

## **“Fai” and “Bo” Type Rice Culture on the Marginal Plain of Thailand**

by

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### **Abstract**

Map published in 1910 suggests that the marginal zone of the Chao Phraya valley has been occupied by two types of rice culture which originated from two regions having different cultural complexes; one is “Fai” type rice culture originating in intermountain basins to the north, and the other is “Bo” type rice culture possibly connected with the Khorat plateau. The former is characterized by “Fai” (dam) and transplanting, and the latter by “Bo” (farm-ponds) and mixture of transplanting and broadcasting. The both types are independent of the so-called flood irrigation rice culture in the backswamp area.

### **1. Two kinds of rice land on Fan-Terrace Complex**

The marginal zone of the plain is defined physiographically as Fan-Terrace Complex zone<sup>2)</sup>. This is a slightly undulating terrain sandwiched between the Chao Phraya plain proper and the hills confining the basin. To be more detail, this is a complex of two units; one is Fan which is located at the outlets of large streams coming out from mountains and the other is Terrace which occupies inter-fan areas.

The map of 1910's indicates that there were two types of rice land on Fan-Terrace Complex zone; they are oval-shaped rice land concentration on Fan and scattered rice field patches on Terrace. Fig. 1 is a map showing an example of these rice land on a part of the marginal plain.

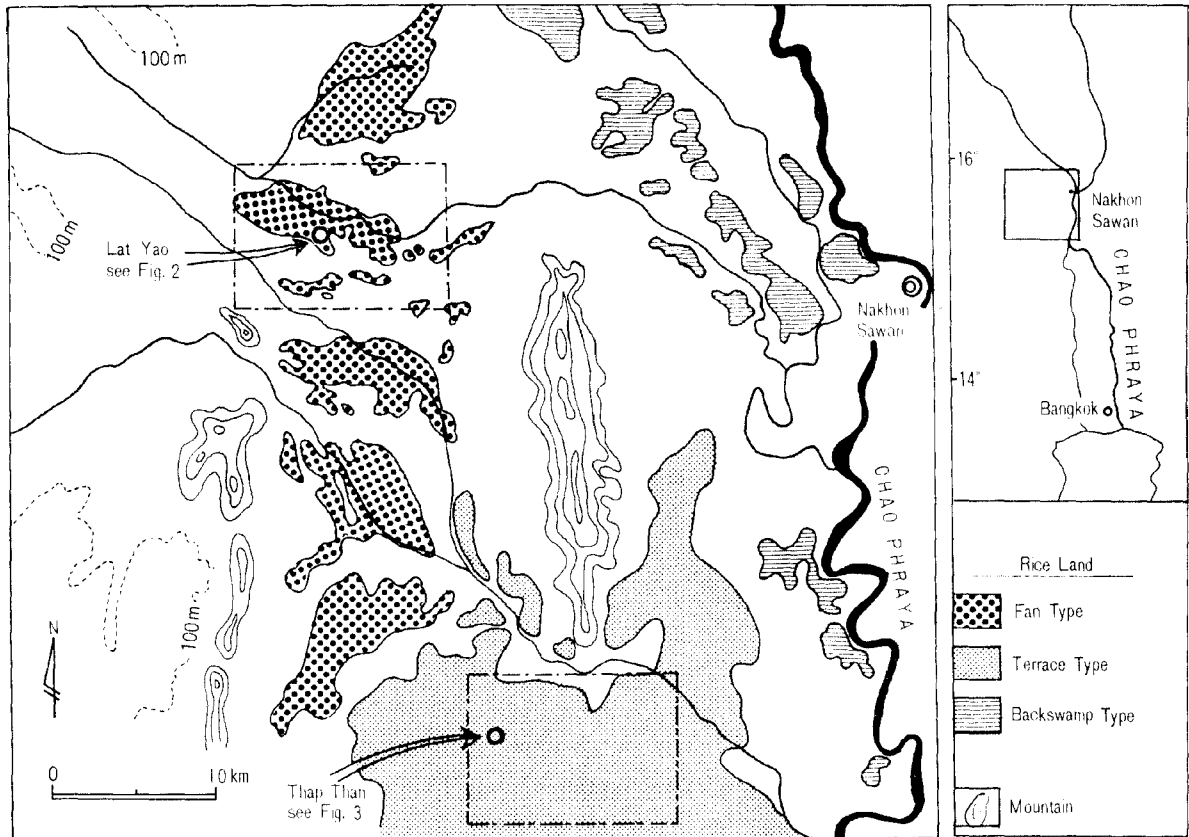
#### 1-i) Rice Land of Fan

Fig. 2 is an example of the oval-shaped concentration. As is seen in here, this type of rice land has a centripetal pattern with one considerably large settlement at its center and a very clear periphery bordered with forest. The average length of the long axis of an oval is 5 to 10 km. The near-apex portion is usually a well watered locality. Water coming out from mountains, which is easily percolates into under-ground when it flows some way on sandy terrain, remains still on the ground surface on this portion, forming numerous streams of fan. These streams are mostly

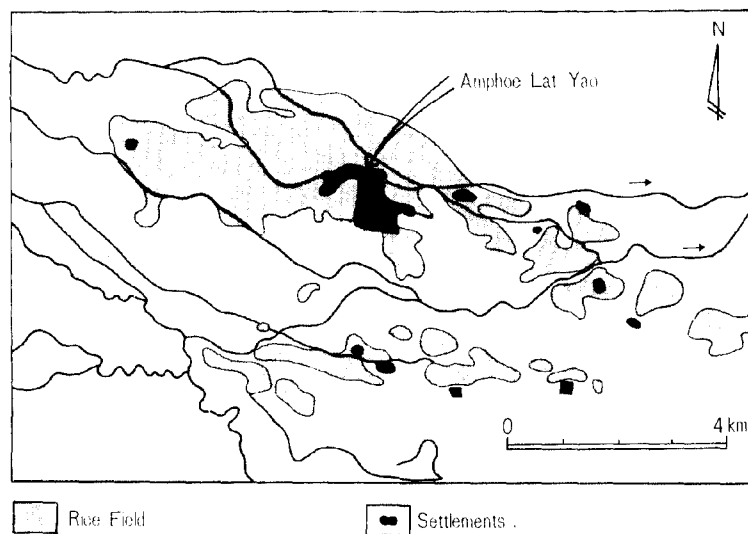
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2 to 10 m wide and 1 to 3 m in bank height. This is an ideal dimension for the streams to be installed with small scale irrigation network manageable with communal level.



**Fig. 1** Map showing the distribution of three types of rice land, Fan type, Terrace type and Backswamp type as of 1910's. Prepared based on the 1 : 50,000 map.



**Fig. 2** A close-up of Fan Type Rice Land; the location is shown on Fig. 1.

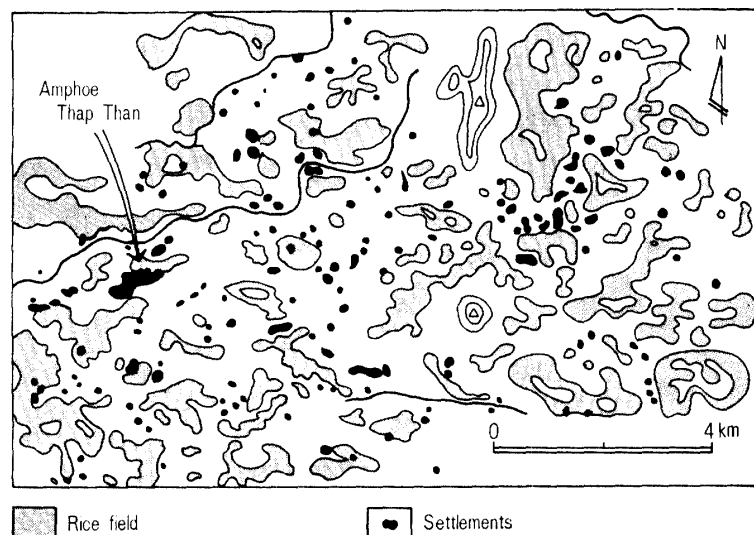
Scenically, in this well watered portion, houses appear comfortably off densely covered by luxury green of various fruit trees. Outside villages, streams are well maintained being embanked and lined up with planted trees, and small canals and dams made of earth and twigs are common. Fields are seen clearly parcelled by bunds. All these give the area quite and well established atmosphere.

1-ii) Rice Land on Terrace

Terrace is an elevated terrain from the adjoining Fan by several to some tens meters. This terrain usually lacks large catchment from which water is supplied, and the stream density is far smaller than on Fan area. The soil is, in many places, composed of more coarser fractions, like sand and loam, than on Fan. These properties results in the water deficiency on Terrace surface.

Rice area are seen scatered on this surface, showing a mosaic with bushes and dwarf tree forests. Even within rice fields, many trees and bushes with termite mounds are found. Thus the area give us an impression as if there is no clear separation between rice field and forest. Settlements are also fragmented and disperse throughout Terrace, forming no large core village. This is a terrain lacking nucleus (Fig. 3).

Concerning agricultural technique, there are two particular things on Terrace. One is farm-pond irrigation and the other is broadcasting on dry land. Farm-ponds, from  $3 \times 3 \text{ m}^2$  to  $10 \times 10 \text{ m}^2$  in size, are dug within rice fields, and water is lifted up from them by bamboo baskets to rice fields. A comparatively large ponds may feed rice field 10 to 20 acre, but most are barely large enough to take care of several acre. Numerous ponds are needed to get water in this manner. A terrible thing with this farm-pond irrigation is that owing to the sandy foundation irrigated water percolates



**Fig. 3** A close-up of Terrace Type Rice Land ; the location is shown on Fig. 1.

into the ground and comes out to the ponds very easily, thus peasants are forced to lift water up repeatedly with short intervals.

Broadcasting method shares quite a sizable acreage on Terrace. One possible reason of this broadcasting is again attributed to the inferior physical condition. Coming of water onto rice fields fluctuates very greatly from year to year both in its commencing time and volume. Under this unreliable condition, sophisticated transplanting method which requires such orderly sequence as seedling, ploughing, puddling and transplanting can not be done with regularity. Once the sequence is broken, for instance by the retard of coming of water to the fields, the result may be the total failure of the harvest. To avoid this risk, peasants often grow rice in a form of upland crop which is less susceptible to drought but less productive than paddy.

In spite of pathetic efforts such as back-breaking farm-pond irrigation and low-profit broadcasting, 10 to 30 percent of the total cultivable area is left unplanted almost every year, because of the definite shortage of water. Terrace is an upland field in nature rather than rice land though it is heavily used for paddy growing.

## 2. Possible core area of "Fai" and "Bo" type rice culture

Two more interesting facts are provided from the same map of 1910's.

One is that the rice land on Fan lines up in north-south direction along the marginal hill up to the northern end of the Chao Phraya valley and even extends into the intermountain basin of North Thailand, which is supposed to have been a kind of core area of stream irrigation with "Fai" since the olden days. A very possible supposition is, therefore, that the rice culture on Fan is the southern extension of this "Fai" agricultural complex originating in the intermountain basins.

The second is that Terrace type rice land is tracable eastward across the Chao Phraya river upto the heart of the Khorat plateau, which is famous of its numerous archaeological remains of circular moats<sup>4</sup>). These moats were probably used for family and irrigation purposes by prehistoric people, and many of them are still being used for the same purpose by present day peasants. Thus, this is the area in which dug ponds have been and still are playing quite an important role in every sense of life including agriculture. Laying stress on this fact, the rice land on Terrace is figuratively described as the land of "Bo" type rice culture after the local name of the dug pond.

Once the above outlined supposition is accepted, the distribution of the Chao Phraya's rice land is schematized as is shown in Fig. 4. An important thing is that "Fai" type complex originating from the intermountain basins comes down into the Chao Phraya valley along the foots of the marginal hills, not along the trunk river of the Chao Phraya. It seems to be in this way that the immigration of people from the north into the Chao Phraya plain has taken place. "Bo" type complex on Terrace again keeps off from the wet environment and forms a kind of semi-arid sphere having

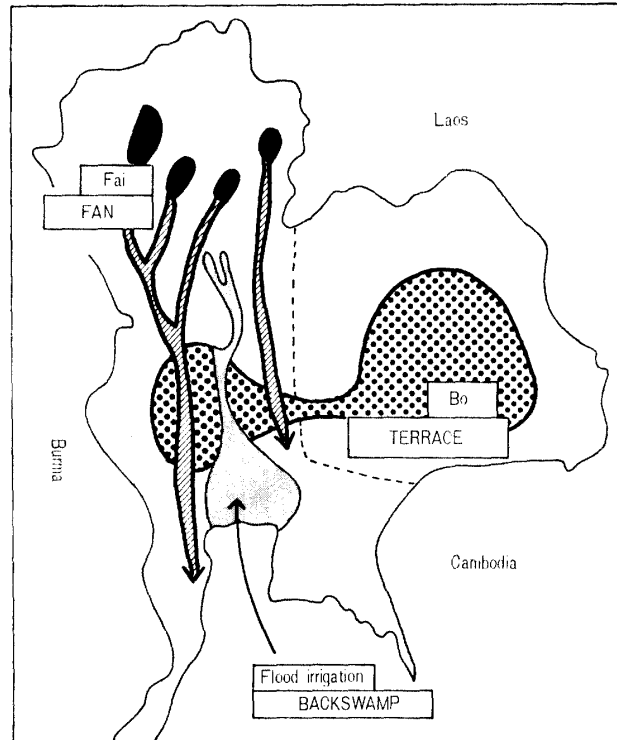


Fig. 4 Map showing three agricultural complexes corresponding to three physiographic environments.

its core in the Khorat plateau. The problem here is how deeply these complexes have invaded into backswamp area which has an entirely different nature.

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