Written by Dr. Ir. E. Saifuddin Sarief, it has long been realized by humankind that an increase in world food production cannot always catch up with the pace of population growth. It is estimated that the world population in the 2000s will reach more than 6 billion by calculating the low population growth. This will result in the need for additional residential land and a very high increase in agricultural production, especially food. This problem will be felt, especially in developing countries such as Indonesia. According to research conducted in 1975 (Steila, 1976) in the next ten years, namely in 1985, India will face a need to increase foodstuffs by 88 to 108 percent due to its population increase; Brazil faces an increasing need of 91 to 104 percent; and Pakistan by 118 to 146 percent. Indonesia is expected to need an increase in this food production by at least more than 100 percent. From the following example, the lowest percentage rate is estimated to be due to a 30 percent decrease in soil fertility, while the highest percentage rate is due to population growth. The above percentage does not mean an increase in food items needed to improve the quality and quantity of food, but merely sustains the urgent need for food in the future, as a result of an increase in population.

To meet the urgent demands as mentioned above, the only main hope lies in the state of the land. In addition to air and water, soil is the most important natural resource that humans have. Therefore, humans should maintain and even increase the productivity of land in a sustainable manner so that it can meet the demands mentioned above. In an effort to maintain and increase soil productivity, we must argue that we have land not as inheritance from our ancestors, but we borrow it from our children and grandchildren. Therefore, the land must be returned in a better condition. The need for us to maintain and improve the productivity of the land is due to the existence of several factors or events that can reduce the level of productivity or soil fertility. In increasing agricultural production, especially food, the government carries out various efforts, namely intensification, extensification and rehabilitation. These rehabilitation efforts are an effort to maintain and improve soil productivity.

The opinion that says that the purpose of any agricultural business is to obtain as much agricultural produce as possible without regard to the soil fertility conditions that result from it, is a false opinion. The reason is because this will only lead to a deteriorating land condition. The correct opinion is that every agricultural business must aim to obtain optimal agricultural products without reducing soil fertility. In other words, the purpose of each land management plan is to produce high and efficient agricultural production. In an effort to achieve this goal, the land must be maintained at an optimal level of productivity. What is meant by efficient here is that the net proceeds obtained from each unit of sacrifice must be as large as possible after being considered technically, economically and sociologically. What is meant by soil productivity is the ability of the soil to produce optimal agricultural production without reducing the level of soil fertility. The availability of nutrients that can be absorbed by plants is one of the factors that can affect the level of production of a plant. The types and elements of the amount of nutrients available in the soil for plant growth basically must be in an enough and balanced condition so that the expected level of production can be achieved properly. Therefore, agricultural soil fertility is a soil condition where the water, air and nutrient conditions are enough, balanced and available according to the demands of the plant. From this understanding, this soil fertility means physical fertility, chemical fertility and soil biological fertility because all determine the level of soil fertility.