

Benzoin gardens in the forest edge of North Sumatera

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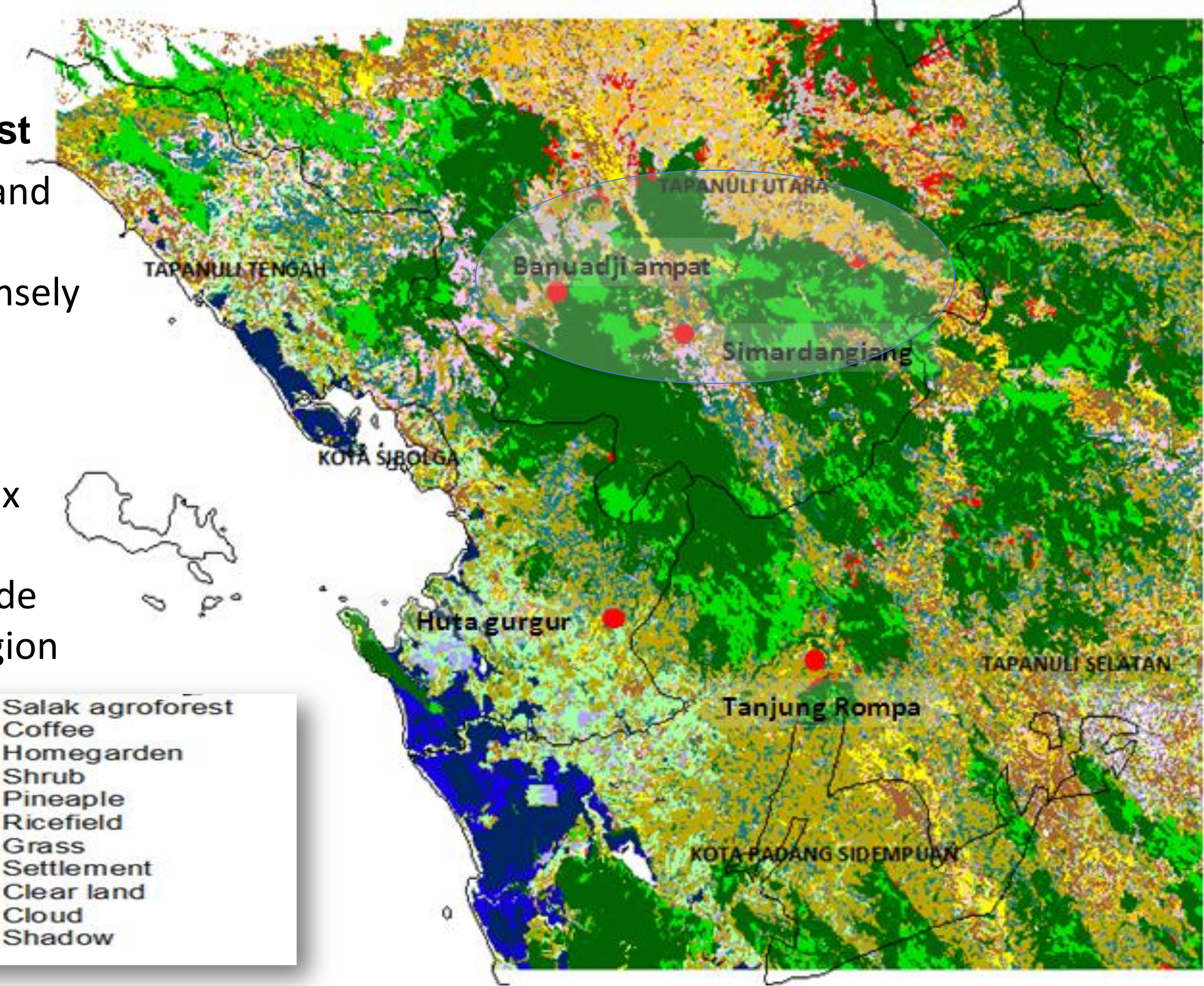
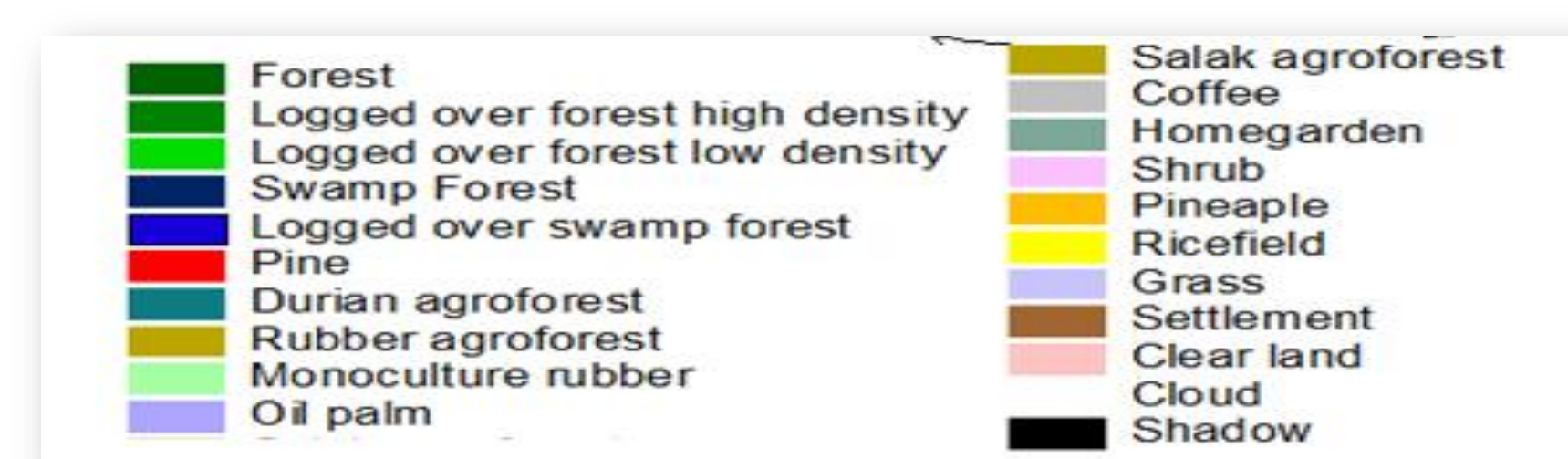
Background

Benzoin resin (*'Kemnyan'* in Bahasa Indonesia) which mainly produced from Sumatra benzoin (*Styrax sumatrana*) are very important for people who live in and near forests in Batang Toru. It provides cash income for many farmers in the region. The harvesting of the product requires relatively small or no capital which is why many poor people engage in these activities. It also involves low impact on environment. Benzoin resin was mainly exported to Middle East countries as preservative ingredient and as incense for cosmetics, perfumes, cigarettes purposes. The benzoin trees have been culturally important and being used to indicate the ownership of the land. Historically, many benzoin in North Sumatera regions were planted in early Indonesian Independence period (around 1945) to secure forest lands. Nowadays they are mostly abandoned since the price of the resin continue to decline. Some of the gardens revert back to forest and some others converted into rubber or coffee cultivation. Nevertheless, benzoin resin are still important products in North Sumatera and nearly 65% poor farmers in the regions relying on this commodity.

Study Site

Western block of Batang Toru Forest

- Globally important for biodiversity and conservation value.
- Some forested areas have been intensely disturbed by logging, plantation expansions, illegal logging and other illegal forest uses.
- In some areas, benzoin trees that mix with durian or rubber trees under complex agroforestry systems provide the remaining forest cover in the region



Credit: GIS tem ICRAF SEARO

Description of Benzoin Agroforestry System in North Sumatera



Up: *Kemnyan* garden in Batang Toru,
Left: Tapped bark for *kemnyan* production. The trees are tapped during the flowering season, typically between June and September.

- Benzoin trees prefer the environment such as old secondary forest, a shade tolerant species although do not grow under dense forest cover.
- Managed under agroforestry systems, with rubber and fruit trees such as Durian, *Petai* and *Aren*.
- Extensively managed without fertilizer or pesticide applied and scarcely weeded.
- Commonly planted after paddy second harvesting period.
- Source of seedlings mostly come from natural forest then farmers move and plant them in their garden.
- First tapping after 8–10 years up to 60 years depend on the tapping techniques.

Different types and qualities of resin

Type	High quality	Low quality
Terminology	<i>Kemnyan mata</i>	<i>Kemnyan tahir</i>
Physical characteristics	Yellowish white	Brown with yellowish white pieces, mixed with bark and dirt
Productivity (kg per ha)	10 – 20	10 – 20
Price per kg	IDR 90,000 to 120,000	IDR 55,000 – 80,000



Benzoin resin on 'mata' quality

The larger part of resin production is consumed by Indonesia domestic market and about a quarter exported to other countries via Singapore.

Benzoin resin that is exported to Singapore are mostly not obtained any additional treatment apart from re-packing, but it can be sold at higher price at International market.

Profitability Assessment

At the current market price (average Jan-Jun 2010), benzoin garden are still profitable (profitability assessment is calculated at private prices with 25 years production scenario). However, benzoin garden has low return to land (IDR 2.2 million per ha per year) compared to other land uses in this region (Figure 1). The return to labour of the system (Figure 2) is still attractive since it is slightly higher than agricultural wage rate (about IDR 31,000 per ps-day). Low return to land and high volatility of the price of benzoin resin which continue to decline over the last decades have discouraged farmers in maintaining benzoin garden. Most young farmers prefer to convert their garden into coffee or rubber garden.

Figure 1. Return to land (IDR '000 ha⁻¹ year⁻¹)

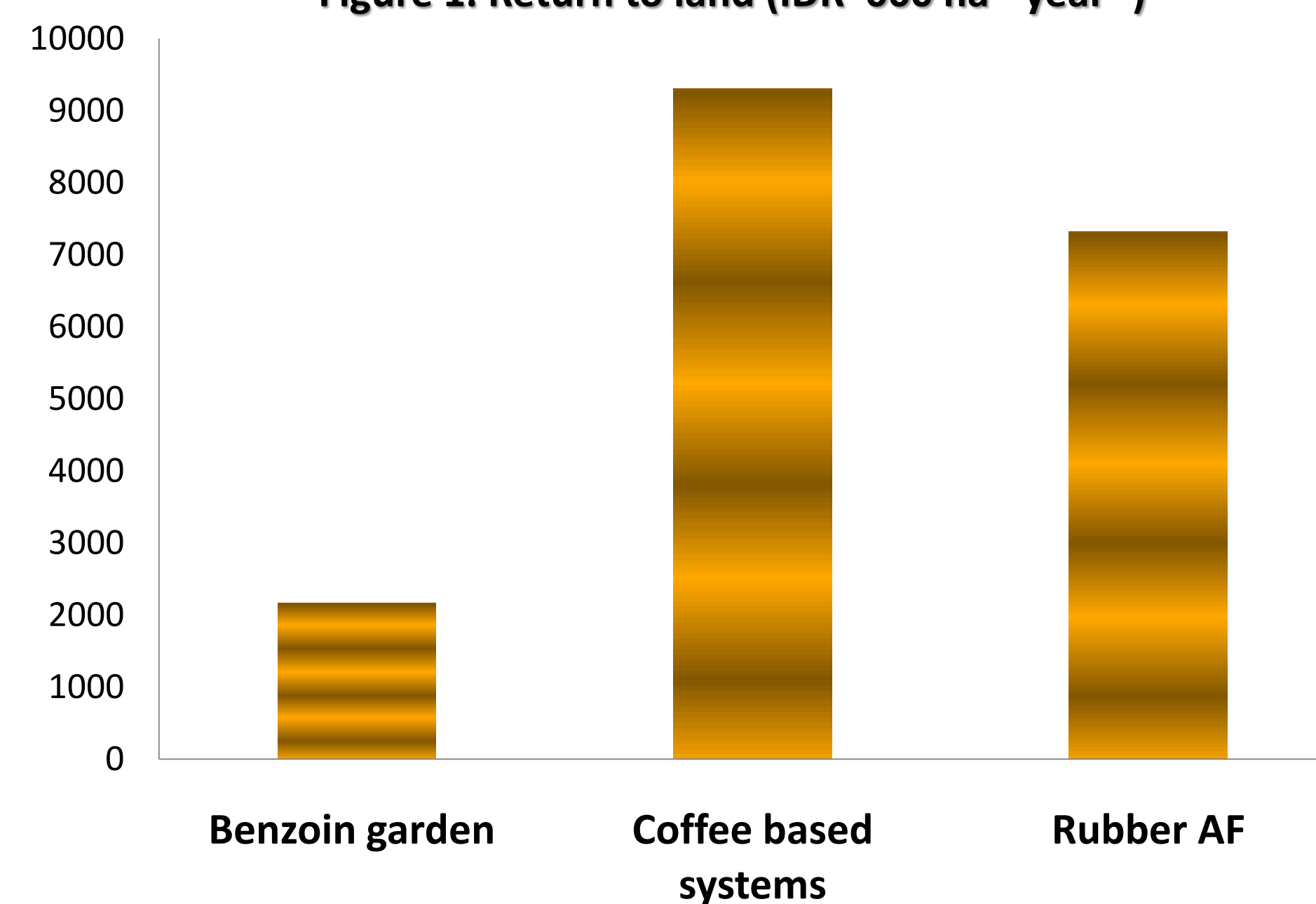
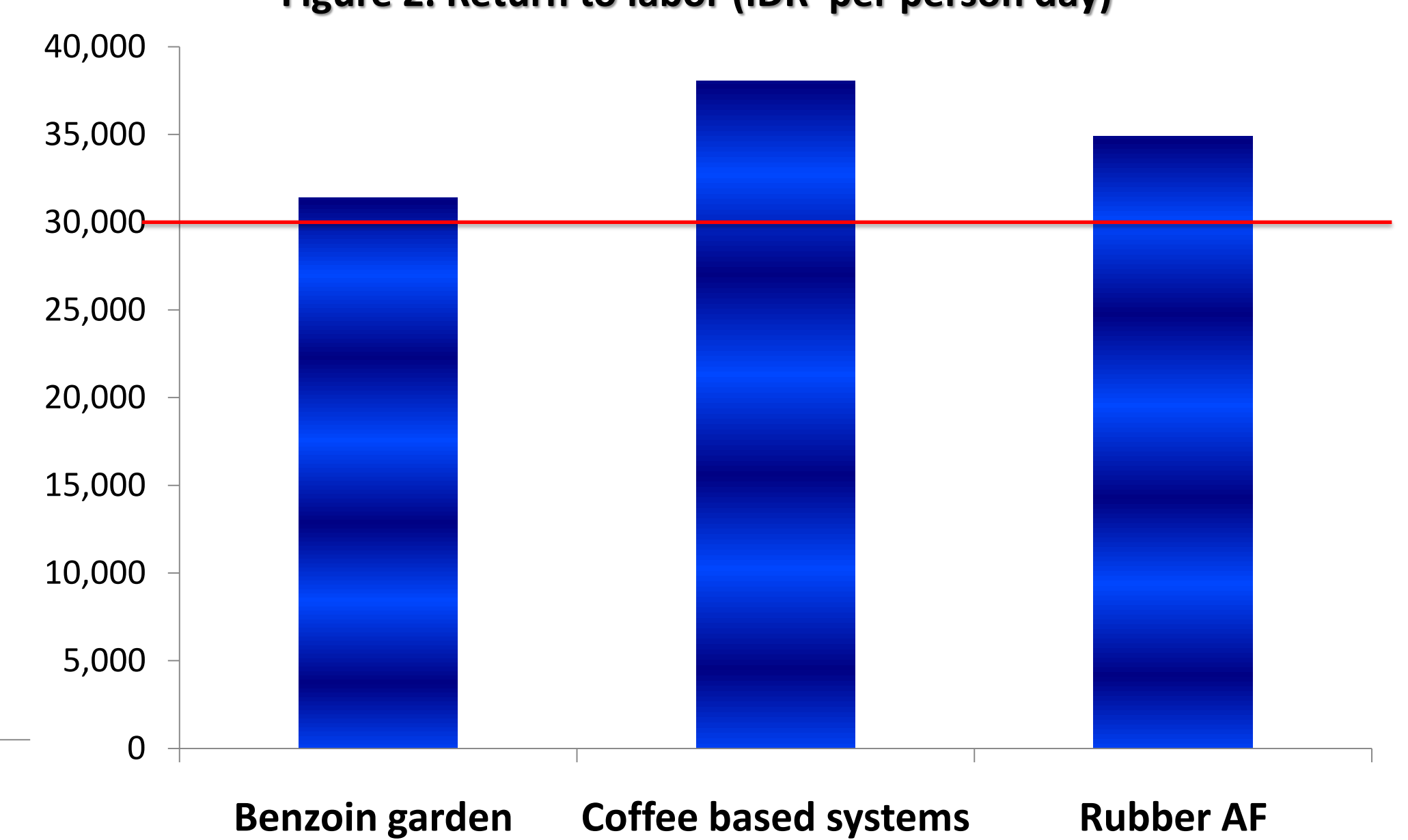


Figure 2. Return to labor (IDR per person day)



Macroeconomic Parameters 2010:

- Exchange rate = IDR 9,199.12/ US\$ 1 and Agricultural wage rate = IDR 30,000 / ps-day
- Nominal interest rates = 6.5 % per year (based on rupiah credit interest rate by state banks for working capital)

Conclusion

- Benzoin resin is an agroforest product that has significant contribution to poor farmers in North Sumatera forest edge both economically and culturally.
- Most gardens that are currently managed under complex agroforestry system have significant biodiversity and conservation value particularly in the present of intensive logging activities and large scale oil palm plantation.
- Despite being profitable, benzoin garden is less attractive compared to other land uses because of low return to land and return to labor.
- Over the last few decades, the price of benzoin resin is highly volatile and continue to decline which encourage farmers to convert their garden into coffee or rubber garden.
- Improving garden management and marketing channel for agroforest products such as benzoin resin could improve farmers' livelihood

References

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