

# **Socio-economic Values of Crop Wild Relatives**

**Mahinda Wijeratne**

**University of Ruhuna,**

**Rohana Mahaliyanaarchchi**

**University of Sabaragamuwa,**

**and**

**L.H.P. Gunaratne**

**University of Peradeniya**

# PRESENTATION OUTLINE

- 1. Introduction**
- 2. Southern Province Case Study**
- 3. Sabaragamuwa Province Case Study**
- 4. Central Province Case Study**

# INTRODUCTION

**Crop Wild Relatives (CWR) are the plants related to socio- economically important wild spp. which include ;**

- <sup>2</sup> food crops,**
- <sup>2</sup> fodder and forages,**
- <sup>2</sup> condiments,**
- <sup>2</sup> medicinal plants,**
- <sup>2</sup> ornamental plants,**
- <sup>2</sup> timber plants, *etc.***

**2 However, socio-economic values of such plants are not well identified, therefore, encountered an extensive extraction.**

**2 In addition, habitat destruction, and human activities leading to development also have made a limitation to their existence.**

**2 As a result, they are under serious threat, and therefore, conservation has become a valid intervention.**

**2 Main objective of this investigation was to identify the socio-economic values of selected CWR**

# METHODOLOGY

## Southern Province case study:

- <sup>2</sup> The study focused on two CWR in the Southern Province
- <sup>2</sup> *Kapuru Kurundu (Cinnamomum capparucoronde Blume)*
- <sup>2</sup> *Thumba Karawila (Momordica dioica L.)*

## *Kapuru Kurundu;*

- 2 The *Kanneliya* – *Dediyagala-Nakiyadeniya (KDM)* forest complex is regarded as a rich area for plant diversity**



2 This complex is located in the southern part of Sri Lanka, about 35km north-west of *Galle*.

2 Surrounding villages of *kanneliya* were selected as the study location.

2 The field investigation was executed between May 2008 to December 2009 period.

- 2 A series of informal discussions has been conducted with farmers in surrounding village of *kanneliya* forest reserve.
- 2 Discussions were held with forest officers



## 2 The researchers participated in the awareness workshops executed for community members.



## ***Thumba Karawila;***

**2 Widely distributed in *Thanamalwila, Jandura, Suriyawewa, and Angunukolapelessa* in *Hambantota* district.**

**2 The study selected following locations for the field investigation.**

***Jandura***

***Yaya 17***

***Angunakolapelessa***

**2 Interviews were made with the collectors, traders, and farmers.**

**2 Observations were made in the field, research station, and market fairs**

# RESULTS

## *Kapuru Kurundu;*

- Kapuru Kurundu* is a tree (height 15-20') with gray or brown bark (girth - 18") and also with aromatic leaves.**



**Tree**



**Leaves**



**Bark**



**Flowers**

- 2 The extraction of *Kapururundu* is prevailing in surrounding villages of *Kanneliya* forest reserve.
- 2 It was revealed that certain illegal groups are geared for this activity.
- 2 The villages where such activities are prominent have been identified as, *Walankanda, Dediyaawela, Ensalwatta,* and *Weerapana.*

# Potential uses and economic value

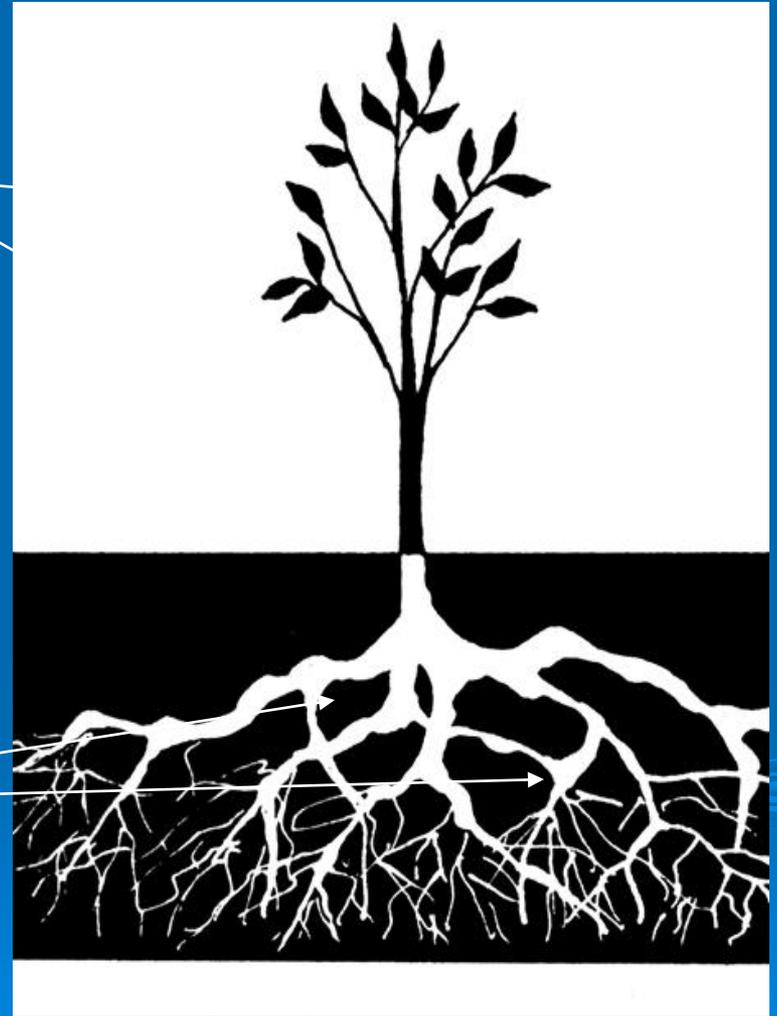
2 Eugenol is the major component in stem-bark oil. Also the oil can be extracted from the leaves.

**Eugenol**

2 Camphor is the major component in its root-bark oil.

**Camphor**

2 The bark, smelling of nutmeg or cloves is sold as a medicine.



- 2 Traded with other endemic cinnamon spp. (*wal-kurundu*)
- 2 The wholesale market price of *wal kurundu* was between Rs. 250 to 350/kg whereas cinnamon was marketed for Rs. 400/kg

- 2 *Kapuru-Kurundu* is directly used as a local medicine for toothache, bronchitis, rheumatism, snake bites, and fractures.
  
- 2 In addition, eugenol is a chemical used for western medicine, industrial preparations, pesticides, *etc.*

## *Thumba Karawila;*

2 A perennial crop with tuberous root.

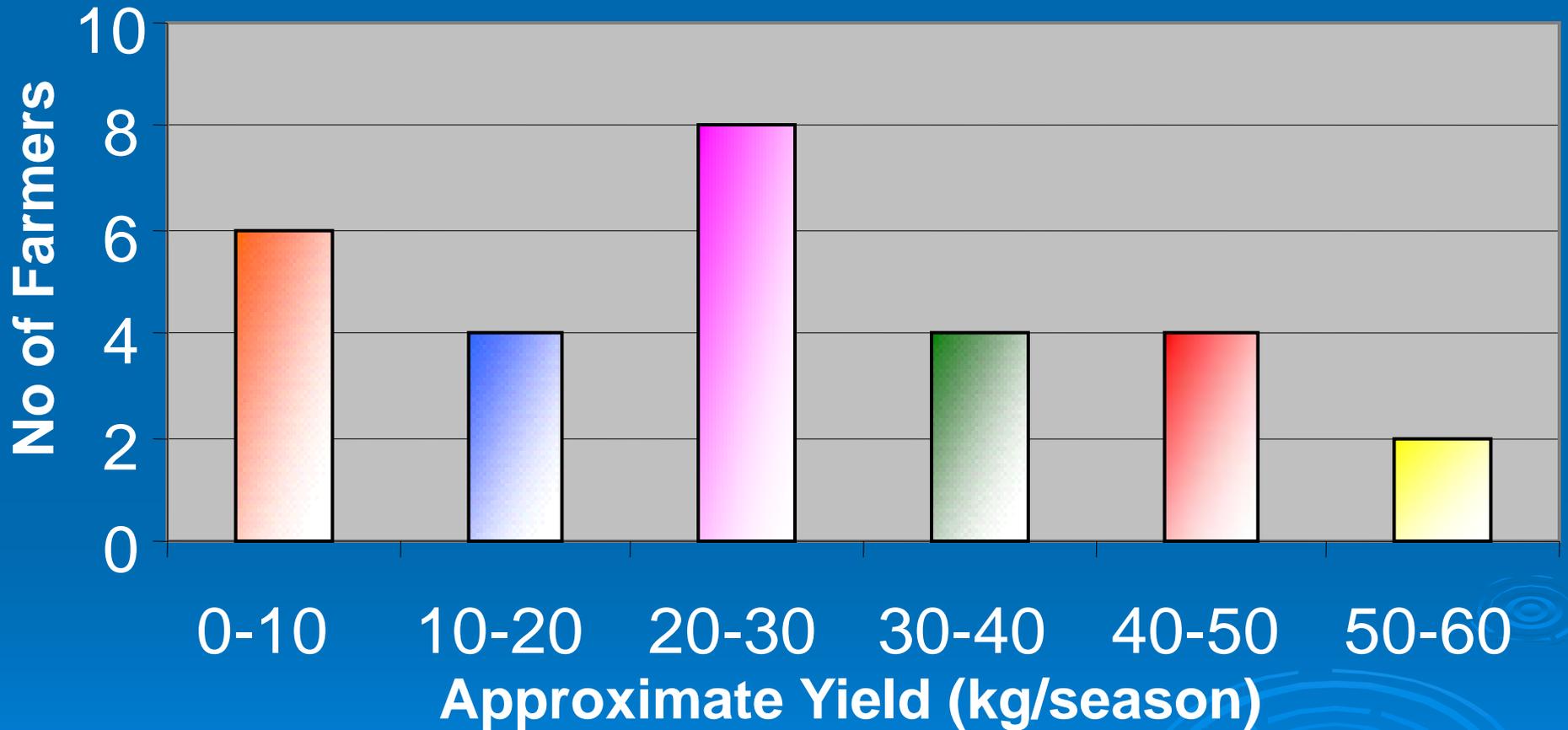


**2 In the study area, community members do not cultivate *Thumba Karawila*.**

**2 Villagers used to go to the jungle at the beginning of the fruiting season,**

- live in temporary huts**
- Train the plants and provide protection**

## <sup>2</sup> Yield for one season



<sup>2</sup> Cost of production of the crop is very low

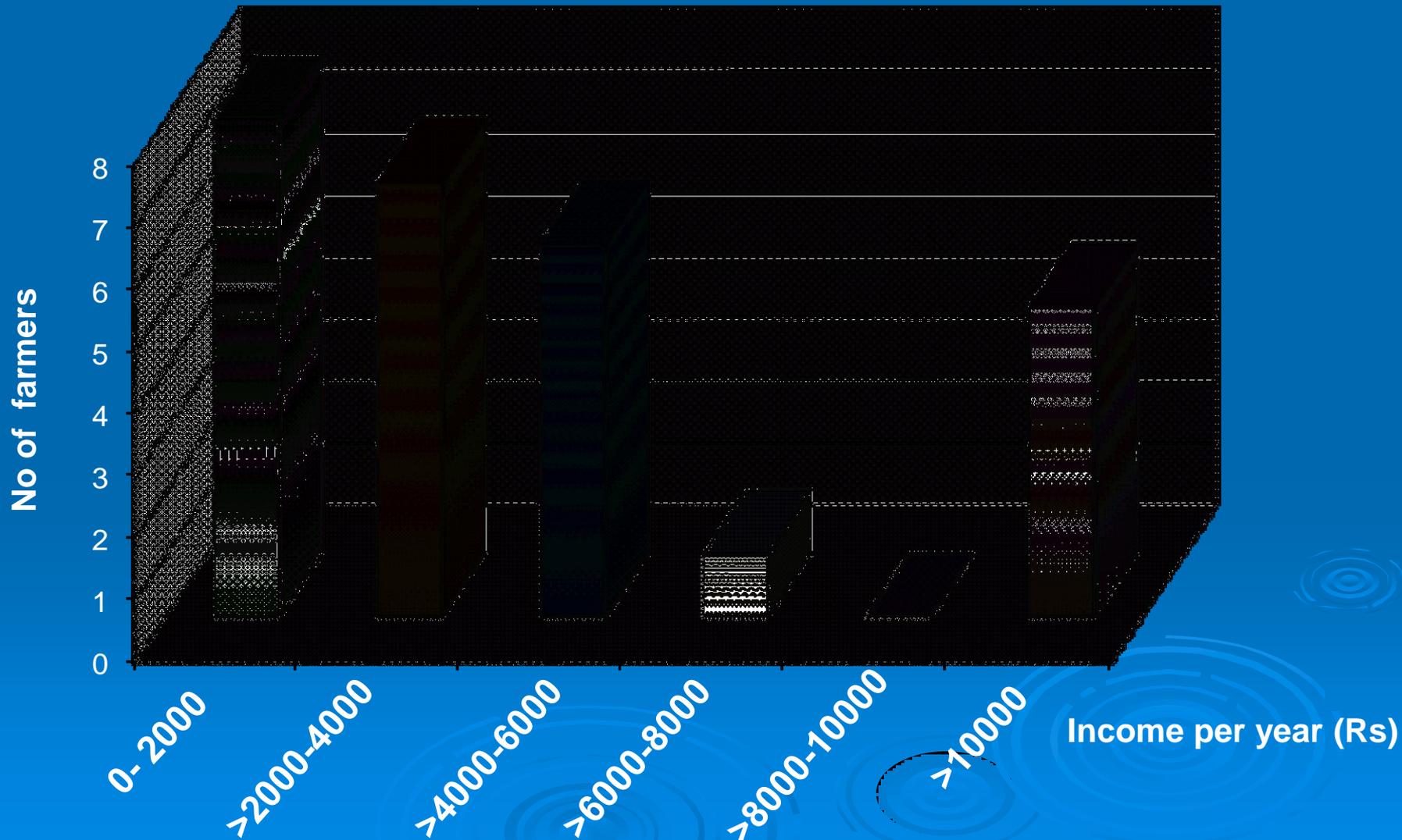
- 2 The phenolic compounds contained in the fruits have an inhibitory effect on amylase and glucosidase enzyme activity
- 2 Reduce glucose release during carbohydrate digestion
- 2 Further, *Thumba Karawila* is used as a medicine for bowel affections and urinary complains.

- 2 **Wildly used as a vegetable. Price of the fruit in the market is significantly higher with compared to other vegetables.**
- 2 **The retail market price for fruits fluctuates between Rs. 140 to 200 /kg**



# Farmers can obtain a significant income.

## Annual income from Thumba Karawila



# CONCLUSIONS

- 2 *Kapuru-kurundu* has a significant economic value, especially because of its chemical composition (medicinal value).
- 2 *Thumba-Karavila* is regarded as a healthy vegetable (without pesticide residuals). Therefore market price is very attractive for the traders.
- 2 However, the crops are still confined to jungles and reserves, and the demand exceeds the supply. Hence, conservation and propagation will be warranted for their existence.