A NEW HORIZONTAL CONTROL NETWORK FOR SRI LANKA

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Accuracy demands for new cadastral surveys cannot be satisfied with the precision of the existing horizontal control network of Sri Lanka. A new control system has to be established. Today there are several ways which can be used in establishing primary control. Task is to select the optimum way of doing this.

Presently available acceptable methods are, EDM traversing, Triangulation Trilateration combination and Global Positioning. Global Positioning has different modes and for survey control the mode called Interferometric or Base line measurements has to be used. Financial conditions and technical and political constraints may not allow us to use this method itself to establish control.

EDM traversing is made tedious by the requirement of azimuth control at every other station. Then comes the Triangulation and Trilateration combination. It is very flexible and can be executed using available instruments and man power. If there is any possibility of measuring few base lines using GPS, they also can be added to the observations.

Existing figure of Triangulation has an excellent structure and the old observations are also of fairly good precision. Simultaneous least squares adjustment of the network using old observations shows that these observations are consistent and the accuracy of the network can be improved by introducing more distance measurements.

Slight modification have to be made in the figure too. Many stations need replacement and there are weaker areas to be strengthened by some way. Considering these factors, a scheme has to be devised for necessary angle and distance observations required to achieve the expected precision using Pre Analysis techniques. For densification of control EDM traversing can be used.