SOME MORPHOLOGICAL PROPERTIES AND PRESENT LAND USE SYSTEM OF ACID SULPHATE SOILS OF BANGLADESH

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ABSTRACT

Bangladesh has a total geographical area of 14.3 million hectares out of which cropped area is 8.6 million hectares. The present level of food production is not sufficient to fulfill the demand of growing population. Because of the limited scope for increasing the net cropped area, an increase in agricultural production has to be attained by increasing the product per unit area and utilizing the problem soils through suitable management practices.

In the coast of Bangladesh about 71,000 hectares of acid sulphate soils excluding Khulna Sundarban area has been recognized as a problem soil. They have been grouped into actual, potential and buried acid sulphate soils. These soils have never been seriously studied and have not been properly characterized for propert use. In order to find a way to utilize such acid sulphate soils of Bangladesh a study on the morphological characteristics to classify them and present land use system have been undertaken.

The soils are very poor to poorly drained with colour ranges from dark grey to grey. The texture is silty clay loam to clay and the air dry soil pH with water (1:1) is less than 4. Potential acid sulphate soils have no jarosite minerals. On the other hand, the actual and buried acid sulphate soils have jarosite minerals within he profile with different depths.

Acid sulphate soils of Bangladesh, at present, are generally unproductive. Most of them are lying fallow except some land have been used as double and single cropping of rice, production of shrimp and salt alternately depending on the topography of the land, flooding, irrigation facilities, drainage, salinity, acidity of the soils and above all on the ability of the farmers. Rice and shrimp yields are commonly as low as 1.25 to 1.50 t/ha and 0.5 to 1.0 t/ha respectively while average rice and shrimp yield of normal soils of the area, has been reported, around 2.5 t/ha and 2.0 t/ha respectively.