

INTERNATIONAL NETWORK FOR BAMBOO AND RATTAN (INBAR)

A Presentation

Title:
Bamboo Wine Production Systems in Southern Tanzania.

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1.0 Introduction

Bamboo is plant with a broad range of species grown in vast areas of Tanzania and other tropical areas (FAO, 2007; UNEP-WCMC, 2004).

Bamboo plants have many uses among them is production of a an alcoholic sap called *Ulanzi* (UNEP-WCMC, 2004; Chihongo *et. al.*, 2000; Kigomo, 1998)

Other uses of bamboo include firewood, basketry, building poles and that the plant is known for soil conservation (Bitariho and Mosango, 2005; Kigomo, 2007; Kwaku, 2001).

Being a vegetative plant, in terms of its reproduction, young shoots or canes emerge every year just before the onset of the rainy season.

Bamboo wine is a cloudy liquid *taped* and commonly *drunk* in Southern regions of Tanzania , i.e. in Ruvuma, Iringa and Mbeya .



Fig 1.0 Bamboo wine is tapped from a *sharp-sliced* young bamboo canes



2.0 ISSUES ABOUT BAMBOO WINE IN SOUTHERN TANZANIA

2.1 Bamboo Farming Systems

In Tanzania, bamboo occurs at low altitudes and in *montane* forests covering a total area of 123,.000 ha (Lupangile, 1990).

It is an evergreen plant growing in normal, to well drained moist sandy to loam soils and partial shades (Plant Images, 2010; Black, 2008).

The species *Oxytenathera braunii* is common in southern highlands of Tanzania where this study was based (Leonardo, 2010; Plant Images, 2010).

This is the *bamboo species* which produces bamboo wine.

Bamboo plants are propagated by shoots and suckers, i.e. vegetative reproduction.

The *suckers* which develop into younger shoots/canes are important for bamboo wine tapping/collecting



Type of Bamboo Plant for Bamboo Wine Production

In Southern Tanzania, bamboo plants, i.e. *Oxytenathera braunii* are grown in farms surrounding rural homesteads some of which in river valleys.

The bamboo planted in farms produce bamboo wine only during rainy seasons while those in river valleys produce throughout the year.

The stems are stuck in the soil and irrigated so that they germinate and grow.

During rainy season they are transferred to the permanent farm areas where they are planted at least 4 in each expected *bamboo clump*.

After one year, new shoots start vegetating around *the clump*, these ***bamboo canes*** are the ones used for sourcing bamboo wine through tapping.





2.2 How Bamboo Wine is Collected

Most of bamboo wine tapping is done from December to May and from May to November in lower and higher areas respectively (Haule, 2012; Leonardo, 2010; Pilliere, 2008). **Soil has maximum water which forms bamboo wine.**

Traditional method(s) of bamboo wine tapping that uses *mbeta* and a *sharp knife* has been used and maintained for generations.

It is done by slice cutting the young bamboo cane, then positioning of the hard bamboo container (*mbeta*) by the sliced part designed for collecting *the sap*, i.e. bamboo wine. (***Slanted cut***)

The tapping method is mentioned to be efficient, though some complaints raised on leakage of bamboo wine and insect bites; portraying the need for more efficient methods.

The wine from different *mbeta* are collected in used plastic containers prior to sending to processing/canning factories or to direct consumers. 

Bamboo clump with some productive canes



Sharp-slicing bamboo cane



Insects attracted by bamboo wine smell and taste



Persistence of Bamboo wine Taping Methods

The current techniques of bamboo wine tapping were taught through lineage, i.e. from grandparents, to parents to sons.

Though this demonstrates continuity of the crop; one wonders as to how more efficient methods can be developed while the crop remains ignored by the responsible government authorities.

This is an issue which attracts an immediate response for more profitable bamboo wine business.



2.3 The Supply Chain, Market and Income

Bamboo is grown by small holder farmers not as a crop but as a 'way of life' aimed at providing refreshment and additional household income.

Bamboo wine producers have three options:

i. To supply bamboo wine to local *pombe* shops (village based beer drinking points).

At such centres they get less money as it is within the same locality where majority of households have bamboo wine.

Average annual income accrued to bamboo wine farmers is about Tshs 1,254,848 (USD 1045) , i.e. contributing about 50% of the regional average per capita income and about 75% of average household income of 2005.



Enjoying Bamboo wine at local pombe shop



ii. Middlemen from neighbouring Towns

These are business people from town collecting bamboo wine in villages for selling in respective urban areas.

They normally buy cheap and sell at higher prices to direct consumers or to other sellers (owners of urban pombe shops)

These people used to be the main customers especially before the establishment of bamboo canning factories .

The urban population provide the larger market to bamboo wine than the rural.



iii. Business People and Factory Owners Collecting Bamboo Wine from Farmers

Recent development – factories have been established for canning or bottling bamboo wine.

Little is done for actual processing – the wine is just branded and bottled.

Farmers within the neighbourhood of the factory sell their bamboo wine directly to the factory management.

The factories have logistics to collect and transport bamboo wine from farmers staying far from the factory.

Bamboo wine is collected twice a day, i.e. morning (tapped during night) and evening (taped during day).



2.4 Benefits to Farmers in Ruvuma, Mbeya and Iringa Regions

Bamboo wine business is mainly localized, i.e. most of the wine is consumed at the village and the neighbouring towns of Songea, Njombe, Iringa and Mbeya.

In villages, the wine is transported by bicycles and motor cycles. Pickups and vans are used to transport the wine to neighbouring towns where it is normally fetching higher price.

Bamboo wine contributes significantly to the household income. A study by Haule (2015) indicate that bamboo wine sales contribute about 75% to the average household income.

The benefits accruing from the monies obtained through bamboo wine business include:

purchase of various items, building houses, payment of fees etc.



2.5 New Developments in Bamboo wine Sector in Southern Tanzania

In recent years (% years ago) – Tanzania embarked on new industrialization phase.

The emphasis is on *value addition* to agro-products

Bamboo wine (*ulanzi*) experienced the emergence of bamboo wine canning factories particularly in Iringa region.

Advantages:

1. Larger market for *ulanzi* (branding and quality/standardization)
2. More value for *ulanzi* and its products
3. Higher income for local producers
4. Guaranteed sales



Fig. 2.0 Bottled Bamboo Wine



2.6 Challenges Faced by Bamboo wine Canning Factories:

1. Changing alcoholic content with time – difficult labeling, not standardized . No applicable stabilization process
2. The continuous production of gas due to on-going fermentation– cause bottles to break.
3. Cannot be stored for longer time up to three days (if not canned)
4. Seasonality in availability – price fluctuation – irrigated bamboo wine NOT preferred (a certain smell)

Seasons	Months	Av. Daily Output (Litres)	Price (per Litre)
Fist Low	Nov - Dec	8	406
Middle (High)	Jan - March	48	133
Second Low	April - May	8	440



3.0 LITERATURE REVIEW

Vast literature was reviewed so as to

1. Establish the knowledge gap

Haule (2010) observed that when asked to mention crops they grew, 100% of the 77 peasantry households which participated in the study carried out in Songea district not mentioning *ulanzi* as a crop despite its overt utility.

Observed further that bamboo growing and bamboo wine selling was considered as more of “a way of living” than an economic activity” an aspect which needed more scientific and detailed explanation (*ibid*).

2 Justify the Existence of both the Research Problem and the Study

- Paucity of such studies similar studies
- The fact that *ulanzi* is produced, sold and used by a sizeable population, acting as a substitute to other relatively expensive drinks qualifies it to be pursued as its impact implicitly affects the socio-economic life of the local population
- Prominence of such a natural drink may call for its promotion in terms of raising the output and quality for accentuating the national economy 

4.0 PRESENTATION OF MAJOR FINDINGS

- i. Bamboo wine has been neglected by government authorities (Ministry of Agriculture .
 - not listed among crops
 - has no extension service for its growing and processing
- ii. Bamboo wine is in plenty during rainy seasons and generated significant income for respective households
- iii. Emergence of canning factories provides ready market to bamboo wine especially during the rainy seasons.
- iv. More knowledge and skills (chemistry) needed on processing of bamboo wine
 - stabilizing alcohol and pressure emanating from continuous fermentation



5.0 CONCLUSIONS

Despite the continuity of bamboo farming, a significant decline of bamboo plants was observed in southern Tanzania mainly attributed to poor farming, harvesting methods (Mbonile, 2008).

The status of bamboo plants, in Southern Tanzania needs to be appraised for improved production, utilization and conservation initiatives.



6.0 RECOMMENDATIONS

1. Studies be conducted on the characteristics of bamboo wine for improved standard of products. Important for enhancing product quality for international acceptance.
2. Efforts needed on improvement of bamboo wine tapping methods for better output and quality of the product .
3. The government include bamboo in a list of crops for better extension service (productivity and forest cover services).
4. Involve other stakeholders for expansion of bamboo related business at local and international levels.





Thank you

Research Gaps

Despite the widespread bamboo farming and bamboo wine business in Southern Tanzania its role as a crop is downplayed.

The absence of bamboo within a **list of crops** grown in the country, partly evidenced by **paucity of extension service** for the same crop, despite its observed role in enhancing socio-economic development of the people *in situ* demands for explanations (Haule, 2010).

Evaluation of bamboo wine production, processing and its chemical and physical characteristics is largely missing (FAO, 2007; Chihongo *et al.*, 2000).

The need to transform bamboo wine farming and bamboo wine business from being "*a way of life*" to a **known economic activity** necessitated for an investigation (Kwaku, 2006; UNEP-WCMC, 2004).



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