CHAPTER 10

Naming of traditional rice varieties by the farmers of Laos

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The collection of traditional rice varieties from throughout Laos, together with a summary of the diversity observed and its conservation, has been reviewed in Chapter 9 of this monograph. While undertaking the collection of germplasm samples from 1995 to early 2000, information was collected from farmers on the special traits and significance of the different varieties, including the vernacular names and their meanings. Imperfect as literal translations might be, the names provide an insight into the diversity of the traditional rice varieties of Laos. Furthermore, the diversity of names can, when used with care, act as a proxy for genetic diversity.

When collecting started, variety names were recorded in the Lao language and an agreed transliteration into English was developed. The meanings of the variety names were obtained from all possible sources, but particularly from the farmers who donated the samples, together with Lao extension officers and Lao research staff members who understood both Lao and English. Variety names were translated literally, based on the explanations provided by farmers. For example, the red color of glumes is often described in terms of the liquid from chewed betel leaf, which is dark red. Aroma is sometimes indicated by the names of aromatic flowers like jasmine or the response to the aroma that is emitted by the grain of particular varieties during cooking. This chapter provides a summary of the information collected on the naming of traditional Lao rice varieties. More detailed information is available from records of the collections maintained by the Genetic Resources Center at the International Rice Research Institute (IRRI) and in detailed reports of the collecting missions (Appa Rao et al 2000).

Components of variety names

Most rice variety names in Laos have three elements: a basic name, a root name, and a descriptor. The basic name is *Khao*, which means rice. However, there are several very common root names: *Khao na* (rice, lowland), *Khao hai* (rice, upland), *Khao niaw* (rice, sticky/glutinous), *Khao chao* (rice, nonglutinous), and others. The third element, a descriptor name, allows farmers to further identify particular varieties within groups. For example, the variety name *Khao niaw do* refers to a glutinous early-maturing (*do*)

variety, whereas *Khao niaw kang* indicates a glutinous rice variety of medium maturity (*kang*). Quite often, the word *Khao* is understood rather than being formally included in the name, so the name recorded was only the root name and the descriptor, such as *Khao phae deng* (profusely (*phae*) tillering, red (*deng*) variety).

Variety names with just one descriptor are the most common, but occasionally they may have two descriptors. Some examples of the dual-descriptor names are *Chao oon tam* (nonglutinous, soft, short), *Khaw pom kon dam* (white, globular grain, black apiculus), *Peek khaw gnay* (winged, white grain, big), and *Chao Lao-Soung dam* (nonglutinous, highland Lao, black grain).

Variants within varieties with similar root names

Naturally occurring variants of individual varieties are selected by farmers, tested for their performance, and maintained as new varieties. The number of variant forms varied considerably. For example, the variety *chao* (nonglutinous) has 159 variants (Table 1) as the farmer-consumers of nonglutinous rice use the prefix *chao* for most of the varieties they grow. In general, those traditional varieties that are grown extensively because of their adaptability and/or superior grain and/or eating quality have more variant forms. For example, variety *Khao kay noi* (small chicken rice) is a rainfed lowland glutinous variety valued for its excellent grain quality. It is grown extensively in the provinces of Houaphan and Xieng Khouang in the northern and northeastern regions. Among the collections of this variety, nine different forms were found with differences in glume color and other characteristics, with some of these varieties having additional descriptors in the varietal name to reflect these special traits (Table 2). Similarly, the glutinous variety *Khao sanpatong,* developed in, and introduced from, Thailand in about 1967, is extensively grown under rainfed lowland conditions throughout Laos. Within the collection, nine variants of this variety were identified, with differences in maturity time, aroma, and morphological characteristics (Table 2). Variation in the shape, size, and color of rice grains is often reflected within the root component *med* (grain) of the variety name. One of the most diverse varieties found throughout the country was *phae* (profusely tillering). Found in both upland and lowland environments, 38 different forms of *phae* were identified, with differences in maturity time and several morphological characteristics, such as presence or absence of hairs, color of glumes, and grain size.

Diversity of distinct variety names

For the total of 13,192 samples of traditional varieties collected from mid-1995 to early 2000 (Appa Rao et al 2002, Appa Rao et al, Chapter 9), variety names were recorded for all but 6% (789) of the samples (Table 3). As there are 48 recognized distinct ethnic groups in Laos (ADB 2001), most of whom speak markedly different languages, some of which are not all widely understood, some variety names could not be readily translated into the Lao language (and therefore into English). Some farmers, particularly the younger generation, are not aware of the variety names. Of

Table 1. Number of variant forms for some variety names.

Variety name	Meaning[a]	Variants	Variant groups with which the variety name is associated
Chao	Nonglutinous	159	Ethnic groups, maturity time, plants and animals
Dam	Black	26	Grain size, grain shape, endosperm type
Kam	Black	34	Grain size, maturity time, ecosystem, endosperm type
Khaw	White	40	Endosperm type, ecosystem, maturity time
Deng	Red	67	Size, shape, color, and quality of grain, aroma, maturity, pubescence, awns, yield, ecosystem
Leung	Yellow	29	Spikelet shape, awns, adaptation
Do	Early	105	Ecosystem, endosperm type, adaptation
Dok	Flowers	27	Different traits such as names of flowers, aroma, color
Kai	Chicken	10	Color, shape, and awns of spikelets, cold tolerance
Leb	Nail/toe	13	Bear, bird, dog, dragon, elephant, lady, rhinoceros
Mak	Fruit	114	Various fruits
Pa	Fish	33	Grain size, grain shape, flooding tolerance
Peek	Winged	16	Color, shape, and size of spikelets
Met	Grain	21	Size, shape, and color of grain
Mon	Globular (grain)	11	Maturity, endosperm type
Namman	Fat	11	Cow, crab, duck, sandalwood, sesame
Oon	Soft (grain)	11	Endosperm, grain size
Phae	Many (tillers)	38	Size, shape, color, and quality of grain, aroma, maturity, pubescence, awns, yield, ecosystem
Sanpatong	Sanpatong[b]	9	Maturity time, grain size, aroma

[a]Words in parentheses implied. [b]Sanpatong = name of variety originating from Sanpatong District, Thailand.

the 12,404 samples for which names were recorded, 1,414 were recorded as having ethnic names that were later translated into Lao and English, whereas the ethnic names for another 151 samples recorded could not be translated.

For the 12,404 samples collected for which variety names were recorded (or recorded and translated into Lao), 3,169 names were distinct. The prevalence of distinct variety names varied among the provinces in which collections were made (Table 3). The largest number of names (1,120) was recorded in the northern agricultural region and the least (583) in the southern agricultural region. The northern province of Luang Prabang, which has the largest area of upland rice of any single province, had the highest number (462) of variety names; the largest number of samples (1,244) was also collected in this province. Although fewer individual varieties were collected in some of the southern provinces, some of these had the highest number of unique

Table 2. Variant forms of the varieties *Khao kai noi* and Khao Sanpatong.

Variants of the variety *Khao kai noi* (small chicken rice)				
Lao name of variant	English name equivalent	Character	Source of sample	
			Province	Ecosystem
Khao kay noi	Chicken, small	Standard variety	Northern region	Lowland
Khao kay noi dam	Chicken, small, black	Black glumes	Houaphanh	Lowland
Khao kay noi deng	Chicken, small, red	Red glumes	Houaphanh	Lowland
Khao kay noi khaw	Chicken, small, white	White glumes	Houaphanh	Lowland
Khao kay noi leuang	Chicken, small, yellow	Yellow glumes	Houaphanh	Lowland
Khao kay noi lai	Chicken, small, striped	Striped glumes	Houaphanh	Lowland
Khao kay noi hai	Chicken, small, upland	Adapted to uplands	Houaphanh	Upland
Khao kay noi hom	Chicken, small, aromatic	Aromatic	Houaphanh	Lowland
Khao kay noi hang	Chicken, small, awned	Awned spikelets	Xieng Khouang	Lowland
Khao kay noi/nam yen	Chicken, small, cold water (tolerant)	Cold-tolerant	Houaphanh	Lowland
Variants of the variety *Khao sanpatong*				
Khao sanpatong	Sanpatong	Standard variety	Khammouane	Lowland
Khao sanpatong do	Sanpatong, early	Early maturity	Savannakhet	Lowland
Khao sanpatong do hom	Sanpatong, early, aromatic	Early maturity, aromatic	Vientiane Municipality	Lowland
Khao sanpatong gnay	Sanpatong, big	Large grains	Sekong	Lowland
Khao sanpatong hang dam	Sanpatong, black awned	Black-awned spikelets	Borikhamxay	Lowland
Khao sanpatong kang	Sanpatong, medium	Medium maturity	Sekong	Lowland
Khao sanpatong ngan	Sanpatong, late	Late maturity	Sekong	Lowland
Khao sanpatong noi	Sanpatong, small	Small grains	Vientiane Municipality	Lowland
Khao sanpatong pee	Sanpatong, late	Late maturity	Vientiane Municipality	Lowland

variety names (a variety was regarded as unique to a province when it was recorded as having been collected only in that province). In the southern province of Attapeu, approximately 62% of the samples collected (and named) were classified as unique (Table 3). Other provinces with high levels of unique varieties were Sekong in the south and Phongsaly in the north, for which 54.7% of the samples collected in both provinces were categorized as unique. These three provinces (Attapeu, Sekong, and Phongsaly) are remote and they have high levels of ethnic diversity in their population. As might be expected, the number of different names and the proportion of samples with unique names were lower in Vientiane Municipality and other provinces of the central agricultural region in the Mekong River Valley, whose population has less

Table 3. Distribution of variety names among regions and provinces of Laos.

Region/ province	No. of samples collected	No. of samples with names	Number of names	Number[a] of unique names	Unique[a] names as % total for province	No single-name occurrences	Single-name occurrences as % total for province
Northern region	5,915	5,613	1,120	–	–	968	–
Luang Prabang	1,244	1,162	462	191	41.3	158	21.1
Sayabouly	984	949	416	168	40.4	140	23.7
Luang Namtha	858	798	406	202	49.8	190	27.7
Oudomxay	848	814	343	116	33.8	99	17.4
Bokeo	686	665	299	103	34.4	87	19.8
Phongsaly	664	646	373	204	54.7	177	37.3
Houaphanh	631	579	300	136	45.3	117	29.0
Central region	4,625	4,321	613	–	–	513	–
Savannakhet	989	968	358	148	41.3	117	21.0
Khammouane	867	840	296	102	34.4	86	15.4
Vientiane Province	787	717	331	108	32.6	89	19.8
Borikhamxay	594	560	273	91	33.3	77	19.8
Xieng Khouang	560	535	223	74	33.2	64	17.6
Vientiane Municipality	486	380	197	48	24.4	43	16.1
Saysomboun Special Region	342	321	161	42	26.1	37	17.1
Southern region	2,652	2,469	583	–	–	482	–
Champassak	842	773	283	97	34.3	77	15.8
Saravane	774	741	335	144	43.0	110	26.3
Attapeu	640	596	336	209	62.2	180	42.3
Sekong	396	359	243	133	54.7	115	45.7
Total	13,192	12,403	3,169	2,316[b]	–	1,963	–

[a]Recorded for a single province; a unique name may have been recorded more than once within a province. [b]This is the total number of different names across all provinces (and not the sum of this column); 853 (26.9%) of the names were recorded in more than one province.

ethnic diversity and where opportunities have been greater for the exchange of modern varieties across provincial and national boundaries. The adoption of introduced improved varieties before the collecting missions reported in this chapter has also been greater.

There is greater diversity, and therefore diversity of names, of the varieties grown in the upland environment than in the lowlands. This probably reflects several factors, such as the greater ethnic diversity within the population in the uplands and their associated diversity of preferences for food quality attributes (endosperm type, grain quality, aroma of cooked grain, etc.) in the types of rice they grow. The diver-

sity of upland varieties also probably reflects the greater diversity in the agroclimatic conditions under which these varieties are grown.

Diversity of variety root names

The most common root names reflected the fact that a variety was glutinous or nonglutinous, together with the color of the seed (Table 1). The most common root names recorded were *chao* (nonglutinous) (159 times), *do* (early) (105), *deng* (red) (67), *kam* (black) (34), and *pa* (fish) (33 times) in the collection of 12,404 samples for which names were recorded. Some root names are slightly different in the Lao language but have the same meaning; for example, black (usually referring to the color of the glumes) can be referred to by the root names as either *kam* or *dam.* The root name *peek* (winged or long glumes) was recorded in 16 variety names. Although variety names are mostly distinct, and varieties often have unique characters associated with the name, the same apparent variety is sometimes called by different names by different ethnic groups. Conversely, varieties with different morphological and physiological characters (Photo 10.1) are sometimes given the same name by different groups. For example, the variety *Khao kam* (black rice) differs for a large number of characters, but farmers use the same name as long as the pericarp is black or purple, and generally ignore all other characteristics. Similarly, they use the name *Khao peek* (winged rice) for any variety that has long glumes, ignoring all other characteristics. Hence, there may be more varieties with specific characteristics than the lists of names indicate.

The naming of varieties by Lao farmers

Lao farmers use a functional system to name a variety that is based on useful characters that make it readily identifiable, and sometimes to reflect its more innate characteristics (particularly those relating to cooking and eating quality). Table 4 summarizes the diversity in the common names that were recorded in the collection of 12,404 samples of traditional rice collected in 1995-2000.

Naming of varieties to reflect endosperm type, grain quality, and aromatic characteristics

Lao farmers give names to varieties based on endosperm type: *niaw* (glutinous or sticky) and *chao* (nonglutinous). Some traditional varieties are intermediate between glutinous and nonglutinous forms and their names reflect this characteristic: *Khao chao niaw* (rice, glutinous/nonglutinous). These varieties are regarded (by the Lao farmers who grow them) as nonglutinous, but they become sticky like glutinous rice after cooking. The eating quality of these intermediate types is generally regarded as inferior to that of the recognized glutinous and nonglutinous types. The amylose content of such varieties ranges from 5% to 15% and they are characterized by having grain that remains very hard after steaming (as required for glutinous rice), but which becomes soft after being cooked in the manner of nonglutinous rice. Examples of these intermediate types were found in Kham District of Luang Prabang in the northern

Table 4. The most common names used in the naming of rice varieties by Lao farmers.

Group	Names
Animals	Spider (*beung*), deer (*kouang*), chicken (*kay*), buffalo (*khouay*), rhinoceros (*haed*), monitor lizard (*lan*), dog wild (*ma nay*), brown bear (*mee-uay*), cow (*ngoua*), rat (*nuu*)
Animal blood	Blood of deer (*leuad fan*), blood of rhinoceros (*leuad haed*), blood of bird (*leuad nok*)
Animal nails	Toe of dog (*leb maa*), nail of black bear (*leb mee dam*), toe of Naga (*leb ngeuak*), claw of bird (*leb nok*), toe of elephant (*leb saang*),
Animal organs	Turtle shell (*ket tao*), bone of palat fish (*kang palat*), hair of cow (*khon ngoua*), back of turtle (*lang tao*), cow milk (*nom ngoua*), eyes of frog (*ta khiat*), liver of brown bear (*tab mee-uay*)
Animal tails	Tail of eel (*hang ean*), tail of chicken (*hang kay*), tail of dog (*hang maa*), tail of horse (*hang maa*), tail of otter (*hang nak*), tail of civet (*hang ngen*), tail of cow (*hang ngoua*)
Animal teeth	Teeth of buffalo (*kheow khouay*), teeth of dog (*kheow maa*), teeth of horse (*kheow maa*), teeth of pig (*kheo muu*)
Animal manure	Cow dung (*khii ngoua*), buffalo dung (*khii khouay*)
Birds	Crow (*ka*), parrot (*nok keo*), hill myna (*nok khek*), wild quail (*nok khoum*), owl (*nok khouw*), dove (*nok khoua*), pheasant (*nok kod* and *nok peud*), finch (*nok peed*), quail (*nok tha*)
Ethnic group	Kui, Hmong, Black Hmong, White Hmong, Hor, Katu, Khmu, Kor, Laobid, Laotheung, Lenten, Leu, Museur, Pako, Phay, Phutai, Taliang, Yaheun, Yang, Yao, Yuan
Fish	Goby fish (*pa bou*), giant snakehead fish (*pa do*), perch (*pa kheng*), bitter fish (*pa khom*), scorpion fish (*pa lad*), eel (*pa laay*), improved fish (*pa phan*), rasbora fish (*pa siev*), jullien's mud carp (*pa soi*)
Flowers	Aster flower (*dok chan*), Hien flower (*dok hien*), aromatic flower (*dok hom*), Keaw flower (*dok keaw*), Pandanus, galanga flower (*dok kha*), shorea flower (*dok khagnom*), golden flower (*dok kham*), golden shower tree flower (*dok khoun*), wild sugarcane flower (*dok louw*), yellow flower (*dok leuang*), jasmine flower (*dok mali*), aromatic flower (*dok om*), coconut flower (*dok phao*), gardenia flower (*dok phoun*), blooming flower (*dok tek*), flower (*dok teuy*), drooping flower (*dok teuy*), tiaw flower (*dok tiaw*), orchid flower (*dok pheung*)
Fruits, nuts, and vegetables	Kaffir lime fruit (*mak khie houd*), ley fruit (*mak ley*), cucumber (*mak teng*), fruit of bid tree (*mak bid*), almond (*mak bok*), sponge gourd (*mak bouab*), red fruit (*mak deng*), fruit of banyan tree (*mak hay*), liam fruit (*mak liam*), fruit of lod (*mak lod*), fruit of mulberry (*mak mone*), fruit of mouay (*mak mouay*), fruit of moy (*mak moy*), bottle gourd (*mak nam tao*), lemon (*mak nao*), sesame (*mak nga*), fruit of ngoua (*mak ngoua*), passionfruit (*mak nod*), fruit of phan (*mak phan*), fruit of marian plum (*mak phang*), fruit of coconut (*mak phao*), fruit of bodhi tree (*mak pho*), fruit of phod (*mak phod*), fruit of phoua (*mak phoua*), fruit of jute (*mak po*), fruit of sugar palm (*mak tan*), fruit of tek (*mak tek*), cowpea (*mak thoua*), durian (*mak thoua lien*), ash gourd (*mak ton*), fruit of toun (*mak toun*), fruit of jambolan tree (*mak wa*), fruit of rattan (*mak vay*), star gooseberry (*mak fay*), orange (*mak kieng*)
Country	America, China, Czechoslovakia, Japan, India, Cambodia, Laos, Myanmar, Philippines, Thailand, Vietnam
District (within Laos)	Thakhek, Luang Prabang, Khob, Ngeun, Hongsa, Houyxai, Houn, Viengthong, Khong, Beng, Ham, Kao, Khoua, La, Leuy, Long, Nga, Nong, Sing, Nambak, Ngoy, Pakse, Phonsavan, Pialad, Taoey, Thateng, Vangvieng, Xiengsen

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Table 4 continued.

Group	Names
Provinces (within Laos)	Sekong, Luang Namtha, Samneua, Phongsaly, Saravane, Savannakhet, Sayabouly, Xieng Khouang
Provinces (elsewhere)	Ubon (Thailand), Khon Kaen (Thailand)
Rivers and water	Hi (Nam Hi), Hoy (Nam Hoy), Kai (Nam Kai), Kha (Nam Kha), Khoun (Nam Khoun), Neun (Nam Neun), Nga (Nam Nga), Ou (Nam Ou), Paa (Nam Paa), Pee (Nam Pee), Soua (Nam Soua), Toon (Nam Toon), Xeng (Nam Xeng), Lay (Nam Lay)
Villages	Bong, Deua, Keaw, Kuen, Lem, Pheng, Phon, Pong, Poung, Sok, Tad, Tay, Tem, Bengkham, Hadsa, Nagnang, Nalong, Nangoy, Nadeng, Nagnao, Nangom, Nakan, Nakok, Nalee, Naleng, Napan, Napho, Napoung, Nasala, Nasan, Naso, Nateun, Natong, Thongkham
Names of people	Bouakham, Leng, Kham, Kong, King, Cho, Ke, Koum, Le, Leuam, Lod, Lon, Long, Loua, Louy, Mang, Noi, Oe, Ouy, Phouan, PO, Pouad, Rak, Se, Seng, Soy, Ton, Took, Tou, Vieng, Yee, Khambou, Khamdeng, Khamhok, Khamhoua, Khamlay, Khamlone, Khammalone, Khamphay, Khamphone, Khamsen, Bounlang, Kongchay, Xiengdee, Phan, Ay, Bounma, Choum, Deng, Dom, Gni, Keaw, Khouay, Kon, La, Mao, Som, Tia, Houng, Bay, Tem, Houm, Sy, Thongchanh, Pee

agricultural region, and in Outhoumphone District in Savannakhet in the lower part of the central agricultural region.

One of the most important criteria for selecting a variety is grain quality. Two well-known traditional lowland varieties with excellent grain quality and good aroma are known by the romantic names of *Khao nang nuan* (rice, soft lady) and *Khao hom nang nuan* (rice, sweet smelling, soft lady). At the time the collections were made in 1997, these varieties were being grown extensively in parts of Vientiane Province, particularly in Vangvieng District. The aromatic characteristics of a variety are often likened to well-known aromatic flowers such as the jasmine flower and the strongly aromatic wood, sandalwood (Table 5). Sometimes, the variety name reflects poor grain quality characteristics, as with *Khao hav* (rice, grain cracks) and *Khao pheng* (rice, floury endosperm). The nature of the grain after cooking is also sometimes reflected in the name. One lowland glutinous variety grown in Sayabouly District of Savannakhet with particularly hard grain is called "broken jaw rice" (*Kang loud hak*). The names of other varieties that reflect their good quality include *Leum pua* (forgets husband)—this variety is so aromatic and good to eat that it is likened to a wife who, on eating the rice, forgets that her husband has yet to eat. Another such variety is called *Pha nya leum kheng* (the king forgets his soup)—the king, on eating this rice and finding it so good, forgets to eat his soup. The word *ma* (dog) is often linked to the eating quality of varieties. For example, *Khao mayeng* (a poor-quality variety) means "rice watched by a dog," based on the belief that a dog will eat the grain of this variety only reluctantly, preferring to sit and stare at it. The names *Ma thoun* (dogs wake up) and *Ma keu* (dogs rush) indicate rice of such good quality that dogs will interrupt their sleep or come rushing when they smell the aroma of the grain of these varieties after cooking. A variety collected in Sekong Province is called *Khao leum ma leum meo* (rice,

Table 5. Varietal names reflecting aromatic and eating quality.

Character	Lao name[a]	Literal English meaning of variety name	Source of collection (province and ecosystem[b])	
Aromatic	*Aham*	Aromatic	Savannakhet	UP
	Ahom	Aromatic	Sekong	UP
	Hom	Aromatic	Khammouane	L
	Ba hom	Aromatic rice	Sekong	UP
	Chao hom	Nonglutinous aromatic	Houaphanh	UP
	Chao hom khao	Nonglutinous aromatic and white	Houaphanh	UP
	Chao mali	Nonglutinous jasmine	Khammouane	L
	Chao hom mali	Nonglutinous aromatic jasmine	Vientiane Municipality	L
	Hom mali niaw	Aromatic, jasmine, glutinous	Borikhamxay	L
	Hom mali kang	Aromatic, jasmine, medium (maturity)	Vientiane Municipality	L
	Dok mali	Jasmine flower	Vientiane Municipality	L
	Hom bay	Aromatic leaves	Borikhamxay	L
	Hom chan	Aromatic, sandalwood	Champassak	L
	Hom nuan chan	Aromatic, sandalwood, soft	Vientiane	L
	Naman chan	Sandalwood oil	Luang Prabang	UP
	Hom deng	Aromatic, red	Khammouane	L
	Hom dok dou	Aromatic *Pterocarpus* flower	Vientiane Municipality	L
	Hom keaw	Aromatic crystal	Vientiane Municipality	L
	Hom Nang nuan	Sweet smelling, soft, young lady	Borikhamxay	L
	Hom sam heuan	Aromatic, three houses	Borikhamxay	L
	Hom saa-ngiem	Aromatic, pleasant	Vientiane	L
	Hom saa-nga	Aromatic, highly	Borikhamxay	L
	Hom oudom	Aromatic, highly	Sayabouly	L
	Hom Phama	Aromatic Myanma	Sayabouly	L
	Hom Thai	Aromatic Thai	Savannakhet	L
	Hom seethii	Aromatic rich person	Borikhamxay	L
	Hom ngan	Aromatic, late	Sekong	L
	Intok hom	(From) Intra, aromatic	Champassak	L
	Tok hom	Aromatic from heaven	Champassak	L
	Thoua hom	Leguminous aromatic	Oudomxay	U
	Ma tuen	Dog wakes up	Khammouane	L
	Leum pua	(Woman) forgets husband	Houaphanh	UP
Good eating quality	*Leum ma leum meo*	Forgets the dog and the cat	Sekong	L
	Ma keu	Dog rushes (the rice)	Luang Prabang	UP
	Nam Pheung	(Taste) like honey	Borikhamxay	L
	Namtan	(Taste) like sugar	Vientiane	L
	Nuan	Soft	Sekong	UP

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Table 5 continued.

Character	Lao name[a]	Literal English meaning of variety name	Source of collection (province and ecosystem[b])	
	Nang nuan	Soft lady	Sekong	L
	Nuan chan	Soft aster (flower)	Luang Prabang	L
	Oon dam	Soft and black	Luang Namtha	L
	Phanga leum Keng	King forgets soup	Attapeu	L
	Oon dam	Soft black	Luang Namtha	L
	Oon thong	Soft field	Luang Namtha	L
	Ma ngaeng	Dog stares	Borikhamxay	L
	Khang vay	Broken jaw	Sayabouly	UP
	Khang loud hak	Broken jaw	Sekong	L
	Peng	Floury (endosperm)	Sekong	UP
	Peng hang	Floury (endosperm) and awned	Savannakhet	UP
Poor eating quality	*Hav noi*	Cracks, small	Sekong	UP
	Hav ngan	Cracks, late	Savannakhet	UP
	Hav leum pua	Cracks, forgets husband	Sekong	UP
Poor endosperm quality	*Hav leng*	Cracks, dry	Sayabouly	UP
	Hav do	Cracks, early	Khammouane	UP
	Hav dam	Cracks, black	Borikhamxay	L

[a]Most varietal names are prefixed by the word *Khao,* which means rice. [b]L = lowland, UP = upland ecosystem.

forgets dog, forgets cat) on account of it being so good that, when it is being eaten, it is so tasty that the needs of the dog and the cat are forgotten. The name *Khao sam heuan* (rice, three houses) indicates that the variety is so aromatic that, on cooking, it can be smelled over an area occupied by three houses, not just the house in which it is being cooked (Table 5).

Names reflecting grain characteristics

The names of varieties can often reflect their grain characteristics—size, shape, and color, and combinations of these (Table 6). "Black" rice is usually clearly identified by its name in both upland and lowland environments: *Khao kam* or *Khao dam*. However, other grain colors and grain characteristics often tend to be reflected more in the names of traditional varieties grown in upland areas than those grown in the lowland environment. With the exception of names identifying red pericarp in nonglutinous varieties, names reflecting variation in pericarp color other than red were found only in glutinous varieties. Red pericarp nonglutinous varieties were found in Luang Namtha Province. Fish (*pa*) are consumed regularly (fresh or fermented) by the Lao and are an important part of the diet. Thirty-three of the names recorded were fish-related (Table 3). *Pa siev* (tiny carp) indicates that the grains are long and slender. Similarly, the variety name *Ked tao* (turtle shell) is used to indicate the shape of the grain, but also thick and hard glumes (Table 6).

Table 6. Varietal names reflecting grain characteristics.[a]

Characteristic	Lao name[b]	English meaning	Province, endosperm type, and ecosystem		
Grain size	*Met gnay*	Big grain	Vientiane	G	UP
	Do met noi	Early (maturity), small grain	Champassak	NG	L
	Kang met gnay	Medium large grain	Vientiane	G	UP
	Kang noi	Medum small grain	Sekong	G	L
	Chao met noi	Nonglutinous, small grain	Champassak	NG	L
Grain color	*Dam pi*	Very black	Sayabouly	G	UP
	Dam lay	Black striped	Xieng Khouang	NG	UP
	Dam soung	Black, tall	Sayabouly	G	UP
	Dam peek	Black, winged	Luang Namtha	G	UP
	Khaw phoy	White, brittle	Luang Prabang	G	UP
	Khaw nok met dam	White glumes, black grain	Houaphanh	G	UP
	Khao pee	White, late (maturity)	Luang Prabang	G	UP
	Khao soung	White, tall	Champassak	G	L
	Leuang nga	Yellow ivory	Sekong	G	L
Grain shape	*Met gnao*	Long grain	Sayabouly	G	L
	Chao mon	Nonglutinous, globular	Borikhamxay	NG	UP
	Chao met pom	Nonglutinous, globular	Sayabouly	NG	L, UP
	Lang tao	Back of turtle	Luang Namtha	NG	UP
	Ket tao	Shell of turtle	Khammouane	G	UP
	Ket tao	Shell of turtle	Champassak	G	L
	Pa siev	Carp, tiny	Attapeu	NG	L
	Pa siev	Carp, tiny	Borikhamxay	G	UP
Grain color and size	*Dam met gnay*	Black, large grain	Luang Prabang	G	UP
	Dam noi	Black, small grain	Xieng Khouang	NG	UP
	Khao noi	White, small grain	Borikhamxay	G	UP
	Leung met noi	Yellow, small grain	Luang Prabang	G	UP
	Met gnao khaw	Long grain, white	Borikhamxay	G	UP
Grain color and shape	*Dam met gnao*	Black, long grain	Phongsaly	G	L
	Kam met pom	Black, globular (grain)	Vientiane	G	UP
	Khao pom	White, globular	Borikhamxay	G	UP
	Met gnao khaw	Grain, long, white	Borikhamxay	G	UP
	Khao pom kon dam	White, globular, black apiculus	Houaphanh	G	UP
	Lueng pom	Yellow, globular	Luang Namtha	G	UP

[a]G = glutinous, NG = nonglutinous, L = lowland, UP = upland. [b]Many of these names are preceded by the prefix *Khao*, meaning rice.

Naming of varieties to reflect their stress tolerance

Lao farmers have selected varieties that have resistance to some of the commonly occurring stresses such as drought or flooding. Drought is an important production constraint in both the rainfed lowland and rainfed upland environments (Schiller et al 2001). Drought tolerance of varieties is reflected in the use of a range of root names such as *Bo ngo nam* (does not care for water), *Do nam pa* (early maturing, water vanishes, it can escape drought), *Khok* (upper terrace, which is the most drought-prone lowland

Table 7. Varieties named to reflect particular characteristics of stress tolerance.

Stress tolerance	Lao variety name[a]	English meaning	Province and ecosystem	
Drought	*Beua nam*	Does not need water	Luang Namtha	L
	Heng	Dry	Sekong	UP
	Na leng	Dry paddy field	Sayabouly	L
	am heng	Without water	Phongsaly	L
	Peud nam	No need for water	Savannakhet	L
	Thon leng	Drought-tolerant	Luang Prabang	L
Flooding	*Long Kong*	Flows in the Mekong	Bokeo	L
	Louk pa	(Like a) fish fingerling	Vientiane	L
		(Like a) fish swimming	Vientiane, Sekong	L
Low temperature	*Nam yin*	Cold water (tolerant of low temperature)		
Lodging			Xieng Khouang	L
	Aev	Bends (but does not break)	Bokeo	UP
	Aev dang	Bends and whitish	Bokeo	L
	Aev deng	Bends and red	Luang Prabang	UP
	Aev gnay	Bends, big	Luang Prabang	UP
	Aev noi	Bends, small	Luang Prabang	UP
	Baang lom	Protects from wind	Oudomxay	L
	Pan lom	Protects from wind	Vientiane	L
	Tam Cheen	Short Chinese	Luang Prabang	L
	Bong	Bamboo (strong stemmed)	Houaphanh	L
	Kok lek	Iron stemmed	Luang Namtha	L
	Kok lek	Iron stemmed	Houaphanh	
Pest tolerance				
Birds	*Li nok*	Avoids birds	Bokeo	UP
Weeds	*Phae nga*	Competes with weeds	Sayabouly	L
Other pests	*Ea Pouak*	Resists termites	Champassak	L
Broad adaptability	*Bo hina*	Does not refuse any field	Sekong	L

[a]Many of the names have the prefix *khao* (meaning rice). [b]L = lowland, UP = upland.

area), *Ea phon* or *Phon* (ant hill), and many others (Table 7). Flooding commonly occurs along the Mekong River and its tributaries. Variety root names that indicate an adaptation to flooding in such areas include many such as *Loy pa* (floating fish) and *Louk pa* (fish fingerling) that reflect an ability of rapid stem elongation. Many of the traditional varieties grow very tall and lodging is a major constraint. Varieties that do not lodge are called by names such as *Kok lek* (iron stem), *Bong* (bamboo stem), *Aev* (flexible stem), and *Tia* or *Tam* (short plant), for example. Names can also indicate adaptation to poor soil conditions, such as *Bo hina* (any field). High-altitude areas in the northern region can encounter low temperature toward the grain-filling stage. A variety reported to be adapted to these conditions was collected in Xieng Khouang Province, known locally as *Khao nam-yen* (rice cold water). Resistance to biotic stresses such as birds is indicated by the name *Li nok* (hidden against birds; for this variety, the panicle is "protected" by the upper erect leaves of the plant and

Table 8. Names given to reflect the high yield potential of varieties.

Lao variety name	Literal English meaning of name	Province, endosperm type, and ecosystem[a]		
Khao baa li	Yield so great that it breaks the shoulders of the carrier	Vientiane	G	L
Khao lave tek	Yield so great that the rice store collapses	Luang Namtha	NG	L
Khao ye tek	Yield so great that the rice store collapses	Luang Namtha	G	L
Khao leua lave	Yield exceeds the capacity of the rice store	Borikhamxay	G	L
Khao leua na	Production exceeds the capacity of the field	Borikhamxay	G	L
Khao lod kwien	Yield so great it exceeds the capacity of the cart to carry the grain (rice drops from the cart)	Khammouane	G	L
Khao meun lan	12:1,000,000 (12 seeds planted give 1 million grains)	Luang Prabang	G	UP
Khao jet roy	700 (one seed planted gives 700 grains)	Borikhamxay	G	L
Khao phokha leum khuay	Yield is so great that the merchant forgets the buffalo	Vientiane Municipality	G	L
Khao loong ban	The yield is so great and the owner so overwhelmed that he/she forgets the path to his/her home	Luang Prabang	G	UP
Khao loong ban keut	The yield is so great that the owner forgets the road to the village of his/her birth	Sayabouly	G	L
Khao mae hang leum pua	The yield is so great that the divorced woman forgets her husband	Khammouane	G	L
Khao mae hang tob euk	The yield is so great that the divorced woman beats her chest	Borikhamxay	G	UP
Khao ngod nang	The yield is so great it is like a "superwoman"	Vientiane	G	UP
Sao leum ngang	The crop is so bountiful that the young girl forgets to continue her walk	Vientiane	G	L

[a]G = glutinous, NG = nonglutinous, L = lowland ecosystem, UP = upland ecosystem.

so is less obvious to birds). *Phae nya* (win over weeds) indicates good competition with weeds (Table 7).

Names reflecting yield potential

When a variety is regarded as having a high yield potential, this is often reflected in its name (Table 8). These names often reflect the difficulty in transporting the grain produced back to the village or problems in storing the large quantity of grain produced: *Baa lii* (broken shoulders, the yield is so heavy that it breaks the farmer's shoulders when the grain is being carried to the village) and *Lod kwien* (falls from the cart, the yield exceeds the capacity of the cart to carry it and so some falls from the cart) reflect the difficulty in transporting all the grain produced by these varieties, whereas the names *Lave tek* (broken store) and *Leua lave* (exceeds the store) reflect the storage difficulties associated with the high yields of these varieties. The high yield potential of some varieties is sometimes associated with women such as with the varietal names *Gnod nang* (super woman), *Mae hang* (divorced woman), and *Mae hang leum pua*

Table 9. Variety names that reflect the "foreign" origins of varieties.[a]

Lao varietal name	English equivalent	Endosperm type	Source of collection (ecosystem and province)	
Khao Philippine	Philippine rice	NG	Attapeu	L
Khao Amelika	American rice	NG	Attapeu	L
Khao India	Indian rice	G	Sayabouly	L
Khao Do Phama	Myanmar early rice	G	Champassak	L
Khao Hom Phama	Myanmar aromatic rice	G	Sayabouly	L
Khao Czek	Czechoslovakia rice	NG	Xieng Khouang	L
Khao Do Yuan	Vietnamese early rice	G	Khammouane	L
Khao Viet	Vietnamese rice	NG	Sekong	L
Khao Do Viet	Vietnamese early rice	G	Champassak	L
Khao Kang Viet	Vietnamese medium rice	G	Attapeu	L
Khao Thai	Thai rice	G	Luang Prabang	UP
Khao Kampouchia	Cambodian (Kymer) rice	NG	Attapeu	L
Khao Khamenh	Cambodian (Kymer) rice	NG	Attapeu	L
Khao Kamenh Do	Cambodian early rice	NG	Attapeu	L
Khao Cheen	Chinese rice	NG	Bokeo	L
Khao Tam Cheen	Chinese dwarf rice	G	Luang Prabang	L

[a]NG = nonglutinous, G = glutinous, L = lowland, UP = upland.

(divorced woman forgets husband); the latter two names relate to the yields of these varieties being so bountiful that, in the first case, the woman is so busy harvesting that her impatient husband leaves her, whereas, in the second case, the woman is so busy with her crop that she forgets her divorced husband. In the reverse sense, the variety *Mae maay* (widow) is so named because it often produces some unfilled grain and empty spikelets. The use of such varietal names also reflects the fact that many of the rice farmers in Laos are women.

Variety names reflecting the place of origin of varieties

Some names indicate a variety's country of origin (Table 9), such as *Khao Phama* (rice, Myanmar), *Khao Thai* (rice, Thailand), *Khao Viet* (rice, Vietnam), *Khao Kampuchea* (rice, Cambodia), *Khao Nippon* (rice, Japan), *Khao Czek* (rice, Czechoslovakia), *Khao India* (rice, India), *Khao America* (rice, America), *Khao Philippine* (rice, Philippines), and others. However, the country identity of such varieties sometimes refers to the country identity of the organization or agency that made a variety available rather than the variety actually originating from the country identified in the name. The variety names *American rice* and *Philippine rice* were designated by farmers for varieties introduced and distributed by the Philippine Brotherhood Movement and USAID, respectively, during the latter part of the 1960s and early 1970s. However, in many instances the varieties bearing country names relating to China, Vietnam, Cambodia, and Thailand were collected from Lao provinces adjacent to or near those countries, suggesting that these varieties were introduced from those countries (pos-

sibly by farmer-to-farmer exchange across country borders rather than being officially introduced) and given names to reflect the country of origin. Some variety names also reflect other historical factors relating to the source of the variety. For example, the variety called *Khao intok* (rice from heaven) collected in Champassak District of Champassak Province and Mahaxai District of Khammouane (in the southern and central agricultural regions, respectively) reflects the fact that its cultivation was based on seed collected after rice was dropped into the area by USAID-sponsored flights, during the late 1960s and early 1970s, in an effort to alleviate the severe rice deficits that existed in many upland areas as a result of disruption to the normal cropping cycles during a period of internal conflict within Laos.

In addition to names that reflect the "foreign" origins (or association) of a variety, many varieties have names that refer to their more local origins—province, district, village, river, and person. These are listed in Table 4. Those names with a geographic connotation generally indicate that the variety came from that particular location. Names identified with people can mean that a particular individual (after whom the variety was named) was responsible for developing the variety, or can sometimes indicate that the person after which the variety has been named was responsible for introducing it to a particular area as a "new" variety. Similarly, many varieties carry the names of particular ethnic groups within Laos (Table 4); the naming of such varieties in this way generally indicates that the variety has been sourced from a village of a particular ethnic group, and has then been grown elsewhere by another ethnic group, with the latter giving the variety a name to reflect the origins or source of the seed.

Conclusions

The richness and the diversity of the characteristics in the traditional rice varieties of Laos are clearly demonstrated in the names given to them by Lao farmers. Within this context, the importance of the quality of the rice grown and consumed by the people of Laos is manifest in the way many of the varieties have been named to reflect various quality characteristics of glutinous and nonglutinous grain, in both its cooked and uncooked forms, and in both the upland and lowland environments. The analogies of the superior qualities of some varieties with the qualities of women (as reflected in the names of some varieties with superior aromatic and eating quality) might be interpreted as representing a solid imagination as well as the elevated status of women in Lao society.

In most instances, the variety names given reflect desirable qualities such as yield potential, stress tolerance, good grain quality, aroma, and others. It might therefore be regarded as surprising that some of the varieties collected (and being maintained by rural households) have names that reflect relatively undesirable qualities such as hard grain, a tendency for cracking, floury endosperm, etc. It might naturally be assumed that, given the importance that the rice farmers and consumers of Laos place on desirable qualities, those varieties with undesirable qualities would normally be discarded in the process of farmer selection for desirable characteristics. That these varieties are retained probably indicates that they possess other desirable qualities (such

as adaptation to climatic stresses, tolerance of pests and diseases, or perhaps they are retained for specialist consumption purposes) that are not revealed in the name.

The diversity of imaginative names given to the traditional rice varieties of Laos reflects the potential value of the indigenous knowledge relating to the history of these varieties, thereby highlighting the importance of proper documentation of this knowledge, at the same time that efforts are made to preserve and conserve the traditional rice germplasm. This knowledge will inevitably be lost as the traditional varieties are replaced by improved varieties and as the current generation of farmers is replaced. In the main rainfed rice-growing region of the Mekong River Valley, it has already been noted (Schiller et al 2001) that, within a period of about 7 years after about 1993, the area sown to traditional varieties had dropped from in excess of 90% to less than 20% (and less than 10% in some provinces).

The record of variety names, when used in association with other passport data for the traditional rice germplasm samples collected and preserved, has the potential to be of considerable value when looking for specialized traits for incorporation into a future variety improvement program, to provide varieties with special characteristics for the different growing environments throughout the country.

The diversity of names presented in this chapter does not reflect the full diversity within the country. Language problems with some of the 48 ethnic groups within the country made it difficult to translate some variety names into Lao and English.

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Notes

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Acknowledgments: The authors gratefully acknowledge the support provided by the Swiss Agency for Development and Cooperation for the rice biodiversity conservation project. This project was implemented by the International Rice Research Institute in collaboration with the Lao Ministry of Agriculture and Forestry. Particular acknowledgment is given to the farmers of Laos, who so freely provided the information that has formed the basis of this chapter, together with the many Lao officials who assisted with the data collection.