

EVOLUTION AND ETHNICITY: A NOTE ON RICE CULTIVATION PRACTICES IN BORNEO

Christine Helliwell*

Underlying most discussion to date about the use and distribution of the two major types of rice cultivation (dry shifting and permanent irrigated field) has been the presumption that of these the former is the more fundamental, or the more "natural". Thus while many scholars have addressed the questions of why, and under what conditions, upland swidden rice cultivators might be expected to begin growing rice in permanent flooded plots, these same questions are rarely applied to adoption of the practice of swiddening itself. The status of swidden cultivation as apparently more fundamental, or less needy of explanation, in this respect, is linked to a particular view of economic rationality: it is simply "rational" human behaviour to expend the least possible amount of labour in the production of sufficient food for subsistence.¹ Since permanent irrigated forms of cultivation require, at least in the early stages of field construction, a much larger labour input than swidden types of cultivation to produce the same yield, it follows that the latter will prevail in any particular setting until or unless some exogenous limiting factor (such as shortage of land) comes into play.

The notion of some universal economic "rationality" has been extensively criticised in the anthropological literature over the past thirty years² and any attempt to explain the widespread use of a particular form of cultivation in such terms must be seen as questionable. This is not to suggest that the differing amounts of labour required under dry shifting and permanent irrigated forms of cultivation may not be relevant in addressing the question of why either is adopted in any particular ethnographic context, but rather to point out that it would be reductionist in the extreme to suppose that this told the full story.

Neither is it sufficient to describe swiddening as more "natural" than irrigated cultivation in some evolutionary sense. While there has for long been an (often unstated) assumption amongst geographers, prehistorians and others that dry shifting forms of rice cultivation preceded wet standing forms, and are hence significant of lower levels of evolutionary advancement,³ in very recent years a consensus has begun to develop that both forms in fact constitute quite distinct adaptations from earlier techniques of swamp

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* Anthropology, Macquarie University, North Ryde, NSW 2113, Australia

rice cultivation (White 1984; Bellwood, in press). The pioneering work of Chang on the genetic structure of rice strains has been crucial in effecting this change: establishing the biologically advanced status of those strains used in upland swidden cultivation *vis-à-vis* those strains associated with wet rice production (manifested by the former's lower photoperiod sensitivity, more extensive root systems, large and heavy grains and so on) (Chang 1984-5, 1989). In Borneo, to name just one example, swidden cultivators are in fact found living cheek by jowl with permanent field cultivators in many parts of the island. Such swiddeners normally display a ready knowledge of both the techniques and the benefits associated with sedentary forms of cultivation. Indeed, in many Borneo upland rice communities some irrigated rice is also grown as a supplement to the main crop. While in most communities this consists simply of swamp rice grown on a shifting basis in naturally inundated areas, there are also upland swiddening communities in which some supplementary rice is grown in semi-permanent irrigated fields.⁴ For these settings, at least, description of swidden and wet rice cultivation as associated with different evolutionary "stages" simply does not make sense.

On the other hand, the common explanation for the adoption of permanent irrigated types of rice cultivation - that demographic pressure creates a need for more intensive techniques of cultivation (Boserup 1980) - is surely too simplistic. In Simpang Dua, a Borneo community some six-and-a-half kilometres from the community of Gerai where my own research was carried out, the population is composed of both Malays and Dayaks. While the former grow rice exclusively in permanent irrigated plots, the latter produce most of their rice from dry swiddens. Yet the demographic profiles of the two groups do not differ in significant respects. In addition, here there is no land shortage to have driven the Malays to their more intensive type of farming.⁵

Clearly there are many factors - social, cultural, demographic, economic, political, environmental - to be taken into account when attempting to "explain" the use of one or other form of rice cultivation in any particular community. Presumptions concerning the "naturalness" of certain forms *vis-à-vis* others do not make much sense, and arguments which focus strictly on demographic details do not have much relevance beyond a few limited cases. In this paper I am concerned to explore one set of reasons for the practice of either type of cultivation that is routinely overlooked by researchers: that of ethnic identity. By focusing on the relationship between ethnicity and shifting rice cultivation in a single Borneo Dayak community, I hope to make it clear that the use of swiddens is no less worthy of, and amenable to, explanation than is adoption of permanent irrigated field cultivation practices. In fact, this example suggests that it is in many cases absurd to seek explanation for the use of either cultivation type without reference to the other. Borneo is not alone among Asian ethnographic areas in containing many communities which have long been in contact with both dry shifting and permanent irrigated forms of rice cultivation. Thus the social, political and environmental factors to be taken into account when considering any particular instance of preference for one type over the other may well include that other.⁶

II

The Dayak community of Gerai, with a population of around 700 people, is found in the subdistrict (*kecamatan*) Simpang Hulu in the northern part of the Ketapang district of Kalimantan Barat, or West (Indonesian) Borneo.⁷ This region of Kalimantan Barat has a substantial Malay population⁸ and a long history of political control by Malay rajas, based variously at Sukadana and Ketapang, some 80 and 100 kilometres respectively from Gerai on the coast (Helliwell 1990). As a result, the strong similarities between a number of the Malayic Dayak languages⁹ found in the region and Malay itself led to a long-held belief that these languages were "Malayanised" versions of original Dayak languages (Avé 1972:186). Hudson, and others since, have argued that this is not in fact the case; rather they see the similarities between these languages and Malay as being the result of a recent common proto-language.

Gerai people themselves speak of their ancestors as having been included within the political domain of the raja at Sukadana. But they describe those ancestors as loath to submit to the Malays, stating that they "ran into the hills" in order to escape Malay domination. In addition, older Gerai people spoke to me with considerable feeling of the terror which members of the community had suffered in the past as a result of headhunting forays by neighbouring Land Dayak groups. The inaccessibility of the Gerai community - and especially the unusual fact (for Borneo) that it is not located on a navigable river - can thus be seen as resulting, in large part, from the desire of its earlier members to escape from both Malay rule and the depredations of local headhunters.

Genealogies of both houses and of community residents indicate that the present village site was settled sometime around the end of the last century. This corresponds with the spread of Dutch direct control throughout the region.¹⁰ Gerai people recall welcoming Dutch authority, since it meant that headhunting ceased in the area around them, and individuals were no longer afraid to venture far from the company of other community members. I would hypothesise that prior to this time Gerai people lived in less permanent dwellings at scattered *dukuh*, or hamlets situated close to their swiddens. Both the accounts of elderly informants and my collection of life histories confirm that over the last two generations there has been a steady movement of people from scattered residence across the countryside to more centralised permanent residence in the village itself.

Up until perhaps three generations ago, in other words, Gerai people were highly mobile. My suggestion is that swidden cultivation of rice is far more adaptive to such mobility than the cultivation of rice in permanent irrigated fields. Bellwood points out, quite rightly, that creation of irrigated fields is associated with a dependence on more permanent landholdings (1985:148). Such permanent attachment to particular plots would clearly have been maladaptive for a population that saw mobility as a positive strategy.¹¹ Further, accounts from throughout Borneo indicate the very high mobility of many Dayak groups: either because they wished to escape domination or depredations of neighbouring groups,¹² or because, like the Iban, they wished to conquer new territory.

On this account at least, we should not be surprised to find that shifting cultivation tends to be the dominant type used among Dayak peoples.

This brings us to the question of the role that shifting cultivation still plays within the Gerai community. Among Gerai Dayaks dry swiddening is still the overwhelmingly important type of rice cultivation, although most households also cultivate a little swamp rice in marshy valley swiddens. Gerai people will willingly list the advantages of the irrigated field type of cultivation: the reduction of onerous weeding requirements, and higher yields per unit of land. Nevertheless, they scorn any suggestion that they might cultivate permanent fields in this fashion, basing their arguments not on the amount of effort and time required to build up and maintain dikes and divert streams, but rather on social, political and religious considerations. In particular, any suggestion that it might be advantageous to switch to cultivation of permanent fields is countered immediately by a string of jokes and jeers at the expense of those nearby Malays who, they say, must slosh around in mud and slime all day long. The issue of ethnicity then, plays a crucial role in the contemporary character of Gerai rice cultivation.

As already noted, in past times the people of Gerai were included within the political domain of the Malay raja based in Sukadana. Although its location far from a river deep enough to be used for transport meant that Gerai only very rarely received visits from the raja's emissaries, in 1986 Gerai myth and oral history remained full of references to the raja and to those employed by him, of whom Gerai people went in contemptuous fear. Unlike Dayaks from other longhouses or villages, who had arrived at the Gerai longhouse as either friends or enemies and so could be treated accordingly, Malays came as neither. Their loyalty and service to the raja demanded that they be treated with care and respect in order to avoid the raja's wrath, but the nature of Gerai relations dictated then as now that they be seen as a different order of being, one which refuses pork and rice wine (both prized by Gerai people) and engages in an incomprehensible and highly amusing set of religious and ceremonial practices. The deep conceptual opposition that Gerai people make between themselves and Malays is expressed most explicitly in the structure of Gerai longhouse apartments: the "inner" enclosed household section is talked of as "our" (i.e. community) space, and the outermost section of the open verandah is spoken of as "Malay" (i.e. Muslim = outsider) space.¹³

While the distinction between Dayaks and Malays is normally spoken of by anthropologists and others as one between pagans and Muslims (King 1979:2, 28-34), here I want to suggest that for Gerai people at least, "being Malay" involves more than the refusal to consume pork and alcohol. For Gerai people the type of rice cultivation practised constitutes an additional marker in this establishment of ethnic identity.¹⁴ Thus, the two Gerai myths that most cogently express Gerai core values - told on the first and the final night of a major wedding ceremony - detail, respectively, the techniques and practices involved in the production of swidden rice, and the origins of *tuak*, or rice wine - both quintessentially Gerai/Dayak, as opposed to Malay. Story after story in Gerai sees a happy ending (i.e. a return to normality after a sequence of astonishing events) signified

by outlining - often in voluptuous and loving detail - the sequence of stages involved in the cultivation of rice in dry swiddens.

So indeed that's how it was. Until the end of their lives that plant gave fruit, it always wanted to fruit. *Padi* was its name. They took its fruit and slashed undergrowth. They made a rice swidden (*umo*). After they had made a rice swidden they dibbled and planted it; after they had planted it - when it was the right size - they weeded it. After it was weeded, after it was ripe, they harvested it. When it had been trampled it was dried in the sun, pounded in a mortar, and then it was cooked. And so for the rest of their lives they could make rice swiddens far and wide: they knew how to cultivate rice.

Furthermore, that rice, once produced in the swiddens, is marked explicitly as part of "our" rather than of "the Malay" world: after being carried back to the village it is processed (trampled, husked and winnowed) on a longhouse space intermediate between the "inner" and the "Malay" sections of the apartment, before being carried into the "inner" section to be stored at its spiritual heart (in a sacred jar immediately next to the hearth). At this point the rice is said to have "come home": it is "one of us", rather than an "other", a "Malay".

Significantly, the context in which I heard the term *ulun* (slave) - a term referring to a type of social relationship which is an anathema to people stressing autonomy to the degree that Gerai people do - used most frequently in Gerai, was in reference to cultivation of rice in irrigated permanent fields. Indeed, in many tales, the first sign that the protagonist is nearing a Malay community (and especially one containing members of the élite) is the presence of many "*ulun*" toiling in the irrigated fields. Storyteller and audience always make fun of such a scenario, and the protagonist him- or herself often behaves in such a fashion as to make these workers appear ridiculous. But the important point is that in laughing at the *ulun*, one is also laughing at their masters: at their pomp and self-centredness, the absurdity of their beliefs and practices. While Western scholars point out that permanent irrigated field cultivation tends to be associated with increasing social hierarchy (Bellwood 1985:148), Gerai people stress a related correlation. Their rejection of forms of permanent field cultivation and constant eulogisation of shifting cultivation can be read as a moral statement comparing (unfavourably) the exploitation and inequity of Malay society with the (professed) greater autonomy found in Gerai social relations.

In this argument then, swidden cultivation of rice serves as a marker of Gerai Dayak identity *vis-à-vis* the Malays with whom Gerai people have been closely associated for so long. It is important to note that even after the power of the Malay sultanates was destroyed by the Dutch, and Gerai people came eventually to settle down in a more permanent location, Malays continued to hold economic control over the entire region through their domination of trade between the hinterland and the coast. Only in the last decade was the Malay monopoly over trade into and out of Gerai broken: most community trade is now in the hands of several Gerai entrepreneurs. But at the time that

I was in the community, Gerai people still spoke with resentment of their treatment by the Malays, and of the latter's wish to "make us their slaves". Significantly, this notion of being "made into slaves" arises specifically in the context of production of rice by Gerai people for Malays, as part of what Gerai people see as having been an unequal and exploitative relationship. It was rice that formed the bulk of what most Gerai households had to trade with Malays. While this was supplemented by other (particularly jungle) products, it constituted the most stable means by which Gerai people were able to enter into trading relationships with Malays. It is precisely this scenario - the production of rice by slaves for masters - which, as I have noted, Gerai people now identify most strongly with permanent irrigated ricefields.¹⁵

III

Clearly it would be absurd to suggest that Gerai cultivation practices may be adequately accounted for simply by reference to the broader field of Malay-Dayak political and economic relations. However, the marking of ethnic identity among Gerai people is a central element in their insistence on the superiority of the swidden type of rice farming. A simple acceptance of some notion of economic rationality as the "cause" of their practices would have blinded us to the very real complexity - both in the past and in the present - of Gerai motivations in this respect.

One of the fundamental problems with most of what has been written on the adoption of a particular set of rice-cultivation practices - whether that associated with upland swiddening or with permanent irrigation - is the tendency among theorists and researchers to characterise communities or societies in terms of *either* one type of cultivation, *or* the other. Certainly in Borneo, most communities make use of more than one form of cultivation: shifting wet rice, permanent wet rice, shifting dry rice. To label a community as one or other of these, when it may be all three, minimises - or conceals entirely - the very complex set of factors involved in the dominance of one type over the others. Such labelling may also reinforce the notion of particular forms of cultivation as more fundamental or "natural" (in this case the upland swiddening form), and others as more "advanced".

In the region in which I did my fieldwork, intermarriage between Malays and Dayaks has often led to the individual Dayaks in question "*masuk Melayu*" (becoming Malay, i.e. becoming Muslim), and adopting wet rice cultivation practices as a function of their membership in Malay communities. But it has at least as often, by my observation, led to the individual Malays in question moving to live in Dayak communities and so adopting the forms of shifting cultivation practised there. The fact that such communities tend to be rigidly classified as either "Dayak" or "Malay" (by local people as well as by the researcher) obscures the constant flow of people, technology and knowledge that occurs in both directions, and may prevent us from recognising that *sawah* cultivators "become" swidden cultivators - in other words, that so-called "devolution" occurs - at least as often as swidden cultivators "become" *sawah* cultivators - in other words, at least as often as so-

called "evolution" occurs. This raises a series of profoundly important questions about common notions of evolutionary development.

FOOTNOTES

¹ For example Boserup 1965. See also Bellwood 1985:244: "It is hardly surprising that many shifting cultivators would continue with this system unless obliged to intensify..."

² See especially Dalton 1961, 1965, 1972. For a relevant case of apparent economic "irrationality" see the literature on those Borneo Dayak societies whose members prefer to pool labour across households in cultivating rice swiddens, even though they are perfectly well aware of what the ethnographic evidence confirms: that such communal workgroups are *less* efficient in production than a household operating singly (Geddes 1954:70-3; King 1978:6; Helliwell 1990:32-3).

³ See eg Bellwood 1985:239-45 for a very clear discussion of the posited stages of Austronesian agricultural prehistory based on precisely this understanding.

⁴ For instance, it has long been known that amongst the Iban - perhaps the most famous of all Borneo swiddeners - some wet rice cultivation is practised. While most Iban scholars classify this as *padi paya* or swamp rice cultivation (i.e. cultivation in naturally inundated areas), and describe it as being intermediary between the dry and the permanent irrigated types of cultivation (see e.g. Pringle 1970:26), Sather reports that among the Saribas Iban *padi paya* may in fact involve some drainage ditch construction, the transportation of water in arrangements of bamboo pipes, the transplantation of seedlings from "nurseries" and the use of the same plot for at least three years running (Sather, personal communication). This suggests a rather stronger resemblance between the Iban *padi paya* and the permanent irrigated forms of cultivation practiced by other Borneo groups, than is normally drawn (see e.g. Pringle op.cit. 26-7). It is also clear that this is an ancient system of cultivation, and not one recently learned from wet rice cultivating neighbours (Sather 1980:69-70; cf. Pringle op.cit. 26-7).

⁵ There are, in fact, Dayak societies in which wet rice techniques of cultivation predominate, in spite of no apparent land shortage. See e.g. Padoch (1983) on the Lun Dayeh, Lebar 1972:160 on the Kelabitic peoples in general. But see also Rousseau (1990:136) who argues that irrigated agriculture among the Kelabit may be a product of high population densities.

⁶ This suggestion is, in essence, nothing new: over thirty-five years ago Leach demonstrated that each of two different social and economic "types" - including different forms of rice cultivation - among the societies of highland Burma could be accounted for adequately only with reference to the other (Leach 1954).

⁷ I carried out fieldwork in Gerai between April 1985 and February 1986, and between June 1986 and January 1987. This was funded by an Australian National University PhD Scholarship, and carried out under the sponsorship of LIPI.

⁸ See SMEC 1973:45 for a map showing distribution of ethnic groups in Kalimantan Barat.

⁹ This term was first coined by Hudson (1970). Within his broad "Malayic Dayak" category Hudson distinguishes between "Malayic Dayak" proper and "Ibanic". I would classify a number of the languages of this region as "Malayic Dayak" proper.

¹⁰ Theoretically the Dutch had held at least nominal authority over parts of Kalimantan Barat since the 17th century; however it was not until the late 19th century that they began to extend direct control throughout the entire region (establishing a widespread administrative system and building a network of tracks) in response to the activities of the British in the northern part of Borneo (see Irwin 1955:156-7).

¹¹ My argument here, as well as in the following part of the paper, owes much to Gibson's account of the Mindoro Buid (Gibson 1986).

¹² Jackson, for instance, claims that the wish to escape Malay overlordship probably lay behind the fluidity of Dayak settlement patterns (1970:17).

¹³ For a much more detailed discussion of this see Helliwell 1990:187-9.

¹⁴ Rousseau (1975:45) notes that for the Kayan of Central Borneo rice cultivation practices are also a basis on which Iban Dayaks and Malays are distinguished.

¹⁵ Although it must be noted that there are in fact a significant number of highly stratified Dayak societies in Borneo whose members practice swidden cultivation. Clearly Gerai understandings of this swidden/permanent irrigated field distinction are by no means universal among Dayak people.

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