Legacy of Kum Dye: A case study with the Meitei community in Manipur, Northeast India

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Research

Abstract

Kum (*Strobilanthes cusia* (Nees) Kuntze) dye is used for applying black and indigo color to loin loom **phanek**, a Meitei women's formal folk dress known as **kum** dyed **phanek** (KDP). The legacy of the **kum** plant still exists in the public domain, however, it competes with chemically dyed cloth, branded as KDP. Interviews were conducted in three villages of Imphal valley with KDP producers. A significant correlation was found between use of traditional **kum** dye (KD) and age of knowledge holders. Economic viability and demand for KDP are also significantly correlated. A major drawback of original KDP weaving is the brittleness of thread and unavailability of **kum** plants. The study focused on economic activities and feedback that could revive the KD and KDP cultural traditions.

Introduction

Kum is a popular term applied for the Meitei women's **phanek** known as **kum** dyed **phanek** (KDP). There is an underlying assumption by the public that traditionally dyed **salu phanek** or **kum phanek** are still prevalent in Manipur. However, what people are usually buying is falsely branded as KDP and is rather chemically dyed **phanek** produced by commercial artisans.

Kum dye (KD) is obtained from the **kum** plant (*Strobilanthes cusia* (Nees) Kuntze). **Phanek** is cloth woven on a loin loom cloth. Together these are called **kum phanek** although the original name is **salu phanek**. Manipuri women cover the upper portion of the body by a **phimatak** and a skirt type loin cloth called **phanek** which is wrapped around the waist up to ankles. It is tied at the waist by a simple adjustment knot by arranging the wrapping ends of the cloth. **Kum phanek** possess unique qualities which makes them novel products. The Meitei women wear **kum phanek** for all sorts of formal outings, social gatherings, cultural activities, and religious ceremonies. Women possessing **kum** dyed **phanek** (KDP) hold them as a matter of pride among other women.

The people of Manipur are well-known for their hand looms and handicrafts. Manipuris have practiced their own dyeing method which flourished along with royal patronage (Mutua 1997, 2000). Colorful fabrics and clothes of the Manipuri people are the outcome of an indigenous dyeing technology that has been passed from generation to generation. The traditional skill of hand loom weaving and dyeing forms not only a status symbol but also an indispensable aspect of socioeconomic life.

Strobilanthes cusia (**kum**, Manipuri) is the most important plant used in the dyeing of clothes by various communities in Manipur (Akimpou *et al*. 2005, Sharma *et al*. 2005, Singh 2003, Singh *et al*. 2009). "There is an inextricable link between indigenous ethnic culture and biological diversity" (Gosh 2003, Krattiger 1994, Maheshwari 1996, Shiva 1994). The Kharam tribe of Manipur used to bar-

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Ethnobotany Research & Applications 10:561-570 (2012)

Published: November 26, 2012

www.ethnobotanyjournal.org/vol10/i1547-3465-10-561.pdf

ter *S. cusia* leaves and walnuts (*Juglans regia* L.) with the Thadou tribe. The Maring, Thangal, Chothe, Makhan tribes used *S. cusia* as a tribute to the Meitei kings from the reign of the King Khagemba (Mutua 1997, 2000). Before the advent of the chemical dyes, the Meitei communities had used the leaves of *S. cusia* for producing a unique blue-black and indigo colored dye.

Among the Meitei, the production and maintenance of KD fabric qualities are believed to be the blessing of the goddess Kum lairemma. A strict taboo is associated with KD preparation and whoever broke the taboo is believed to be stricken with a disease called **kumlaichuba** (Mutua 1997). The extraction of dye and dyeing clothes and fabrics are considered as important cultural activities and therefore, the Meitei sovereign country assigned particular clans for dyeing particular colors. Traditional institutes such as **hijang sangaisenba loisang**, **sangsaroi loisang**, **kumsang**, etc. existed to look after the dyeing technology in the state. Traditional **kum** fermenters, dyers and weavers are employed with the designation as **kumsubis**. The knowledge about extraction and dyeing methods dates back to the 11th century A.D. and still persists in a few valley localities (Mutua 1997, 2000). The **kum phanek** cottage industry was earlier carried out in three localities assigned with divisions of labor including: **kum** fermenters, **kum** dyers, and **kum** weavers. From, the middle of the 20th century, chemical dyes became available in the markets and there was subsequently a decline in use of **kum** dye. The division of labor for KDP degraded, as weavers started dyeing threads by themselves with the easily available chemical dyes.

Some earlier workers have commented that “natural dyes” were used for their easy availability, economics and eco-friendliness, by the weavers for imparting different shades of colors to different clothes or threads (Akimpou *et al.* 2005, Gokhale *et al.* 2004, Singh 2003, Singh *et al.* 2009, Siva 2007). A number of traditional vegetables dyes that are important legacies of the state are thus being discarded due to ignorance of their real value. With the global acceptance and revival of natural dyes, there is an urgent need to bring back to life the knowledge and use of traditional dyes. This study focuses on three aspects: i) documentation of traditional *S. cusia* fermentation (**kum** fermentation) and dyeing techniques, ii) exploration of the reasons behind the disappearance of KD, and iii) assessment of the drawbacks, commercial value and possible revival of KDP.

Strobilanthes cusia

Strobilanthes cusia (Acanthaceae) is a shrub about 1 meter high. Its leaves are 10-18 cm long, membranous, having 6-7 lateral nerves on either half and a cuneate leaf base which narrow into a three cm long petiole. Flowers are blue and arranged in densely panicled spikes. Flowers are usually opposite with ovate, deciduous bracts. Calyx segments are linear-spathulate and corollas are 4 cm long and glabrous (Deb 1961).

In the past the plant was reported to be found wild distributed but it was overharvested for KD and now considered extinct in the wild. During the present field survey it was found conserved as a sample species by some conservationist and museum authorities since it is closely associated with Meitei community cultural and social aspects.

Methods

Study site

The state of Manipur lies in the North-eastern part of India. It is within the Indo-Burman hotspot region which ranks 8th among 34 biodiversity world hotspots (Meyers *et al.* 2000). It is situated between 23°50´N and 25°´41´N latitude and 93°2´E and 94°47´E longitude with a total area of 22,327 km^2 (Vedaja 1998). Manipur is primarily inhabited by the Meitei along with a number of hill tribes. It has a population of 22,93,896, with members of the Meitei community constituting about 40% of the total population (Census Report 2001). The state has 9 districts in two categories: valley (Imphal east, Imphal west, Bishnupur & Thoubal) and hill (Churchandpur, Ukhrul, Chandel, Tamenglong & Senapati). Valley districts are dominated by Meitei while hill districts are dominated by tribal peoples.

Three villages in Imphal east and west (Kodompokpi, Lilando lampak, Maibam leikai) have inhabitants associated with the **kum** tradition (Figure 1). These villages are small rural Meitei communities, having about 570 persons with agriculture as the main economic activity. The villages have an ancient division of labor for the KDP industry, but with the availability of chemical dyes, the division of labor is degraded. The whole KDP market of the state was under the control of these villages.

Sampling and surveys

Surveys were conducted by the authors during November, 2008 – February, 2011 in 3 villages (Kodompokpi, Maibam leikai and Lilando lampak) in Manipur, India. The people residing in these sites are similar in that they are ethnically Meitei, with Meitei religious laws, cultural norms, and speak Manipuri. Traditionally, the **kum** industry was based only in these 3 villages. For this study, artisans (defined as traditional **kum** dyers, **kum** weavers and KD fermenters) presently working on KDP related work, were selected as knowledge holders. In order to maximize the value of research time and resources, the researchers preferred to work with a selected number of knowledge holders who are the oldest or longest term residents in an area (Pfeiffer & Butz 2005).

Cluster sampling was used to select informants with the three villages considered as clusters. Random sam-

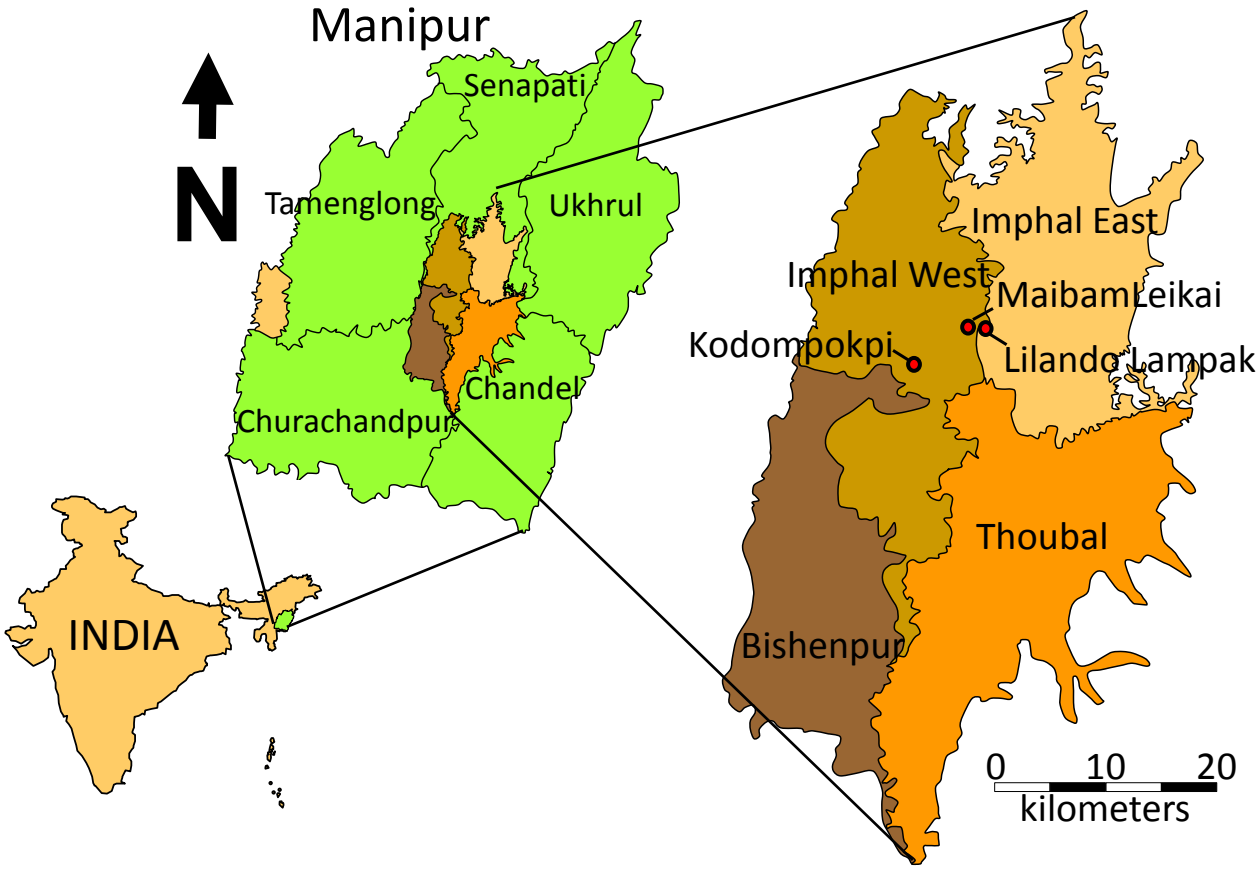

Figure 1. Location of the three villages (Kodompokpi, Lilando Lampak and Maibam Leikai) in valley Districts (Imphal East, Imphal West, Bishenpur, and Thoubal) of Manipur, India. Hilly districts are Senapati, Tamenglong, Ukhrul, Churachandpur, and Chandel

pling was performed within each cluster to select knowledge holders. A questionnaire with semi-structured and open-ended questions was prepared. Interviews were conducted in Manipuri within the home for each knowledge holder loosely following recommendations of Martin (1995). Questions focused on knowledge about **kum** plants, modes of KD preparation, dyeing technique, weaving methods, KDP characteristics, popularity, demand, and revival of traditions. Demographic characteristics were collected including: artisan ages (sorted in intervals 20-40, 41- 60, & 61+), gender, and occupation (**kum** fermenter, dyer, weaver). Kum product characteristics were also recorded including: quality (luster after washing, comfort and flexibility, color (black / indigo), and smell), popularity (social value, traditional attire, unique quality), year of replacement (before 1970, 1971-1980, & 1981-1990), limitations (unavailability of plants, lack of skilled labor, cumbersome process, easy availability of chemical dyes), source (wild, market, and other sources), knowledge of KD making process (expert, familiar, or no idea), drawbacks in weaving (thread brittleness, dependency on weather conditions, time consumption, no idea), reduction of kum availability (habitat loss, over exploitation, pollution, or forest fires).

Opportunistic discussions, group discussion of the interview results, and market surveys were also conducted by the authors. These served to assist in the interpretation and contextualization of the results.

Data were analyzed (Brim & Spain 1974, Kottak 1991) using SPSS Version 19. Based on previous research and a familiarity with cultural norms, we began this survey with the assumptions that: 1) the KDP is no longer existing at present but, chemical dyes are being used instead, and 2) knowledge of traditional KDP increases with age of informant.

Results

Traditional kum industry division of labor in study sites

Kodompokpi village (Imphal west): The main role of residents in the past was **kum** fermentation or dye making. Presently, no one works commercially on **kum** fermentation. Our inquiries were able to identify seven knowledge holders whose ancestors were previously worked on KD

making. They provided a practical demonstration of KD fermentation for the study. We were also able to interview the grandson of belated Keina Devi who was known as the mother of KD making in the Kodompokpi area. They reported some areas where they used to collect the plant leaves in the past and areas this plant might be growing now, but, when the authors examined those areas, the plant was not found.

Lilando lampak village (Imphal East): We recorded only two families that previously worked on thread dyeing. These dyers used to get the KD from the previous site Kodompokpi, and they used to dye the threads brought by the later Maibam lekai weavers. The authors were lucky to interview a lone woman, Waikhom Punimashi Devi (aged 86) (Figure 2), who was a **kum** dyer as her only profession, and still surviving with sound health. Only two informants were able to be interviewed here.

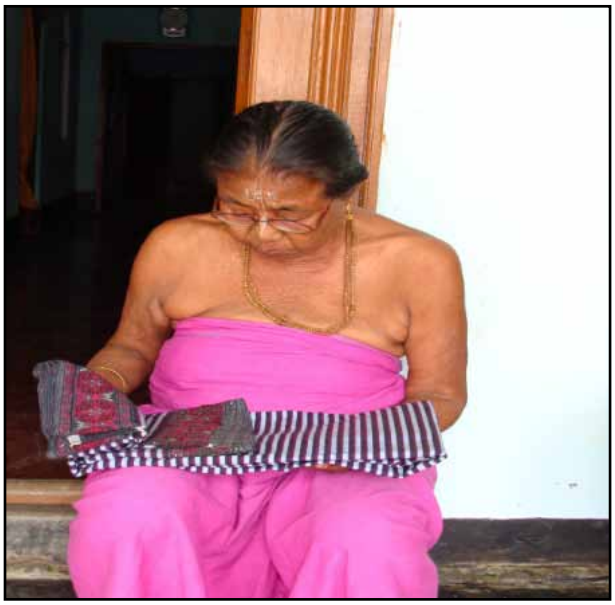

Figure 2. Traditional **kum** dye user ,Waikhom Punimashi Devi (aged 86) in Lilando lampak, Imphal East, Manipur, India.

Maibam lekai (Imphal West): This village is presently working on **kum** weaving. Since time immemorial, people of this village are engaged in weaving and marketing of the KDP. People from all over the state buy KDP from this area. Every household had one or more artisans who are weaving KDP for their livelihood. Since market products are low priced, they use chemical dyes but sell as KDP. A majority of informants (52) were from this site.

Profile of informants

The knowledge holders were all skilled weavers, dyers and **kum** fermenters. Most of the oldest informants were doing the work of dyeing and weaving simultaneously. The profile of the knowledge holders is shown in Table 1. Altogether, 61 knowledge holders interviewed were dyers and weavers (30), weavers (22), dyers (2) & **kum** fermenters (7). Educational levels of knowledge holders were well distributed with 23% (illiterate), 48% (able to read and write), and 29% (attended school up to 10 standard+). The study was based on the information of these knowledge holders.

Table 1. Age interval with sex ratio and marital status (Married, +, Unmarried, -) of **kum** dye knowledge holders in three villages in Manipur, India.

Knowledge holder age	Female		Male	
	-	+	-	+
20 - 40	10	7	0	1
41 - 60	0	19	0	3
61 >	1	18	0	2
Total	**11**	**44**	**0**	**6**

Traditional dyeing Process

The preparation of KD and subsequent dyeing are tedious precesses requiring strong attention. The generalized process of the traditional KD technology is outlined in Figure 3. The steps in the process are outlined below.

Preparation of kum leaf and shoot paste

Mature leaves and young shoots of *S. cusia* are collected from January to March. These are put inside earthen pots. The pot is then filled up with water and allowed to ferment in sunlight for 3 days. When the plant materials have fermented, a thick dark colored liquid mass is formed. Then the material is transferred to a new pot.

Preparation of lime solution or paste

For traditional **kum** dyeing, a special lime paste, locally known as **kum-sunu**, is used. Oyster (*Unio* sp.) shells are collected, particularly from the Kongba River, and are used as the main source of this paste. A straw bed (90 x 7 cm) is laid out with about 500 shells on it. Dried cow dung cakes (5-7 cm) are spread over the straw bed. The shells are sandwiched between cow-dung cakes and covered with straw and further covered with cow dung-cakes. A fire is then lit on the top as well as on two sides and the whole heap is burned for five to six hours. After allowing the whole thing to cool, the brittle and dark grey remains of the oyster shells are collected by hand and powdered with a mortar and pestle. The powder is sieved through a **gamsha** (muslin cloth) and is then stored in a metal tin for further use. For making the lime solution, lime powder is added to an earthen pot (or metal pot). Water is heated separately on a low flame of firewood. When fairly hot it is slowly transferred to the heated lime powder pot by

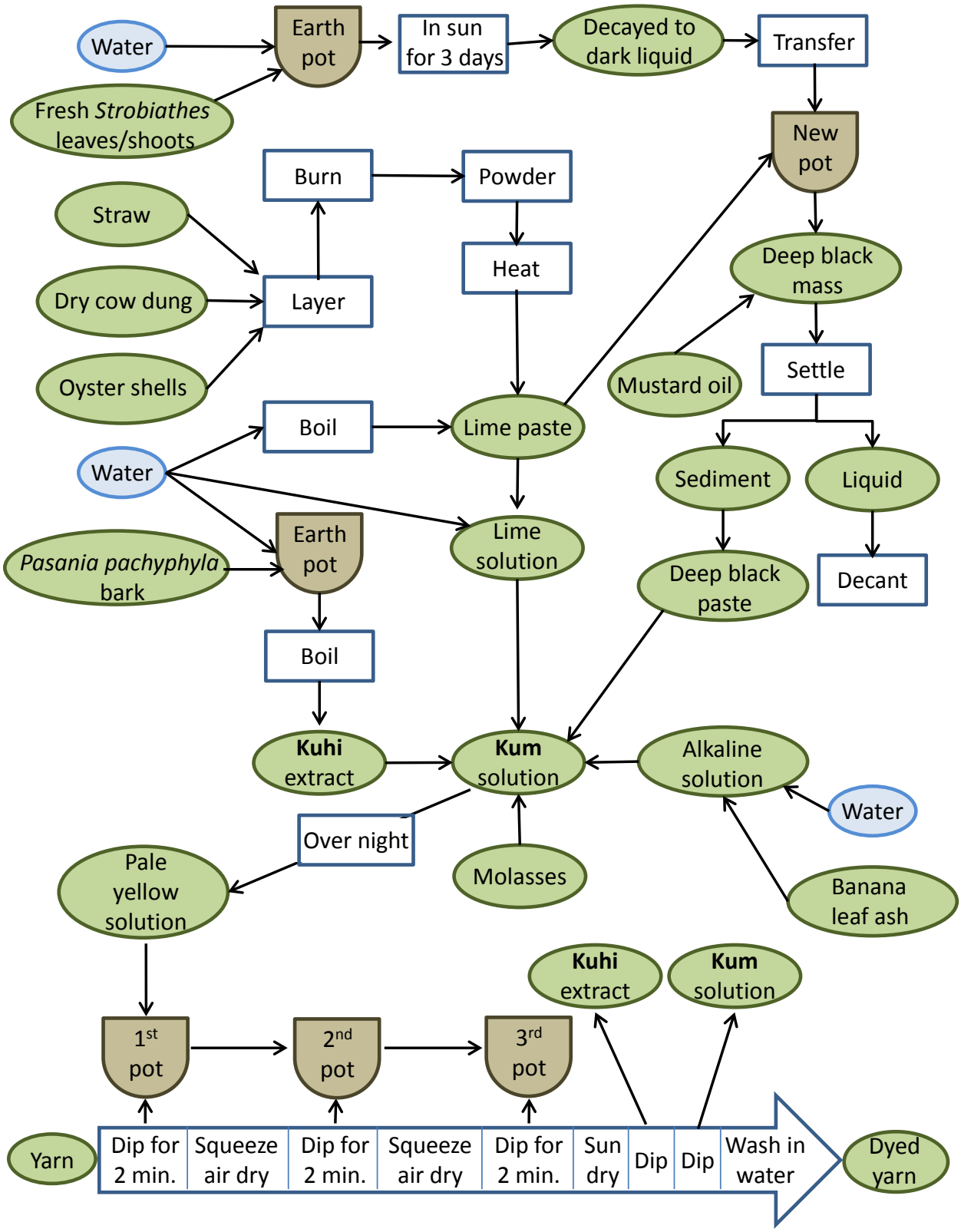

Figure 3. Process of traditional **kum** dye production and yarn dyeing by Meitei community in Manipur, India. Materials for dye production are: Fresh *Strobilanthes cusia* (Nees) Kuntze leaves/shoots, straw, dry cow dung, *Pasania pachyphylla* (Kurz) Schottky bark, banana leaf ash, mustard oil (to control effervescence), molasses, water, and earthen pots.

stirring vigorously with a long bamboo ladle. Usually 1/3 proportion of a pot of burnt shell powdered is heated and treated slowly with hot water, filling the pot almost to the brim to give a thin lime paste.

The dark color liquid mass of **kum** is mixed with the lime paste slowly stirring all the time with bamboo ladle. For about 18 to 20 liters of fermented **kum** mass (Figure 4B) about four handfuls of lime paste (about 200 g) is required. The mass of lime is vigorously stirred continuously. Production of effervescence is controlled by mixing in mustard oil. When the paste becomes deep black it is allowed to settle down leaving an upper clear liquid. Then the liquid layer is removed by decantation leaving only the black paste at the bottom of the pot. The latter is collected using a cotton cloth to drain the excess liquid. The thick dark paste serves as the **kum** dyeing paste which should kept moist all the time.

Dry paddy straw (*Oryza sativa* L.) or dry banana leaves (*Musa acuminata* X *balbisiana* Colla) are burned and ash is collected. The ash is dissolved in water and filtered several times through a bamboo basket. This process is continued until an adequate alkaline solution is collected in an earthen pot. This, alkaline solution is used to fix the dye to the thread (acting as a mordant).

Kuhi, *Pasania pachyphylla* (Kurz) Schottky bark is collected and boiled in water until a deep brown colored liquor is obtained. The **kuhi** extract can be kept for a fairly long time (months) with water being added from time to time to keep the level of the liquor. The **kuhi** extract is used to improve dye uptake of fabric, and to improve color.

Dyeing of cloth yarn with kum dye paste

The **kum** paste, **kuhi** solution, lime solution, and alkaline solution are mixed with some molasses in an earthen pot. The **kum** paste is first added in the pot and other solutions are added later in any order. The mixed solution is stirred thoroughly and kept overnight. A successful mixed solution attains a pale yellowish color. Three pots (15-20 liters each) were arranged in a row for regular transfer from the stock solution.

The dyeing is done usually in the morning. Beforehand in the evening, prior to actual dyeing, the pot of KD stock is replenished with fresh lime solution. For four knots (about 300 g) of cotton yarn, a quarter of the **kum** paste in a pot (about ½ liter) is required for two to three dyeing sessions. Thus, the stock of two liters of KD paste can be used for eight to 12 dyeing sessions of about 300 g of cotton yarn. These may be twice or triple dyed each day according to convenience. The optimum color is obtained in about 8 or 12 dyeing sessions. For every two to three dyeing ses-

Figure 4. Process of **kum** dye production and yarn dyeing by Meitei community in Manipur, India. **A**. *Strobilanthes cusia* (Nees) Kuntze (**kum**) plantlets being vegetatively propagated; **B**. **Kum** cakes or paste; **C**. Chemical dyed yarn; **D**. **Kum** dyed yarn; **E**. Yarn preparation using the traditional instrument called **tareng**; **F**. Weaving with a loin loom (**khwang**).

sions, fresh ingredients are added. Lime solution of about 100-150 mg, alkaline solution of about 400-500 ml, and liquid molasses of about 200-250 g were required for every two to three dyeing sessions. Yarn to be dyed is put in the KD solution for two to three minutes, then taken out, squeezed and air-dried. The process is repeated in the second and third pots. Then the fabric is hung in the open yard for some time for partial drying. A deep bluish black color is developed in the yarn usually after repetition of eight or more dyeing sessions. Before, the final dyeing step, the yarn is treated in the **kuhi** bark solution. Then, it is dipped in the KD solution for the last time to give a very deep bluish black shade. After the final dyeing the yarn is washed thoroughly and allowed to dry which gives the final shade (Figure 4D).

Popularity of Kum phanek

Most of the informants (48%) credited the popularity of KDP in the Manipur Meitei community with its unique quality. 30% indicated that social status, and 23% popularity of traditional attire. The popularity of KDP at various age intervals is given in Table 2.

KDP possess characteristics which makes it quite different from presently available chemical dye **phanek**. 38% of artisans reported that luster after the first wash, 33% comfort and flexibility, 18% blue black effect, and 13% pleasant smell as superior qualities of the natural dye. The presently available chemical dye is below par when compared with the KDP. It is only good for single use as its color fades away after a wash (67%), has a distracted effect (13%), no pleasant smell (5%), and is uncomfortable or rigid (15%).

Loss of Traditional Knowledge

In the past, during the KDP golden-age, there was a division of labor between villages serving as **kum** fermenters, **kum** dyers, and **kum** weavers. Recent use of chemical dyes by weavers has reduced this division. Although KD has remained as a legacy, there were very few people who consider themselves as “experienced” having practical experience with **kum** fermentation or KD production processes. A majority of people interviewed have “heard” about the process steps but do not have practical knowledge. A third of those interviewed had no idea about fermentation steps and techniques. The distribution of traditional knowledge of KD production processes is shown in Table 3.

Table 3. Occupation and knowledge of traditional way of **kum** dye processing among informants in Meitei communities in Manipur, India.

Informant occupation	Traditional kum dye process knowledge		
	Experienced	Heard	Not
Kum dyer/weaver	9.8	36.1	3.3
Weaver	1.6	3.3	31.1
Dyer	3.3	0	0
Kum fermenter	8.2	3.3	0
Total	**23.0%**	**42.6%**	**34.4%**

KD production is the process of making KD paste from the **kum** leaves. Traditional KD knowledge is gradually changing with generations. The spearman’s rho correlations between knowledge of traditional KD making processes and age of the knowledge holders is -0.651 which is significant at the 0.01 level. This indicates that gradual loss of traditional knowledge is happening from older to younger generations.

The market of KDP is controlled by the artisans or knowledge holders so they are the ones who decide the value of **kum** cloth in the market. They used to sell the falsely branded chemical dye **phanek** as high grade KDP as well as low grade. When asked about the demand of KDP by the customers, 98% preferred original KDP over the chemically dyed **phanek**. Women are used to purchasing **kum phanek** as this is a part and parcel of life. There is every reason to believe that this will continue to be economically viable. Earlier, the artisans were not in a mood to agree that the original KDP does not exist, but later in the course of interviews, they agreed.

Most of the knowledge holders (56%) attributed the decline of the **kum** culture to the unavailability of the plant itself. 21% cited lack of skilled manpower, and 15% reported that the cumbersome process is the reason for the decline. Only 8% of the knowledge holders proposed that the easily available chemical dye is the cause of decline in the **kum** culture.

Another possible reason for the decline in the **kum** culture is the problems faced during the weaving pro-

Table 2. Reasons for popularity of **kum** dyed **phanek** (KDP) among key informants in Meitei communities in Manipur, India.

Knowledge holder age	Why do you like to posses KDP		
	Social value	Traditional attire	Unique quality
20 - 40	6	11	1
41 - 60	10	1	11
61 >	2	2	17
Total	**18**	**14**	**29**

cess. Brittleness of **kum** thread dyed and heavy time consumption in the traditional weaving process are some of the major hurdles faced in **kum**-dyed weaving (Figure 4E,F). This traditional method of weaving also depends on the weather conditions the cloth cannot be woven during the rainy season (it will become frizzy). Artisans with expertise in traditional weaving methods cited heavy time consumption (51%) as the main hurdle. They only considered the weather conditions (10%) and brittleness (21%) of the thread as limitations in weaving method.

Collection of the plant

When **kum** dye was flourishing, the dyers used to collect the leaves from the wild (90%), while 2% cited markets as the source of **kum** plants, and 8% reported that they found the plants growing in other localities. There are diversifying opinions regarding the decline of **kum** plants in their natural habitat. Reduction of the natural habitat is considered an important reason for decline by 35% of the knowledge holders. 25% proposed that extensive harvesting, and 13% pollution is the problem.

Revival of kum

Chemical dyed **phanek** branded as KDP is still commonly purchased so there is a demand for products called KDP. Even though there is concern for revival of **kum** among the professional **kum** workers, only a fraction of those surveyed are actually involved in conserving **kum** plants. Most of the weavers (85%) are not growing plants, while the remaining 15% are actually conserving **kum** plants as sample species.

Even among the **kum** growers, reasons for using **kum** vary. Among **kum** growers, 56% are growing **kum** for social purposes and 11% for medicinal properties. Interestingly, 33% are growing **kum** for dyeing purposes although they used to use chemical dyes. Their reason now is to have the pleasant smell of KDP.

Out of the knowledge holders (Figures 2,5) who recently started to grow **kum**, 89% are formerly collected **kum** from the wild (Table 4). Knowledge holders who purchased **kum** from the market did not also grow **kum** plants. Professionals who collected **kum** from the wild mostly did so for social purposes (44%). The Pearson chi-square test between mode of collection of **kum** plants and reason for revival of **kum** culture is 12.689 that is significant at 0.05 indicating an association between the two variables.

Table 4. Reasons for growing and collection method of **kum** in Manipur, India.

Reason for growing kum	Mode of kum collection (%)				
	Wild	Garden	Market	Others	Total
Dyeing	33.3	0	0	0	33.3
Social	44.4	0	0	11.1	55.6
Medicinal	11.1	0	0	0	11.1

Figure 5. Traditional knowledge holder of **kum** dye and weaving processes in Manipur, India.

Alternative uses of S. cusia

In addition to the dyeing, *S. cusia* is used for medicinal purposes and other social purposes (Sinha 1996). Recently, some conservationists or museum authorities have conserved this plant because it is culturally and socially valuable in the Meitei community in Manipur. Some of the knowledge holders used to grow it for its medicinal purposes including treatment of skin infection, snake and poisonous bites.

Discussion

The pattern of observations supports our hypothesis. We saw the artisans using chemical dye only for dyeing the presently available **phanek** and moreover KDP started declining since the 1970s (and was almost lost in the 1990s) mainly due to the unavailability of the plant. With the loss of the habitat, extensive harvesting, and others factors including easily availability of chemical dyes, the practice of **kum** dyeing has ceased to exist. The presently available KDP is not the original one. However, a majority of the knowledge holders proposed that they should be called **kum-shabee** which implies imitation KDP. Interestingly, all of the artisans or knowledge holders prefer the prefix "**kum**" since it is most popular for loin cloths. Still now, common people were under the impression that KDP exists and that purchasing the duplicate or chemical dyed

phanek is original KDP. The present practice is to apply the chemical dye (Sulphur black) to the cloth and then use **kum** leaf paste to provide its characteristic smell to claim the loin cloth as KD which is sold for high prices (Mutua 1997).

Our results suggests that KDP is closely associated with the socio-cultural aspects of the Meitei community. Women must wear **phanek** for all sorts of formal outings, religious ceremonies, marriages, and it is the identity of Meitei women in India. We also had the privilege of seeing samples of original KDP possessed by some of the artisans as their personal belongings. Regarding the popularity of the KDP, it was evident that the majority of knowledge holders (41 aged - above) credited it for unique quality that is lustrous after every wash, comfortable, black-blue colored with a pleasant smell. While, the younger generation (20 to 40) was less aware of the quality, they were more conscious about the role of traditional Meitei attire.

The age and gender–based pattern of traditional knowledge about KD were very distinct. There is a gradual loss of traditional knowledge. The pattern observed also supported our second hypotheses. We saw a greater command of traditional **kum** knowledge with increased age and also with experience acquired irrespective of the present occupation of the artisans. A majority of **kum** processing activities were done by women. There is no longer a sharp distinction of labor in the process.

Among **kum** fermentation artisans, a majority (71%) have actual practical experience with the KD production process. Finally, in the age interval 20-40 were mostly weavers following in their parents footsteps (except one woman, Tampaklei Devi (39 years), who happens to be the kinsfolk of Keina Devi).

Though there is a desire for revival of the **kum** culture, limitations and drawbacks in the traditional method hamper the process. Its main drawbacks were source of plant material, cumbersome process, lacked of skilled artisans and brittleness of thread. However, we are suggesting that KD can be revived. A proposal is made by the authors to solve the main drawbacks in order to make the original KDP available on the market. The major drawback for source of plant material can be solved through vegetative propagation. Large scale cultivation can be done (Figure 4A). Secondly, the drawback of cumbersome processes can be reduced by hastening the KD production process through adopting new bio-technology methods. Mutua (1997) reported that addition of soda (Sodium bi-carbonate) hastens the fermentation process. Thirdly, there are some knowledge holders who are highly skilled in each division of work KD processing. These elderly artisans must be supported and assisted in training others before they expired. Finally, brittleness of the thread can be solved by increasing thread strength through techniques such as boiling, scouring and bleaching. Expertise in the textiles and vegetable dyeing should be organized with the artisans participation with specialists on handicraft marketing.

Localized or specialized traditional knowledge is more prone to loss than common knowledge. This study calls for development of guidelines that might enable revival of the original KDP to generate sustainable and supplemental incomes for **kum** growers, fermenters, dyers, and weavers.

Conclusion

The study indicates that KDP the loss of **kum** dye use lead to subsequent loss of the species from wild. It also reveals a formal recognition that KDP is almost lost and the presently available product is a synthetic duplicate. The traditional knowledge holders are slowly disappearing. KD making, **kum** dyeing, and **kum** weaving can yield practical benefits for communities. Support is needed from development agencies for integrating handicrafts into the national economic strategies and raising the status and productivity of **kum** dye workers. This research lays a foundation for a modern venture. Considering its commercial demand, it is high time for the revival of KD and also the conservation of **kum** plants.

Acknowledgments

The authors are grateful to the weavers, dyers and other knowledge holders for their full cooperation and coordination. We are also thankful to the Head, Centre for Advanced Study in Life Sciences, Department of Life Sciences, Manipur University, Manipur, India for facilities and encouragement. The authors are also indebted to Prof. Arunkumar, Head, Department of Earth Science, Manipur University for the preparation of study site map.

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