

TAU'T BATU STUDIES

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THE ECONOMIC SPHERES

The economy of the Tau't Batu is almost purely a domestic one due to the isolation of the group. They are not free, however, from the effects of a market economy. The Tau't Batu have been influenced by the market system existing elsewhere in the country. They have been, for instance, the other terminal point for the almaciga trade. Some of their consumption needs have been created by the commodities that circulate in a more widespread market sphere. Indications of this integration with the market system is the use of cloth among the people without the presence of the technology of weaving; possession of gas lighters, bottles of soft drinks, beer, and others; possession of and use of money; knowledge of wage labor; need for salt, and many others.

For practical purposes, the economy of the Tau't Batu may be approached by the ends toward which production is directed. These may be divided into production for the purpose of domestic consumption and that for exchange purposes, e.g. the market sphere.

I. Domestic Economy

A. Production

1. Horticulture

For a population consisting of some eighty six people the most viable strategy for subsistence in an isolated basin is food production equal at least to their consumption needs. With an area of some 176.05 hectares thus yielding a density of 2.04 persons per hectare, the strategy for subsistence is a stable food base that is renewable, with risks relatively spread out in terms of staples to allow for alternatives in cases of crop failures. Given the topographic conditions in the Singnapan basin, the tropical weather affected by monsoonal currents, and the technological development of the people, the strategy is horticulture, with foraging to supplement production. The Tau't Batu, like other Palawan groups, are swidden cultivators. But unlike most Palawan groups, they are multi-croppers, with cassava as the major source of carbohydrates. The latter, however, is not the most important sociological crop, this position being reserved for rice (*Oryza sativa*).

The classic lines of slash-and-burn cultivation are followed by the Tau't Batu as their principal mode of production. The cycle begins with the selection and clearing of a prospective field which usually takes place variably from December to February. Clearings take place preferably in second growth forests (*bunglay*) rather than in first growth forests (*guba*) because trees in primary forests are more difficult to contend with due to their sizes. Also, previously cleared areas had already been well selected before in terms of topography and convenience.

It is interesting to note that like most other Palawan groups, the Tau't Batu also make use of constellations to signal or time events. Time is determined by the position of the stars relative to the zenith and rim of the Singnapan basin. Three star groups are used principally: *bitu-un ta-un* or *marapuro* (Pleiades); *sangat* (the stars at the back of Taurus' head with Aldebaran as the star of highest magnitude); and *bawug* (the belt of Orion). The use of constellations to mark time is apparently not used merely in connection with the cycles of farming. Mention has been made of its use for determining the coming of the rainy season and the time for the people to start going up to the caves from their field houses.

The signal for the initial phase of the agricultural cycle is marked by the appearance of the *marapuro* on the eastern rim of the basin early in the evening. The clearing of the underbrush (*ririk*) is started around this time. The start of the clearing does not occur simultaneously among all the households, since the appearance of the star group signals an entire season for clearing, and there is no well demarcated moment for the beginning and end of the period. Other variables are dependent on individual needs and capacities. The period, however, is the end of the wet season. With the people still ensconced in the shelter of the caves, daily trips to their choice plot of land are made for the clearing of a new field. The period lasts more or less about two months.

The second phase of the cycle is signalled by the appearance of the two other star groups, the *sangat* and *bawug*, again on the western rim of the basin, when *marapuro* would have been positioned in the zenith. This is the time when the big trees are felled (*tubungan*). The principal tools used during this stage are the long-bladed knife (*tukaw*) and the ax-adze (*wasay*). A characteristic style of felling the saplings and larger trees that are intertwined by vines and other growth is to cut halfway through the trunks of such members of a grouping starting downhill, leaving one last key tree untouched which would support the entire group until the last moment. This last tree is then cut, bringing the whole aggrupation crashing down simultaneously. The really large trees are felled individually and cut high on the trunk with the use of a platform built around the trunk.

The succeeding phase of the cycle is marked by the relative positions of the *marapuro* and the *bawug*. When the former reaches the western rim of the basin, and the latter is located just past the zenith, then the period for burning (*tutungnan*) the fields would have arrived. This period roughly corresponds to the period from March to April, approximately two months after the start of the cycle cultivation. This is also the height of the dry season in the area. The period again is variable, and often it is the relative dryness of the weather and the estimated proximity of the initial rains that more or less determine the time for burning the brush.

The time for planting is associated with the movement of the *bawug* to the western rim of the basin. By this time (April to May) the *marapuro* and *sangat* would have vanished from the sky. The initial crop planted in a newly cleared field is either corn or rice.



Plate 8 Tau't Batu farmers wielding the *tutugda*, or planting sticks.



Plate 9 Seeding a new field.

Multicropping appears to be the general pattern in the swiddens (Table 6). After the initial planting of a crop, another is introduced in between the first. Seeding the field is accomplished through the use of a planting stick (*tutugda*) often wielded by the male, while the woman drops about five grains of rice into the holes. Just about the time when the rice is grown about five inches from the ground, taro is planted in between the first crops, together with patches of sugar cane. Right after this, yam (*Dioscorea alata*) is planted in patches in between the other plants. Cassava is introduced into the field just before the other plants flower. The cassava in fact remains cultivated in the field for a period that may vary from two to three years. The last crop to be planted is sweet potato which, depending on the care given to the plants, may be cultivated for a period of one year. Rice, depending on the variety may be harvested after four to five months. Corn matures after about three months. In fact, corn is often planted twice in one season. Yams are harvestable in seven months. Cassava matures in about seven months, too. Sugarcane is omnipresent in swiddens and become useful after ten months. About the fields, too, bananas which are annuals are planted. The pineapple, a more recent introduction, is likewise distributed about the field but becomes harvestable only after a lapse of fifteen months. Sweet potato

TABLE 6
CULTIGENS

Vernacular Name	English Tagalog Name	Where Planted	When Planted	When Bear Flowers	When Bear Fruits
1. Paroy	Palay	kaingin	late March or early April	June	August
2. Mais	Corn	kaingin	late March or early April	May	June-July
planted two times a year along with palay and right after rice harvest in September					
3. Lah-gay		kaingin	April	August	August
4. Aturay	Sorghum	kaingin	April	May	late May
5. Kombahang	Cassava	kaingin	April	6 months after planting	6 - 7 months after planting
6. Talos		kaingin	April	June	8 - 12 months
7. Ubi	Ubi	kaingin	April	none	crops ready 9 - 10 months after planting

8. Ablaw	Gabi	kaingin	April	none	crops ready 7 - 11 months after planting
9. Bangkokka		kaingin	April	none	crops ready 9 - 11 months after planting
10. Tabo	Sugarcane	kaingin	not seasonal	none	matures 10 - 12 months after planting
11. Sanglay	Camote	kaingin	usually after harvest	2 months after planting	crops ready 3 - 5 months after planting
12. Luad	"Durian"	kaingin	can be planted anytime	10 - 11 years after planting	fruits can be eaten during Sept. - Oct.
13. Pokpak		kaingin	can be planted anytime	13 years after planting	
14. Mangkopa		kaingin	can be planted anytime	13 years after planting	August - September
15. Bayabas	Guava	surroundings	can be planted anytime	7 years after planting	1 month after flowers; usually in the months of September to October

16. Mampalam	Mango	kaingin	can be planted anytime	10 - 11 years after planting	1-2 months after flowers; usually in the months of June to August
17. Badak		kaingin/surround- ings	can be planted anytime	10 - 11 years after planting	
18. Nangka	Jackfruit	kaingin	can be planted anytime	13 years after planting	during the month of April
19. Kadyas		kaingin/surround- ings	can be planted anytime	7 months after planting	
20. Mararing		kaingin	can be planted anytime		
21. Parangsi	Pineapple	kaingin	can be planted anytime	none	3 months after planting
22. Ponti	Banana	kaingin/surround- ings	March - April	July	July-August succeed- ing year
23. Maratukab		kaingin	March - April	none	September - October
24. Long-nga	Lingnga	kaingin (center)	March - April	June - July	September

25. Antak	String beans	kaingin	not seasonal	2 months from planting	2-3 months after planting (flowers and fruits simultaneously)
26. Labo	Squash	kaingin	not seasonal	2 months after planting	2 - 3 months after planting
27. Pasagi		kaingin	not seasonal	4 months after planting	5 months after planting
28. Parya	Ampalaya	kaingin	not seasonal	2 months after planting	2 - 3 months after planting
29. Emlong	Patola	kaingin	not seasonal	2 months after planting	2 - 3 months after planting
30. Sarumamis		kaingin	not seasonal	2 months after planting	2 - 3 months after planting
31. Kamantis		kaingin	not seasonal	1 1/2 months after planting	2 - 3 months after planting
32. Lada	Sili	kaingin	not seasonal	2 months after planting	2-3 months after planting (flowers and fruits simultaneously)

33. Niyog	Coconut	kaingin	not seasonal	13 - 14 years after planting	flowers and fruits simultaneously
34. Manti	"Rambutan"	kaingin	can be planted anytime	13 - 14 years after planting	usually in the months of Sept., Oct. & Nov.
35. Doro		kaingin	can be planted anytime	one year after planting	1 1/2 years after planting

is introduced much later, often completely taking over the field after all the other crops have been harvested.

The major harvest in the field that constitutes a defined cyclical period is rice. It is this crop, however, which does not seem to fit into the pattern of the weather in the area, for the harvest of rice takes the people way beyond the start of the heavy downpour with the coming of the southwest monsoon. This forces the people to stay out in the field houses exposed to the elements, what with the inefficient nature of their architecture, instead of an earlier exodus to the caves. Thus, harvest time is also the season for diseases, mostly respiratory, in the Singnapan basin. The period of harvest in the basin generally extends from late July to September. Some late harvests are brought in about October. The period, however, is a major event in the cycle, for the harvest is the only thing that keeps the Tau't Batu from going back to the caves at this time of heavy rains and thunderstorms. The delay in the cave exodus of the Tau't Batu caused by the ripening of the rice harvest suggests that the earlier cycles of the Tau't Batu which fit into the weather pattern, would not have included the cultivation of rice as a crop. This implies that earlier cycles had been more adaptive than the present one which included rice as a major crop. This "maladaptation" shown by their exposure to the elements does not fit well into the other patterns which better juxtapose into the ecosystem.

By the time the first harvest of rice is brought into the granaries, and supplies cached in the caves, the people would have moved into the caves to weather out the heavy rains and the expected flooding of the basin floor. It must be remembered that even with rice harvested, several crops with differential maturation periods still remain in the field more or less ensuring continuous and well-spaced harvests. Excursions into the fields become mere occasional sallies to harvest the crops as the need arises. A second planting is introduced into the field after the rice when the spaces occupied by the rice plants are cleared again and then planted to sweet potato *sanglay*, (*Ipomoea batatas*) transforming the field primarily into a field of root crops. The concentration of root crops and the technological development of the Tau't Batu suggest that the earlier cropping of the fields was based on root crops rather than grain. This is highly evident in their behavior toward harvests which is to some extent continued even with reference to rice. It will be noted that the Tau't Batu do not store large quantities of food in their caves; rather, a supply to last two or three days is stored, after which they go down to the fields to get some more. This intermittent securing of supply is carried on even with reference to rice. A store of rice enough for a few days is brought into the caves, instead of securing the entire harvest in the caves where this would be safer from the heavy rains.

As the swiddens age through seasons of use, different canopies of harvestable plants would have been grown. On the higher slopes, the fields of root crops principally cassava and sweet potato, will eventually give way to second

growth vegetation although portions of the area will remain of subsistence value due to the presence of economic plants. After the lapse of a number of years, from five to eight, the field is again cleared for another round of planting.

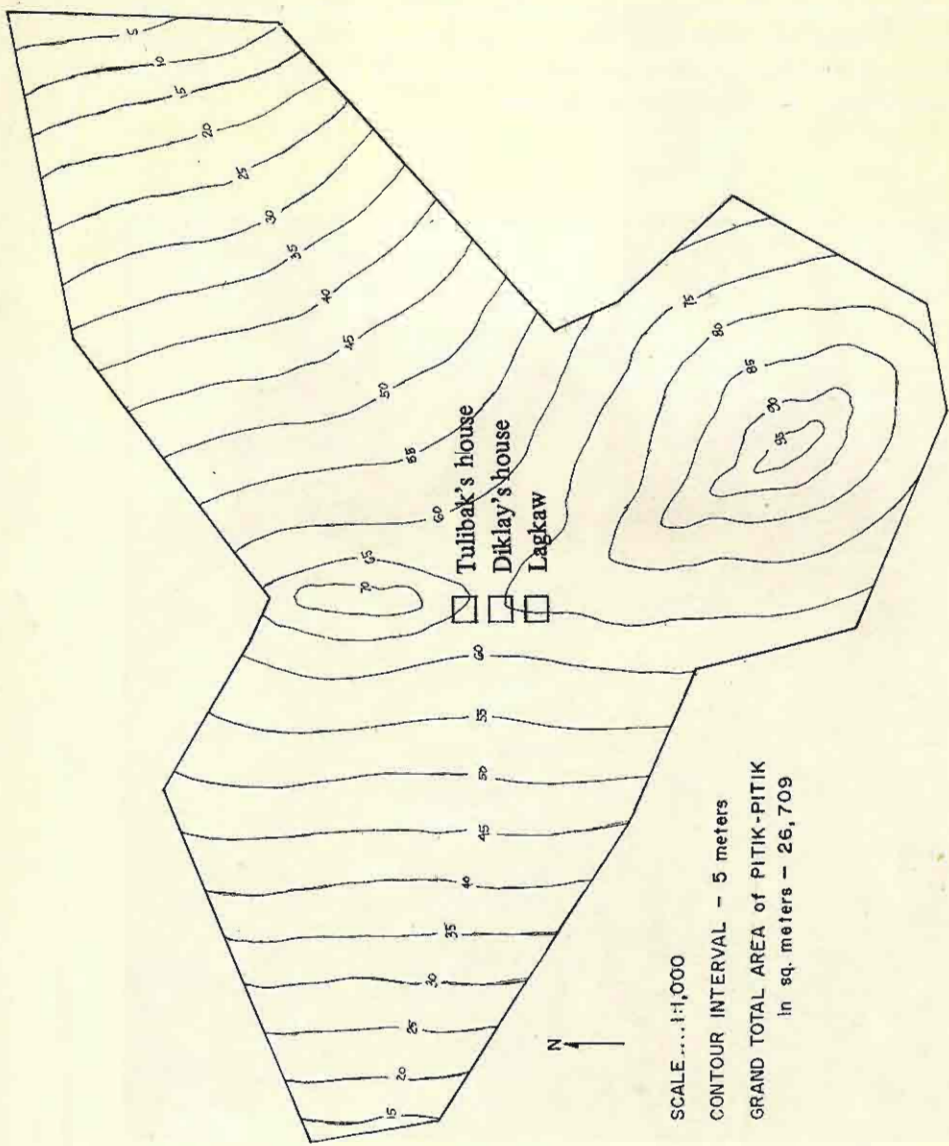
On the floor of the basin, however, which is a flood plain, the soil is continually being renewed by the rains so that here, it is possible to maintain a permanent field using slash-and-burn technology without the need for a fallow period since the annual flooding ensures the regeneration of the fertility of the soil. It is in this area that the Tau't Batu apply the technology of swidden cultivation but without the shifting phase. This permanent type of swidden field closely parallels that of the Itawis cultivators on the eastern flank of the Sierra Madre mountains of Luzon.

At this point of the study the larger part of the cycle has not yet been directly observed so that only the most general lines may be drawn. A detailed description of the landholding insofar as resources and output are concerned is outlined below. This is to delineate the domestic capacity of one household. This particular field belongs to Diklay and is located in the locality of Pitik-pitik on the eastern side of the basin.

Pitik-pitik has a total surface area of 26,709 square meters. (Map 1) Although several fields are under cultivation in this area, the household of Diklay has cleared one area here, estimated to consist of 14,594 square meters. There is an elevation difference on the slope of the field of some 70 meters. (Aguilera n.d.) describes the clays in the field as essentially constituted by argillaceous sediments which resulted from the weathering of both igneous and metamorphic rocks. The clays have colloidal particles that tend to absorb layers of water molecules which lubricate them and facilitate the sliding over one another in the plastic stage. The visible rocks in the area include sedimentary and volcanic rocks.

Pitik-pitik is also the area of field residence of the *bukin-bukin* of Diklay. Around the four houses are gardens planted to various varieties of taro, banana, pineapple, sugarcane, tobacco, coconut, mango and cassava. The new swidden is planted to twenty-one varieties of rice. The total area of the field is divided into segments called *bantal*.

In order to have an idea of the total production expected from this particular field, measurements were taken as to the specific yield of rice plants. Only eighteen of the twenty-one varieties were studied. The moisture content of the unhusked rice was determined and this was found to be something like 31.8% of the the total weight. With this information plus the foregoing data on the total field area and average distances between individual plants (Fig. 1), it is possible to arrive at an estimate of the expected production from the *uma* in Pitik-pitik. This information is contained in Tables 7 and 8.



Map 1 Pitik-Pitik contour map

It is to be noted that contiguous to the new field of Diklay is an old field of some 11,845 square meters planted to cassava, sweet potato, sugarcane (*Saccharum officinarum* Linn.), malanggay (*Moringa oleifera*), garlic, pepper, string beans, wing beans, squash, tomato, cucurbit, pineapple, tobacco, varieties of taro, and others. Sugarcane is concentrated on the upper slopes while sweet potato occupies the lower portion of the field. There is a large area planted to cassava, but the largest area is planted with taro. At the moment the total productive capacity of this field is undetermined.

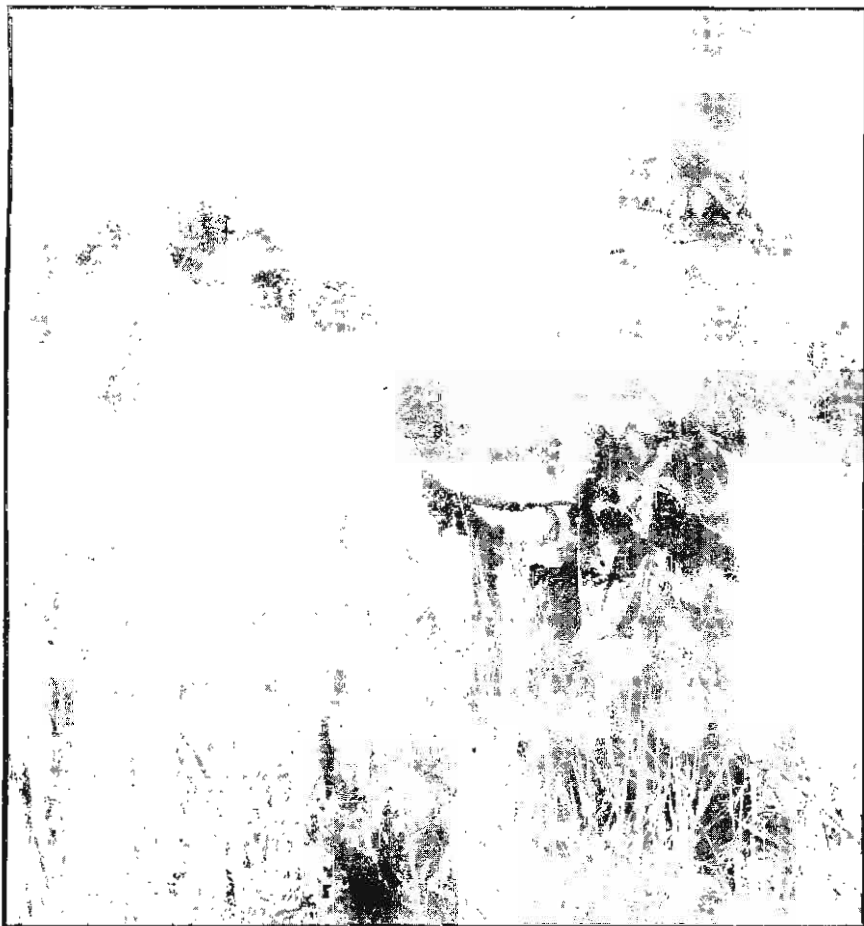


Plate 10 Pepper plant in a multi-cropped swidden

TABLE 7

EXPECTED PRODUCTION OF *UMA* IN PITIK-PITIK

Name of Palay	Area of <i>Bantal</i> in sq. m.	Approximate No. of <i>poon</i> / <i>bantal</i>	Quantity in <i>gantang</i>	Name of Palay
1. Dinarundong	375.0	3,650	1/2	1. Dinarundong
2. Sinam	450.0	4,200	1/2	2. Sinam
3. Sipago	696.0	6,700	1/2	3. Landapan
4. Kolang	1,276.0	10,140	2 1/2	4. Pangulayan
Landapan				5. Tumba
5. Dinugyan	988.0	8,300	1/2	6. Simorong
5. Simpa	872.0	7,310	1/2	7. Longkeng
7. Kinandit	800.0	7,050	1/2	8. Kinandit
8. Podotan	866.0	7,200	1/2	9. Podotan
9. Longkeng	746.0	6,830	1	10. Binatikal
10. Simorong	705.0	6,450	1 1/2	11. Boring-boring
11. Tibokol	650.0	6,010	1	12. Samber
12. Landapan	676.0	6,340	1	13. Inanibong
13. Boring- boring	624.0	6,120	1	14. Dinipanga
14. Dinipanga	1,032.0	9,650	2 1/2	15. Tibokol
15. Pangulayan	250.0	2,320	1/2	16. Kobaha
16. Inanibong	320.0	3,000	1/2	17. Kolang Landapan
17. Tumba	620.0	6,790	1 1/2	18. Balyo't Binatikal
18. Pangulayan	200.0	1,850	1/2	
19. Binatikal	440.0	4,120	1/2	
20. Kobaha	430.0	4,000	1/2	
21. Balyo't- binatikal	445.0	4,130	1/2	
22. Samber	600.0	5,850	1/2	
23. Binatikal	350.0	3,320	1/2	

One (1) *gantang*One (1) *poon*

One (1) gallon can

One (1) mature plant