

Change of agricultural technologies and the background in Burkina Faso

“Case of rural areas in Bam province, Central north region”

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1. Background and objective

After big drought of 70's and 80's in West Africa, transfer projects of agricultural technologies, Diguette and Zai, against desertification were executed extensively by international organizations and NGO for a long period in Central north region of Burkina Faso. Diguette is stone dykes installed on contour lines of cultivated fields in order to protect from water erosion. Zai is technology that putting manure and seed into 30 cm holes and cover with soils, it has effect on improving soils. However, these kinds of activities have difficulties for the diffusion and are discussed the appropriate way. Therefore this study gives cases of Diguette and Zai and reveals the actual diffusion's process and the social background to elucidate factors for voluntary practices. Furthermore, it indicates the appropriate way for autonomous diffusions.

2. Research Area and Method

The field research was conducted four times between September 2012 and November 2013. Research fields are Yargo village and Foulou village in Bam province, Centre-Nord region, Burkina Faso. Research was conducted by questionnaire, conversation with the villagers, acquiring position information of cultivated land applying Diguette and Zai with GPS device, and acquiring documents about the transfer technologies projects.

3. Result and Discussion

Inhabitants are mostly farmers, they product home consuming crops and cash crops. Theirs second occupations are raising livestock, goldmine labor, collecting firewood, local alcohol production for cash income. Especially number of goldmine labors was increased since the changing mining act in 2003. On other hand, because perennial migrant workers at cacao's and coffee's plantation in Côte d'ivoire was increased and women must live exterior after engagements or marriages as the local rural rule, population of labors ages between 15 to 64 years old were decreased.

On Diguette and Zai diffusion, majority adopted both technologies. Diguette was introduced by transfer projects and farmers adopted because of project's approach. For installing Diguette, transporting stones to cultivated land was heavy labor, therefore project had supported with lorry. However, farmers have not reinstalled by themselves after end of project's support, because renting lorry is expensive and they can't utilize it. On Zai, there were two ways to introduce technology. One of them is that farmers who watched and learned t exterior and adopted in theirs cultivated fields, and the other is that farmers who learned by transfer projects. At the beginning Zai's effective had not been trusted for reason of new technology, it causes prevention from rising adopter's number. But because farmers have realized the effect with time and specific farmers supervised, it caused increasing adopters. Zai is easy to practice with local tools and materials. Moreover, farmers possibly complete labors by community labors system with paying, so they continue.

From the above, 'feasibility' such as tools, materials, labors is the necessary condition for voluntary practice of technologies, in addition, 'reliability' influence number of adopters. Therefore, appropriate way for autonomous diffusions are introducing technologies using local tools, materials, labors which identified before project. Then, projects collaborate with specific farmers who have leadership for promoting diffusions. However, projects must respect theirs opinions and situations before obtaining a consensus.