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The Preparation and Origin of Galela Food

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Food



Feeding the field workers.

The Preparation and Origin of Galela Food

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INTRODUCTION

Banana, sago, sweet potato, manioc and rice are the staple foods of the Galela people; and fish, meat of domestic and wild animals, cultivated vegetables and wild plants are used for side dishes. Most households are self-sufficient in food supply, which is obtained from subsistence agriculture and its economic complements.

Many aspects of food production have been dealt with already, so this chapter is limited to an examination of how the various food resources are utilized in Galela kitchens. It deals in particular with the varieties of daily foods and food processing, an analysis of cooking techniques, the material culture concerned with food and food processing, and value systems relating to diet. At the end of this chapter a hypothetical, historical reconstruction of agriculture and food systems in Halmahera is presented.

In the first chapter of this volume the Galela classification of their biological and physical environments, and the food resources obtained from each type of environment, was analysed. For convenience, the relevant points are summarized again here. The sea (*teo*) sustains fisheries and the species of marine fish usually caught are as listed in Table by Ogo (Table 1, p. 209). Fields (*toro*) are cultivated to provide foods and the plants cultivated are as listed in Table by Sasaki (Table 5, p. 160). In addition, various wild plants are used for cooking. They include the young shoots of various species of ferns (*godomu*), bamboo shoots (*jibru*) and various mushrooms. Although not cultivated at present, it appears that *Impomea aquatica* Forsk. (*kanko* or *takako*) and *Amaranthus* spp. (*tona ma gaahu*) were deliberately introduced and are still regarded as useful plants that provide leafy greens. The products of these wild or semi-cultivated edible plants are gathered by women when travelling along the path (*ngeko*) between the village and the fields. Sago is obtained from *Metroxylon* spp. palms in the swamp forests (*pece*). And game is hunted in the upland areas (*tala*).

In the village (*doku*), mango and citrus trees planted around the houses provide fruits that are eaten only uncooked as snacks between meals. Domestic animals that wander around the village also provide food. Only goats (*kabe*: *Mal. kambing*), chickens (*toko*), ducks (*bebe*) are kept in Limau. Nobody in Limau owns a cow, but cows are found around Soasio, where they were introduced after World War II.

Only five Limau households possess goats, of which there is a total of 28 in the village. They are eaten only on occasions of great importance, when their meat is served to the principal guests. Villagers who do not keep goats buy them from those who do for use at weddings and other major feasts.

Most households keep chickens, which range freely throughout the village. Bamboo nests in which chickens lay eggs are placed in the kitchen or outdoors

Table 1. The division of labor and environment exploited in food production

food resources	environment	division of labor	
		procurement	transportation
fish	<i>teo</i>	male	male
cultivated plants	<i>toro</i>	female	female
sago	<i>pece</i>	male	male
wild plants	<i>ngeko</i>	female	female
game	<i>tala</i>	male	male
firewood	<i>toro</i>	female	female

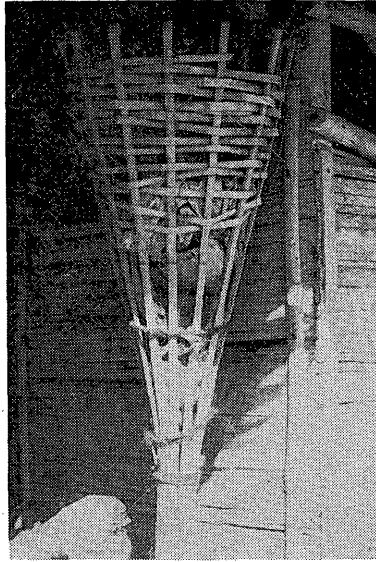


Photo. 1. Bamboo chicken nest.

(Photo. 1). Few eggs are eaten by the villagers, rather they are permitted to hatch to provide meat. When eggs are cooked they are made into omelets or added to dishes that have other main ingredients. But eggs seldom appear on the table, as there is generally not enough for everybody in the family. Only 5 village households keep ducks, each having one brace of adults.

Dogs are kept mainly for use in hunting. Whereas people of the neighboring communities, such as the Tobelos, eat dog meat, the Galela claim not to do so. But a Tobelo informant, on the other hand, said that the Galela do eat dogs. If this is true, they are seldom consumed in Limau, a village with few dogs.

Besides being the locus of food consumption, the village is also the place where foodstuffs are exchanged. Foods are exchanged for other foods, and villagers exchange foodstuffs for items that they do not produce themselves. They also purchase foods and seasoning from stores in the village. The foodstuffs produced by village families, the locations in which they are procured, as well as the division of labor required to obtain and transport them to the village, are shown Table 1.

As is apparent from the table, men engage in marine fishing and transporting the fish to the village. Men also undertake the heavier labor of felling trees and burning required to make a swidden. When rice is sown, men dig the holes and women sow the seeds, both men and women also cooperate in rice harvesting. But in principle the planting and harvesting of bananas, manioc, taros, and yams, is done by women alone, as is weeding the field. Thus apart from the rice crop, field labor is strictly divided between males and females, and women alone undertake the cultivation whereas the men prepare the field site. Women also transport the harvested crops to the village. Yet this division of labor is just a basic principle that is not commonly observed in reality, and in practice it appears that husbands help their wives. Sago



Photo. 2. Women carry a pannier filled with firewood.

extraction, on the other hand, is done entirely by the men. Women alone collect wild or semi-cultivated edible plants when travelling to and from the fields. Men engage in hunting wild birds and animals in the mountains.

Firewood is a resource essential to the everyday preparation of food. It is obtained mainly from partially burned timber left over from swidden-making. Firewood-collecting is women's work. Carrying a pannier (*kiaro*), the main part of which is composed of wickerwork made of the bark of a species of *Maranta* sp. called *moa*, the women go to the fields and return later with the basket full of foodstuffs and firewood (Photo. 2). Coconut husks are also used for cooking fuel.

I. HOUSEHOLD FOOD ECONOMY

1. The Lifestyle and Working Habits of the Hs's Family

A sample household was selected for detailed observation to reveal how the activities related to food procurement are actually carried out. The household selected for in-depth study was that in which the author lived. This facilitated the detailed study of family life. The same household also provides the example described in later chapter, where house construction, clothing and household economy in general are examined. To preserve anonymity this household is designated as that of the Hs family. The household is made up of 5 members, a male head who is in his thirties, his wife who is in her twenties, a three-year-old son, a one-year-old

daughter, and the husband's 7-year-old sister who resides in the household because both her parents are dead. All are Galela. The average family size in Limau is approximately 6 members. Although there exists little economic stratification among the villagers, the Hs family is not among those 7 which pay income tax in addition to head tax. This does not mean, however, that it is poor, and according to the judgement of other villagers this family ranks somewhat above middle class.

The Hs family has 5 cultivated fields. Three are clustered in a location about 30 minutes' walk from the home, and one field has a field hut (*loloma tahu*). The 2 other fields are located some 90 minutes walking distance away, and they also have a field hut.

Mr. Hs also extracts sago and engages in fishing in addition to working in his fields. He is a Muslim and hence does not work on a Friday, the Holy Day. For the remaining 6 days he works an average of 3 times in the field, extracts sago 3 times and goes fishing twice. Some days he undertakes two activities. For example, he works in the field during the morning and goes fishing in the evening. During an average week he undertakes some 8 main livelihood activities. By village standards he is hard working.

The family allocation of time on a representative day is as follows. Mr. Hs and his wife get up between 6 : 00-7 : 00 a. m., eat breakfast after 7 : 00 a. m. and take lunch between 12 : 00 a. m.-1 : 00 p. m., after which they sleep for about an hour. Dinner is eaten between 7 : 00-7 : 30 p. m., and they retire for the night between 9 : 00-10 : 00 p. m. Periods of work are distributed between these intervals.

When Mr. Hs goes to the fields or to the swamp for sago extraction he completes the heavy work while it is still cool, working between 8 : 00-11 : 00 a. m. When busy in the fields, he prepares lunch at the field hut. He takes a nap during the hot hours of the afternoon and works again between 3 : 00-5 : 00 p. m. During such periods as the rice planting season, the entire family sometimes sleeps in the field hut. Sago extraction, on the other hand, seldom lasts beyond noon. Even when Mr. Hs goes to the swamp to extract sago, rather than work in the fields, Mrs. Hs goes to the fields as usual, except on Fridays.

In principle, women go to the fields daily to fetch foodstuffs and firewood. Sometimes Mrs. Hs goes to the field only in the evening to collect food and firewood for supper, although usually she makes the daily round-trip to the field in a short time. Usually she does weeding and planting in the field only 3 times a week.

The timing of Mr. Hs's fishing activities depends on tidal conditions. He fishes with a rod and line and so does not go to sea during the daytime, but rather in the evening or even close to midnight. He fishes 1-3 km off-shore for about 2 hours when the fishing is good, but returns after an hour when it is not. In general it may be assumed that the time Mr. Hs devotes to food procurement activities does not exceed 5 hours daily.

2. Foods Involving Cash Transactions

The food crops produced by the Hs family include 8 varieties of banana (*bole*), sweet potato (*gumi*), manioc (*nasibiu*), rice (*tamo*), a subspecies of Job's-tears (*rore*), chili pepper (*rica*), onion (*bawang sasawara*), papaya (*papaya*), and coconut (*igo*). Of these only copra provides a cash income, the other 7 crops being used for family subsistence.

As Mr. Hs is eager to produce sago (*peda*), he fells and extracts the sago from at least 1 *Metroxylon* palm per a month. Quantities of sago are measured by the *ruru* container. Even at relatively less productive times at least 4 *ruru* of sago are extracted per month, 2 of which are for household consumption for one month, the remainder being sold in the Soasio market.

This household does not own a canoe for fishing, so Mr. Hs borrows one from his neighbor. Most fish caught are consumed by the household and the surplus is sold at market. The only livestock owned by the Hs family are chickens. They owned 3 hens and 30 chickens at the time of our fieldwork.

The family obtains a cash income mainly by selling copra, sago and smoked fish, which we estimated brought in about Rp. 3,000–3,500 per month. Of this approximately Rp. 2,000 per month are spent on rice, sugar, salt, black tea and some vegetables (for details of the household budget, see Ishige, this volume, pp. 477–480), which supplement or complement the foodstuffs produced by the family. According to other villagers, an income of Rp. 3,000 per month is enough for one family to live on.

We asked Mr. Hs to keep notes on the foods and beverages, as well as the recipes used for the 3 daily meals consumed between October 25 and December 8, 1976. These records were kept faithfully apart from a failure to make an entry for lunch on

Table 2. Ingredients of the Hs's household's recipes

ingredient	Galelan name of ingredient	frequency
fish	<i>nawo</i>	82
sago	<i>peda</i>	40
banana	<i>bole</i>	39
rice	<i>tamo</i>	30
tea	<i>teh</i>	25
sweet potato	<i>gumi</i>	16
manioc	<i>nasibiu</i>	13
eggplant	<i>fofoki</i>	13
<i>kanko</i>	<i>kanko</i>	6
bread (wheat flour)	<i>roti</i>	5
pancake (wheat flour)	<i>apang</i>	1
dried fish	<i>nao-dopo</i>	1
papaya leaf	<i>papaya ma soka</i>	1
chicken	<i>toko</i>	1
wheat flour	<i>trigu</i>	1

October 26 and for the 3 meals on November 21 and 22. The main ingredients of foods and beverages, in order of frequency, derived from the analysis of 122 meals eaten during 32 days is shown in Table 2. An analysis of Table 2 with reference to the foodstuffs produced by the family and those purchased (Table, 1 p. 264) is illuminating. Of the foods listed in Table 2, those served as staples appear 146 times and are limited to the 5 kinds; sago, banana, rice, sweet potatoes, and wheat flour. (In Table 2 staple foods appear 146 times for 122 meals because sometimes more than one kind of staple is served per a meal.) Of these staples, those that can be produced by the household are sago, bananas, rice and sweet potatoes, and all except rice are provided by the Hs crop. As shown in Table 1 (p. 264), the Hs purchase an average of 5 kg of rice per a month. In general, all families in Limau sow a relatively small area of upland rice, and because of primitive cultivating techniques the yields are low. They consume all the rice from their own fields within 2 months of harvesting and eat polished rice bought from the stores while awaiting the next harvest. Between October and December, the Hs ate only store-bought rice, their own supply being exhausted, apart from that set aside for sowing.

Store-bought rice is distinguished from that produced from the villagers own fields by calling it *tamo masina* ("rice of machine," i.e., milled rice).

Of the other staple foods, those made from wheat flour were bread (*roti*), pancakes (*apang*) bought from the store, and flour blended with sugar and fried in palm oil (*roti sosinaga*), which was made for breakfast only once. The flour is also purchased.

Fish, dried fish, eggplant (*fofoki*), new papaya leaves, and chickens (Table 2) were cooked for side-dishes, of which all but eggplant were produced in the Hs's own fields. This family does not grow eggplants but obtains them either in the Soasia market or from those in the village who grow them, or receives them gratis from villagers who cultivate them. The family obtains vegetables or fruit that they do not grow in one of these ways. It is customary to make repayments for foodstuffs received gratis by providing commodities free of charge in return.

Apart from boiled water the only beverage accompanying meals is black tea. The Hs always drink tea with breakfast. The Galela drink their tea heavily sugared, and this accounts for most of the 3 kg of sugar purchased each month by the household.

Only the main food ingredients and no seasonings, which play a complementary role, or items used to flavor the main ingredients are listed in Table 2. Such items that can be inferred from the contents of the meals are salt (*gasi*), coconut oil (*gososo igo*), grated copra (*igo pa kori*), chili pepper (*rica*), lemon (*wama*), onion (*bawang sasawara*), ginger (*goraka*), turmeric (*gurati*), and tomato (*tomate*).

As can be seen in the chapter of Mr. Hs's household economy (Table 1, p. 264), salt is purchased from village stores (see Table 2, p. 479 for the merchandise sold in the stores). Coconut oil, copra, chili pepper, and onions are produced by the family, supplemented when supplies run out by those available in the stores. Lemon, ginger, turmeric and tomato, which are not planted in the fields, are obtained as mentioned above. Among these, turmeric and ginger, produced only in small quantities in Limau, are often bought at the Soasio market, which accounts for the cash expendi-

ture on vegetables indicated in Table 2, p. 479. These flavoring ingredients are not eaten alone but are used in small quantities for sauces. Hence they are often obtained as required from the neighbors. Even when bought they comprise only a very small item in the family food budget.

3. Kitchen Utensils and Tableware

1) LIST OF KITCHEN UTENSILS

Outside the house are kept a large mortar for pounding rice (*lesu*) (Fig. 1), bamboo tubes for storing water (*kiloha*) (Photo 3), equipment for smoking fish and a supply of firewood. All other items, such as foodstuffs and utensils are kept in the kitchen (*hito*) (Photo 4). Tableware is kept in the kitchen and are taken to the dining room (*pandopo*) at mealtimes.

Table 3 lists the kitchen utensils and tableware of the Hs's family, together with those kept in the field hut. For comparison, the kitchen utensils belonging of the other village household, the Ds family, is also shown. This table lists all moveable items and excludes such things as the fireplace, storage rack, and food stuffs and other items that are consumed, such as matches. Among the containers, the bottle storing coconut oil is listed because it is used specifically for that purpose. Sugar and salt on the other hand lack special containers and are wrapped in newspaper or kept in coconut shells. Such temporary containers are not listed.

In making the list articles were classified according to whether they have different

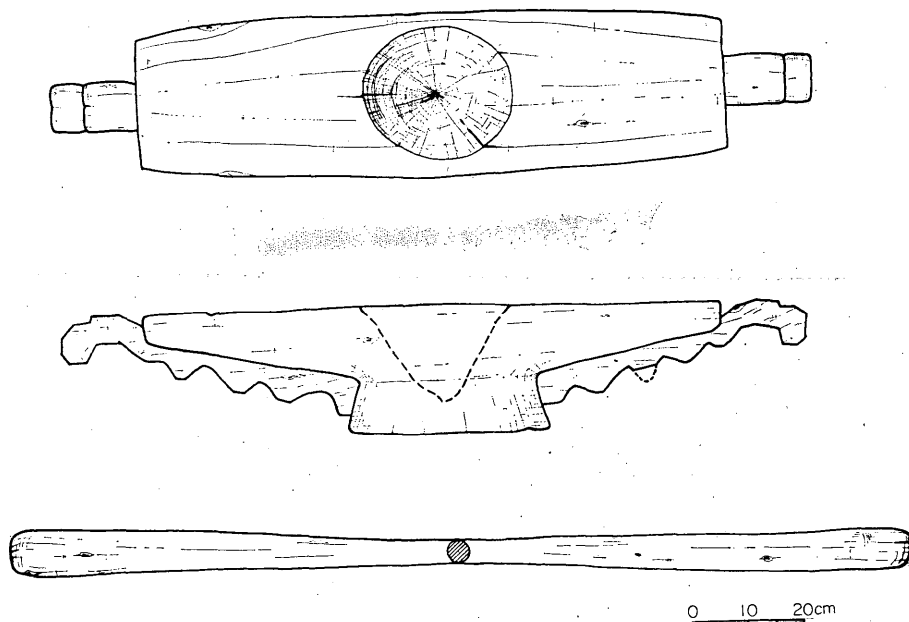


Fig. 1. Mortar (*lesu*) and pestle (*dedutu*).

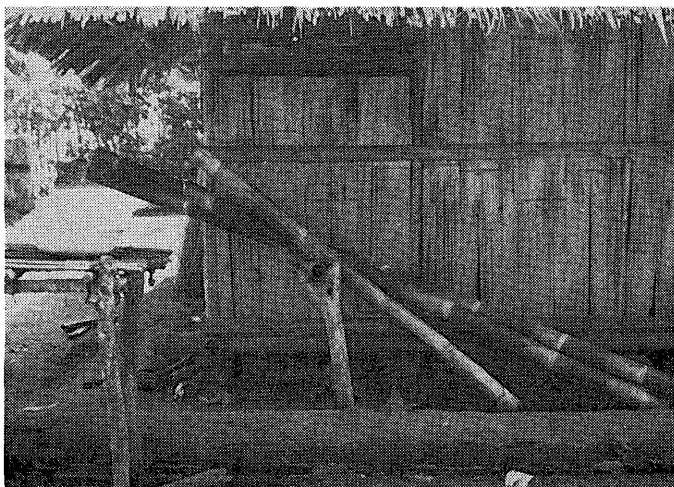


Photo. 3. Bamboo tubes for storing water (*kiloha*).

Galela names. For instance, the Galela distinguish 3 kinds of pans, *boso*, *pan* and *kuwali*, and accordingly these are differentiated in the list. Malay (Indonesian) words corresponding to the Galela terms are listed also. When new items are introduced into the material culture of the Galela they tend to be given Indonesian or Malay names. Therefore, Indonesian words are listed for reference. It is important to note that these Indonesian words are not necessarily derived from Standard Indonesian, as an effort has been made here to represent words that the Galela think are related to their words. Thus terms derived from colloquial or dialectalized words used in Maluku sometimes occur. Pestles, for instance, are called *alu* or *antan* in Standard Indonesian, but Galelans have adopted a word corresponding to the col-



Photo. 4. Kitchen of the Hs's household.

Table 3. Utentils kept in Hs's kitchen

No.	English	Galela	Indonesian (Malay)	quantity		
				Hs kitchen	Hs field hut	Ds kitchen
1	mortar	<i>lesu</i>	<i>lesung</i>	1	2	1
	pestle	<i>dedutu</i>	<i>tumbu-tumbu</i>	2	2	1
2	winnow	<i>tatapa</i>	<i>sosiru</i>	2	2	9
3	sieve	<i>tate</i>	<i>aya-aya</i>	2	1	4
4	coconut scraper	<i>kokori</i>	<i>kukuran</i>	1	—	1
5	knife	<i>diha</i>	<i>pisau</i>	2	—	1
6	grindstone	<i>dodiodo</i>	<i>batu gosok</i>	1	1	1
7	tongs	<i>sosolota</i>	<i>gata-gata</i>	1	2	1
8	cooking pot	<i>boso</i>	<i>kuali</i>	1	—	1
9	pan	<i>pan</i>	<i>pan</i>	3	2	2
10	wok	<i>kuwali</i>	<i>kuali</i>	2	—	2
11	earthenware to make sago cake	<i>gogunange</i>	<i>folno</i>	1	1	1
	bamboo strip to make sago cake	<i>pestaka</i>		1	1	1
	lid of earthenware	<i>dodalake</i>		—	—	1
12	baking pattern for <i>apang</i>	<i>anka ma boso</i>		—	—	1
13	kettle	<i>ketelu</i>	<i>ketel</i>	1	—	1
14	gourd vessel	<i>buana</i>	<i>buano</i>	1	—	—
15	wash basin (bowl)	<i>bokor</i>	<i>bokor</i>	1	1	1
16	plate	<i>lelenga</i>	<i>piring</i>	11	4	5
17	basket to serve sago cake	<i>pigu</i>		1	—	1
18	glass	<i>galasu</i>	<i>gelas</i>	1	—	1
19	mug	<i>kopi</i>	<i>moku</i>	5	2	6
20	scoop	<i>sasadu</i>		1	—	1
21	spoon	<i>leperu</i>	<i>senduk</i>	1	—	6
22	tray	?	<i>daki</i>	—	—	1
23	coconut shell food container	<i>mingili</i>		—	—	1
24	bottle	<i>botolu</i>	<i>botol</i>	1	1	1
25	pestle for <i>dabu-dabu</i>	<i>teto</i>	<i>batu</i>	1	1	1

loquial “*tumbu-tumbu*.” An earthenware (*folno*) used for making *gunanges* is better rendered with a Malay word rather than a Standard Indonesian term for this kind of article that is widely used in Maluku. Separate items, such as a mortar and pestle, that function only when used as a set, are listed as one item in Table 3.

Basic utensils for cooking or eating which are kept in the Hs field hut are also listed in Table 3. The field hut is not partitioned into rooms and has no space reserved exclusively for use as a kitchen. But there is a fireplace in a corner of the hut where lunch is made when agricultural work continues from morning to evening, and when the family sleeps and takes its meals in the field for a few days during the

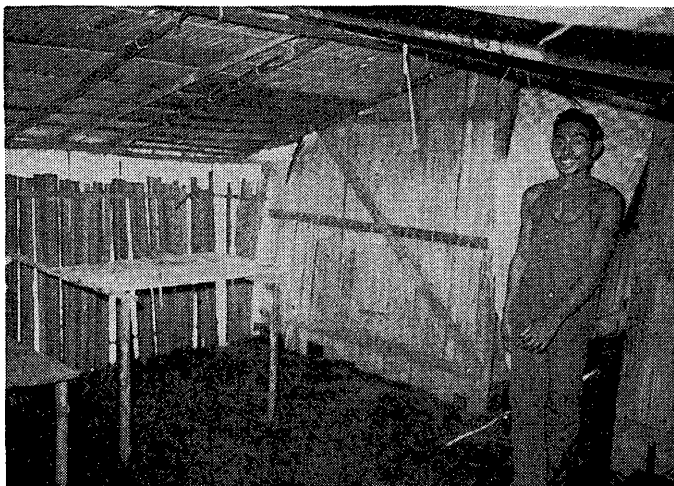


Photo. 5. Dining room of the Hs's household.

busiest time of the agricultural cycle. If additional kitchenware is needed it is brought to the hut for temporary use. This family has two field huts, each in a different field. Information on the items kept was not ascertained by direct observation but by interview. Therefore it should be regarded as an approximate total of the utensils kept in both huts.

For comparison, the utensils in the Ds family's kitchen are listed. This family consists of Mr. and Mrs. Ds and their 6 children. According to the estimate of the villagers they are economically somewhat richer than the Hs's family.

The characteristic functions of each kitchen utensil and item of tableware are described in subsequent sections that deal with the cooking and serving of meals.

2) TABLEWARE AND TABLE MANNERS

The Galela now use plates on an everyday basis. Bowls are not used. Etiquette requires that the housewife apportions the food on each plate before it is carried to the table. Figure 2 shows the wooden scoop (*sasadu*) used to dish-up the food (Fig. 2). Wooden scoops are used mainly for dishing-up rice and the staple food made by

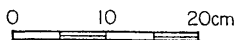


Fig. 2. Wooden scoop (*sasadu*).

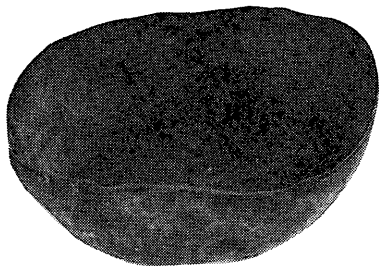


Photo. 6. Gourd vessel (*buana*).

mashing bananas to mashed potato-like texture. Cakes made from sago (*gunange*) are not dished-up on separate plates, but are served in a cube-shaped bamboo basket (*pigu*) placed on the table, and from which people take as many cakes as they wish.

Frequently, food is served informally by placing it on a plate or in an enamel wash basin (*bokor*, a Standard Indonesian term), which also serve as tableware, and from which each person takes with his hand the food that he requires. Few liquid foods are eaten. They are served in a deep plate or in a wash basin.

As shown in Table 3, the Hs' kitchen contains 11 plates (*lelenga*), 4 of which are enamel and rather deep, 6 are shaped like ceramic soup plates, and 1 is a ceramic saucer (originally a coffee-cup saucer), frequently used as a sugar or salt container. In former times the Galela regarded ceramic plates as money and property. Even today a bridegroom must prepare more than a dozen ceramic plates as part of the betrothal gift given to the bride's family. But now, cheap plates can be purchased for Rp. 350 per dozen in the Soasio market.

Beverages such as tea or cooled hot water are served in a glass (*galasu*, *Mal. gelas*) or an enamel mug (*kopi*). Tea is served in a kettle (*ketelu* *Mal. ketel*) or pan (*pan*, *Mal. pan*) with the tea leaves and sugar already immersed in the hot water. Tea-spoons are not used at the table.

In the past, gourd vessels (*buana*) are said to have been used as plates or water containers. At present, they are sometimes used as tableware, but more frequently as bailing tools for canoes (Photo 6).

All the foods comprising a meal are usually set on the table at one time when people sit down to eat. Separate courses are not served.

Hands are washed before and after meals. For this purpose water put in a kettle or a wash basin or a relatively large enamel jar, and either a cloth for wiping the hands or hand towel (*handuku*, *Mal. handuk*) are prepared and circulated around the table. Food is taken with the bare hands, and even Christians Galela refrain from touching food with the left hand. Except for special occasions, neither Muslims nor Christians say grace before everyday meals.

II. COMPOSITION AND VALUE OF FOODS

1. Frequency and Time of Meals

The Galela usually eat three meals a day; in the morning, afternoon, and evening.

Breakfast is called *langi-langi*, (lit. "meal of morning"), lunch *wange po odo* (lit. "meal of afternoon"), and supper *puputu po odo* (lit. "meal of evening"). Breakfast is the lightest meal. It consists of a staple food, bananas, cassava and sweet potato, either boiled or fried in coconut oil, or sago cakes (*gunange*, called *sago lempen* in Indonesian) together with a confectionary-like sweetcake. Side dishes are not usually served at breakfast.

Breakfast is a minor rather than a "proper" meal. As in various parts of Indonesia, the Galela in former times might have eaten only two "proper" meals a day, at noon and in the evening, and might not have regarded breakfast as "proper" meal. However, the scarcity of information on such aspects of culture in the past precludes a definite statement.

The afternoon meal is supposed to be the heaviest meal of the day, but as can be seen from the analysis (see below), in practice there is little difference in content between lunch and supper.

Data on the contents and timing of 311 meals consumed by 11 households were obtained by having a family member keep notes. But since no household possessed a clock, information on the timing of meals is unreliable. Breakfast is generally eaten between 7:00–8:00 a. m. and since village co-operative work usually begins at 8:00 a. m. every family finishes breakfast by that time. Lunch is eaten between 11:30 a. m.–1:00 p. m., and supper between 7:00–8:30 p. m. In addition, men eat a late-night snack around midnight, after returning from fishing. In the fast month Muslim do not take meals during the daytime, the period between sunset and sunrise being reserved for eating.

Generally, Galela do not linger over meals to enjoy them, and the food is com-

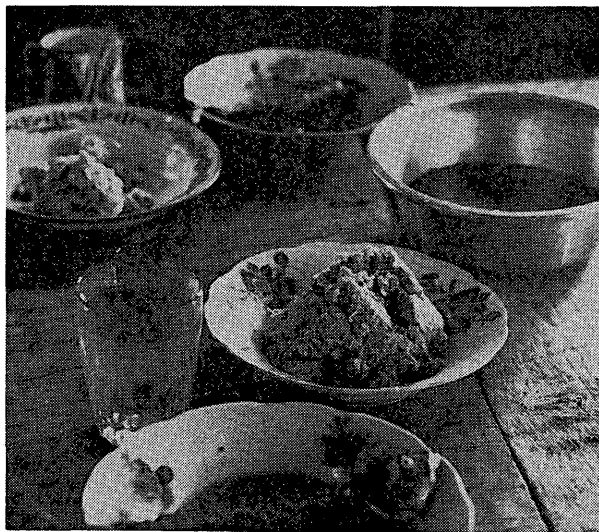


Photo. 7. Supper for two persons; mashed sweet potato (staple food), fish with *dabu-dabu* (side dish), boiled water (drink) and a basin for washing.

monly consumed within about 30 minutes. Breakfast is an especially quick meal that lasts only about 10 minutes.

2. Staple Foods, Side Dishes and Beverages

The Galela word for meal is *odo*, which denotes both everyday meals and feast foods provided at rituals and for guests. In the verb form, *odo* means "to eat."

For the Galela a "proper" meal consists of staple food (*ino*) and side dishes (*sihode*). *Ino* denotes food in general, but it also refers to staple food when used in contrast with *sihode*. Any Galela would enumerate rice, sago, banana, sweet potato, and manioc when asked what comprises *ino*. Also included in such a list would be maize, foxtail millet, cultivated subspecies of Job's-tears, various kinds of taro, yam and breadfruit, although they are not cultivated widely at present and consequently appear infrequently in meals. They are not regarded a *sihode*, but must be included under the category of *ino* since they are eaten in the same manner as are staple foods. Recent additions to the list are store-bought bread and wheat flour pancakes made at home (Table 4).

Ino is a fundamental component of any meal. As in the case of a breakfast where fried bananas comprise *ino* and hot water beverage is drunk, there can be meals without side dishes. Whereas in the absence of *ino*, a "proper" meal cannot be eaten. Moreover, two kinds of *ino*, such as fried bananas or fried manioc, are served at the same time.

Depending on the manner of cooking, foodstuffs generally used for making *ino* can be placed in a different category. A typical example is a food called *halua*, which

Table 4. Varieties of *ino*

kind of staple food	English	Galela
daily food	rice	<i>tamo</i>
	sago	<i>peda</i>
	banana	<i>bole</i>
	sweet potato	<i>gumi</i>
	manioc	<i>nasibiu</i>
scarce food	maize	<i>ngoko</i>
	foxtail millet	<i>bobootene</i>
	cultivated sub-species of job's-tears	<i>rore</i>
	bread fruit	<i>amo</i>
	taro (<i>Colocasia</i>)	<i>dilago</i>
	taro (<i>Xanthosoma</i>)	<i>dilago gogono</i>
	taro (<i>Alocasia</i>)	<i>kiha</i>
	yam (<i>Dioscorea esculenta</i>)	<i>siapu</i>
	yam (<i>Dioscorea alata</i>)	<i>ubi</i>
	bread	<i>roti</i>
	pancake	<i>panci</i>

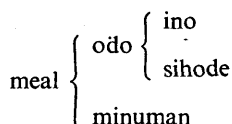


Fig. 3. Composition of a meal.

consists long, thin sugar-caramelized strips of fried sweet potatoes. This word is of Malay origin *halua*, it is not an indigenous Galela food. The Galela assign *halua* to the category of sweets (*kue*; *Mal. kue*). It is eaten as a sweet and not for fill the stomach, and thus does not form part of any of the 3 daily meals. So, *halua* is not a staple food.

Ino fills the stomach whereas the role of *sihode* is to increase the appetite for *ino*. Usually, no flavoring is added to *ino*; at most copra shavings may be blended in the *ino* or boiled in coconut milk, which just adds the flavor of coconut fat. However, salt is usually added to *sihode*, and sometimes side dishes are flavored with seasoning.

In Limau, the products of cultivated vegetables, wild plants, fish, deer and wild pigs, chickens and ducks are used to make *sihode*. According to the raw material used, Galela side dishes are classified by such expressions as *sihode nawo* (fish *sihode*), *sihode gaahu* (vegetable *sihode*) and the like.

Meals always include a beverage, but these can be drunk at other times also. Thus, beverages belong to a category different from *odo*. The term *minuman*, beverages, is of Malay origin. Tea seems to have been drunk by the Galela on a daily basis after the 1950's when they began to earn cash by selling copra, woven roofing materials and other products. The beverage that frequently accompanies a meal is hot water, cooled or otherwise, and known as *ake sasahu*. Galela do not drink unboiled water in the village and pans filled with cooled hot water are always on hand in the kitchen. Tea is served with breakfast.

3. Foods Ranked in Order of Taste Preference

The Limau villagers were requested to rank staple foods in order of taste preference. Among *ino*, rice generally ranked first, bananas second, sago third, and sweet potato and manioc fourth. But for some people the order of preference was rice first, sago second, sweet potato and manioc third, and bananas fourth.

Everybody agreed that rice is the most delicious staple food. They also agreed on the identical ranking of sweet potatoes and manioc. This seems logical in view of their shared properties of sweet taste and the ways in which they are cooked.

Among the side dishes, the cooked meat of domestic animals is regarded as the most delicious. Second is fish, whereas vegetables and wild plants are given the lowest ranking.

When asked to rank meat by taste preference the villagers generally agreed that that of goat ranked first, followed by chicken, duck, and finally deer and wild pig. Deer and wild pig meat are given a roughly identical ranking, and since their meat is tough and tastes poor it is ranked lower than that of domestic animals. Muslims are

prohibited from eating wild pig meat and wild pigs are regarded as belonging to some non-food category, i.e., that of the category of prohibited animals.

4. The System of Taste Expression

It is important to understand the basic Galela vocabulary used to express the taste of foodstuffs.

The term *miri* is explained as the taste of salt and can be translated as "salty taste." *Kiopi* is represented by the taste of lemon or of tamarind, namely a "sour taste." The word *mali* is explained as the taste of papaya leaves, that is "bitter taste." *Lodi* is represented by chili peppers, namely, "hot taste." The word *sasa* is used to describe a bitter taste in situations where the term *mali* is taboo. *Muti* is the taste of sugar, or "sweet taste." There exist in Galela expressions for the 5 basic tastes; salty, sour, bitter, hot, and sweet.

Besides these expressions for individual tastes, there are words used to evaluate taste. Of those, (*da*) *monge* corresponds to "delicious" (an adjective is derived by adding *da* or *ta*). To express the other extreme, unpalatable taste, the expression (*da*) *monge holu*, is used adding the negative *holu*, "undesirable," to (*da*) *monge*. The word *kawa* can be used to describe an insipid food, especially one that lacks enough salt. The 5 basic tastes, *miri*, *kiopi*, *mali*, *lodi*, and *muti* can be related to the words used to evaluate taste, *monge holu*, and (*da*) *monge/kawa* (Table 5). Four the basic tastes share a common evaluative criterion, namely, they must be neither too strong nor too weak.

Salt is the condiment most often used for adding taste to foods. A salty taste is called (*ta*) *miri poli*, and one too weak in salt (*ta*) *miri wa* or (*ta*) *kawa*. *Poli* and *wa* are negatives, and (*ta*) *miri poli* means "too strong in salty taste," and (*ta*) *miri wa* or (*ta*) *kawa* means "lack of salty taste." By appropriately adding salt to insipid food or water to the food that is too salty, delicious foods [(*da*) *monge*] are obtained.

A sour taste is rarely used, but lemon juice can be sprinkled on fish, and as a special, ritual dish, goatmeat is soaked in tamarind-flavored water before cooking. The expressions used in these cases are; (*ta*) *kiopi poli* "too sour," (*ta*) *kiopi wa* "too weak in sourness," and (*da*) *monge holu* "unpalatable."

For everyday dishes a hot taste is imparted with red peppers and ginger. The

Table 5. System of taste expression

kind of taste		undesirable (<i>da</i>) <i>mange holu</i>	↔	delicious (<i>da</i>) <i>monge</i>	↔	undesirable (<i>da</i>) <i>monge holu</i> (<i>kawa</i>)
English	Galela					
salty	<i>miri</i>	<i>poli</i> (†)		(‡)		<i>wa</i> (†)
sour	<i>kiopi</i>	<i>poli</i> (†)		(‡)		<i>wa</i> (†)
hot	<i>lodi</i>	<i>poli</i> (†)		(‡)		<i>wa</i> (†)
bitter	<i>mali</i> (<i>sasa</i>)	<i>poli</i> (†)		(‡)		<i>wa</i> (†)
sweet	<i>muti</i>			<i>poli</i> (†)		<i>wa</i> (†)

expressions used are; (*ta lodi poli* "too hot," (*ta lodi wa* "too weak in hotness" and (*da*) *monge holu* "unpalatable."

No seasonings are used to produce bitterness, but such bitter-tasting items as the young leaves of papaya or balsam pear are often used for this purpose. Unripe balsam pear are (*ta mali poli*, "too bitter," and over-ripe ones are (*ta mari wa*, "too weak in bitterness," both of which are evaluated as (*da*) *monge holu*.

Whereas only moderate salty, sour, hot, or bitter taste are required, the requirement for sweet taste (*muti*) is different. (*Ta muti poli*, "extremely sweet" is not evaluated negatively, but more delicious ([*da*] *monge*). Of course a taste too weak in sweetness ([*ta*] *muti wa*) is evaluated as unpalatable. In Table 5, the 5 tastes, salty, sour, hot, bitter and sweet, are represented singly, although in reality the 2 or more tastes of basic foodstuff and seasoning are combined. The Galela regard it as more desirable to mix various tastes to a moderate degree rather than to have a food with a single taste. On examination it was found that salty, sour and hot tastes can be mixed, whereas sugar, to produce a sweet taste, is used alone. Such sweet-testing foods as *waji tamo gula* and *kola*, for instance (described more fully below), can only have sweet, fatty coconut milk added, if other seasonings are to be used. In principle it is not necessary to blend a sweet taste with the other 4 tastes. As mentioned above, the greater the quantity of sugar used, the higher the level of (*da*) *monge*.

III. COOKING TECHNIQUES

1. Seasonings

The range of seasonings category was arbitrarily decided by the author. Included are those that play such minor roles as taste and color-adding and flavoring, rather than the main roles in recipes. Thus tomato, onion and garlic are included, which do not properly fall under the heading of seasonings. These items have never played a leading role in Galela recipes, but only a supporting function.

Salt (*gasi*): No data were obtained on the traditional ways used by the Galela to manufacture salt. As far as could be determined, it appears that the Galela have purchased salt imported into the region for at least 2 generations. Rough-grained rock salt is the type usually sold in the village stores. It is used after being ground with a stone pestle in either a small, stone mortar or in a coconut shell.

Sugar (*gula*, identical in *Mal.*): Galelans buy refined sugar at the store. It is most often used in tea, and thus has become commonplace in Galela kitchens since tea was introduced in the 1950's.

Many households cultivate sugarcane (*uga*), but this cane is used only to provide snacks. Only one family in Limau has a press (*uga dedepo*) for sugarcane (Fig. 4). It consists of two parallel wooden bars at different positions on upright stakes. Sugarcane is placed on the lower bar and pressed by pushing the long round stick inserted at right angle between the two bars. The juice passes into a wash basin placed below the press. Sugar syrup (*gula ake*) is made by boiling the juice in a large

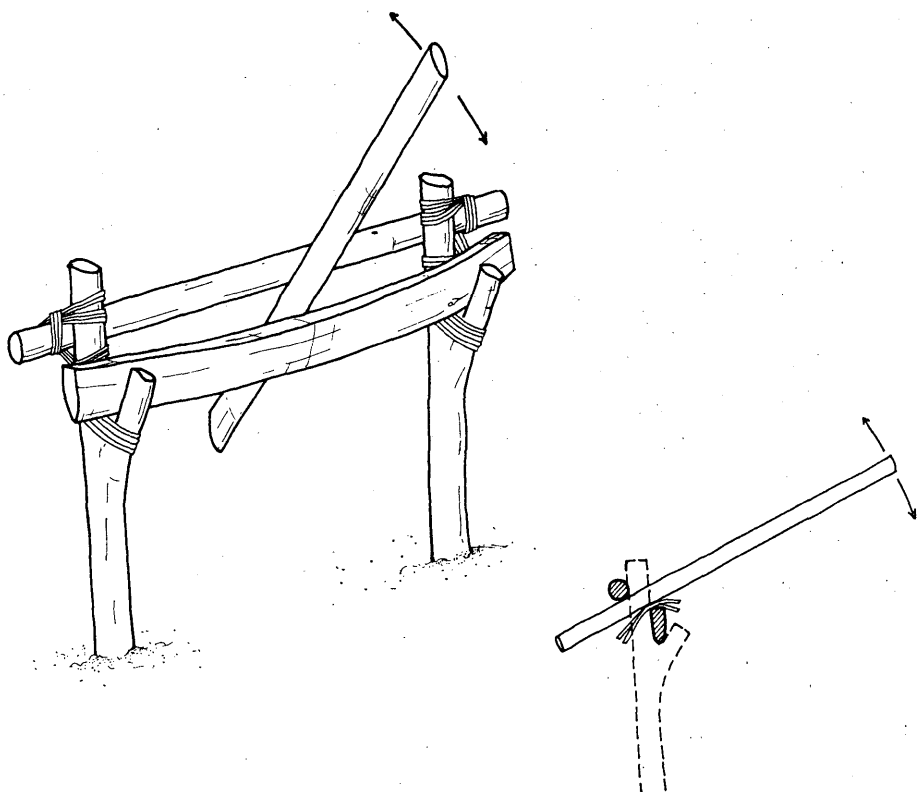


Fig. 4. Press for sugarcane (*uga dedepo*).

pan. The household that owns the press sells *gula ake* for Rp. 300 for a beer bottle full of the syrup. *Gula ake* is sprinkled on fried sweet potatoes and manioc and on homemade sweets. Further boiling of *gula ake*, yields brown sugar. The sugar made of sugar palm (*seho*) is not used in Limau, unlike other Galela villages, where both syrup and brown sugar are produced from Arenga palms.

Coconut milk and coconut oil: Both coconuts and the coconut-palm are called *igo*. At present, the major use of coconuts is to obtain cash by selling copra, but juice of young fruit is drunk and the endosperm eaten. Ripe nuts are used for cooking. They are opened and the endosperm scraped-out with a scraper (*kokori*) (Fig. 5, Photo. 8). The endosperm (*igo pa kori*) is blended with sago and fried. To make coconut milk (*goro-goro*), *igo pa kori* is placed in a bowl or wash basin and rubbed as water is poured in. It is then sieved to produce coconut milk. Coconut milk is used for boiling foods in general, and foods cooked in it are considered better than those cooked in water.

Further boiling of coconut milk results in coconut oil (*gososo igo*). Coconut milk is poured into a wok and heated. After a while the oil separates from the water and begins to appear on the surface. The oil is skimmed and again heated to further

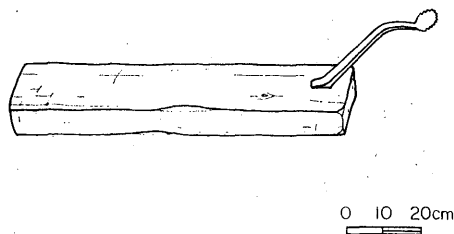


Fig. 5. Coconut scraper (*kokori*).

refine it. One beer bottle full of coconut oil can be obtained from 10 coconuts. Coconut oil is usually made at home, but sometimes, as a temporary expedient, it is bought from a neighbor at Rp. 50/bottle. Coconut oil is the only oil used in cooking, frying are done always with coconut oil, and the term “*gogoso*” (oil) usually denotes coconut oil.

Vegetable seasoning: Tomatoes (*tomate*, *Mal. tomate*), onions (*bawang sasa-wala*), Welsh onions (*rau*), leek (*goda*), and garlic (*bawang are*, *bawang* is of *Mal.* origin) are used as seasonings. In all cases they are either cut into tiny pieces or ground-up. A small mortar (*lusu*) and a pestle (*teto*), usually made of stone, are used for grinding. Some families have a stone mortar (Fig. 6), but most do not, and use coconut shells as a substitute..

Sour seasonings: Vinegar (*cuka*, identical in *Mal.*) is sold in the Soasio market, and is usually purchased by Chinese and government officials from Java. The villagers obtain sour seasonings from the juice of such citrus fruits as lemons (*wama*). For banquets but not for everyday use the dried fruits of tamarind (*sen jawa*), purchased in Soasio, are used.

Spices: Chili pepper (*rica*) and ginger (*goroka*) are the spices in daily use. Turmeric, bought in Soasio, is used in the preparation of special meals. These spices are used after they being ground in a small mortar and a pestle. Peppers (*rica jawa*) are rarely used. Even though Halmahera is one of the Spice Islands, cloves (*cinke*,



Photo. 8. Scraping a coconut (*copra*).

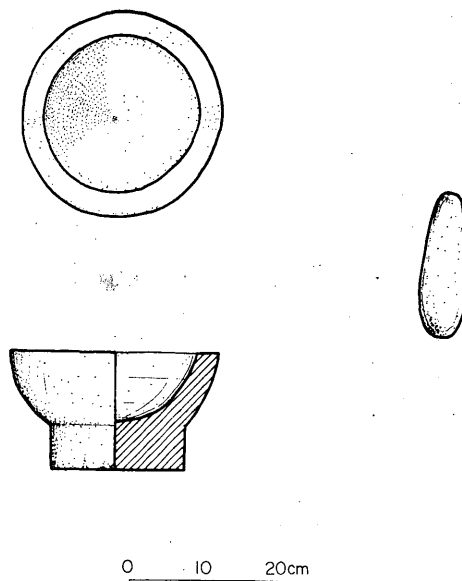


Fig. 6. Stone mortal and pestle for making *dabu-dabu*.

identical in *Mal.*), and nutmegs (*pala*, identical in *Mal.*) are not used in cooking.

Other seasonings: Shrimp paste (*trasi*), soy sauce (*kecap manis*) and chemical seasonings are used widely nowadays in urban Indonesia. But they have not been adopted yet by the Galela.

In general, compared with the Sunda Islands, Ternate or Ambon, only a few kinds of spices are used by Galela. From this it may be inferred that Galela cooking techniques have been little modified by outside influences.

2. Sago Starch Foods

1) STORING OF SAGO STARCH AND PREPARATION FOR COOKING

As mentioned before, sago (*peda*) is transported from a sago swamp forest in a container called *ruru*. The *ruru* is used also for storing fresh, moist sago in the kitchen. *Peda* can be stored for about 3 months if kept moist by sprinkling it with water. Unlike sago-producing communities in other parts of Southeast Asia and Melanesia, the Galela do not store sago with water covering its surface in a large earthenware vessel.

Peda fresh from the trough in which it was precipitated at the extraction site is so

Photo. 9. Cutting a *ruru* using a bush knife to remove the required amount of sago, which is placed on the winnow.

Photo. 10. Sago is dried in the sun.

Photo. 11. Breaking-up lumps of sago.

Photo. 12. Sieving sago with a large mesh sieve.



Photo. 9.



Photo. 11.

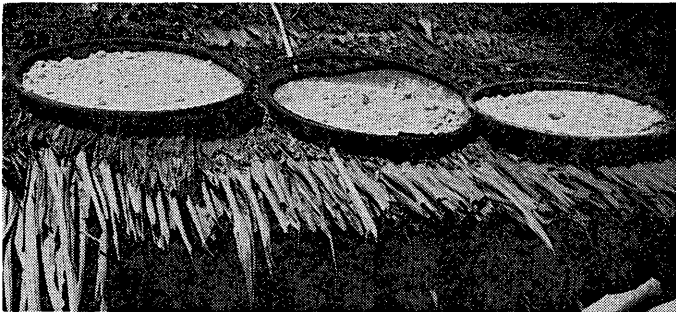


Photo. 10.

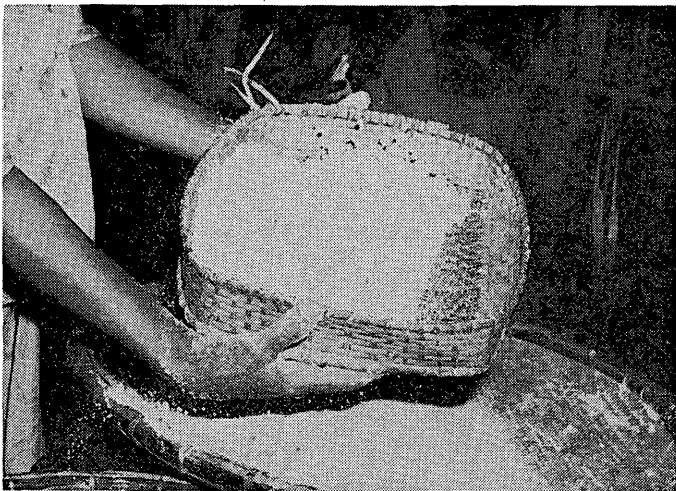


Photo. 12.

acid that the Galela prefers to cook it after 4 days, when the acidity level has diminished.

As sago is needed for cooking, the *ruru* is cut into circular slices using a jungle knife (*suambel*) or a hatchet (*taito*), so as to remove the required amount of *peda* and still continue to store the rest in the intact portion of the *ruru*. The *peda* removed is broken-up by hand and dried in the sun by spreading it on a winnow (*tatapa*). However, all the moisture should not be completely removed by sun-drying. All foods are made from starch moist enough to remain lumped together than to rather disintegrate easily when handled.

In the kitchen the lumps of sun-dried *peda* are further broken-up by hand, about 3.5 liter being handled in approximately 5 minutes. The *peda* is then put in a square sieve (*tate*). The Galela use two kinds of sieves, distinguished by mesh size, for processing *peda* in the kitchen (Fig. 7). It is sieved first in one with a large mesh, the *peda* falling onto a winnow, and then again with a small mesh sieve, the powdery *peda* falling onto a second winnow. It takes about 10 minutes to sieve some 3.5 liter of *peda*. This process results in a fine powder that leaves no trace of grains when rubbed between the fingers.¹⁾

2) SORU

This is *peda* cooked in the same way as arrowroot starch gruel and is the only sago starch food in which water is used. Well-sieved *peda* is dissolved in water and stirred while being heated in a wok (*kewali*) (Photo. 18). *Soru* is ready for eating when the white watery starch turns transparent and glutinous.

Soru is eaten from a plate using two chopstick-like sticks around to the food clings. When served as the staple, *soru* is usually accompanied by fish soup. *Soru* is taken on the sticks, dipped into the soup, and then eaten (Photo. 19).

- 1) The Limau villagers use home-made winnows and sieves. Any housewife can make them, but there only a few women have the skill to produce these articles with decorative mesh (Photo. 14—16).

Winnows are woven from strips of bamboo (*lau*) bark. A simple wickerwork technique is usually employed for this (Photo. 13), but some are made by weaving into decorative meshes strips colored purple with chemical dye. Winnows are made by inserting the strips of bamboo bark, woven in a rush mat manner, between a double frame made of split rattan, trimming off the superfluous parts and then finally sewing them to the strips bamboos bark. The winnow shown in Photo. 13 has a diameter of 45 cm and a depth of about 5 cm at the center.

Winnows are used mainly for reducing *peda* to a fine powder, removing rice husks and foreign matter from rice during threshing, as well as just prior cooking it, and for drying harvested cacao beans.

Sieves are square-shaped. That shown in Photo. 17 is 24×24 cm. They are made by weaving strips of bamboo bark over a bamboo shuttle (Photo. 15). After completing the bottom, the protruding edges are folded upward (Photo. 16) and then fixed between two strips of rattan to produce a box. When a sieve becomes clogged with *peda*, it is cleaned with a coir brush (*sisika*).

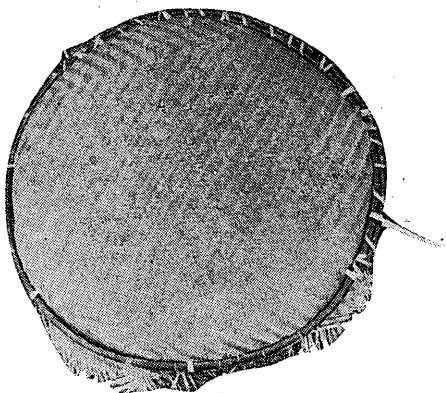


Photo. 13.



Photo. 14.

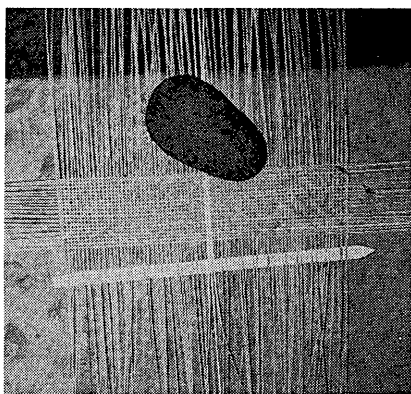


Photo. 15.

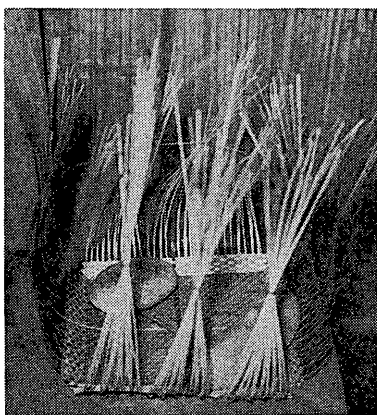


Photo. 16.

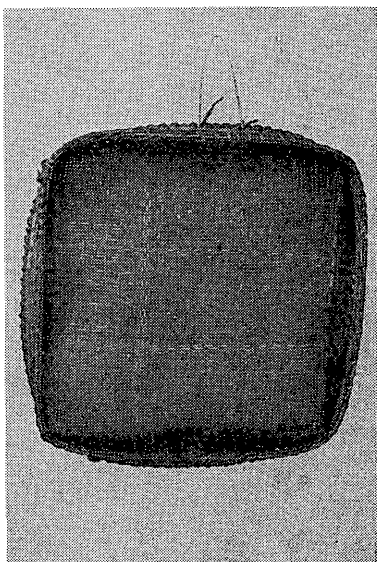


Photo. 17.

- Photo. 13. Winnow (*tatapa*).
 Photo. 14. Winnow with decorated mesh.
 Photo. 15. Weaving method of a sieve.
 Photo. 16. Making a decorated sieve.
 Photo. 17. Sieve (*tate*).

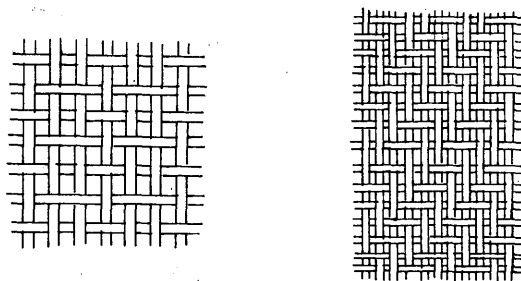


Fig. 7. Sieve mesh; a large mesh and a small mesh (actual size).

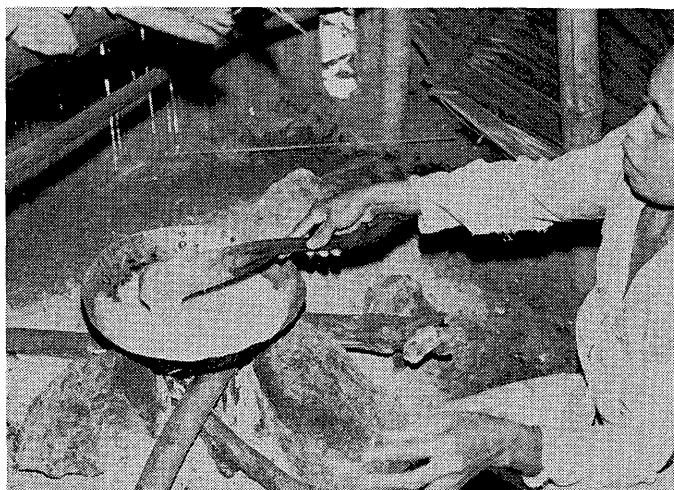


Photo. 18. Cooking *sorū* in a wok.

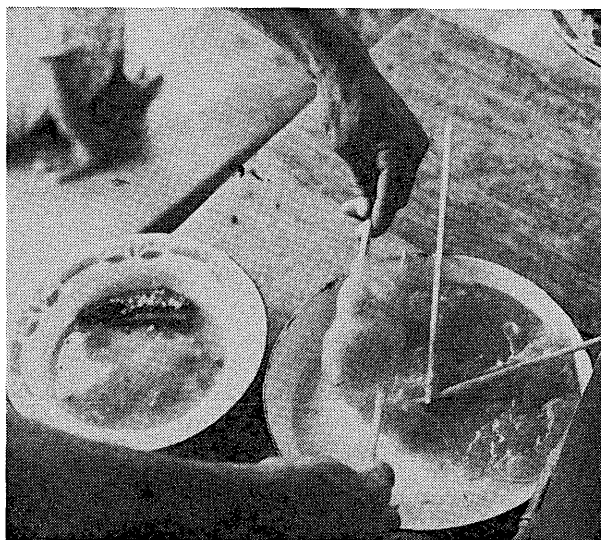


Photo. 19. Eating *sorū*; removing *sorū* from large plate with two sticks and dipping it into fish soup, in the small plate.

3) SINYOLE

This is made by parching sago blended with copra scrapings (*igo pa kori*). *Peda* and copra are mixed 3:1 and put in a wok set over a fire. The mixture is parched while being stirred. Fat from the copra ensures that the *peda* never scorches or sticks to the bottom of the pan. When the entire *peda* is heated and begins to turn brown and give-off the aroma of parched copra, the pan is removed from the fire. *Sinyole* is crisp and is often eaten dipped in tea or fish soup (Photo. 20).

4) PUPUKA AND GOGAPALA

Both are made by baking *peda* held directly over a fire. *Pupuka* is baked *peda* balls and *gogapala* baked *peda* stuck around a bamboo tube. Neither is made in the kitchen for daily meals, but rather they are eaten during the sago extraction process, using fresh *peda* taken directly from the sedimentation trough. Only moist *peda* can be shaped in balls or stuck around a bamboo tube.

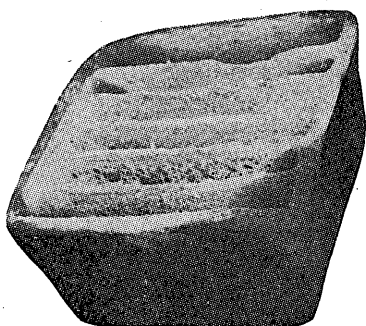
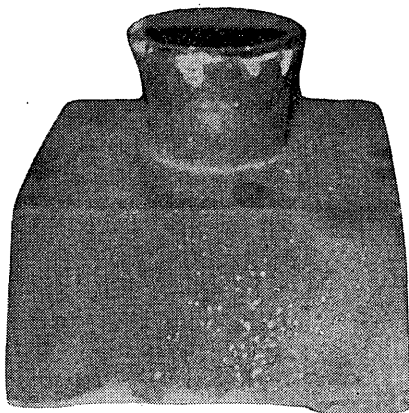
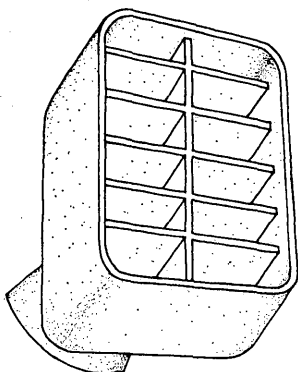
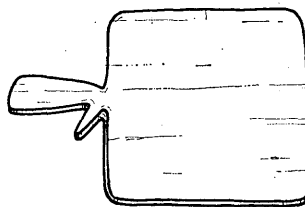
Copra scrapings are sometimes blended-in when making *gogapalas*. A copra scraper is usually kept in the kitchen and presumably is not that used for preparing food when away from the house. Whether scraped copra is blended-in or not, *gogapala* is still the term applied to this food.

5) GUNANGE, KOMO-KOMO, GUNANGE DE MA IGO AND BAHA-BAHA

Among sago foods, that known in Galela as *gunange* is the most popular. This is called "sago cake" in English and *sago lempen* in Malay. All these four foods *gunange*, *gunange de ma igo*, *baha-baha* and *komo-komo*, are made by baking *peda* in an earthenware vessel, called *gogunange* in Galela. These vessels are not manufactured on Halamahera, and since olden times the Galela, together with the other ethnic groups inhabiting the island, obtained by barter *gogunanges* made by people of Mare Island or Moti Island, off the west coast of Halmahera. The villagers in Limau now buy *gogunanges* at the market in Tobelo or from Ternate Island.



Photo. 20. Cooked *sinyole*.

Photo. 21. *Gogunange*.Photo. 22. Bottom of *gogunange*.Fig. 8. *Gogunange*.

0 10 20cm

Fig. 9. *Gogunange* lid (*dodalake*).

A *gogunange* is a piece of unglazed pottery that is shaped like an oblong box with 4–5 partitions inside. A handle is fitted to the bottom. The spaces between the partitions are filled with *peda*, which is baked like toast. The *gogunange* shown in Photo 21 and 22 has dimensions $20 \times 19 \times 19$ cm. The height of the handle is 9 cm. Other types have one or more partitions at right angles in the center of the box (Fig. 8).

A *gogunange* pre-heated over the fire is filled with *peda*. A bamboo tube (*pes-taka*), cut in half and with a rectangular hole cut where the openings of *gogunange* partitions fit, is used to fill the *gogunange* with *peda*. A *gogunange* lid (*dodalake*) is made from *gawasa* wood (*Vitex coffassus* Rienw) (Fig. 9). A sugar palm leaf is sometimes used as a lid.

The heated *gogunange* is handled with tweezers-like tongs, made of a piece of folded bamboo (*sosolota*). This tool is also used to remove freshly baked *gunanges* from the *gogunange*, and also to rearrange burning firewood in the fireplace. The *sosolota* shown in Photo. 24 has a length of 30 cm.



Photo. 23. Pre-heating a gogunange.

The first step in baking *gunanges* is to pre-heat the *gogunange*. This is done by placing an empty *gogunange* upside down over the fireplace and heating it for 10–15 minutes (Photo. 23). The pre-heated *gogunange* is placed on the table and after removing ashes and soot from the partitions by rubbing them clean with a banana leafstalk dipped into water, a *pestaka* is placed over one opening and *peda* pressed through it into the *gogunange* (Photo. 25). After filling all the partitions the top is covered with a lid and the *gunanges* baked. The time required for baking varies with the heat of the *gogunange* and the moisture content of the sago, but is about 5–10 minutes.

Freshly baked *gunanges* are placed in the bamboo serving basket (*pigu*) (Photo. 26). *Gunanges*, which are shaped like toast, are eaten when cool enough to be held. They are soft directly after baking, but gradually harden such that after 2 weeks they cannot be broken even with a hammer. Hardened *gunanges* are eaten after being dipped into hot water or tea to soften them.

Gunanges keep well in storage for up to a year, according to the villagers. They are regarded as a non-perishable foodstuff used on journeys or for off-shore fishing.

Komo-komo is made by re-processing hardened *gunanges*. Broken *gunange* is heated in a pan or bamboo tube filled with coconut milk, to produce a gruel.

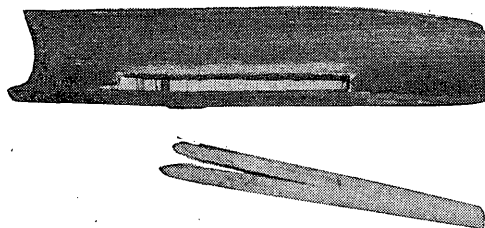


Photo. 24. *Pestaka* (above) and *sosolota* (below).

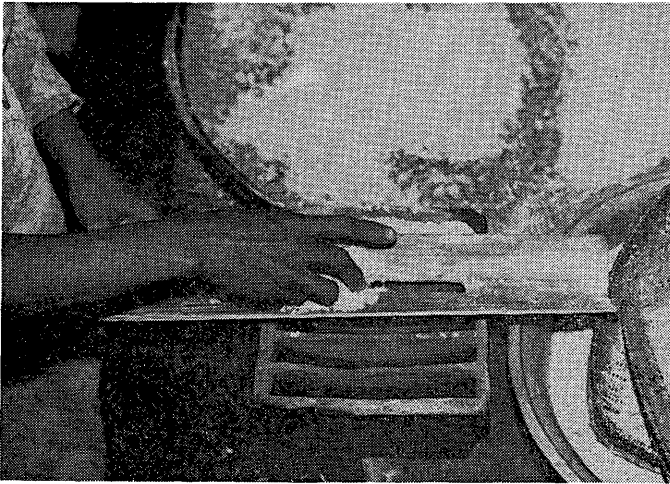


Photo. 25. Filling a *gogunange* with sago using *pestaka*.



Photo. 26. Using *sosolota* to place baked *gunange* in the serving basket (*pigu*).

Gunange do ma igo (lit. *gunange* with coconut) differs from *baha-baha* only in shape. Both foods have shaved copra (*igo pa kori*) blended into the sago starch in a proportion of 1:3, and are baked with a *gogunange*. *Baha-baha* are disc-shaped and are 5–7 cm in diameter. They are shaped by hand and baked with a *gogunange* (Photo. 27). *Gunange de ma igo* are rectangular, like ordinary *gunanges*, whereas

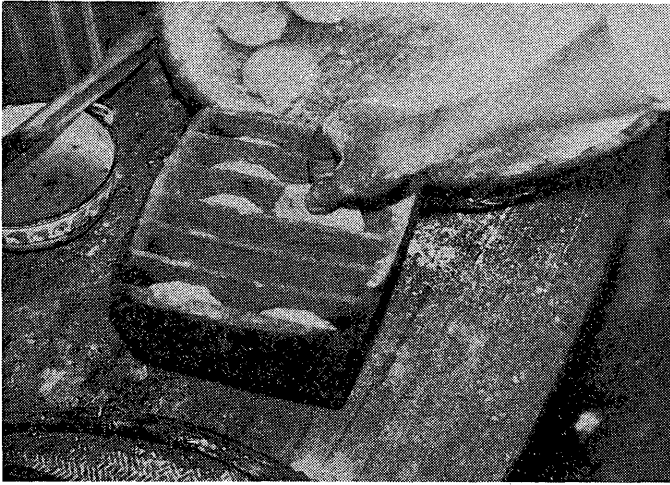


Photo. 27. Filling the *gogunange* with *baha-baha*.

baha-baha are shaped by hand and baked with a *gogunange*. *Gunanges* made of just sago "feel bad in the mouth," but *gunanges de ma igo* and *baha-baha* "feels good on the teeth" and are regarded as delicious because of the fat produced by the copra blended in. Sometimes sugar is added to *gunanges de ma igo* and *baha-baha*.

6) BOBOKO AND DODOLOLE

Both these foods are made by baking sago starch in a bamboo tube. For *boboko*, a piece of green bamboo 4–5 cm in diameter and 50–60 cm in length is cut with a joint at one end left intact. The bamboo is 80 percent filled with *peda*. A support against which to prop-up the bamboo tubes is made of 2 stakes driven into the ground, with a horizontal bar placed on them. The bar is 30–40 cm from the ground. A log is placed on the ground parallel to the bar and bamboo tubes full of *peda* are propped up, the end with the joint resting on the log and the open end on the horizontal bar. *Boboko* is made to serve large gatherings of people, and so usually dozens of bamboo tubes are propped up against the support. Dry palm leaves, or other fuel, are placed below the bamboo tubes (Photo. 28). The tubes are heated for 30 minutes. The tube is turned around with *sosolotas* until it is scorched on all sides.

When the *peda* is completely baked, the bamboo is split and the contents removed. The surface of *boboko* assumes the shape of the bamboo tube (Photo. 29). This food has the texture of a rice-flour cake and its inside is sticky and glutinous.

Dodolole employs the same cooking techniques except that dry instead of green bamboo tubes are used. The actual cooking of *dodololes* was not observed. Unlike *bobokos*, the inside of remains glutinous, *dodolole* cook evenly and have the texture of rice-flour cake, since like *gunanges*, the bamboo tube itself burns and heat penetrates inside.



Photo. 28. Baking *boboko*.

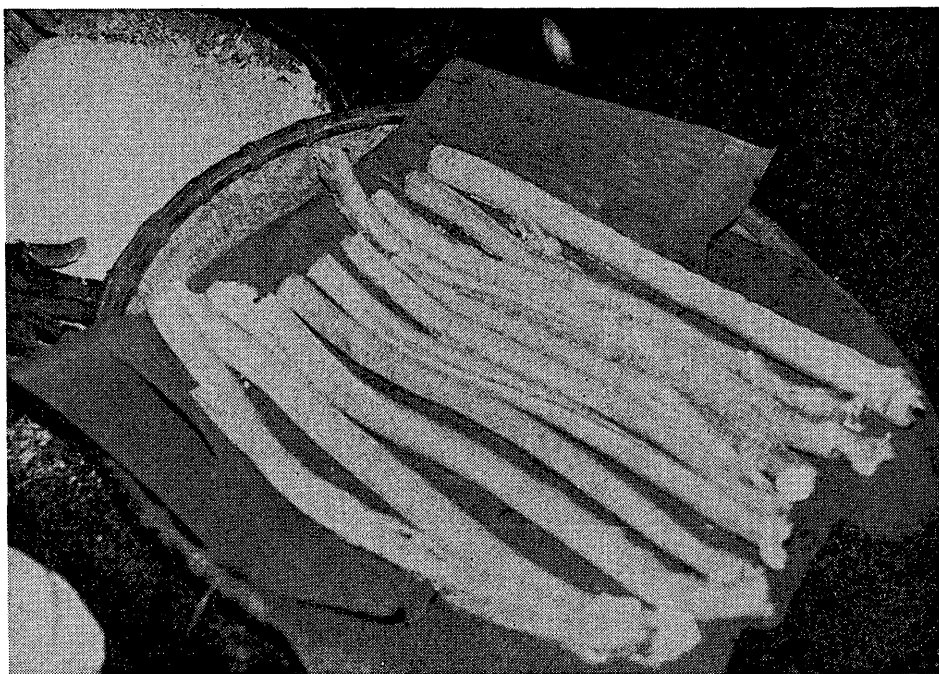


Photo. 29. *Boboko* placed on banana leaf for serving.

7) KOKOMANE AND KASODO

Kokomane is made by baking sago wrapped in sago palm leaves. It is often made to satisfy an immediate need during the process of sago extraction, but is never prepared for use at home. Moist sago flesh from the trough is wrapped in sago leaf. A piece of leaf about 40 cm long is made into a bag, with a length of 10 cm, and then placed over an open fire and baked for 10 minutes (Photo. 30). Fresh *kokomane* is gray on the outside and has the texture of rice-flour cake, just like *gunange*, but the inside is brown, glutinous and still moist.

Kasiodo are made by wrapping *peda* with a pandanus leaf and baking them over an open fire. But details of the process could not be obtained since the cooking of *kasiodos* was not observed.

8) THE SAGO FOOD SYSTEM

Figure 10 shows the sago starch foods described so far classified according to cooking technique. The distinctive features used here have been postulated by the author, and it must be noted that the classificatory system is not based on any Galela folk taxonomy, but rather on one arbitrarily set-up by the author. Galela sago food names, however, clearly indicate that they are conceived of distinctively by Galela themselves.

Foods can be classified according to whether they are amorphous or fixed in shape. The former can be further classified into *soru*, which results when water is added to starch, and *sinyole*, which is scraped and baked without adding water.

Foods fixed in shape, on the other hand, are sub-divided into those where *peda* is baked directly over a fire, and those where it is not, that is, in a *gogunange*, a bamboo tube or a leaf. The former is sub-divided into *pupuka*, ball-shape, and *gogapala*, which is baked when stuck on a bamboo tube. The latter category is sub-divided

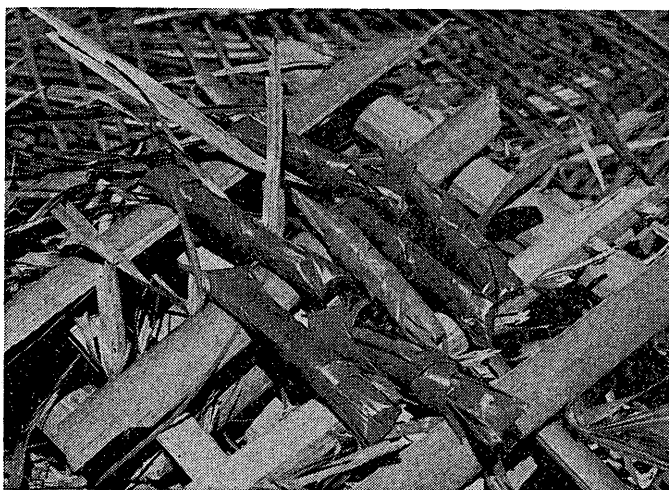


Photo. 30. *Kokomane* on firewood.

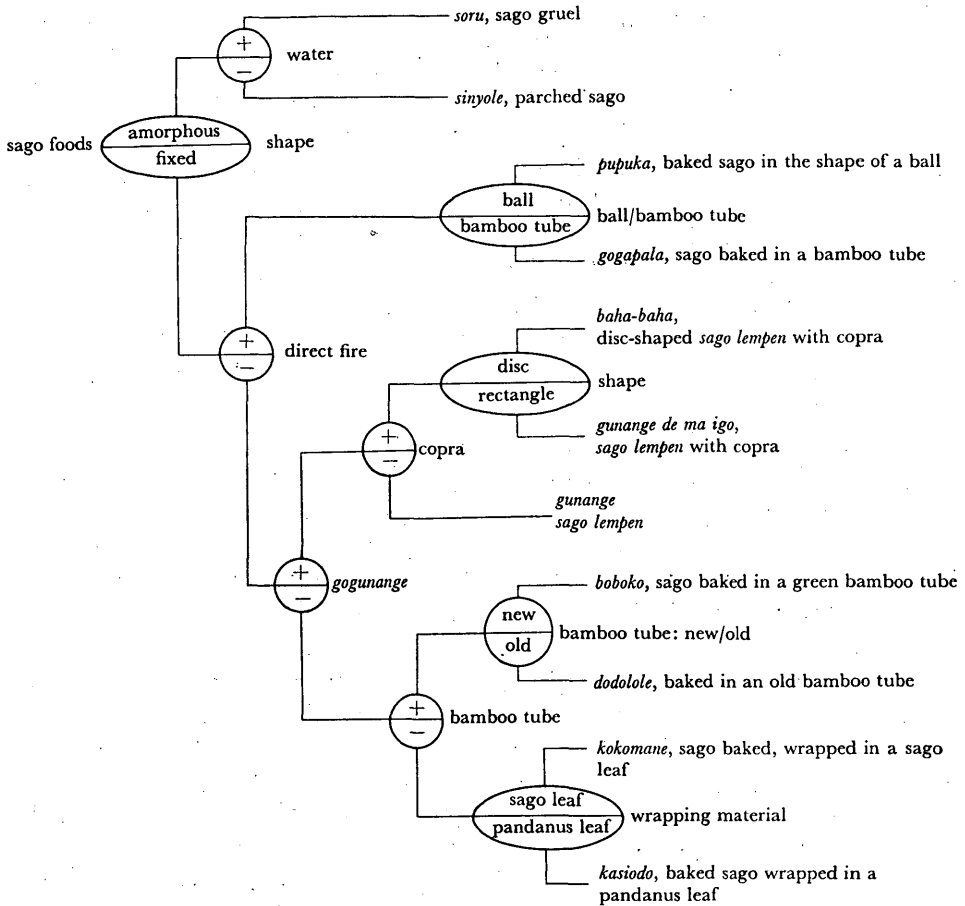


Fig. 10. Sago food cooking system.

first into those that require the use of a *gogunange* and those that do not. Those that require it are further sub-divided into *gunange*, without copra, and *baha-baha*, disc-shaped, and *gunange de ma igo*, which have a rectangular shape, both of which have copra blended into them. Those that do not require a *gogunange* are further sub-divided into those baked in a bamboo tube and those wrapped in a leaf. In the former case, depending on whether the bamboo is green or dry (i.e. how far the contents can be baked), a distinction is made between *boboko* and *dodolole* (Photo. 31).

It should be noted that the Galela names for foods classified thus far are all nouns that denote respective foods and are therefore different in character from expressions used for side dishes, which are verbs denoting the techniques employed in cooking (see below). In the latter case, when the sago leaf used, it is called *iasiodo*.

Employing a criterion for classification based on the occasions for which food is prepared, 5 kinds of everyday sago food are prepared in the kitchen, *gunange*, *baha-baha*, *gunange de ma igo*, *sorru* and *sinyole*, the first 3 of which require the use of a



Photo. 31. Varieties of sago starch foods;

1. *soru*, 2. fish soup (*lema*) to eat with *soru*, 3. *baha-baha*,
4. *gunange de ma igo*, 5. *gunange*, 6. *boboko*, 7. *sinyole*.

gogunange. Then there are foods prepared for momentous occasions such as banquets, namely *boboko* and *dodolole*. Finally there are foods made outdoors from *peda* taken fresh from a sago trough, namely *pupuka* and *gogapala*, which are baked directly over the fire, and *kokamane*, and *kasiodo*, baked in a leaf.

3. Foods Made from Rice, Foxtail millet and Job's-tears

This section deals mainly with foods made from rice, and a few made from either foxtail millet or Job's-tears.

In various languages of the Indonesian and Malay area a distinction is made among rice plants (i.e., unhulled rice, uncooked rice and cooked rice). In Indonesian

for example, rice plants and unhulled rice are called *padi*, uncooked rice *beras*, cooked rice *nasi*. This distinction, widespread in the Indonesian world, has no counterpart in Galela. Just like English, in which the word "rice" encompasses all three items, the Galelan word *tamo* embraces *padi*, *beras*, and *nasi*. But a distinction can be made by using compound words, such as *tamo ma kahi* (lit. "rice with hulls"), *tamo ma lake* (lit. "rice sarcocarp"), and *tamo da oosa* (lit. "cooked rice").

Rice is stored unhulled and each time some is needed for cooking a quantity is hulled and cleaned using a large wooden mortar (*lusu*) and a pestle (*dudutu*). In preparation for making all kinds of rice food, cleaned rice is spread on a winnow and foreign matter and hulls are removed. It is then washed several times.

The rice usually grown by Galelans is nonglutinous, whereas glutinous varieties appear to be cultivated in very small quantities. More often glutinous rice is bought at the market in the form of *tamo masina*. Nonglutinous rice is called *tamo ma loha* and the glutinous rice *tamo o goro*. Glutinous rice is not used for daily meals but blended with the nonglutinous kind is used to make foods required for feasts.

1) TAMO (GULU-GULU), GULA AND GURATI

Generally rice is cooked by boiling and vapourizing. This is called *tamo*. Rice and water are put in a pot (*boso*), with somewhat more water than rice being used, the lid is placed on the pot, and the pot set in the fireplace. When it begins to boil some firewood is removed and the pot is steamed over the reduced fire. Rice cooked in this manner is served on plates and is dished-out with a wooden scoop (*sasadu*). When there is a need to distinguish it from other kinds of rice food, rice cooked like this is called *tamo ma gulu-gulu*.

Rice is often boiled in coconut milk (*goro-goro*) instead of water, to produce a dish called *tamo igo sakahi* (lit. "rice cooked in coconut"), when there is a need to distinguish it from rice cooked in other ways.

Rice cooked with sugar added is called *tamo ma gula*, or *tamo gula* or *dodo*. Glutinous and nonglutinous rices are mixed in equal amounts and cooked in coconut milk blended with sugar syrup (*gula ake*). This is served at feasts.

Rice cooked with turmeric added is called *tamo kukusangi*, or *tamo i kukusangi* or *tamo gurati*. Rice cooked in this way is boiled in coconut milk blended with turmeric juice. Baarda [1895: 442] described *kukusangi*, which instead of being cooked by boiling and vapourizing is prepared by first steaming rice in a conical basket and then completing the steaming in coconut milk blended with turmeric juice. Although the custom of steaming rice in a conical bamboo basket (*kukusan*) is widespread in Indonesia, an example of this utensil could not be found in Limau, where steamed rice is apparently not prepared. Rice dyed yellow with turmeric is prepared in various parts of Indonesia on important occasions. Among the Galela it is prepared for use on ritual occasions.

2) DULU-DULU AND WAJI

Tamo ma dudu-dudu and *tamo i dodolu* is rice gruel prepared using large quantities

of water. *Waji* is a sweet gruel cooked in a large volume of coconut milk and blended with sugar or sugar syrup. Instead of rice, foxtail millet (*bobotene*) or Job's-tears (*rore*) can be used. *Waji* made from *bobotene* millet and *rore* is regarded as indispensable on occasions such as weddings.

3) JAHA AND GOGOODO

Both of these foods consist of rice cooked in a bamboo tube. Equal amounts of glutinous and nonglutinous rice are dipped in coconut milk and then put into a tubular bag made of rolled banana leaf, or into an envelope-shaped bag fabricated from two sago palm leaves fastened with toothpick-like needles made of bamboo bark. The bags are then put in a bamboo tube, water or coconut milk is poured in and the tube is sealed with a stopper made of rolled banana leaf. The bamboo tube is propped-up in a fire fuelled by dry coconut husks, as described above for cooking sago in bamboo. When the rice is cooked the bamboo is split and the bags inside unwrapped. Tubular bags are sliced and served without being unwrapped. Larger size bamboo cooking tubes, 10 cm in diameter and 1 m long, are called *gogoodo*, and those of a smaller size, 4-5 cm in diameter and 60-70 cm long, are called *jaha*. Both are feast foods.

4) KUPA (TAMO MA KUPA)

A small basket-like wickerwork bag is made from new coconut leaves and filled with washed glutinous and nonglutinous rice in equal amounts. A number of such bags are placed in a large pan (that shown in Photo. 33 is 50×70×5 cm). Then coconut milk is added. The pan is covered with a banana leaf, and the mixture boiled. The rice is served without unwrapping the bags. This is also a food served on important occasions.

5) RICE FOOD SYSTEM

The 8 kinds of rice foods described so far (including foxtail millet and Job's-tears foods) are classified in Fig. 11 in the same way that the system of sago foods was presented above.

First, they are classified according to whether the foods are amorphous or fixed in shape. Rice cooked in a bamboo tube or a coconut leaf bag falls in the latter category. The resultant shape of the food is that of the containers and these foods are served without being unwrapped. Rice cooked in a pot, in contrast, belongs to the former category. These foods change shape according to the shape of the serving plates and the manner of dishing-up.

The former category is sub-divided, according to the amount of water added in cooking, into cooked rice and gruel. (Side dishes are distinguished according to those in which water is used and those for which coconut milk is used, see below.) But for rice, however, this distinction is not made. Of course, if it is necessary to refer specifically to rice cooked in coconut milk, it can be denoted by a compound expression such as *o tam o sisakahi*, (lit. "rice with coconut milk"). Therefore,

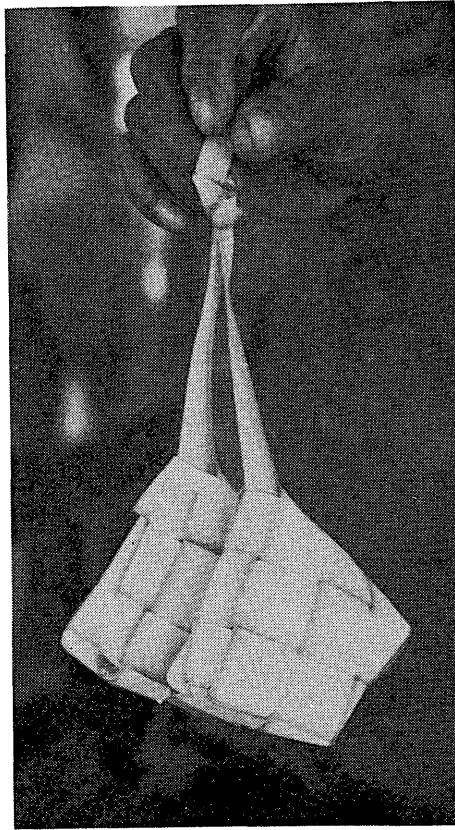


Photo. 32. A bag of *kupa*.

we employ, as a criterion of sub-classification, the presence or absence of flavoring or coloring in addition to coconut milk. Thus among the types of gruel is *waji*, a sweet gruel, and *dulu-dulu*, one that is not sweet. Among the cooked rices is *tamo*, an ordinary cooked rice, *gurati*, which is cooked with turmeric, and *gula*, a sweet rice.

The latter is sub-divided into those cooked in a bamboo tube and those cooked in a coconut leaf bag. The first of these is further sub-divided according to the thickness of bamboo tubes used. These foods with a fixed shape are prepared only for important events, and are not part of everyday meals. Even among foods amorphous in shape there are some such as *waji*, *gurati* and *gula* which are more often prepared for very important occasions rather than for daily meals.

Seen from this perspective, only *tamo* (*gulu-gulu*) and *dulu-dulu*, among the rice foods, are prepared strictly for everyday meals, and most rice dishes can be characterized as ritual or feast foods.

4. Staple Foods Made from Rootcrops and Bananas

In this section staple foods made from bananas, manioc, sweet potato, 4 kinds of

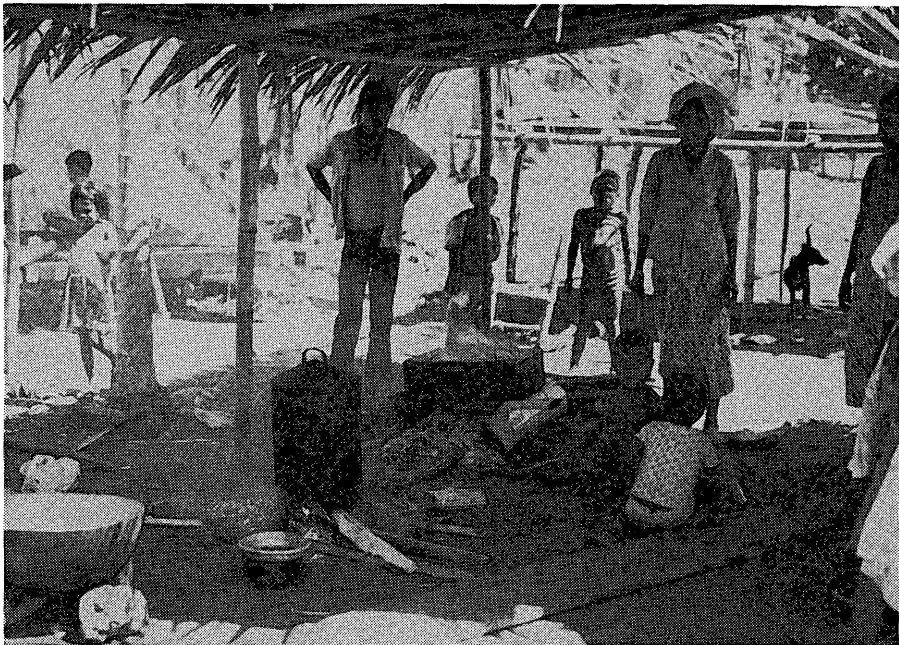


Photo. 33. *Kupa* is cooked in the rectangular pot in the center. Banana leaves are used as a lid. The pot is placed over logs of banana trees. This scene shows feast foods being made.

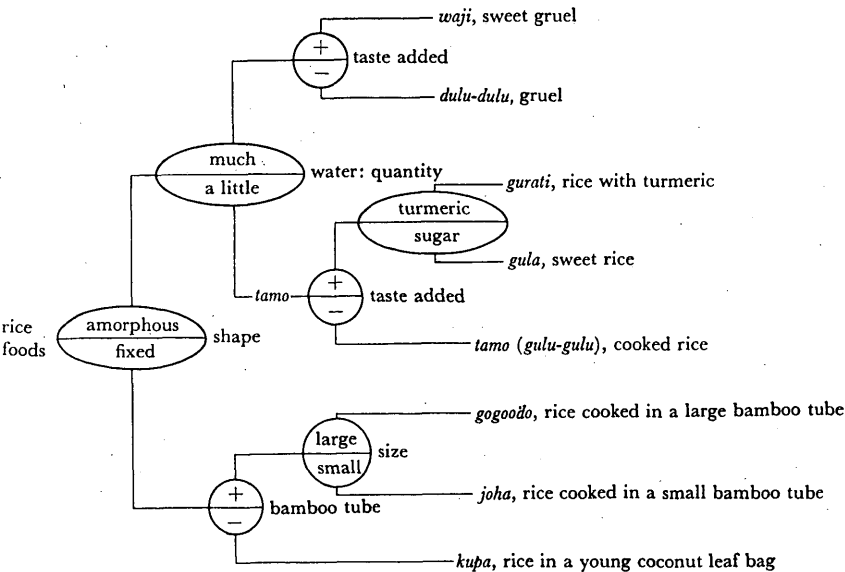


Fig 11. Rice food cooking system.

Table 6. Cooking techniques applied to staple foods from banana and rootcrops

cooking technique crops	<i>osu</i>	<i>ngani</i>	<i>paari</i>	<i>sosinanga</i>	<i>kola</i>	<i>halua</i>	<i>gunang</i>	<i>onde-onde</i>	<i>boboko</i>
manioc	○	○	○	○	○	○	○	○	○
sweet potato	○	○	○	○	○	○			
banana	○	○	○	○	○				
taro	○	○	○	○					
yam	○	○	○	○					
breadfruit	○	○	○	○					

taro (*dilago*, *dilago gogomo*, *kiha* and *belo*), 2 kinds of yam (*ubi* and *siapu*) and breadfruits are described. All reproduce vegetatively and share the property of being included among the staple foods, *ino*. As can be seen on Table 6, foods prepared from all these crops are cooked in the same way. There are more recipes for manioc foods than for those made from other crops. This is because grated manioc can be cooked in the same way as sago. Excluding this and the fact that manioc and sweet potato can be made into sweets (*halua*), 5 cooking techniques are used to prepare foods from rootcrops; baking (*osu*), boiling without first removing the skin (*ngani*), boiling (*paari*), frying (*sosinanga*) and sweet boiling in coconut milk blended with sugar (*kola*) (Table 6).

1) OSU

The term *osu* denotes baking of foods in general by holding them directly over the fire. As such it is applicable to more than just banana and rootcrops. Rootcrops are baked, unpeeled, directly in the fire. This is often done when cooking in a field hut. Often, bananas are cooked this way in the kitchen. The most common way of cooking bananas is after baking to peel the skin and mash them to a paste in a small mortar. They can be reduced to a paste either after baking or boiling with the skin either removed or not. Copra shavings can be blended-in also. This dish is eaten by rolling the banana paste into a ball, using the fingers of the right hand. Bananas are served unmashed only when sweet-boiled.

2) PAARI AND NGANI

Paari denotes boiled foods in general, and is not applicable only to staple foods. *Ngani*, on the other hand, specifically denotes bananas and rootcrops that are boiled without removing their skin.

In a broader sense the word *paari* denotes not just boiling in water, but also in coconut milk (*goro-goro*), to which a salty taste is added. Its narrower sense denotes boiling in water. In general, bananas and rootcrops are not boiled with a salty taste added. Boiling in water is specifically referred to as *bole ake sipaari* (lit. "boiling bananas in water"). Side dishes boiled in coconut milk and salted are called *ola-ola*, and those salted but not boiled in coconut milk are known as *lema*.

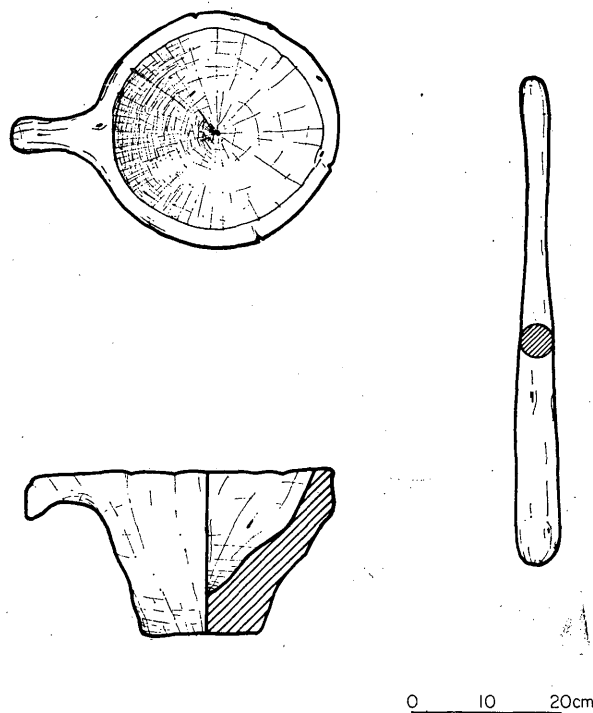


Fig. 12. Wooden mortar (*lesu*) and pestle (*dedutu*), used mainly for mashing bananas.

A metal pot with a lid (*boso*) is usually used to boil staple foods made from rootcrops.

3) SINANGA

Sinanga denotes frying or frizzling in fat or oil. No distinction is made between frying in large amounts of oil or using small quantities.

Fish and vegetables are fried using a small amount of oil, whereas staple foods made from bananas and rootcrops are always fried with plenty of oil. Before bananas, manioc and sweet potato are fried, they are peeled and sliced into a size convenient for eating with the hands. They are fried, without coating, in a wok using enough coconut oil so that they float.

4) KOLA

In Indonesian *kolak* denotes sweet-boiled banana and the like, whereas in Galelan *kola* denotes staple foods made from bananas and rootcrops that are cut into small cubes and boiled for a long time in coconut milk with sugar added. They are boiled in a covered pot to form a soft gruel. The name of this technique and the use of sugar suggests a recent introduction of this method.

5) HALUA, GUNANGE, ONDE-ONDE AND NASIBIU BOBOKO

Halua was already mentioned in the description of staple foods and side dishes (see above) but properly it should be included among sweets. *Gunange*, *onde-onde* and *boboko* apply only to manioc, and seem to have originated from processing bitter manioc to remove the acidic principle, just like sago starch. Manioc cooking thus borrows cooking techniques used for sago. The Galela plant small quantities of bitter manioc, *nasibiu waringi*. (*Waringi* refers to the banyan tree in Indonesian, thus this term literally means "banyan tree manioc.") To extract the acidic principle, bitter manioc is peeled and grated with a grater (*eke*). The grater shown in Photo. 34 was made by one of the villagers. It consists of an aluminum board perforated with a nail, so that splitters of board serve as grating teeth. It is 38 cm long and 16 cm in diameter. The grated manioc is then washed in water and put into a jute sack and placed on a press (*bobilatu*), as shown in Fig. 13. This tool presses the sack of manioc which is placed between the two boards, by driving wedges into the frame. The manioc, with the water completely squeezed-out, is removed from the sack and pounded in mortar. Prior to cooking it is sieved to produce a *peda*-like powder.

Manioc powder baked in *gogunange*, just like the sago starch food, is called *gunange*. When it must be specified that it is made from manioc powder, it is called *nasibiu ma gunange*.

Onde-onde refers to cassava powder rolled into a disc shape and with sugar inside.

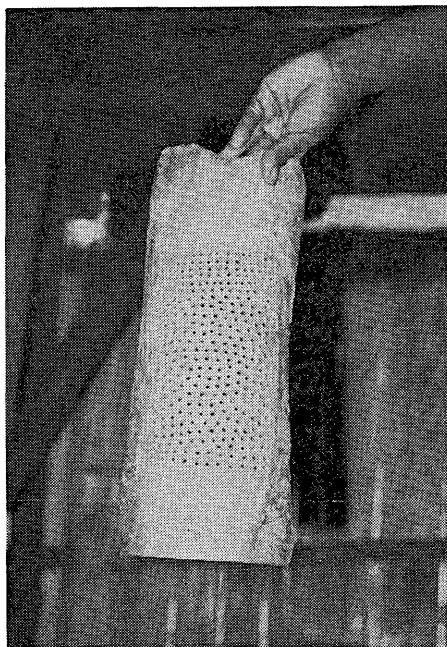


Photo. 34. Manioc grater (*eke*).



Photo. 35. Grating of manioc: The grater is placed over a banana log.

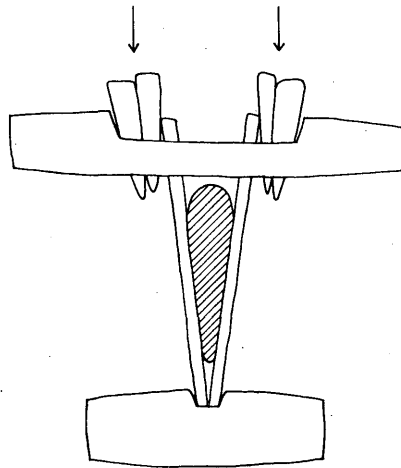


Fig. 13. Operating a manioc press (*bobilatu*).

It is baked in a *gogunange* after being boiled, and thus corresponds to *baha-baha*, made from sago.

Nasibiu boboko is manioc powder baked in a bamboo tube. It corresponds to *boboko* made from sago.

5. Foods Made from Wheat and Barley Flour

Neither wheat nor barley is grown on Halmahera, but flour made from wheat is available in the stores. *Roti*, *panci* and *apang* are staple foods made from these flours. In addition, sweets included under the category of *kue* (identical in Indonesian) are made from these flours. (A description of *kue* is omitted here since few

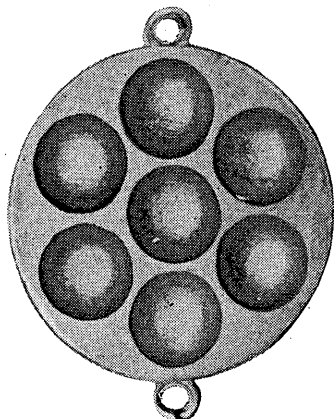


Photo. 36. Baking pattern for *apang* (*anka ma boso*).

data were collected on the recipes used and because *kue* is made only for banquets.)

Roti (identical in Indonesian) denotes bread. Yeast is not used in breadmaking. Dough kneaded with baking powder is baked on a thick iron cauldron placed over a fire. Bread is rarely baked at home, but generally is bought either from a village store, which in turn purchases it in the Soasio market, or from a store which makes it at home, or directly in the Soasio market (Table 3, p. 480).

Roti coe popaari refers to home-made, steamed bread in which baking powder is used. Often it is made by the individual housewife. *Roti sosinaga* is dough to which sugar and sometimes baking powder is added, and which is fried in coconut oil. This is also cooked at home. *Panci* (identical in Indonesian) is dough with sugar and baking powder added and which is coated with coconut oil and baked in a *wok*.

Apang (identical in Indonesian) denotes dough blended with sugar and baking powder that is baked in a ball-shaped iron mould (Photo. 36). Limau villagers either buy those made in a village store or from the Soasio market.

6. Fish Foods

1) TECHNIQUES FOR PRESERVING FRESH FISH—GASI AND DOPO

Fresh fish (*nawo da ohu*, lit. "raw fish"), salted dry fish (*nawo gasi*, lit. "salted fish") and smoked fish (*nawo i dodopo*, lit. "smoked fish") are the 3 types of fish material used in preparing fish foods. The term *nawo*, used alone, usually means fresh fish when used in reference to cooking materials.

Gasi functions not only as a noun meaning "salt," but also as a verb which means "to apply salt to something." Salted dry fish are made by gutting and opening the fish, leaving the head in place. The fish are then salted and dried in the sun for a few days. Salted dry fish are preserved by hanging them over the fireplace in the kitchen so that the smoke and heat from the cooking fire retards decomposition.

The "*dopo*" in *nawo i dodopo* functions as a noun meaning "smoked thing" but also as a verb meaning "to smoke." Those fish mostly smoked are *leanga* (*Euthynnus*

affinis yaito) and *ngawaro* (*Hemiramphus* sp.), which, since they are migratory fish are caught mostly in a particular season. Fish for smoking are placed over the kitchen fire on a framework of drying firewood made for the purpose. They are covered with banana leaves and a fire is kept going under them for 2 hours. This results in fish that are heated and smoked through the interior of the body, but not even scorched on the outside. When large quantities of fish have to be smoked, a large, temporary framework is erected outdoors. Apart from raw fish dish (*gohu*), which is considered next, all fish, regardless of whether fresh or preserved, are cooked as described below.

2) GOHU

Gohu is a nominal form derived from the adjective *ohu*, which means "unripe" (of fruits), or "uncooked" (of foods). It is contrasted with *omu*, meaning "ripe" (e.g., of bananas). (*Pa*) *kohu* is a verb form meaning "to prepare a food without heating" or "to eat raw," in contrast with *osa* meaning "food cooked by heating."

Gohu denotes fresh fish foods prepared without the use of fire. As far as could be determined, besides *gohu*, only eggplants, which are eaten raw, and the sauce called *dabu-dabu* (see below) are prepared without the use of fire.

Gohu is usually made of small mackerel. Fish-meat, with the skin left intact, is cut into 3-4 cm cubes, washed in water, and the juice squeezed out by hand. Prior to placing fish on the serving dish, it is sprinkled with some salt and lime or lemon juice to which chili pepper, sliced onion and a little coconut oil has been added.

3) OSU AND DABU-DABU

As mentioned above, with regard to the techniques used to cook staple foods prepared from bananas and rootcrops, *osu* is a verb meaning "to bake directly over a fire." Rootcrops are baked by burying them in the ashes of the fireplace, whereas fish are broiled over the fire so that ashes will not stick to them. To do this, fish are either skewered, placed on bars over a framework made of branches, or hung from the framework over the fireplace. Broiled fish prepared in this fashion is known as *nawo ya osu*.

Fresh fish are not salted prior to broiling, but salt is provided on the serving plate. Lemon or lime juice should be sprinkled over the fish, if available. Generally, broiled fish is eaten with *dabu-dabu*.

Dabu-dabu is a hot sauce known on Halmahera and the neighboring areas, and is often compared with the *sambal* of Indonesian cuisine. In many cases, however, *sambal* is made by heating the various ingredients, whereas *dabu-dabu* is made without the use of fire. It is produced by pounding and grinding hot chili peppers together tomatoes to a pasty sauce. A small mortar (Fig. 6) or a coconut shell is used in this process, and the sauce that results is mixed with salt. If available, ground onions and sometimes the juice of crushed garlic and citrus fruits should be added. *Dabu-dabu* is also used in boiling side dishes blended with coconut milk, but this is referred to differently, and in principle the name *dabu-dabu* is reserved for a hot sauce made without the use of fire when used as seasoning for a main dish.

4) PAARI, LEMA AND OLA-OLA

All these dishes are made by boiling fresh, smoked or dry salted fish in a liquid. Unlike staple foods made from rootcrops, which are never boiled with salt, and where no distinction is made between those boiled in water and those boiled in coconut milk, side dishes for use with fish are named differently according to whether they are boiled with salt, in water alone, or in coconut milk. Those boiled in water are called *paari* and are usually served with *dabu-dabu*.

Lema functions not only as a verb meaning "to boil with salt" but as a noun meaning "those boiled with salt." The nominal form is sometimes repeated; *lema-lema*. Unlike *paari*, which is served with either *dabu-dabu*, *lema* is cooked with chopped flavoring vegetables like onions, tomatoes, chili peppers, Welsh onions or leeks. *Lema* is boiled in water, but when coconut milk is substituted for water, the dish is called *ola-ola*.

5) SINANGA AND TUMISU

Sinanga is a verb meaning "to fry fish without coating in coconut oil." In this case the fish used can be either fresh, smoked or dried and salted. Fish fried without coating is known as *nawo ya sosinanga*, and is eaten with salt, juice of citrus fruits, chili peppers or with *dabu-dabu*.

Tumisu denotes the cooking technique that involves both *lema* and *sinanga*; the boiling in salt water of something fried without coating together with its flavoring vegetables. This seems to be derived from the Indonesian cooking technique called *menumis*.

7. Recipes for Meat

The cooking techniques *osu*, *sinanga*, *lema*, *ola-ola* and *tumisu* are applied to chicken, duck and goat, deer and wild pig meat. Apart from *osu*, it is considered best to add ground ginger, turmeric and chili pepper, and to serve the meat curry style. Meat is more highly regarded than fish, vegetables or wild plants.

8. Recipes for Vegetables and Wild Plants

Tomato, onion, Welsh onion, garlic, leek, chili pepper, ginger and turmeric are used as seasonings or flavoring, but never as the main ingredients of a dish.

Several vegetables and wild plants form the main ingredients of such a dish as *fofoki ya ola-ola* ("eggplants boiled in coconut milk"), for example. These include: eggplant (*fofoki*), cowpea (*gaahu kakaku*), pumpkin (*sambiki*), balsam pear (*popare*), gourd (*waru*), sugarcane (*dodilibu*), *Amaranthus* sp. (*tona ma gaahu*), *Ipomoea aquatica* Forsk. (*kanko*), papaya leaf (*papaya ma soka*), bamboo shoot (*jiburu*), young fern buds (*godomu*) and mushrooms (species not identified) (*tona ma toroao*).

(Pa) *kohu*, *osu*, *paari*, *lema*, *ola-ola*, *sinanga* and *tumisu* are the cooking techniques used for vegetables and wild plants. Since the basic aspects of these techniques have already been discussed for fish recipes, only a few important points are noted here with respect to foods prepared from vegetables and wild plants.

Fresh fish to which the sour taste of citrus fruits has been added is called *gohu* specifically (see above), but in fact foods generally eaten fresh or raw are called (*pa*) *kohu*. Eggplants are eaten raw, baked (*osu*) and with *dabu-dabu*, which has salt as one of its ingredients. Pumpkins, however, are boiled in water (*paari*) without salt, or sweet boiled in coconut milk (*kola*). This seems to indicate that pumpkins are regarded as something akin to a staple food (*ino*) rather than as something purely *sihode*.

When rootcrops and fish are cooked by the *sinanga* technique a large quantity of coconut oil is used, as would be expected for deep frying. Eggplant and balsam pear are cooked by this deep frying, *sinanga* process, but when *kanko*, papaya leaves and young buds of ferns are cooked in this way, the quantity of oil used is quite small, and the technique for cooking them is best regarded as pan frying. Thus the term "*sinanga*" is applied to all cooking techniques that use heated oil in the pan, just like the English word "*fry*."

9. The System of Cooking Techniques

1) THE NAMING OF FOODS

The classificatory system of sago and rice foods has been described schematically, but this has not been done for staple foods made from bananas and rootcrops, wheat and barley flour foods and side dishes. The systems for sago and rice foods are different in character from those of other kinds of foods. There follows below a schematic outline of the classificatory system for staple foods prepared from bananas and rootcrops as well as that for side dishes. Flour foods, which are related to sweets rather than being the constituent of a meal, are not discussed owing to a lack of data on the techniques used for cooking sweets. Flour foods have been used in Limau for only 10 years and the techniques for cooking them have been introduced from outside. Flour foods in the form of bread and sweets are bought more often from the stores than made at home, and they appear only rarely on the table. For these reasons the flour foods system are omitted here.

One characteristic feature of sago and rice foods which distinguishes them other foods is that *sinyole*, *gunange*, *jaha* and *kupa* and so on are nouns that denote finished foods, and do not refer to cooking techniques. In principle, there is a one-to-one correspondence between foods consisting of specific ingredients and their names. On the other hand, staple foods made from bananas and rootcrops and side dishes are referred to by verbs that mean categories of cooking techniques; for instance, *kohu* ("to prepare without heating"), *osu* ("to bake or broil"), *paari* ("to boil"), *kola* ("to sweet boil"), *lema* ("to boil in water"), *ola-ola* ("to boil in coconut milk"), *tumisu* ("to fry and boil") and *sinanga* ("to fry").

When finished foods must be referred to, a form derived from a verb meaning a category of cooking technique is used in combination with a noun denoting the main ingredient. For example, under the category of *osu* ("to bake or broil"), *nawo ya osu* means "fish broiled," that is, broiled fish, and *nasibiu ya osu* means "manioc baked,"

that is, baked manioc. A complex case is presented by the name *nawo i sosinanga de o boro*, where *sosinanga* is a derivative of the verb *sinanga*, and *boro* is a noun meaning "egg," which, taken together, means "*sinanga*-ed fish with egg." This is made by dipping a fish already fried in heated *dabu-dabu* and adding beaten eggs.

2) THE SYSTEM OF BANANA, ROOTCROPS AND SIDE DISHES

The system of staple foods of rootcrops and side dishes is presented schematically in Fig. 14. Grated manioc, when baked in the same way as sago, is omitted here, since it simply borrows cooking techniques used to prepare sago, and should properly be included in the system of sago foods.

A distinction is made between techniques that require heating and those which do not. Foods eaten raw are called *kohu*. Among *kohu*, fish sprinkled with sour juice of citrus fruits is called *gohu*, specifically. *Gohu* is an exceptional case in the system of naming side dishes, where in principle they are referred to by a term derived by combining the term for a category of cooking techniques together with the name of the main ingredient.

Techniques that require heating can be sub-divided into those heated directly and those heated indirectly in a pot. The former is called *osu*. Those heated in a pot are further sub-divided into those boiled in water or coconut milk and those fried in oil. It seems preferable to sub-divide the former (*paari* in its broader sense) into those requiring salt and those that do not. It is usual to add a salty taste to side dishes, although there are those, like fish boiled in water (*paari*) and then eaten with salt at the table. A salty taste is not in principle imparted to staple foods made from bananas and rootcrops.

Foods without salty taste are referred to by the same term regardless of whether

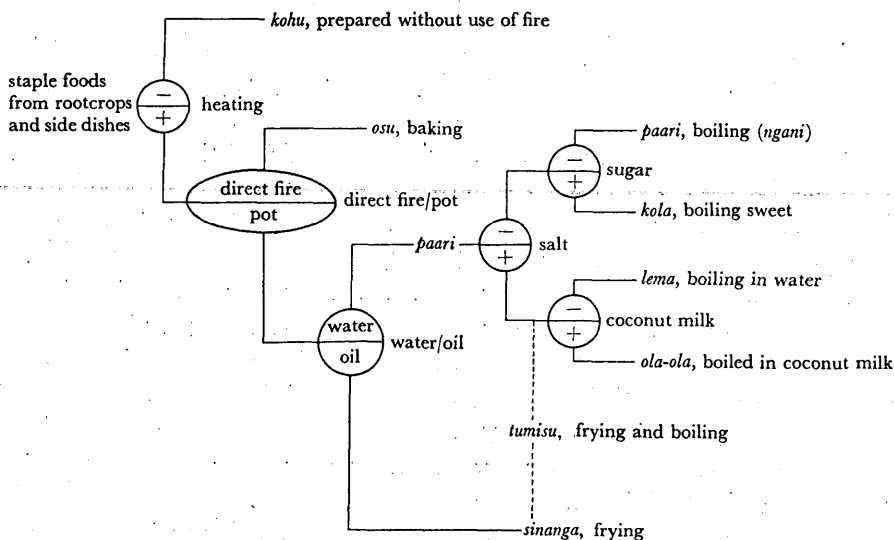


Fig. 14. Banana, rootcrop and side dish food cooking system.

they are cooked in water or in coconut milk. Rather, the distinction depends on whether they are sweetened with sugar or not. Manioc, banana, or sweet potato cut into tiny cubes and sweet boiled in coconut milk blended with sugar is called *kola*. *Kola* is the cooking technique applied only to staple foods made from bananas and rootcrops. *Paari*, "to boil," is the term applied when food is boiled in water or coconut milk without imparting any taste. *Ngani* is a special case of *paari* where rootcrop staples are boiled without first removing their skins.

Salty taste is imparted only to side dishes. In this case a further distinction is made between those boiled in water and those boiled in coconut milk. The former are called *lema*, and the latter *ola-ola*.

Foods whose main ingredients have been processed in heated oil are called *sinanga*, a term that is applied to both staple foods based on bananas and rootcrops and to side dishes. Those side dishes that are processed by a combination of *sinanga* and *lema* or *ola-ola*, that is, whose main ingredients are first fired and then boiled in water or coconut milk, are called *tumisu*.

3) SUMMARY OF COOKING TECHNIQUES

In Galela cooked food is called *sakahi*, or the opposite of *da ohu de po odo* ("eating fresh things" e.g. fruits). This includes *kohu*, without the use of fire, or *gohu*, fish or fresh sliced eggplant eaten with *dabu-dabu*.

When seen in terms of names for cooking techniques and foods the scope of the word *sakahi* can be taken as the sum of the three sets; the sago foods system, that of rice foods, and the system of staple food prepared from bananas and rootcrops and their side dishes. Among the bananas and rootcrop staples some manioc foods have already been dealt under sago foods, and foods made from foxtail millet and Job's-tears already have been discussed with the rice foods system. Seen in historical perspective, the former indicates that pre-existing cooking techniques for sago foods were borrowed to process bitter manioc when it was introduced into the sago producing area. The latter indicates, on other hand, that the older foods of foxtail millet and Job's-tears survived by being incorporated into the newer system of rice foods. These problems are considered in detail below in the discussion of the agricultural cultures of Halmahera.

Among the expressions so far used for foods and cooking techniques there are some words of Indonesian (i.e., Malay) origin. It may concluded with relative safety that the foods or cooking techniques that they denote are not of Galela origin but were introduced from outside. The terms in question are *waji* and *gula* among rice foods, *kola* among rootcrops used for staple foods and *tumisu* among the side

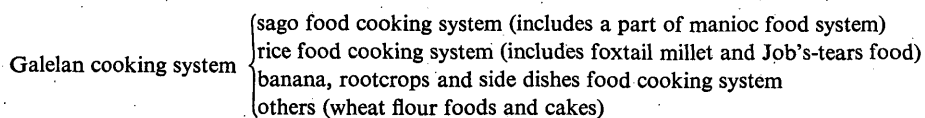


Fig. 15. Main field of Galela cooking techniques.

dishes. *Waji*, *gula* and *kola* involve the use of sugar, which was not the practice in former times.

The compound technique *tumisu*, boiling after frying, does not seem to be of Galela origin. It can be surmised easily that cooking techniques involving the use of coconut oil were not developed because coconut palms themselves were scarce until the present century, when they began to be planted as a cash crop. It is not certain when these foods or cooking techniques were adopted by the Galela. But since the terms *waji* and *gula* were used by Baarda [1895], it is evident that they had been introduced at least prior to the end of the nineteenth century.

Foods now cooked in a metal pot were prepared formerly in an earthenware vessel. This custom seems to have survived until the beginning of World War II.

Staple foods cooked in a pot, or earthenware vessel or in a *gogunange* are for everyday meals, whereas those prepared without the use of these utensils are for feasts or ritual occasions or for meals eaten outdoors.

10. Beverages

Although in a different category from foods, beverages are discussed here for the sake of convenience.

It appears that originally Galela did not distinguish an abstract category "beverage." This may be inferred from the fact that verb *udo* "to drink" is always accompanied by an object with a specific name, such as palm wine or water. In present-day Galela beverages in general are denoted by *minuman*, a term introduced from Indonesian. Aside from bottled soft drinks, purchased in the Soasio market, the kinds of beverages drunk in Limau are cooled hot water (*ake da sahu*), tea (*teh*), coffee (*kofi*), palm wine (*delu*), distilled liquor made from palm wine (*cap-tikus*, apparently a colloquial term) and coconut juice (*igo o dabu*).

Although translated as cooled hot water, *ake da sahu* literally means "hot water." In actual practice, water is never drunk hot, but rather only after it has cooled. Water is boiled in a pot and is always available in the kitchen. In principle unboiled water is never drunk.

Teh (the word for black tea is identical in Indonesian) leaves are poured into hot water in a kettle or in a pot over a fire. Sugar is added directly to the kettle or the pot and never put into the individual drinking vessel. Tea with sugar is called *teh gula* and tea without sugar is called *teh loa-loa*. *Teh gula* is considered the proper way of serving tea, but frequently, because they cannot buy sugar, they settle for *teh loa-loa*. No Limau villager adds condensed milk, bought at the store, to tea. Tea to which condensed milk is added is called *teh susu*.

Few people in Limau drink coffee. A package of ground coffee is bought from the store and brewed with sugar and served in a cup. It is not percolated.

Palm wine (*dalu*) is made from the sugar palm, the stamens of which are cut off and the sap collected by inserting the cut ends into a bamboo tube (Photo. 37). It is claimed that one stamen continues to yield sap for a month. Bamboo tubes hanging



Photo. 37. Collecting sap from sugar palms; sap is collected in a bamboo tube hanging from the stamen. A bamboo ladder is propped-up against the tree.

from the stamens are replaced each morning and evening. The sap which collects is then transferred to a thick bamboo tube used for wine-making. Palm wine is made by adding sap to the tubes in which yeast fungi remain continuously, thus fermenting the sap naturally. Sap collected in the morning is fermented enough to be drunk in the evening. Beer bought in town is used as a starter for a new bamboo. Fermented palm wine is milky white in color and refreshing in taste. However, its alcoholic content is low, even compared with beer.

Data could not be collected on distilled palm wine (*cap-tikus*). Muslims drink neither *dalu* or *cap-tikus*. One Christian villager in Limau makes *dalu* which he sells for Rp. 25/bottle at the request of the other Christians.

Coconut juice is drunk when people get thirsty when away from home, such as when working in the fields. The juice of young coconuts is drunk, then the fruit is opened and the soft endosperm eaten.

IV. ANALYSIS OF THE MENU

1. The Data

So far Galela foods and recipes have been discussed in normative terms but in reality households differ in the frequency of eating and in the manner of preparing the various foods. To understand these aspects of the eating habits of the inhabitants of Limau, research was conducted to obtain information on the contents of meals. This section analyzes the results of that investigation.

In order to obtain data on the contents of meals, notebooks were distributed to 11 adult Galela men, each from a different household, who were requested to note the contents of each meal. The men were selected using the criteria of literacy and head of household. The selection includes most literate heads of household in Limau.

It was requested that the notes be kept in a uniform manner. The contents of one meal were noted on one page, and under the entry for each meal were written, in the following order: (1) date and day of the week; (2) distinction between breakfast, lunch and supper and their timing; (3) contents of the meal; and (4) beverages. Before the notebooks were distributed we wrote in Indonesian at the head of each page the date and day of the week. We also distinguished ahead of time between breakfast, lunch and supper so all the informant had to do was to note the time of the meal. We requested that they specifically note in Galela and Indonesian the contents of each meal so that the kinds of foods and recipes used could be seen easily. On the page where the details of breakfast were to be noted and where beverages play an important role, 4 choices were presented in Indonesian; boiled hot water (*air panas*) tea without sugar (*teh loa-loa*), tea with sugar (*teh gula*) and coffee (*kopi*), so that the informant only had to check the appropriate item.

In this manner information was obtained on the contents of the meals of 11 Limau households, during the period October–December, 1976. More specifically, data were obtained on the contents of 311 meals, which comprised 105 breakfasts, 104 lunches and 102 suppers. Dividing the contents of all meals into the three categories of staple foods (*ino*), side dishes (*sihode*), and beverages (*minuman*), data

Table 7. Quantity and type of data obtained on the contents of meals

meal	No. of meals	No. of staple foods	No. of side dishes	No. of beverages	subtotal
breakfast	105	132	31	99	262
lunch	104	129	109	23	261
supper	102	124	107	23	254
total	311	385	247	145	777

were obtained on 385 *ino* materials 247 *sihode* materials and 145 *minuman* materials (Table 7).

These 777 pieces of information were subdivided according to the kinds of main ingredients and their recipes. Because of the complexity and size of the data base a computer was used in this analysis.

2. Main Ingredients of Meals

The Galela name foods on the basis of either the combination of the food resource and the cooking technique used, which together is expressed in one word, as in the sago foods and rice foods, or on the main ingredient and the cooking technique used, again expressed in a compound form as in foods made from rootcrops and the side dishes. Therefore, the main ingredient used could be determined immediately from a quick check of the menus of staple foods and side dishes written in the notebooks.

Without distinguishing between staple foods and side dishes, Table 8 shows the

Table 8. Main ingredients and their frequency of use

	ingredient	frequency
fish	<i>nawo</i>	169
banana	<i>bole</i>	111
sago	<i>peda</i>	106
rice	<i>tamo</i>	68
manioc	<i>nasibiu</i>	45
sweet potato	<i>gumi</i>	33
eggplant	<i>fofoki</i>	24
flour	<i>trigu</i>	16
<i>kanko</i>	<i>kanko</i>	13
smoked fish	<i>nawo i dodopo</i>	8
chicken	<i>toko</i>	6
new leaf of papaya	<i>papaya ma soka</i>	4
flower of sugarcane	<i>dodilibu</i>	4
taro (<i>Colocasia antiquorum</i>)	<i>dilago</i>	4
new leaf of fern	<i>godomu</i>	3
wild pig	<i>titi</i>	2
breadfruit	<i>amo</i>	2
bamboo shoot	<i>jiburu</i>	1
salted and dried fish	<i>nawo gasi</i>	1
amaranth	<i>tona ma gaahu</i>	1
deer	<i>manjanga</i>	1
cuttlefish	<i>udi</i>	1
<i>dabu-dabu</i>	<i>dabu-dabu</i>	8
unknown		1
	total	632

main ingredients of 632 menus, excluding beverages, in order of frequency as they appeared in 311 meals. It shows that apart from beverages and seasonings only 22 main kinds of ingredients were utilized in the 632 menus. Fish foods are taken here to illustrate the method used in classifying menus by main ingredients used in compiling this table.

Fish ranks first since it is used here as a general category regardless of the different kinds of fish. Combining all fish in this manner might be questioned, as a quite different ranking would result were fish classified according to their different kinds. This, however, does not present a problem because the classification system used in Table 8 was not established arbitrarily, but follows as faithfully as possible the way in which the main ingredients were classified by the 11 informants. They were requested to write down the menus in such a way that we could determine what was cooked and what cooking technique was used. The informants could freely select their manner of noting the information. Despite this freedom, the results revealed that the villagers had a common classificatory system. For instance, vegetables used for side dishes were specified individually by all informants, e.g., into eggplant, *kanko*, papaya leaf and the like, and never grouped into a general category as vegetables *gaahu* (*gaahu* means "vegetable" regardless of whether cultivated or wild). Bananas, of which there are 60 kinds, are simply entered as bananas (*bole*). When necessary to specify the kind of banana, it would be written as *bole ma sangate*, for instance. Thus it may be concluded that the Limau villagers share a common cognitive system with regard to food resources.

In general, distinctions are made among fish only in terms of the way in which they are processed, that is, fresh fish (*nawo*), smoked fish (*nawo i dodopo*), and dried and salted fish (*nawo gasi*). Fish are not classified by species, or other characteristics. Only one informant referred to fish by species but even in this case the general name "fish" (*nawo*) precedes a specific name such as mackerel (*leanga*) or bonito (*ido*), as in *nawo leanga* and *nawo ido*. *Leanga* or *ido* can be used alone in Galela, but somehow this informant thought it necessary to use the word *nawo*. When fish are classified on the same level as "to eat bananas" or "to eat eggplants," "to eat fish" makes more sense than "to eat a bonito." For this reason it was not considered necessary to specify the kinds of fish indicated in Table 8. The Galela regard cuttlefish (*udi*) as being in a separate category rather than being included with fish, hence it is entered here separately.

Dabu-dabu, which is only a seasoning, appears 8 times in Table 8. Primarily it accompanies a side dish for such foods as fish, thus in such cases the main ingredients are fish, eggplants and the like, and the accompanying *dabu-dabu* is not entered in this table. However, there were no side dishes in these 8 cases, and only staple foods and *dabu-dabu* were noted by the informants. In these cases, the staple foods were dipped in *dabu-dabu*, and *dabu-dabu* is considered as a side dish. Because it makes little sense to enter *dabu-dabu* under the category of its main ingredients, i.e. tomatoes and red peppers, we established provisionally a separate category for *dabu-dabu*.

Figure 16 shows graphically the percentage distribution of the main ingredients

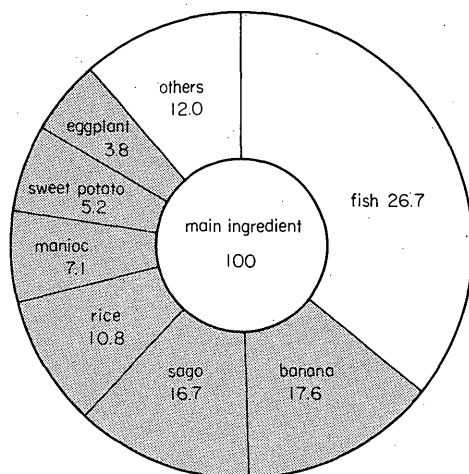


Fig. 16. Percentage distribution of main ingredients (632 cases).

that appear in Table 8, according to the frequency of menus in which they appeared. It is clear from Fig. 16 that Galela menus are composed mostly of staple foods.

3. Staple Foods and Their Recipes

To reveal the respective recipes used for breakfast, lunch and supper a classification was made of the main ingredients for staple foods (*ino*) according to kinds of food (Table 9). The column on the right in Table 9 indicates the total frequency of menus that consisted of each staple food.

Among 311 meals investigated, staple foods appear 385 times because more than one kind of staple food can be eaten during the same meal, e.g., baked bananas and sago cakes. Figure 17 represents graphically the ratio of each kind of staple food among the total number of staple foods.

This reveals that bananas and sago are the most important food staples in Limau and that these two foods provide more than 50 percent of all staple foods eaten. Next comes rice, but it should be noted that the period during which this field survey was under taken fell between the harvest periods, consequently all the rice consumed at this time was not produced at home, some being purchased from the stores. Given the small area of rice planted, even in May and June, when home-produced rice is relatively abundant, rice is eaten only infrequently and informants stated that the consumption of bananas and sago exceeds that of rice.

When ranked by quantity consumed, bananas and sago are the most important staple foods, followed by rice, manioc and sweet potato, in that order. In the 1950's when rice was rarely bought, rice must have ranked lower. It should be noted that in inland Galela villages remote from the swamps sago starch naturally ranks lower.

Among the cooking techniques used for bananas, frying without coating in coconut oil (*sinanga*) and boiling (*paari*) are those most often employed. Among the 42 foods cooked by boiling, 11 were boiled in coconut milk and the remainder boiled in

water. Boiling in coconut milk is favored because of the thick taste that results. Moreover it is nutritionally more beneficial since starch foods are provided with fat.

The analysis of banana foods showed that there were few cases of baking (*osu*). This was surprising since it was frequently stated that baking is the basic way of preparing bananas, and also because every kitchen has a small mortar (*lesu*), a small pestle (*dedutu*) and a scoop (*sasadu*), which are used mainly for mashing and scooping

Table 9. Cooking techniques for staple foods

kind of food	frequency for each cooking technique					total
	technique	breakfast	lunch	supper	subtotal	
banana <i>bole</i>	<i>sinanga</i>	34	16	1	51	
	<i>paari</i>	20		22	42	
	<i>osu</i>	9	3	3	15	
	<i>kola</i>	2			2	
	unknown	1			1	111
sago starch <i>peda</i>	<i>gunanga</i>	6	43	34	83	
	<i>gunanga de ma igo</i>	9	1	1	11	
	<i>soru</i>		6	5	11	
	<i>boboko</i>		1		1	106
rice <i>tamo</i>	<i>tamo (gulu-gulu)</i>	1	25	27	53	
	<i>dulu-dulu</i>	7	1	1	9	
	<i>jaha</i>	3			3	
	<i>gurati</i>			1	1	
	unknown		2		2	68
manioc <i>nasibiu</i>	<i>paari</i>	2	17	14	33	
	<i>sinanga</i>	7			7	
	<i>osu</i>	1			1	
	unknown		1	3	4	45
sweet potato <i>gumi</i>	<i>paari</i>	2	9	11	22	
	<i>sinanga</i>	8	1		9	
	unknown		2		2	33
wheat flour <i>trigu</i>	<i>roti</i>	6			6	
	(<i>sinanga</i>)	2			2	
	(<i>paari</i>)	1			1	
	<i>panci</i>	3			3	
	<i>apang</i>	3			3	
	<i>kue</i>	1			1	16
taro <i>dilago</i> (<i>Colocasia antiquorum</i>)	<i>sinanga</i>	2			2	
	unknown	1		1	2	4
breadfruit <i>amo</i>	<i>sinanga</i>	1			1	
	<i>parri</i>	1			1	2

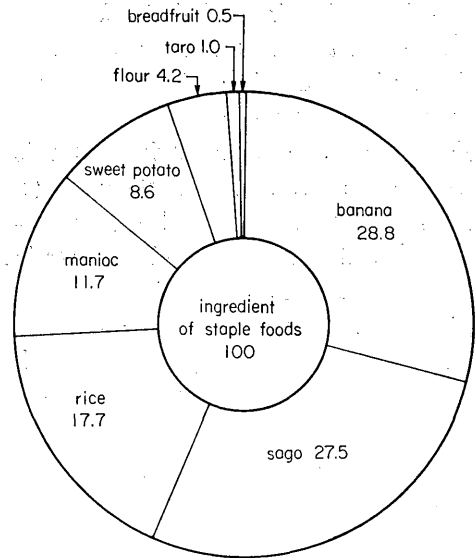
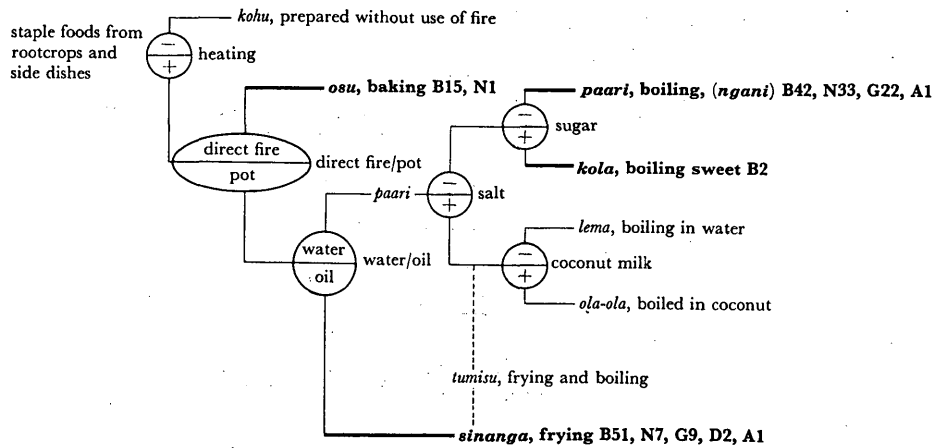


Fig. 17. Percentage distribution of ingredients of staple foods (385 cases).

baked bananas. It appears that baking bananas is declining as the use of metal pots becomes more widespread. It should be noted that bananas are often served for breakfast.

Baking a *gunange* is the basic way of eating sago. Next is baking a *gunange* blended with copra (*gunange de ma igo*), followed by gruel (*soru*). Only one instance of *boboko* was noted, and this was prepared for an important occasion. Among the rice foods, *tamo* (*gulu-gulu*) is made most often, accounting for 53 cases, of which rice cooked in coconut milk is found in 7 instances. This is followed by 2 cases each of



B: banana, A: breadfruit N: manioc, G: sweet potato, D: taro (*Colocasia antiquorum*)

Fig. 18. Banana and rootcrop staple food cooking system.

rice gruel (*dulu-dulu*) and rice cooked in a relatively slender bamboo tube (*jaha*) for important feasts. One case of rice cooked with turmeric was recorded. There was 1 case where only *gulu-gulu* is entered in an informant's record, and the cooking technique employed could not be determined.

Among the manioc foods, boiling appears 33 times, of which 7 cases used coconut milk. The 7 times when manioc was fried without coating (*sinanga*) were, as in the case of bananas, for breakfast. Manioc was baked (*osu*) in 1 instance, and 1 case where the cooking technique could not be determined. No instances were recorded in which manioc was prepared employing techniques used to prepare sago. This might be because little bitter manioc is cultivated in Lima.

Among 16 cases of flour foods recorded, only 3 cases of fried bread (*roti, sinanga*)

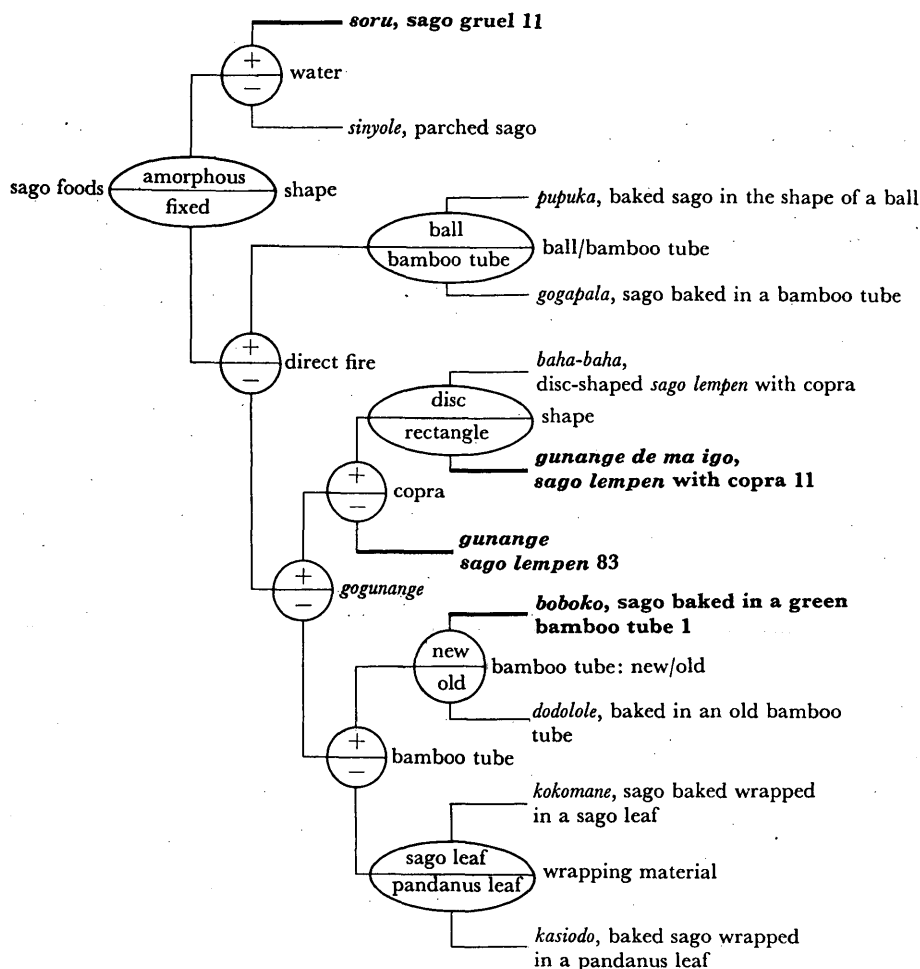


Fig. 19. Sago food cooking system.

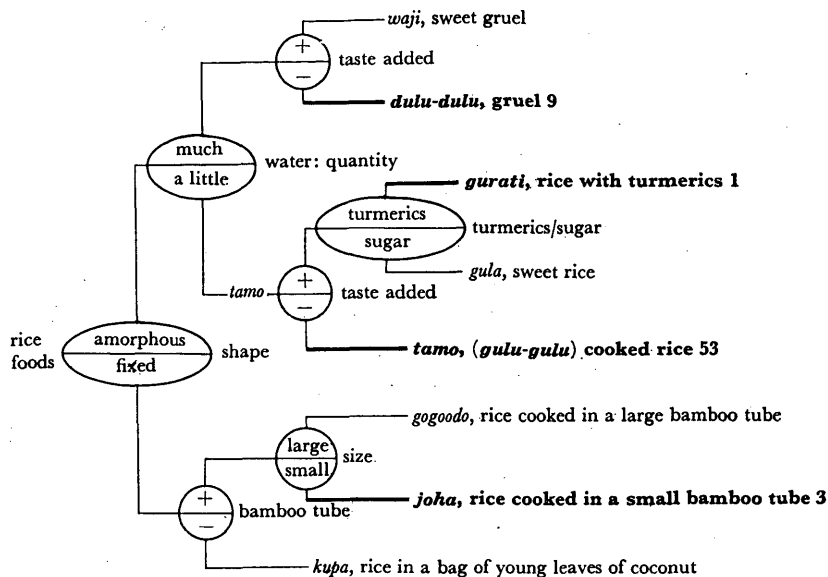


Fig. 20. Rice food cooking system.

and steamed bread (*roti, paari*) are known to have been prepared home. It can be easily inferred that most of the rest were purchased from the store.

Among taro foods (*Colocasia antiquorum* [L.] Schott), boiling (*paari*) appeared twice, and the cooking techniques employed in the other 2 cases could not be determined. One case of breadfruit fried without coating (*sinanga*) and one case of boiling (*paari*) were recorded.

It thus appears that only a restricted range of foods are cooked at home, compared with the full range available (see above). Thus the figures depicting staple food systems reflect informant's data on meal type and frequency using thick lines to show meals that are actually prepared. The meals illustrated by these thick lines may be regarded as representing typical Galela everyday foods (Fig. 18, 19 and 20).

4. Techniques for Cooking Side Dishes

As was done for the menus of staple foods, Table 10 shows the kinds of side dishes (*sihode*) and the techniques used to cook them, and Fig. 21 shows the proportion of foods used as the main ingredients of side dishes, in terms of their frequencies. It is clear that animal foods, mainly fish, appear more frequently than vegetable foods as a predominant ingredient: 188 cases of animal products compared with 59 cases of vegetable foods, a proportion of approximately 3:1.

The data on the cooking techniques used which play a central role in the provision of animal protein as side dishes show that all methods except serving raw or fresh (*gohu*) are represented. Broiling or baking (*osu*), boiling in coconut milk (*ola-ola*), boiling in water (*lema*), frying (*sinanga*), and frying and boiling (*tumisu*) are all used (Table 10). Broiling, the cooking technique most often used for cooking fish, accounts

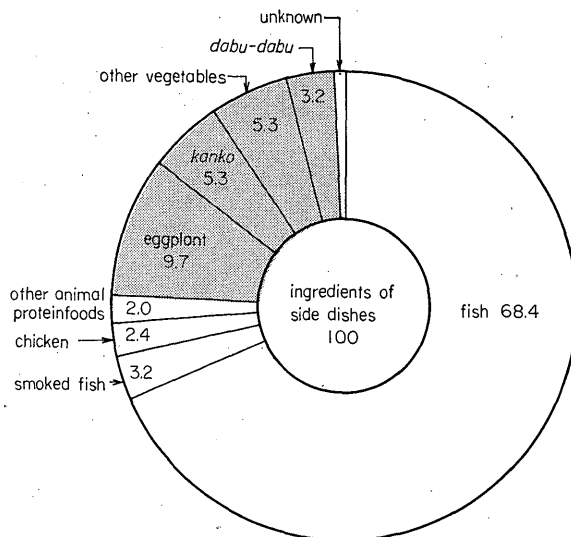


Fig. 21. Percentage distribution of ingredients for side dishes (247 cases).

for 75 of the 169 cases of fish menus. Where the Indonesian culture predominates fish are not broiled in general, but usually are fried without coating (*ikan goreng*, in Indonesian), whereas in Maluku, including Halmahera, fish are basically broiled. Among the Galela also broiling is the technique most commonly used to prepare fish for all kinds of side dishes.

Of the fish foods shown in Table 10, those accompanied by *dabu-dabu* appear in parentheses. For instance, the total number of cases where fish was prepared by the *osu* technique is entered as 75 (43), indicating that broiled fish appeared 75 times, of which 43 were accompanied by *dabu-dabu*. Among fish foods *dabu-dabu* also accompanied fish fried without coating and boiled fish. (In one instance *dabu-dabu* accompanied chicken.) In all cases, the main ingredients were not seasoned but simply broiled, fried or boiled. The most popular side dish was broiled fish accompanied by *dabu-dabu*.

Table 10 shows 8 cases where *dabu-dabu* was used independently as a side dish. Those cases composed 2 meals of boiled bananas, 2 of baked bananas, 2 of fried bananas, 1 of boiled manioc and 1 of sagu cake. In all these cases *dabu-dabu* functioned as a side dish for the staple food, therefore they are entered separately on table as side dishes, and should be considered exceptional.

In order of frequency, animal protein foods eaten, excluding of fresh fish and smoked fish, are chicken, wild pig, salted and dried fish, deer and cuttlefish. Chicken is served as special treat for guests. Galela rely mainly on fish to provide animal protein.

Eggplants are the vegetable foods used most frequently as main ingredients. Including vegetables used as seasoning, which do not appear in the table, vegetables for daily meals are restricted to eggplant, coconut, chili pepper, tomato, sugarcane and

Table 10. Cooking techniques for side dishes
(Numerals within parentheses indicate frequencies of those with *dabu-dabu*.)

kind of food resource		frequency for each cooking technique					total
		cooking technique	breakfast	lunch	supper	subtotal	
fish	nawo	osu (dabu-dabu)	25(15)	22(12)	28(16)	75(43)	169
		ola-ola	1	19	14	34	
		lema		16	15	31	
		sinanga (dabu-dabu)	1	6(2)	9(1)	16(3)	
		paari (dabu-dabu)		3(1)	1(1)	4(2)	
		tumisu		3	1	4	
		unknown		3	2	5	
eggplant	fofoki	ola-ola		10	7	17	24
		sinanga			3	3	
		paari			1	1	
		tumisu		1		1	
		unknown		1	1	2	
kanko	kanko	sinanga		6	1	7	13
		ola-ola		1	3	4	
		tumisu			2	2	
smoked fish	nawo i dodopo	osu			3	3	8
		sinanga	1		1	2	
		lema		1		1	
		unknown		2		2	
chicken	toko	sinanga (dabu-dabu)		3(1)		3(1)	6
		ola-ola		1	1	2	
		lema			1	1	
new leaf of papaya	papaya ma soka	sinanga		1	1	2	4
		ola-ola		1	1	2	
flower of sugarcane	dodilibu	ola-ola		1	1	2	4
		unknown			2	2	
new leaf of fern	godomu	ola-ola		1	2	3	3
wild pig	titi	lema		2		2	2
bamboo shoot	jiburu	unknown		1		1	1
salted and dried fish	nawo gasi	osu			1	1	1
amaranth	tona ma gaahu	ola-ola		1		1	1
deer	manjanga	lema			1	1	1
cuttlefish	udi	sinanga			1	1	1
dabu-dabu	dabu-dabu		3	3	2	8	8
unknown (unknown "plant" was written in notebook)					1	1	1

papaya. There is little variety. In addition, only semi-cultivated *kanko* and *Amaranthus* sp., together with the young buds of wild ferns and bamboo shoots are used.

5. Foods and Beverages in Meals

In this section the contents of breakfast, lunch and supper are examined. Beverages are classified according to their use in the 3 daily meals in Table 11. The most significant number of this table appears in the breakfast column. Of the total of 105 cases of breakfast recorded, the contents of beverages are known for 100, whereas of the 104 lunches only 23 cases of beverage use are recorded, and of the 102 suppers data on just 23 cases of beverage use were provided. This discrepancy may have arisen because the informants assumed that the columns for beverages in the prepared notebooks applied only to breakfast. There were also those who saw no need to record beverages used at lunch and supper, since these 2 meals are usually accompanied by cooled hot water, a beverage of little significance compared with tea or coffee. Only 2 households recorded beverages taken with lunch and supper for every lunch or supper.

Tea with sugar is most often drunk with breakfast, followed by cooled hot water, and coffee (never without sugar). Tea without sugar is also exceptional. Informants reported that, whenever possible, tea with sugar should be drunk at breakfast. Cooled hot water is drunk at breakfast only when the household lacks tea or sugar.

On the other hand the beverage that most generally accompanies lunch and supper is cooled hot water, and even when tea is drunk then it is usually without sugar. At lunch and supper staple foods are eaten together with side dishes, thus beverages serve only to quench the thirst, whereas for breakfast the staple foods are eaten with the help of sweet tea, thus dispensing with the need for side dishes.

Table 11. Beverages drunk at mealtime

kind of beverage	breakfast	lunch	supper
cooled hot water <i>ake da sahu</i>	27	13	14
tea (with sugar) <i>teh (gula)</i>	70	3	3
tea (without sugar) <i>teh (loa-loa)</i>	1	7	5
coffee <i>kofi</i>	2		
<i>dalu</i>			1
total	100	23	23

Table 12. Average number of items per a meal
(No. of items/No. of meals)

meal \ staple food/side dish	staple food	side dish
breakfast	1. 26	0. 29
lunch	1. 24	1. 04
supper	1. 32	1. 05

Table 12 shows the average number of items for staple foods and side dishes for each of the 3 daily meals. The averages for staple foods are between 1.2 and 1.3, and there is little significant difference among the meals. (The averages are higher than 1, because in some cases more than one staple food was eaten per meal.) For side dishes the average is somewhat higher than 1 for lunch and supper, but a very low 0.29 for breakfast. This indicates that lunch and supper are usually accompanied by at least 1 side dish, whereas breakfast is not.

Figure 22, 23 and 24 represent, respectively, the percentage ratio of the kinds of staple food resources used for each of the 3 daily meals. When these 3 figures are

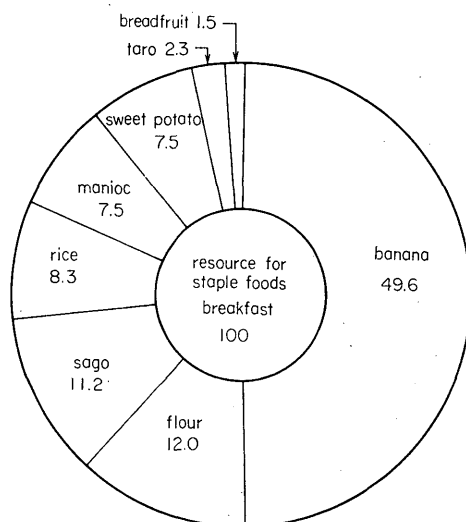


Fig. 22. Percentage distribution of ingredients for staple food at breakfast (133 cases).

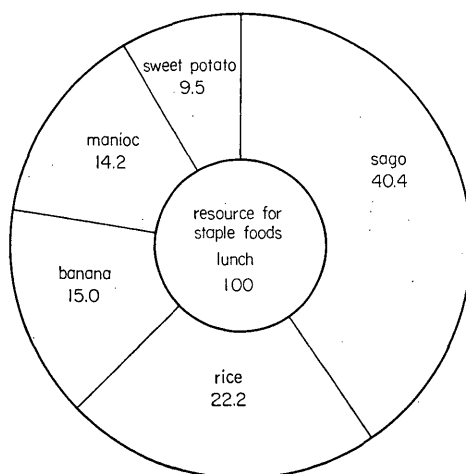


Fig. 23. Percentage distribution of ingredients for staple food at supper (126 cases).

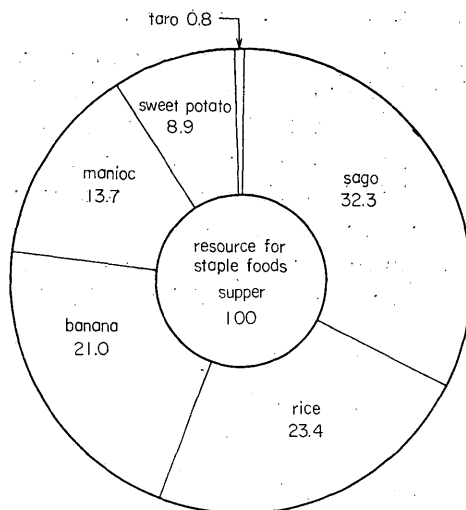


Fig. 24. Percentage distribution of ingredients for staple foods at supper (124 cases).

compared it is evident that those used for lunch and supper share a pattern, whereas that for breakfast is different. The ratio of bananas is high for breakfast, compared with those for lunch and supper, flour foods are eaten only for breakfast. Also, the ratios of sago and rice are low for breakfast.

From Table 9, it is apparent that the most commonly used cooking techniques for bananas, peculiar to breakfast, is frying in coconut oil (*sinange*), and this technique is also the one most often used to prepare them sprinkled with sugar. Fried bananas and potatoes can be served as sweets. This plus the fact that sweets (*kola*) and bread made from flour appear for breakfast shows that breakfast is more of a snack eaten with sweet tea and without side dishes, rather than a meal *per se*.

In summary it may be said that the proper meals (*odo*), comprising a staple food (*ino*) and a side dish (*sihode*) set, are lunch (*wange po odo*) and supper (*puputu po odo*). Breakfast serves basically to ward-off hunger until lunchtime and is not really a proper meal. Although nowadays sugared tea, bananas and potatoes fried in coconut oil and bread are eaten at breakfast, this custom was not generally evident among the Galela until the present century. In former times it appears that breakfast was a poor meal that consisted of baked or boiled bananas together with cooled hot water. It can be assumed from this practise, which still characterizes various parts of Indonesia, that the Galela breakfast was not a proper meal but rather a temporary measure at the beginning of the day.

V. RECONSTRUCTION OF HALMAHERAN FOOD HABITS AND AGRICULTURAL CULTURES

1. Traditional Farm Products and Domestic Animals

Here an attempt is made to reconstruct the cultural stratum of the subsistence

economy of Halmahera in general, on the basis of the present-day food habits of the Galela. As was shown in the analysis of the contents of meals, the dietary staples of the present-day Galela are bananas and sago, with fish as the principal side dish. It is worth considering whether this basic menu was the same in the past and to what strata of the remaining agricultural cultures can the staple foods and side dishes be traced. Present-day Galela lack folkloric or written material that can provide a clear chronological dating of their history. Hence here their former food habits will be inferred from the wider cultural histories of Southeast Asia and New Guinea, excluding the crops and cooking techniques that have been introduced relatively recently to the Galela area.

The Galela (Limau) names for cultivated field crops are listed in Table 13, together with their relationship to the crop names in other languages. Included in addition to the present-day field crops are the sago palm, which though wild is an important source of food, taro (*Xanthosoma violaceum* Schott., *dilago gogomo*), yam (*Dioscorea bulbifera* L., *gusuo*) and sorghum (*Sorghum saccharatum* [L.] Moench., *guwapo*) which are now all but forgotten and no longer cultivated in Limau. The list of plants in Table 13 exhausts most of the important food plants used throughout the entire Galelan region.²⁾

In Table 13, the Galela crop names have been supplemented, with the names of plants cultivated throughout Indonesia. Those that are linguistically related to Galela have been entered in the right hand column, using Heyne's data [1950] supplemented by Kano [1946] when Heyne did not provide names. It should be noted that different words are not necessarily used in areas and by ethnic groups not shown in the table. Even for crops that have different names depending on geographical location, which are called differently by distinct ethnic groups, no more than 100 local names per species of plant were found. Therefore Heyne, on whom our analysis depends, did not exhaust the all local names found in Indonesia for crop plants, so it cannot be concluded that a particular name is used only among the ethnic groups listed. The table is therefore only an approximate guide.

It is evident from Table 13 that many Austronesian names for cultivated products have been adopted by the Galela. Thus despite the barrier of different linguistic families, cultivated crops together with their names spread into this area in the past.

Among these, no native names that can be easily related to Galela names for sago palm, rice, several species of taro and yam, amaranth and Welsh onion could be found. But why the Galela have unique names for such important plants such as sago palms and rice is still open to speculation.

Names for bananas, taros, sugar palm, sugarcane, turmeric, eggplant and sweet potato are shared only by groups that speak the languages of North Halmahera.

Although geographically speaking, North Halmahera is close to Northeastern Sulawesi, only the names for ginger and leek are shared by languages in these 2 areas.

2) It is said that besides these taros, a kind of taro called *belo* cultivated by the Galela, but scientific name could not be determined.

Table 13. Names of edible plants in Galela and related languages

plant	Galelan name	vernacular name related with the Galelan name
sago palm <i>Metroxylon sagus</i> Rottboel <i>Metroxylon rumpffii</i> Martius	<i>tano</i>	no related names found
cultivated banana	<i>bole</i>	<i>bole, pele</i> (Sahu): North Halmahera
rice <i>Oryza sativa</i> L.	<i>tamo</i>	no related names found
* manioc <i>Manihot esculenta</i> Pohl.	<i>nasibiu</i>	<i>kasoebi</i> (Padoe, Toraja): Sulawesi <i>kasbi</i> (Piroe), <i>kasabi</i> (Saperewa), <i>kasbing</i> (Elpa-poeti), <i>kaspini</i> (Waraka): West Seram <i>kasbi</i> (Amahai), <i>kasipi</i> (Noeaoeloe), <i>Kasebi</i> (Sepa): South Seram <i>kasbi</i> : Alfur in Ambon <i>kasbi</i> : Buru <i>asbii</i> (Boeli, Weda): South Halmahera <i>koebin</i> (Sawe): North New Guinea <i>nahibi</i> (Tobelo), <i>tahoebi</i> (Modole), <i>nahibi</i> (Loloda), <i>nahibi</i> (Pagu): North Halmahera <i>kasibi</i> : Ternate <i>kasibi</i> : Tidore
* sweet potato <i>Ipomea batatas</i> (L.) Lemark	<i>gumi</i>	<i>goemini</i> (Tobelo, Modole): North Halmahera
taro <i>Colocasia esculenta</i> (L.) Schott.	<i>dilago</i>	<i>dilago</i> (Tobelo, Loda, Pagu): North Halmahera
taro <i>Alocasia macrorrhiza</i> (L.) Schott.	<i>kiha</i>	<i>kiha</i> : Indonesian in Manado <i>biha</i> : Indonesian in Banjarmasin <i>bira</i> : Indonesian in Ambon <i>kiwawa</i> (Tobelo, Pagu): North Halmahera <i>kiha</i> : Ternate <i>kiha, biha, or bira</i> are generally used, except in the Sunda Islands, where <i>sente</i> is used.
taro <i>Xanthosoma violaceum</i> Schott.	<i>dilago gogomo</i>	no related names found
yam <i>Dioscorea esculenta</i> Burkill	<i>siapu</i>	<i>sajawoe</i> : Indonesian in Manado <i>siawoe</i> : Bali <i>sajawoe, siaboe, sajapoe</i> : Alfur in North Sulawesi <i>siahoe</i> : Alfur in Ambon <i>hiahoe</i> (Tobelo), <i>siahoe</i> (Loloda): North Halmahera
yam <i>Dioscorea alata</i> L.	<i>ubi</i>	<i>ubi</i> almost everywhere
yam <i>Dioscorea alata</i> L.	<i>gusuo</i>	no related names found

plant	Galelan name	vernacular name related with the Galelan name
yam <i>Dioscorea bulbifera</i> L.	<i>kapupu</i>	<i>kamboeboe</i> (Modole): North Halmahera <i>ahoehoe</i> , <i>ohoehoe</i> : Uliaser
yam <i>Dioscorea nummularia</i> Lamk.	<i>totopo</i>	no related names found
yam <i>Dioscorea pentaphylla</i> L.	<i>nunuta</i>	no related names found
foxtail millet <i>Setaria italica</i> Beauv.	<i>bobotene</i>	<i>botai</i> : Indonesian in Manado <i>botoh</i> : Indonesian in Timor <i>hotong</i> : Indonesian in Ambon <i>botan</i> : Tanimbar, [Kano, 1946: 284] <i>hetang</i> : Wetar [Kano, 1946: 283] <i>batoeng</i> : Talaud <i>bote</i> , <i>wotei</i> : Alfur in Minahasa <i>boetomo</i> : Guru <i>batang</i> : Ujung Pandang <i>atang</i> : Kai <i>atong</i> : Alfur in Ambon <i>batung</i> : Talaud, [Kano, 1946: 284] <i>hotono</i> : Uliaser Is. <i>beten</i> , <i>feten</i> : Buru <i>boteme</i> (Modole, Loloda, Pagu): North Halmahera <i>foetoe</i> : Ternate, Tidore
Job's-tears <i>Coix lachryma-jobi</i> L. var <i>ma-yuen</i> (Roman)	<i>rore</i>	<i>dele</i> : Roti <i>dele</i> : Timor <i>scre</i> : Alfur in South Seram <i>lale</i> : Sulawesi [Kano, 1946: 289] <i>lore</i> (Tobelo): North Halmahera <i>rore</i> : Ternate
sorghum <i>Sorghum bicolor</i> Moench.	<i>guwapo</i>	<i>guwapo</i> (Tobelo) [Kano, 1946: 288]
* maize <i>Zea mays</i> L.	<i>ngoko</i> or <i>kahitela</i>	<i>kastela</i> : Alor <i>kasitela</i> , <i>kakatela</i> : Kai <i>ara kastera</i> , <i>barakastera</i> : West Seram <i>hala kastera</i> : South Seram <i>kastela</i> : Uliaser <i>pastela</i> , <i>kestjela</i> : Buru <i>kasera</i> : Biak <i>kahitela</i> , <i>goko</i> (Tobelo), <i>gokota</i> , <i>kasitela</i> i <i>gogota</i> (Loloda): North Halmahera <i>kastela</i> : Ternate <i>tela</i> : Tidore

plant	Galelan name	vernacular name related with the Galelan name
breadfruit <i>Artocarpus communis</i> G. Forst.	<i>amo</i>	<i>namo</i> : Alfur in North Sulawesi <i>amo</i> : Buru <i>amo</i> : North Halmahera and Ternate
eggplant <i>Solanum melongena</i> L.	<i>fofoki</i>	<i>woki-woki</i> (Tobelo), <i>wowoki</i> (Modole), <i>woki-woki</i> (Pagu): North Halmahera <i>fofoki</i> : Ternate, Tidore
ginger <i>Zingiber officinale</i> Rosc.	<i>goraka</i> or <i>gisoro</i>	<i>goroka</i> : Manado <i>gihoro</i> (Tobelo, Modole, Pagu, Lolod): North Halmahera <i>goroka</i> : Ternate <i>roka</i> : Tidore
turmeric <i>Curcuma domestica</i> Valetton	<i>gurati</i>	<i>goelati</i> (Pagu): North Halmahera <i>goeratji</i> : Ternate, Tidore
Welsh onion <i>Allium fistulosum</i> L.	<i>rau</i>	no related names found
leek <i>Allium tuberosum</i> Rottl.	<i>goda</i>	<i>ganda</i> , <i>landa</i> : Alfur in Minahasa <i>gada</i> (Loloda): North Halmahera <i>ganda</i> : Ternate
gourd <i>Lagenario siceraria</i> (Molina) Standley	<i>walu</i>	<i>waloeh kenti</i> : Java
sugar cane <i>Saccharum officinarum</i> L.	<i>uga</i>	<i>oegaka</i> (Tobelo, Tabaru, Loloda), <i>Oegaa</i> (Modole), <i>Oesak</i> (Pagu): North Halmahera <i>oega</i> : Ternate, Tidore
onion <i>Allium capa</i> L.	<i>bawang</i> <i>sasawala</i>	<i>bawang</i> in Standard Indonesian, related words in various part of Indonesia, except Bali, North Sulawesi, Bulu, Ujung Pandang, Roti and Timor.
cowpea <i>Vigna sinensis</i> Endle	<i>gaahu kakaku</i>	no names entered
balsam pear <i>Momordica charantia</i> L.	<i>popare</i>	<i>pepari</i> in Standard Indonesian, and <i>pepari</i> or <i>paria</i> used in various parts of Indonesia
watermelon <i>Citrullus vulgaris</i> Schrad	<i>samanka</i>	<i>samangka</i> in Standard Indonesian, and <i>saman-gka</i> used in various parts of Indonesia
* tomato <i>Lycopersicon esculentum</i> Mill.	<i>tomate</i>	<i>tomate</i> in Standard Indonesian, and <i>tomate</i> used in various parts of Indonesia

plant	Galelan name	vernacular name related with the Galelan name
* papaya <i>Carica papaya</i> L.	<i>papaya</i>	<i>papaya</i> in Standard Indonesian, though there are other names, <i>papaya</i> used on the Maluku Islands
* pineapple <i>Ananas comosus</i> Merr.	<i>nanas</i>	<i>ananas</i> in Standard Indonesian, and though there are other names, words related to <i>ananas</i> used on the Maluku Islands
* pumpkin <i>Cucurbita</i> sp.		no related names found
* chili pepper <i>Capsicum annum</i> L.	<i>rica</i>	<i>ritja</i> : Indonesian in Manado <i>risa</i> : Talaud <i>hisa</i> : Sangihe <i>hisa, marisa</i> : North Sulawesi <i>malita</i> : Buru <i>malita</i> : West Seram <i>ritja</i> : Sula <i>ritja</i> (Sarmi): North New Guinea <i>ritja</i> (Tobelo, Loloda, Pagu), <i>riha</i> (Modole): North Halmahera <i>ritja lamo</i> : Ternate, Tidore
coconut palm <i>Cocos nucifera</i> L.	<i>igo</i>	<i>igono</i> (Tobelo, Modole, Loloda, Pagu): North Halmahera
sugar palm <i>Arenga pinnata</i> Merr.	<i>seho</i> or <i>lebeno</i>	<i>seho</i> : Ternate
<i>Ipomoea augatica</i> Forsk.	<i>kanko</i> or <i>takako</i>	<i>kang kung</i> in Standard Indonesian, related words used in various parts of Indonesia
<i>Amaranthus</i> sp.	<i>tona ma gaahu</i>	no related names found
* indigenous to the New World (Spelling of vernacular name is after Heyne [1950].)		

The names for foxtail millet, cultivated sub-species of Job's-tears, manioc, maize and chili pepper were shared by ethnic groups in Maluku among them those of Halmahera, Sulawesi, the Tanimbar Islands, and the islands of Timor, Roti and Biak.

Names for *Alocasia* and *Dioscorea alata*, balsam pear, watermelon, onion, tomato, papaya, pineapple and *kanko* are the same throughout the whole of Indonesia. The distribution of related names for gourd, cowpea and pumpkin could not be determined. To a certain extent these distributions of common names reflect the distribution of the crops denoted by them. However, given the present state of the art, no definite conclusions can yet be based on these materials since chronological studies on cropping patterns in the Indonesian realm have been done for only a few selected, main items.

Among these plants the chronology for those introduced from the New World

is known. Manioc, sweet potato, *Xanthosoma*, maize, tomato, chili pepper, pumpkin, papaya and pineapple were introduced to Indonesia after the start of the 16th century.

Owing to their relatively early contact with Portuguese spice traders, Maluku was one of the earliest parts of Asia and the Pacific to which plants of New World origin were introduced. Ambon, for instance, is where sweet potato was first introduced to Asia and Oceania by the Portuguese, who in 1513 made their first visit to Ternate.

Although not indigenous to the New World, it is likely that the onion, cowpea, Welsh onion and leek were introduced relatively recently. *Bawang*, the word for onion, is derived from Standard Indonesian (Malay), and *gaahu kakaku*, the name for cowpea, is made up of *gaahu*, a Galela term for vegetables in general, and *kakaku*, derived from *kakak* ("elder sibling") in modern Indonesian. In general, items named in Galela using terms derived from modern Indonesian are likely to have been introduced relatively recently. Moreover, there are no entries in Baarda's Dictionary [1895] for onion, cowpea, Welsh onion and leek. Baarda, a missionary who lived for many years among Galela in the latter half of the nineteenth century, was a naturalist. His dictionary describes and provides the botanical names of the main useful plants of the Galela. It also expounds on those names derived from Indonesian (Malay). Yet it does not mention those 4 plants. This is just circumstantial evidence of a recent introduction and there is no direct evidence to show the onion, cowpea, Welsh onion and leek were introduced after the latter half of the nineteenth century.

The names of domesticated animals were also examined in the same manner. *Kabi* (goat) from *kambing*, and *bebe* (duck) from *bebek*, are both derived from Standard Indonesian. These animals should be regarded as recent introductions as their numbers are still few. Only the chicken (*toko*) and the dog (*kaso*) remain as traditional domesticated animals. Galela use dogs for hunting and do not eat them. Pigs (*titi*, a term applied to both domesticated and wild species) may have been kept prior to the conversion of some Galela to Islam.

2. The Origin Myths of Field Crops

According to the myth of plant genesis (see Yoshida, this volume pp. 120-122), 5 plants originated in the land of the Galela, which thus has to be considered as one of the most important birthplaces of the world's cultivated plants. In reality, however, even though the 2 species of bananas mentioned in the myth possibly did originate in Halmahera, this would be difficult to verify. Among these plants papaya and tobacco were introduced from the New World. The route via which rice reached Halmahera is still unknown, but seems to have been via the area of the Sunda Islands.

The wild banana (*kawasi*), the first plant on Halmahera according to the myth, must have been on the island prior to the arrival of the Galela. At present they do not eat *kawasi*. The 2 species of cultivated banana, *mora* and *sangate*, that appear after *kawasi* in the myth, are older species among those cultivated by the Galela, who

consider them as having been derived from the banana. Also, *kawasi* belongs botanically to the species *Musa acuminata* Colla, from which many important cultivated bananas originated, including *mora* and *sangata*. But perhaps more important is that the first 3 of the 6 plants mentioned in the myth are all bananas, which is symbolic, of the importance of bananas for the Galela.

According to the myth, rice emerges after papaya and tobacco, both of New World origin. It is highly debatable therefore whether this represents the order in which cultivated plants were introduced to the Galéla.

Tomé Pires, who visited Maluku in 1521, stated that the Sultan of Tidore, a satellite island off the west coast of Halmahera, ruled half of Moti, an island to the south of Tidore, where rice was plentiful [1966].

Antonio Pigafetta, who visited Maluku, including the west coast of Halmahera, during Magellan's voyage mentioned that rice was produced throughout the region. He used the term "*burax*" for rice, which corresponds to *beras* in present-day Indonesian [1965: 631, 635]. St. Francisco Xavier, who visited Halmahera in 1547, mentioned that rice was cultivated in an area which presumably corresponds to the west coast of Halmahera [1949: 258].

From these reports it may be concluded that rice was already being cultivated on satellite islands off the west coast of Halmahera and on the west coast itself when the Portuguese began to visit Halmahera and the surrounding areas. But presumably it was upland rice cultivated on swiddens rather than paddy rice. Even now paddy rice is not cultivated on Halmahera, apart from that of a few in-migrants from Sulawesi. Thus, the rice cultivation recorded in the sixteenth century must have applied to upland rice. In any case, rice has a longer history on the west coast of Halmahera than do the cultivated crops of New World origin, since the latter were introduced to this area with the beginning of Portuguese visits.

But still an important problem remains unsettled. At the time of the first visits by the Portuguese the west coast of Halmahera was an advanced area, such that it comprised a sultanate supported economically by the spice trade, whereas the hinterland and the east coast was relatively backward and were considered as the home of savages. Thus it is hard to tell whether rice or the two plants of New World origin spread first to the Galela of the east coast. Nor can it be determined when Galela came under the rule of the Sultan of Ternate. For these reasons, it must be admitted that there exists no evidence at present with which to validate the chronology of the introduction of certain cultural traits, including that of the cultivated crops.

3. Historical Aspects of Staple Food Resources

1) SAGO

There are two species of sago palms, *Metroxylon sagus* and *M. rumphii*, both of which are presumed to have grown wild on Halmahera. According to Yoshida (see this volume, pp. 109–117), Galela classify sago palms into 8 kinds, 2 of which are *M. rumphii*. It is believed that this species originated in Maluku and New Guinea, and it must have been exploited for starch by the Galela since early times.

As shown in Table 14, most of the sago foods eaten at routine meals are made by using a *gogunange*, an earthenware vessel specially made for baking sago. *Gunange* and *gunange de ma igo* baked with this vessel comprise 88.7 percent of all sago foods eaten. The Galela themselves do not produce *gogunange* and, as in the past, obtain them from the islands of Mare and Moti, that lie off western Halmahera, where they are made. It is uncertain when this vessel were introduced to the Galela, but it is known that general trading between the Galela and the western coastal areas prospered in the sixteenth century, after they became subject to the rule of the Sultan of Ternate.

The preparation of three kinds of sago foods, *gunange*, *soru* and *sinyole*, requires the use of a pot or an earthenware vessels. The main cooking techniques used prior to the introduction of utensils can be seen from the food habits of the Kusuris, a branch of the Togutils inhabiting Central Halmahera. The Togutils speak a language closely related to Tobelo of the Non-Austronesian family and are nomadic hunters and gatherers who generally do not practice agriculture. They subsist mainly on sago from wild palms and the meat of wild pig and deer. Kusuris are Togutils who settled as agriculturists in 1930's. I stayed in the Kusuri Village and studied it briefly.

Apparently the Kusuris formerly utilized considerable amounts of wild *M. rumphii* for sago production. Until they settled in the present village they lacked a utensil for baking sago. Formerly, sago foods were either baked in a bamboo tube to produce *yohaka*, the counterpart of the Galela *boboko*, or as a gruel (*horu*), the counterpart of the Galela *soru*. To make sago gruel, starch was placed in a box-shaped container made from the leaf sheath of sago palm (*loba*), and water boiled in a bamboo tube was added and the starch stirred vigorously. This is probably an ancient technique for cooking sago and one which the Galela also must have used before the introduction of earthenware vessels. Certainly the exploitation of sago reflects the oldest form of subsistence in this area.

2) BANANAS

Bananas are the most important staple food of the Galela. As such there are more varieties among bananas than any other species (see Yoshida, this volume pp. 119-137), the Galela distinguishing approximately 60. Two of these varieties, *kawasi*

Table 14. Kinds and frequencies of sago foods in meals

food	meal				total (%)
	breakfast	lunch	supper		
<i>gunange</i>	6	43	34		83(78.3%)
<i>gunange de maigo</i>	9	1	1		11(10.4%)
<i>baha-baha</i>					0
<i>sinyole</i>					0
<i>kokomane</i>					0
<i>soru</i>		6	5		11(10.4%)
<i>boboko</i>		1			1(0.9%)

and *ngopo* are wild. *Kawasi* is no longer eaten. According to a knowledgeable old man from Lolobata, in the Wasile area of Central Halmahera, the Togutils still eat baked wild bananas. The Kusuris, however, no longer use wild bananas. The pulpy matter surrounding the seeds of the *ngopo* variety can be eaten raw, whereas *kawasi* can be eaten only after baking.

Yoshida provides a detailed account of the Galela classification of bananas (see, Yoshida, this volume pp. 129–133). Since the distant past, they have cultivated nearly two thirds of the 60 varieties recognized by them as native. Among them are 3 kinds which are eaten only fresh. Two are recent introductions and only 1 is native. Few of these 3 bananas are planted. All other varieties, even those that can be eaten fresh, are harvested green. These cover the largest cultivated area. This indicates that bananas have been cultivated in Galela primarily for staple foods rather than as fruits. Also, bananas are considered to be nutritious for the brains. Among the native varieties is a group called *hole ma nau Galela*, “male banana,” given by women to men as ritual gifts. Thus bananas are regarded as the most important crop, a status that they have retained since ancient times.

3) ROOTCROPS

Banana and rootcrop agriculture has the merit of providing a year-round harvest. In present-day Galela manioc and sweet potato are widely cultivated in addition to bananas, which provides a complex assemblage of crops that yield a constant and steady food supply. But manioc and sweet potato were introduced from the New World and therefore should be excluded from a consideration of the characteristics ancient Galela agriculture. Prior to the introduction of manioc and sweet potato, taro and yam probably were cultivated together with bananas. Four species of taro known to the Galela are *dilago* (*Colocasia esculenta* [L.] Schott), *dilago gogomo* (*Xanthosoma violaceum* Schott), *kiha* (*Alocasia macrorrhiza* [L.] Schott) and *belo* (not identified scientifically). *Dilago gogomo* is of New World origin.

Six species of yams are cultivated by the Galela; *siapu* (*Dioscorea esculenta* Burkill), *ubi* (*D. alata* L.), *gusuo* (*D. alata* L.), *kukupu* (*D. bulbifera* L.), *totopo* (*D. nummularia* Lamk.) and *nunuta* (*D. pentaphylla* L.).³⁾ Compared with taro, few yams are cultivated, except *D. alata* and *D. esculenta*. In comparison with the wide diversity of banana varieties, the range of taros and yams is very small and suggests that they are of relatively little importance among the native crops. Even though taros and yams may have been cultivated on a somewhat larger scale in the past they seem mostly to have been replaced now by manioc and sweet potato. Yet taro remains an important crop on Seram, to the south.

It is thought that breadfruit originated as a cultivated crop in the Pacific region, and it may have diffused from New Guinea to Maluku. The Galela cultivate few breadfruits, which is only a minor crop.

3) The species of taros and yams are those identified by Yoshida and, in Heyne [1950].

Unlike bananas these rootcrops are never used as ritual gifts nor are they cooked for a ritual feast.

4) MILLETS AND RICE

Before World War II, foxtail millet was planted more widely than now. It was planted around the periphery of the rice field. A sub-species of Job's-tears also was sown more frequently than at present, but it was less widely cultivated than rice.

These days few millet and Job's-tears are planted, barely enough for 1-2 meals, and they are always grouped in a corner of the swidden. Sorghums, even though seldom cultivated now, also seem to have been cultivated in the same way. As already mentioned, among the foxtail millets and sorghums were some glutinous varieties and those with old feathers in the shape of the ears, which suggests a long history of cultivation.

Foxtail millet and Job's-tears cooked as *waji*, and are indispensable for the ritual feasts of weddings, funerals, and the Muslim's Hari Raya Haji day. Thus small quantities must be cultivated. The same situation obtains among Mabas who inhabit the Wasile area of central Halmahera, who, it is said, still cultivate millets and Job's-tears for ritual purposes. In former times, in addition to *waji*, these crops were cooked like rice, and older people remember that Job's-tears were made into a gruel. Kano, in his study of chronological relationships between millet and rice agriculture, says, "Presumably, a cultural stratum mainly consisting of millets was inserted between the rootcrop cultural stratum and the rice cultural stratum.... The complex rice rites at present in Indonesia may have developed from the agricultural rites of millets" [1946: 239]. Among the Galela a complex rice rite has developed, but the fact that foxtail millet and Job's-tears as well as rice are served for ritual feasts suggests that they were formerly important crops.

Kano also drew a distribution map, showing the boundaries of cereals to the east and south of Indonesia [1946: 291-293]. According to this map foxtail millet and sorghums are distributed to the west of a line that runs southward on the east side of Taiwan and the Philipines, between Halmahera and New Guinea and to the east of Seram, between the Aru and Kai Islands, and through the east of Tanimbar Island. Kano further says that Job's-tears were the first cereals to diffuse, extending into Melanesia. Nevertheless, when cultivated sub-species of Job's-tears are regarded as an edible species which entered cultivation, the boundary of their distribution lies to the east of Job's-tears and like foxtail millet runs between Halmahera and the Kai Islands. We accept this assumption since Job's-tears are a decorative and are not generally eaten in New Guinea and Melanesia, although wild species are sometimes eaten in New Guinea [BARRAU 1958: 49].

During the course of discussions with professors of the School of Agriculture of Patti Mura University we were informed that on the Kai Islands the staple foods are sub-species of Job's-tears, foxtail millet, sorghum, yam, taro, banana, sago and upland

rice. Of these rice was regarded as the most palatable, and the Job's-tears and millet are used to prepare *waji*.

Although not mentioned by Kano, Halmahera must be located on the eastern boundary of rice distribution, which coincides with the boundaries for foxtail millet, cultivated sub-species of Job's-tears and sorghums [MABUCHI 1974]. In other words, Halmahera is located on the eastern boundary of cultivated cereals.

Figure 25 shows the distribution of cereals in Indonesia, giving the boundaries to the east. It is a modified version of Kano's map [1946: Fig. 60], incorporating the findings of our field suruey.

Seen from this wider perspective, Galela culture differs from others in Indonesian in that it lacks distinct names for a rice plant, uncooked rice and cooked rice. As mentioned above, *ino* means staple food in Galela, but at the same time *ino* can mean a rice plant or rice (cooked or otherwise). Among the Galela there are taboo words (*saali*), and when *tamo* for rice plant, rice (cooked or otherwise) cannot be used, *ino* is used instead. In our analysis of the actual contents of meals, rice is an infrequent item in daily meals, but in notional terms it presents the staple foods,

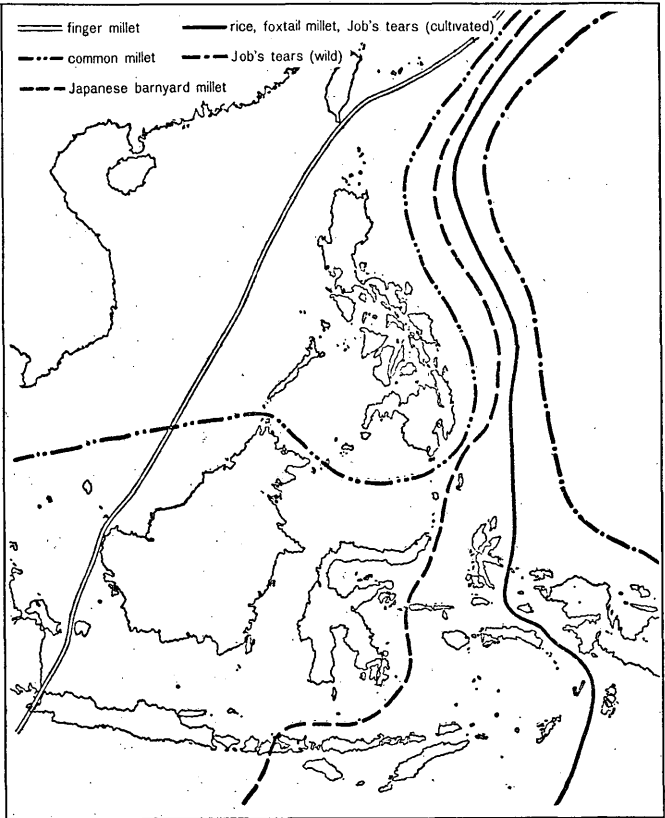


Fig. 25. The distribution of grain groups in insular Southeast Asia.

which explains why rice cooked in a bamboo tube or rice with turmeric is served for feasts. Before the introduction of rice, foxtail millet and Job's-tears presumably must have been important as feast foods and were cooked by the *waji* technique. This technique was then adapted to the newly introduced rice to which coconut milk and sugar were added.

Maize (*goko* or *kahitela*) was introduced by the Portuguese, as indicated by one of its Galelan names, *kahitela*, which is of Castillian origin. At present, Galelans cultivate only such small quantities that maize is of little importance as a foodstuff. The Galela now either bake or boil maize, but according to Baarda [1895: 195-196], a food called *kokooro* was prepared by carefully grinding maize and mixing it with coconut milk and a small quantity of sugar syrup, before steaming it wrapped in a leaf. He also mentioned another food, *kasiido*, which was described as being like *kokooro*, which presumably corresponds to the *kasiido* prepared from sago. Both those foods appear to be more sweets than dietary staples. It can be imagined easily that ground maize must have been eaten as a gruel, but because maize was not studied in the course of our survey, information is lacking.

Mabuchi notes that maize spread rapidly in Indonesia and in East Sulawesi even replacing sub-species of Job's-tears [1974: 548-550]. Considering the area planted at present and the extent of its use, maize does not seem to be particularly popular among the Galelans.

4. History of Halamaheran Food Habits

1) THE PERSPECTIVE OF AGRICULTURAL TYPOLOGY

The oldest agricultural stratum in Southeast Asia is a vegetative planting culture based on taros, yams, bananas and sugarcane as staple foods. On this stratum was superimposed a millet culture based mainly on foxtail and barnyard millet, and sorghums and finger millet. From this developed a rice culture which resulted in a subsistence economy based mainly on wet rice cultivation in the central areas of Southeast Asian cultures [SASAKI 1970b].

Spencer, in his study of shifting cultivation in Southeast Asia [1966: 111-117], notes that in the southeastern part of the Indonesian realm an agricultural system that included the cultivation of millet, peas and upland rice gradually replaced a vegetative planting culture based on taros and yams as main crops. In 1500, agricultural systems based mainly on taro cultivation were located east of a line that led southwards to the west of Borneo and between the islands of Bali and Lombok. But by 1950 systems dominated by taro were found only to the east of New Guinea. Similarly in 1500, yam-dominated agricultural systems existed to the east of Sulawesi, but by 1950 could be found only to the east of New Guinea. Today in those area of Oceania which did not adopt cereal cultivation, taros and yams remain as principal crops.

It is open to debate whether there was any period when taros and yams maintained their positions as dominant crops on Halmahera. However, if Spencer's designation of an agricultural system based on taros and yams can be interpreted as

one based on rootcrops including bananas, then it can be said that rootcrop agriculture flourished on Halmahera until the sixteenth century. In any event, localities close to Halmahera also must have been characterized by rootcrop agriculture that was later overlain by a system based on millets. Halmahera itself, however, which lies on the eastern boundary of millet agriculture, seems to have received little lasting impact. There are few traces of the independent cultivation of foxtail millet, sorghums or sub-species of Job's-tears, which are all secondary crops. Instead, rootcrop agriculture, including bananas, has long been, and continues to be, the nucleus of the agricultural systems of this island. Prior to the emergence of paddy rice, shifting cultivation was the predominant form of agriculture in Southeast Asia. Sasaki recognized 4 types in his comparative study of shifting cultivation in Southeast Asia [1970].

(i) An upland rice dominant type, which is heavily dependent on upland rice and is distributed in the tropics and subtropics from the mountains of Indochina to insular Southeast Asia;

(ii) A combined upland rice and vegetatively reproducing crop type, that represents an intermediate stage between the vegetative reproducing crop type and the type dominated by upland rice, and which is found in the tropical rain forests of insular Southeast Asia;

(iii) An upland rice and millet cultivation type found in the subtropical forest areas of mainland Southeast Asia; and

(iv) A vegetative culture type, distributed in the areas surrounding types (i) and (iii).

Galela agriculture, in common with the rest of Halmahera, is based on the cultivation of upland rice in combination with crops that reproduce vegetatively, according to Sasaki's classification. Its special features are the heavy emphasis on bananas rather than on taros and yams, and, although the quantities are small, it includes the cultivation of millets (e.g., foxtail millet) and the extraction of sago. It should be noted, however, that in Jailolo area of Central Halmahera, as has been noted already, swidden cultivation and fallowing periods are greatly foreshortened compared with Limau, and upland rice cultivation is more important than traditional crops such as bananas. This indicates that on Halmahera also upland rice is gradually replacing the traditional crops, as in other remote areas of Southeast Asia [SASAKI 1970a]. But on the whole Galela agriculture retains the features characteristic of the cultivation of vegetatively reproducing crops even though upland rice is gradually assuming dominance there too. Following this line of reasoning it may be said that in the past, before upland rice began to emerge as the dominant crop, there existed a swidden agriculture based on millets and vegetative crops in which millets played a relatively more important role than now. Going back further it may be inferred that, prior to the beginning of millet cultivation in this area, there was a stage when only vegetatively reproducing crops were cultivated, with bananas as the principal crop complemented by taros and yams. In terms of quantity bananas may thus always have been important in the agricultural history and may have defined a fundamental

feature of the local agriculture. In the traditional economy of Halmahera, agriculture, the extraction of sago, and fishing and hunting have been complementary to each other.

Based on this scenario the following section attempts to reconstruct the past food habits of the Galela. However, it should be noted that this can be only a reconstruction of the relative sequence of cultural strata of the subsistence economy, with no index of dating, since the archeology of Halmahera is barely known and few useful historical documents are available.

2) A HYPOTHESIS ON THE RECONSTRUCTION OF FOOD HABITS

The Pununs, a nomadic group living in Borneo, is regarded as having the most ancient way of living in that island. They rely on the extraction of sago from wild palms and do not engage in agriculture. The food habits of the Togutils of Halmahera was similar. It is a matter for debate whether the former economy of the Togutils can be taken as representing the oldest stratum of subsistence economies on Halmahera or whether they should be regarded as agriculturalists who regressed.

As noted above, the Togutil language is closely related to Tobelo. The Tobelos, who live to the south of the Galela, are cultivators who practise a form of agriculture similar to that of the Galela. It is possible that the Togutils are descendants of Tobelos who abandoned agriculture and moved into the forests, but this argument cannot be settled here owing to the lack of data.

Leaving aside the question of whether the Togutils inherited the culture of most ancient stratum of Halmahera, it can still be assumed that if a pre-agricultural stage existed on Halmahera it was probably akin to that represented by the Togutils, i.e. mainly based on the exploitation of wild sago and wild bananas (*Musa acuminata* and *Musa lolodensis*). Although wild pigs and deer are hunted nowadays, they may have been deliberated, introduced to Maluku [WALLACE 1942: 450], and hence must be excluded from animals originally hunted on Halmahera. Dwelling inland, the Togutils do not engage in sea fishing, but it cannot be determined whether this was also the case in the past.

The extraction of sago poses a fundamental question concerning the reconstruction of the oldest cultures in Southeast Asia. Were the complex extraction techniques invented first by hunters, or by cultivators and later adopted by hunters? And if ancient ways of living on Halmahera were the same as those of Togutils, where did techniques of sago extraction come from? Unfortunately those questions cannot be answered at present.

The most ancient agricultural stratum on Halmahera was the shifting cultivation of vegetatively reproducing crops, principally bananas, of which historically there was a wide variety. Nor were bananas introduced, but there existed many local varieties. Undoubtedly, the various peoples of Halmahera were involved in crossing these different types. Whereas yams and taros, the main Southeast Asian crops prior to the introduction of cereals and which at present are important staple foods in Oceania, seem to have been less cultivated considering their limited varietal range.

The system of agriculture based on bananas as the main crop remains intact at present. Galela agriculture shares a number of features with the vegetative planting cultures of present-day New Guinea and Melanesia. A range of bananas of different varieties are planted in the same field to yield a year-round harvest, and labor is divided primarily between men, who make the swiddens, and women who cultivate the crops. Thus, although cereals and rice were introduced later, vegetative crop cultivation is the mainstay of Halmaheran agriculture.

Among the other crops that could have accompanied the cultivation of vegetatively reproducing crops and which could have been distributed to New Guinea and Melanesia are sugarcane, a kind of sugarcanes that produce an edible inflorescence (*dodilibu*, in Galela, *Saccharum edule* Hassk.), ginger, turmeric, gourd, breadfruit, and the coconut palm. These could have only constituted a crop assemblage during the stage of rootcrop agriculture, but in practice some of them might have been adopted relatively recently by the Galela. For instance, it is still not established whether breadfruit, which is indigenous to Oceania, was brought long ago to Halmahera via New Guinea, or whether it was introduced by the Portuguese from Oceania in relatively recent times.

Although not cultivated widely at present, amaranths (*Amaranthus* spp.) and *kanko* (*Ipomoea aquatica* Forsk.) were introduced deliberately as edible plants. That these plants, which are semi-cultivated and eaten by the Galela, accompany rootcrop agriculture in New Guinea [BARRAU 1958] suggests that they also constituted part of the crop assemblage at the stage of rootcrop agriculture.

Among domestic animals, dogs must have been introduced during the hunting and collecting stage, assuming that such a stage existed on Halmahera. In general, pigs and chickens are considered as domestic animals accompanying rootcrop agriculture. But pigs are no longer kept as a consequence of the spread of Islam.

It cannot be established whether earthenware vessels were used for cooking during the stage of rootcrop agriculture. The technique of using an earth oven with hot stones, which is widespread in Oceania where earthenware vessels are not used, is not found at present on Halamahera.

Judging from the present distribution of villages, settlements were established generally at the shore or along a river, even during the rootcrop agriculture stage, and marine fisheries and wild sago palms from the backswamps behind the beach ridges or from the swamps lying between the shore and the mountains must have been exploited.

The next stage must have been the introduction of millet agriculture, mainly based on foxtail millet, sub-species of Job's-tears and sorghums. It is assumed that rice did not form part of this crop assemblage for the following 4 reasons. First, old, glutinous varieties of foxtail millet and sorghums are well-preserved; second, in the past half century cultivation of millets has decreased and they are being replaced by upland rice; third, millets and rice are used for feast foods, which confirms the hypothesis that millets were important before rice was introduced; and fourth in

other parts of Indonesia also traces of millet agriculture can be found before the introduction of rice.

In general, sub-species of Job's-tears are sometimes regarded as accompanying rootcrop agriculture. But because Halmahera is on the eastern boundary of the distribution of foxtail millet as a cultivated edible crop, it is assumed here that the cultivated sub-species of Job's-tears accompanied millet agriculture. The chronology of the introduction of millets, including foxtail millet, Job's-tears and sorghums cannot be determined, except that the variety of sorghum called *jagun timor* was presumably introduced in the present century.

Earthenware vessels are used in cooking millets, and presumably they were introduced to the Galela by traders at this stage.

Although it is possible to infer from the case of bamboo tubes for cooking rice that millets were cooked in the same way before the introduction of earthenware vessels, in various parts of Southeast Asia rice cooking using bamboo tubes does not reflect prototypical cooking, but rather is a special way of cooking used irregularly for feasts and is applied only to prepare foods from glutinous rice. As earthenware vessels came into use, sago cake must have been made using *gogunanges*.

The date of rice introduction cannot be ascertained either. But it should be noted that Halmahera lies on the eastern boundary of the distribution of millets and that rice is the most recently introduced cereal crop. Since documentary evidence shows that rice was cultivated in some areas, if not throughout Halmahera, during the sixteenth century, it may have been introduced to the Galela before the New World crops were brought in. As rice-eating became more widespread, rice gradually came to be regarded as the most valuable staple food, and gradually replaced millets as a feast food. In this manner "the upland rice take-over phenomenon" started on Halmahera, a phenomenon which must have gained momentum relatively recently.

Taros and yams began to be replaced following the introduction of manioc and sweet potato. Cooking techniques already used for staple rootcrops were applied to manioc and sweet potato, and at the same time the techniques used to cook sago were applied to grated manioc. Such plants as chili pepper and tomato, introduced from the New World, revolutionized seasonings for side dishes as the ingredients of *dabu-dabu*.

Under Dutch colonial rule the cash economy must have penetrated the Galela area toward the end of the nineteenth century. Around this time metal pots came into wide use and such items as flour, tea, coffee, sugar and salt began to be purchased from retail stores.

Although coconut palms have been present on Halmahera since ancient times, only rather recently have coconut oil and coconut milk began to be used in daily meals. It is said that in the 1940's nobody in Limau planted coconuts as a cash crop and that some families lacked even a single palm for household use. Baarda's dictionary lists several foods cooked with coconut oil or coconut milk, but it must have been only in the 1950's that these foods became widely popular. In other

words, such cooking techniques as *sinanga*, *tumisu* and *ola-ola* have entered daily use only recently.

Compared with inhabitants of other parts of Halmahera, Limau villagers have less cash and purchasing power. They plant only small amounts of rice and its cultivation is done with little care. They rely more on sago than do people in other villages. Hence it can be said that Limau is somewhat more traditional than other Halmahera villages. But this offers the best opportunity to reconstruct the past. Moreover, observations made in Limau are in most cases applicable not only to the Galela in general, but also to the other inhabitants of Halmahera.

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