

## **“Protecting natural dye-plants and the traditional dyeing-technique in Japan: promotion of natural dyes as the sustainable natural resources through expert-networks.”**

By Hisako Sumi & NGO EARTH NETWORK Researching and promoting natural colour

### **Background**

Japan has had a long history of natural dyes and pigments and their related techniques in her culture. We find a variety of examples around us: fabrics of Japanese traditional Kimono dyed with indigo, madder etc.; the traditional pictures on scrolls and screens painted using natural pigments. However our lifestyles today have been changing rapidly in Japan, these natural dye and pigments were replaced so much by synthetic chemical dyes and paints produced in chemical industries. Then the natural resources of dyes and pigments such as native plants and shells and etc. have been exhausted and the relevant traditional techniques have become in dangers of extinction despite of tremendous efforts of a number of experts, craftsmen and artists.

Synthetic chemical dyes have been used around our life: dyeing clothes, painting building walls, cars, ships and many industrial constructs. However recent findings have shown that synthetic chemical dyes and paints have sometimes caused asthma or allergy to many people and organic chemicals containing in paints for interior-uses have polluted indoor air to make residential people sick as is called sick house syndrome. The traditional natural dyes and pigments have a potential of the alternatives.

### **About NGO Earth Network**

I organized Earth Network to promote natural dyeing as NGO in 1994 and started Natural Dyes Conference for Environment from 1997. Earth Network consists of professional and non-professional members with a variety of talents, skills and backgrounds including chemists, dyers, painters, teachers, industrial designers and others. We work with Natural Dyes and Pigments Conference and hold a meeting every year, and learn scientific knowledge.

### **Our activity**

Making these dyes and pigments is an effective use of our natural resources. They also help in reducing the toxic effects of synthetic colours by avoiding allergy-inducing toxics, hormone disrupting chemicals and residual heavy metals waste. They are also a sustainable resource.

Earth Network aims to popularise the use of natural dyes and pigments through the following activities:

- Conservation of dye plants, shells and fibres throughout Japan.
- Work shops to demonstrate the cultivation and extraction of natural dyes and pigments.
- Formulating a database of native dye plants, shells and dyeing techniques.

**Photo3** *Strobilanthes cusia* in Okinawa-making indigo pigments in Higa farm, his vat is used 150 years before.

**Photo4-5** protect the process of making indigo pigments in Okinawa: our member have continued to buy his indigo 30 years before.

**Photo6** Murasaki (endangered plant) *Lithospermum officinale*L.var. *erythrorhizon*:

**Photo7** we protect Murasaki in Fukuoka and Chigasaki, Tokyo, Hokkaido.

**photo8** Murasaki is, the rate of germination is very low, and intercross is easy.

**photo9** Collaboration with Research Center for Medicinal Plant Resources National Institute of Biomedical Innovation, Hokkaido branch, we offer native seeds of **Murasaki** and **Rubia akane**, and then make contract farmers.

**photo10** *Rubia cordifolia* L. var. *pratensis* Maxim. It's similar Indian madder.

**Photo11** Conservation of *Isatis tinctoria* L var. *yezoensis* (Ohwi). We have these at Rebun island in Hokkaido.

**Photo12** We are conserving and cultivating Rubia Akane Nakai in each branch in Japan.

**Photo13** This is *Clerodendrom trichotomum*, it is not need mordant. We use this in our workshop for children.

**Photo14** We cultivate *Polygonum tinctoria* throughout Japan and have many workshops of making pigments, dyeing with fresh leaves, making SUKUMO like compost, and fermented dyeing.

This is the education for children and people, sometimes handicapped and allergy people coming.

**Photo16** about collaboration

Producing natural paints and textbooks outlining the processes involved, may reduce hypersensitivity problems with synthetic colours.

We received large subsidies for our activity from Japan Fund for Global Environment and Hokkaido Foundation for Cultural Activities in early activity from 1997 to 2003.

### **result**

NGO Earth Network consists of eight regional offices with 40 members. Now, each office act to have many workshops for studying traditional dyeing in their area and making network for promoting natural dyes from north to south in Japan. The educational tool using natural dyes and pigments that we developed, purchase by children and schools. It's increasing yearly. At least, my some photo-data will be published in science textbook for high schools approved by government for the 2008 school year.

### **conclusion**

I believe that our activities can be expanded to an international level. Research on natural dye plants, shells and insects should be continued world-wide.

I hope that this symposium will be the beginning of such an international movement.