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- I. 研究発表要旨
- II. 学会賞奨励賞発表要旨
- III. シンポジウム要旨



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Recent Changes in Cropping Technology in the Floodplain of the Brahmaputra Valley: A Case study in Muktapur village, Kamrup District, Assam.
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ブラマプトラ溪谷氾濫原における近年の作物栽培技術の変容
 アッサム・カムループ県、ムクタプール村での事例研究
 ニッタノンダ・デカ（グアハティ大学地理学科）、アバニ・クマール・バガバ
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Key Word: Assam, Cropping Systems, Floodplain, Brahmaputra

キーワード：アッサム、作物栽培体系、氾濫原、ブラマプトラ

1. Introduction

Like any other river valleys, the Brahmaputra valley in Assam is also characterized by the presence of fertile alluvial floodplains, where agriculture is traditionally practiced since long. Although a variety of crops are grown, rice continues to be the dominant grain crops covering more than 70 percent of the valley's total cropped area. With the rapid growth of population, there has been growing pressure on land leading to intensification of the cropping system. The cropping intensification, which basically means raising of more crops from the same land, requires application of modern technology in terms of providing irrigation, fertilizer and crop protection measures to sustain bio-physical productivity of land.

2. Methodology

The data for the study have been generated through a household survey carried out in 2006-2008 using a purposively designed survey schedule. The data thus obtained pertaining to landuse, methods of farming including inputs provided have been tabulated, mapped and analyzed.

3. Study Area and Discussion

In order to study the recent changes in cropping technology in the floodplain environment of the Brahmaputra valley at micro level, a village called Muktapur in the district of Kamrup (rural), Assam has been selected (Fig 1). This is a typical village representing an agro-ecosystem evolved by a non-tribal indigenous Assamese community within the broad framework of the valley's ecosystem. The village contains as many as 408 households with a total population of 2080. Most of the households (78.67%) are engaged in agriculture operating small landholdings within the village and its neighbouring territories. The agricultural practice is, by and large, traditional. However, modern farming techniques have slowly appeared to replace the age-old ones causing thereby a significant change in the agricultural scenario of the village. The crops cultivated in order of areal strength include rice, mustard, lentil, black gram, potato, dhania, rapeseeds, kala, etc. Among the kharif crops, rice is more extensively cultivated which covers 75 % of the total cultivated land of the village. It is observed in the village

that the area under some crops such as lentil, black gram, sugarcane, jute, rapeseeds, etc. has been gradually declining, specially after 1990s. Again, some traditional crop varieties, especially in case of rice, such as Jaha, Barni, Boka, Mainagiri, Tengre, etc. have been increasingly replaced by the HYV of rice. The modernization in agriculture has replaced some age-old cropping practices such as Mara chah, Bannirani, Baan ubhala, use of herbal concoction as pesticides, use of organic manure, etc. which are also responsible for the extermination of some age-old agricultural tools such as Bidha (Fig 2), Buta nangal, Don (Fig 3), Ghani, Neotherni (Fig 4), etc. from the village agricultural scenario.

4. Conclusion

The study finally arrives at the conclusion that although the village agro-ecosystem has been gradually influenced by the modern farm technologies, the level of their adoption is still low. Majority of the farmers, specially the marginal and small holders, still use the traditional practices, which are found to be effective and suitable to the specific village environment. The indigenous cropping technologies still hold good in the context of the highly fragmented and scattered land structure and the eco-friendly response of the people to the local environment.

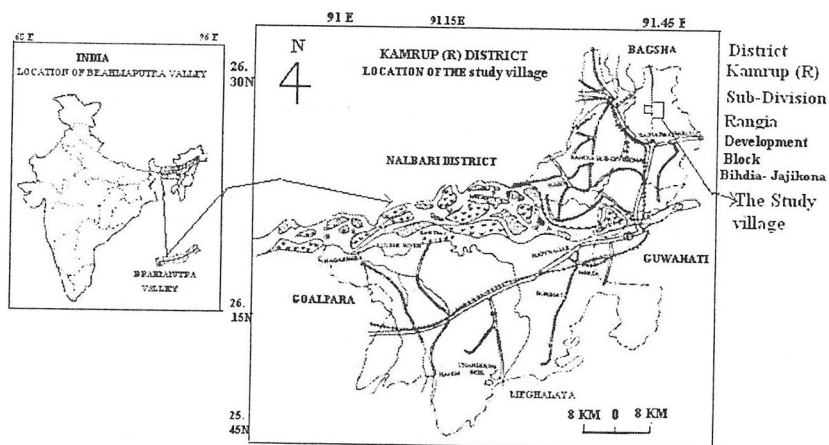


Fig 1: Location of the Kaskata hat

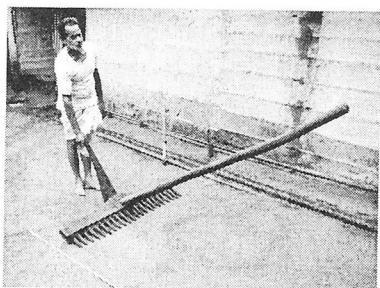


Fig 2: Bidha (a kind of weeder).



Fig 3: Don

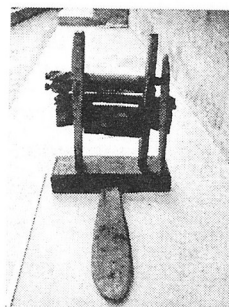


Fig 4: Neotherni