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Ecosystems and Revegetation in Semi-Arid Land

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More than one-third of terrestrial area of the globe is occupied by semi-arid and arid ones. But until two decades before few scientists directed their attentions to this area.

Most people regarded these areas as one part of tropical or temperate zones. However both weather and biological conditions in semi-arid and arid areas are quite different from those in other climatic zone. Large areas of semi-arid and arid areas are gradually deteriorated every year, and which is caused by abnormal weather and anthropozoic pressure. Now at first we should analyze the mechanisms of the deterioration in this area to control desertification.

There have three physical key factors controlling environmental conditions and biological components in this area, one is soil moisture and the others are poor fertility of the soil and salt accumulation on the surface of the soil. Amount of production in ecosystems in the world lineally increase with amount of rainfall in the areas where have less than 1000mm in annual precipitation. Characteristics of weather conditions in semi-arid and arid areas is not only the extreme quantitative but also temporal and spatial irregularity. These weather conditions very strongly affect on establishment and growth of plants in this area.

The one outstanding feature of ecosystems of this area is poor mineral accumulation on the soil and slow cycling speed of minerals by non-activity of edaphone, and plants and animals in this area adapt to these soil and weather conditions and develop strategies to survive.