

Story of Mukuyu Tree



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Introduction

Indigenous knowledge (IK) is traditional or heritage knowledge in every aspects of human livelihood. It has been created and acquired by the people to secure their survival based on their daily practice through the interaction with nature.

From the environmental education (EE) perspective that is aiming at raising the student's awareness of and interest in the relationship between his or her daily life and nature, IK is one of best resource for EE because of following reasons;

- IK has originally emerged from and reflected the immediate linkage between human and nature
- IK teaches us how to develop our life without deteriorating ecological system of nature.
- IK is rooted in the history and tradition of community with which students are familiar. It secure the student's access to modern science knowledge through his or her own tradition and culture.

We compiled the booklet, "Story of Mukuyu," primarily based on the reports submitted from the 7th grader of one Primary School in Feb. 2014. We appreciated their effort and the supports from the head teacher and his teaching staffs of the school in this project where IK of Mukuyu was explored in their community.

We really hope that this booklet is widely used in the lessons not only of environmental issues in integrated studies and social development studies but also of social study and the other subject to deepen the students' understanding of tradition and culture in their own community.

Kensuke Chikamori

1. Observation of Mukuyu in the school yard of Nkonje Primary School

1.1 Shape of tree

Mukuyu (*Ficus sycomorus* Subsp. *sycomorus*, Sycomore fig in English) looks semicircle in its shape, as given in Figure One. Mukuyu extends its branches widely to its surrounding. It provides students with a big shade for their rest with chatting together. According to Mr. Cheyo Nyondo, the head teacher of Nkonje Primary School, Mukuyu is precious tree for Zambian people, since it provide them with a big shade for resting and chatting. The semi-circle shape is attracting them and makes Mukuyu important for people in Zambia.



Figure One: Shape of Mukuyu tree seeing away from the tree a little.

Photo by Chikamori in 2014

1. 2. Trunk

The trunk of Mukuyu is light brown with spots of dark brown in color, as given in Figure Two. On its surface, we can also see network like cracks. We feel rough a little when touching surface by hands. The trunk is divided into two nearly at the base, as clearly seen from Figure Two (left).



Figure Two: Trunk of Mukuyu



1.3 Leaf

The leaves of Mukuyu are simple leaf and its margin is smooth. Its upper surface is generally deep green. On the lower surface, the raised veins can be clearly seen. The shape of leaves is oval with rounded end but some leaf is rounded spindle with a pointed end in their shape. These characteristics are indicated in the photos, as given in Figure Three.

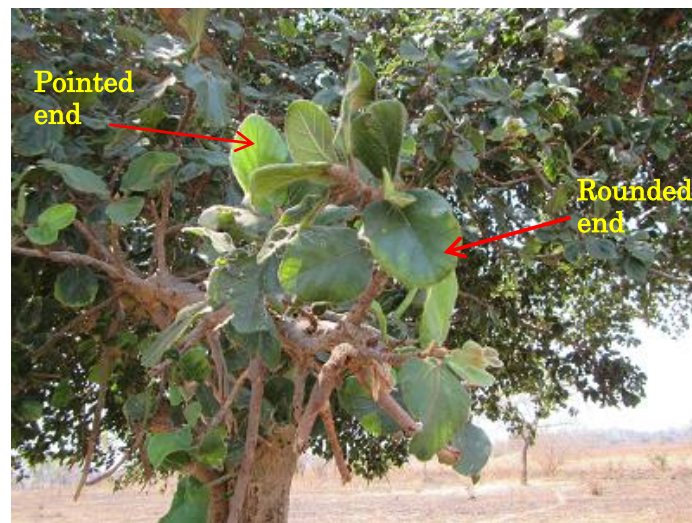


Figure Three: Leaves of Mukuyu (upper), the upper surface (lower left) and lower surface of leaf (lower right).

More details in botany of Mukuyu, please refer to the following resources;

- Fanie & Julye-Ann Venter (2002) “Making the most of Indigenous Trees”, Revised Edition, pp. 172-174, Briza Publications; Pretoria, SA
- Orwa C, A Mutuwa, Jamnadass R, S Anthony. 2009 Agroforestry Database: a tree reference and selection guide version 4.0 (http://www.worldagroforestry.org/sites/trees/tree_databases.asp)

2. Traditional Heritage/Indigenous Knowledge of Mukuyu

2.1 Medicinal and other uses

According to the essays submitted from the 7th graders of Nkonje Primary School, the bark skin and leaves could be used to treat the many troubles of human body. From the next page, students' essays will be shown in chitonga and its translation in English. The essays are described about medicinal use of Mukuyu products. In some essay, they are described about how to produce the extract from bark or leaf to treat the troubles of human body.

In summary, primary target of bark may be stomach troubles and that of leaf could be boosting a blood, as also shown in Figure Four.

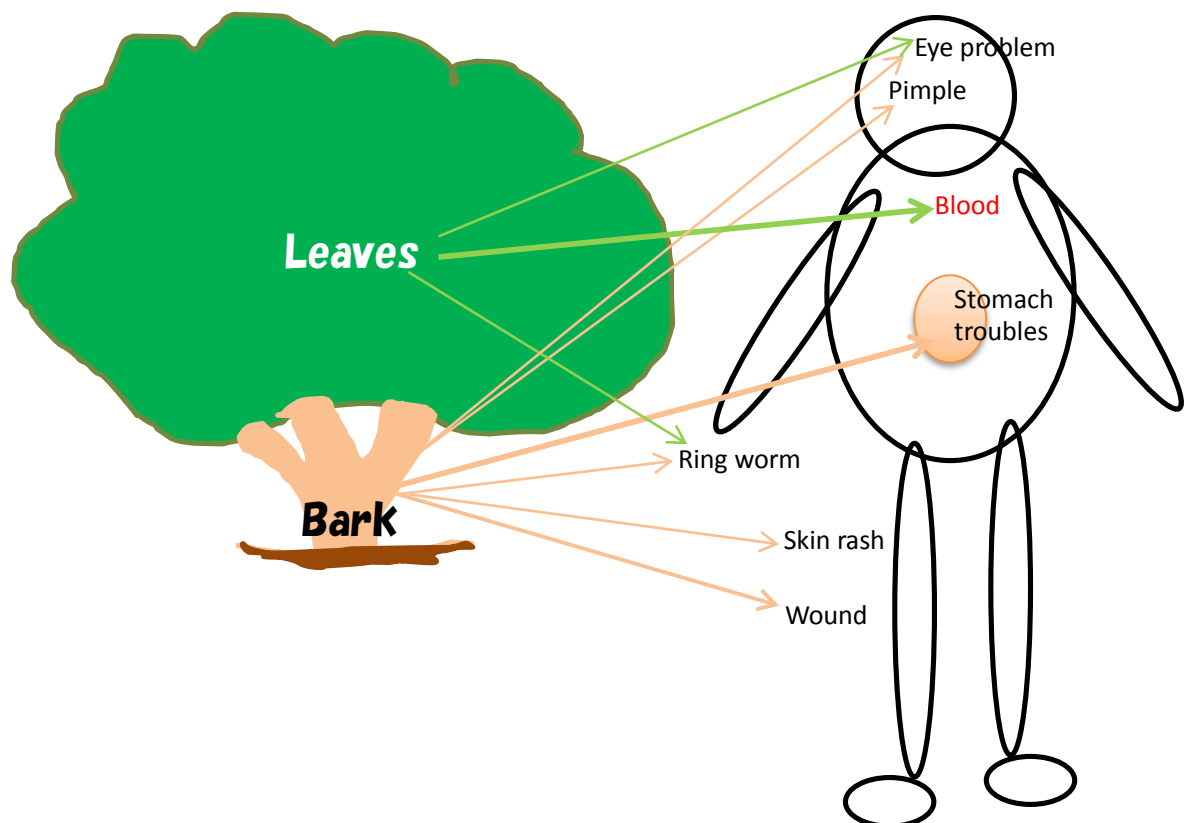


Figure Four: Possible use of Mukuyu to treat many troubles of human body

Thick lines show primary targets of bark skin and leaf extracts.

In addition, students described various use of Mukuyu, for example, fruit for food, some part of Mukuyu could be used as toilet tissue, the fluid from bark can be used to make the trap for birds, and timber production. Mukuyu is also used for drums and base block when making fire by a friction method (Fanie & Julye-Ann Venter, 2002, p. 172)

2.2 Water and Mukuyu

Some of students described that “Where there is a Mukuyu tree, there is water. Those people who drill borehole near the Mukuyu tree easily find water” or “You can drill a borehole near the Mukuyu tree because the water table is near where there is a Mukuyu tree”. Why Mukuyu is good indicator for good underground water source?

According to the book written by Fanie & Julye-Ann Venter (2002), Mukuyu needs plenty of water (p.172) to grow. Thus if you see Mukuyu tree, you can expect that a plenty of water may be in the underground where Mukuyu is, as given in Figure Five.

As you may know, there is the well with hand pump beside the Mukuyu in the school yard of Nkonje Primary School. It is a typical example to show the close relationship of Mukuyu with good underground water source.

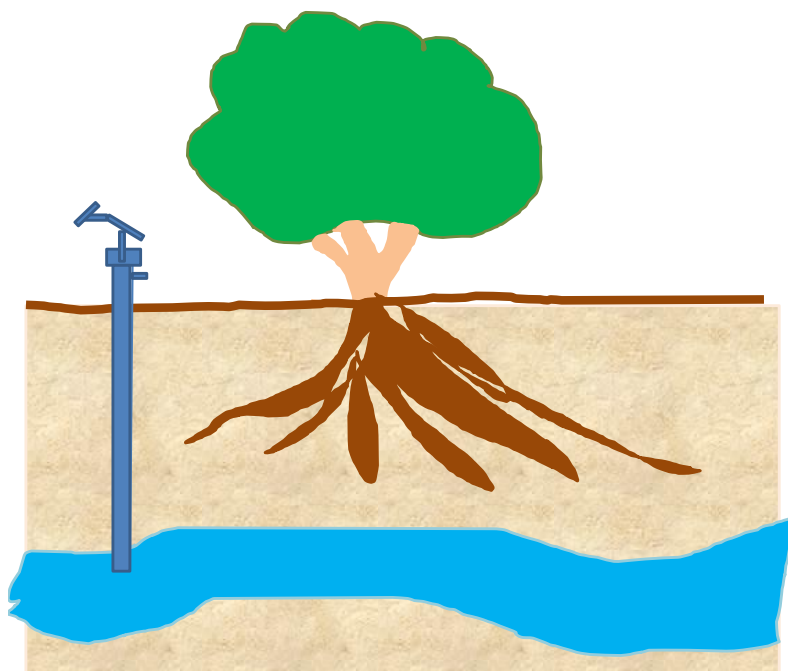


Figure Five: Mukuyu is a good indicator of good underground water resource.

From the next page, the students' description of the relationship of Mukuyu with an underground water source will be indicated. They described not only relationship but also the medicinal and another uses of Mukuyu.

3. Learning activity around Mukuyu

The following activities contribute to raise the students' awareness of tradition and culture of the area as well as the relationship between their life and nature through Mukuyu as one of natural objects. Moreover through investigation, we could expect that their skills are strengthened in communication, writing and compiling report, and presenting the outcomes of investigation. These are the primary aim of ESD to foster the good citizen who contribute for the area to be sustainable.

3.1 Observation

Topic: How to observe Mukuyu?

- The aim of this activity is to know what Mukuyu is botanically as well as to raise the interest of students in Mukuyu
- Regarding the methodology of observation, please refer to EE program booklet (Tree observation, pp. 20-23)

3.2 Mukuyu centered community learning as project learning

Here, some ideas of activities as project learning are indicated as follows;

1-To investigate the distribution of Mukuyu around school

2-To investigate the relationship between locations of Mukuyu and well or borehole

3-To interview to parent and community people about story of Mukuyu as students of Nkonje Primary School did.

4-To explore current status of Mukuyu in the community;

- Are community people still using Mukuyu in their daily life?
- If so, what and how are they using Mukuyu? Medicinal use,

searching the place where digging a well or borehole, taking food, and so on.

5-To explore why Mukuyu is used in a daily life as medicine, food, indicator of good underground water source and how these knowledge has been still carried on in the community