

RURAL DEVELOPMENT FORESTRY NETWORK

FROM SUBSISTENCE GARDENING TOWARDS CASH
CROPPING WITH TREES: CHANGES IN THE FARMING SYSTEM PRACTISED BY
FORMER SHIFTING
CULTIVATORS IN EASTERN INDONESIA

Benno Robert Otto Grzimek

Benno Grzimek was formerly a PhD student at the London School of Economics and Political Science. He can be contacted at 38a Colvestone Crescent, London E8 2LH, London, UK.

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**FROM SUBSISTENCE GARDENING TOWARDS CASH
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RESUMEN

Este artículo se basa en una investigación doctoral de los cambios sociales ocurridos entre los Wemale de Seram, en el este de Indonesia. El trabajo de campo se llevó a cabo entre 1988 y 1989 en dos pueblos, Ahiolo y Abio. Una de las conclusiones del estudio muestra que durante los últimos 20 años, el cultivo de árboles por los pobladores ha aumentado marcadamente.

Hasta los años sesenta, los Wemale practicaban una agricultura rotativa en los bosques del interior de Seram. Este estilo de vida fue interrumpido bruscamente en 1961 cuando, a raíz de las actividades del movimiento rebelde en el área, el cuerpo militar central de Indonesia forzó los pobladores a establecerse cerca de la costa. Vivieron ahí por nueve años, y regresaron al interior en 1972. Desde entonces, los pobladores empezaron a ampliar su sistema de producción de alimentos básicos e incorporar el cultivo de árboles, especialmente clavo de olor y nuez de coco. Este artículo describe las prácticas agrícolas actuales de los Wemale, y analiza algunos de los cambios sociales que están entrelazados con los cambios en el sistema agrícola.

RÉSUMÉ

Ce document est tiré d'une recherche de doctorat sur les changements sociaux intervenus chez les Wemale, qui pratiquaient autrefois une culture glissante, à Seram, en Indonésie. Un travail sur le terrain a été mené dans deux villages, Ahiolo et Abio, entre 1988 et 1989. L'une des découvertes de l'étude fut une augmentation marquée de la culture des arbres par les villageois au cours de ces vingt dernières années.

Jusqu'en 1960, les Wemale pratiquaient une culture glissante et vivaient dans les forêts intérieures de Seram. Ce mode de vie trouva brutalement sa fin en 1961 quand — à la suite d'un mouvement rebelle actif dans la région — les militaires de l'Indonésie centrale forcèrent les villageois à se réinstaller plus près de la côte. Il vécurent là pendant neuf ans, puis retournèrent vers l'intérieur en 1972. Depuis cette époque, les villageois ont commencé à diriger leur système de production de cultures vivrières vers l'arboriculture, cultivant en particulier les girofliers et les cocotiers. Ce document décrit les pratiques agricoles actuelles des Wemale et explore certains des changements sociaux qui se sont étroitement entrelacés aux changements de leur système agricole.

INTRODUCTION

This paper draws upon doctoral research into social change amongst some former shifting cultivators, the Wemale, in Seram, Eastern Indonesia. Fieldwork was conducted in two villages, Ahiolo and Abio, between 1988 and 1989. One of the findings of the study was a marked increase in tree cultivation by the villagers over the last twenty years.

Until the 1960s, the Wemale were shifting cultivators living in the inland forests of Seram. This lifestyle was brought to an abrupt end in 1961 when, as a result of the active rebel movement in the area (in which the Wemale claim to have had little participation), the central Indonesian military forced the villagers to resettle near the coast. They lived there for nine years, returning inland in 1972. Since this time, the villagers have begun to extend their system of subsistence food production towards the cultivation of trees, in particular clove trees and coconut palms. This paper describes the present farming practices of the Wemale, and explores some of the social changes that are interwoven with changes in their farming system.

Changing Attitudes to Tree Crops

The nine years that the Wemale spent living near the coast were formative in changing their attitudes towards production for exchange. Living on the land of Chinese-owned cash crop plantations, they were allowed to make food gardens for subsistence or for sale only. Nobody was allowed to plant long term cash crop trees. Instead, people found irregular employment on the plantations if they wanted to. A number of men regard this period on the coast as pleasant because they had access to money, were close to a health care centre and could always buy fish. Usually younger householders view the conditions more sceptically, saying that the owners of the plantation offered too little money in return for hard labour. Most importantly, all men agree that it was necessary to return inland, where villagers could begin to grow their own plantations.

When asked why the great majority of Ahiolo and Abio villagers returned from the coast, elders uniformly reply that they moved to present day village locations in order to cultivate cash crop tree gardens for their children. This explanation marks an important turning point in the attitudes of the villagers between the years of 1965 to 1972. Before householders had been forced to descend to the coast, hardly any cash crop trees were planted. Only a few people selectively cultivated cash crops, primarily clove trees, before their food gardens regenerated into secondary forest. Although the ancestors had sold forest products to the coast, involvement in trade and the market economy has increased dramatically, and is becoming economically and socially more and more important.

Some informants stated that during the 1950s certain villagers had in fact planted clove trees, but that most of the trees died when their owners were unable to take care of them while living on the coast. According to other elders, gardens and therefore cash crop trees, had been destroyed by bombs from Indonesian military planes. An alternative explanation offered for the absence (now much regretted) of habitual cash cropping is that the elders were reluctant to plant trees for exchange because the Dutch administration had imposed an exorbitantly high head tax¹.

Two slightly different histories concerning these early and negative experiences were related by

¹ The Dutch verb *belasten* for taxing is still remembered.

villagers. One was that the Dutch compelled villagers to plant cash crops in order to tax them and, cunningly, the elders destroyed the young trees by pouring boiling water onto the roots during the night. The trees thus perished without visible signs of destruction. It was also said that the Wemale had begun cultivating cash crops on their own but when the administration imposed taxation, they themselves cut their trees to escape this imposition.

Villagers now lament the fact that their ancestors missed the opportunity of planting cash crop trees and regret that other villages possess mature and yielding trees while most of their own are still fragile and young. In fact, the two narratives about the destruction of the clove trees are sometimes flatly reversed by gardeners who blame the absence of mature clove plantations on the Dutch, saying that they ordered the Wemale to fell them. Nowadays all men are enthusiastically cultivating tree crop gardens. Apart from the economic returns, cash crop trees are favoured as they long outlive the original creator of the garden and serve as a reminder of an individual's deeds. Another vital aspect in shifting cultivators turning to tree crop cultivation is that cash cropping demands (in comparison to rice agriculture) little effort and time.

The Creation of the New Settlements Inland

When they returned inland, the villagers cleared land from the forest, felling an area of communal land as well as adjacent plots for private cultivation. The village of Ahiolo was first formed in this way, at a site some 16km inland from the coast at about 100m above sea level. The terrain here is partly fairly steeply sloping, and partly flat — the latter area supporting coconut and sago palm cultivation, although according to the villagers it is less suitable for cloves. The settlement of Abio was formed a little later, at a cooler and more exposed site further inland. It lies some 45km from the nearest stretch of coast and at 600-700 m above sea level. Here coconut and sago palms perform poorly, but cloves grow well.

As shifting cultivators in the past, the Wemale would change the location of their settlements regularly, moving on when the fertility of their gardens declined. A whole series of former settlements are still remembered. Little interest was taken in the old gardens, and in the course of time the forest invaded. The land reverted into *mataluma*² territory (land controlled by particular kinship groups) — a general pool for exploitation. Only a few useful trees are under the control of elders, although any descendant can claim a right to use such a tree when they need it, simply by asking permission. In principle the same applies to sago plantations. For example, virtually anybody can exploit the old and large sago plantation on one former village site lying half a day's strenuous walk from Abio. However, younger and smaller sago trees in the vicinity of Abio are used by the owner him or herself and less freely given up. Today cash crop trees are usually planted after a food garden has been established, and to a large extent the surrounding area of Abio is covered by young clove trees, under well defined ownership.

Two main categories of gardens are found in Ahiolo and Abio:

1) Food Gardens

The food gardens can be located on clearings from primary forest (*kakaya*) or secondary forest

² In anthropological terms, a *mataluma* can be defined broadly as a cognatic descent group sharing a common name.

(*wesie*). In Ahiolo a household usually has one to three food gardens. They are ideally made from secondary forest and are situated as closely to the village as possible, though soil quality, ownership of land and other factors are taken into consideration in the choice of the location. Crops produced include manioc, yams, taro, sweet potatoes, tomatoes, chili, papaya, bananas, peanuts, sugar cane, a variety of pumpkins, onions, spinach and pineapple.

2) Tree Crop Gardens

In Ahiolo³ long term tree crop cultivations are made from mature forest (*kakaya*), unless an area is replanted.⁴ Beginning as early as 1968, some 231 plots have been cleared, covering an area of about 151 ha. This underlines the determination with which Ahiolo households have engaged in tree cultivation. Out of the clearings, 56 have completely regenerated into independent plots of secondary forest, while others have only partly turned into such forest. This makes it often impossible for an outsider to know where one garden ends and another begins. Garden size certainly varies, the mean being one hectare. On average an annual garden clearing is about 80m long and 40m wide; this tends to be expanded in subsequent years. A man may organise a working party for felling the large trees. He then has to entertain the group amply with foods. Planting trees is mostly accomplished by the owner while women help in clearing regenerating secondary growth and by cooking for their husbands. In Ahiolo gardens can be made anywhere, where nobody else claims land rights and it is noticeable that villagers steadily move further away from the village when new plots are chosen for suitable garden locations.

The main tree crops of Ahiolo fall into three broad categories: clove, coconut palm and sago palms. There are often many other kinds of trees and plants mixed into any particular plantation, depending on the location, soil condition and the personal inclination of the owner.

While clove has exclusively commercial value, coconuts serve both as food and cash crops and, once they yield, can provide the household with a permanent source of income. The commercial value of sago is relatively small as there is limited demand; a large vessel containing about 15 litres sells for only Rp 1000. Almost all households have a clove garden; many have coconut palms and all can have access to sago palms which whilst they are all privately owned are generously shared among relatives and friends in Ahiolo. Other potential cash crop fruit trees are planted in smaller numbers. Certain fruit trees, like durian (*Durio zibethinus*), lansat (*Lansium domesticum*), *pala* (nutmeg or *Myristica fragrans*), mango (*Mangifera indica*), bread fruit (*Artocarpus polyphema*) and several others will in future years periodically yield and can bring a considerable amount of money to the owners, if they are sold at local markets or bought by visiting merchants. A few gardens currently yield enough of these tree fruits to make it worthwhile selling them to the coast.

³ In Abio the cultivation of cash crop tree gardens is more complex. Gardens are either located
1) close to a former village site where the person already owns secondary forest, or
2) on communal village ground (established with the consent of the village government), or
3) on the *mataluma's* own territory, or
4) on land close to the village which was donated by another *mataluma*.

⁴ There are at least two reasons for replanting:
a) the plot has been allowed to regenerate into secondary forest because the owner was unable or unwilling to plant cash crops at the time the gardens were first cleared; and
b) deer, wild pigs or other circumstances destroyed cash crop seedlings.

Coffee bushes are relatively uncommon, and seem to be intended to satisfy home consumption only.

DESCRIPTION OF A MATURE TREE GARDEN

The design and layout of tree crop gardens clearly reveal their origins in subsistence based agriculture, as revealed by the following description of one villager's garden. Ateng Latekay-Latu is now in his late fifties. He went to school and is able to read and write. When Ahiolo was founded, Ateng coordinated the communal village labour. According to his own explanations, he cleared the first of his four gardens from primary forest (*kakaya*) in 1969, without any help. This plantation, adjacent to Ahiolo, is irregularly shaped and one of the larger village gardens, comprising an area of approximately two hectares. The boundaries are not marked and even owners seem occasionally to lose track of where exactly their plantation ends and the next one begins. The planting of trees on the land is an indication of ownership, and is often used as such.⁵

Entering Ateng's garden, one finds a bewildering variety of what seems like an unsuccessfully domesticated green jungle: mature and immature plants, trees and bushes compete against one another for space and sunlight. There are big and small coconut palms, cacao trees, sparsely leaved and small clove trees, next to medium sized durian, *pala*, *lansat*, and *kenari* trees. In addition, flowering coffee bushes, areca and banana plants as well as sago palms right next to the stream bordering the plot have been unsystematically positioned at various distances from one another. In between these and other cultivated plants, grass, ferns and regenerating trees have reached considerable height. Certain sections of the garden have regenerated into secondary forest and four giant trees have been left intact. Sometimes such trees demarcate land boundaries but in this case they were preserved for building purposes at some point in the future.

When asked about the mixture of plants, Ateng answers that this kind of planting is '*adat*' (ancestral custom). What he means by this is simply that gardens are planted with a variety of different plants to serve household needs. Whenever they had an appropriate seedling, elders inserted one plant at a time where they thought it would grow well between the burnt logs of felled trees. Furthermore they planted only what was convenient and what they intended to use in the future. These principles are followed today, although younger men tend to have learned in school and from the occasional instruction by government employees from Kairatu to arrange the plantation so that selected trees grow more quickly and yield more. However only one bachelor bothered to carry a long nylon line to the garden in order to separate his coconut palms in an equidistant and rectangular pattern; into every coconut square he inserted the proscribed cacao tree.

Ateng's garden is supposed to supplement the household requirements in various ways (including as a cash source) but was, unlike clove tree plantations, not designed to be an imitation of the coconut plantations of the coastal villages. Bearing in mind that in 1969 cloves were the predominant cash crop and that the moist and flat land is unsuitable for clove trees, it is not

⁵ In this case a neighbour planted a young coconut palm in the ground cleared by Ateng but controlled (in her view) by her own household. Had Ateng wished to escalate the conflict, he might well have uprooted the palm and planted his own. However, the disagreement was (typically) never discussed, and was not fully resolved.

difficult to comprehend this plant diversity. As it was his first garden, Ateng even planted clove seedlings, knowing well that the soil is too damp but hoping for the best. The main crops of the garden are about 100 young and 80 old and yielding coconut palms, 30 sago palms and 10 durian trees. Initially Ateng had planted 200 coconut palms but they have successively been destroyed by pigs. He has already replanted palms four times. The nuts are consumed by members of his household or processed into coconut oil by his wife or daughter. Regularly relatives of his wider family collect nuts. Sometimes, when in need of cash, he sells nuts to villagers who make copra or transport the nuts to the coast. Annoyed with thieves, Ateng fenced his garden and redirected a much used village path so that children and women could no longer steal his fallen coconuts for their own benefit. Only once so far has he made copra himself, when he managed to make in total Rp 120,000. On another occasion he sold *pala* fruits for Rp 67,500.

Only ten householders have likewise managed to earn a major sum of money from fruit trees, but many households obtain weekly nuts from their coconut palm gardens. In the face of a decline in market value of cloves, these gardens acquire more and permanent commercial importance in relation to clove plantations which yield only every other year. In sum, the garden represents an unsystematic form of tree cultivation which still exhibits all the signs of a tradition in which horticulture is geared towards domestic consumption and in which diversity of crops is favoured above monoculture.

Ownership and Inheritance Issues

At present, food gardening is directed towards domestic consumption with little exchange or sale of products⁶. Distribution of the food produced is controlled by those who have invested their labour in the garden (normally the husband and wife). Whilst they are the primary consumers, they share the garden produce with others — both family members and other relatives. Sharing food is an important acknowledgement of kinship bonds.

A similar arrangement can be noticed for tree crop plantations, though the morality of sharing food is fundamental compared with sharing other materials, goods or cash. The aim of producing sufficiently for domestic consumption can turn into a demand that other households should be self-sufficient. In Ahiolo men are increasingly involved in gardening at the expense of hunting. A parallel development is that, compared to Abio, women in Ahiolo spend more time in the village and less on expeditions and long trips to gardens. However, women find it relatively easy to prepare small food gardens from secondary forest, close to the village with or without a little help from husbands or brothers.

The land on which tree gardens are created is not only no longer available for subsistence food production but is also likely to continue productivity beyond the lifetime of the person who planted the trees. Thus tree crop gardens become part of inheritance patterns and create differences in wealth. In Ahiolo where the territory is not divided among *matalumas*, individual rights to land are acquired by clearing primary forest to which nobody had prior ownership and

⁶ There are indications that households would be prepared to produce food crops for extra village sale under sufficiently lucrative conditions.

therefore individual claims to gardens or land⁷ are immediately stronger than in Abio where all territory, apart from the village land, is controlled by *mataluma* elders.

Garden rights, in the form of access for exploitation, control and inheritance, have not formed unified and agreed norms in Ahiolo since tree cultivation was introduced. Various claims and strategies have developed but the use of Indonesian terms (see below) often does not reflect accepted practice, or suggests that there is a 'system' of land rights. Normally control (*hak milik* or *hak waris*) over gardens is now equally inherited among male relatives. Fathers bequeath plantations to sons, either collectively or particular gardens are given to individual sons. In addition rights to use and exploit garden products (*hak pakai*) are vested in wives and inherited to daughters. Although these concepts do not reflect domestic discussions about gardens, they indicate how women, as daughters and wives, are categorically discriminated against in favour of brothers and sons. Thus the important long term control over the plantations has formally become largely a matter between men. Only eight from 67 tree crop garden owners are female, controlling merely 12 out of 150 gardens.

Thus as a result of growing long rotation cash crop trees, inheritance and the rights to gardens have become an issue of concern. Creating a garden gives the owner considerable rights over the land and the disposal of the harvest. However beginning⁸ with marriage, claims to usufruct of the garden become dispersed and more generalised. Even if the husband retains legal control over the garden, his wife and children have de facto unquestionable claims to share the harvest within the household. Inheritance further diffuses individualised claims, generally favouring male against female children and the oldest sibling against younger siblings, much in accordance with the general Church and state bias in the Moluccas. Several elders intend to leave their gardens individually to their children, giving each exclusive rights. Other elders invoke the concept of a communal garden (*dusun dati*) which is usually under the control of the eldest son. Inheritance tends to disperse the rights over a garden but does not lead to increased land fragmentation. Daughters customarily have the right to use some of the garden products and so do brothers, who have not been directly vested with the control over the plantation.

Income Derived from Tree Gardens

It is to be expected that the number of yielding trees and palms will dramatically increase over the next decade and contribute to cash earnings of many households. The income is vital for the households. Nevertheless eight Ahiolo households have had no income from their cash crops and have to find alternative means of obtaining cash. The earnings from cloves up to the time of the study had totalled Rp 2,778,200, derived from small harvests. The price of cloves is dropping, but

⁷ No strict distinction is made between trees and land when people refer to a garden, though persons think of the general space of a garden in terms of up to where it was cleared. In rare cases clearing undergrowth or merely the expressed intention to clear an area in coming years up to a natural border like a mountain ridge or a small stream are accepted as valid claims to the land. A distinction between tree and land is only drawn in the case of clove plantations because some gardeners donate individual trees from gardens to the Church, which claims them and their fruit as its property. Potentially the arrangement could lead to a legal distinction between land and cash crop trees. So far terms for land and cash crop trees are freely substituted for one another without such a shift in meaning.

⁸ There may, of course, be prior obligations to other relatives like parents or siblings.

even if it further deteriorates several households can expect to earn increasing amounts from their clove plantations in the future⁹. The limitations of the crop are that trees usually only yield every two years and that they provide no steady cash income. Several households were able to produce copra from their coconut harvest over the last few years; recalled earnings totalled Rp 970,000. This figure is less than half the income from cloves but should at least be several hundred thousand rupia higher because of the sale of coconuts. As coconut palms are productive all year long, it follows that coconut palms, although more labour intensive than clove trees, make a more persistent and increasingly important contribution to the Ahiolo economy.

For certain cash earnings informants reported the purpose to which the money was put. Much was put to 'household expenses' — a general term which includes tax, church donations, payment for the minister's salary, school and administrative fees, food, tools and others. Donations to the church were under reported. It is customary to give a share of a major harvest to the church. Many villagers have donated a clove tree to the church; whatever the tree yields goes to the parish. Whenever possible people were asked to be specific about expenditures, in which case a number mentioned medicine, and the education of children. Children attending secondary or tertiary education are absent from the village and need some cash for living, clothing, stationery and school fees. Only one young man said he had spent his earnings from a harvest on tobacco and alcohol. Generally a portion of the income serves for such personal consumption, while the larger percentage is given to the female household head and used for general household expenses. It is more common for earnings to be pooled and shared according to the requirements of the household and its members.

Conclusion

It has been shown that since about 1970, the Wemale villagers have on their own initiative begun to extend their subsistence food production towards tree cultivation. Growing clove trees and coconut palms has become the major preoccupation of most men. Once or twice a year this regular income is (depending on weather conditions) supplemented by a clove harvest. Garden earnings should be increasing substantially over the next few years. Until 1988 only half of the plantations yielded crops which could be sold on the market. Rising cash income should permit villagers to expand domestic consumption. Abio's agriculture is predominantly dependent on clove production which means that, with all the risks of relying on a single crop, villagers will have to supplement their household earnings by alternative means, especially labour migration and exploitation of forest resources. The need to earn money encourages hunting, catching birds and collecting other forest products which can be sold for cash. Abio's economic and geographic conditions are therefore structured towards subsistence oriented agriculture and supplementing labour migration combined with hunting and gathering whereas Ahiolo villagers become less dependent on labour migration. In a sense, the latter have achieved more independence by not being forced to sell their labour to outsiders. Rather they are now at a point where the long-term investment of labour into their garden is beginning to reward them.

⁹ The spending power of households is of course subject to price rises in consumer goods. Ambon and the Moluccas generally have very high inflation rates.

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