සෑකසීමේ ක්‍රියාවලිය මිනින්නදෝරු දෙපාර්තමේන්තුවේ වගකීමක් වන අතර එතුලින් දෙපාර්තමේන්තුවේ කටයුතු මහජනයා වෙතට ගෙන යාමේ අවස්ථාවද උදාවේ. 1935 දී පමණ ගම් පිඹුරු සකස් කිරීමේ දී මුළු ලංකාවම මැනීමේ ක්‍රියාවලිය ආරම්භ වුවද යම් යම් ගැටළු නිසා මුළු ලංකාවම පිඹුරුගත කිරීමට මිනින්නදෝරු දෙපාර්තමේන්තුවට නොහැකි විය. ඒ නිසාම පිඹුරුගත නොකළ ප්‍රදේශ නොමනින ලද ප්‍රදේශ (මූලික පිඹුරු ප්‍රදේශ) ලෙස පවත්වාගෙන යාමටත් සමහර ප්‍රදේශ මූලික භූ ලක්ෂණාත්මක පිඹුරු සහ අවසාන භූලක්ෂණාත්මක පිඹුරු ලෙසින් අදටත් පවත්වාගෙන යාමට සිදුවී ඇත. මේනිසා ක්‍රමවත් පිඹුරු කළමනාකරණයක් සිදුකිරීම සහ ක්‍රමවත්ව මුළු ලංකාවේම පිඹුරු මහජනයා වෙත ලබාදීමට අපට හැකියාව ලැබී නොමැත. මෙම ගැටළු සියල්ලටම පිලිතුරක් වශයෙන් මුළු ලංකාවම කඩඉම් පිඹුරු ලෙස ඉදිරිපත් කිරීමේ භාරදුර වගකීම මිනින්නදෝරු දෙපාර්තමේන්තුව සතුව පවතින බව අප හොඳින් තේරුම් ගත යුතුව ඇත.

What is FIG?

FIG is the premier international organization representing the interests of surveyors worldwide. It is a federation of the national member associations and covers the whole range of professional fields within the global surveying community. It provides an international forum for discussion and development aiming to promote professional practice and standards.

FIG was founded in 1878 in Paris and was known as the Fèdèration Internationale des Gèometres. This has become anglicized to the International Federation of Surveyors. It is a UN-recognized non-government organization (NGO), representing more than 100 countries throughout the world, and its aim is to ensure that the disciplines of surveying and all who practise them meet the needs of the markets and communities that they serve.

The role of FIG

FIG’s activities are governed by a work plan, which is regularly reviewed against a longer-term strategic plan. The current work plan, titled “Building the Capacity”, which guides the Council and Commissions activities, focuses on the surveyor’s response to social, economic, technological and environmental change. FIG recognises the particular needs of capacity building in developing countries to meet the challenges of fighting poverty and developing a basis for a sustainable future. FIG also recognises that markets for surveyors’ services are constantly changing. The plan accordingly lays emphasis on strengthening professional institutions; promoting professional development; and encouraging surveyors to acquire new skills and techniques so that they may be properly equipped to meet the needs of society and the environment.

In general, FIG will strive to enhance the global standing of the surveying profession through both education and practice, increase political relations both at national and international level, help eradicating poverty, promote democratisation, and facilitate economic, social and environmental sustainability.

FIG COMMISSIONS

Ten commissions lead FIG’s technical work. Each member association appoints a delegate to each of the commissions. Detailed information on the work of the commissions, their work plans, working groups, seminars, newsletters and publications can be found at www.fig.net. The names of the commissions are as follows:

- Commission 1 - Professional Practice
- Commission 2 - Professional Education
- Commission 3 - Spatial Information Management
- Commission 4 - Hydrography
- Commission 5 - Positioning and Measurement
- Commission 6 - Engineering Surveys
- Commission 7 - Cadastre and Land Management
- Commission 8 - Spatial Planning and Development
- Commission 9 - Valuation and the Management of Real Estate
- Commission 10 - Construction Economics and Management

EDITOR

Mapping under SIIRM Project

by

A.A. Mohamed Aroos

Snr. Supdt.of.Surveys (Center for Remote Sensing)

Surveyor General's Office, P.O. Box 506, Colombo 05, Sri Lanka.

E-mail: aroos07976@alumni.itc.nl

1.0 What is SIIRM ?

SIIRM stands for **Spatial Information Infrastructure for Reconstruction Monitoring**. It aims to provide complete cartographic and GIS solutions from high resolution satellite imagery serving as the infrastructure basis for the implementation of re-construction oriented GIS applications development plans on priority townships along the coastal belt from Trincomalee to Galle. The components of this project are: **Mapping & Cartography, GIS Applications, Know how transfer and Technology transfer.**

The foreign agencies involved in this project are **FIT Group, FIT Conseil and IGNFI** (All as Consortium) of France and the beneficiaries are the **Survey Department** and the **Urban Development Authority.**

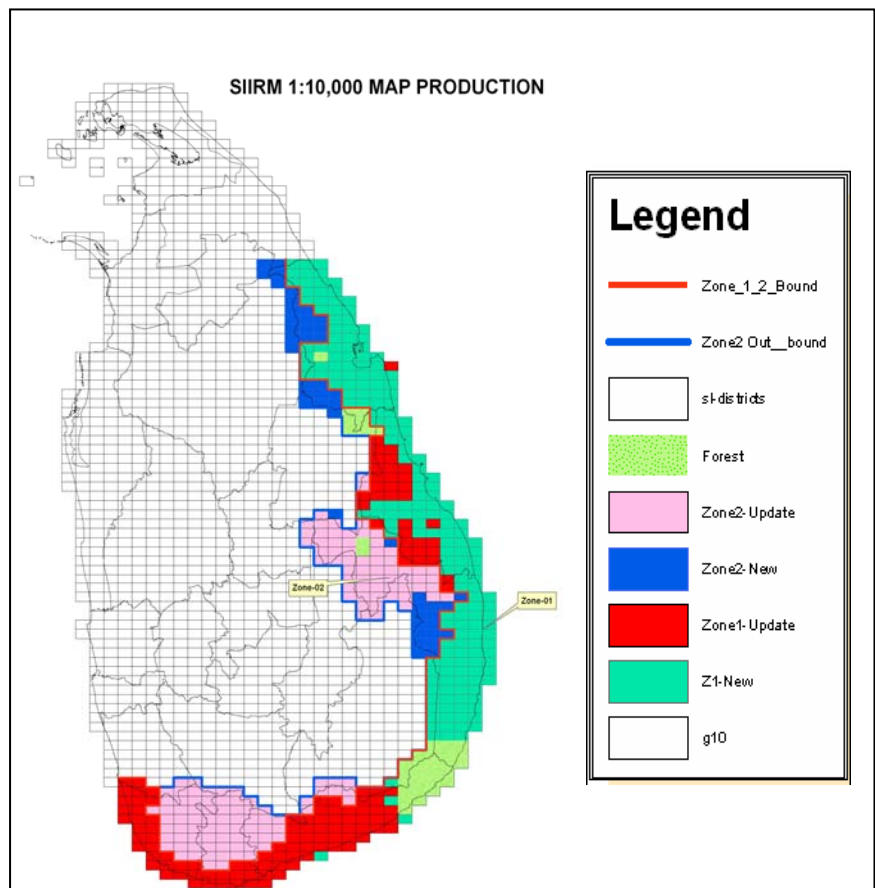
The Survey Department will play a key role in the implementation of the SIIRM project providing new and updated maps on the coastal areas. The production of data from high resolution satellite images will be the initial step leading to the achievement of the project objectives.

2.0 Project Locations

The project covers the area from Trincomalee to Galle stretching approx 499 Km of coast running through the districts Trincomalee, Batticaloa, Ampara, Hambanthotta, Matara and Galle

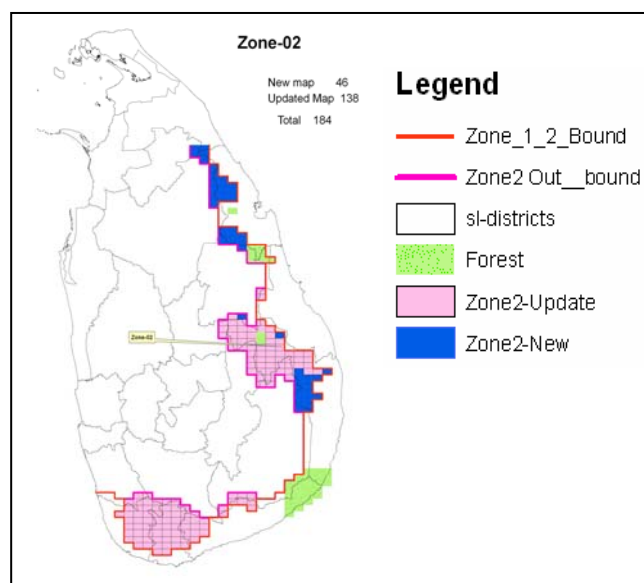
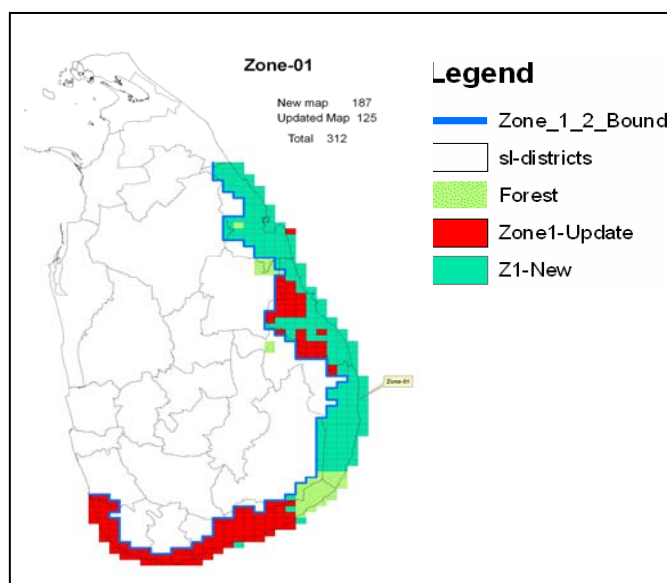
The project area has been divided into two zones as Zone-01 and Zone-02.

Zone-01 is handled by the Consortium and Zone-02 by Survey Department



Total Maps under Project

| Zone | New | Updated | Total |
|-------|-----|---------|------------|
| 01 | 187 | 125 | 312 |
| 02 | 46 | 138 | 184 |
| Total | 233 | 263 | 496 |



3.0 Mapping at Survey Department

The Survey Department has received the necessary hardware, Software and Training under this Project on 1:10,000 mapping using high resolution satellite images.

The **hardware** is mainly

Image database server, Data Server, Apple workstations (mono & Stereo), Plotter, Printer and GPS

The **software** mainly includes

Geo view, Arc GIS. Micro station & Erdas Imagine

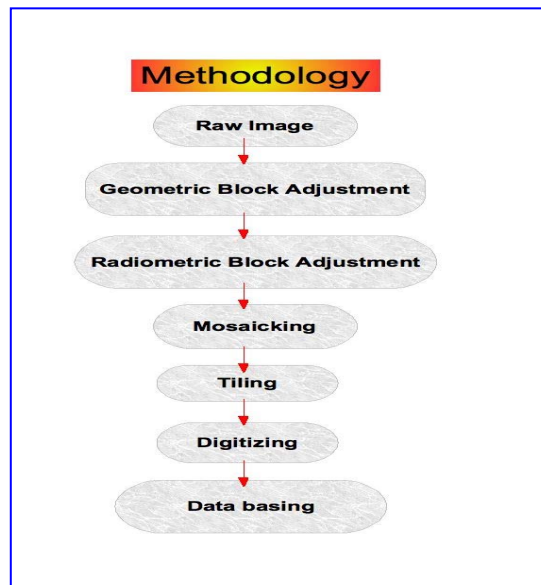
The **images** received are

Quick bird & SPOT covering the project area

The **training** includes

The image processing Software GeoView and Mac OS environment, Image Orthorectification, Mosaicking and Tiling, Arc GIS

3.1 Map production Methodology



3.2 Procedure

The necessary images were identified and converted into a special format **DMR** to work with the image processing software called **GeoView** (Product of IGN France) and the images were formed as a block in view of block adjustment . For the block adjustment two separate views were made as **Adjustment view** and **reference view** under the **Geoview** environment. The adjustment view comprises the DTM and the block of images while the reference view comprises of DTM and SPOT rectified images and available 1:10,000 digital Topographical data. Then the adjusted block was radio metrically corrected in order to reduce radiometric differences between images and to be visually interpretable .The radio metrically corrected block was then mosaicked and tiled. Then these tiles are used for digitizing in Arc GIS and finally the digitized data is databased having different feature classes.

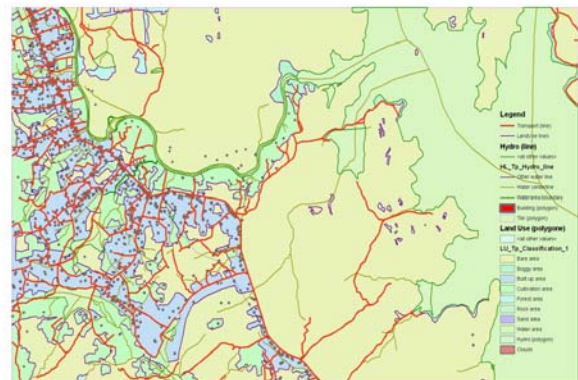
4.0 Output

Updated map (Sheet No 8316)

Ortho image



Updated Map



New Map (Sheet No 1710)

Ortho image



New Map



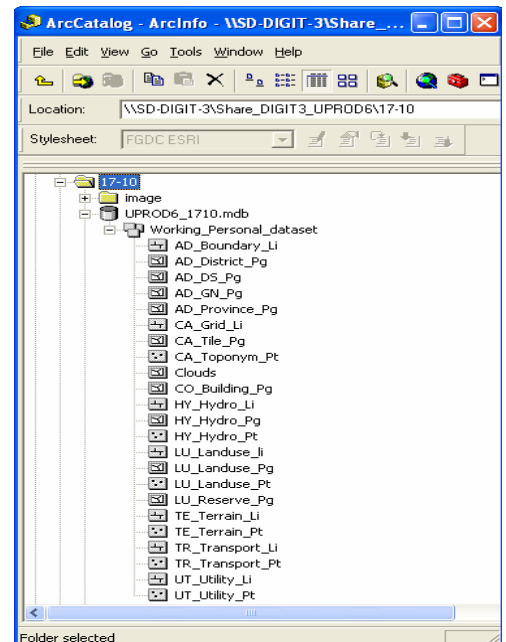
Geodatabase structure

Data extracted from Orthoimages in Arc GIS as per the Data production manuals given by the project and to the geodatabase structure shown aside. Mainly the **Buildings, Transport, Hydro** and **Land Use** features are extracted and other administrative boundaries, Toponyms and utilities feature classes are automatically processed from either 1:50,000 coverages or 1:10,000 available digital data. The Extracted data are then quality checked.

The quality check involves visual checking of Geometry and attributes of each and every feature classes, Non-intersection of Transport, Hydro and Building feature classes and Topology.

The produced Geodatabase is then to be uploaded into the Survey Department Geodatabase in ArcSDE server.

Geodatabase Structure



5.0 Conclusion

1. The block adjustment of quick bird images are carried out by the Staff of Center for Remote sensing under the on job training by IGN France through the image processing software Geo View.
2. The block adjustment highly depends on the DTM used .The quality of the DTM makes the geometrical shift on the block of images and the orthoimages produced are visually checked for geometrical shift before data extraction
3. In map updating , change detection from satellite images and some of Land Uses were not updated as those to be ascertained in the field and It will be more improved especially for land Use/Land cover if we attend field checks.
4. The geometric accuracy, which can be achieved for locating topographic object, is controlled by the accuracy of the geometric rectification of the images.
5. The edge matching between the data on Zone-01, Zone-02 and available data to be ascertained. The production of this data to be further processed with field verification in future in order to combine with available 1:10,000 topo data as the production is not involved any field verification.

----- **END** -----

Understanding the relationship between Surveying, Cadastre, Land Administration, Sustainable Development and The Good Governance

by

Anura Wijewardane

Snr. Supdt.of.Surveys (Southern Province)

Provincial Survey Office,Galle, Sri Lanka.

Email : dsgsp@sltnet.lk

1.0 Introduction

We get our basic requirements from the land mainly, food, water ,air, minerals , fuels and energy etc. Also we build our shelter and our entire culture on it, as such our religious and ethnic concerns are narrowly related to the land. We expect to manage our survival and the survival of our future generations too in more comfortable manner than ours on the land of this planet. Such survival is heavily dependent on the way how we interact with land of this planet. Therefore our activities and relationship with the land has become a vitally important concern in this era.

Land is the sphere where we perform almost all our day to day life activities and development tasks ranging from individual to national or even to international level. Such development activities heavily damage the earth resources mainly soil, water, forest and affect other environmental phenomena like bio diversity, air temperature and oson layer too. As such the development and protection of earth resources is likely to become a controversial issue. For managing and protecting earth resources including the environmental aspects, every country requires administration of land- man interaction such as use of land and development taken place on land etc, with well defined national policies. Further aspects of Land man relationship such as land tenure systems, rights and responsibilities, and management of all kinds of land related information, specially with its spatial embedment are of vital important as the basic infrastructure for managing land resources in every society in the modern world , if a sustainable development is desired.

1.1 Early Measures taken for Administering land - Man Interaction

The history of administering the mankind- land interaction and management of earth resources runs to the early era of the human civilization. Allocation of land for living and agriculture, survey of land and a system of land taxation could be found in the era of 'Egypt' or 'Nile' valley civilizations in between the era 1070 – 3100 BC and 'Hovanhoo' river valley civilization in between the era of 1000 – 1700 BC in China. Land tenure categories, land records and land taxation system exercised as a part of the governing machinery of Sri Lanka could be found even before the 5th centaury. Some of those land records known as 'Sannasa' were written on rock or on gold or copper sheets, and had been used to record and define land tenure categories known as 'Gabadagam' , 'Nindagam', 'Vihara Devalagam' and 'Paraveni' land. (It is interesting to note that lands remained under 'Nindagam' were settled as private lands after the Block Surveys with the provision of 'Nindagam' ordinance which is still a provision in the current Roman Dutch based law system prevailing in Sri Lanka. In the recent history, a systematic evolution of land administration functions such as land law systems, land tenure systems, surveying and mapping systems, property surveys, registration of ownership and taxation systems has been propagated , in many countries of the world in line with so called renaissance in Europe.

2.0 The Land Administration and Land Management in modern societies

Every resource, activity or process in and around our environment has to be managed properly for the sustainability and achievement. As the land is the only sphere where all our wealth and resources are generated; it should be managed with utmost attention and care. Therefore the importance of the management of land is a vital issue in every country in the world. Let us see what the land management is from the experts point of view in this context.

2.1 Land Management

- The management of all aspect of land including the formation of land policies (Dale & McLaughlin 1988)
- The process of managing the use and development of land resources in a sustainable way. (Bill Robertson, 1998)

Land management consists primarily the policy making, implementing policy including legal reform monitoring and gathering information and further monitoring and review of policy effectiveness.

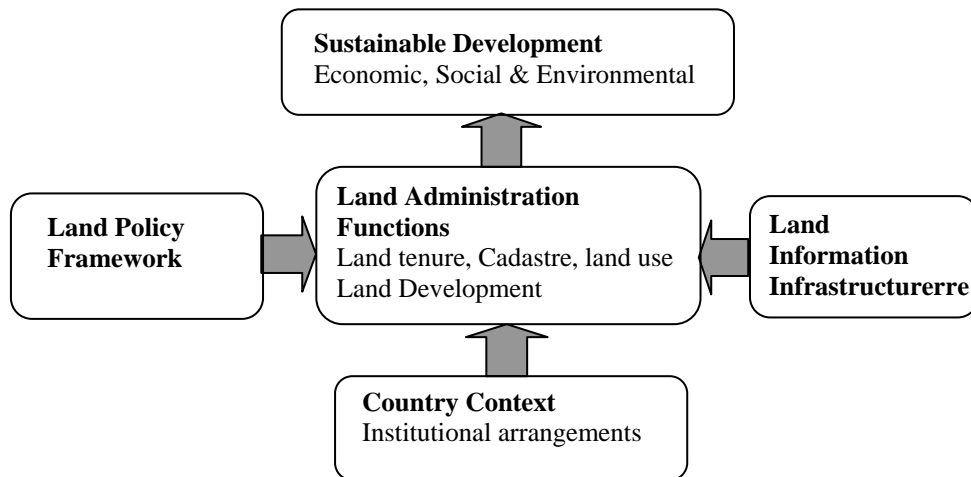


Figure I: The Land Management paradigm(Enemark & others 2005).

2.2 Land Administration

- The processes of regulating land and property development and the use and conservation of land, the gathering of revenues from the land through sales, leasing and taxation, and the resolving of conflicts concerning the ownership and use of land (Dale and McLaughlin, 1999).
- Land administration is the process of determining, recording and disseminating information about the tenure, value and use of land when implementing land management policies

It is considered to include land registration, cadastral surveying and mapping, fiscal, legal and multi-purpose cadastres and parcel based land information systems, and in many systems information supporting land use planning and valuation/land taxation systems(UN-ECE, 1996).

2.3 The Cadastre and Land Administration

- A cadastre is the core or basis of a land administration system and is defined as a parcel based and up-to-date land information system containing a record of interests in land (e.g. rights, restrictions and responsibilities). It usually includes a geometric description of land parcels linked to other records describing the nature of the interests, and ownership or control of those interests, and often the value of the parcel and its improvements (FIG, 1995).

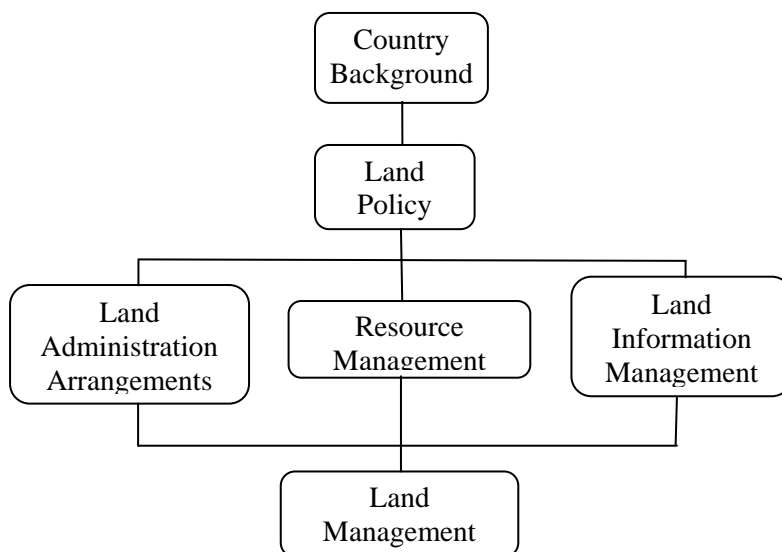


Figure II: Land Management arrangements (Dale and McLaughlin, 1999)

3.0 Remarkable impacts of poor Land Policy implementation :

- Lack of adequate planning and effective land administration,
- Lack of security of tenure and uncertainty in ownership and as such poor access to land.
- Lack of land information - particularly the legally supportive and parcel based information.
- Inappropriate land utilization,
- Lack of land for suitable urban developments,
- De forestation, pollution of soil and water,
- Destruction of environmental systems and related phenomena ,
- Increasing vulnerability to disasters.

3.1 Global challenges the Human societies faced with, in relation to Earth Resources:

- No more land for further uses - Almost all of the world's land and water resources available, for food production have already been put to use,
- 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,
- 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 soil has already affected 20% of the world's dry lands and put the livelihoods of one billion people at a risk,
- Global emission of CO₂ reached a new high of nearly 23.9 billion tones in 1996 – nearly four times the 1950 total. -(United Nations 2001)

4.0 The Good Governance and the Land Administration

Governance refers to the manner in which power exercised by the governments in managing a country's social, economical and, spatial resources. It simply means: the process of decision making and the process by which decisions are implemented. As land is the only sphere where all of our wealth and resources are generated, it is clear that land administration remains as a major component of the governing machinery of any government and as such ,it is not incorrect to say that good governance is at the heart of the land administration.

5.0 Concluding Remarks

Scarcity of food and water, non availability of land for further uses and degradation of earth resources and environmental systems are the big challenges the human beings are faced with, in this era. As such every human activity related to land resources should be well administered and land resources should be well managed, in accordance with land management strategies and policies. Functions of land administration systems are evolutionary throughout the human history, and currently requires re-engineering them to overcome the challenges the societies are faced with, and special attention should be paid to its central functions such as land tenure systems, land registration, cadastral surveying and formation and management of land information etc. It should also be remembered that land administration functions play a major role as the basic infrastructure for resolving the burning issues such as economical development, environmental protection, social harmony and poverty alleviation in every country. Therefore land administrators should adopt remedial measures for the formation of best land management arrangements by strengthening land administration functions to achieve the sustainability of land resources and a sustainable development so as to ensure the survival of human kind in the world with peace and prosperity .

----- *END* -----

AUTOMATED SYSTEM FOR DIGITAL FIELD DATA PROCESSING IN LAND SURVEYING

by

K.A.B.S.Rupasinghe,

Superintendent of Surveys (R&D),

Surveyor General's Office, P.O. Box 506, Colombo 05, Sri Lanka.

Email : jinkabs@gmail.com

KEYWORDS: Total Station, Dialogue Control Language, AutoLISP

1. INTRODUCTION

It is nowadays observed that modern field survey equipment such as Total Stations are used for field data collection for making Parcel Based Spatial Information. Although there are several survey data processing software; external software and software built in to the Total Stations, available for such data processing, most of the software is lack of the functionality for traverse adjustment of survey stations together with the Side Shot observations on features. And also there is lack of functionality to automate formation of features from the observed data in the drawing.

Hence, most of the Total Station data are with blunders and random errors due to non-adjustment of field survey data. Apart from that, Surveyors consume much more time on the formation of features by way of joining observed points from their field data records mostly by manual or semi-automatic techniques.

This paper discusses two rule-based methods introduced for survey data adjustment and formation of features with totally automated techniques by introducing a software Plug-In in **Computer Aided Drafting** (CAD) Graphical User Interface (GUI) written in **AutoLISP** (Omura 1990) and **Dialogue Control Language** (DCL) programming languages.

For traverse adjustment with Side Shot observations, a user needs to make observations in Coordinate Measurement Mode in accordance with certain guidelines in observation procedure and data recording system. Then the raw output ASCII coordinate file is used by the Traverse Adjustment Software Module to perform adjustment.

Automation of formation of features is also based on a new introduced feature coding system at the phase of data collection. This method facilitates automatic joining of hanging lines, closing polygons and curve lines in respective feature layers.

Employing these two data observation and recoding methods, a user has the facility to perform post processing to adjust the observed raw data set and thereby generation of drawings of features on observed points fully automatically minimizing errors and saving time.

2. DATA COLLECTION

Data should be collected by running either a closed traverse or open traverse with any kind of Total Station. Orientation of the traverse is based on inputting Back Azimuth.

2.1 Data capturing procedure

- Record Starting Point coordinates in the Total Station in the following format:

At Starting Station :

Point Number, North, East, Elevation, Code

9000, 1000.00, 2000.00, 7.56, STNcp

Code used for a traverse station must always start with either STN or STNBK followed by station description (e.g. STN* -e.g. STNcp) describes a traverse point with a Cement Picket). It is important to note that STN or STNBK strings are case insensitive.

- Then record Known End Station coordinates in the same manner. At End Station, recorded data is like following format: **9015**,1234.45,2512.50,3.43,STNcp
- Orient the traverse in the proper direction by inputting Back Azimuth in the instrument and observing Back Sight.
- Then observe Side Shots and record in the Total Station with point numbers and codes. Code for a Side Shot can be any feature code as you wish to use but should not start with **STN*** or **STNBK***

e.g. 1, 1123.45,423.56,1.5,St
2, 1126.45,429.51,12.5,BW
.....

- After completion of observing Side Shots, finally observe the forward station and record data using proper code for the traverse station as explained above.
- Carry out the same procedure observing and recording all Side Shots before sighting next forward traverse station.
- From the Closing Station, observe Side Shots if available and close to the Starting Station by observing and recording same with relevant traverse point code description in the case of a close traverse.
- If the traverse is an open traverse, from the End Station, observe Side Shots if available and close to the Forward Known Station (Closing Station) and record data with relevant traverse station code description. See Figures 1(a) & 1(b) for the figures of the traversing procedure of the two types of traverses. Sample comma delimited raw traverse data file is shown below.

```

9000,1000,1000,8.5,STNcp
9004,1006.804,1019.196,0,STNcp
1,992.947,1008.148,0,LF
2,996.716,1001.375,0,LF
9001,986.882,1011.147,0,STNcp
4,997.097,1012.242,0,STN
9002,1003.033,1016.383,0,SS
5,1000.246,1010.601,0,BW
9003,999.358,1012.607,0,STNcp
9004,1006.832,1019.213,0,STNcp
6,1010.418,1014.149,0,BW
9005,1010.418,1014.149,0,STNcp

```

Sample Raw ASCII data File of an Open Traverse

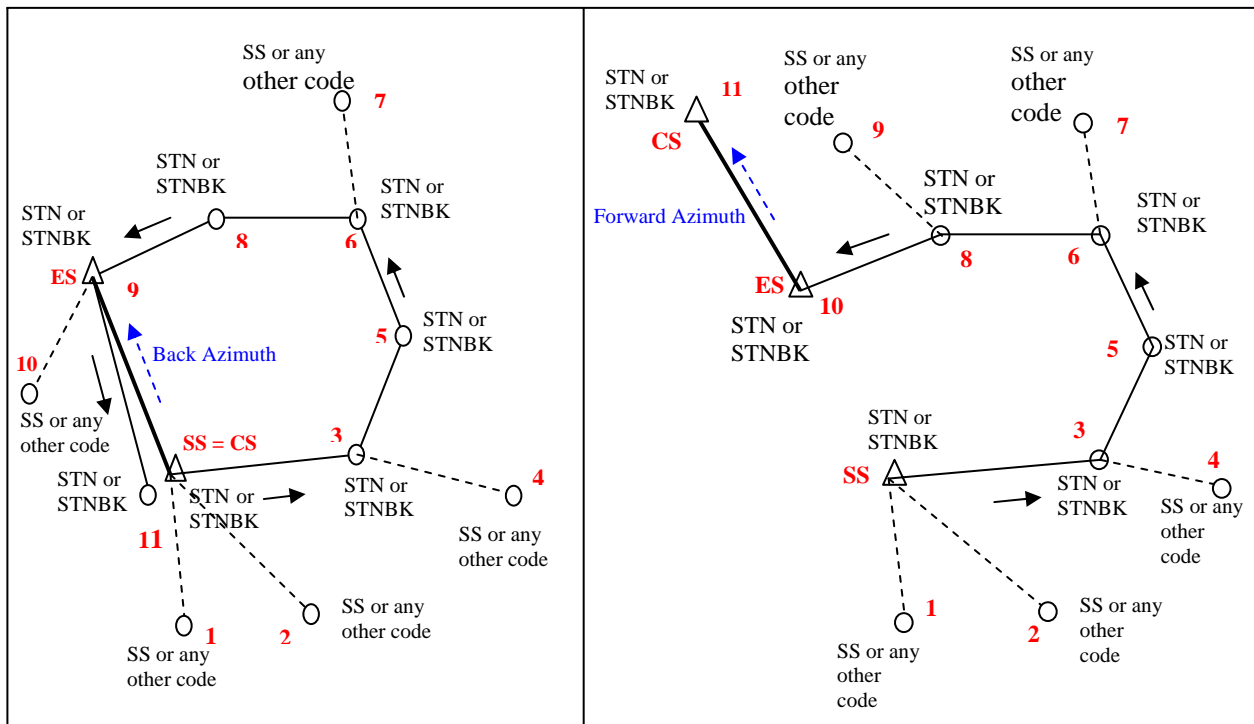


Figure 1(a)-left: Close Traverse, 1(b)-right: Open Traverse; Shot numbers are the point numbers in order observations are made. Arrows show the direction of survey. Δ - Known Station, \circ - Traverse Station, SS - Starting Station, ES - End Station and CP - Closing Station

2.2. Code assignment procedure while feature capturing

- Codes of all point features should end up with zero (0) character (e.g. EP0, CP0, TP0, FP0 etc.)
- There is no matter of either using upper case characters or lower case characters or mix of both (e.g. CP, Cp, cP, cp). All characters are interpreted upper case by the program.
- For similar type of features (e.g wire fence) which are not connected each other (e.g. wire fence on either side of a road), same code can be used with a code continuation number to differentiate the features (Figure 2). If same code is used for both features, two features are considered one feature and lines will be drawn as one feature.

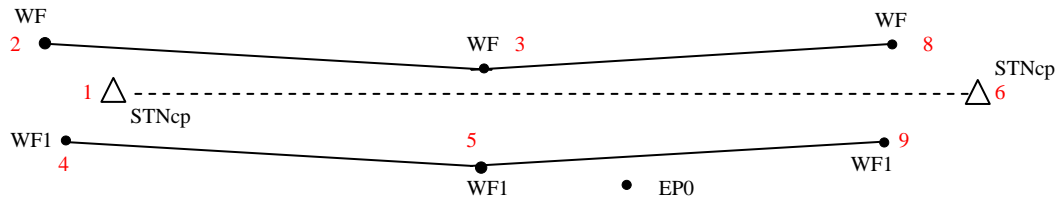


Figure 2: Section of a road

- When a feature type is changed from one type to another, use a code with the combination of two feature types, separated by underscore (_) at the boundary changing point (Figure 3).

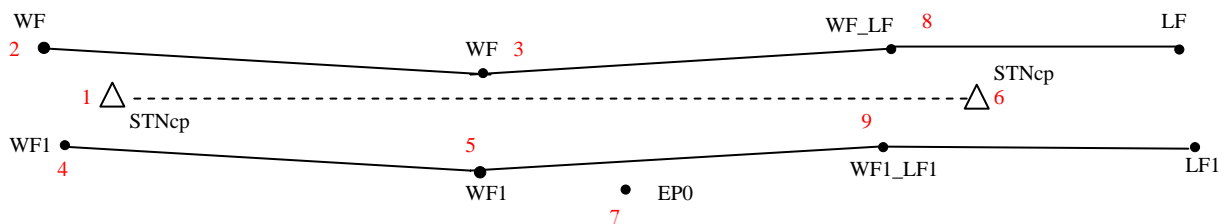


Figure 3: Section of a road

- Starting point and the end point of the same feature type can be closed by adapting last point code with underscore C (_C) (Figure 4).

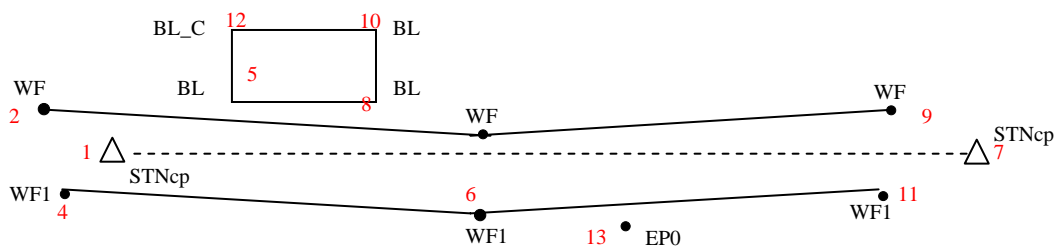


Figure 4: Section of a road with surrounding feature; a building

- Whenever curved boundaries are to be surveyed, always use two additional characters (CV- case independent) after the feature code (Figure 5).

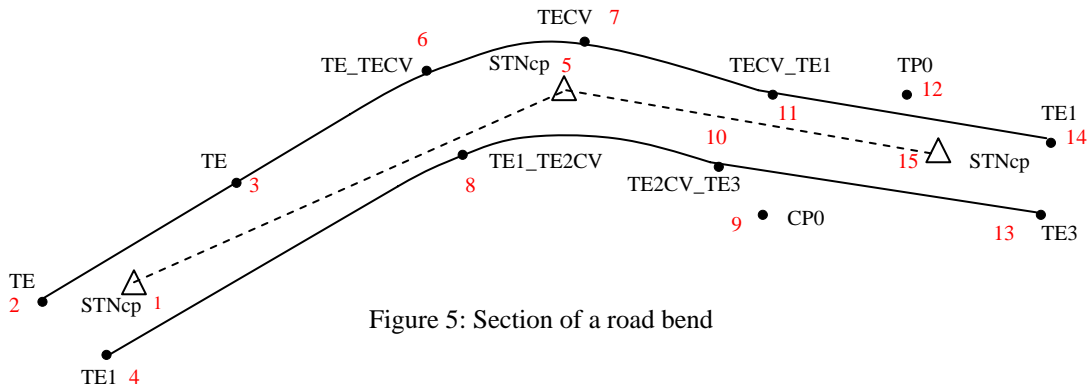


Figure 5: Section of a road bend

- Same code used earlier can be repeated if automatic joining of lines are broken at required stations (Station Breaks). Start traverse point code with STNBK (case independent) to break boundary continuation. This method would be useful in Road Surveys (Figure 6).

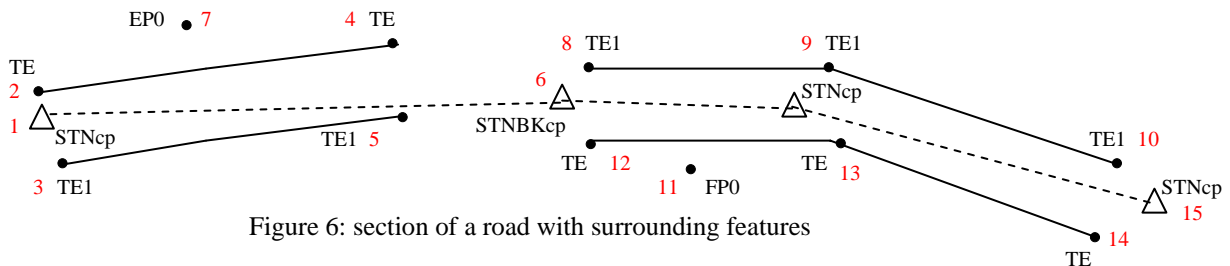


Figure 6: section of a road with surrounding features

- As shown in Figure 6, suppose points 2, 3, 4, 5 & 6 have been scored from station 1 while points 7, 8, 9, 11 & 12 from Station 6 where observer needs to break lines with the station code being STNBKcp.
- From the Figure 6, it is obvious that points 5 & 8 and 4 & 12 are not connected because of the station break even if points 5 & 8 and 4 & 12 have same code.

2.3 Assigning Point Numbers to Traverse Stations and Features

Traverse station numbers must be integer values and numbered starting from 9000 upwards and detail points (features) must be any point number less than 9000 (i.e. from 1 to 8999 is acceptable).

3. PLUG-IN SOFTWARE

A software has been developed to work in any CAD interface that supports AutoLISP and DCL scripting languages. This software adds functionality in a new Menu to CAD interface for the automatic generation of the drawing (Figure 7)

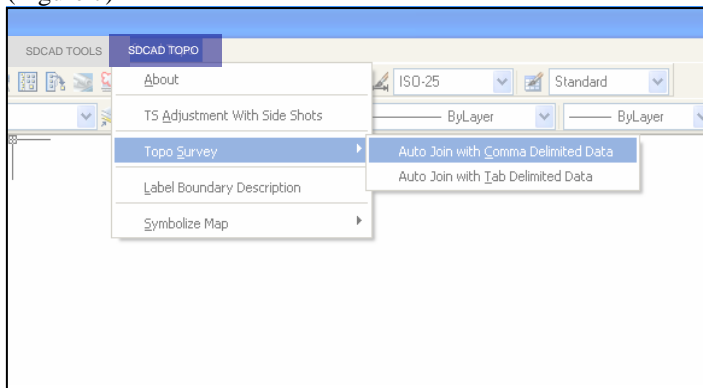


Figure 7: Menu 'SDCAD TOPO' in ZWCAD 2007 GUI

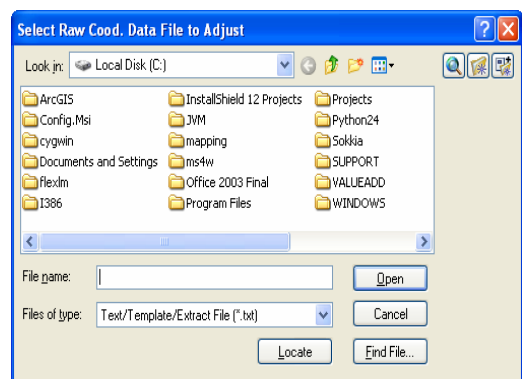


Figure 8: Raw ASCII Coordinate File Selection

Once the 'Traverse Adjustment' functionality from the Menu is run, it will ask to open the raw ASCII coordinate File downloaded from the Total Station (Figure 8. Traverse Adjustment function automatically detects the type of the traverse (i.e. 'Close' or 'Open') and prompts user to enter parameters on angular misclosure and the closeness factor for the linear error (Figure 9).

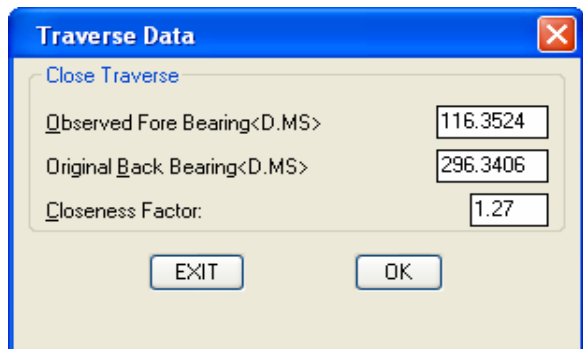


Figure 9: Parameter Input Dialogue Box

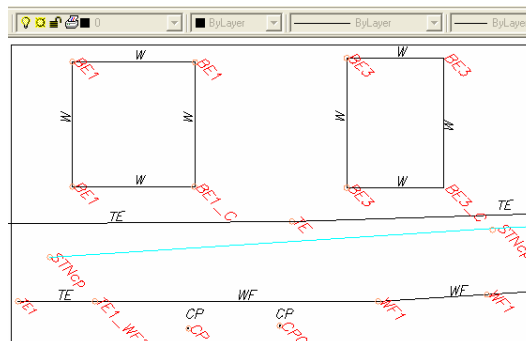


Figure10: sample-generated drawing

Once input parameters are entered and clicked OK, Raw data file is adjusted and a set of new ASCII files created in the same location where the row file is located. The new files are;

1. *Length and Reduced Bearings of traverse stations and feature points of the raw data,*
2. *Adjusted Coordinates of traverse stations with error allowed and error obtained values and*
3. *Adjusted coordinates of traverse stations and feature points.*

Out of these three files, the third file with the extension **txt** is open with the function 'Auto Join with Comma Delimited Data' in the Menu (Figure 7) o generate drawing of the adjusted survey figure with the corresponding feature codes being assigned to Layers (Figure 10). Thereafter, Generated boundaries can automatically be labelled in the proper orientation with 'Label Boundary Description' function.

5. CONCLUSION

The traverse adjustment method described in this paper improves quality of data collected by Total Station equipment by detecting blunders and minimising random errors. Since the input for the traverse adjustment program is an ASCII file, data from any kind of Total Station can be processed. And also adapting traverse point and feature point codes in the manner described, eases post-processing of data minimizing feature generation errors, and processing time.

6. REFERENCES

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----- END -----

Brain Teasers:

1. You have 12 black socks and 12 white socks mixed up in a drawer. It's early in the morning and you don't have any light to see the colors. How many socks must you pull out (blindly) to be sure of getting a matching pair?
2. What is special about the following sequence of numbers?
8 5 4 9 1 7 6 10 3 2 0

For Solutions » see page 20

Non Residential Condominiums, Docominiums & Car Condos

by

P.S.L. Gajanayake

Deputy Director of Surveys (FRMP)

Rajamalwatte Road, Battaramulla, Sri Lanka.

Email : ssatlas@slt.net.lk

Condominium



A condominium, or condo, is a form of housing tenure. It is the legal term used in the United States and in most provinces of Canada. In Australia and the Canadian province of British Columbia it is referred to as strata title. Quebec knows it as syndicates of co-ownership. In England and Wales the equivalent is common hold, a form of ownership introduced in 2004 and at this time is uncommon. Colloquially, the term “condo” is often used to refer to the unit itself in place of the word “apartment”. Technically, the condominium is the whole collection of individual home units along with the land upon which they sit-Individual home ownership is composed of only of the air-space within the boundaries of the home, as defined by a document known as a Declaration, filed of record with the local governing authority. Typically these boundaries will include the sheetrock surrounding a room, allowing the homeowner to make some interior modifications without impacting the common area: Anything outside this boundary is held in an undivided ownership interest by a corporation established at the time of the condominium’s creation. The corporation holds this property in trust on behalf of the homeowners as a group – it does not have ownership itself.

The primary attraction to this type of ownership is the ability to obtain affordable housing in a highly-desirable area that typically is beyond economic reach, Secondary, such property benefits from having restrictions that maintain and enhance value, providing control over blight that plagues some neighborhoods.

Overview

Typically, a condominium consists of multi-unit dwellings (i.e., an apartment or a development) where each unit is individually owned and the

common areas, such as hallways and recreational facilities, are jointly owned (usually as “tenants in common”) by all the unit owners in the building. It is also possible for condominiums to consist of single family dwellings: so called “detached condominiums” where homeowners do not maintain the exteriors of the dwellings, yards, etc. or “site condominiums” where the owner has more control and possible ownership (as in a “Whole lot” or lot line” condominium) over the exterior appearance. These structures are preferred by some planned neighborhoods and gated communities.

Non - residential Condominiums

Condominium ownership is also used, less frequently for non-residential land uses: offices, hotel rooms, retail shops, group housing facilities, retirement homes and storage. The legal structure is the same and many of the benefits are similar.

Dockominium



Dockominiums are individually owned wet slips for sailboats and cruisers. They can be found for any size boat or vessel and can be constructed as a simple fixed pier to luxury indoor, climate controlled, high security facilities with many amenities.

The concept is much the same as a condominium except that it is a home for your boat and based upon a deeded title to the basin bottom and in some instances may be based upon a basin bottom that is leased from the government or a municipality.

Slips and racks may be located in recreational coastal marinas, lakes, rivers and can also be offered by resorts, hotels and waterfront restaurants. Slips can also be found at private residences, apartment complexes and condominiums. There is no set standard for a “Dockominium” so be sure to do your

homework with regard to the location, management, amenities and governing associations.

A dockminium is the water-based version of a condominium; rather than owning an apartment in a building, one owns a boat slip on the water. The term is a portmanteau of “dock” and “condominium.” In addition to the exclusive right to use the boat slip, ownership also provides one with the right to use the common elements of the marina, much the same as one would have the right to use the common areas in a residential condominium development. Additionally a unit owner may use, rent or sell their unit at any time, subject to association approval.

Similar to a condominium, a management company manages the common areas and provides all required services such as maintenance, security, insurance, bookkeeping, legal and overall management and supervision of the dockminium facility. A monthly fee is charged to cover these expenses. Typically, water is included, while electricity and cable, etc. are billed separately via the management association. Real estate taxes are separately assessed by the municipality and are the responsibility of the unit owner.

A dockminium is created when a marina converts or sells individual slips to individual owners. Traditionally, marinas are in the business of renting or leasing space. A comparison would be the conversion of a rental apartment to Condominium. An association is created that monitors the maintenance and operation of the marina. Each individual owner is responsible for paying monthly, quarterly, or annual association dues, and for their own property taxes assessed on the slip. Dockminium conversions are a popular trend taking

place in the marina industry in high demand areas focusing on the luxury markets.

However, despite the advantages, whether or not dockminium sales are legal vary according to regions and state law. Few marina owners also own the land under the water, and most have only an easement to the property. Individual unit sales may violate law, and therefore cannot be sold off, thus Doctrine which provides that public trust lands, waters, and living resources in a State are held by the State in trust for the benefit of all the people.

Car condo



Car condos (also known as car condominiums) are most widely defined as purchased parking facilities. Although the term may apply simply to a designated spot in a private parking lot, usually it implies an individual, climate-controlled parking garage people can buy to store their exotic cars, motorcycles, boats and other items. Amenities include private bathrooms, concierge services, 24-hour security and clubhouses to entertain guests. Like a traditional condominium, a car condo is real estate where the owner owns the unit where the car is stored. The common areas of the car condo building are jointly owned by all the tenants and the car condo owner pays a monthly maintenance fee for their use.

----- END -----

Brain Teasers – Answers for the questions in page 18:

- 1 *3 socks. If the first sock is black, the second one could be black, in which case you have a matching pair. If the second sock is white, the third sock will be either black and match the first sock, or white and match the second sock.*
- 2 *The numbers are in alphabetical order.
(eight, five, four, nine, one, seven, six, ten, three, two, zero)*

Network Security

by

B.D.A.Chandraguptha

B.Sc.(Hons.), Higher Dip. Surveying (Hons.), PGDip.(Computer Technology), M.Sc.(Computer Science)

Snr. Supdt.of.Surveys (IT)

Surveyor General's Office, P.O. Box 506, Colombo 05, Sri Lanka.

Email : sscomp@sltnet.lk

1. Introduction :

In general, a secure network is one that is resistant to disruptions caused by unauthorized network use. Such a network is designed and operated to minimize unauthorized use and can recover from disruptions easily and completely should unauthorized users evade safeguards.

Network security can be defined as the protection of network resources against unauthorized disclosure, modification, utilization, restriction or destruction. Security has long been an object of concern and study for both data processing systems and communication facilities. With computer networks, these concerns are combined.

2. Risk Analysis :

Before you can realistically decide how much time and money to invest in data security, you must quantify the risk. Risk analysis has been elevated to a precise discipline. First, you will want to determine two values, in rupees, for the information stored in your data system. One is the cost of re-creating data; the other is the value of lost business if a competitor should gain access to your data. Next, you should identify any possible threats to your data. Making a risk analysis will enable you to answer many questions about where risks are greatest and how much money and procedural inconveniences are necessary to thwart these threats.

3. Types of Threats :

A publication of the National Bureau of Standards identifies some of the threats that have stimulated the upsurge of interest in security.

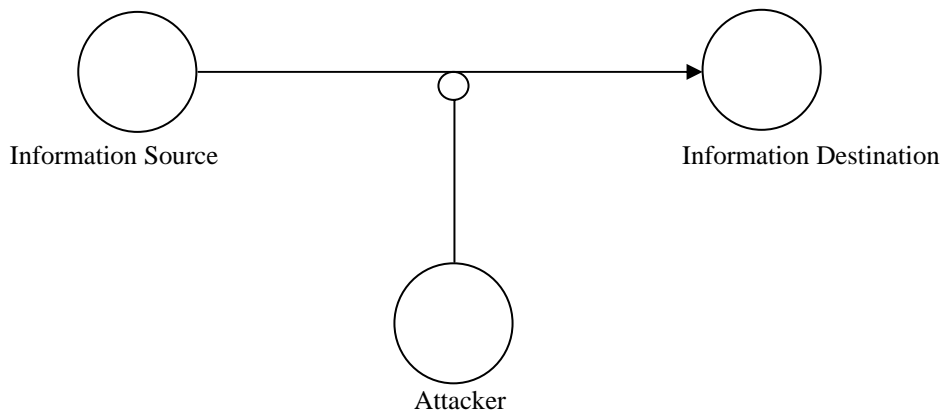
- Organized and intentional attempts to obtain economic and market information from competitive organizations in the private sector.
- Organized and intentional attempts to obtain economic information from government organizations.
- In advertent acquisition of economic and market information.
- In advertent acquisition of information about individuals.
- International fraud through illegal access to computer data banks with emphasis, in decreasing order of importance, on acquisition of founding data, economic data, law enforcement data and data about individuals.
- Government intrusion on the rights of individuals.
- Invasion of individual rights by the intelligence community.

4. Categories of threats

There are two major categories of threats.

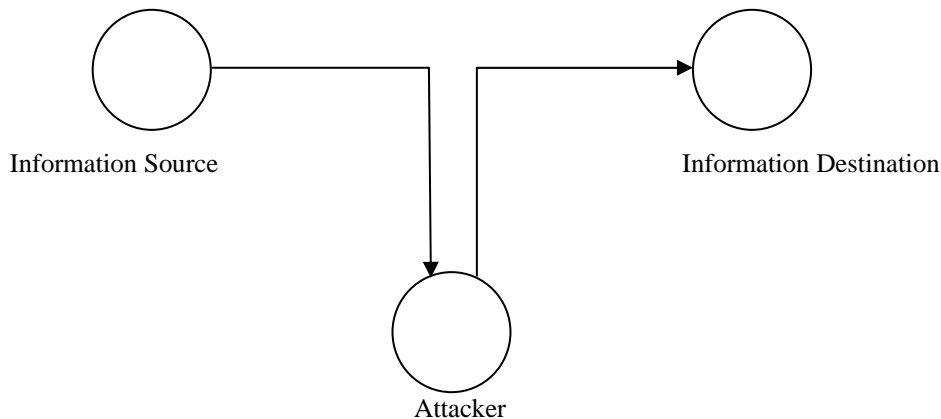
- Passive Threats
- Active Threats

Passive Threats



There are in the nature of eaves dropping or monitoring of the transmissions of an organization. The goal of the attacker is to obtain informations that are being transmitted. Passive threats are very difficult to detect since they do not involve any alteration of the data. Thus the emphasis in dealing with passive threats is on prevention and not detection.

Active Threats



These involve some modification of the data stream or the creation of false stream. Active threats present the opposite characteristics of passive threats. It is quite difficult to absolutely prevent active attacks, since this would require physical protection of all communication facilities and paths at all time.

5. Methods of Security :

There is no such thing as 100% security. Of the two security elements of skill and time, the most dependable protection is time. If you can make certain that a break-in will be a time consuming task for thief, you have gone a long way in protecting your data. Therefore, all serious security systems are layered with not one but several security measures.

- **Physical Security**

The simplest is physical security, which may be a lock on the computer or a guard at the door. With physical security, a would-be thief must attack and defeat your security measures before becoming a threat to the data.

- **Access Control**

The purpose of access control is to ensure that only authorized users have access to the system and its individual resources and that access to and modification of particular portions of data is limited to authorized individuals and programmes. A quite common example of this one a time sharing system is the user log-on, which requires both a user ID and a password. This ID/password system is a notoriously unreliable method of access control. User can forget their password and accidentally or intentionally reveal their password. Also, the ID/password file is subject to penetration attempt.

Exotic techniques such as voice print; fingerprint and hand geometry analysis may be foolproof but are at present probabilistically expensive.

- **Personal Identification**

On most networks the first line of security is personal identification. You physically recognize people who are authorized to be in your office, sitting at the PC. With remote access this kind of identification is impossible. Several techniques can be used to restrict access to authorized users. All these techniques are based on some kind of identification: personal, such as ID badge; keyword such as a log-in name and password; or key number.

- **Encryption**

Encryption is the process of changing intelligible data into unintelligible data; decryption reverses the process. For most local area networks, data encryption is used only when the security threat is substantial.

Most encryption schemes are based on mathematical operations that are "computationally infeasible". That is, they are based on prime numbers, which are so large that even the computational power of a mainframe computer cannot break the code within a practical time period.

- **The Diskless PC**

Most network vendor now provides the capability of booting a local PC workstation from a central server. So that diskless PCs can be used on the network and equally important that is increased the security offered by a diskless PC.

- **Call-back Security**

With call back security, when you want to access the computer, you can call into a different number instead of calling in directly. You indicate that you want to access the network, and security device arranges for a call-back to your location. In other words, the system has embedded within battery supported memory a complete listing for every allowed user. Included in this file is an ID number that you must punch when you want to access the file, a telephone number at which you can be reached, and the host system to which you are allowed to access.

6. Conclusion

Technology alone is inadequate to ensure security. True network security is a human issue, with responsibility divided between users and managers, just as network processing is increasingly divided between clients and servers.

Network security manager must carefully and thoughtfully plan firewalls. In most cases, a network administrator will define the firewall requirements. He will not raise security concerns until after the network has experienced a serious security break.

----- **END** -----

JOKE [Good mood is a key to your better health !]

What would you like to hear?

A doctor, a teacher & Udurawana are talking about the death.

Udurawana asks " Suppose if you die and your friends and family are mourning you. What would you like to hear them say about you, when you're in your casket ?"

Doctor : "I would like to hear them say that I was a great doctor of my time, and a great family man."

Teacher : "I would like to hear that I was a wonderful husband and school teacher who made a huge difference in our children of tomorrow."

Udurawana : "I would like to hear them say... LOOK! HE'S MOVING!"

Professionalism

by

Dr. K.Thavalingam

Additional Surveyor General (Central)

Surveyor General's Office, P.O. Box 506, Colombo 05, Sri Lanka.

Email : sgadd@sltnet.lk

1.0 Introduction

Some are of the view that the profession is a form of an employment and professional is a person who earns money by working in one of the professions. But 'Profession' is not a money-getting business. It has no element of commercialism in it. The professional man seeks to live by what he earns, but his main purpose and aspiration is to be of service to those who seek his aid / service and to be useful to the community in which he plays an integral part. Man's knowledge in itself does not make a profession; man must use the expert knowledge he acquired to aid, assist, teach, or be of benefit to others. Application of knowledge in the affairs of others is an essential part of the definition of a profession.

2.0 Professional

"Professional" included those who were qualified to pursue a vocation or calling.

- Vocation means - fitness or ability for a certain kind of work.
- Calling means - a strong urge or feeling of duty to do a particular kind work.
Calling requires
 - (a) specialized knowledge.
 - (b) long and intensive preparation of skills and methods.
 - (c) maintaining high standards of achievement and conduct.
 - (d) committing to consistent / continued study (to engage in lifelong learning)

(i) Specialized technical knowledge means

- Having good knowledge.
- Poorly understood by others.
- Knowledge is also acquired through years of work experience.
- Required to make good judgments based on knowledge and understanding of a situation.
- Professionals must be able to work without supervision.

(ii) Maintaining high standards of achievement and conduct

- Maintains high standards through self-governing.
- Government grants the privilege of self-governance.
- A key expectation of members of self-governing professions is that to accept legal and ethical responsibility for the work and uphold the interest of the public and society.
- Technical and professional standards of conduct are set, revised, maintained, and enforced by professionals and self-regulating associations.
- Some of the technical and professional standards are
 - Certification and licensing
 - Code of Ethics.
 - The code of ethics is a statement of moral values.
 - The code ensures a high quality of service.
 - The code guarantees competency of membership, honour and integrity.
 - The code is a direct expression of the professions' principles of service orientation.
 - The code emphasizes no personal gain and protection of the client or patron.
 - Technical requirements
 - Continuing competency
 - Regulation and control – enforcing against non-licensed and non-qualified persons and reviewing the practice of licensed members and permit holders.
 - Discipline.

(iii) Committing to continued study

- To engage in lifelong learning.
- Knowledge can be acquired by reading journals or attending technical courses, seminars, and conferences.

3.0 Expectation from Professionals.

- Have a lack of self interest. That is the public-interest must take precedence over self-interest.
- Establish a special relationship with clients or patrons.
- Be involved in all aspects of the profession.
- Publicize what the profession “does” and “is”

Public expectations from professionals have greatly increased. Many clients feel that they are entitled to get immediate and faultless diagnosis, action, and results at a very low cost. But, to achieve this in every case is unrealistic. As a result, the gap between the public’s expectations from professional services and the actual deliverables may be widening. Professionals must adequately brief clients of the professional responsibilities and of the legal, ethical, and practical limitations of the service provided.

4.0 Encouraging professionalism through mentoring

- Individually, a professional can encourage professionalism through mentoring and daily demonstration of professional behaviour.
- As a group, professionals can encourage professionalism through their involvement in technical or professional societies.
- Mentoring facilitates the transfer of knowledge and skills from more to less experienced professionals.
- A comprehensive mentoring relationship would facilitate the development and reinforcement of technical knowledge, managerial skills, organizational knowledge, and ethical reasoning.
- The mentor should act as a role model of professionalism and ask him or herself:
 - “What can I do to exhibit professionalism?”
 - Have I lived up to the Code of Ethics day by day?
 - Am I proud to call myself a Professional?
 - Have I demonstrated expertise and commitment to the growth and development of the profession?”
- Through this practice of such self-awareness as individuals, one can personalize professionalism and contribute to the overall professionalism of his group.

5.0 Professional Vs Non-Professional

How you look, talk, write, act and work determine whether you are a professional or non-professional.

- A professional learns every aspect of the job. A non-professional skips the learning process whenever possible.
- A professional carefully discovers what is needed and wanted. A non-professional assumes what others need and want.
- A professional uses higher emotional tones: Enthusiasm, cheerfulness, interest, contentment. A non-professional uses lower emotional tones: anger, hostility and fear.
- A professional completes projects as soon as possible. A non-professional is surrounded by unfinished work piled on top of unfinished work.
- A professional faces up to other people’s upsets and problems. A non-professional avoids others’ problems.
- A professional produces a high-quality product or service. A non-professional produces a medium-to-low quality product or service.
- A professional earns high pay. A non-professional earns low pay and feels it’s unfair.
- A professional has a promising future. A non-professional has an uncertain future.

6.0 Are you a Professional?

- The first step to making yourself a professional is to decide you are a professional.
- Develop the frame of mind that whatever you do, you are doing it as a professional.
- Anything you do, do it as a Professional to Professional standards.
- Never let it be said of you that you lived a non-professional life.

----- **END** -----

Towards the Development of National Spatial Data Infrastructure for Sri Lanka and Sri Lanka Survey Department

by

M.T.M. Rafeek

Superintendent of Surveys / Lecturer(ISM)

Institute of Surveying and Mapping, Diyatalawa, Sri Lanka

E-mail: rafeek10061@itc.nl

1.0 Introduction

Spatial data is the key to planning and sustainable management & development of our natural resources within the country. It is also fundamental to the development of the economic and social infrastructure, provision of community services, effective government administration and resolution of community conflicts. In other words, information infrastructure is a pre-requisite for any development agenda. Together with the key role played by spatial data was increasingly evident in the aftermath of tsunami. The steps to be taken from the identification of impact areas up to the demarcation of a buffer zone for conservation could have been vastly facilitated by a comprehensive database of spatial data. In this occasion the nation failed to provide the necessary spatial data to for that activity because there is no single organization is responsible to provide the platform for the spatial data.

However, spatial data are acquired by different agencies at different times and in different formats according to their immediate application requirements. Different institutions have adopted a variety of spatial data platforms which make it impractical to derive and integrate data from different sources. Data formats are so diverse that even with the sophistication of the information technology; as a result it is not possible to combine data obtained from different sources. Additionally, there is considerable duplication of data as inter-agency coordination is a rare phenomenon. In addition, most of spatial data are collected by government institutions utilizing public funds; therefore, the public should have a right of access to these data and information, but in the past, some of the government institutions denied the public to have any information from their data archives. Even data were not released even for a research project. Because of these restrictions, most of the development activities were delayed and public were found difficulties to fulfil their spatial data requirements. Another serious drawback is lack of standard metadata system for the whole country which in essence required for data archives. Metadata systems allow users to explore and determine whether the data set is useful or not without having to go through the data in detail. Because of this, the general public and the research scientists are mostly not aware of the possible sources for their data and information needs. Alone all, there is no supporting organization to support and promote spatial data use and users.

Therefore, it is an urgent need to introduce regulations regarding the public domain data and information and also the policies related to the ownership of the data. Copy right issues of the digital spatial data need to be dealt with to ensure the legal ownership of data products. And also national policy also should be introduced to spatial data producer to maintain the quality of the spatial data. All these spatial data gaps indicate the urgent need for a National Spatial Data Infrastructure (NSDI) for Sri Lanka.

2.0 What is NSDI?

National Spatial Data Infrastructure (NSDI) means the technology, policies, standards, and human resources necessary to acquire process, store, distribute, and improve utilization of geospatial data. As shown in Figure 1, NSDI will encompass the fundamental data sets, frame work data sets, electronic clearinghouse, communication networks and on demand application. These important NSDI mechanisms will be discussed in following sections. The development of NSDI broadens the use of geo-spatial data beyond traditional users and brings them into main stream of new technology. In summary, NSDI would provide solutions to a number of spatial data problems that exist in the spatial data user community.

2.1 Fundamental Data Sets

The basic fundamental data sets can be categorized as Geodetic Control Data, Administrative Boundaries, Transportation Networks, Buildings, Hydrography, Utilities, Land cover, Topography, cadastral data and places. All these data can be found in 1: 50 000 and 1: 10 000 topographical data bases of the Sri Lanka Survey Department (SLSD). Furthermore, throughout the on going title registration project SLSD have initiated to introduce central cadastral database and large scale databases also available in SLSD for densely populated urban areas. So, these data can be used as initiative foundation data in the implementation of NSDI.

3.0 The Major Gearing Bodies of NSDI

The major gearing bodies of NSDI comprises of following bodies;

- Data producers (Fundamental datasets producers)
- Other Partners (Framework datasets producers)
- Data Users
- Legislative Bodies,
- Telecommunication Service Suppliers

The function of data producer is to create fundamental database and to aggregate and integrate the other framework database that are made available through other partners. For example as the prime spatial data producer SLSD would be responsible for all spatial data production and other organizations would be responsible in their relevant field of data supply. Furthermore, data producers must create metadata base to form necessary legislation to maintain the standards of the data with the help of the legislative bodies in order to disseminate data easily to the users without disturbing the integrity of the country. The sharing of data and communication with the users is nowadays mostly carried out through Internet and e-mail. Consequently, a better telecommunication services should be made available with the help of concerned authorities.

4.0 Expectation from NSDI

Through out the development of NSDI with proper legislative provisions for spatial data to a country, the following expectation would be achieved:

- More efficient search and right access of spatial data with proper copy right issues certainly reduce the duplication of spatial data which mostly serve up the money and time.
- With clear data quality standards, data formats and sharing mechanisms, spatial data archival would be easier than for ever so, resources could be mobilized for development activities. Moreover, access to standards on spatial data would lead to best practices of data collection, analysis and sharing.
- In the process of NSDI take account of many relevant bodies which add to the cooperation and coordination among the different institutions.
- As most of the development activities are related with grass root level of the population and those need spatial data and attribute data for their respective activities. Nevertheless these data are easily accessible through NSDI applications due to that implementation of development activities will be more efficient and most people will benefit with good results from the development activities.

5.0 Is Sri Lanka Survey Department Ready for NSDI in Sri Lanka?

The back born of the NSDI is the availability of spatial data with standard metadata format. As the core spatial data provider in Sri Lanka, SLSD enjoys an excellent reputation for its spatial data in paper as well in digital format. SLSD developed 1: 250, 000 database to whole country in 1998. Then it started to develop 1:50, 000 spatial database in 2001 by on screen digitizing of the scanned images of 1:50, 000 scale topographic maps having 92 sheets to cover the whole country of area around 65,600 sq.km. This database was completed in 2003. Presently the SLSD under the process of development of 1:10 000 database using the existing 1:10 000 maps and other large scale restores topographic data. All these data are available in ArcInfo coverage. Apart from that, SLSD has mapped more than 74, 000 land parcels through the on going title registration process in large scale and also action has been initiated to publish these information in a centralized database. Further, very recently it has introduced its own digital data management system within organization to bring all the spatial data into central database which are sporadically mapped in the country for different purposes. This is an impressive record for any country in the world to be considered as fundamental datasets to initiate NSDI.

Furthermore, by Survey Act No. 17 of 2002, the Surveyor General empowered the power to specify the standards accuracy and to set standard for mapping. And also the government of Sri Lanka issued a notice to the public on 'National Policy on the Use of Spatial Data' in June 2008, through that SLSD has been requested to establish a National Information Centre for Spatial Data for a web based information system dealing with the available spatial data in the country and the all government institutions, statutory boards and universities are mandated by this policy to sent the required information to this centre within three months. This would be fine indication to SLSD to pilot the process towards the development of NSDI to Sri Lanka. Then again, SLSD adopted latest technology in data collection and dissemination with very few on hand skilled professionals.

Hence, the answer to the question ‘Is Sri Lanka Survey Department ready for NSDI?’ is ‘yes’. The national mapping organization of Sri Lanka the SLSD was established in 2nd of August 1800 is now in the process of transforming its traditional role of national surveying and mapping organization from paper map production to developing spatial database and building an infrastructure for sharing, dissemination and utilization of spatial data. But it needs fully recognized mandate from government of Sri Lanka to lead the process. And also SLSD will need a critical mass of information managers, a breed of professional who can match information technology with market-driven core data provision. For this individual capacity building is needed for the involved staff. Anyhow the staff involved in this work must be dedicated, honest and cooperative in nature.

6.0 Immediate Plan of Actions and Challenges

This is obvious that NSDI should be developed with in the country without further delay to find the issues related to duplication, inconsistency, poor management, and illegal uses of spatial data. For that following efforts can be considered as immediate plan of action of SLSD.

- Launch continues awareness programme to educate the related persons and organizations. It should include all categories of personal including decision makers.
- Develop an appropriate working policy on this aspect with clear mandate from the government of Sri Lanka.
- And also develop legislations correlated with data producers, data standard, metadata standard, data updating, data sharing and dissemination, copy right issues and pricing model of spatial data.
- Initiate capacity building to establish standard data sets among the data producers and to integrate the data from several institutions.
- Continue development of human resources through relevant training programme and academic courses.
- Establish an effective electronic clearing house and communication network.

During this process SLSD will have to face number of challenges;

- First challenge to convey decision makers and to get the mandate to lead this process.
- Development of such massive system initially need reasonable source of fund, which should be gained from both location and international donors.
- Proper human resources development is a must which can be achieved through academic courses, work shops, seminars and visits in proper society in the world.
- For the sustainability of the system, its required have continued well support from participating organizations for that well coordination is necessary among the involved organizations.

7.0 Conclusion

Right of access to spatial data, copy right issues, data quality standards, data formats and sharing mechanisms, spatial data archrival, education and training in spatial data domains and all the other related problems can be set on when there are proper legislative provisions for spatial data with NSDI. For that what the nation need is action plan and leadership for the development process. SLSD has enough capability lead this process with proper coordination and cooperation from other organizations and no one disagree on this.

----- *END* -----

JOKE

Marriage

American : In our country, marriage even takes place with email.

Udurawana : In Sri Lanka , it is only with a female.

**XVI Ak` mññeq`r#` @qp` \wemñwñ phñññ h`
@mlqkv` sks-kr a#wñwñ pBñ#**

jllemla@b@skr
@j & ; T mññeq`r#` a{k`rñ(bsn`hr pl`w)
i Afj hA ckrd, al dAhd, h, ; e.fm. 506, fl d<@ 05.
j dhq a; emE, %dsgwp@sltnet.lk

1.0 i wñ'sy

i Agññ-emrt a`kñNyt @pr retñmhk bd pñqxy lA@qññt ytww wñryg@yqñ i dmlññññktywñsñ vlawr ek l x`vñ k l @w`mñvñ t @mm pBñ# a#wñ w-vñ. e@hw-emhññpññ i dmlayññk-en`vñb`vñ-i Agññt @mm kñy @vns-kñññt avX& vñ. e-anlv 1800 a@q`swñ 02 qñ XVI Ak` evñ mññeq`r#` @qp` \wemñwñ g`l @l qñ phñññ i dml vññññ sqñ` hññkmlpBñ# s#ksññ a`rmk` krñ l qñ

2.0 hññkmlpBñ# (Title Plan - TP)

mññeq`r#` @qp` \wemñwñ sks-kr ml` m hññkmlpBñ# 1800 a@q`swñ 20 qñ sks-kr a#wñlawr, ey @k`LB qñswñk@y- i dmk- sqñ` vñ. ml` -k`l@y- i dml vññññ sqñ` @mm hññkml pBñ# x`vñ k l awr, 1859 qkv`m mññeq`r#` @qp` \wemñwñ mññ-hññkmlpBñ# sks-kñññ pmññk-sñ vñ. ml` -k`l@y-sks-krñ l q hññkmlpBñ# sqñ` @] wñpwñ (Field Sheet) x`vñ kñññk-sñ @n`vññawr, 1857 vñ; @y-pmñ pñ`m vrt @] wñpwñ x`vñ` kr a#wñbvt v`w` @vñ ewññ-pññ-em @] wñpwñy-aqñ l q pBñ# mññ-hññkmlpBñ# sks-kñññ sñ vñ. @mlvñ vñ aAk 1 sñ 432299 qkv` hññkmlpBñ# gññk-nkñv-vñññ. @mm pBñ# awrt vñ`r`@qv` l vñ t ayw-i dmlsqñ` pL@yL krñ l q hññkmlpBñ# (Temple TP) 2300 kq a#wñ w-@vñ 1934.10.25 qñ qkv`m @mm aAk kñy yt@w-hññkmlpBñ# nkñv-kr a#wñlawr, 1934. 10. 26 qñ sñ "T" a] ry ml` t x`vñ` kr hññkmlpBñ# nkñv-kr a#wñ. phw vññ mññ-@mm hññkml nkñv-kñññ q#k@vñ 1942. 01. 16 qñ sñ hññkmlpBñ# nkñv-kñññ nvw` a#wñ. ml` amwrv awkr gñññ sqñ` (Acquisition Title Plan) , pwl -ayññ`skmñ(Mining Right) sqñ` sh rj@y- hññkmlpBñ# (Crown TP) pñ`Nykq nkñv-kr a#wñ. 1892 qñAcquisition Title Plan sks-kñññ a`rmk` kr 1912 qkv` pvwv` @gn @g`s-a#wñ. hññkmlpBñ# vñ t amwrv b<kr pBñ# (Lease Plan) mññ-i dmlb< qñ 1881 qñpmñ a`rmk` kr a#wñlawr @my 1941 qkv` pvwv` @gn @g`s-a#wñ.

Title Plans without any prefix (TP)

| | | | | | | | |
|---------------|-------------|------|-------|-------|--------------|--------|--------|
| Year | 1800 | 1800 | 1805 | 1815 | 1856 | 1875 | 1900 |
| TP No. | 1 | 500 | 10000 | 15000 | 50000 | 100000 | 200000 |

| | | | | | | | |
|---------------|--------|---------------|--------|--------|--------|--------------------------|--|
| Year | 1908 | 1910 | 1914 | 1922 | 1929 | 1934 | |
| TP No. | 250000 | 275000 | 300000 | 350000 | 400000 | 432299 (Last No.) | |

Title Plans(TP) with Prefix 'T ' (T1,T2...)

| | | | |
|-------------------|-------------------|------------------|-------------------|
| First Number Used | Date | Last Number Used | Date |
| T1 | 1934-10-26 | 29259 | 1942-01-16 |

i hw vññvñsqññ-hññkmlpBñ# i dml vññññ, rjy ayññ`skmñ@n`kññ bvt, nñvññ-kñññ sqñ` sh rj@y-a`ywn vñ t i dmlpñvññ sqñ` x`vñ` kr a#wñbv @p@n: pñ`k`l@y-sks-krñ l q hññkmlpBñ# vñ aq`l k`rNy h<n` gñññ sqñ` pBñ` i hL @kLvr pBñ# aAkyt ytñ- phw Abbreviation x`vñ` kr a#wñ.

- C N C - Crown Not Claimed
- SOTP - Settlement Order Title Plan
- VOTP - Vesting Order Title Plan
- FOTP - Final Order Title Plan

hññkmlpBñ# aAk kñññ qñyñtm @p`<@vñbl p`ñ prññsñ kr a#wñ.

3.0 ml`k` pBñ# (Preliminary Plan - PP)

ml` -vñ; 50 qñmññeq`r#` @qp` \wemñwñvññhññkmlpBñ# nkñv-kñññ pmññk-sñ vñw; 1859 qñpñ`m vrt ml` k` pBñ#-sks-kr a#wñlawr ek-ek-pL`w sqñ` aAk 01 sñ aAk kr a#wñ. @mm ml` k` pBñ# @] wñpwñyñ-an@`KNy kr sks-kr a#wñlawr, @] wñpwñy-a#wñsññl`k`bl`l@h`-@k`tsk`-@gn sks` a#wñ. e-anlv @] wñpwñy-a#wñk`bl`l@aAk @h`-l` t

@vns-k#bl laAk ml k pBf sqh` x`vW` kr a#w. ml -k`l @y-vW{ ph`Ney-ml k pBf# sks-kr a#wlawr, v\; 1927 st sks-krn l q sy/l ml k pBf# 17 1/2 * 15` ph`Ney-evl

@mm aAk khy 1932 qkv`m x`vW` kr a#wlawr e-e-pL`w-sqh` nkW-kr a#w/ml ml k pBf# gNn phw vM@vn-q#k@v

Provincial Issues of Preliminary Plans

| Province | First Number used | Year issued | Last Number used | Year issued |
|----------|-------------------|-------------|------------------|-------------|
| SP | 1 | 1860 | 14470 | 1932 |
| WP | 1 | 1859 | 20430 | 1932 |
| NWP | 1 | 1859 | 7770 | 1932 |
| SAB | 1 | 1859 | 4190 | 1932 |
| CP | 1 | 1959 | 9260 | 1932 |
| UVA | 1 | 1886 | 2990 | 1932 |
| NCP | 1 | 1874 | 7870 | 1933 |
| NP | 1 | 1860 | 8430 | 1932 |
| EP | 1 | 1859 | 6840 | 1932 |
| Total | | | 82250 | |

v\; 1932 qll@mm aAk khy @vns-kr pBf# aAk ml t `A` a] ry @y`q` pBf# sks-kr a#wlawr @my v\; 1965 qkv`m kly`wmk vlla#w. ml amwrv i AglS`S ` a] ry aAk ml t @y`q` v\; 1950-1965 qkv` ml k pBf# (PPs) 4998 k-sks-kr a#w. v\; 1965 st ek-ek-pL`w sqh` ml k pBf# aAk krnt@vnt ek-ek-qSwkky sqh` qSwk-a] ry ml t @y`q` pBf# aAk kr a#w. @mm khy aqtw-kly`wmk evl ml -k`l @yqll@] wlpw@yn-uplt` gw-k#bl l x`vW` kr p`n k`ly`l @yqll@mm ml k pBf# sks-kr a#w. psf k@l k @mm khy vW{&gw k`mnr-psf k`@l -pwl ph`Ney-@] wlpwly x`vW` kr aq`l qSwk-k`ly`l vl`n-ml k pBf# sks-kr, ehlpw-s.j. k`ly`l yt h` a@nkW-k`ly`l vl t nkW-krnt l #@bl

PP 'A' Series

| Province | First Number used | Year issued | Last Number used | Year issued |
|----------|-------------------|-------------|------------------|-------------|
| SP | A1 | 1932 | 2121 | 1965 |
| WP | A1 | 1932 | 5424 | 1965 |
| NWP | A1 | 1932 | A1880 | 1965 |
| SAB | A1 | 1932 | A1248 | 1965 |
| CP | A1 | 1932 | A3193 | 1965 |
| UVA | A1 | 1932 | A386 | 1965 |
| NCP | A1 | 1933 | A156 | 1965 |
| NP | A1 | 1932 | A2499 | 1965 |
| EP | A1 | 1932 | A1469 | 1965 |
| Total | | | 18376 | |

mlt amwrv v@X; vkr#N sqh` ml k pBf# v\g gNn`vk-nkW-kr a#wlawr ev` phw sqhn-evl

- I. Chena Survey Preliminary Plan (Chena PP)
v\; 1874 st 1887 qkv` pBf# 1 st 300 qkv` sks-kr a#wlawr qly`ntm bl p`n pr@lpBf# aAk k`th kr a#w.
- II. Miscellaneous Survey Preliminary Plan (MSPP)
vW{ sAv\{n ktylv\sqh` @mm pBf# 1920 st 1968 qkv` (1 st 246) qkv` nkW-kr a#w.
- III. v`rlm`lg ml k pBf#
Irrigation Survey Preliminary Plan(I S P P)
- IV. k`l \$ m`nml ml k pBf#
Forest Survey Preliminary Plan(F S P P)
- V. nMr m`nml ml k pBf#
Town Survey Preliminary Plan(T S P P)

4.0 **mbf bñlpnw (Nast Land Ordinance (WLO - 1897)) h` pBf# nk`p`qny sqh` vlehñ bl pfm**

@mm pnw-a`rmk vn @wkm mññh`q`r# @q` \w@mhvñ vñh-pñ`n vX@yn-s& krñ lq@q-i dml vññññ sqh` ml`k pBf# sks-kr hññkmlpBf# nk`v-kññ` evñ

i hw pnw yt@w-pLmñvrt rj@y-h` pñgl`k i dml@vn-kññ sqh` pBf# s#ksth a`rmk vñawr, 1931 i dmlññ-vñ -kññmñ a`Z` pnw yt@w-@my wv <rtw-nñm`nkñ v s& kññ kr@gn yn l qñ @mm pBf# sks-kññ vñdñ vX@ynm gmb[pñqX vñ t s&kñ awr, rj@y-i dmladñgrb[pñqX sqh` ml`k pBf# sks-kññ qñtm s& vñ. @mm pnw yt@w-sks-krñ lq pBf# vñg phw qñk`evñ

1. I Ak` mññmñgmñpBf` /gmñpBf` (BSVP/VP)

@mm pBf# ññ-vñ -kññmñ-psfavs`n gmñpBf` (FVP) bvt prñ\wñy krñ l qñ (pl`w-mññmñ-aAk kr a#w.)

BSPP,VP/FVP

| Province | 1 st Number used | Year issued | Last Number used |
|----------|-----------------------------|-------------|------------------|
| SP | 1 | 1914 | 665 |
| WP | 69 | 1920 | 149 |
| NWP | 1 | 1929 | 4002 |
| SAB | 1 | 1924 | 955 |
| CP | 18 | 1943 | 639 |
| UVA | 1 | 1922 | 680 |
| NCP | 1 | 1915 | 1756 |
| NP | 58 | 1958 | 143 |
| EP | 15 | 1959 | 58 |
| Total | | | 8891 |

11. xñ] N`wmk ml`k pBf` (TOPO PP)

jñghny adñ pñqX sqh` aM@l-sñvñmñ-TOPO PP sks-kr e-wñ wññññkmlññ-vñ -kññmñ-psfavs`n xñ] N`wmk pBf` sks-krñ l qñ (FTP) (@myq pl`w-mññmñ-aAk kr a#w.)

Topo PP/FTP

| Province | 1 st Number used | Year issued | Last Number used |
|----------|-----------------------------|-------------|------------------|
| SP | 1 | 1931 | 5 |
| WP | 1 | 1941 | 3 |
| NWP | 1 | 1922 | 31 |
| SAB | 1 | 1954 | 10 |
| CP | 1 | 1917 | 28 |
| UVA | 1 | 1920 | 80 |
| NCP | 1 | | 27 |
| NP | 1 | | 80 |
| EP | 1 | 1954 | 55 |
| Total | | | 319 |

111. *mit amwrv ml k pBr# nrvl -kr avs`n nrvl -pBr# sks-kr a#w.*

- a.) Preliminary Plan (PP) → Finally Settled Plan (FSP)
- b.) Town Survey Preliminary Plan (TSPP) → FTSP

psfk`l@yqllFVP/FTP mMh-FUP (Final Urban Plan) sh Final Colony Plan sks-krthq a`rm& krn l qll

5.0 i dmlsAv\{n a`Z` pnw yt@w-pBr# sks-krth

i dmlsAv\{n a`Z` pnw yt@w- sAv\{ny sqh` mhj nw`v @vw i dml l b` qth vd` vq`@nwv sk ktrth a`rm& vRawr, @m@wk-hthkml pBr# mMh-rj@y-i dml b`h#r ktrth @vnt i hw pnw yt@w-qthn` pwlyk-mMh-i dml b`h#r ktrth a`rm& vly. ml -k`l@yqll@m qthn` pwly smM aq`l i dml k#b#l @l -a#wll w-@K` c@vl pBrk-(Diagrame Plan) ekk-l b` qth sk krn l qll nmiv-@mm kthy 1938-1939 v\; vl t pmNk-sth` vRawr 1940 qll phw sqhn-@K` c@vl mMh-v@q` ktylvlsqh` rj@y-i dml b`h#r ktrth a`rm& vly.

- I. L @\K` c@vl - (Lease Diagrame)
- II. O @\K` c@vl - (Out Right grant Diagrame)
- III. R @\K` c@vl - (Reatreted grant Diagrame)
- IV. V @\K` c@vl - (Vesting Order Diagrame)
- V. S :@\K` c@vl - (Settlement Order Diagrame) (rj@y-i dml nrvl -ktrth ml pnw yt@w)

@mhqll@K` c@vly ml t i hw aq`l i Agl@a] ry@yq` @\K` c@vl aAk kr sks-krth sk kr a#wlawr, ey pitpw-wb` g`nthk-sk kr @n`m#w. @mm @\K` c@vl sks-krth s\@vlj nr`l -k`ly`l y mMh-sk krn l q awr, 1985 v\; @y-sit` @ml qkv` q@wll-mhth@q`r# k`ly`l mMh-sk krn l #@bl q@wll-mhth@q`r# k`ly`l mMh-sk-krn @\K` c@vl aAk ktrth ml i hw i Agl@a] ryt amwrv aq`l q@wll k@y- n@mml ak@q x`v@v` kr a#w.

uq`: rwnpr pl ml @\K` c@vly S / r 1 @l s aAk ktrth a`rm& kr a#w.

