

## Strengthening Community Livelihood around a Peat Swamp

*Pak Phanang seeks to improve the situation of sedge weavers to reduce poverty.*

### Background

Sedge grasses are considered an economic plant in the Pak Phanang River Basin since these are used for basketry and mat weaving, thatching, fencing, rope making, among others. Several species are recorded as having medicinal properties while others have the potential for use in erosion control and sand stabilization. Most of the sedge grasses are found in Khuan Kreng swampland in Nakhon Sri Thammarat, Thailand which occupies an area of 108,245 rai.

### Sedge as a Livelihood and related Occupational Hazards

Kuan Kreng is considered a public land and a conservation area. Each village is allowed to utilize more than 400 rai of land which extends from Nadon canal to the peat land. Farming is the main livelihood of people in the area. Despite being designated as conservation area, villagers were allowed to harvest fish and cut sedge and operate rice farms around Kuan Kreng, but were prohibited to dig water channel for other agricultural operation.

However, soil conditions in the peat land do not lead to productive farming for the communities since it is waterlogged and at the same time contain high acid level with low mineral content. The high acidity of the soil was brought about by the continuous run-off of chemical-rich water from other surrounding farms during flooding seasons. On dry seasons, the peat land is also prone to forest fires brought about by human activities such as clearing the land for planting other crops. With



(Left) Aerial view of Kuan Kreng peat swamp in Pak Phanang River Basin, Thailand.  
(Right) Sedge grass used for making handicrafts.

less rice production, many rice farms were abandoned and converted to rubber farms. To counter further soil acidity, the Royal Irrigation Department offered assistance to let more water flow into the peat land. Over time, grass species such as sedge has grown extensively in the area.

More than 400 rais of peat land in Kreng sub-district are dominated by sedge. Because of its abundance, people have utilized sedge to convert to various handicraft products such as mats, bags and other accessories. Villagers believe that sedge weaving has operated for more than 400 years in their community where indigenous knowledge in production have been passed on from one generation to the next. This livelihood activity has become an important alternative source of employment for farmers and their households and has continued to grow until the present.

During the initial stage of production, naturally derived colors

are often used. However, this becomes unpopular as the colors produced fade easily and do not stick to the leaves. This caused the sedge weavers to resort to using chemical dyes for color. Increased market competition with other villages producing similar handicrafts and production that emphasizes on quantity rather than quality have forced these local communities to rampantly use chemical dyes and neglecting safe occupational practices, thus deteriorating not only the environment but their personal lives as well.

According to locals, sedge dyeing was not considered an indigenous practice since this was just adopted 4-5 years ago to develop new creative design for local products. The constant exposure to such chemicals threatened their overall well-being as health issues became prevalent over time. It was also found out that sedge weavers were exposed to dusty working environments aside from the unprotected use of chemicals for dyeing / waxing.

Laboratory analysis showed that the chemical used for sedge dyeing contains heavy-metals such as cadmium and mercury which diffuses well in the environment and could lead to long-term health problems. In some cases, symptoms of exposure takes three years to show and some people do not notice any effects at all although the high chemical content is already found in their blood. Health experts from Nakhon Sri Thammarat Provincial Public Health Office and Kuan Kreng Health Station believe that these problems are caused by direct use of chemicals during sedge dyeing.

Aside from chemical dyes, sedge weavers do not wear protective materials such as nose-cover pads, gloves, or long-sleeved shirts at work. As such, they are prone to direct contact with the chemicals and are usually unaware of its potential hazards. Though villagers do realize these effects, they confessed that these practices are often difficult to change.

### The Change Process

Improving the livelihood situation of the community entails strengthening their capacity on the process of product development as well as making them aware on the effects of unsafe working practices.

To initiate this approach, the Asian Coastal Resources Institute-Foundation (CORIN-Asia) facilitated two workshops on natural-based color

product design were conducted for the sedge-weaving group in Village 11, Kreng sub-district last September 2007 and May 2008. A similar workshop was also conducted in Ban Nern Tham Mung Cloth-weaving Center in June 2008 since their members utilize sedge in Kreng sub-district. At the end of the workshop, guide books were developed to disseminate knowledge on chemical-free sedge handicraft. In addition, CORIN-Asia has launched a research on eco-friendly dye. The results have shown that colors used in making patterns on containers and glazed tile does not contain heavy metal or contamination and can be used in sedge dyeing.

Likewise, the Nakhon Sri Thammarat Industry Promotion Center and in collaboration of CORIN-Asia held a demonstration workshop on new dyeing technique and was attended by 20 participants in 2 villages. The workshop focused on several techniques such as painting, light and color-based dyeing technique, and chemical-free dyeing technique. Participants showed positive feedbacks particularly on the dyeing procedure and the color used for dyeing. The workshop also generated interest from staffs of Kuan Kreng Health Center who have been trying to solve health-related issues from sedge handicraft. In fact, they have launched a campaign against the use of chemical-based dyes.

CORIN-Asia has also inked with the Kenan Institute Asia (K.I. Asia) to assist sedge weaving communities on product design and development.

### Outcomes

As a result of these interventions, villagers' perceptions on dyeing techniques have changed gradually. They are more concerned about their health and tried to avoid the use of chemical dyes as much as possible. Surveys around the community revealed that the use of chemicals for sedge dyeing has been reduced by 70% in Moo 4 (Ban Kuan Kreng) and Moo 11 (Ban Sai Kanoon). They attributed such results from the workshops on natural-based color product design facilitated by CORIN-Asia, awareness raising campaign of Kuan Kreng Health Center on the impact of chemical dyes to the health and improving the level of support for their health problems.



Cutting sedge and drying.



Dyes are prepared to color the sedge.



Mixing dye and sedge.



Air-drying the sedge.



Sedge weaving.



A finished product from sedge.



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