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Contribution of digital photogrammetry for cadastral surveys

Sri Lanka is an island where total land resources are limited and also shrinking rapidly with increasing population. The demand for land for agriculture, housing and industry are

relatively increasing. These factors have led to misuse and degradation of land in many areas. Major problem is that irregular settlement in both urban and rural areas. This is based on weakness of current deed registration system. The current system is based on a series of individual records of land transaction. To address and remedy these problems the Land Titling and Related Services Project was launched recently. In this connection, the Survey Department has a major roll to take part such as, initial investigation to carry out to identify the land parcel boundaries. This investigation is based on existing maps and orthophotographs.

This paper describes identification of land parcel boundaries using digital photogrammetric method. Now department is enriched with 2000dpi scanner and sophisticated software like VirtuoZo for softcopy photogrammetry. It provides facility to produce high quality, orthorectified, and geo-referenced aerial photographs quickly, easily and cheaply. Then parcel boundary information can be extracted by on screen digitising in Microstation environment. The major problem is to collect information, which covered, by obstacles such as trees, buildings etc. To overcome this, survey team with Palm Top computer, GPS and related orthoimage, should go to the field parallel to the adjudication team. It provides capability of solving boundary disputes by adjudication team as well as picking up obstacle boundaries by survey team. Finally the system consists with accurate legal boundaries with orthoimage. The local banks and other institutions could consider this information to arrive at an accurate title assessment. In addition to that one supreme advantage is that clients could have valuable title certificate with part of orthoimage and vector map for the relevant land