

# Sago as Food in the Sepik Area, Papua New Guinea

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**Abstract** Sago from *Metroxylon sagu* Rottb. is a staple and important supplementary food in lowland areas of Papua New Guinea, such as the Sepik River basin on the northern coast and the Fly River delta on the south. The sago palm plays important roles in many aspects of social life, such as for house construction material and starch in gift rituals. This paper describes how sago is utilized as a staple food in Sowom village in East Sepik Province, Papua New Guinea, and shows that sago is related to various aspects of their life. The authors visited the village in 1993, 1995, 1999, 2001 and, 2004, and one of the authors stayed in the village for 6 months in 1999. During these visits, research was conducted through participant observation and intensive interviews in Sowom village to investigate the utilization patterns of sago for food. Research focused on folk classification of sago, starch extraction, cooking methods, dietary habits, storage techniques and so on. The research findings are as follows. 1) Sago is classified into 7 different types, including the division of those with and without spines. 2) The processes of extracting starch are allocated by gender as a rule. Usually, the processes from selecting the palm to crushing the pith are conducted by men; the succeeding processes are done by women. 3) Sago is eaten almost daily, mostly in the form of sago jelly, and it is regarded by the local people as their main food. 4) Cooking sago jelly is done only by women. 5) Sago starch can be stored for several months if stored properly. 6) Sago plays important roles in various aspects of Sowom's social life, such as being a part of the bride price, the symbol of typical food.

**Key words:** dietary habit, gender, *Metroxylon sagu* Rottb., Papua New Guinea, Sepik area

## パプアニューギニア、セピック地域におけるサゴヤシの食利用

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**要約** サゴヤシはパプアニューギニアの低地、特に北岸のセピック川流域や南岸のフライ川流域では主食として、また重要な補助的食料として利用されている。そして単なる食料としてだけではなく、現地の社会生活では家屋の建築材料や儀礼時の贈与財としてなど、様々な面で重要な役割を果たしている。本論文は、東セピック州ソウォム村において、食料としてのサゴヤシの利用状況を調べ、サゴヤシが主食としてどのように利用されているか、またサゴヤシがソウォム村の生活の様々な面に関わっているかを示した。著者の2人はソウォム村を1993, 1995, 1999, 2001, 2004年に通算8週間ほど滞在し、著者の1人は1999年に6ヶ月間の現地調査を行った。調査は、参与観察法ならびに集中的インタビューの方法で行われた。サゴヤシの民俗分類、サゴヤシからの澱粉抽出作業、調理法、また、家族単位での食料としての利用状況、貯蔵法などの調査を行った。結果として以下のようなことが確認された。1)サゴヤシは現地ではホンサゴ、トゲサゴの区分とともに、7種類に区分されていた。2)サ

ゴヤシから澱粉を抽出する作業においては、原則として各作業は性別による分担が決まっている。通常、幹の選定から髓の粉碎までを男性が、その後の貯蔵までの作業を女性が担当する。3)サゴヤシはほとんど毎日サゴゼリー（サゴ団子）として食され、サゴゼリーは現地住民に主食として認識されている。4)サゴゼリーの料理は、女性のみが行う。5)サゴ澱粉は適切に処理されれば、数ヶ月間、貯蔵が可能である。6)サゴヤシは婚資の一部として、あるいは典型的な食料のシンボルとしてなど、ソウオムの生活の様々な面で重要な役割を果たしている。

キーワード サゴヤシ、ジェンダー、食利用、セピック地域、パプアニューギニア

### Study Site

The study site is Sowom1) village in East Sepik Province, Papua New Guinea, which is located at approximately at 3°22' south latitude and 143°07' east longitude (Fig. 1). The village is located on the coast, 60 km west of Wewak, the capital of the Province. The average temperature of Wewak is 27°C, and the annual rainfall in Sowom averages 2,200 mm (McAlpine et al. 1983).

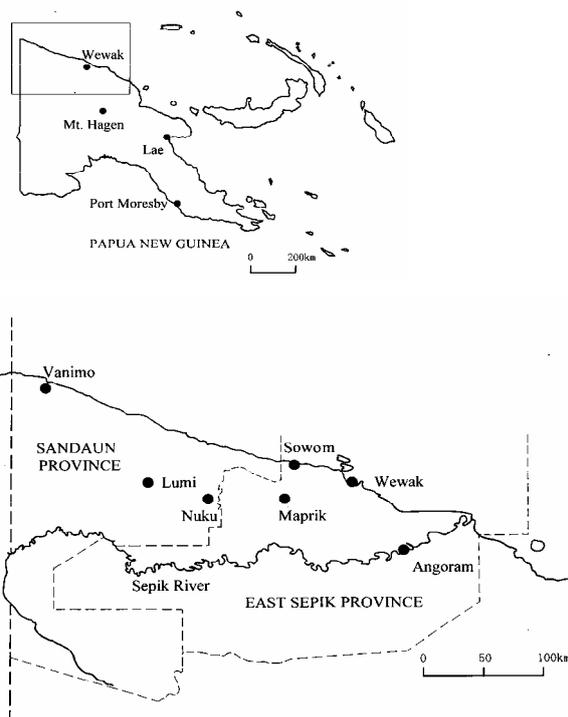


Fig. 1 Map of Sowom village, Papua New Guinea

A Sowom village is inhabited by Arapesh language speakers, who have lived in the village for many generations, and those who migrated to the village from Sandaun Province and the Highlands area. The village consists of 8 hamlets (Table 1). Ples is the largest hamlet, and is considered to be the oldest site of the

Table 1 Hamlets in Sowom village

Name of hamlets	No. of households	Location
Ples	43	coast
Asoro	3	level ground
Boishul	8	level ground
Kaorum	6	level ground
Kundium	2	level ground
Ex-service	0	hilly ground
Arohimi	20 *	hilly ground
Umamum	30 *	hilly ground

\*Villagers' estimates.

village. Ples means 'village' in Tok Pisin (Melanesian Pidgin), which is the lingua franca in this area; the fact that it means 'village' indicates that Ples is considered to be the main component of Sowom. Some people moved out from Ples and built new settlements in the late 1990s; these new hamlets are Kaomun and Kundium. People moved to these sites for easier access to fresh water and to their garden plots. Some people in Kaomun and Kundium maintain close contact with Ples, and have a house in Ples in addition to their main houses in their own hamlet. The other hamlets, such as Asoro, Buishul, Arohimi, and Umamum, were formed by migrants to Sowom from other areas. For example, Asoro was formed by individuals from Mt. Hagen (Western Highlands Province), and Buishul by people from Sandaun Province. Arohimi was established by those who formerly used to live in inland areas, and some of them built a new village, Umamuma. A plot of land was purchased by the government and a house has been built at a location for the police to do occasional patrol. It is called Ex-service, and nobody lives there permanently. Research for this article was conducted mainly in Ples and Kaomun, which are

considered to be inhabited mostly by those who originally founded Sowom.

Those who originated from Sowom speak the Mountain Arapesh language, which belongs to Arapesh Family of Kombio Stock, Torricelli Phylum, non-Austronesian languages. The number of the speakers of Mountain Arapesh is around 13,000 (Wurm 1982), including some 50 other villages such as But, Dagua and Kairiru (Laycock, 1973: 14).

The main source of food in Sowom is starch extracted from the sago palm. In addition to producing sago starch, villagers grow vegetables in gardens. The main crops are sweet potato (*Ipomoea batatas*), taro (*Colocasia esculenta*), yam (*Dioscorea spp.*), cassava (*Manihot esculentus*), banana (*Musa spp.*), pitpit (*Saccharum edule*), pawpaw (*Carica papaya*), sugarcane (*Saccharum officinarum*), maize (*Zea mays*), cucumber (*Cucumis sativus*), and pumpkin (*Cucurbita pepo*), and so on. Since the village is located on the coast, the villagers also catch fish for their meals.

### Research Method

Research was conducted mainly from 1999 to 2004. One of the authors, Todo, stayed in the village for 6 months from May to October in 1999, and lived with a family in Sowom. Toyoda and Toyohara visited the village in 1993, 1995, 1999, 2001, and 2004 spending a total of about 8 weeks in the village. While staying in the village, observations, measurements, interviews and questionnaires were conducted, using Tok Pisin.

The vernacular language is seldom spoken among

the younger people, and they are unfamiliar with the vernacular classification of plants and plant parts. The interviews and questionnaires were, therefore, mostly conducted with elderly people in the village.

## Results and Discussion

### 1. Taxonomy of the sago palm in Sowom

In general, the sago palm can be classified popularly into 2 types; those that have spines, and those without spines. The Sowom classify the sago palm into 7 types (Table 2). Sago is generally called *saksak* in Tok Pisin, and it is called *lohu* in their vernacular language. The spiny type is classified into 5 types, and spineless into 2. These types are distinguished on the basis of height, trunk thickness, petiole color, pith characteristics (wet or dry) and so on.

Some people state that the quantity produced and taste of the starch varies according to the type of sago palm. For example, it is said that sago from palms with spines is better tasting than from palms without spines. But most people do not find any difference between the two types. This is related to linguistic situation that most of them speak Tok Pisin and they do not know their vernacular language very well.

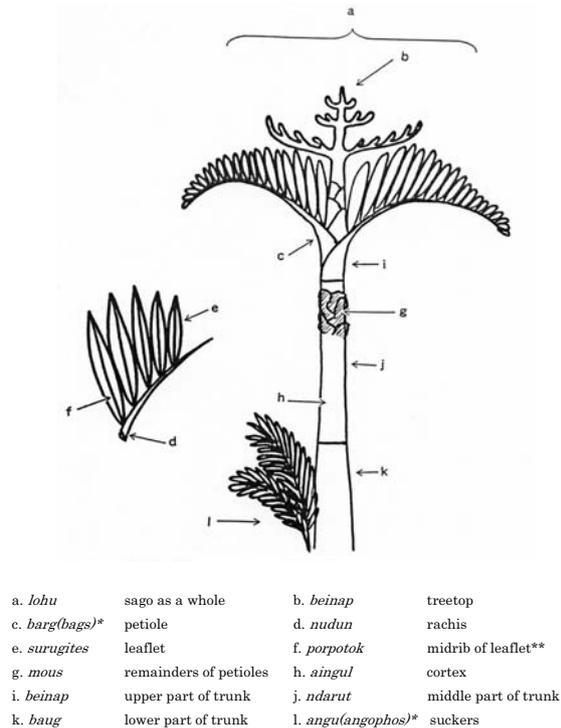
### 2. Sago palm parts in Sowom

Each part of the sago palm has a vernacular name (Fig. 2). This is partly because almost all parts of the palm are utilized in daily life. The leaves are used for thatching, petioles for making walls, and thin ones as fishing rods. Petioles also are often used to make various kinds of containers, such as storage baskets for sago starch.

**Table 2.** Kinds of Sago Palm in Sowom

	local names	meanings in vernacular language
sago with thorns	( <i>shingas</i> ) *	sago with thorns
	<i>marum</i> ( <i>marupos</i> )	growing high and large
sago without thorns	<i>manyenik</i> ( <i>masusiu</i> )	trunk is white, pith contains much water
	<i>alkatowin</i> ( <i>alkatois</i> )	trunk is tall, pith contains little water
	<i>alios</i> ( <i>aliopos</i> )	
	<i>urubon</i> ( <i>urubob</i> )	trunk is hard
	<i>murap</i> ( <i>muras</i> )	pith is hard

\*Names in parenthesis indicate plural forms



\*Names in parenthesis indicate plural form.

\*\*The central vein of a leaflet.

**Fig. 2** Vernacular terms for sago parts in Sowom

Most young people do not know these traditional names for the kinds and parts of sago palm in their vernacular language, since they are losing their vernacular language, as Tok Pisin is becoming more popular as their common language. Also, young people are unfamiliar with the kinds and parts of sago palm because they do not do agricultural work as frequently as before, since they leave the village to attend school when they are young or are often stay away from the village and have little opportunity to work in village food production.

### 3. Land tenure and sago use

Sowom village is surrounded by swamp, and numerous sago palms are easily found within a 10 minutes' walk from the village. In these swampy areas, sago grows wild, but the people also cultivate some sago palms by transplanting suckers. They also try to take manage sago-growing areas by cutting back treetops and weeds. But in most cases, they do not look after the palms after they are transplanted. The palms that they utilize for extracting starch are mostly wild ones.

The people claim ownership of each palm that grows on their land and maintain them for their descendants by assuring they grow well. The land is often not owned individually but communally among relatives, and as a result, the palms are also claimed by relatives, usually by several adult males. The land is usually claimed only by men, but when a husband dies, a part of the land is transferred to the widow. Even in the case when the children are adults, the widow can claim ownership of a part of the land.

When sago starch is extracted, villagers mostly exploit their own sago palms, or those of their relatives. If a palm is owned communally, permission must be obtained from the relatives before it can be exploited. If they cannot find mature palms on their own land, or if the palms are located too far away, they may ask unrelated people for suitable palms. This kind of request is usually granted, since reciprocity is expected in their daily lives.

The extraction process is usually done by household, not by a nuclear family but by an extended family. When starch is extracted by a couple, men usually crush the pith and women leach the starch. When someone joins in the work, he/she can claim a portion of the starch even if the palm does not belong to him/her, if he/she is one of the relatives of the owner.

## 4. Sago Starch extraction processes

In Sowom, sago is extracted mostly for subsistence, and the techniques and implements used to extract the starch sago are similar to those reported in general for the tropics (Ruddle et al. 1978: 11-24, Flach 1997: 28-30).

### 1) Finding a suitable palm

When the people in Sowom plan to extract sago starch, they first try to find a suitable palm just before flowering, since they know that the palm will die soon thereafter. They sometimes cut into the trunk to check if it has sufficient starch. Because starch extraction needs large quantities of water, it is necessary for a water source to be located near the palm. If the palm is far from a water source, people sometimes dig a hole of about 3 to 5 meters deep, and

about 3 to 4 meters in diameter, to capture and store rainwater. But when they use this small pool method, the amount of water is quite often insufficient for extracting starch, and therefore a river or stream location is preferred.

## 2) Clearing the tree base and trunk

After choosing a palm, the weeds on the ground surrounding the palm are cut and cleared by using bush knives. Epiphytes and weeds on the trunk are also cleared. An area large enough for the succeeding processes must be created by clearing the undergrowth surrounding the palm, including space in the direction of the trunk felling.

## 3) Felling the tree

First, the base of the trunk is cut away with bush knives on the side of the felling direction to make it easier to cut down the trunk with an axe. In the felling process, deep cuts are made into half of the trunk from one side, and then cut from the opposite side. The trunk will fall in the direction down of the side of the first cutting. Since the sago trunk is soft as compared with the other palms, it is rather easy to fell the tree; the work takes 10 to 15 minutes.

## 4) Crushing the pith

After felling a tree, the cortex of a section of trunk appropriate for a day's crushing is stripped away. Crushing is done using a special stand for extraction. When one stand is used for crushing, around 2 meters of skin of the trunk are peeled away. Crushing is usually done with a sago chopper having an iron tip. The Arapesh vernacular name for the chopper is *gun* (Fig. 3). The color of the pith is first pinkish white,



Fig. 3 Sago chopper (*gun*)

becoming light brown as time passes. The people attempt to crush the pith into small pieces, saying that the amount of the starch produced in the subsequent process depends on the smallness of the pith. Crushed pith is called *abek* in the vernacular language and pith not sufficiently crushed is referred to as *bawas*. The fact that poorly crushed pith is referred to differently indicates that the people recognize the importance of crushing the pith into small pieces.

## 5) Carrying pith to the extraction stand

The extraction stand is set up where ample water is accessible (Fig. 4). Crushed pith is carried to the extraction stand, which is set up in advance. The people formerly used coconut coir fiber as a sieve, but nowadays they use rice bags of woven plastic for the filtering (Fig. 5).



Fig. 4 Stand for sago extraction



Fig. 5 Extraction sheet made of plastic sheet for rice bag

## 6) Leaching sago pith

This process involves taking a lump of crushed pith and placing it on the filter, saturating it with water, and then kneading it. The water with sago starch in

suspension, passes through the filter, and is collected in a vessel made of palm petioles. This process is repeated 5 to 7 times, until the liquid that passes through the filter becomes transparent. Then, the next lump of pith is placed on the filter.

### 7) Taking out starch

The water with starch is stored in vessel, and the starch is collected by sedimentation. The starch gradually settles to the bottom after the water is left for 15 to 20 minutes. When the water becomes transparent, the water over the starch is poured off, and starch is left. The color of the liquid is usually light red, and the color of the starch is pinkish white when the water is transparent. The color of the starch depends on the condition of the water they used for extraction. The water is taken from rivers or small ponds. When the water is cloudy, the starch and the liquid becomes light brown.

### 8) Carrying starch to their home

The starch is usually put in a rice bag, and is carried to the family home. This is mostly done by women.

### 9) Storage

The starch is put into a basket made of petioles and leaves of sago palms and stored in a wet condition (Fig. 6). A little water is regularly added to the starch, once or twice a week, to keep it moist. It is said to be possible to preserve sago without spoiling for 5 to 6 months, if kept well.



**Fig. 6** Storage instrument for sago starch

## 5. Division of labor by gender

The process of extracting sago starch is mostly done by a couple, a man and a woman. It is often reported in the literature that the process of sago extraction is allocated by gender. Usually the earlier part of the process is carried out by men, and the latter by women (Tuzin 1976: 16-17, Bateson, 1958: 36-37), although the Abelam women do both (Kaberry, 1940/41, 347). In the case of Sowom, the processes from selecting the palm to crushing the pith are conducted by men, and the following processes from leaching pith to storage are done by women. Therefore, when they extract sago starch, men leave home earlier than women, usually 7 to 9 a.m. without taking breakfast, and begin crushing pith without a woman's help. Women, after preparing breakfast for men, leave home later with their husband's breakfast, and then carry out the process of leaching pith. After men finish crushing the pith, they return alone to their village without waiting for their partners.

It is said that the division of labor by gender used to be strictly observed by the people. But nowadays, among the younger couples, men sometimes help women with their work. For example, men sometimes help women to carry sago starch back home. However, they try not to do that in the presence of others. Even if men carry sago starch for women, they will stop carrying just before they arrive at the village, and hand it to women lest others see them. Also in the case of leaching pith, men sometimes help women when they are alone, but men never do that if someone else is present. This is probably because there is strong tradition of male dominance in Sowom village, as in other areas in Papua New Guinea. It is believed that men are superior to women and that the division of labor by gender should be strictly observed and men should not do women's work.

The idea of men's superiority to women is also seen in the process of the work of extraction of sago starch. This depends on the men's mood. Since the work of sago leaching has to be done after the work of

crushing pith, women cannot get sago starch if men do not crush the pith. When the man is not in the mood to work, the work will not be done. If a woman is asked when they will next leach sago, she usually answers 'it depends on him'.

## 6. Working period

The extraction work is done from morning to evening. Since it is not possible to work after the sunset, and the starch might be spoiled if the work is stopped halfway and the starch is left on the spot, the work has to be finished before dark. As a consequence, the work is begun in the early morning.

The average length of trunk for extracting starch is around 10 meters. Since a log portion for each day's crushing is around 2 meters long, it is supposed to take about 5 days to finish the work of 1 trunk of sago palm. But that does not mean that the work of extracting sago starch is done over 5 consecutive days. Since extracting starch is hard work, they often take a rest. Work is also stopped when there is heavy rain. The water becomes muddy during heavy rain, and they cannot get clean water for leaching sago.

As in the other parts of Papua New Guinea, most people in Sowom are Christians, and therefore, they do not work on Sundays. In addition to that, Mondays are considered to be the days for communal work in Sowom, and they clean school facilities and roads, tombs, and help in large scale work, such as bringing down logs for new houses, and so on. Furthermore, they are often asked to help others in their work, for example in harvesting cash crops such as cacao, coconuts and so on.

As a consequence of these, it usually takes around 2 weeks to finish the work of extracting sago starch from 1 trunk. They do this work once every 2 to 3 months. For their family subsistence use, harvesting sago every 2 to 3 months gives more than they need, but because of sago used for rituals and funerals, they need to harvest that frequently. When they have rituals and/or funerals, they invite people from outside the village. A large quantity of sago is consumed in a

short period. If the sago is consumed only by family members, they do not need to work as frequently.

## 7. Secondary food products

Besides sago starch, the people in Sowom gather sago grubs and mushrooms as by-products of sago harvesting.

### 1) Sago grub

Sago beetles (*Rhynchophorus ferrugineus*) and their grubs are collected for food from the pith of sago palm. Beetles and grubs are eaten, but people prefer grubs to beetles as a food (Fig. 7). When they eat the beetles, the heads, legs and wings are removed, and only the abdomens are eaten. Grubs and beetles are roasted or fried. Since sago starch consists of mostly carbohydrate and water, sago grubs are considered to be useful source of protein.



Fig. 7 Sago grubs

Sago beetles appear in stumps of sago after the starch extraction, but people try to collect them by felling useless palms, which are considered to have little starch or little hope to grow well. Or even after beginning to extract sago starch, they stop extracting and leave the trunk lying deliberately, when they discover it is not a good source of starch. It is said that they cannot get much starch if the trunk contains too much 'water'. When the pith becomes dry, sago grubs do not flourish, and people put sago leaves on the trunk so that the sunlight does not reach the trunk. People check the trunk regularly lest the grubs mature and fly away.

### 2) Mushroom

A type of mushroom (*Volvariella volvacea*) grows on the pith discarded after the extraction work. Some of them become more than 10 cm tall (Fig. 8). Nevertheless, the people do not try to harvest the mushroom deliberately, probably because they do not care for their taste. Each sago trunk left for growing sago grubs is claimed individually and it is prohibited to take sago grubs from someone else's trunk. But as for mushrooms, they can be harvested freely by anyone who finds them. This is partly because it is hard to predict where and when they will grow and be ready to eat, and partly because the people do not like the taste very much.



**Fig. 8** Mushroom grown on sago palm

## 8. Cooking Method of Sago

It is reported that traditionally there are three main ways of cooking sago. They are sago jelly, fried sago cakes and baked sago in bamboo sections (May 1984:54). In the case of Sowom, there are four major ways to cook sago: sago jelly, fried sago, sago soup and steamed sago.

### 1) Sago jelly

In Sowom, sago jelly is the primary method of cooking sago, and it is called *kwine* in their vernacular language. First, the sago flour is taken from the storage vessel, and is put in a large pot or pan. Then, hot water is added to the flour. They say that if the water is too hot at this time, starch coagulates rapidly, and not equally. When the starch finally dissolves, impurities and fibers are removed with a sieve made of coconut fiber. Then, boiling water is added to the

starch in one stroke. The added amount of boiling water determines the state of sago jelly produced. If the quantity of water is too small, the jelly becomes hard, whereas the jelly stays soft, if the water amount is just right.

The jelly is taken from the pot using two sticks. By using these sticks, the people make dumplings, which are 6 to 7 cm in diameter. The dumplings are served on the leaves of *Heliconia* spp. Usually 5 to 7 pieces of dumplings are served for an adult (Fig. 9). This method of cooking is quite common in the lowland of Papua New Guinea, but the size of the dumplings differs from place to place. In the case of Sandaun Province, the diameter is 3 to 4 cm, and they serve a larger number of dumplings, usually around 10 pieces for a portion.



**Fig. 9** Sago Jelly

The color of the jelly varies from pinkish white to brown. The color depends on the water used in leaching.

### 2) Fried sago

The second way of cooking sago is by frying. After drying sago starch, it is fried in a pan. The sago starch kept in storage vessel is wet, and is difficult to fry. Therefore, a certain amount of sago is taken out of storage, and is dried for several days before cooking.

It is believed that this cooking method is fairly new, since not every household has a frying pan for the cooking. It is believed that this method originated in Sandaun Province. It is said that a woman who married into Sowom from Aitape in Sandaun

Province introduced this cooking technique. Most of the households in Aitape are said to have a special frying pan for this cooking.

While sago jelly is a staple diet, fried sago is considered to be a kind of snack. Even when they stave their hunger by eating fried sago, they usually eat sago jelly after that, saying that sago jelly is a 'true' meal for them and that fried sago is not.

### 3) Sago soup

Another way of cooking sago is making soup from sago together with bananas and coconut milk. The vernacular term for this cooking method is *bouisii*. Bananas must be fully ripe, and this soup is considered to be a sort of sweet because of sugar in the bananas and coconuts. It is said that this soup is good for health when it is rainy and cool, because it makes the body hot. Sometimes the leaves of *tulip* (*Gnetum gnemon*) are used instead of bananas, and in that case, it is said that the taste is bitter rather than sweet.

### 4) Steamed sago

*Erbergu* is a method of steaming sago together with bananas and coconut milk. Sago, bananas and coconut milk are wrapped up with leaves of *Heliconia* spp., and steamed on a charcoal fire or under hot stones for one or two hours. The Sowom people prefer these two cooking methods, sago soup and steamed sago, saying that they love its tastes and stickiness.

## 9. Side dishes

Sago jelly is usually eaten with some side dishes. These are mostly greens, vegetables, and fish. The side dishes are often boiled with coconut milk, made from copra. Since Sowom village is located on the coast, coconuts are easily obtained and this is the most popular side dish with sago jelly. Sometimes coconut water is used instead of coconut milk, but they consider it to be an emergency measure and do not enjoy eating it. Even fried sago is not considered to be the main food. Peoples say 'we do not feel full if we do not eat sago jelly'.

## 10. Sago as food in Sowom

In order to investigate the status of sago as food,

dietary habits were investigated among 21 households from 21 September to 21 October, 1999 by administering a questionnaire, and conducting interviews. The valid data amounted to 283 household-days.

Sowom people tend to eat any time they have food, especially during the daytime. It is difficult, therefore, to determine the frequency of their meals. In this research, only those meals cooked and eaten at home were counted. Quite often, they are given food when they visit others, and the frequency of meals would be actually higher than that shown in Table 3.

**Table 3.** Kinds of food consumed in each meal in Sowom\*

	breakfast	lunch	supper	total
No. of valid data	283	215	279	777
sago	183	73	236	492
bananas	110	106	48	264
root crops**	46	38	22	106
rice***	58	39	48	145

\*Multiple responses.

\*\*Root crops include taro, sweet potato, yam and cassava.

\*\*\*Rice is imported from Australia and sold at shops.

Breakfast was counted when eaten before going out to work, and supper after coming home. Lunch was counted when they ate during their work, and during the daytime when they did not go out because of heavy rain.

Among a total number of 777 meals, sago was eaten 492 times (63.3%). It is the most frequently consumed food as compared with the other kinds of food. Sago is mostly eaten as a breakfast meal (64.7%) and as supper (84.6%). This is related to the fact that breakfast and supper are usually prepared by women, whereas lunch is sometimes cooked by men and children. Since sago is always prepared by women, when men or children feel hungry during the daytime, they cook something other than sago, such as bananas, yams or taros. Another factor related to sago being eaten almost always at supper is that they frequently have no side dish for sago jelly in the morning, even if they want to. It is the custom to prepare a side dish for sago jelly during the daytime

by collecting green vegetables and/or catching fish, and consequently they have enough of a side dish for cooking sago jelly at supper.

Sago is eaten nearly two-thirds of the major meals, but its role as a staple food becomes much clearer when the frequency is measured on a daily basis. It is consumed almost every day, with the frequency of 97.2% (Table 4).

**Table 4.** Frequencies of food kinds consumed in Sowom\* (daily basis)

	No. of days	per cent
No. of valid data	283	
sago	275	97.2%
bananas	191	67.5%
root crops**	84	29.7%
rice***	119	42.0%

\*Multiple responses.

\*\*Root crops include taro, sweet potato, yam and cassava.

\*\*\*Rice is imported from Australia and sold at shops.

Although the methods of cooking sago vary, not all of them are as commonly practiced. Among the four cooking techniques, sago jelly is by far the most common (Table 5).

**Table 5.** Frequencies of each cooking method of sago in Sowom

Cooking method	No. of frequencies*	
sago jelly	481	96.2%
fried sago	7	1.4%
sago soup ( <i>bouisii</i> )	8	1.6%
steamed sago ( <i>erbergu</i> )	4	0.8%
total	500	

\*The figures come from the numbers of Table 3. Total number is more than 492 of Table 3, since multiple kinds of sago are sometimes served once.

Research on the cooking practices was conducted from May to December; and during this period, the dry season, no seasonal changes were observed. There are no data available to ascertain whether there is any change of cooking practices between the rainy and dry seasons.

### 11. Cooking and gender

In Sowom, cooking is usually done by women. From infancy, girls tend to stay with older women in the family, usually their mother. They try to help

elders in washing dishes, carrying water, collecting greens and cooking. By imitating their elders, they learn these tasks. But cooking sago jelly is considered to be difficult to learn, and it is believed that it would be a waste of sago if they let girls cook sago and they fail. The older women, therefore, teach young girls repeatedly how to cook sago jelly, beginning when the girls are around 10 years old. When the girls are around 15 years old, they learn how to cook sago jelly properly, and they also learn the other kinds of jobs women perform. Being able to cook sago jelly properly is considered to be the symbol of becoming an adult woman for Sowom girls.

### 12. Sago and social life

In most areas of Papua New Guinea, the relatives of a prospective husband give property and valuables to the bride's relatives as a bride price. The components of the bride price vary from place to place, but usually money and pigs are paid. In and around Sowom, sago starch is paid as a bride price along with money and pigs. It is inferred that sago starch is considered to be emblematic of a meal, from the fact that it is given as part of the bride price.

Sago jelly is served on the occasion of weddings as a welcome to guests. In the case of funeral, each household prepares sago jelly and hosts the people coming from the other villages. If the deceased is young, it is expected that close relatives stay with in the family of the deceased for a certain period, usually 3 weeks. When the mourning period is over, the family of the deceased holds a party to express their thanks to the relatives and hosts them with a large quantity of sago jelly, equal to the amount from one palm.

The people in Sowom have a tradition of not eating sago jelly when a close relative dies. Usually, when a husband loses his wife, or a father loses his daughter, he stops eating what he likes best to show his grief. In the case of Sowom, sago jelly is a typical food and they usually choose sago as a sign of mourning. The duration of ceasing to eat sago jelly is up to the individual person, and it often continues for one year,

and sometimes forever.

### 13. Conclusion

Through a series of this field research, the findings of the research were as follows;

1. Sago is classified in Sowom into 7 types, including the division of those with and without spines.
2. The processes of extracting starch are allocated by gender as a rule. In Sowom, the processes from the choosing the palm to crushing the pith are carried out by men, and the succeeding processes from leaching pith to storage are done by women.
3. Sago is eaten almost every day in the form of sago jelly, and sago jelly is considered to be a staple food in Sowom.
4. Cooking sago jelly is done only by women.
5. Sago starch can be stored for several months, if kept properly.
6. Sago plays important roles in various aspects of Sowom's social life, such as a part of bride price and as a symbol of typical food.

### Notes

1. Sowom has been often described as Sowam in maps and reports, but the people in the village prefer the name of Sowom. In this paper, therefore, Sowom is used instead of Sowam.

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