



## *Soil-Forming Factors – Human Activities*

### **Human Settlement**

Originally, human settlement was closely dependent on climate, the availability of water, the length of the growing period and the presence of fertile soils for crops and fodder. As a consequence, the urban pattern and infrastructure network that is visible today reflects the areas that match these conditions. Population density is generally very low in arid, cold and mountainous regions while the Nile Delta, the Ganges Plain and the Far East are amongst the most densely populated areas on the planet. Average global population density (excluding Antarctica) is estimated at around 50 people/km<sup>2</sup>. However, over half of the land surface is inhospitable to humans, which means that people tend to cluster around sea ports and fresh water sources. The most densely populated region is the North Indian River Plain with 1 000 people/km<sup>2</sup>. Following are the Taiheiyo Belt (Japan), the southeast coast of China (Guangdong, Hong Kong, Fujian), Java, the North Indian Plain (Pakistani Punjab to Bangladesh and Assam) and the Nile Delta. Urban populations rely almost entirely on third parties for food production, which in turn puts increasing pressure on rural soils. Long-term global population growth is difficult to predict.

### **Land degradation**

Maintaining soil condition is essential for maintaining several ecosystem services and biological diversity. However, soil is under increasing threat from a wide range of human activities. The threats are complex and, although unevenly distributed, their dimension is continental and they are frequently inter-linked. When many threats occur simultaneously, their combined effects tend to increase the problem. Ultimately, if not countered, soil will lose its capacity to carry out its functions. This process is known as soil degradation. The four main types of degradation, was produced from data collected by a UNEP-funded project in the mid-1990s to categorise human-induced soil degradation (GLASOD – Global Assessment of Human-induced Soil Degradation). Within the project, the type, extent, degree, rate and main causes of soil degradation were assessed and mapped within loosely defined physiographic areas, according to expert judgement. Analysis of the data indicated that around 15 % of the global land surface was degraded or in the process of degrading. Loss of topsoil by water or by wind erosion is by far the most important subtype of displacement of soil material, with water erosion occupying around 56 % of the total area affected by human-induced soil degradation.

### **Deforestation**

Deforestation is the permanent destruction of natural woodlands through the felling of trees in order to make the land available for other uses (apart from forest). All major tropical forests – especially those in the Americas, Africa and Southeast Asia – are under pressure, largely to make way for human food production, including livestock and crops. Additional drivers are logging and the construction of roads or buildings. The loss of trees destroys habitats and biodiversity, and reduces carbon sequestration and soil functions. Deforestation generally increases rates of soil erosion, by increasing the amount of runoff and reducing the protection of the soil from tree canopy and litter. In some situations, it can lead to the onset of desertification. Therefore, tropical deforestation has profound consequences on soil condition and associated biodiversity.

***Soil Lovers say: Farmers Are Urged To Focus On Building Soils For Future Returns***