THE AGROECOLOGICAL MYTHOLOGY OF THE JAVANESE AND THE POLITICAL ECONOMY OF INDONESIA*

Michael R. Dove

I. Introduction

Indonesia is a country known both for the magnitude of efforts directed towards the development of its agriculture, and for the apparently problematic results of many of these efforts. Some of the problems reflect the real difficulties of successfully articulating land, people, and work in a developing country; but others, as I will argue in this article, result from discontinuities between the empirical agricultural reality that must be addressed in development and the perceptions of those officials and planners who direct it. The basic discontinuity involves the contrast between the agricultural ecologies of inner and outer Indonesia, and the evaluation of this contrast by the preeminent culture of inner Indonesia, the Javanese. This is a contrast between irrigated rice cultivation in Java (and also Bali and Lombok), and the swidden cultivation of dry rice in Sumatra, Kalimantan, Sulawesi, and the lesser Sunda islands.[1] Contemporary Javanese (speaking here of those in decision-making positions) uniformly speak of the former agricultural system as more productive, more rational, and in general better for the nation and national development than the latter. The swidden-based system of agriculture is regarded not merely as less good than the system of irrigated rice cultivation, but explicitly as something bad--irrational, destructive, and uncontrollable. It is the thesis of this article that this comparative evaluation of wet-rice and dry-rice agriculture is fundamentally distorted, and that the reasons for this are not pedagogical, but rather economic and political. My thesis is that the Javanese idealization of intensive rice cultivation and deprecation of extensive rice cultivation is based on a cultural myth, one important consequence of which is to rationalize and sustain the political and economic preeminence of their culture and government.

---

* This analysis was carried out while the author worked at the East-West Environment and Policy Institute and at Gadjah Mada University's Environmental Studies Center. The work was variously supported by CRIS (Stanford University), EAPI (East-West Center), FAO/UNFPD, the Ford Foundation, the National Science Foundation (grant no. GS-42605), and the Rockefeller Foundation. Earlier versions of this article were presented at the CCSEAS-ISEAS Joint International Conference on Village-Level Modernization, Singapore, June 21-24, 1982; at the 81st Annual Meeting of the American Anthropological Association, Washington, D.C., December 4-7, 1982; and at the Southeast Asia Program, Cornell University, December 9, 1982. The author is indebted for many helpful comments and criticisms to Carol Carpenter, John Duewel, Colin MacAndrews, Donald Nonini, and Christine Padoch. The author alone, however, is responsible for the analysis herein presented.

1. See Clifford Geertz, *Agricultural Involution: The Process of Ecological Change in Indonesia* (Berkeley: University of California Press, 1963), pp. 13-15.

I will begin my presentation of this thesis with a summary of relevant aspects of contemporary government land-use policy in Indonesia—as this relates to forest fallow swidden agriculture—and the problems to which this policy leads. I will then try to explain the source of these problems by analyzing the discontinuity between the official view and the reality of irrigated agriculture and swidden agriculture in Indonesia. I will trace the origins of this discontinuity to the agroecological expediencies of the great, irrigation-based kingdoms of Java, and then trace it through the colonial era and back into contemporary times. Throughout I shall maintain that intensive wet-rice cultivation, because it is a function of high population density and maximizes returns to land and capital, is suited to the extraction of part of the agricultural product by a central government; whereas extensive dry-rice cultivation is not so suited, since it is a function of low population density and maximizes returns to labor or people.

II. Contemporary Government Policy on Swidden Agriculture

The Indonesian government's attitude with regard to irrigated versus swidden agriculture is most easily seen in its various policies on the use of the Outer Islands' forests. Based on the government's tendency to view all forested lands as *tanah negara*, "federal lands," these policies emphasize that such lands should be managed (under the aegis of the national ministry of forestry) for export-oriented timber production and, to a lesser extent, for protection of watersheds, conservation of nature, and for the socioeconomic development of the local peoples.[2] In the eyes of the government, arguably the one factor most inimical to the attainment of these goals is the practice of swidden agriculture, which is the dominant system of agriculture in Indonesia's Outer Islands in terms of both the amount of land and number of people involved.

The government's criticism of swidden agriculture covers a gamut of concerns, involving its effects not only on the environment in which it is practiced but also on the people who carry it out. The government speaks unfavorably of the swidden cultivators as still living *secara berpindah-pindah dan terpencar-pencar*, "in a nomadic and scattered manner." It regards them as *terasing* "the most foreign" and *terbelakang* "the most backward,"[3] and their system of agriculture as technologically poor and intellectually unprepossessing.[4] Indeed, there is even some suggestion that swidden cultivation does not represent a system of agriculture at all.[5] Consonant with this, the government maintains that the

---

2. Republik Indonesia, *Garis-Garis Besar Haluan Negara Republik Indonesia 1983-1988* (Surabaya: Sinar Wijaya, 1983), pp. 41-42, 55.

3. Ibid., pp. 37, 55, 68.

4. Ombo Satjapradja et al., eds., *Proceedings Seminar Agroforestry Dan Pengendalian Perladangan*, Jakarta, November 19-21, 1981 (Jakarta: Direktorat Reboasasi dan Rehabilitasi, dan Direktorat Jenderal Kehutanan, 1981), pp. 5, 19, 25, 632. This view of traditional tribal peoples is neither necessary nor universal. Whereas the Indonesian government labels its tribal peoples *Suku Terasing* "Most Isolated, or Most Foreign, Tribes," neighboring Malaysia uses the term *Orang Asli* "Indigenous Peoples," which has very different connotations.

5. Common skepticism over the agricultural status of swidden agriculture is reflected in the fact that one high government official felt obliged to assert, of its practitioners, "*Pada dasarnya, mereka adalah petani juga*," "Basically, they are farmers too." Ibid., p. 10.

swidden cultivators live at the lowest levels of subsistence but, nonetheless, cling to this system of agriculture solely because of the strength of their culture. The government speaks of the waste of the system in terms not only of its avowedly low agricultural returns, but also of the potentially profitable, alternative exploitation of the forest for commercial timber production. The government also holds swidden agriculture--through the unintended consequences of swidden fires--to be primarily responsible for the spread of grasslands in Indonesia, which, together with savanna-like areas, today cover approximately one-third of the total land area in outer Indonesia. The government views these grasslands, especially those consisting of *Imperata cylindrica* (L.) Beauv. as a permanent and economically useless vegetative succession. In addition, it associates both this grassland succession and the swiddens themselves with erosion of the topsoil, silting, flooding, and seasonal droughts.[6]

The foregoing remains the predominant view of swidden agriculture in Indonesian governmental and academic circles, but in recent years a more informed point of view has arisen in some quarters. This acknowledges, minimally, that in some cases swidden agriculture does not destructively alter the environment but is rather in harmony with it.[7] Even here, however, swidden agriculture is still viewed as problematic, because it cannot absorb future increases in population without shortening the ratio of fallow to cultivation time, which will then precipitate destructive environmental successions. Because of such future problems, according to this view, the current practice of swidden agriculture must be curtailed.

The official perception of swidden agriculture and its practitioners is associated with, and used to justify, a number of government programs. First, there is a general effort both to proscribe swidden agriculture (and the characteristic way of life of its practitioners) and to prescribe for its practitioners, a more sedentary, intensive system of cultivation.[8] The government pursues its efforts with the greatest urgency in the forested lands in which it is primarily interested, such as those lying upstream from hydroelectric projects, or those situated in or near commercial logging concessions. In many such cases, the government removes the swidden agriculturalists from the critical area and resettles them in less isolated, less extensive territories; with the rationale that such relocation facilitates both their administration and their provision with services, such as schools, health clinics, and agricultural extension. This form of resettlement is an explicit feature of the current five-year development plan.[9] All of these programs are associated with some alternative

---

6. Ibid., pp. 5, 10, 15, 22, 24, 632; E. S. Suryatna and J. L. McIntosh, "Food Crops Production and Control of *Imperata Cylindrica* (L.) Beauv. on Small Farms," in *Proceedings of Biotrop Workshop on Alang-Alang*, Bogor, July 27-29, 1976 (Bogor: Biotrop, 1980), p. 135; cf. Ruth Daroesman, "Vegetative Elimination of Alang-Alang," *Bulletin of Indonesian Economic Studies* 17, 1 (1981): 83.

7. Ombo, *Proceedings*, pp. 17, 20.

8. Ibid., pp. 6, 632; and Republik Indonesia, *Garis-Garis Besar*, p. 42.

9. Republik Indonesia, *Garis-Garis Besar*, pp. 37, 55. Most of these relocations are carried out by the *Resetelmen Penduduk* "Population Resettlement" program for indigenous peoples. But the same results--namely the resettlement of the swidden cultivators and the intensification of their system of agriculture--are attained by the *Transmigrasi Sisipan* "Inserted Transmigration" program (which allocates up to 10 percent of the places in transmigration sites to local inhabitants) and by some of the development schemes of the government plantations groups.

use of the swidden agriculturalists' erstwhile territory, whether this is merely watershed management or, more commonly, utilization of the land for commercial forestry, export-crop production, intensive food-crop production, and/or transmigrant settlement. In areas where the forest has succeeded to grasslands, the government often attempts to reforest the land.

Most of these government programs, those involving the swidden lands as well as those directed at the swidden agriculturalists, have fallen short of fulfilling the stated expectations of the government, much less the expectations of the swidden cultivators themselves. Official proscriptions against felling forests for swiddens are routinely violated throughout Indonesia (with the partial exception of primary forests, where the proscription is either more easily enforced or else more readily accepted). Where this proscription is accompanied by resettlement, it is not uncommon for the new settlements to be abandoned after a year or two, the swidden cultivators fleeing back to their forest homes and farms as soon as official attention wanes and/or as soon as government subsidies cease. In the case of the development of sites for transmigration and/or plantations, difficulties frequently arise from the land claims of local swidden cultivators. Finally, the government's reforestation efforts in grassland areas are often less than successful, due either to lack of participation by the local cultivators or, more commonly, to their active opposition to such efforts. In light of both the breadth and depth of difficulties attendant upon developmental programs involving swidden agriculturalists and/or their territories, I suggest that there is a fundamental and pervasive difference between the government's view of these lands and people and the cultivators' own view of themselves and their lands.

III. The Reality of Swidden Agriculture and Irrigated Agriculture

1. Economics

Perhaps the most critical difference between the government's view of swidden cultivation and the view of the cultivators themselves concerns the productivity of this system of agriculture. As stated earlier, the accepted wisdom in government and academia (not only in Indonesia but in most of the tropical world as well) is that the productivity of swidden agriculture is very low, it provides its practitioners with a very poor livelihood, and consequently its persistence is due not to economic factors but to reasons of tradition and ignorance.[10] The rare attempts to buttress this view with empirical evidence uniformly rely on a comparison between yields per unit of area in swiddens and in irrigated fields.[11] Although some authors have pointed out that the

---

10. See Michael R. Dove, "Theories of Swidden Agriculture, and the Political Economy of Ignorance," *Agroforestry Systems* 1 (1983): 85-99. The view that the persistence of swidden agriculture is due to particular environmental constraints is not unknown in Indonesia (see Ombo, *Proceedings*, pp. 18, 20), but it is still very much a minority viewpoint.

11. While I use the term "irrigation" to describe the cultivation of wet rice in Indonesia, it is technically more accurate to call this--especially in Java from where my wet-rice examples are drawn--"water control" (Joseph E. Spencer, "Water Control in Terrace Rice-Field Agriculture in Southeastern Asia," in *Irrigation's Impact on Society*, ed. Theodore G. Downing and McGuire Gibson

former may surpass the latter,[12] this is usually not the case, at least not in Indonesia. A typical, smallholder's wet-rice field in Central Java yields 2.75 tons of (unmilled) grain per hectare per harvest;[13] whereas in the system of swidden agriculture that I studied among the tribal Kantu' of West Kalimantan, a rice harvest of just 3/4 ton/hectare is average in swiddens cut from secondary forest.[14] These swiddens also yield a harvest of nonrice cultigens, in volume perhaps one-half as great as the rice harvest itself, but even the sum of the two harvests is still equal to less than one-half of the wet-rice harvest. Since the swidden harvest can be taken from the same land perhaps only once every ten years, whereas the wet rice can be harvested from the same land two times (or more) every year, the difference in the productivity of the land under the two systems of cultivation is on the order of almost fifty-to-one.

This comparison of irrigated and swidden systems of rice cultivation is dramatic, and it explains why central governments prefer the former, but it does not at all explain why swidden farmers prefer the latter. This is because it measures productivity in terms of the major constraining factor in wet-rice cultivation--land--and not the major constraining factor in swidden cultivation--labor. Extensive agriculturalists tend to compare alternative systems of cultivation in terms of the return on their labor, which is scarce, as opposed to the return on their land, which is not scarce. A comparison of the two systems of cultivation in terms of returns on labor, rather than returns on land, yields a quite different result. In the case of the irrigated rice fields in Central Java cited earlier, an average of 412 workdays of household labor, plus additional wage labor and capital inputs (e.g., fertilizers, pesticides), are expended in the production of that 2.75-ton harvest, to yield a net return on household labor of 4.2 kilograms of unmilled rice per workday.[15] This is the return on labor in the cases in which the laborers own the land that they work. In the case of one-half of the land and two-thirds of the people in Java, the land is worked by people other than its owners, under rental or sharecropping arrangements, and in these cases the return on labor drops to just 2.1 kilograms or less per workday.[16]

[Tucson: The University of Arizona Press, 1974], p. 59) and/or "inundation" (Brian Spooner, "Irrigation and Society on the Iranian Plateau," in ibid., p. 44).

12. Georges Condominas, "Agricultural Ecology in the Southeast Asian Savanna Region: The Muang Gar of Vietnam and Their Social Space," in *Human Ecology in Savanna Environments*, ed. David R. Harris (London: Academic Press, 1980), p. 243.

13. Benjamin N. F. White, "Production and Reproduction in a Javanese Village" (Ph.D. dissertation, Columbia University, 1976), p. 162.

14. Michael R. Dove, *Swidden Agriculture in Indonesia: The Subsistence Strategies of the Kalimantan Kantu'* (Berlin: Mouton, forthcoming). In making these and all following calculations, all rice is measured in a threshed, winnowed, and unhusked state.

15. White, "Production and Reproduction," pp. 162-63. The workday in White's calculations is 420 minutes long (ibid., p. 157 n.). I have recalculated his figures based on a 350-minute workday, for ease of comparison with my Kantu' data.

16. Dibyo Prabowo and Affendi Anwar, "Natural Resources, Agriculture and the Environment," in *Growth and Equity in Indonesian Agricultural Development*, ed. Mubyarto (Jakarta: Yayasan Agro Ekonomika, 1982), p. 38; White, "Production and Reproduction," pp. 164-69.

By comparison, the 3/4-ton rice harvest from the swiddens in West Kalimantan is the product of an average of only 95 workdays of household labor, representing a return of 7.9 kilograms per workday.[17] Thus, the return on labor in the Kantu' swidden system ranges from 88 percent to 276 percent larger than the return in the Javanese irrigated rice system.

This clear difference in economics explains the reluctance of farmers to abandon a swidden system, such as this, for a more intensive system, such as the one described, except when forced by either population growth or government sanctions. It also explains the willingness of farmers to abandon intensive systems of cultivation for extensive systems, when this is made possible by depopulation or migration.[18] This is not to suggest that every swidden system yields a higher return on labor than every irrigated system. Where particular local conditions make the cultivation of wet rice especially easy and the cultivation of swidden rice especially difficult, the former will yield higher gross returns to labor as well as land.[19] However, even in these cases, the

---

17. While recognizing that swidden inputs and outputs vary from one swidden system to another, and that they also can vary greatly within a given swidden system--from one season to the next, and from one swidden subtype to another--the Kantu' data are presented because they appear to be not atypical of swidden systems in general (cf. Dove, *Swidden Agriculture*, pp. 378-79), and minimally they are valid for the system in question. These figures refer to a typical Kantu' swidden cut from secondary forest, which consumes an average of 168 workdays per hectare from the initial selection of the site to the final carrying-in of the rice harvest. Twenty-five of these workdays represent labor devoted to making the tools that are used in the course of this work. Since White ("Production and Reproduction," pp. 459-60) apparently left this expenditure out of his own calculations, I subtracted these twenty-five days from the total, leaving a revised total of 143 workdays/hectare. This revised total includes labor devoted not only to the cultivation of rice, but also to the wide variety of nonrice cultigens also grown in these swiddens. Accordingly, I further reduced the revised labor figures by a minimum of one-third to factor out the labor devoted to the latter, given that White's workday totals apply to the cultivation of rice alone. (This reduction is relatively conservative: in Conklin's analysis of the swidden system of the Hanuno'o of Mindoro--in which system rice is admittedly less important than it is in the Kantu system--he estimates that almost 60 percent of all swidden labor is devoted to the cultivation of nonrice cultigens. [Harold C. Conklin, *Hanuno'o Agriculture: A Report on an Integral System of Shifting Cultivation in the Philippines* (Rome: FAO, 1957), p. 152.]) This last revision produces a final figure of 7.9 kilograms of rice per workday (= 750 kg ÷ [143 x 2/3]).

18. Ester Boserup, *The Conditions of Agricultural Growth: The Economics of Agrarian Change under Population Pressure* (Chicago: Aldine, 1965), pp. 28, 69; 62-63; Ronald E. Seavoy, "The Transition to Continuous Rice Cultivation in Kalimantan," *Annals of the Association of American Geographers* 63 (1973): 225; Robert McC. Netting, "Household Organization and Intensive Agriculture: The Kofyar Case," *Africa* 35 (1965): 422-29; and idem, *Hill Farmers of Nigeria: The Cultural Ecology of the Jos Plateau* (Seattle: University of Washington Press, 1968).

19. Based on 1980 data from the Kerayan Lun Dayeh of East Kalimantan, Christine Padoch estimated that returns to labor averaged 7.4 kg/day in dryland swidden fields but more than 10.8 kg/day in wet-rice fields (see Christine Padoch,

net return to the cultivator may be higher from the swidden rice. It is one thesis of this article that intensive agriculture not only tends to yield a lower return on labor than extensive agriculture, but also that it is more vulnerable to state extraction. This extraction can reduce the net return on labor in an intensive system below that of an extensive system, even in cases in which the gross return of the former is higher.

The higher return on labor in the swidden system is attractive because it allows farmers to spend less time in their swiddens than in irrigated fields, other things being equal. The impact of this lies not in idling the labor of the swidden farmers, but in freeing it for other economic pursuits. These pursuits may include other subsistence activities, such as hunting, fishing, and the gathering of wild comestibles; but typically they also include one or more market-oriented activities. Indonesia's swidden cultivators are heavily involved in the cultivation of rattan, tobacco, coffee, copra, pepper, benzoin, and rubber. The Kantu', for example, are rubber tappers. Having first acquired rubber seedlings in the 1930s, today each household owns four or five small rubber groves, each containing from 100 to 300 trees. This pattern of mixed subsistence agriculture and cash cropping is not merely common in Indonesia, it is predominant. Most of the country's export crops are cultivated on a smallholder not plantation basis; and most of these smallholders fill their subsistence needs through swidden agriculture. Moreover, the historical trend over the past half century has been one of continual growth in this smallholder-swidden agriculture sector.[20] For example, this sector accounts for 80 percent of the country's rubber exports today, compared with 45 percent in 1938.[21] This is impressive evidence of the relative strength and stability of this pattern of cash cropping, in the face of changes in the international markets, in the national economy and polity, and in the structure of the croppers' societies as well.

The success of this smallholder cultivation of export crops is directly related to the character of the system of swidden agriculture with which it is associated.[22] The importance of the high return on labor in this system

---

"Agricultural Practices of the Kerayan Lun Dayeh," *Borneo Research Bulletin* 15, 1 [1983]: 33-38). However, the abnormality of this situation is attested to by Padoch herself, who notes that the particular topography of the Kerayan territory, coupled with the absence of a marked dry season and the historical lack of iron tools, make wet-rice agriculture more practical, and swidden agriculture less practical, than is typically the case in Kalimantan.

20. Allen M. Sievers, *The Mystical World of Indonesia: Culture and Economic Development in Conflict* (Baltimore: The Johns Hopkins University Press, 1974), pp. 193, 352-65; Karl J. Pelzer, "Swidden Cultivation in Southeast Asia: Historical, Ecological, and Economic Perspectives," in *Farmers in the Forest: Economic Development and Marginal Agriculture in Northern Thailand*, ed. Peter Kunstadter et al. (Honolulu: East-West Center, 1978), p. 285; Kenneth D. Thomas, "Shifting Cultivation and Production of Small Holder Rubber in a South Sumatran Village," *Malayan Economic Review* 10 (1965): 100-115; Ronald E. Seavoy, "Population Pressure and Land Use Change," *Singapore Journal of Tropical Geography* 1 (1980): 64.

21. Ace Partadiredja, "Farm Organization, Technology and Employment," in *Growth and Equity*, ed. Mubyarto, p. 191; Seavoy, "Population Pressure," p. 10.

22. Dove, "Theories of Swidden Agriculture"; Pelzer, "Swidden Cultivation," p. 286.

has already been mentioned. Equally important is the marked seasonality of swidden labor: among the Kantu', for example, labor inputs in the swiddens are limited by technoenvironmental factors to no more than 6-8 months in the course of one year.[23] Thus, the cultivation of export crops does not compete for labor with the swidden system so much as it serves to utilize labor that is otherwise underutilized. Such cash cropping addresses one of the major problems of extensive agricultural societies: namely, maximizing the utilization of available labor. Finally, the swidden system frees land for cash cropping—not necessarily in the sense that it is incapable of using all available land, but rather that it only uses it extensively, meaning infrequently. The infrequency of use makes the opportunity cost within the swidden system of taking land for export-crop production either low or nonexistent. It is nonexistent in the case of those export crops, such as coffee, tobacco, and pepper, that can be cultivated on fallowed swidden land between periods of food cropping;[24] and it is low in the case of those crops, such as rubber, that can be cultivated only on land taken out of the swidden cycle. Among the Kantu', the opportunity cost of taking one hectare of swidden land for rubber cultivation is just 75 kilograms of rice per year (assuming that the swidden cycle consists of one year of cultivation, with a 3/4-ton harvest, followed by a nine-year fallow period). The market value of that rice is equal to as little as 5 percent of the market value of one year's production from one hectare of rubber trees.

The ability of the swidden cultivators in the Outer Islands to engage in export-crop production is not an anomaly, therefore, but is related integrally to the character of their systems of swidden agriculture. It is far less characteristic of systems of intensive agriculture, such as that of the wet-rice cultivators of inner Indonesia. Karl Pelzer explains this as follows: "The swidden cultivators may be in a better position to innovate in the direction of cash crops than are the irrigated agriculturalists who are already trapped by a limited land base and a population explosion."[25] The low return on the labor of the irrigated agriculturalists necessitates the devotion of relatively large amounts of labor to subsistence food production. The high return on land, on the other hand, means that the opportunity cost of diverting any of it to other uses is very high. This cost is typically too high to permit even the intensive cultivation of export crops, so it is clearly too high to permit intermittent cultivation as in the Kantu' system of rubber tapping in West Kalimantan.

2. Ecology

Just as the reality of swidden economics in the Outer Islands differs greatly from the official view, so too does the reality of swidden ecology. One of the government's greatest concerns—nomadism[26]—is the most easily

---

23. Michael R. Dove, "The Myth of the Communal Longhouse in Rural Development: The Kantu' of Kalimantan," in *Too Rapid Rural Development*, ed. Colin MacAndrews and Lucas S. Chin (Athens: Ohio University Press, 1982); idem, "The Chayanov Slope in a Swidden Economy," in *Chayanov, Peasants and Economic Anthropology*, ed. E. Paul Durrenberger (New York: Academic Press, 1984), pp. 97-132; and idem, *Swidden Agriculture in Indonesia*.

24. Geertz, *Agricultural Involution*, pp. 59-60, 106-11; Pelzer, "Swidden Cultivation."

25. Pelzer, "Swidden Agriculture," p. 280.

26. Ombo, *Proceedings*, p. 10.

dispelled. Only a small minority of swidden cultivators in the Outer Islands are truly nomadic or seminomadic. For some, such as the Bukit of the Meratus Mountains in South Kalimantan, this nomadism is a way of adapting to, by fleeing from, potentially hostile intruders from the outside world, including loggers, miners, and land hungry lowland peasants, as well as government officers. For others, such as the urban and market-oriented lowlanders who make swiddens along newly built logging roads in East and South Kalimantan, this is a way of plundering government land of the greatest profit in the least amount of time.[27] In contrast, most of the indigenous, traditional swidden cultivators of the Outer Islands have permanent villages and fixed, delineated village territories within which they make their swiddens. The Kantu' longhouse that I studied in West Kalimantan had been standing for twenty years at the time of my research, in a territory that was fixed at the end of the last century.

The sedentarism of an extensive agricultural people like the Kantu' is based on the use and reuse of the same forested land for swiddens. In the last year of my research with them, the Kantu' cleared less than one quarter of their new swiddens in primary forest, making the rest in secondary forest that had been cleared and cultivated at least once before. Most swidden cultivators in Indonesia clear all of their swiddens in previously cultivated secondary forest. This reuse of the land is typically associated with an indigenous system of land tenure, in which primary rights of use and devolution are held by individual households, while residual rights are held by the village as a whole.[28] This pattern of land use and ownership is associated, in turn, with both the desire and the ability to conserve the productivity of the land--which means conserving its forest cover. Measures taken to ensure its conservation, and to forestall any threat of grassland succession, commonly include not clearing very young forest for swiddens, not cropping swiddens in rice two or more years in a row, and planting trees or bushes (e.g., durian, coffee, candlenut) on newly fallowed swiddens. The threat of fire to the forest (the magnitude of which, at least in rainforest areas, has been greatly exaggerated) is controlled through the use of firebreaks and human guards; and the threat of soil erosion is mitigated by the practice of leaving unburnt timber on the surface of the swidden, and by the staggered planting of a wide variety of cultigens (achieving a multistory effect).[29]

When swidden cultivators are forced to abandon their techniques of forest conservation as a consequence of increasing population/land ratios (which necessitate an increasing ratio of cropping time to fallow time), some alteration of the environment admittedly results. Most dramatically, the forest may succeed to a uniform cover of grass--typically Imperata cylindrica (L.) Beauv.--which is not cultivable by swidden techniques. As noted earlier, this succession is much decried by the government and is the basis for many of its evaluations

---

27. Andrew P. Vayda, "Research in East Kalimantan on Interactions between People and Forests: A Preliminary Report," *Borneo Research Bulletin* 13, 1 (1981): 3-15.

28. Dove, "Theories of Swidden Agriculture."

29. An important study done in Sarawak recorded less erosion from traditional rice swiddens than from terraced rice fields, pepper gardens, or even natural forest. See T. Hatch, "Shifting Cultivation in Sarawak: Past Present and Future," in *Tropical Ecology and Development*, Proceedings of the Vth International Symposium of Tropical Ecology, Kuala Lumpur, April 16-21, 1980, ed. J. I. Furtado (Kuala Lumpur: The International Society of Tropical Ecology, 1980), pp. 483-96.

of swidden cultivation as destructive. Such a view of grassland succession is in error, however, because it fails to recognize the relationship--in the evolution of agriculture--between population/land pressure, the intensity of cultivation, and the fallow period vegetative cover. The intermediate stage in this evolution, characterized by medium population/land ratios and hoe or plough systems of agriculture, is in fact suited by a grassland cover.[30] Whereas forest is not susceptible to intensive cultivation by hoe and/or plough, grassland is. During the fallow periods in such cultivation, the grass cover also will restore the fertility of the soil and protect it against erosion.[31] In addition, these grasslands--including those covered in the much disparaged Imperata--are a source of fodder and graze for the livestock whose manure and traction are used in their cultivation.[32] Imperata can also support wild ruminants, such as the Sambhur deer,[33] and in many areas it is valued accordingly by village hunters. Finally, Imperata is a valued material for roof thatch.

The farmers who thus exploit Imperata grasslands have a symbiotic relationship with them: just as the grasslands maintain the farmers, so do the farmers maintain the grasslands--primarily through the use of fire. In a frequently burned-over environment, Imperata tends to be more competitive than other plants, due to its extensive root system and its quick rate of growth. In the absence of such burning, Imperata grasslands eventually and spontaneously succeed back to forest.[34] Thus, the grasslands are a transitional stage in ecosystemic succession, artificially arrested and prolonged by farmers whose subsistence strategies are best served by this vegetative cover; and not a

---

30. Boserup, *Conditions of Agricultural Growth*; Dove, "Theories of Swidden Agriculture"; idem, "Peasant Versus Government Perception and Use of the Environment: A Case Study of Banjarese Ecology and River Basin Development in South Kalimantan," *Journal of Southeast Asian Studies* (in press).

31. *Proceedings of Biotrop Workshop*, p. 259; Goeswono Soepardi, "Alang-alang (Imperata Cylindrica [L.] Beauv.) and Animal Husbandry," in ibid., p. 63; George Sherman, "The Culture-bound Notion of 'Soil Fertility': On Interpreting Non-Western Criteria of Selecting Land for Cultivation," *Studies in Third World Societies* 14 (1980): 487-511.

32. J. H. G. Holmes, C. Lemerle, and J. H. Schottler, "The Use of *Imperata cylindrica* (L.) Beauv. by Grazing Cattle in Papua New Guinea," in *Proceedings of Biotrop Workshop*, pp. 179-92; Bedjo Soewardi and Djoko Sastradipradja, "Alang- alang (Imperata Cylindrica [L.] Beauv.) and Soil Animal Husbandry," in ibid., pp. 157-78.

33. Michael R. Dove, "Man, Land and Game in Sumbawa: Some Observations on Agrarian Ecology and Development Policy in Eastern Indonesia," *Singapore Journal of Tropical Geography* 5, 2 (1984): 112-24; C. Ngampongsai, "Sambar's Plant Foods in Khao-Yai National Park, Thailand," in *Tropical Ecology and Development*, ed. Furtado, pp. 295-301.

34. Conklin, *Hanuno'o Agriculture*, pp. 129-32; Dove, "Peasant Versus Government Perception"; J. H. H. Eussen, "Biological and Ecological Aspects of Alang-alang," in *Proceedings of Biotrop Workshop*, p. 21; P. H. Nye and D. J. Greenland, *The Soil under Shifting Cultivation* (Farnham Royal [England]: Commonwealth Agricultural Bureaux, 1960), p. 18; P. W. Richards, *The Tropical Rain Forest* (Cambridge: Cambridge University Press, 1952), pp. 390-95; Ronald E. Seavoy, "The Origin of Tropical Grasslands in Kalimantan, Indonesia," *Journal of Tropical Geography* 40 (1975): 49.

climatic or edaphic climax, the unwanted product of destructive agricultural practices, as envisaged by the government.[35]

3. The Paradox

This brief review of the reality of systems of swidden agriculture in Outer Indonesia suggests that the official evaluation of these systems is fundamentally in error. This suggestion is supported--and the error is partially explained--by the near total lack of use of empirical evidence to substantiate the official view. In few if any articles, speeches, or conversations on this topic do officials cite empirically derived measures of crop yields (never, in any case, yields measured in terms of labor inputs) or dietary sufficiency, for example, to support the claim of an unproductive system of agriculture and a poverty-stricken class of agriculturalists.[36] The relationship between swidden cultivation and export-crop production is never mentioned (much less utilized in development planning), nor are official statements regarding the destructiveness of swidden cultivation ever backed up with evidence, such as comparative measures of erosion from land under swidden cultivation versus other uses. Finally, alarmist statements regarding forest-grassland succession are never accompanied by any recognition of the actual factors (viz., agricultural ecology and economics) that not only precipitate but perpetuate this succession. The official view of swidden cultivation in the Outer Islands is not, therefore, merely one possible interpretation from a body of empirical evidence. It is more an article of faith, of dogma.[37] This dogma is not held by the swidden cultivators themselves. They entertain no myths about their system of agriculture, but are exactingly honest--both to one another and to sympathetic outsiders--about its strengths and weaknesses.

Whence comes this dichotomy between, on the one hand, the agroecological reality and the peasants' true perception of it, and, on the other hand, the official, dogmatic, and mythical view of that reality? Other observers have noted the general tendency for evaluations of swidden systems to vary greatly and, in the light of the abundance of empirical data available on such systems, have deemed this "paradoxical."[38] I do not view it as paradoxical at all. Following

---

35. Dove, "Theories of Swidden Agriculture"; George Sherman, "What 'Green Desert'? The Ecology of Batak Grassland Farming," *Indonesia* 29 (1980): 113-48. Other farmers, living at both lower and higher levels of population/land pressure and agricultural intensification--which are *not* as well suited by a grassland cover--tend to hold appropriately more negative views of Imperata and other grasses (e.g., viewing them as pests or "weeds").

36. Even a simple and obvious indicator like per capita income does not support the view that the predominantly intensive agriculturalists of Java are better off than the predominantly extensive agriculturalists of the Outer Islands (Sievers, *Mystical World of Indonesia*, p. 195).

37. The latest twist in this dogma is denial of the very existence of swidden cultivation in the Outer Islands. Since swidden cultivation is proscribed, constrained, and discriminated against by official government policy, and since reporting something that should not exist is problematic within the government bureaucracy, provincial-level officials in the Outer Islands routinely deny that any swidden agriculture remains in their areas. This is the primary reason for the absence of reliable statistics on swidden cultivation in Indonesia today.

38. Pedro A. Sanchez, *Properties and Management of Soils in the Tropics* (New York: Wiley, 1976), p. 345.

Wallerstein, I suggest that the swidden cultivators perceive the reality and the government does not, because this suits their respective self-interests. The government's perception can be called an "ideological deflection" from reality.[39] My thesis is that this "deflection" rationalizes and supports policies for administering the land and people of the Outer Islands that are less in the interest of those people than in the interest of the central government. I do not suggest that this deflection is conscious or manifest but that it is latent, due both to its pervasiveness and its historical depth.

IV. Land Use and Government in Ancient Java

The contemporary central government's perception of swidden agriculture in the Outer Islands is analogous to the central governments' perceptions of swidden agriculture in ancient Java (and contemporary relations between Inner and Outer Indonesia are analogous to those between the lowland kingdoms and the inhabitants of the mountain forests in early Java). These latter perceptions were a function of the particular relationships that obtained between the early kingdoms, on the one hand, and their land and people, on the other.

1. The State and the Land

The early, inland, Hinduized kingdoms of Java were agrarian in nature. Pigeaud writes that in the time of Majapahit, for example, the incomes of the court, the aristocracy, and the church were all derived from agriculture--whether directly through the labor of bondsmen, or indirectly through taxes on freemen.[40] The system of agriculture that produced this income was intensive, much of it being irrigated rice cultivation. Irrigated agriculture is associated with (or more accurately, is necessitated by) capital investment in agriculture, greater intensity of cultivation of the land, and the concentration of population--all of which enhance a state's control of an agricultural population and its ability to extract a portion of the agricultural produce. This control also enables the state (or its landlords) to obtain longer working days from the agricultural laborers, which at least partially offset the relatively low returns on labor that characterize such intensive systems of agriculture.[41]

The state could only compel its subjects to work these longer hours so long as they remained its subjects. Java was then still covered with vast wilderness areas beyond the authority of any kings, to which the various subject, agricultural populations could and did flee.[42] Indeed, Schrieke claimed that such "agricultural desertions," as he termed them, may have been responsible for the major tenth century shift in population from Mataram in Central Java

---

39. Immanuel Wallerstein, *The Modern World-System I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century* (New York: Academic Press, 1974), p. 4.

40. Theodore G. Th. Pigeaud, *Java in the Fourteenth Century*, 5 vols. (The Hague: Martinus Nijhoff, 1960-63), 5: 467.

41. Boserup, *Conditions of Agricultural Growth*, pp. 71-73.

42. Soemarsaid Moertono, *State and Statecraft in Old Java*, rev. ed. (Ithaca: Cornell Modern Indonesia Project, 1981), p. 75; Pigeaud, *Java in the Fourteenth Century*, 4: 471.

to the Brantas area of East Java.[43] In their wilderness refuges, these peoples easily subsisted by practicing swidden agriculture.[44] I suggest that it was precisely this ability to make swiddens in the forest wildernesses that made flight not only possible but attractive, compared with the more intensive irrigated rice agriculture within the kingdoms. According to the evidence previously discussed, the return on labor of an owner-worker is 88 percent higher in a swidden than in an irrigated field. This comparison is based on swidden cultivation in contemporary, secondary forests. Much of the historic swidden cultivation in Java, especially by refugees, would have been carried out in primary forests, in which the return on labor tends to be even higher--9.4 kilograms/workday among the contemporary Kantu', or 124 percent higher than irrigated rice in contemporary Java. The differential would have been greater still in ancient Java, when the return the cultivator received from the irrigated field would have been further reduced by taxes (in the case of freemen) or the landlord/master (in the case of bondsmen). Moertono, citing Rouffaer, notes that, under one widespread system of court taxation, the peasant cultivator retained only 40 percent of the produce of his land.[45] The refugees' harvests, on the other hand, would not have been diminished by state extraction.[46] The state appears to have exercised little control over any of the swidden forest communities, whether renegade or not.[47]

This is not to suggest that the cultural ecology of ancient Java was clearly divided between the court-ruled intensive agricultural communities of the lowlands, on the one hand, and the independent, swidden-based communities of the forested uplands, on the other. The actual situation was doubtlessly more complex. At some times in some places, the two types of communities were probably separated by more of a continuum than a clear dichotomy. In particular, in areas lying on the fringes of one court's power or between the dominions of two separate courts, it is likely that there were communities with some of the characteristics of both the above types--subject partially but not wholly to the king's authority, and practicing the cultivation of both swiddens and wet-rice fields. In such areas, the court's ability to

---

43. B. Schrieke, *Indonesian Sociological Studies*, 2 vols. (Amsterdam: Royal Tropical Institute, 1955), 2: 301.

44. Sievers, *Mystical World of Indonesia*, p. 85.

45. Moertono, *State and Statecraft*, pp. 116, 126-27.

46. The historical cultivation of wet rice may well have been less intensive--and hence yielded a higher return on labor--than in contemporary Central Java, from whence the production data used in this paper were taken. However, since the historic wet-rice fields were heavily taxed, and since the historic swiddens were not only untaxed but cut (in many cases) from the more profitable primary forest, it is likely that the net return on the worker's labor in the former was still at least as far below the return in the latter as in contemporary Indonesia.

47. The independence of the forest dwellers is indirectly attested to by the case of the *mandala* "sacred ring" communities of the Majapahit era. They too typically were located in remote, forested mountain regions, where their people subsisted by swidden agriculture. Of importance here is the fact that they enjoyed considerable independence from the court and court regulations, as was tacitly acknowledged in court records from that period. (Pigeaud, *Java in the Fourteenth Century*, 4: 390, 486.)

prescribe agricultural practices, as well as to extract from these practices, would vary according to the distance from the court and the possibilities for flight.

The two variables along the spatial continuum--political subjugation versus freedom, and intensive versus extensive agricultural practices--relate to one another as independent and dependent variables, respectively. That is, while the people (whether agricultural deserters or indigenes) in these forest communities of swidden cultivation were relatively free, they were not free *because* they were swidden cultivators. It is less accurate to say that swidden cultivation fostered political freedom in such cases, than to say that freedom itself was what made swidden cultivation possible. There is no question that swidden cultivation can, and indeed has, become the basis for statelike sociopolitical formations.[48] What is more important here is that the environment of historical Java was also able to support more intensive irrigated rice cultivation, which--as was suggested earlier--is more easily exploited by a state apparatus. Swidden agriculture is less easily exploited because of its typically low population density, low capital inputs, and low output per unit of area; as well as its high ratio of crop species to land and of fallowed to cultivated land, as well as the high mobility of its practitioners. These characteristics do not rule out the possibility of state extraction, but they make it relatively less profitable than in the more intensive systems of cultivation that could be developed on the same lands. As a result, whenever and wherever states arose in ancient Java, they by preference developed the extant systems of swidden agriculture into systems of irrigated agriculture. Consequently, the practice of swidden agriculture in a given area indicated that it was not then under the effective political and economic control of one of the historic kingdoms, but it did not *explain* the absence of this control. Therefore, the common argument that the limitations (e.g., demographic limitations) of swidden agriculture constrain the development of the state[49] reverses the true causal relationship: namely, the extent of development of the state is what constrains the continued practice of swidden agriculture.

The alternative argument, that the distribution of intensive and extensive systems of agriculture in ancient Java was a function of varying ecological conditions--irrigated rice in the lowlands and swidden rice in the forested mountains--is not supported by the available evidence.[50] The particular environments that supported irrigated rice cultivation would have supported swidden rice cultivation as well. There is no characteristic of lowland Java that would have been inimical to swidden agriculture; and indeed it is likely that this was the autocthonous system of agriculture in all of the areas where irrigated agriculture was eventually developed.[51] Similarly, there is no characteristic

---

48. D. E. Dumond, "Swidden Agriculture and the Rise of Maya Civilization," *Southwestern Journal of Anthropology* 17 (1961): 301-16.

49. Cf. J. Friedman, "Tribes, States and Transformations," in *Marxist Analyses and Social Anthropology*, ed. M. Bloch (New York: Wiley, 1975); A. Thomas Kirsch, *Feasting and Social Oscillation: Religion and Society in Upland Southeast Asia* (Ithaca: Cornell Southeast Asia Program, 1973); Edmund R. Leach, *Political Systems of Highland Burma: A Study of Kachin Social Structure* (Boston: Beacon Press, 1954).

50. Cf. Chris Field, "Comments on the Symposium from a Geographic Perspective," in *Irrigation's Impact on Society*, ed. Downing and Gibson, p. 173.

51. The spread of irrigated rice fields in Java, at the expense of more extensive

of Java's highlands that would have inhibited the practice of irrigated agriculture there. Quite the contrary, since wet rice can be grown at higher elevations than dry rice (because otherwise fatal fluctuations in temperature are dampened by the irrigation water), irrigated cultivation arguably would have been more adapted to Java's highlands than swidden cultivation. Clearly, irrigated rice cultivation developed in Java's lowlands not only because the environment made it possible there but also because the developing states made it necessary; and swidden agriculture persisted in Java's highlands not because it was necessary there but because the absence of state control made it possible.

2. The State and the People

From the standpoint of the early Javanese state, these forest communities of swidden cultivators did not merely represent land and people beyond its control; they represented an active threat to its control. As stated earlier, some of these communities were formed or joined by agricultural laborers fleeing the control of the state. Evidence of this problem, and also of its recognition as such by the state, is provided in court records of once-cultivated land lying unworked and abandoned. The flight of laborers, and the abandonment of their land, reduced the agricultural extraction upon which the state rested. In order to maintain and increase this extraction, the state needed to maintain and increase the number of people laboring in intensive agricultural systems within its dominions.[52] This can only be achieved by force in any situation where the practice of intensive agriculture is not otherwise necessitated by high population/land ratios and the unavailability of land for more extensive agriculture.[53] Such high ratios have not prevailed throughout Java until the twentieth century, and they certainly did not prevail in ancient Java, even in the vicinity of the major courts.[54]

The only recourse of the kingdoms of ancient Java to maintain the systems of intensive agriculture upon which their economies depended, therefore, was to employ some form of coercion. Coercion was employed both to maintain extant populations of farmers within the state's dominions, and to transfer to such areas farmers from poorly controlled frontier territories and from the territories of rival states defeated in battle. These transfers of population[55] are particularly dramatic evidence of the association at that time between political power and population, as opposed to political power and land. The source of this

---

systems of cultivation, has been a relatively recent phenomenon. As Geertz notes, most of Java's wet-rice acreage has been developed within the past 150 years. See Geertz, *Agricultural Involution*, p. 34.

52. Pigeaud, *Java in the Fourteenth Century*, 4: 300-301, 472.

53. Boserup, *Conditions of Agricultural Growth*, pp. 72-73, 84.

54. Even into the nineteenth century, political power in rural Java rested on the control of agricultural labor not agricultural land, and one of the principal threats to such power continued to be the possibility of this labor "fleeing to other territories or leaving the established order by opening land in the woods." Onghokam, "The Inscrutable and the Paranoid: An Investigation into the Sources of the Brotodiningrat Affair," in *Southeast Asian Transitions: Approaches through Social History*, ed. Ruth T. McVey (New Haven: Yale University Press, 1978), p. 118.

55. See Pigeaud, *Java in the Fourteenth Century*, 4: 300-301.

power lay in exploiting the labor of the population in intensive systems of agriculture. The explicit interest of the state in intensive, permanent field agriculture is evident in this speech by Prince Wengker of the Majapahit court

> The principal of it; *gagas* [unirrigated permanent fields], *sawahs* [irrigated permanent fields], anything that is planted: that it may thrive, it must be guarded and treated with care. As much of the land as has been made into *karāman* [rural community] territory, should remain permanently so, without going to waste.[56]

The state would not have had to coerce directly the practice of intensive agriculture, which probably occurred at the initiative of the farmers themselves, under pressure from the state's concentration of population. The state's support for constructing, maintaining, and utilizing irrigation and flood-control works represented not the product of this agricultural intensification but its cause, and not the cause of this population concentration but its product.

The necessity for the state to control and coerce its population, in order to develop and maintain an intensive system of agriculture in such circumstances, is not widely understood.[57] This has led to much confusion regarding the relations between people and state in early Java. For example, van Setten van der Meer states that the inhabitants of the early kingdoms depended for their welfare and prosperity on wet-rice cultivation and on the attendant provision and control of water by the state.[58] It would be truer to say that the welfare of the state depended on the exploitation of the populace through the medium of irrigated agriculture. Her misunderstanding of the basic nature of this relationship is related to her belief that irrigated rice agriculture in Java preceded the formation of the Indianized states and was merely overlaid by the apparatus of the state, to the benefit of both.[59] I have been arguing here that the intensification of rice cultivation in most places was preceded by a concentration of population; and since Java's population density was

---

56. Ibid., 3: 103-4.

57. For example, see Wallerstein's assertion that within the sixteenth century European world economy, extensive agriculture could be carried out with slaves or coerced wage laborers, but intensive agriculture required free laborers. (Wallerstein, *Modern World System*, p. 104.) He bases this assertion on the apparent association between intensive agriculture and self-employment in the center of the world economy (viz., Europe), and the association between less intensive, plantation agriculture and coerced labor in its periphery (viz., the tropical colonies or trading partners). He fails to recognize that the high population/land pressure, which he notes was associated with the practice of intensive agriculture in Europe, is by itself sufficient reason for this practice. Hence, the European intensive agriculturalists were relatively free from state coercion only because the coercive element was already supplied by the population itself. He also fails to recognize that the agriculture of which he speaks on the world system's periphery, while possibly less intensive than the agriculture at the system's center, was nevertheless sufficiently more intensive than the native subsistence agriculture to necessitate state coercion. For a different view, see Onghokam, "Inscrutable and Paranoid," p. 118.

58. N. C. van Setten van der Meer, *Sawah Cultivation in Ancient Java: Aspects of Development during the Indo-Javanese Period, 5th to 15th Century* (Canberra: Australian National University Press, 1979), p. 78.

59. Ibid., pp. 53, 61 n., 74, 133.

then relatively low, only a state or statelike formation--whether Indianized or indigenous--could have achieved this.

Benedict Anderson appreciates the basic nature of this relationship between the concentration and control of population, on the one hand, and an extracted agricultural surplus and the power of the state on the other.[60] However, while he recognizes the relationship between population and power, he does not appear to accept the antecedent relationship between population and agriculture. He writes: "Only the concentration of large populations *made possible* [emphasis added] by intensive rice cultivation could provide the economic surplus and reserve of manpower necessary for building monuments or armies."[61] This suggests that he sees a causal sequence beginning with (1) wet-rice agriculture, which permits (2) the concentration of population, which leads to and represents (3) political power. Following Boserup,[62] I reject this Malthusian view of population growth and agricultural development and suggest instead that a precondition for agricultural intensification is the growth and/or concentration of population, whether natural or as a result of state coercion. The distinction is a significant one: the first position assumes agricultural evolution (viz., to more intensive forms) while trying to explain population growth and the creation of political power; whereas the second position, and the one adopted in this article, assumes the existence of political power and tries to explain the growth or concentration of population and the evolution of agriculture.

This non-Malthusian approach leads, in my view, to a better understanding of the Javanese concept of power. Anderson writes, and correctly I believe, that, according to this concept, large dense populations are a sign of power, and this power precedes wealth (or wealth follows this power).[63] This is at variance with his own, just-quoted statement on the precedence of intensive rice cultivation to the concentration of population. This precedence implies either that intensive cultivation is *itself* the sign of power, or that it is a sign of wealth that does not follow but *precedes* the sign of power (viz., the concentration of population). By recognizing (as in this article) the priority of state control/concentration of population to agricultural intensification, it is clear that, as Anderson suggests, the population is indeed a sign of (political) power and it does necessarily precede the creation of (agricultural) wealth.[64] This will probably be true of any society of intensive agriculturalists governed by a statelike formation; whereas the relationship is likely to be reversed in any society of extensive agriculturalists, governed by tribal, "big man" institutions. In these latter cases, political control and concentration of the population are not prerequisites to the practice of agriculture. Rather is the successful practice of agriculture a prerequisite to the amassing of political power, which is achieved through the distribution and redistribution of foodstuffs.[65] Here

---

60. Benedict R. O'G. Anderson, "The Idea of Power in Javanese Culture," in *Culture and Politics in Indonesia*, ed. Claire Holt et al. (Ithaca: Cornell University Press, 1972), p. 30.

61. Ibid.

62. Boserup, *Conditions of Agricultural Growth.*

63. Anderson, "Idea of Power," pp. 30, 41, 48.

64. Cf. Onghokam, "Inscrutable and Paranoid," pp. 115-16, 122-23.

65. Marshall Sahlins, "Poor Man, Rich Man, Big-Man, Chief: Political Types in Melanesia and Polynesia," *Comparative Studies in Society and History* 5 (1963): 285-303.

wealth clearly does not follow power. Indeed, the latter can only be amassed through, in a sense, the loss of the former. Rather, here power follows from wealth.

3. The State and Forests

The efforts of the early states to protect their agricultural bases went beyond the forcible proscription of flight to, and the practice of swidden cultivation within, the forest wildernesses. As Terry Rambo has written, a society that does not live in, or understand, the forest can exploit it in three ways: first, it can utilize forest-dwelling groups as intermediaries; second, it can become a forest-dwelling group itself; and third, it can convert the forest to an artificial agroecosystem more suited to exploitation by a nonforest people.[66] This last alternative was the one adopted by Java's early states. Records such as the *Nagara Kertagama* make clear that a continuing concern of the early courts was to open up the forests for new agricultural lands, using both bonded labor and the labor of free men for this purpose.[67] These efforts were constrained by the amount of total labor available, not only to clear the forest, but then to cultivate continually the land thus opened, since land left uncultivated would soon have reverted back to forest.

The courts cleared land from forest and/or prevented already cleared land from reverting to forest in the course not only of agriculture but also of hunting wild ruminants and grazing domesticated ones. Rangeland for hunting and grazing was created, maintained, and exploited through the periodic use of fire.[68] Burning rejuvenates grasslands by replacing older and taller grasses with younger and shorter ones. The latter are more nutritious for livestock and wild game, and they also facilitate the sighting and pursuit (for example, on horseback) of the game by hunters. Fire is used during the hunt as well, to drive the game from cover. Finally, periodic burning of the grasslands eliminates extant ligneous growth and retards new growth, thereby forestalling the otherwise inevitable succession of the grasslands back to forest. In some cases this burning was undertaken directly by the court, as evidenced in court records that refer to large-scale royal hunts in grassland wildernesses, accompanied by the use of fire.[69] In other cases, the court left the care of particular grasslands in the hands of nearby villages, in return for which the villages were exempted from royal taxes and duties.[70]

---

66. A. Terry Rambo, "Of Stones and Stars: Malaysian Orang Asli Environmental Knowledge in Relation to Their Adaptation to the Tropical Rain Forest Ecosystem," [Malaysian] *Federation Museum Journal* 25 (1980): 86.

67. Pigeaud, *Java in the Fourteenth Century*, 4: 300.

68. Cf. Dove, "Man, Land and Game in Sumbawa."

69. Pigeaud, *Java in the Fourteenth Century*, 4: 300.

70. Ibid., p. 455. In the one case cited by Pigeaud, he attributes the court's interest in such grasslands to a desire for thatching material. (Ibid., pp. 456-57.) Thatch was doubtless an important product of these managed grasslands--but it probably was not the sole product. Pigeaud appears to have overlooked the value of the grasslands for hunting and herding, despite the fact that one passage in his translation of the *Nagara Kertagama* describes not only a grassland hunt but the associated use of fire as well. Ibid., p. 300.

The grasslands thus created and maintained were of no use to the forest-dwelling swidden agriculturalists. They would have had little more inclination to cultivate these grasslands than they had to cultivate irrigated rice, since neither would yield as high a return on labor as did their cultivation of the forest.[71] Moreover, their forest-based adaptation precluded the possibility of raising many livestock, so they would not have needed the grasslands for herding. At the same time, the forest presented access to a rich variety of game, so they would not have needed the grasslands for hunting either. The expansion of Java's grasslands was not only of economic benefit to the early courts, therefore, but also of political benefit, to the extent that it reduced the exploitable territory of the courts' perceived enemies.

The efforts of the ancient states to open up Java's forests were directly and functionally associated with the spread of the influence of these states, and they became similarly associated in Javanese ideology. This is explicitly attested to in the title of the Islamic court annals of Central Java, *Babad Tanah Djawi*, "babad" meaning not only "history" but also "to clear land by cutting growth."[72] Just as cleared land became associated with the rise of the Javanese states and their cultures, so too did the forest come to be associated with uncivilized, uncontrollable, and fearful forces. The latter came to be perceived as supernatural forces, such as *Durga*;[73] but the historical basis for this fear was empirical, since the swidden cultivators of ancient Java were neither part of the reigning court culture nor—and this is most important—under its control.[74] Finally, just as the opening of the forest came to be associated with the rise of Javanese civilization, so did the reversal of this process come to be seen as the eternal, mortal threat to this civilization. This is evident from Javanese beliefs regarding *Agni*, the god of fire who destroys the world and/or turns it into a vast forest.[75] This belief in a fire that creates forest and thereby destroys civilization is structurally related to the role of fire in Java's historic swidden systems. Fire was used to destroy the forest (temporarily), and thereby create or support the antithesis of civilization. The fact that the burning of the forest is shortly thereafter followed by the spontaneous reforestation of the erstwhile swiddens explains the association of fire with the creation of the forest. The fact that the

---

71. Forest-based swidden cultivators will begin to cultivate grassland only when increasing population/land pressure has obviated the possibility of further maintenance and cultivation of a forest cover. Since there was no such pressure during the historical era under discussion (except within the court-controlled regions of intensive agriculture), Pigeaud's suggestion (*Java in the Fourteenth Century*, 4: 146-47, 494) that it was the swidden cultivators who were creating (if not exploiting) the grasslands is highly improbable.

72. Elinor C. Horne, *Javanese-English Dictionary* (New Haven: Yale University Press, 1974), pp. 45-46.

73. Stephen C. Headley, "The Ritual Lancing of Durga's Buffalo in Surakarta and the Offering of Its Blood in Krendowahono Forest," in *Between People and Statistics: Essays on Modern Indonesian History*, ed. Francien van Anrooij et al. (The Hague: Martinus Nijhoff, 1979), pp. 49-58.

74. Not only did the forests contain people beyond the control of the courts, it contained people who were contesting this control, such as bandits and pretenders to the thrones (Moertono, *State and Statecraft*, pp. 79-80, 85).

75. Headley, "Ritual Lancing," pp. 55-57.

people who lived from this system of forest farming were politically independent explains the association of fire and forest with the end of the (civilized) world. In its original Indian form, the myth of Agni and the burning of the forest was a tale not only of destruction but of re-creation as well. The absence of the element of re-creation in the Javanese version of the myth[76] probably reflects the political and economic threat to the Javanese states inherent in the burning of the forest.

4. The Heritage

The political and economic realities of state formation in historic Java, as just discussed, necessarily became associated with a set of distinctive attitudes towards land and people and the relations between them. These are: (1) a strong preference for concentrated, as opposed to dispersed, populations; (2) a related preference for open cultivated land and a dislike for forested "wilderness" land, and for anything dwelling therein;[77] (3) a related preference for intensive (viz., irrigated) as opposed to extensive (viz., swidden) systems of agriculture; and (4) a related tendency to compare and evaluate systems of land use in terms of return per unit of area as opposed to unit of labor. These attitudes originated in the ancient Javanese courts, but they have persisted into the colonial and modern eras, as will now be discussed.[78]

---

76. Ibid., p. 55.

77. The historical and contemporary prejudice against forest-based agriculture has a linguistic referent. In the uplands of Central Java, the forest swiddens that were still being cut and farmed until the beginning of this century were locally called *wana* in high Javanese or *alas* in low Javanese; both of which terms also mean "forest" or "jungle." This identification of swidden with forest, this failure to distinguish between the two, clearly reflects the historical prejudice being traced in the text. It suggests that a swidden is not cultivated land, but is in effect still a part of the jungle. Indeed, it suggests that a swidden is no different and no better than a jungle itself.

There is also dramatic congruence between historical and contemporary views of the forest as a place of refuge for the enemies of society. In the wake of a 1983 campaign to arrest all of the criminal elements in Java, a military official said in a newspaper interview that he was worried that some criminals had escaped the campaign by hiding out in the forests of Central Java (*Kedaulatan Rakyat* [Yogyakarta], September 14, 1983). In a province with an average population density of 735 persons per square kilometer, and in which forests cover only 19 percent of the total area, the mythical nature of this fear is clearly evident. Its historical source is evident in the fact that in Java's settled lowlands today, an evil person may still be called--with no possibility of literal intent--*wong alasan* "forest dweller."

78. This is not to say that the attitudes of the ancient courts have persisted without change up to the present day. A notable example of one attitude that has undergone considerable change is that towards Imperata grasslands. The historical states, such as Majapahit, valued these grasslands and endeavored to ensure their maintenance and preservation. In contrast, the contemporary national government is exerting great efforts to exterminate all Imperata grasslands. This change in attitude is explained by changes since the fourteenth century in population density, intensity of cultivation, and the possibilities for state exploitation--not only on Java but in the Outer Islands of Indonesia as well. As a consequence of these changes, possibilities for state extraction

V. Land Use and Government in Colonial Java

The colonial government continued the prejudice of the early Javanese states in favor of intensive, wet-rice agriculture and against extensive, swidden agriculture, terming the latter the "robber economy." In the case of the colonial government, however, this prejudice was based less on the ease of extraction from irrigated agriculture compared with swidden agriculture, than on the ease of extraction from the systems of cash cropping that became associated with irrigated agriculture.[79] Thus, the "culture" system of the Dutch colonial government was applied largely to wet rice as opposed to swidden areas. Sugar cane--which could be grown in association with irrigated rice--became a culture-system crop, while rubber--quintessentially the cash crop of swidden farmers--did not.[80] This difference was due not to the agronomic requirements of one crop versus another, nor to the greater marketability of one crop versus another, but rather to greater susceptibility to more intensive, larger scale, and more profitable (for the government) systems of cultivation.[81] The peasants' response to the colonial government's program of agricultural development and intensification was no different from that of their forebears to the programs of the early Javanese kingdoms. Many of those who were involved in the program fled to areas beyond government control;[82] and all of those who were not involved

---

from grasslands that existed in the fourteenth century no longer exist today--hence the change in the state's attitude towards this particular vegetative cover. But there has been no change in the basis for the state's evaluation of this or any other land cover: namely, the susceptibility to state extraction of that land cover or land use compared to alternate covers and uses.

79. Geertz, *Agricultural Involution*, p. 111.

80. Sievers, *Mystical World of Indonesia*, p. 108; Geertz, *Agricultural Involution*, p. 54. It should be noted, however, that some cash crops cultivated by swidden farmers, such as coffee, were included in the culture system.

81. For example, there was nothing either agriculturally or historically necessary about the intensive cultivation of sugar in tandem with irrigated rice. Before this colonial development, sugar had been grown solely as a subsistence food crop in the swiddens, gardens, and dryland fields of Indonesia. Thereafter it was grown for the market in a swidden-based, Chinese-run ratoon system in the forests around Batavia. (Sievers, *Mystical World of Indonesia*, p. 91.) It was finally integrated with irrigated rice in an intensive, permanent field system of cultivation only because this suited the economic interests of the colonial government more than did cultivation by either of the two prior systems. The priority of the government's interests in this development is reflected in its active efforts to suppress the earlier systems of sugar cultivation. (G. M. van der Kolff, "An Economic Case Study: Sugar and Welfare in Java," in *Approaches to Community Development*, ed. E. P. Knopp [The Hague: Van Hoeve, 1953].) The absence of any peasant interest in this intensification of sugar cultivation has been convincingly documented by Geertz in *Agricultural Involution*.

82. Writing of conditions at the beginning of the nineteenth century, Raffles wrote: "the coffee culture in the *Sunda* districts has sometimes been so severely exacted, that together with the other constant and heavy demands made by the European authority on the labor of the country, they deprived the unfortunate peasants of the time necessary to rear food for their support. Many have thus perished by famine, while others have fled to the crags of the mountains, where raising a scanty subsistence in patches of *gaga* [swidden] or oftener

continued to practice their traditional, extensive system of agriculture, so long as their own population/land balances permitted.[83]

Although the colonial government could not exploit most systems of swidden agriculture and their associated systems of cash cropping, it did not simply leave these systems alone, for it could and did profit from alternate exploitation of the lands and crops involved.[84] It dealt with the swidden lands with the Agrarian Act of 1870, which designated all "waste lands" as thenceforth state lands, to be disposed of as the state chose.[85] The choices typically were either commercial timber extraction or the plantation cultivation of cash crops.[86] The colonial government dealt with the burgeoning systems of smallholder cultivation of cash crops with various restrictive measures, such as the rubber restriction scheme. In all cases, the systems of agriculture that were most susceptible to extraction by the colonial government were supported, and the systems that were least susceptible were suppressed. It was this insusceptibility that led the Dutch to label swidden agriculture a "robber economy"--not, that is, because it robbed from either its practitioners or the environment in which it was practiced, but because it was not readily subject to extraction by the colonial government.[87]

The agrarian policy of the colonial government differed from that of the early kingdoms in its emphasis on the cultivation of cash crops, both in tandem with subsistence food crops and in plantations. This difference is due to the fact that the early Javanese states were agrarian empires, whose route of development lay in concentrating population and intensifying their subsistence-oriented agriculture; whereas the colonial government was a player in the European world economy, whose route of development lay in extensifying its market-oriented agriculture to peripheral areas such as Indonesia.[88] However, in terms of a basic commitment to state extraction, and in terms of a related tendency to evaluate different agricultural systems in terms of possibilities for such extraction, there is great similarity between the colonial government and the early kingdoms. This similarity throws new light on "dualistic" interpretations of Java's economic and political history. The theory of the "dual economy" has been used to explain the purported division during the colonial era between

---

dependent for it upon the roots of the forest, . . . they congratulated themselves on their escape from the reach of their oppressors." Thomas Stamford Raffles, *The History of Java*, 2 vols. (London: Murray, 1817), 1: 129. Writing of conditions later in the nineteenth century, Sievers speaks of "the resumption of the ancient pattern of wholesale migration of entire villages to escape local authorities." Sievers, *Mystical World of Indonesia*, p. 117.

83. Cf. Boserup, *Conditions of Agricultural Growth*, pp. 59-61; Moertono, *State and Statecraft*, pp. 75-76; Raffles, *History of Java*, 1: 118.

84. Cf. Joseph E. Spencer, *Shifting Cultivation in Southeastern Asia* (Berkeley: University of California Press, 1966), p. 74.

85. Geertz, *Agricultural Involution*, pp. 83-84.

86. Sievers, *Mystical World of Indonesia*, p. 124.

87. George Sherman is one of the few scholars to have noted this political-economic bias in the Dutch colonial government's perceptions of forest and also grassland-based subsistence agricultural systems. See Sherman, "What 'Green Desert'?" p. 126.

88. Wallerstein, *Modern World-System I*.

a European-run, capital-intensive, export-crop sector on the one hand, and an indigenous sector of uncapitalized, subsistence-oriented agriculture, on the other. According to this theory, the dual economy was created by the introduction of colonial, capitalist, plantation agriculture into a traditional, precapitalist, agricultural economy.[89] It is further said that the irrationality of this traditional economy both necessitated the capitalist intrusion and then perpetuated and exacerbated the resulting dualism.

Dualist theory, in the light of the preceding analysis of the attitudes of both contemporary governments and early kingdoms towards Indonesian agriculture, appears to be but another example of ideological deflection. Just as the early kingdoms depended upon the extraction of income from farmers in intensive, carefully controlled agricultural systems, so too did the Dutch colonialists; but the Dutch justified their intrusion, and then removed from themselves any blame for its ill effects, by citing the "irrationality" of the Indonesian farmers.[90] The functional linkage between this concept of irrationality and the economic interests of the colonial government is clear in the work of J. H. Boeke. As one aspect of the irrationality of the traditional Indonesian peasant economy, he notes that it is consumer oriented and not production oriented.[91] In other words, production is geared to the varying consumption needs of the household as opposed to the varying demands of the market. This is a characteristic of any peasant agricultural economy—such as Indonesia's swidden economies—in which the major constraint is scarce labor and not land.[92] Where production is constrained by labor, farmers tend to maximize returns on it as opposed to those on land, and as a result they are generally consumption oriented, as opposed to production or market oriented. By labeling this orientation "irrational," Boeke betrays his bias: *anything* that is not oriented towards the colonial markets and economy is by definition "irrational."

The "irrationality" of the swidden agriculturalists partially redounded to their benefit. Since their key resource was their labor not their land, they remained relatively free from the colonial economy—not in the sense that no pressure was ever put on them to cease making swiddens, but in the sense that their swiddens mostly were not incorporated into the culture system. Because they were more free they were less hurt. The proponents of dualist theory have recognized that dualism had a much less deleterious impact on swidden cultivators than on wet-rice cultivators.[93] This is a problematic observation for these theorists, since they associate a more deleterious impact with a more irrational system of native agriculture, yet they certainly would not maintain that the system of swidden agriculture was more rational than the system of irrigated agriculture. In fact, it is not possible to explain

---

89. J. H. Boeke, *Economics and Economic Policy of Dual Societies as Exemplified by Indonesia* (New York: Institute of Pacific Relations, 1953); Sievers, *Mystical World of Indonesia*, pp. 87, 281.

90. Cf. Geoffrey B. Hainsworth, "Beyond Dualism? Village Level Modernization and the Process of Integration into National Economies in Southeast Asia," in *Village-Level Modernization in Southeast Asia: The Political Economy of Rice and Water* (Vancouver: University of British Columbia Press, 1982), p. 22.

91. Boeke, *Economics and Economic Policy*, pp. 39–41.

92. Cf. A. V. Chayanov, *The Theory of Peasant Economy* (Homewood: Irwin, 1966); Dove, "Chayanov Slope in a Swidden Economy."

93. See, for example, Sievers, *Mystical World of Indonesia*, pp. 287–88, 304–5.

the differing impact of the colonial economy on these two systems of agriculture in terms of the systems' greater or lesser rationality, but only in terms of the systems' greater or lesser vulnerability to state extraction.

Geertz has also suggested that the technological dualism of the Indonesian economy (along with regional imbalance and agricultural involution) was due not to any intrinsic aspect of Indonesian culture, but rather to the impact of colonial policy on traditional Indonesian agriculture. Thus, he maintains that the real dichotomy in the Indonesian economy during the colonial era was between the native sector and the foreign sector.[94] This native/foreign dichotomy is not, however, much more accurate than the rational/irrational dichotomy of the dualists. The native agriculture of which Geertz speaks was actually only one part of the traditional sector, nor was it the most native part. It was that system of intensive agriculture first developed by the early Javanese states to facilitate their extraction of an agricultural surplus, and then continued under the Dutch for essentially the same reason. The other, actually more native system of agriculture, namely swidden cultivation, was both more free of the colonial economy and more integrated into the international market-- referring here to the historically very successful and relatively independent cultivation of smallholder export crops by the swidden cultivators. These cultivators more closely resembled "natural," Janus-faced peasants than did the wet-rice cultivators. Hence, the colonial Indonesian economy can perhaps more fruitfully be broken down into a tripartite structure: the totally intrusive plantation agriculture; the partially intrusive, oppressive, and intensive systems of subsistence agriculture that supported some variants of plantation agriculture; and the traditional, free and extensive systems of subsistence agriculture that supported mostly free systems of smallholder cultivation of cash crops. The last of these systems is completely absent from the dualist view of a rational, export-oriented sector and an irrational, subsistence-oriented sector. Recognition of this indigenous, rational, and Janus-faced sector would have deprived the colonial government of any ostensible motive for its agricultural policy other than its own self-interest.

VI. Application and Testing of the Theory in Contemporary Indonesia

The contemporary Indonesian government's view of agriculture, as discussed at the beginning of this article, is a legacy from the colonial and precolonial eras. It is a legacy, not in the sense of being a cultural survival or artifact, but in the sense of supporting the political economy of the contemporary government just as similar views supported the political economies of historic governments. The fact that the type of agriculture favored by the government does provide such support is documented by data on the distribution of the federal tax burden. Anne Booth has written: "In 1974, 44 percent of total revenues were still coming from smallholder agricultural land in Java," meaning from intensively cultivated, mostly irrigated land; despite the fact that, as she goes on to say, this is "undoubtedly the poorest sector of all." In contrast, in the regions of extensive agriculture outside of Java, land taxation "is hampered by lack of adequate data on land area, class, and ownership," as well as by "widespread evasion."[95]

---

94. Geertz, *Agricultural Involution*, pp. 61-62.

95. Anne Booth, "The Role of Agricultural Taxation," in *Agricultural and Rural Development in Indonesia*, ed. Gary E. Hansen (Boulder: Westview Press, 1981), pp. 48, 49-50.

The present article's proposition, that government policy is strongly influenced by this varying susceptibility to extraction between intensive and extensive systems of agriculture, can be examined by applying it to the explication of several otherwise problematic aspects of that policy: namely, plantation development, commercial forestry development, and the socioeconomic development of tribal peoples. In each case, the actual (as opposed to intended) consequences of government policy will be evaluated in terms of their contribution to state extraction.

1. Plantation Development

Export crops are an important aspect of the government's program of agricultural development and intensification in the Outer Islands. The government's hope is that an increase in foreign exchange from this sector can eventually replace some of the anticipated decline in foreign exchange from mineral exports."[96] Historically, the greatest successes in export-crop production have been achieved by smallholders whose subsistence food needs were met by swidden cultivation, as discussed earlier. However, very few of the government's current efforts to develop export-crop production are designed to develop this traditional smallholder sector; and other of its efforts, for example intensification of subsistence food-crop production, are likely to reduce the activities of this sector, as also discussed earlier.

Government efforts to develop estate crops are likely to be weakened by some of the same factors that have strengthened the traditional mixed pattern of cash cropping and swidden cultivation. For example, under the system of smallholdings being developed by the government, it appears likely that the owner-cultivators will have to depend largely upon their cash crop for the purchase not only of consumer goods but of subsistence foodstuffs as well, because the amounts of land set aside in these schemes for food-crop production--given the modest (generally extensive) agricultural technologies either available or practical--are too limited for a household's needs."[97] If this proves to be the case, the smallholders will be dependent on market conditions for all or most of their livelihood, which is an inherently unstable basis for a peasant economy and polity."[98]

The government-sponsored development of large estates is likely to have even more serious consequences. The attendant creation of a class of landless, plantation wage laborers not only ensures the absence of any motivation towards sustained, long-term yield and conservation of resources, it also raises issues of socioeconomic equity and is likely to create an even less politically stable peasantry. The possibility of political destabilization is ironic, because

---

96. Republik Indonesia, *Garis-Garis Besar*, pp. 33-34.

97. For example, in an oil palm project being developed near Sanggau, West Kalimantan by a government plantation group, smallholder participants are being allocated 2 hectares for oil palms and 1.75 hectares for subsistence food crops, per household. The latter figure compares with an average of 44 hectares per household (measured as all land involved in the agricultural cycle, including temporarily fallowed land) devoted to subsistence food cropping by traditional swidden technologies in an adjacent district of West Kalimantan. (Dove, *Swidden Agriculture in Indonesia.*)

98. Pelzer, "Swidden Cultivation in Southeast Asia"; James C. Scott, *The Moral Economy of the Peasant: Rebellion and Subsistence in Southeast Asia* (New Haven: Yale University Press, 1976).

a purported concern for political stability--especially in provinces with international borders--is one of the principal justifications for the government's involvement in smallholder and plantation development.

A final question concerns the economics of the government-sponsored smallholdings and estates. They are certain to be more productive per unit of land than the traditional smallholdings, but it is not certain that they will be more profitable, due to their much greater capitalization. This has been a factor in, for example, the general lack of success of rubber plantations in Java, and the continued success, at their expense, of traditional smallholdings in the Outer Islands.[99] If minimal capitalization continues to carry this competitive edge, the economic success of the government-sponsored smallholdings and estates will be in doubt.

In summary, government efforts to develop export-crop production may weaken the economy of the traditional smallholder, they may politically destabilize the peasantry, and they may not even be profitable. Why then are they being carried out? Or more specifically, why are these efforts not being devoted instead to the proven combination of traditional export-crop production and extensive food-crop production? Government officials give no clear answer to this question. Many officials are critical of the low yields--when reckoned per unit of area--in traditional smallholder cultivation; almost all are suspicious and uncomprehending of swidden cultivation; and very few understand the pervasive association in Indonesia between smallholder cash cropping and swidden food cropping. According to the thesis of this article, this misperception of reality is best explained in terms of the political and economic priorities of those doing the misperceiving, namely the government. It seems clear that the priorities of the central government are being promoted in its development of modern smallholdings and estates. Its ability to control production and the fruits of production on these smallholdings and estates--which are developed and managed by semi-independent, government plantation groups--is much greater than its ability to control the privately owned and sporadically worked traditional smallholdings. This is why the government does not "see" either the past success of the traditional system or the potential future problems of its chosen, new system.

Geertz predicted this continuing extension of Inner Island control to the traditional smallholder crops of the Outer Islands.[100] He saw it as an attempt to maintain the standard of living on Java, and as one further stage in the island's agricultural involution. My analysis is in agreement with Geertz's insofar as the effect of this extension is concerned (viz., the effect of the extension of Inner Island control to the smallholder crops of the Outer Islands may indeed be economically involuting), but not with respect to its cause. One of the weaknesses of Geertz's analysis is that he is throughout less than clear as to the motivation for this process of involution. The current analysis suggests that the central government's interest in surplus extraction is the primary motivating factor (although other interests, such as supporting transmigration projects--which are increasingly being linked with plantation projects--may also be involved).[101]

---

99. E. H. G. Dobby, *Southeast Asia* (London: University of London Press, 1973), p. 242.

100. Geertz, *Agricultural Involution*, p. 148.

101. It is revealing to apply this analysis to other areas of agricultural

2. Forestry Development

As noted earlier, officially sanctioned uses of the national forests include watershed management, nature conservation, and especially commercial forestry, but *not* swidden agriculture—which is perceived as too wasteful and destructive a use of the forest. It is revealing to consider how wasteful swidden agriculture actually is, compared with commercial timber production.[102] In terms of returns per unit of area, swidden agriculture is indeed less profitable than commercial forestry. The earlier-mentioned Kantu' of Kalimantan can take the equivalent of $258 in crops out of one hectare of forest, using swidden agricultural techniques, over every ten-year period.[103] That same hectare of forest, under sustained yield commercial forestry management, can yield the equivalent of $1,054 in wood products over every ten-year period—or four times as much as under swidden exploitation. However, gross yield is only one way of comparing the two alternative systems of exploitation. Arguably more revealing is the population-carrying capacity under each system, which turns out to be much higher under swidden agriculture than under commercial forest exploitation. One square kilometer of forest will support approximately twenty-three Kantu' under the former but a maximum of only nine to ten employees under the latter system, due to the fact that the standard of living and consumption patterns of logging company employees are much higher than those of swidden agriculturalists.

This comparison is made on the most favorable possible terms with respect to commercial forest exploitation. In particular, it assumes that this exploitation is being carried out on a sustainable basis. In fact, some of the commercial forestry in Indonesia is not sustainable at all, because of the use of logging techniques that destroy both the ground and the ground cover, the removal of too many trees, and the failure to replant.[104] Just as important as the

---

policy as well, for example the current program to intensify irrigated rice cultivation on Java. Much ado has been made about the "unexpected" impact of the Green Revolution on rural labor relations in Java. The analysis in this article suggests that this impact is a predictable step in the ongoing, state-controlled development of Javanese agriculture, the result of which has always been to facilitate even greater extraction by the state. It is now apparent that the Green Revolution has not raised outputs per unit of area in Java's irrigated fields so much as it has reduced labor inputs. (William L. Collier, "Food Problems, Unemployment and the Green Revolution in Rural Java," *Prisma* 9 (1978): 38-52; White, "Production and Reproduction," pp. 142-43; Dibyo Prabowo and Sajogyo, "Sidoarjo, East Java, and Subang, West Java," in *Agricultural and Rural Development*, ed. Hansen, p. 78.) Thus, a major effect of the introduction of this technology has been to displace labor in rural Java, excluding more people from the agricultural cycle and concentrating its product in the hands of fewer and fewer people. This concentration probably accounts for some of the "surpluses" being claimed for this technology. That is, at least a part of these purported surpluses may represent an increase not in production but in extraction. Such an increase would be in accord with the increase in urban and government control that has been associated with the introduction of this technology (Hainsworth, "Beyond Dualism?" pp. 15-16).

102. See Dove, "Theories of Swidden Agriculture."

103. The yields of both swidden agriculture and commercial forestry are measured in terms of constant 1981 dollars, and both are gross measures of yield.

104. Willem Meijer, "Lowland Forestry Management," in *Agricultural and Rural*

commercial loggers' direct impact on the forest is their indirect impact, especially through the construction of logging roads. As noted early in this article, these roads are utilized by lowland truck farmers to enter the partially logged forest, cut it, burn it, plant two to four years of cash crops, and then move on when the land has been exhausted and degraded.

This overestimation of the productivity of commercial forestry, the underestimation of its ill effects, and the frequent absence of critical evaluations of the way it is carried out, coupled with the constant suspicion and criticism of the tribal forest dwellers' system of swidden agriculture, all reflect the single most crucial difference between the two systems of resource use: the central government can control and exploit the system of commercial forestry but not that of swidden agriculture.

3. Socioeconomic Development

A final area of government policy towards the people of the Outer Islands, which can be illuminated by the thesis presented here, pertains to the social and economic institutions of the Outer Islanders. Government policy is influenced by marked anxieties and criticisms regarding these institutions. One example is the uniformly negative view of ceremonial expenditure (for eating, drinking, and sacrifice) among the tribal peoples of the Outer Islands. This reaction is manifested not only personally but also officially, as in a 1976 edict by the governor of West Kalimantan that all Dayak longhouses hold their postharvest ceremonies on the same day, so as to discourage interlonghouse attendance and thereby minimize overall ceremonial expenditure and consumption. This attempt to constrict ceremonial expenditure in the Outer Islands cannot be explained by cultural differences, since expenditure of this sort is just as high--indeed typically much higher--among the dominant cultures of the Inner Islands. For example, in 1983 in the Central Javanese city of Yogyakarta, Carol Carpenter calculated that the average cost of a *selamatan* "ceremony" to safeguard the welfare of an infant or child was equal to approximately $145, and the average cost of a wedding was equal to approximately $1,000, the bride's makeup alone costing $100 or more.[105] In comparison, during 1974-76 the cost of one major Kantu' ceremony, the one staged during the rice planting, was the equivalent of less than $6 per field, the cost of the postharvest ceremony that the governor sought to constrain averaged $16 per household, and the cost of the average wedding was perhaps $25.

Government officials justify their criticisms of ceremonial expenditures in terms of purportedly more productive, alternative uses of the expended resources. The one alternative use that is nearly uniformly cited is capital investment, such as purchase of a rice huller, chemical fertilizers, or livestock--with the justification that such an investment would "improve the economy" of the family and/or village involved. This proposition is based on a false perception of this ceremonial expenditure as evidence of a subsistence surplus,

---

Development, ed. Hansen, pp. 295-306; Zoefri Hamzah, "Some Observations on the Effects of Mechanical Logging on Regeneration, Soil and Hydrological Conditions in East Kalimantan," in *Proceedings on the Long-Term Effects of Logging in Southeast Asia* (Bogor: Biotrop, 1978), pp. 73-90; Uk Tinal and J. L. Palenewen, "Mechanical Logging Damage after Selective Cutting in the Lowland Dipterocarp Forest at Beloro, East Kalimantan," in ibid., pp. 91-96.

105. Personal Communication.

which can and should be diverted from one sort of use (ritual and "wasteful" consumption) to another sort (capital investment). In fact, what is expended in these ceremonies usually does not represent a surplus, and its expenditure typically is a sort of capital investment; but the capital in this case is labor, which is the scarce, constraining resource in extensive systems of agriculture such as are found in the Outer Islands.[106] These ceremonies tie different households and different villages together, and thereby guarantee each one the labor of the others--through both reciprocal and wage labor arrangements--during periods of labor/work imbalance. This guarantee is one of the principal functions of ceremonial feasting.

Even if the government comprehended this purpose--which it does not--it is not clear that its critical stance would be greatly altered; because ceremonial expenditure represents a horizontal movement of resources (food, drink, and swidden labor), whereas the government is more interested in vertical movement. This interest is evident from the nature of the alternative, proposed capital expenditures, all of which would involve some movement of resources out of the villages and into the national and international markets, in which the government and individual government officials have roles as both supervisors and economic players.

An even clearer example of the government's self-interest in this regard involves its criticism of supposed "primitive communalism" in the Outer Islands. This criticism is pronounced in areas where the traditional pattern of settlement--such as the Dayak longhouse in Kalimantan--lends superficial credence to this perception of tribal society. Official government policy in such areas is to discourage or forbid the building of new longhouses and encourage or insist upon the dismantling of extant ones, to be replaced by discrete, single-family homes. In most of these cases, however, the government's perception diverges greatly from the socioeconomic reality. The Dayak longhouse, for example, is in fact a series of adjacent but independently built and owned household apartments, inhabited by an exceedingly independent and individualistic people, with a highly developed sense of private property and entrepreneurship.[107]

How is the government's misconstrual of this reality, again, to be explained? Government officials say they worry that this purported communalism will rob the energetic few of any incentive to excel, since they must share the fruits of their labors with the less energetic majority. This perceived threat of sharing is the key to the government's attitude. Looked at structurally, in the light of this article's thesis, such sharing represents, again, a horizontal flow of resources, of "surplus" production; whereas the government is only interested (or more interested) in a vertical flow--meaning a flow up and *out* of the village economy--that ultimately will reach and sustain the central government.

The government's evaluation of these societies as communal is in error, but its implied evaluation of their resistance to a vertical flow of surplus production is not. The democratic (not communal) character of these societies does not rob their members of the economic incentive to surplus production, but it does give those who have succeeded in producing a surplus the incentive to share it (typically on a reciprocal, loan, or sale, but *not* gift basis) with those who have not succeeded. The incentive to do so is the assurance

106. Dove, "Chayanov Slope in a Swidden Economy."

107. Dove, "Myth of the Communal Longhouse."

that others will do the same when the tables are turned. This system of social security shields all members of the society from total economic failure and starvation, and, as a result, there *is* less surplus production flowing out of the society than if some of its members were allowed to starve. It is thus not social disincentives and underproduction that threaten the government's economic plans, but rather local distribution and consumption, and the social security that this achieves. The self-interest in perceiving this as communalism is also suggested by the prevalence of this same perception among the apologists for the old colonial order. For Boeke, for example, a major characteristic of the irrational, autochthonous Indonesian economy was its communality.[108]

This latent anxiety over local distribution and consumption is directly reflected in government policy to alter extant sociopolitical structures in the Outer Islands. As implied in the preceding discussion, many of the tribal societies in the Outer Islands are relatively unstratified and egalitarian in character, having no castes, classes, or ranks, and few if any indigenous leaders. Since the colonial era, one objective of the central government has been to strengthen any existing positions of authority in these societies, as well as to create new ones, all with the intent of integrating these societies into the nationwide hierarchy of government administration. As the result of efforts by first the colonial, and then the national, government, the tribal Kantu', for example, have the offices of *Kepala Kampung* and *Kebayan* to deal with intralonghouse matters, *Kepala Desa* and *Patih* to deal with interlonghouse matters, and *Temenggung* and *Panglima Adat* to deal with broader issues of government and law--all of these offices introduced in this century. Similar efforts are still continuing in the Outer Islands, as in the resettlements for "isolated tribes," in all of which a major effort is made to establish a hierarchical village administration.

The purported purpose in extending the network of government officers into these societies is to facilitate government administration, including the extension of government services. The fact that this is not the only (or even the most important) purpose of this effort is evident from the nature of the criticism of its results. A common criticism of the newly elevated class of Outer Indonesia village leaders, according to central government officials, is that they cannot "speak for" their constituencies, in the sense that they *alone* cannot commit their people to a given course of action. To illustrate, several years ago the government decided to establish an oil palm plantation on the lower Kapuas river in West Kalimantan. Shortly thereafter the plantation management flew the local Panglima Adat to their headquarters on Sumatra, and eventually obtained his approval of their plans. Subsequently, however, many members of his tribe refused either to give or to sell their land to the plantation, considerably obstructing its development. The plantation management concluded that the Panglima Adat had lied to them. In fact, he had done everything within his power to persuade the local population to accept the plantation, but the reality of these egalitarian tribal societies is that no man can commit or oblige another to do something that he does not want to do. This reality ultimately forced the plantation to deal with each tribal member and land holder in the region, thereby spending much more time and money than it had originally hoped to do by dealing with the Panglima Adat alone. In general, extraction by a central authority is frustrated by a nonhierarchical sociopolitical organization and facilitated by a hierarchical one.

---

108. Boeke, *Economics and Economic Policy*, ch. 3.

The government's support for hierarchical organization is in accord with the traditions of Java, whose former kings conceived of themselves as drawing mystical power from their subjects, at the apex of whom they stood.[109] The analysis in this article shows that the Javanese kings--like the contemporary central government--actually drew their power from their subjects in a much more prosaic sense: namely, the relations between the rulers and the ruled, the top and the bottom, the center and the periphery, were and are arranged so that material resources flow up and in, and thereby sustain the central polity. A hierarchical sociopolitical structure is crucial to this flow and a nonhierarchical structure is antithetical to it, which explains the antipathy of past and present central governments to the latter. This antipathy is articulated as opposition to communal social structures. In fact, the societies involved are typically primitive democracies; but the label of "primitive communism" justifies government intervention in support of surplus extraction, whereas the label of "primitive democracy" would not.

VII. Summary, Discussion, and Conclusion

1. Summary

I commenced this article with the proposition that the preeminent culture of inner Indonesia, the Javanese, has an illusory view of intensive versus extensive systems of agriculture. I discussed one salient product of this view, namely the official policy to promote intensive agriculture and prohibit swidden agriculture in the Outer Islands of Indonesia. I then analyzed the reality of this latter system of agriculture. I argued that, although the central government views swidden agriculture as a poor use of land and labor, sustaining only a low standard of living, it is in fact a highly rational use of both labor and land, and its practitioners are fully integrated into the national and international market economies. In contrast, I argued that the intensive agricultural systems, which are promoted by the government as making optimal use of land and labor and contributing to the highest level of social welfare, actually yield a relatively low return on labor and limit opportunities for cash cropping. I sought the origins of this paradox--between the official stance and the empirical reality--in the rise of the early Javanese kingdoms, when concentration of the population, intensification of its agricultural practices, and proscription of forest-based alternatives were all essential to state extraction and survival. I traced this stance through the colonial era, arguing that the Dutch government was also biased in favor of intensive agriculture and against extensive agriculture, because of the respective susceptibility and insusceptibility of the systems to state extraction. Finally, I argued that, by imputing a similar stance to the current national government, otherwise problematic aspects of its development policy in the Outer Islands can be explained.

Throughout Indonesia's history, therefore, intensive systems of agriculture have given power and profit to successive central governments, whereas extensive systems either have given them little or have actually taken from them. The prevalent myth in governing circles of the superiority and inferiority of intensive and extensive systems of agriculture, respectively, thus can be interpreted as a rationale for the control and exploitation of peasant lands

109. Anderson, "Idea of Power," p. 22.

and labor. It is a persevering mythology of oppression. This mythology is not held by the peasants, however, whom it does not serve.[110]

As stated earlier, I regard this myth as an "ideological deflection." Following Wallerstein, this is a belief that is deflected from empirical reality due to political and economic interest. As Wallerstein implies, this deflection is not a conscious process. It seems certain that the successive central governments in Indonesia that have held to the aforesaid myth have believed in its verity, despite the manifest evidence to the contrary. The colonial and postcolonial governments (if not the early Javanese kingdoms as well) have maintained that their beliefs regarding the economy and ecology of peasant agriculture are founded on a concern for the welfare of the peoples involved; but as discussed earlier, this welfare is in fact not enhanced by these beliefs and the ensuing policies. Thus, not only is the deflection unconscious, its function or effect is latent and unrecognized.

Evidence of this latency is contained in the current central government's efforts to resettle and develop swidden agriculturalists, and in its reaction to the widespread failure of these efforts. Since it justifies these programs in terms of their favorable impact on the extant, purportedly low standard of living of the swidden agriculturalists, it can explain their failure only in terms of the "backwardness" or "strength of traditions" of these people (or, more recently, in terms of the inadequacies of the government offices and officers involved). It cannot explain their failure in terms of the greater economic attractions of swidden agriculture. That would involve acknowledging that the government pressure to proscribe or intensify this system of cultivation is motivated not out of interest for the welfare of its practitioners, but out of self-interest. The economic interests that would not be served by such an acknowledgement prevent it being made. This is why the government continues to build resettlement villages and develop intensive agricultural systems for Outer Island swidden cultivators, and why it continues to be genuinely surprised whenever they are rejected. The gap between the manifest and latent justifications for such government programs, on the one hand, and, on the other, between the actual and official explanation for their failure, is one important reason why, as Anderson has said,[111] relations between inner and outer Indonesia are governed not only by economics but also by ideology.

2. *Theoretical Significance*

One of the most important conclusions to be drawn from this analysis is its support for Boserup's theory that population growth, or population concentration and control, precedes agricultural development and intensification, and not the reverse--the reverse being the Malthusian theory.[112] In the Indonesian case study discussed in this article, the development of swidden-rice cultivation into irrigated-rice cultivation was due less to the latter's attraction to its peasant practitioners than to its attraction to successive central governments intent on extracting a portion of the agricultural product. Swidden agriculture was less attractive to these governments because it is less susceptible to such extraction and because it lures peasants away from the more intensive systems that are susceptible. On the other hand, both because of this lesser

110. Cf. Wallerstein, *Modern World-System I*, p. 4.

111. Anderson, "Idea of Power," pp. 36-37.

112. Boserup, *Conditions of Agricultural Growth.*

susceptibility and because of its inherent tendency to produce higher yields per unit of labor, swidden agriculture is usually more attractive to the peasants themselves. In this context of opposing interests and agricultural systems, the replacement of swidden-rice cultivation by irrigated-rice cultivation was due less to the desires of the peasants than to those of their central governments, as manifested in programs to concentrate the farming population and coerce them to practice intensive agriculture. Boserup's theory thus addresses, directly, what is otherwise seen as one of the major weaknesses of the "Neo-Malthusianists" or population determinists: namely, it looks not just at the effects of population growth/concentration but also at its causes, relating these to the interests of the broader social formations in which the peasant agricultural society is set. In many studies of agricultural development, population growth is cited as an explanatory variable but is not related to the other major explanatory variable, namely state policy and interests.[113] The failure to do so has been rightly criticized.[114]

This analysis suggests reversing the emphasis of the questions typically posed about agricultural development and state formation. Instead of asking whether swidden agriculture can support state formation, it may be more important to ask why states tend to constrain systems of swidden agriculture. Similarly, instead of asking how systems of irrigated agriculture stimulate state formation, it may be more important to ask why states tend to force their development. The results of this analysis are in accord with more recent studies of irrigation,[115] which generally dispute the Wittfogelian thesis that dependence on irrigation typically leads to the development of despotic, hydraulic states.[116]

This reexamination of the causal directions of agricultural development demonstrates the futility of trying to explain this development as a pure exercise in agronomy, and the necessity of relating it to the broader ecological, demographic, and, especially, economic and political context. This necessitates looking at agricultural development not as a value-free process, but as a process carried out by and for specific actors--whether these be governments or peasants. This actor-centered approach illuminates the distinction, in agriculture and agricultural development, between returns to land and returns to labor. The latter tend to be maximized by landless laborers and landowning workers, while the former are maximized by nonworking landowners and extracting governments. This difference is due to a basic difference in purpose. As Hainsworth has written, raising the standard of living of the peasantry is not the same as maximizing total output or mobilizable surplus;[117] nor are the two attained by the same means. The emphasis of the contemporary Indonesian government is reflected in the recently published and officially sanctioned

---

113. See, for example, Downing and Gibson, eds., *Irrigation's Impact on Society.*

114. Donald M. Nonini, "Comment on 'Quantum Adjustment, Macroevolution and the Social Field: Some Comments on Evolution and Culture,' by Paul Diener," *Current Anthropology* 21, 4 (1980): 433-35.

115. See, for example, Robert McC. Adams, "Early Civilizations, Subsistence and Environment," in *Man in Adaptation: The Biosocial Background*, ed. Yehudi A. Cohen (Chicago: Aldine, 1968); and Downing and Gibson, eds., *Irrigation's Impact on Society.*

116. Karl Wittfogel, *Oriental Despotism: A Comparative Study of Total Power* (New Haven: Yale University Press, 1957).

117. Hainsworth, "Beyond Dualism?" p. 20.

"rice bible" for Indonesia,[118] which presents a wealth of data on Indonesian rice yields per hectare but none on rice yields per man day (nor on man-day inputs). The analysis in this article shows that this focus on returns to land is neither natural, necessary, nor objective. Rather, it is merely one possible focus, chosen because it supports a particular, partisan view of the means of agricultural production and the control and exploitation thereof.

The government's emphasis on returns to land is also evident in its earlier cited, oft repeated criticism of swidden agriculture: namely, however adaptive it may be at the present time, it is ultimately maladaptive, because it cannot absorb continual increases in population density. A system of agriculture that *can* absorb such increases, such as irrigated rice cultivation, produces a greater and greater total product per unit of area but *not* per unit of labor. Indeed, the product per unit of labor tends to decline as the product per unit of area increases.[119] The absence of this characteristic in systems of swidden agriculture is deemed a failing because of the government's partisan view of agricultural development. There is nothing in Indonesia's agricultural history to suggest that an emphasis on labor absorption as opposed to labor productivity is the solution to its economic and demographic difficulties, and there is everything to suggest that it is in fact part of the problem.[120]

Throughout this analysis the economic constraints and capacities of swidden agriculture have been treated as important explanatory variables. Some scholars have questioned the appropriateness of cultural-materialist analyses of extensive systems of agriculture because, they say, such systems are based largely on household relations as opposed to broader, sociopolitical relations.[121] Even if we grant that the agricultural ecology and economy of a system of extensive agriculture are not vital to the dynamics of sociopolitical relations within that society or to the understanding thereof—which is a problematic stance but beyond the scope of this article—the present analysis has shown that they nonetheless may be critical to the dynamics and understanding of the place of that society within broader, regional, sociopolitical relationships. Indeed, the Indonesian case study shows that the ability of a population to practice extensive agriculture can become a major shaping and constraining factor in state formation.

This emphasis on political economy is not a denigration of the importance of ecological factors, which are the most crucial constraining factors of all. (Boserup is perhaps overzealous in negating such factors in her analysis of the role of population.)[122] The climate, hydrology, and in particular the geology of Java are clearly the principal reasons why agrarian kingdoms flourished there as opposed, for example, to Kalimantan, with its much older and nutrient-poor geology. While a particular ecology may be necessary for the development of intensive agricultural systems, however, it is not sufficient. This is the

---

118. Leon A. Mears, *The New Rice Economy of Indonesia* (Yogyakarta: Gadjah Mada University Press, 1981).

119. Geertz, *Agricultural Involution*, pp. 32-33, 35-36.

120. Ibid.

121. Cf. Chet S. Lancaster, "The Influence of Extensive Agriculture on the Study of Sociopolitical Organization and the Interpretation of History," *American Ethnologist* 6, 2 (1979): 329-48.

122. Boserup, *Conditions of Agricultural Growth.*

final lesson to be learned from the application of Boserup's theory in this article. Agricultural intensification is neither a natural nor an inevitable development in those environments that nonetheless make it possible. In the absence of a central government it may not occur, and in the presence of a central government it may be resisted. The converse also holds true: given pressure from a central government, agricultural intensification may take place in a natural environment that is ill suited to it. This applies to the government's current program of agricultural intensification in various parts of the Outer Islands, where attempts to develop irrigated rice cultivation must contend with poor soils and problematic hydrology. The very fact that the government is pressing for agricultural intensification in these areas demonstrates that such intensification can be more than a simple response to a favorable environment; just as the historic practice of swidden agriculture in Java, by refugees from its hydraulic kingdoms, demonstrates that the extensification of agriculture is not simply a response to a less favorable environment.

3. *Policy Recommendations*

This analysis yields several conclusions of relevance for development planning in Indonesia's Outer Islands. One conclusion is that much swidden agriculture represents the optimal use of the land and labor of its practitioners, viewed from their own perspective. Accordingly, the current national government might be advised to cease its attempts to proscribe all swidden agriculture--limiting these attempts to its destructive variants--and devote its resources rather to the improvement of this system of agriculture, perhaps through breeding programs for swidden cultigens, through the introduction of new species and/or techniques to quicken reforestation on newly fallowed swidden plots, and so on. The government might embrace these recommendations if its sole goal were to improve the economic conditions of the swidden agriculturalists. As discussed in this article, however, one important, if latent, goal of the government is to improve the economic conditions of those people and enterprises most proximate to it. This goal is not served by the continued practice of swidden agriculture, and so it may be futile to urge or expect the government to commit itself to developing--as opposed to eradicating--swidden agriculture.

A second recommendation, that the government develop smallholder export-crop production, is likely to encounter some, but not all, of the above problems. One point in its favor is that, while the system of swidden agriculture *directly* benefits only its practitioners, the associated systems of cash cropping benefit not only the smallholders themselves but the nation as a whole, through their contribution to foreign exchange. Accordingly, it may be worth while to recommend to the government that it not devote all of its resources to expensive, large-scale plantation development schemes, involving resettlement and transmigration as well, but devote at least some to the far cheaper, *in situ* improvement of extant smallholder production, through, for example, the provision of improved stock and some simple extension services. (In the context of such development, it might be possible to direct some positive attention to swidden agriculture as well, since the fact that it supports and sustains smallholder cash cropping is the only point in its favor that is likely to be recognized by government policy makers.) Even in this case, however, current developments suggest that the long-term interests of the many--in having a reliable and broad-based system of export-crop production by smallholders--may lose out to the short-term interests of the few--in having a less broad-based and more volatile but profitable system of export-crop production in plantations.

While the short-term interests of policy makers may be supported by extant policy, their own long-term interests are not. As noted earlier, the current policy of denying rights of ownership and use of natural resources to local populations, and appropriating them to the national government and its private and semiprivate concessionaires, often results in the exploitation of these resources for the maximum profit in the minimum amount of time. This leaves little or nothing for the future, *including* the future of the government officials and contractors. Similarly, a number of current government programs--including resettlement, transmigration, and plantation development--are likely to radicalize some of the peasantries involved. This radicalization, while caused by the short-term economic and political interests of the central government, is likely to jeopardize directly these very same interests in the middle to long term.

It is difficult to explain such jeopardization of long-term self-interest as other than an inherent weakness of overly centralized political and economic power. The antidote is to change policy and place greater emphasis on the self-interest and welfare of the peasantry. The potential for such change is constrained, however, by the fact that the goal of this proposed policy is already the manifest goal of the present policy. The latent goals, however, are very different, and the essence of the problem in changing these is precisely that they are latent.