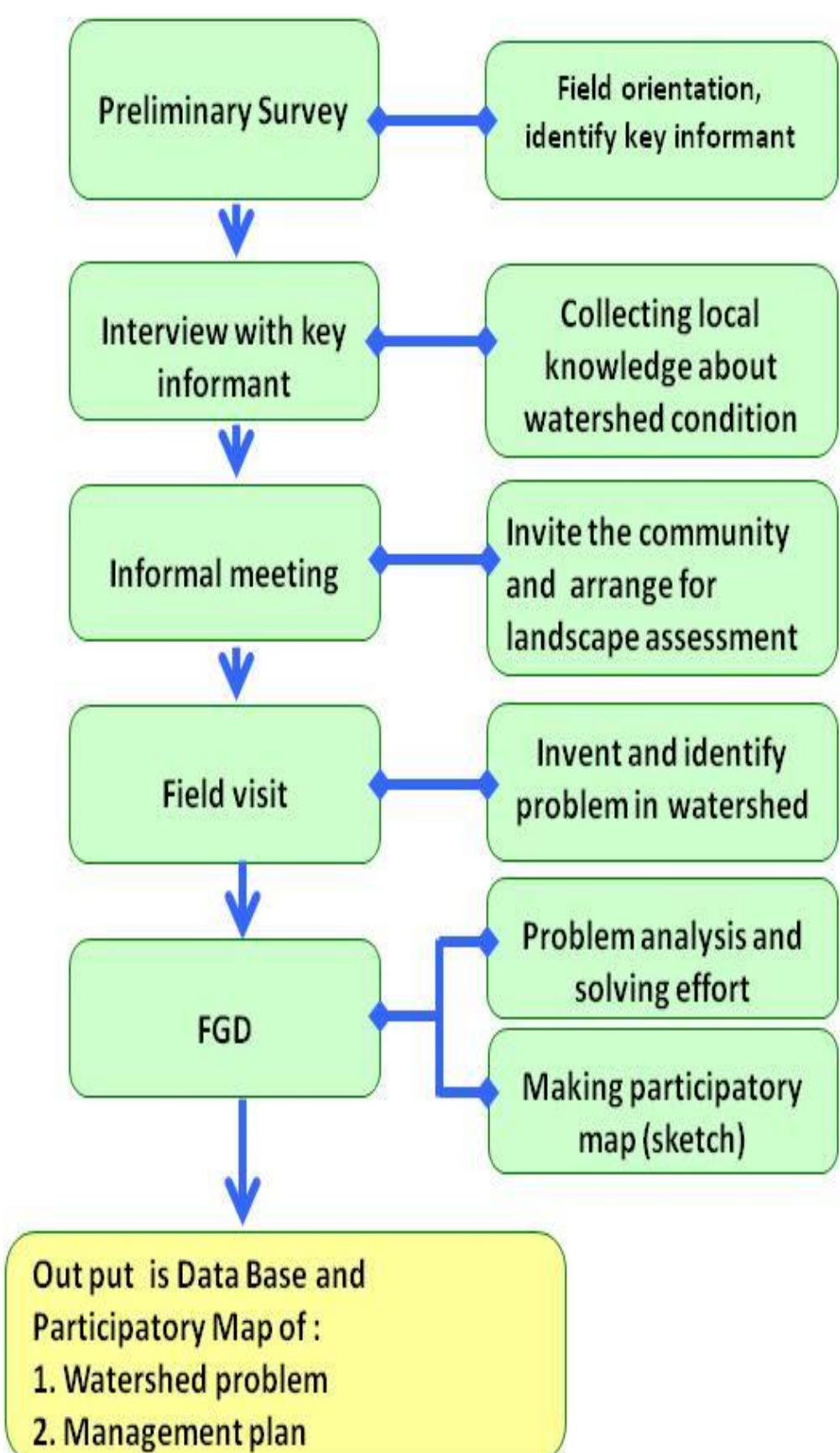# Carbon and Watershed Functions as Conditionality for Community Forest

Noviana Khususiyah, Subekti Rahayu, Yana Buana, Tonni Asmawan and Suyanto
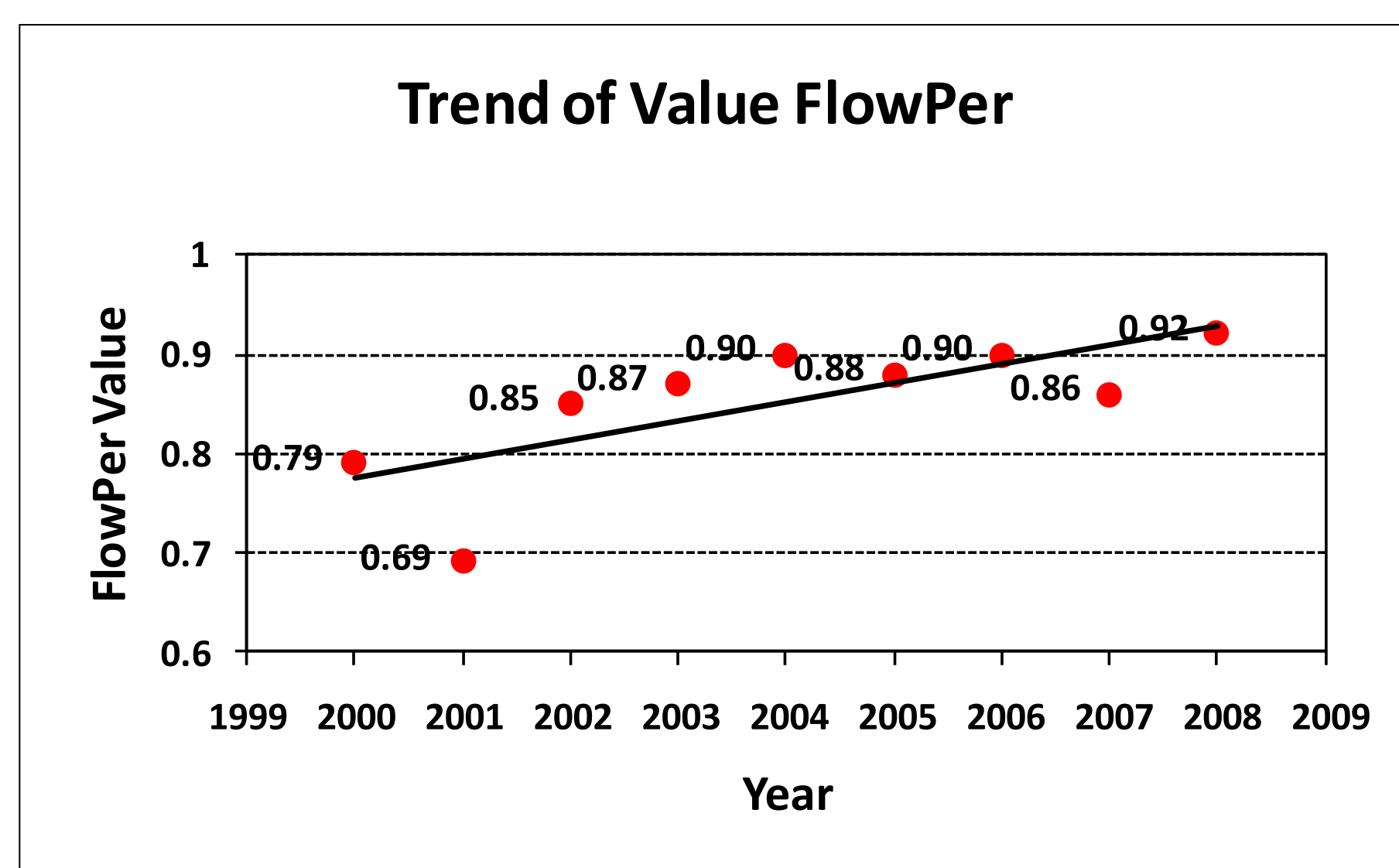
Introduction

- The World Agroforestry Centre (ICRAF) collaborates with KONSEPSI to conduct research on the biophysics and socio-economics of the buffer area of Sesaot protected forest. The research focuses on three topics: agroforestry and carbon sequestration; assessment of watershed conditions and; livelihoods.

- The protected area in Sesaot, West Lombok, NTB, is managed by the local community as an important source of livelihoods and has potential for greater poverty alleviation. About 5950.18 ha of forest area, located in the upper part of Jangkok and Dodokan watershed, plays an important role in the supply of water to the city of Mataram and West and Central Lombok districts.

- Community forest (HKm) is forest management by local communities based on the forestry minister 's regulation No. P37/ Menhut-II/2007. Sesaot is a reserved area with an area of 185 hectares and is part of a regional HKm program based on ministerial decree No. 445/Menhut-II/2009, August 4.

2. Assesment of watershed conditions

Participatory Landscape Assessment (PaLA)

- Land cover condition of Sesaot forest still provides hydrological functions to sub-Jangkok watershed.

- Potential biophysical threats are illegal logging, land clearing, soil erosion and riverbank erosion.

- Self-help efforts by local communities improve environmental quality.

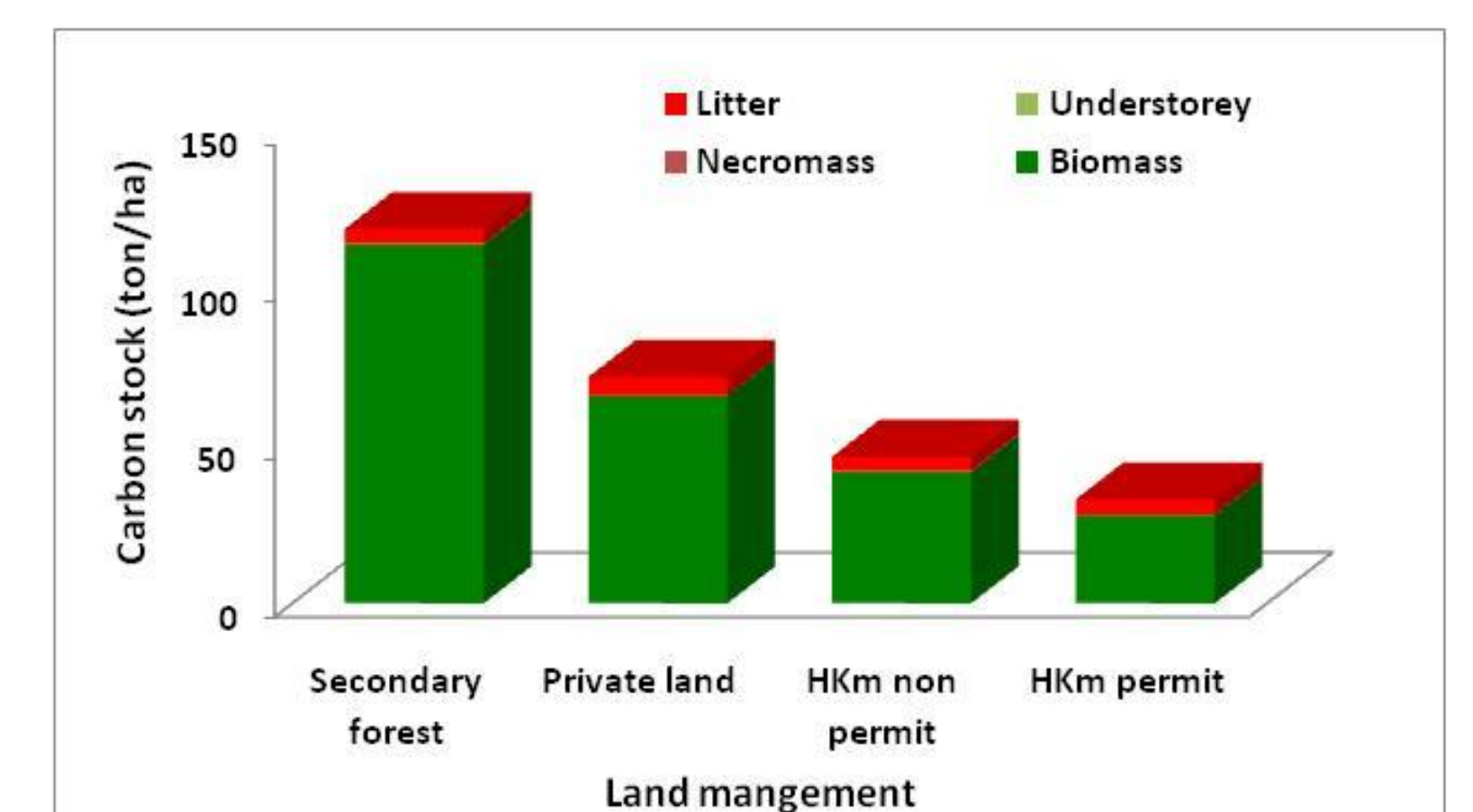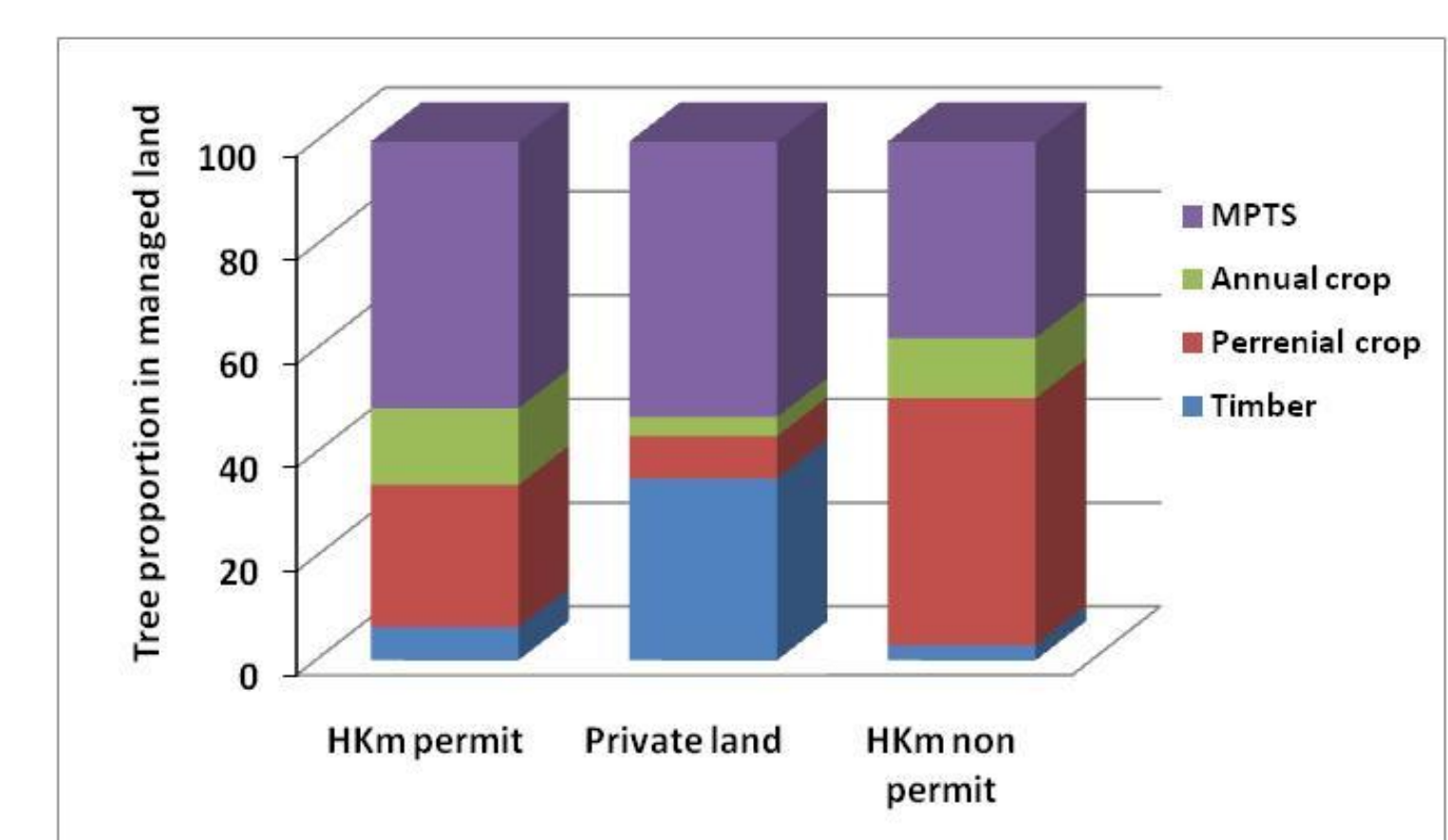- Existing institutional problems are lack of knowledge, coordination, enforcement of rules and capital.

Using the FlowPer model, the result of the calculation showed that the flow persistence value in the sub-watershed of the river is still relatively good with an average rating of 0.85. It indicates that the discharge is in good condition and consistent in both wet and dry months.
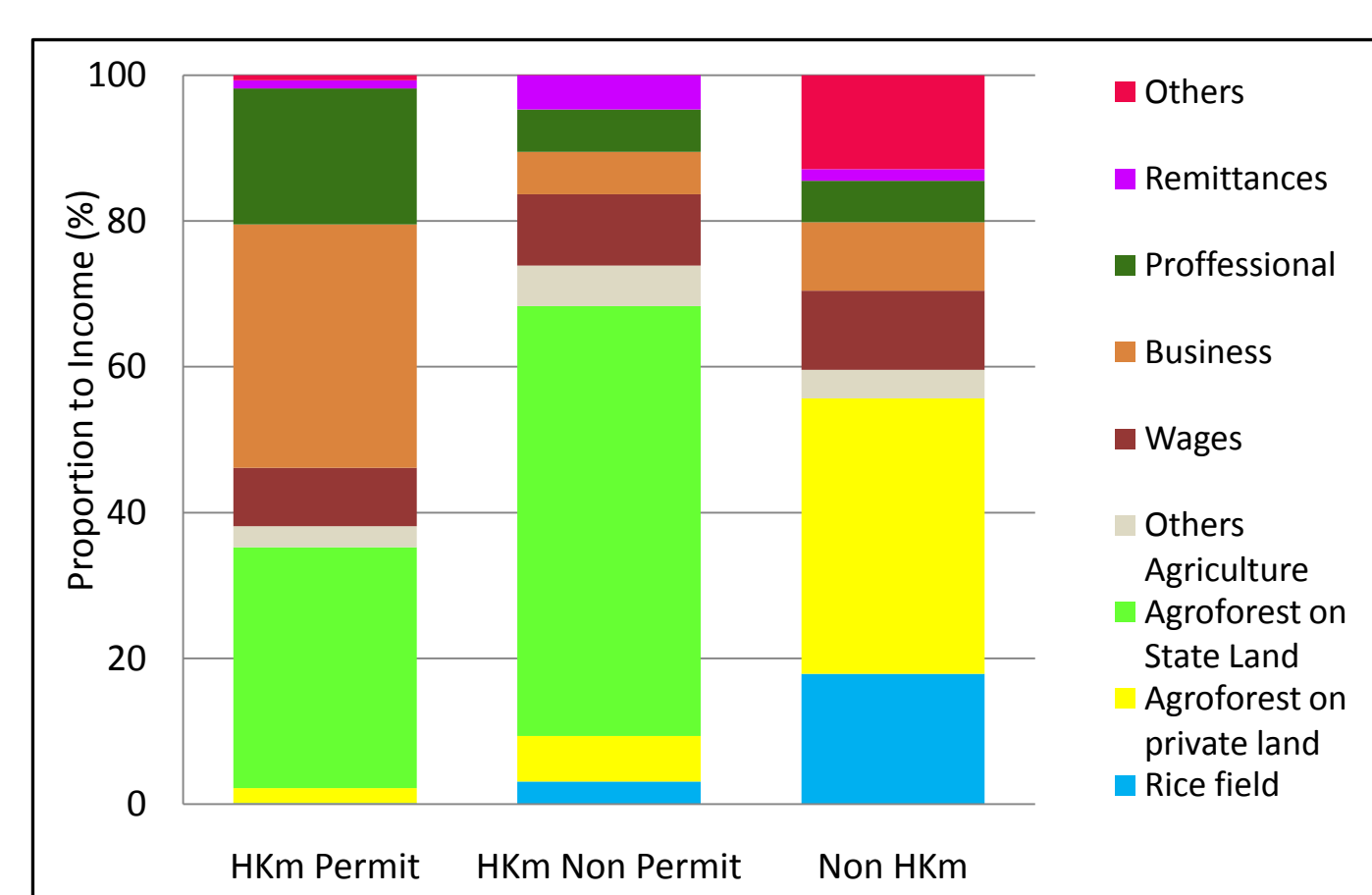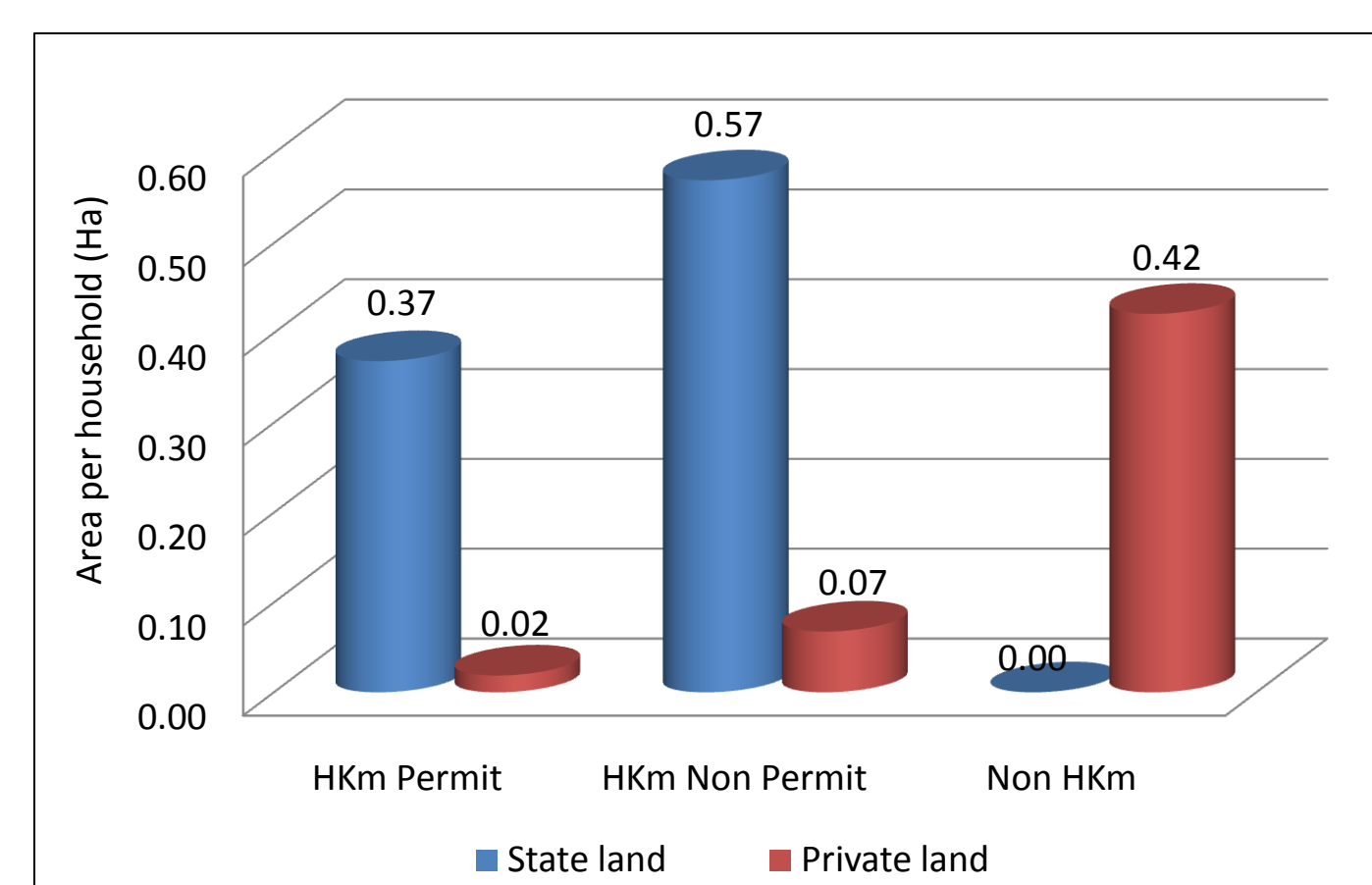
1. Agroforestry and carbon sequestration

Various species of timber, fruit trees, coffee and cocoa are grown by local communities in the buffer area of Sesaot protected forest. These carbon stores play a role in reducing the impact of global warming. Planted multipurpose trees (MPTs) under a HKm permit make up about 60% of the area.
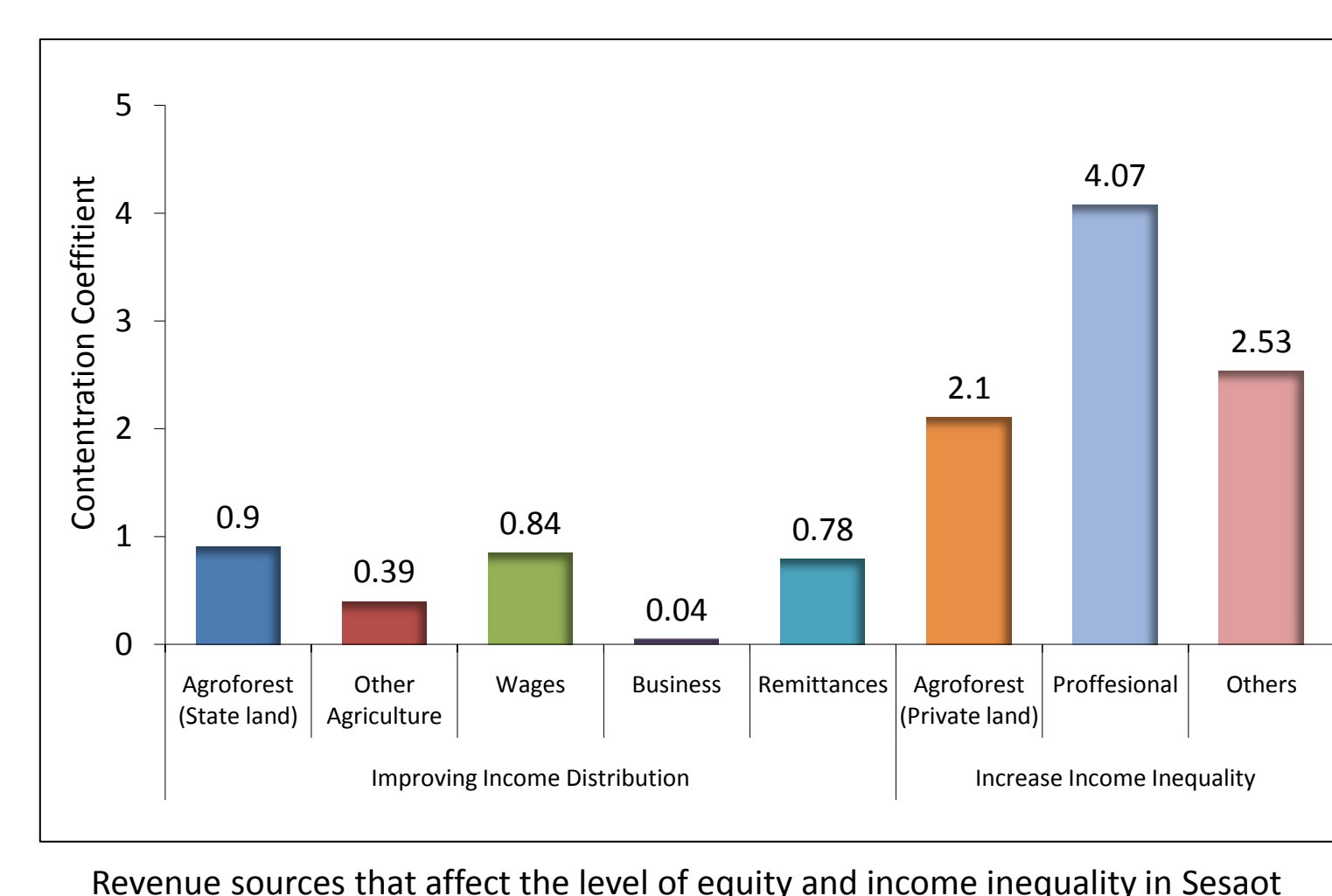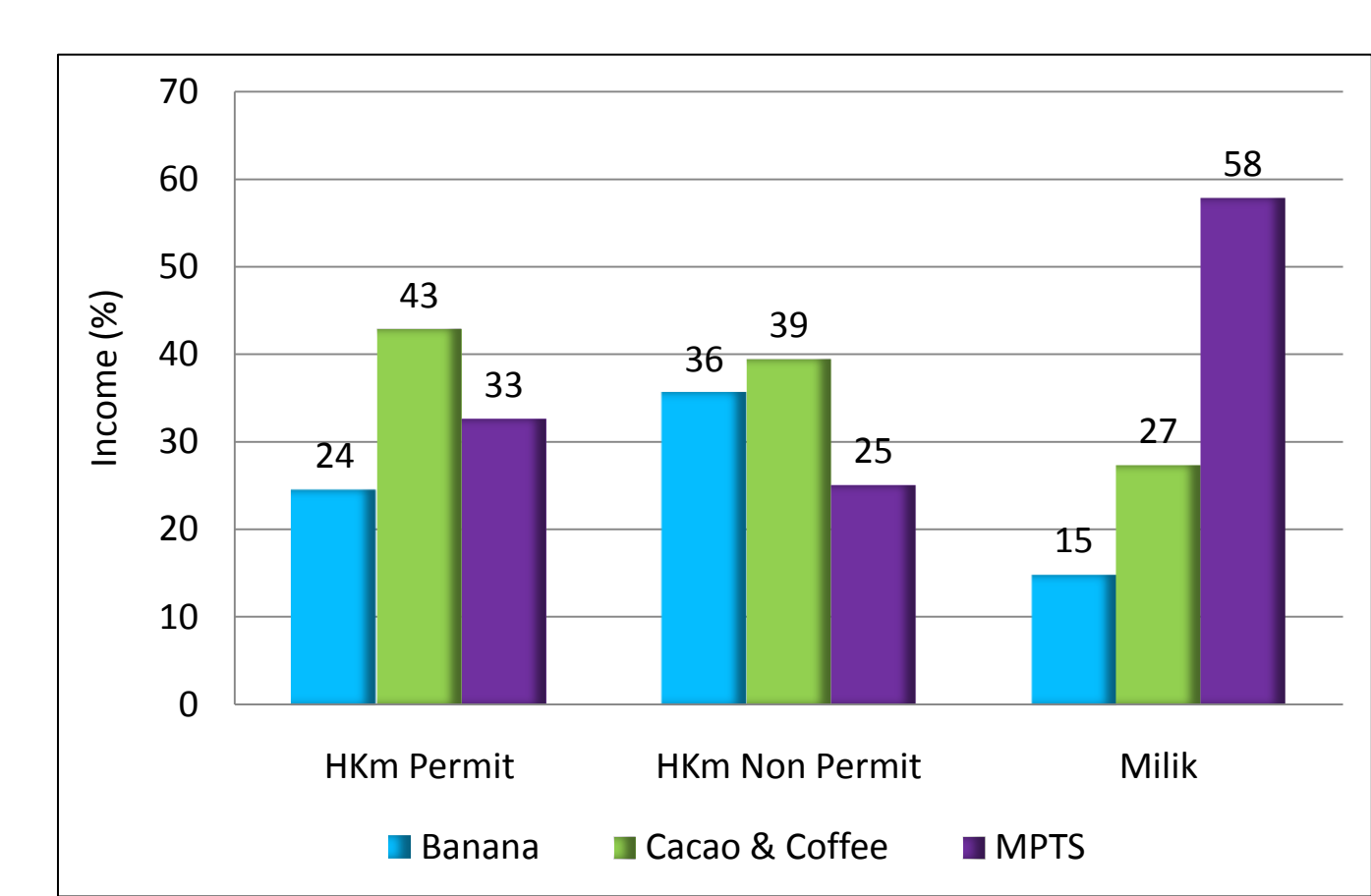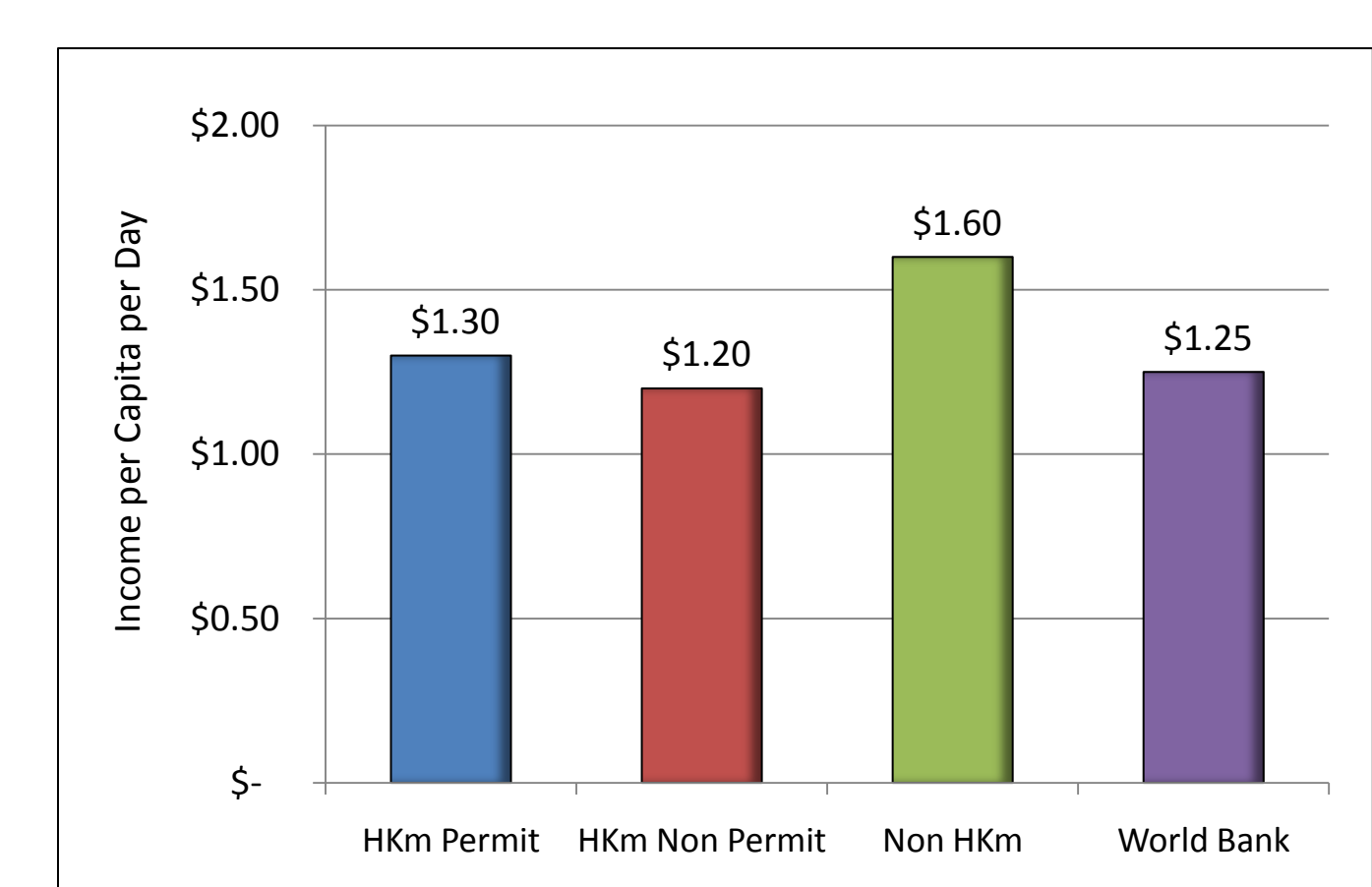

3. Livelihoods

Sesaot community income by source of income

- Income from agroforestry systems in the buffer area managed by the local community ranged 33-59% of total income and plays an important role in poverty alleviation.

- Income from state land (under community forest program) in the agroforestry narrowing the income inequity.

- Legal permission for managing land is an incentive for the local community and will improve land management.

percentage of households income from agroforestry

Revenue sources that affect the level of equity and income inequality in Sesaot