

# ***Optimization of Soil Nails for Slope Stabilization using Different Softwares***

**V.M.SHARMA**

**ADVANCED TECHNOLOGY &  
ENGINEERING SERVICES**

**AIMIL LTD.**

**NEW DELHI**



***Landslides Problems are Very  
Common in our Country. More  
so in Rainy Season***



- ***The most common remedial measure is to construct a Gravity Retaining Wall***

***Provides a passive support***

***Becomes active only when movement occurs***



- ***A better system is to provide***

***Reinforcement and Drainage***

***The idea is to improve its strength so that it can support itself***



**•The required Analysis and Design can be done manually or by using a Software. The most commonly available Softwares are :**  
**Slope Wedge**  
**FLAC 2 D and 3D (Static and Dynamic)**  
**ANSYS CivilFEM**



**One of the Advantages of using the software for analysis is that we can run several alternatives in a short time and optimise the solution. Here is an example**



**Unit Wt** = **1800 Kg/m<sup>3</sup>**  
**C** = **0.1 MPa**  
**φ** = **25°**  
**Nails area** = **0.05m<sup>2</sup>**  
**Youngs Modulus** = **1e9 Pa/m**  
**Yield Strength** = **1e10 Pa/m**  
**Bond Strength** = **1e10N/m**  
**Bond Friction angle** = **45°**











