Guidelines for WRA Site Selection

1. The site can be in any orographical region – homogeneous topography
2. It should have open environment all around or at least to the sectors of prevailing wind direction so that the data collected will be representative of the area under consideration.
3. The site should not be in very high roughness forest area which retards wind. Forest area with open appearance that subsequently may not be available for power project, should not be considered. However such areas can be considered for assessment of the wind potential for academic reason.
4. Sites with high potential for development of wind power project should be preferred.
5. In case of site being selected in non-flat terrain then it needs to be located in probable locations which have the advantages of accelerate flow due to the complexity of the region. The probable locations in such region could be ridges, hills and mountains which are suitably oriented to the prevailing wind direction. Passes, gaps and valleys, those can enhance wind also can be considered.
6. Sites prone to environmental hazards such as frequent thunderstorms, severe icing and snow, floods, land slides, severe salt spray and areas of blowing dust, earth quake etc should be avoided as far as possible.
7. Areas of high turbulence, strong wind shear and extreme winds shall be considered with caution.
8. Easy accessibility to the site is an important criterion. But in case a site offers good potential with considerable area availability but lacks accessibility in the beginning. Such site shall be considered as road formation at a later stage may be viable.
9. The sites near load centers should be preferred as evacuation cost is very less at those sites.
10. The sites should not be near to bird habitat.
11. Consideration of ecological indicators like the deformation of vegetation by winds can be used to locate windy sites.
12. Analysis of available data along with contour maps should be studied to locate probable windy sites.
13. Opinion of local people regarding wind in region should be considered before finalizing a site for wind monitoring.

Methodology for Monitoring

An instrumented 80 m /50 m mast (tower) needs to be installed at selected sites for collection of at least one/two years continuous wind data. Wind speed and direction parameters are measured at 80, 78.5,50 and 20 m level for 80 M mast and at 50 & 30 m for 50 m mast.