

REDEFINITION OF INDIAN VERTICAL DATUM:

Existing Vertical Datum was defined in 1905 without gravity observations and sophisticated instruments. Accurate heights are required for developmental projects and inundation mapping. With the requirement of height accuracy within few centimetres, it is necessary to redefine vertical datum.

About 70% old Bench Marks either do not exist on ground or are in disturbed condition. A project of National importance on Redefinition of Indian Vertical Datum is implemented by Survey of India. Accordingly G&RB started a re-levelling programme under name "**Redefinition of Indian Vertical Datum**" in 2006. These newly defined heights will be based on geopotential numbers and Helmert Orthometric Heights, which follows the water flow criterion. To form the main frame of vertical control for the entire nation, about 35,000 linear Km in both direction (Fore and Back) in first phase has been completed and based on the main frame of vertical control, further densification of the vertical control of about 70,000 linear km. in both direction in second phase is involved for the Project.

Achievement:

Phase I

About 46,000 lin km of High Precision levelling in Fore and Back Direction forming a Framework of vertical control has been completed in all respects. Report is under final stages of scrutiny.

Phase II

The 46,000 lin km long levelling line skeleton has to be densified by about 1,00,000 lin km fore and back levelling line to make the new level lines available for common use. The densification of the levelling network is being carried out by respective GDCs in the area of responsibility under their jurisdiction.