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James A. Hafner, Emeritus Professor, *University of Massachusetts - Amherst*

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by

James L. Hafner*

In historical perspective the theme of man and nature is an old and basic one in most Asian societies yet it is of only relatively recent origin in the West. In the United States man's relationship to his environment as an agent of landscape change was first expressed in the writings of George Perkins Marsh in the mid-nineteenth century.[1] However, it has only been in recent years that this theme has been taken up again as part of the growing concern over environmental pollution and the deterioration of natural resources. The greatest interest in these problems among industrialized and technologically advanced nations is in part attributable to the cumulative effects of technology within the last several hundred years. This does not imply, however, that similar problems and an uneasiness over the implications of environmental pollution are absent in Thailand or other countries in Asia. One need cite only the growing space devoted to these issues in the Thai press and a recent volume of the Bangkok Bank Monthly Review on "Pollution and Thailand" as examples of this concern.[2] With all the interest in pragmatic solutions

* B.A., M.A., Ph.D., University of Michigan 1970. Field research in Thailand from 1966-68 on transport development and geographic change in the Central Plain and more recently from May, 1972 to present on Ecological Aspects of Rural Poverty: A Comparative Study of Differential Processes. This latter project is being conducted in cooperation with the Social Science Research Institute, Chulalongkorn University, in Ayutthaya and Cholburi provinces.

Currently Assistant Professor of Geography, University of Massachusetts, Amherst, Massachusetts, U.S.A.

1) See, George Perkins Marsh, *Man and Nature: Or, Physical Geography as Modified by Human Action* (1864), edited by David Lowenthal, Cambridge: Harvard University Press, 1965.

2) The Bangkok Bank Monthly Review, Vol. 13, No. 9 (1972). One of the first steps toward improving our understanding of man's relationship to his environment in Asia and problems of environmental quality is represented in the recent conference held at the University of Michigan in 1971. (see, *Environment and/or Development in Asia: Hope and Frustration*. The Record of the Conference on Asian Environments, June 14-17, 1971. Yuh-jao Wu and Wilfredo Al. Clemente II eds. Ann Arbor, Michigan (1972).

to problems of environment pollution there has been surprisingly little thought given to deeper issues of perception and attitudes towards the environment which underly human behavior. The following discussion focuses on man's relationship to his environment in rural Thailand and how this relationship is manifest in peasant attitudes and behavior.

Several ideas and conceptions among rural people toward their environment provide preliminary direction in understanding environmental attitudes and behavior in rural Thailand. These conceptions can hardly be considered to be consistent throughout the country at any one time or place, but they may help in formulating ideas about why people act as they do towards the environment.

How often has the Thai saying, "Rice on the land, fish in the waters" been quoted in one form or another to reflect the quality of life in Thailand. Translated in different terms this phrase depicts a belief in the general abundance and wealth of the natural environment. Hunger and starvation are almost unknown in Thailand and if natural disaster should befall the farmer he knows the kindness of his neighbors or the benevolence of the *wat* will see him through until another harvest. Unlicensed cutting of timber which is a perennial problem is seldom considered by the illegal logger in terms of its effects on soils, erosion, and reforestation. The forests seem to be abundant. The basic necessities of life can easily be attained relative to available resources. unless of course one has higher levels of aspiration. The rapidly accumulating wastes of human and industrial origin which foul the Chaophraya and other rivers hardly seem to be cause for alarm since everyone knows that the annual rains will surely flush these pollutants away. A belief in the abundance of the environment is then an integral part of rural Thai attitudes toward their natural environment.

Considering the universal acceptance of environmental abundance, a common rural view is that man can and in fact does take at will from the environment. Rural Thai exploit resources without concern for the maintenance or replenishment of these resources in the natural environment. This attitude of parasitism reflects the view of nature as an undiminishable source of man's sustenance. Rural villagers in Ayutthaya province remarked at the removal of vegetation from the village environs

over the past fifty years and noted the rising costs of charcoal and lumber, yet indicated little concern for conserving the remaining vegetation or undertaking local reforestation programs. Fertilizer is irregularly used to renew soil fertility and many coastal fishing areas are being abandoned as fish resources drop below minimum levels for economical exploitation. Symbiotic relationships in which man is an equal partner with nature rather than a parasite exist only infrequently and the general belief in environmental abundance precludes any systematic efforts to promote better management and renewal of resources.

A third conception among rural Thai about their environment concerns views on public vs. private domain. The distinction between public lands and resources and those which are held as private property is probably not as clearly demarcated as in some Western nations but is still evident in rural areas. Field work in several villages in Ayutthaya in 1972 indicated that rural villagers draw clear lines between their own property and that which formed part of the public domain. Responsibility for the care and maintenance of each unit was clearly identified and the deterioration of forest resources, footpaths and roads, the local irrigation network etc. was seen as the responsibility of the government whether or not these resources were partly or entirely within the public domain. The Pattaya Beach affair of 1972 provides ample evidence of the divergent views on the division between public and private domain and where the responsibility lies for conserving these resources.[3] Had the beach area not been a major resort, tourist attraction, and source of income one wonders whether a solution would have been so quickly found. Mr. Roisarn Mongkon writing in the *Bangkok Bank Monthly Review* cryptically noted, "This seems to prove that if concerned individuals were to make enough of a nuisance of themselves to get the authorities moving to impose stern controls on industry and to educate the population at large, Thailand as a whole need not get itself into the pickle that Pattaya did."[4]

3) This problem was widely covered in both the Thai and English language press in Thailand and is briefly discussed in, Roisarn Mongkon, "How Dirty Can You Get" *Bangkok Bank Monthly Review*. Vol. 13, No. 9 (September 1972); 362-66.

4) Ibid, pg. 366.

There are many possible explanations of the apparent contradiction between growing Thai concern for the environment and their behavior toward it. Several factors seem to be so frequently present in Thai society as to provide some explanation of this dual pattern of attitude and behavior. The role of government as perceived by rural villagers is one such factor. Not unique to Thailand is the view that government as a process and set of responsibilities and duties is distinctly separate from the villager himself, a view which prevails in rural Thailand concerning both national and local government. This distinction results in attitudes among villagers which separate the responsibility for development, maintenance, and resource supervision from their own responsibility for these factors. The villager sees the government as responsible for protecting and renewing resources in the natural environment and not himself. This dichotomy in responsibility seems particularly evident where political participation and involvement is limited. The term *nathi* (duty) is an important concept in this rural view of governmental and private obligations.[5] The villagers *nathi* is determined by social and economic conditions of his birth and therefore he feels under no obligation to assume a duty which is not appropriately his concern. Duty as perceived by the villager may then be manifest in terms of his lack of responsibility toward the environment. The obligation for these matters is clearly seen as one which is primarily with the government, not the villager, thus local initiative for village development, community resource management and similar environmental related matters must come from those individuals who have the proper duty. If local drainage canals need to be cleaned, a roadway improved, or erosion checked the initiative must come from those officials whose duty is to see that these things are done. Thus, the view of villagers in Ayutthaya that responsibility for local resources lies with local or national officials is consistent with this concept for *nathi*.

5) The implications of this concept of duty (*nathi*) and responsibility in terms of relations between the villager and the government are investigated by Stephen B. Young in "Northeastern Thai Village : Non-Parcicipatory Democracy," *Asian Survey*, Vol. 8, No. 11 (1968); 873-86.

The role of religion is a second factor posed in partial explanation of rural Thai attitudes and behavior toward the environment. Unlike China where Taoist and Confucian philosophies clearly elaborate the importance of man's relationship to nature in harmonic and symbiotic terms, Thai Buddhism seems to take no explicit position on this matter. There are clear prohibitions against taking life in any form yet there are no apparent guidelines as to how man should relate to other elements in his natural environment. The process of making merit *(tham bun)* among Buddhists in Thailand excludes in practice any reference to the environment even though there is an increasing interpretation of merit and merit making behavior at the national level as including modernization and community development activities. Mulder (1969) observed that to the rural villager merit appears to be part of the traditional way of life where *wat* centered activities make merit while merit related to programs of village development would be seen as only of minor importance.[6] Furthermore, sacred rituals performed in conjunction with productive activities attribute a *kwan* or essential soul to only rice, all other plant forms are excluded from this protective umbrella of religious and anamistic beliefs. It can be seen then that all resources and actions toward resources other than rice are free from any religious restraints which might preclude their over-exploitation. Religion, therefore, does not provide a framework within which attitudes and actions toward the natural environment can be manifest and elaborated in rural Thailand.

Another factor which may clarify the distinction between environmental attitudes and behavior is the nature of individual identity with group and community needs. Phillips (1965) has emphasized this factor by noting that villagers lack a strong sense of identity with community needs except for religious activities and the reciprocal work groups organized around the rice production process.[7] Outside of the nuclear family, kindred, the nation state, the wat and school, the villager feels

6) Mulder, J. A. Niels, "An Investigation of the Motivational Qualities of the Buddhist Concept of Merit in Thailand," Center for Southeast Asian Studies, Northern Illinois University, Dekalb (November, 1968); 15.

7) Phillips, Herbert B. *Thai Peasant Personality*, Ithaca: Cornell University Press (1965); 17.

no obligation to any other formal or informal group. Activities which require organized efforts are either avoided or done only with considerable difficulty and maintenance of personal freedom of actions is seen as normal and important. This relationship when transposed to environmental behavior emphasizes the dual concern for mine and theirs and the absence of a framework of social obligations which might impose controls over exploitative behavior toward natural resources. A similar pattern has been noted in the Philippines by Yengoyan (1970) who concludes that this produces a rather narrow framework within which ends are accomplished and the duality of mine and theirs perpetuated.[8]

These various elements in the man-environment relationship in rural Thailand can be better elaborated by presenting several examples of the way in which man adjusts and accommodates himself to changes in the natural environment. Field work among rural agriculturists in central Thailand from 1966 to 1972 has revealed a number of factors which may indicate something about the man-environment relationship in practice. Scattered throughout the lower central plain, particularly north and west of the Bangkok-Thon Buri Metropolitan area, are groups of migrant commercial gardeners who produce fresh vegetables and fruit for the urban market. Their cropping activities and frequent shifting of garden locations have traditionally been influenced by soil fertility, irrigation conditions, crop and fertilizer complexes, and the availability of rental land in areas of high tenancy. Prolonged cultivation of crops in one location produced declining yields and crop quality, increased demands for fertilizer, and a general reduction of profits. Movement of gardens was therefore necessary every 2-3 years and within certain spatial limits land was always available for rental. Environmental and economic variables are familiar to the migrant gardener and they are aware of how far separate factors can be extended before both yield and profits will decline below acceptable limits. The fine details of this ecosystem are carefully observed and as long as a balance between the various elements of the system are maintained it continues to operate efficiently. Man functioned in a symbiotic relationship with his environment, generating no undue stress and receiving optimum rewards.

8) Yengoyan, Aram A., "Man and Environment in the Rural Philippines," Philippine Sociological Review, 18 (3-4) 1970. pp. 199-202.

By the late 1960's complex pressures resulting from urban growth, population increases, and demand for land had begun to destroy the equilibrium of this system. Favorable lands close to transport services were increasingly removed from wet-rice cultivation and devoted to non-agricultural forms of land use, thus denying them to the migrant gardener. Rental costs on wet-rice lands began to increase under the impact of urban expansion and essential crop inputs became more expensive. The migrant gardener responded to these changing conditions in two ways. The regular cycle of garden movement was slowed and gardeners began to increasingly turn to static locations where they could either purchase the land or obtain long-term rental agreements. A second response resulted in gardens being established at much greater distances from the Metropolitan area where land rentals were still comparatively low and improving road transport services provided convenient shipment to the urban market. The increasing displacement of wet-rice on the higher value lands close to the urban market meant higher levels of labor and crop inputs were needed by migrant gardeners to sustain acceptable yields and crop quality. Those individuals opting to move further from the market were able to minimize any additional labor and crop inputs since field movement was still possible, although additional transport costs somewhat reduced their original profit margins. The new ecosystem emerging out of the disarray of the old system has meant adjustments were necessary to the changing environment if the balance between man and environment were to be maintained. The structure of this new system of interconnections between the human and environmental system may take some time to develop but in the interim a more parasitic relationship will prevail.

A second example on a less extensive scale involves recent attempts to graft commercial fishponding onto the wet-rice landscape in the lower central plain. The production of pond-reared fish in central Thailand is not a new activity, but one which has seldom been pursued on either a scientific or commercial basis. The only consistent success in this enterprise was observed where ethnic Chinese raised fish, chickens, and pigs in a closed ecosystem, each element interrelated with the other through the exchange of waste materials as primary sources of food intake. Few external inputs are required in this system since manure, fish meal, and waste vegetation provide the only supplements to exchanges between each component in the system. Labor inputs are minimal,

fish, pork and fowl prices are high, and the operators knowledge of fish pond ecology and stock raising is enhanced by his willingness to invest in feed and fertilizer while personally coordinating the entire operation. In contrast to this essentially closed ecosystem are recent attempts by immigrant Thai from the south to graft fishponding onto the wet-rice landscape. These individuals lack a detailed knowledge of fishpond ecology or methods to integrate it with fowl and swine production. They pursue fishponding as an isolated activity and are reluctant to make appropriate investments even though they desire to obtain substantial profits from their activities. Only in isolated cases is rice cultivation combined with fishponding and little effort is devoted to developing the ponds, applying fertilizers or establishing a productive system apart from the natural ecosystem.

Among these two categories of fishpond operators the former represents an effort to manipulate and extend environmental variables to a maximum within a diversified ecosystem. The relationship established with the natural environment is symbiotic in that resources are not over-exploited and surpluses are reinvested into the system. A sophisticated knowledge of the resource system and its manipulation within balanced limits enables these individuals to obtain high profits and maintain a productive enterprise within limitations imposed by the natural environment. The latter category of fish pond operator takes an entirely different view of his relationship to the environment. Based on the assumption of environmental abundance and armed with only a nominal grasp of the ecologic variables these individuals attempt to achieve success without really working within the system. Where alternative investment options are not available or not pursued these operations ultimately prove to be failures. Observations of these systems in Minburi district and in Chachoengsao province have not yet shown any of them to be successful. These contrasting patterns of success or failure are in part a manifestation of attitudes and behavior toward the environment and a willingness to work within environmental limitations.

The situation represented by this complex of attitudes and behavior is certainly not a dismal one and there are many indications of progressive action being taken in Thailand. The simple fact of growing attention to environmental questions in the Thai press is in itself encouraging and one step toward improving Thai attitudes and awareness of their environment. The recent efforts of Thai students to influence consumer

buying is not in itself representative of changing views toward resources and resource conservation, but it is symptomatic of an increasing involvement of youth in national and community problems. If this interest can be channeled into the areas of environmental problems it can provide an effective means of emphasizing these problems among a larger segment of the popultion. Efforts by certain sectors of the government to tighten and enforce environmental protection and pollution laws is an essential step in the right direction if it is pursued on a sustained basis. Unfortunately, all of these indices are essentially of urban origin and therefore may have little impact in rural areas unless efforts are made to extend them beyond the urban environment. However, in a developing nation like Thailand, the urban centers provide the initial medium for germinating changes in attitudes and efforts to change attitudes and behavior must logically occur first in these centers. There is no reason, however, why various educational and instructional programmes concerning the environment can not be profitably pursued in rural areas. The school system, *kamnan* and *puyaiban* officials, and representatives of concerned ministries might provide the most effective means of introducing these programmes.

One frequently hears the argument that developmental programmes and national growth priorities must take precedent over any investment of human and capital resources in environmental pollution controls. The two are often viewed as conflicting interests, pollution being a diversionary issue or red herring. This need not and in fact should not be so. Implicit in the planning process is concern for resources, their development and maintenance. There seems to be little reason why controls and protection of resources can not be built in to the planning process with a minimum of additional investment. Furthermore, judicious planning and the development of educational programmes at this stage of the problem could prove to be eminently less expensive and more effective than if the problem is left unattended. The results of this latter course of inaction is unfortunately well documented in many countries in the world. There seems to be no reason why Thailand should follow this same unenlightened road.

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