# **Cham Earthenware Pottery and Related Production in Mainland Southeast Asia**

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**Abstract:** Cham earthenware pottery production, produced in Binh Duc in Binh Thuan Province and Bau Truc in Ninh Thuan Province, is part of approximately 185 sites actively producing earthenware in Mainland Southeast Asia, excluding Myanmar. Chamic (Cham-related) production is distinctive. In Vietnam, these two Cham communities share similar technologies with five communities in the Central Highlands and one in Nghe An Province. In addition, this technology is found in Kelantan, Malaysia, and in southern Laos.

Chamic production begins with a preform consisting of a clay mass on a flat support. The potter draws the side walls up from the base, adding coils to erect the upper portion. She finishes the rim and smooth exterior walls at this time. As with other Southeast Asian earthenware potters, Chamic potters must produce a round bottom in order to make this ware suitable for cooking, saving and cooling water, etc. Chamic potters produce a round bottom by pushing out the clay remaining in the bottom of the preform or scraping away both interior and exterior base and walls. In a few unusual cases, the potter works in reverse, shaping the top half of the vessel, inverting it on the mouth rim, and coiling the lower half onto that preform.

Keywords: Additive process, Chamic, earthenware, production technology, scraping.

Subject classification: Anthropology

#### **1. Introduction**

The art of Cham earthenware pottery production lies in the wealth of detailed knowledge possessed by the potters, who usually are women: this knowledge resides in these potters' skills in using their bodies and the few tools necessary to make beautiful, well-formed, durable, and useful vessels. The art of this production comes from the years of apprenticeship a young girl undergoes when born into the household of a skillful potter, with guidance from her mother, grandmothers, aunts, other relatives, and nearby community members. During this apprenticeship, a girl maturing into a skillful potter learns how to use her hands, arms, shoulders, indeed, her complete body in order to shape a pot; we might call this skill in pot production a "useful ballet". The tools this potter uses are necessary, but usually can easily be replaced. After the pot is formed and dried, it is fired under the supervision of women and sold or bartered for other useful items. Thus, it continues its life as a work of art of great usefulness, residing in the kitchen and home of people aware of the background of skill involved in making this appropriate object needed for daily life. Finally, over time, as the pot cracks or breaks into smaller pieces, these pieces find adaptive reuses, until, finally, these fragments themselves disappear. Then, a new piece of hand-formed art should take its place.

This artistic production of earthenware, circulated throughout central Vietnam and into the highlands, comes from two Cham earthenware pottery villages: Binh Duc (Tri Duc - Palay Gok), in Binh Thuan Province and Bau Truc (Palay Hamu Trok) in Ninh Thuan Province, Vietnam. It is closely related to a distinctive type of Southeast Asian earthenware production we term Chamic. In Vietnam, these two Cham communities plus five more in the Central Highlands and one in Nghe An Province share similar Chamic technologies. In addition, this technology is found in Kelantan, Malaysia, and in southern Laos (map).

# **2. SEA Earthenware production and important concepts**

2.1. Mainland Southeast Asian earthenware production

From 1989 until 2007 the authors conducted a 100% survey of contemporary indigenous ceramic production sites throughout Mainland Southeast Asia (except for Myanmar), encompassing a total of 284 sites. The vast majority of these sites - 185 - featured women producing earthenware (stoneware sites featured men using a wheel to produce stoneware fired in a high-firing kiln). Often earthenware is fired outdoors using temporary, purpose-built structures. We refer readers to Cort and Lefferts (2012), Pots and How They are Made in Mainland Southeast Asia, for a survey of the total range of Southeast Asia contemporary indigenous earthenware and stoneware production [2]. A complete list of surveyed sites is also available from the first author.

The range of earthenware production technologies in Mainland Southeast Asia is not as broad as might be imagined. The so-called "pinch pot" technique is not found in the Mainland. Nor is coiling alone used to form vessels. *Pots and How They Are Made in Southeast Asia* presents schematics of the production steps of the six major techniques [2, pp.6-8].

## 2.2 Results of the Mainland Southeast Asian Indigenous Production Survey for Earthenware

Earthenware production technologies seem independent of the most common ethnic group factors such as language, or religion. In other words, the technologies of production of earthenware ceramics seem unrelated to ethnic groups.

Thus, the history of the "diffusion" and "migration" of technology seems independent of the ethnic or national classifications with which we are accustomed. A different map results when earthenware production technologies are plotted across the landscape.

In our system of classification, we assigned term "C" to production observed in several communities, including these two Cham communities. This designation has nothing to do with "Cham". It simply happens to be the third distinctive production technique we observed, after our initial surveys in Northeast Thailand, where we "found" Type "A", and North Thailand, where we "found" a distinctive Type "B". When we came to Chamic production, we realized we had found yet a third distinctive type, "C".

Note that we use letters rather than ethnic group designations to demonstrably separate production technologies from ethnic group identification.

# 2.3. Three procedural points in discussing Southeast Asian earthenware production

Following the suggestion of materials scientist Dr. Pamela Vandiver, we asked our data whether a given technique used an "additive" process to make a pot, or whether all (or almost all) of the clay necessary for the final product was incorporated into the initial mass of clay. This latter process we termed "transformative" [2, p.5]. Type "C" earthenware production is additive, even though much of the clay used in the production of the preform may be present in the initial clay mass the potter brings to the stand on which she forms the pot.

We developed the concept of "preform" ourselves, but found it was already in use in biology and as a technical term to describe the "preform" of a bone or object prior to the final process of making a finished, completed object. We consistently deploy the "preform" concept to describe the initial and sometimes intermediate steps an earthenware potter usually follows before setting her pot out to dry prior to producing the final form. Typically, the preform includes a finished rim with an incompletely or rudimentarily shaped body which is finished later in the process. The preform disappears as the potter proceeds to make the final shape of the pot. The use of the preform concept has been of great assistance in allowing us to segment and articulate the complicated, highly developed, artistic process by which a woman completes the making of an earthenware pot.

Our third procedural point, less of an issue when discussing Type "C" pots, but still relevant generally when discussing Southeast Asian earthenware ceramics, is that the term "paddle-and-anvil" is almost useless as a term when describing earthenware production technology. Cort, Lefferts, and Reith discuss the many differing circumstances in which paddling, using a wooden paddle to strike the outside of the pot being formed, takes place [2]. The potter may pair the paddle with a clay anvil, a river pebble, or, as in the case of Mrs Boi's production of large water jars in the Cham village of Tri Duc, simply with the flat of her left hand on the inside of the fabric opposite the strikes of the paddle. In addition, the force and directions of the paddle's blows can be varied almost infinitely. Therefore, we recommend instead that more sensitive terminology be used to describe the techniques of production, including the term "preform".

# **3.** Type "C" Production focusing on the Cham sites

#### 3.1. The wedging process

Type "C" production is preceded by the wedging process, in which the clay is massaged and cleaned and an appropriate amount of sand added. For the initial description, based on 1998 research, we selected the work of Mrs Truong Thi Gach of Bau Truc (Palay Hamu Trok), Ninh Thuan Province. Mrs Gach produced several pieces of earthenware while we watched and recorded her and her associates in a workshop owned by Mr Huynh. Towards the end of our time with her, Mrs. Gach, aged 54, gave us a comprehensive demonstration and explanation, in Cham and Vietnamese, of this production. We use clips from the video of this production and schematic diagrams (Figures 1-4) to analyze and explain this process.

### 3.2. Producing the preform (See step-bystep illustrations to visualize these processes)

Step 1: Mrs Gach massaged and wedged the clay for this mid-sized piece preparatory to bringing it to the forming platform. In this workshop overturned jars, *lu*, were used to support preform production. The size of this initial mass of clay depended on the expected size of the final product. Even though material will be added, most of the clay used in the making of the preform was present in this initial mass.

Step 2: Mrs Gach did not spread ash on the support for the preform, but quickly dipped the initial clay mass onto the dirt on the ground. Step 3: When Mrs Gach brought her initial clay mass to the production platform, it already exhibited a central indentation. (see 3.2.3)

Step 4: As she walked around the *lu* clockwise, Mrs Gach pressed in with both hands on the emerging wall and the clay in the base.

Step 5: Note that Mrs Gach maintained a small pillar of clay in the center of this preform. (Other Chamic potters also use such a residual pillar, which provides clay for their later work building the preform's sides.) (see 3.2.5)

Step 6: In the next step, Mrs Gach pressed down with the fist of her right hand and supported the wall with her left as she completed several clockwise turns around the emerging preform.

Step 7: Next, in counter-clockwise move-ments, Mrs Gach pressed down with the knuckle of her right index finger in the first rotation and then worked her right hand upward to smooth, compress, and extend the wall upward. (see 3.2.7)

Step 8: Mrs Gach then made a long coil to add to the rising clay wall. However, first, she separated this long coil in two, put half aside, and used her right hand to press the other half into the joint between the base and wall of the preform as she walked around it counterclockwise. She then further smoothed and compressed the wall. (see 3.2.8)

Step 9: She took up the other half of the long coil (temporarily stuck to the side of the adjacent lu), extruded it further between her two palms, placed the dangling end inside the preform, and used her right hand to press it into the top of the preform's wall as she walked around counter-clockwise. After she had secured this coil, she pressed

and smoothed it into the inside of the wall, using her left hand to support the rising wall. She made a slight incurve to the rim as she did this. (see 3.2.9)

Step 10: Mrs Gach thoroughly wet her hands and placed them, palms open, fingers outspread, on either side of the preform; she then swirled them around the lower portion of the preform's wall. Again, she used her crooked right index finger to smooth the preform exterior, beginning at the base and working diagonally upwards. Mrs Gach worked her smoothing motion first around the lower portion of the preform, then the upper.

Step 11: Mrs Gach then took a large rattan hoop and smoothed the exterior of the preform, her left hand supporting the interior wall. She used a circular motion with the rattan hoop as she smoothed this wall. (At this point Mrs Gach was working on two preforms next to each other, doing operation 3.2.11 on both.) (see 3.2.11)

Step 12: Mrs Gach next took a rectangle of cloth, wet it, stretched it between her two hands, and returned to the first preform, clasping the cloth closely as she rapidly walked backwards counter-clockwise to form the rim. The thumb of her left hand initially produced an indentation in the rim's upper surface. (see 3.2.12)

Step 13: With repeated backwards walking, she bent the rim down and outward, as the fingers of her right hand formed the curve of the preform's shoulder. Her final rotations involved using the thumb of her right hand to define the shoulder's curve more precisely as the wet ends of the fingers of her right smoothed the preform's exterior. She repeatedly used the cloth to smooth the exterior wall while her left-hand smoothed and braced the interior against the right hand's pressure. (see 3.2.13) (Note: We asked Mrs Gach if she always walked around backwards to produce the rim and she showed us that a potter can go either backwards or forwards as she wished. Crucially, in both cases Mrs Gach's head is rather directly above the preform's mouth, helping to guide her circular motion.)

Step 14: The preform was then carried out into the shade to dry.

### 3.3. Cham production of finished pots

Step 1: In Bau Truc, Mrs Gach and her colleagues, after putting the preforms on the ground to dry, stooped over each in turn to complete the polishing of the interior walls and ready them for the expansion of the bases. This included scraping inside of the lower wall with a bamboo hooped scraper to remove excess clay. (see 3.3.1)

Step 2: One potter used a bamboo hoop scraper to remove excess clay that defined the external curve between base and wall. (see 3.3.2)

Step 3: Mrs Gach used a bamboo hoop scraper to remove excess clay from the pots' interior. She looked inside the pot to see what she is doing. (see 3.3.3)

Step 4: Mrs Gach rapidly moved the large rattan hoop to smooth the pot's exterior. (see 3.3.4)

Step 5: Mrs Gach used a piece of plastic piping to burnish the upper interior and inside shoulder of the pot. (see 3.3.5)

Step 6: Mrs Gach used a wet rattan hoop to spread a thin film of water across the exterior of the pot, thus completing its production, and making it ready for firing after drying.

Step 7: In Binh Duc (Tri Duc), also in 1998, Mrs Boi kindly allowed us to record

the process by which she expanded the bottom of a large preform to make a large water jar, which she called a lu. This process was very similar to those we saw in other Chamic production environments. (see 3.3.7)

Step 8: The process of completing the pot began when Mrs Boi, sitting on the floor with legs extended, picked up a preform with her left hand and arm and steadied it on her lap. She took a round bamboo scraper and brushed it over the base of the preform to remove loose grit that might be sticking to the bottom and made a few cuts to begin to bevel the edge between base and side.

Step 9: She pivoted the preform on her extended legs, picked up the rattan hoop with her right hand, inserted it into the preform, and began to push out, slowly extending the base outward through a series of stroking pulses as her left hand held the base and sensed the depth of these strokes. All of this interior process was done by feel; she could not look inside the preform as she pushed the base outward. She began by pushing out the center of the base, then worked toward the sides, where she left a small space at the articulation of sides and base. (Cracks in the base necessarily occurred as the formerly flat base of the preform was pushed out so as to form a round bottom.)

Step 10: About half-way through this process, she again pivoted the preform on her extended legs, stuck her left hand into the pot, and began to repair the cracks and smooth the now curved bottom with new clay obtained from a pile by her side. She also smoothed the seam between the formerly curved side and flat bottom by adding clay.

Step 11: Again, she pivoted the preform on her legs so that the mouth faced toward her right hand, picked up a round bamboo scraper, inserted it, and scraped the pot's base. Then she pivoted the pot, placed her spread left hand inside, wet a large, flat, wooden paddle, and paddled the now round base into a nearly seamless sphere. She moved her left hand inside the pot as she moved the paddle around on the exterior, keeping the hand steady against the inside of the base.

Step 12: She again pivoted the pot so that the mouth was to her right, picked up the scraper, and this time scraped the inside walls of the pot, not the bottom as she did before. As before, she placed her left hand on the outside to feel how the scrapersmoother was working. Little clay was removed from the sides; the process was much more one of smoothing the inside than scraping. She rotated the jar on her legs in a counter-clockwise direction as she did this.

Step 13: During this process Mrs Boi came across a hard object buried in the jar wall. She picked at it several times with the bamboo scraper, but was unable to dislodge it, so she searched for and found a striated cockle shell, which she used to scrape the inside smooth. She looked into the jar to place her hands as she did this. She then took some clay and repaired the resulting interior depression. She then continued the scraping-smoothing that was interrupted by this process.

Step 14: After completing the scrapingsmoothing, she picked up bits of clay and commenced repairing the base's interior, pushing the clay in with her right hand while feeling on the outside where and what she is doing. A considerable amount of this repair work was necessary. Step 15: She pivoted the jar on her legs and, with her left hand inserted into it, repaired the outside of the base. She again pivoted the jar and replaced clay inside with her right hand while feeling with her left.

Step 16: She again took up the paddle and struck the bottom with powerful smacks while supporting the interior with her left hand.

Step 17: She searched for and found a scrap of cloth which she thoroughly wet, slapped on the paddle to knock off excess water, and used it to wet, wash down, and smooth the inside. She again picked up the scraper-smoother to completely smooth the inside. She also did some final repairs inside at this stage.

Step 18: The end of this exterior work included a rapid polishing with the bamboo hoop scraper-polisher, resulting in a remarkably smooth surface, which Mrs Boi paddled into a round, wet, glistening shape. Thus, a preform has become a fully rounded jar, ready to have red slip added and to dry, and then be fired.

### 3.4. Slip

We found no use of slip in Bau Truc (Palay Hamu Trok). However, Mrs Boi in Binh Duc (Tri Duc) demonstrated how she painted slip on finished forms. She used a red clay as a slip, a very thin layer of clay laid over a pot's surface before firing.

### 3.5. Firing

We saw no firing in either of these two Cham villages. In Tri Duc we were told that there was a funeral in the village the day we visited, thus prohibiting firing; however, we did see a mock demonstration. In Bau Truc we saw no firing.

#### 3.6. Decoration

In Tri Duc we were shown the method by which pots, at the end of the firing sequence, were splashed with the soaked bark of a tree (dap), obtained from the mountains. The bark was soaked for four days, then splashed on the hot just-fired pot. Mrs Boi told us buyers liked this decoration because "it was more beautiful than a plain pot". We did not see this at Bau Truc.

### 4. Comparisons with other Chamic production sites

*First*, for all sites we visited in our survey we have extensive photographs, videos, notes, and diagrams. In the remaining pages we illustrate selected variations in Type "C" production at sites elsewhere.

*Second*, initial designation of Type "C" production based on observations in Laos [3]: Our initial recognition of Type "C" earthenware production occurred when we found that some potters in southern Laos used "a round loop scraper, usually made of bamboo tied together, for scraping the inside wall of the pot".

These pots were "quite large, produced in two stages. In the first, the upper half of the pot up to and including the mouth was built using coils placed on a wooden board which the potter turned to keep the side she was working on near her. This board did not have a pivot and was balanced on a short wooden post by the potter. Only the potter's hands were used to shape the pot at this time. This upper half was allowed to dry, turned over onto the completed mouth, and the second half of the process ensued.

"In the second half of the process, the potter initially took the bamboo hoop scraper and scraped and smoothed the inside of the (overturned preform). Then she commenced to attach coils to the upper half, so as to complete the bottom of the pot (upward) from its mid-point. As she did so, she smoothed the inside as well as the outside of the pot. Finally, she reached a point where the inward curve of the base required that she start withdrawing her hand that had been used to support the mass of clay. At last, she had only one finger left inside the uppermost curve of the pot, which she then removed and softly patted over the clay using a paddle.

"In some cases the preform had a flat clay base resting on the board. During the stage to complete the pot's shape, this base would be expanded and pushed out to form a curved base. The scraping would then take place through the mouth of the pot" [3, p.167].

*Third*, in another Lao site, to the southeast of these earlier finds, we came across Baan Choumphouy, Attapeau Province, Laos (Oy ethnic group) production.

In Baan Choumphouy, a potter placed a mass of clay on a board mounted on a platform, raised the preform's walls, and added coils to the upper walls to extend produce the preform's neck, rim, and lip.

After drying, this preform was lifted from the platform: sometimes, the clay that would form the base would come off with the preform; sometimes it would not. In the latter case, that clay was scraped off, combined with other clay and used to build the base. The difference in these cases depended on whether the clay, at the beginning of the process, had been placed on a cloth or leaf, so that the base could be peeled off with the preform, or not. When asked why they all didn't use one process, they replied, "this was just the way they made their pots" [3, p.171]. If the bottom was still attached to the preform, it was pushed out from inside; if not, it was rebuilt in a curved fashion to fit the preform.

### 5. Conclusion

This paper<sup>3</sup> engaged in a detailed discussion of the production of Cham earthenware - a prime art of women in two Cham communities. This detailed discussion is required because many observers and purchasers of the resulting ceramics do not understand the biomechanical and thought processes that these capable women have carefully learned and crafted to make artistic, useful items. Craft is art; a craftsperson is an artist who understands the rigor of producing an exquisite piece of functioning ware. It is not lightly tossed off, nor is it without meaning. It is the individual creation of a consummate artist who takes valuable time and personal energy to make something useful and delicate.

Cham production and other systems of techniques used by women to produce earthenware ceramics are neither accidental nor coincidental. These techniques have been carefully crafted over generations of women potters making decisions with their minds and bodies about how best to make a pot. Overtime these bodily motions and the thoughts behind them have resulted in standardised, informal, apprenticeship-type learning by women from female relatives. The wide north-south coastal distribution of Type "C" production leads to a hypothesis that it was dispersed by sea-faring families that settled along the Southeast Asian East Coast at widely dispersed points. (See Map and Tables 1-4).

The technology's distribution inland from the coast could document Cham movement and influence through the Vietnamese Central Highlands into Northeast Cambodia and southern Laos. Certainly, these people have been in contact with others over the many generations they have lived in these areas. Women would see women making pots and either learn from them or attempt to copy their handwork. Over time, the technology would migrate across the landscape, with women adapting it to local sources of clay and temper, firing, climate, etc., as well as turning their capable minds to issues of efficiency and beauty. Thus, change and adaptation would occur in this art.

Today's consumer of this art incurs an obligation to understand the processes which women produced it and the uses to which it can be put. The "middle-man/woman" in this process must inform the consumer of how and why this is art, how it was produced, and its uses. While these are fragile pieces, they are magnificent in their seeming simplicity. Admiration and curation of this work is essential to ensure the continuity of its production<sup>4</sup>.

#### **ILLUSTRATIONS**





Figure 2: (to accompany text 3.2, steps 11-13)





Figure 3: (to accompany text 3.3, steps 1-5)

# Figure 4: (to accompany text 3.3, step 7)





#### Table 1: Vietnam

Site #	Location, Province (ethnicity)	Date(s) visited	Latitude E	Longitude N	Prod.
				-	Туре
VN-03	Tri Duc (Palay Gok), Phan Hiep	7-2-98	108.5	11.10	E-C
	commune, Bac Binh, Binh Thuan	29-5-07	108° 30' 52.4"	11° 13' 17.3"	
	(Cham ethnicity)				
VN-04	Bau Truc (Palay Hamu Trok), Ninh	9-2-98	108.98	11.55	E-C
	Phuoc District, Ninh Thuan (Cham	30-5-07	108° 55' 44.0"	11° 31' 48.7"	
	ethnicity)				
VN-13	Hamlet 10, Tru Son Commune, Do	19-21-3-04	104.45	18.83	E-C
	Luong District, Nghe An Province	(at VME)	105° 26' 34.2"	18° 50' 04.0"	
	and surrounding area (Kinh ethnicity)	17-11-09			
		On-site visit			
		22-11-09			

VN-14 Hamlet Trap, Buon Trap township,	2-3-06	108.07	12.48	E-C
Krong Ana district, Dak Lak (Ede		108° 01' 22.2"	12° 29' 01.0"	
Bih ethnicity)				
VN-15 Hamlet Ro Chai A, Krong Kno	3-3-06	108.17	12.17	E-C
commune, Lak district, Dak Lak		108° 09' 59.8"	12° 11' 49.2"	
(M'nong Gar ethnicity)				
VN-16 Hamlet Krang Go, P'Róh commune,	9-3-06	108.55	11.71	E-C
Don Duong district, Lam Dong		108° 31' 52.2"	11° 43' 19.6"	
(Chu-ru ethnicity)				
VN-17 Bon Tang Klong (hamlet 2), Loc Tan	10-3-06	107.83	11.67	E-C
commune, Drom Tao Gum, Bao Lam,		107° 45' 31.2"	11° 34' 24.4"	
district, Lam Dong (Ma ethnicity)				
VN-18 Toun Kon Xom Luh, Dak To Re,	14 & 15-3-06	108.17	14.38	E-C
Kon Ray district, Kon Tum (Ba Na		108° 06' 57.0"	14° 23' 45.1"	
ethnicity)				

Table 2: Cambodia

Site # Location, Province (ethnicity)		Date(s) visited Latitude E		Longitude N	Prod.	
					Туре	
CA-06	Phum Pu Til, Srok Pichreada,	8-1-07	107.43	12.56	E-C	
	Mondolkiri (Phnong ethnicity)		107° 25' 55.1"	12° 32' 13.2'	"	
CA-08	Phum Lo'en Srei, Srok Lumphat?,	13-1-07	106.89	13.65	E-C	
	Ratanakiri (Tamphuan ethnicity)	16-1-7	106° 49' 59.4"	13° 38' 05.2	"	
		17-1-7				
CA-09	Phum Chan Ta Ngoy (Naa Ta	14-1-07	106.05	13.56	E-C* -	
	Paan), Srok Stung Treng, Stung		106° 02' 45.6"	13° 33' 42.2'	"inactive	
	Treng (Lao ethnicity)					

Table 3: Laos

Site #	Location, Province (ethnicity)	Date(s) visited	Latitude E	Longitude N	Prod.
					Туре
LO-27	Baan Saphuan, Muang Samakhisai	, Did not reach	106.88	16.08	E-C
	Attapeau (Sapouan ethnicity)	27-4-2006;	106° 51' 22.0"	15° 05' 47.5	"
		13-2-2007			
LO-28	Baan Choumphouy, M. Sanamxai,	26, 28, 29-4-	106.72	15.75	E-C
	Attapeau (Oy ethnicity)	2006	106° 47' 41.8"	14° 50' 16.7	"
		11-2-07			

LO-29	Baan	Noon	Sawang,	M.	Salavan,	30-4-2006	106.30	15.78	E-C
	Salava	an Prov	ince (Lac	ethn	icity)	AM only (rain)	;106° 17' 26.4"	15° 46' 57.4	"
						16-2-2007			
LO-30	Baan	Tha	Hin 1	Nua,	Muang	12-2-07	106° 29' 48.9"	14° 42' 47.9	"Е-С
Sanamxai, Attapeau (Lao ethnicity)					thnicity)				

Table 4	: Mala	avsia (1	peninsula)	
10010				

Site #	Location, Province (ethnicity)			Date(s) visited	Latitude E	Longitude N	Prod.
							Туре
MA-01	Kampong Mambon	g, Kuala	Krai,	14 & 15-7-98	102.15	5.45	E-C
Kelantan (Malay ethnicity)					102° 09' 44.7"	' 05° 27' 21.7	"

Map 1: Type "C" (Chamic) Production Sites in Mainland Southeast Asia



#### Notes

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