Soil Fertility Evaluation: Recommendations for Sustainability Needed

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The Mekong Delta is considered the grain barn of Vietnam. Sustainable agricultural development must be encouraged to preserve the natural resources of the region. The dominating issue rests mostly on the problem-soil areas (mainly acid sulphate soil), which occupies about 65% of total land of the Delta. Together with other sciences, soil science has received much attention since that is a base for all agricultural activities.

Major Problem Soils

According to the Soil Science and Land Management Department at Cantho University (1998), in the Mekong Delta, major problem soils and their management include:

- Soil acidification
- Soil salinization
- Soil nutrients degradation
- Soil physics degradation
- Soil biology degradation
- High content of organic acid
- Soil pollution due to insecticides, herbicides

According to Vo-Tong Xuan (1993), acid sulphate soils and saline soils are the most problem soils, as they affect crop cultivation and production.

As the demand for food supply and enhancing the living conditions of farmers increases, agriculture lands of the Delta have been put into intensive uses, regardless of long-term productive sustainability and environmental care.

Awareness of future problems in agriculture in terms of soil fertility has been accepted during the economic reform period by local Delta authorities and government officials; however, what kind of information is needed in order to assist them as we move forward? This question should be first realized at the university level and at other related institutions. In order to go ahead with the research, methodology is needed to evaluate degradation of the soil fertility, including recommendations for improvement. This kind of research is not fully available in the Delta nor in the country.

The dominating issue in the sustainability of the Mekong Delta is problem-soil areas, mainly acid sulphate soil, which occupies about 65% of the total land in the Delta.

The Mekong Delta, where this tractor is being used on a rice field, is considered the grain barn of Vietnam. According to the author, a study is needed on soil fertility, including evaluation and recommendations for sustainable agricultural development.

Technology Transfer

Factors that cause degradation of natural soil fertility need to be controlled. To establish guidelines for sustainable agriculture development to meet the nation's demand for food, for processing raw materials, and for exporting products (and thus increasing per capita income of the farmers), appropriate research and technological advances need to be extended to farming families. With this achievement, we believe that crop yields from millions of farmer families will be maintained and improved, and thus farmer living conditions will be improved.

Because of the enormous importance of soils, and the abundance of problem-soil types in the Mekong Delta, there have been innumerable empirical and experimental investigations of soil chemistry and physical properties. Consequently, much is known about the causes, distribution, impacts, and possible amendments of natural problem soils, particularly acid sulfate soils. Paralleled with the ongoing research, the Delta wishes to establish a study on soil fertility, including evaluation and recommendations for sustainable agricultural development in the Mekong Delta, in terms of food security and sustainability of the environment.

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