

Improving of soil carrying capacity for better living.

Abstract

Soil is the most important resource for food production. The increase in world population puts pressure on the soil resource to continuously provide food security for the population. The per capita arable land is 0.22 ha per capita and it is expected to reduce due to population increase, land degradation processes and competition for non-agriculture land use. The agricultural sector has been successful to continuously supply food for the growing population. This is brought about by the green revolution resulting from technological improvement through advancement in scientific knowledge. With more constraints and greater challenges the agriculture sector requires more efficient and productive technology. Since horizontal increase through expansion of arable land is restricted the increase in food production has to be achieved vertically by increasing soil productivity. The use of fertilizer for improvement of soil productivity is one of the widely practices worldwide. The use of fertilizer has no doubt increased the soil productivity; however it has also created serious environmental problems. As an example, the efficiency of N fertilizer is often low due to losses and the N that leaks to the environment causes serious environmental problems such as ground water pollution, emission of greenhouse gases, eutrophication and nitrate pollution. For sustainable fertilizer management, the loss has to be minimized to subsequently increase fertilizer efficiency. Application of balanced plant nutrients had been shown to increase soil productivity. Addition of small amount of micronutrients in certain soils can result in tremendous yield increase. Other technologies that increase soil productivity and reduce its degradation will enhance the soil carrying capacity. The public awareness on the importance of soil resource for food production and human survival should be provided through the education system. Research for public good on sustainable soil management must be given top priority alongside the market driven research, to ensure the agriculture sector continues to supply us with food from the growing population.

Keyword: Soil resource; Food security; Population carrying capacity.