

# **The Natural Environment and the Socio-Economic Behavior of Farmers in Thailand and Java**

A Preliminary Summary Report on "Nature and  
Man Project" of Kyoto University Center  
for Southeast Asian Studies

## **Introduction**

This is the first preliminary summary report of a research project organized by Kyoto University Center for Southeast Asian Studies (SEAS) in 1973, in cooperation with a number of scholars and experts in Thailand and Indonesia. The research was initiated to learn the reasons why most of less developed countries (LDC) are located between the Tropic of Cancer and the Tropic of Capricorn. This tropical zone covers about one quarter of the land surface of the earth and absorbs almost one third of the world's population. The predominant percentage of the people living in the tropical zone are cultivators and may be classified as poor peasants. In other words it would seem clear that there might be a high correlation between low productivity of tropical agriculture and underdevelopment of most LDC with low per capita incomes.

There is, however, nothing particularly new about this thesis. Some climatologists like E. Huntington<sup>1)</sup> and S. F. Markham<sup>2)</sup> went further to associate certain climates with various types of physical and mental activities. But, of course, all their statements were not objective and depended on the judgements rendered by the subjective value scale of individual scholars. In general there have been many claims that certain climates are particularly conducive to health, others stimulating to mental activity, still others especially suitable for the healing or alleviation of certain diseases. It is difficult, however, to prove any such claims objectively because climate is generally only one of many factors which influence simultaneously the human body and human activity.

Another simple-minded misunderstanding is that the productivity of tropical agriculture is generally very low. The intertropical milieu offers, on the whole, uniquely favorable conditions for plant and animal life. The variety and luxuriance of plant growth in the tropics are paralleled nowhere else, and tropical animal life is similarly rich and populous. But there are limitations on the kinds of crops by climatic and soil conditions as in any area on earth, and ecological factors seem to interfere seriously with tropical agriculture.<sup>3)</sup> Where-

1) E. Huntington, *Civilization and Climate*, 3rd. ed., Yale University Press, 1924; *The Mainsprings of Civilizations*, John Wiley & Sons, Inc., 1945.

2) S. F. Markham, *Climate and the Energy of Nations*, 2nd ed., Oxford University Press, 1947.

3) As for general discussions on tropical agriculture, see, for example, M. Bates, *Where Winter Never Comes: a Study of Man and Nature in the Tropics*, 1963.

ever conditions of soil, temperature and moisture are suitable for use under existing local cultivation practices, tropical land are intensively exploited. Land well suited to cultivation is already scarce particularly in Asia. Easily accessible cultivable lands are already cultivated and inhabited. It is said that only 20 percent of the cultivable lands are left throughout South and Southeast Asia. This seems to show that the traditional pattern of agriculture in tropical Asia has exploited the natural environment to the full. These facts seem to demonstrate that the natural environment given to tropical agriculture is by no means conducive intrinsically to its low productivity nor particularly unsuitable for human living.

Since, however, it can hardly be denied that LDC are located in the tropical zone, it is absolutely necessary to collect the information about farmers' lives, attitude and psychology as they live in certain environmental conditions. Most anthropological ethnographies do not necessarily relate the lives of various racial groups adequately to the natural environment where they live, and almost all natural scientific studies of tropical agriculture pay little attention to the farmers' attitude and psychology. What is needed is an interdisciplinary survey of farmers' living in tropics and its careful analysis. For this purpose a team of scholars was organized, consisting of two sub-groups. The first group was composed by natural scientist of various disciplines mainly to observe very carefully the natural environment of the villages to be surveyed. The second group consisted mainly by social scientists who conducted the social survey in six villages in Thailand and Indonesia.

Group I:

- |                        |   |
|------------------------|---|
| Gen Murata             | : Botanist, Dept. of Botany, Faculty of Science, Kyoto University           |
| Eiji Matsumoto         | : Geologist, The National Science Museum                                    |
| Yoshihiro Kaida        | : Irrigation Engineer, Center for Southeast Asian Studies, Kyoto University |
| Yoshikazu Takaya       | : Geomorphologist, Center for Southeast Asian Studies, Kyoto University     |
| Sayant Suthitavil      | : Geologist, Chulalongkorn University, Thailand                             |
| Satrasajang Thavatchai | : Irrigation Engineer, Royal Irrigation Department, Thai Government         |
| Suvijant               | : Institute of Geology, LIPI, Indonesia                                     |
| Hayao Fukui            | : Agronomist, Center for Southeast Asian Studies, Kyoto University          |
| Tomoo Hattori          | : Soil Scientist, Kyoto Prefectural University                              |

Group II:

- |                   |  |
|-------------------|--|
| Shinichi Ichimura | : Economist, Center for Southeast Asian Studies, Kyoto University      |
| Koichi Mizuno     | : Anthropologist, Center for Southeast Asian Studies, Kyoto University |

- Yoshihiro Tsubouchi : Sociologist, Center for Southeast Asian Studies, Kyoto University
- Hiroshi Tsujii : Agricultural Economist, Center for Southeast Asian Studies, Kyoto University
- Hiroyuki Nishimura : Agricultural Economist, Dept. of Agricultural Economics, Faculty of Agriculture, Kyoto University
- Toshio Asano : Psychologist, Primate Research Institute, Kyoto University
- Prasert Yamklinfung : Sociologist, Dept. of Sociology, Faculty of Political Science, Chulalongkorn University
- Yut Sakdejayont : Sociologist, Faculty of Liberal Arts, Thammasat University
- Akin Rabibhadana : Sociologist, Faculty of Liberal Arts, Thammasat University
- Harsja Bachtiar : Sociologist, Faculty of Letters, University of Indonesia
- Mubyarto : Agricultural Economist, Faculty of Economics, Gadjah Mada University
- Masuri Singarimbun : Anthropologist, Institute of Population Studies Gadjah Mada University

Group I studied carefully the natural environment of central plain of Thailand; namely, the Chao Phraya Basin and the traditionally developed agrarian area of central Java, and selected three villages in two regions respectively as typically representing the different natural configurations in these two areas of Thailand and Indonesia. Both are typically rice-growing areas and have different environmental conditions within the areas. The first four articles collected here present the results of careful observations of the environmental conditions of the areas and villages. The fifth article is a summary of the surveys conducted in Thailand and Indonesia.

Originally the team included the third group of experts consisting of

- Yoshiyuki Matsuura : Sports Scientist, Tsukuba University
- Yoshinori Ohyama : Sports Scientist, Center for Physical Activity Instruction, Kyoto University
- Atsushi Murai : Physiologist, Faculty of Medicine, Kyoto University

This group was planned to study the physical and physiological conditions of the farmers in these villages. Various circumstances prevented them from realizing such studies. Their observations of physical conditions of Thai and Indonesian children are of great interest as such, so that their article is presented as a separate study.