



Sustainable agriculture
and community based
GIS in the Philippines

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Overview

- Background on the Philippines and the island of Negros
- Sustainable agriculture in Negros
- Community based GPS
GPS survey of local farms
- The stories of Paterno Sumugat &
Hernani Mondia

The Philippines

- Estimated Population of 94 Million
- Approx. 7,100 islands
- 1/3 of the population living below the poverty line



Environmental concerns in Negros

- Hundreds of years of Spanish colonization, Negros has become a sugarcane economy (mono-cropping)
- American logging interests post world war
- 96% deforestation
- 2 large remaining reserves left largely intact due to inhospitable conditions: far from roads and electricity grid, steep slopes, poor weather conditions at higher altitudes
- These 2 parks: The Negros Northern Forest Reserve and Mt Kanlaon special protection zone, hold much of the remaining biodiversity left in Negros.



Local Communities – Yubo and Sag-ang

- Livelihood: relied on rice and sugarcane, but these were not ideal due to terrain and small lot sizes
- Amongst the poorest areas of Negros, associated issues with lack of access to education, healthcare and other basic services
- No electricity available in Yubo, only sometimes in Sag-ang
- Charcoal production as a supplement to income







Charcoal production and subsequent deforestation leading to:

- Loss of habitat for native flora and fauna
- Increased air pollution
- Widespread erosion
- Reduction in tourism

NISARD

Negros Governments declared the island a GMO free zone in 2005, and founded NISARD: Negros Island Sustainable Agriculture and Rural Development Foundation

Mission to make Negros Island the Organic Food Island of Asia through organic food production and the promotion of:

- Food & bio-security
- Biodiversity
- Environmental conservation
- Community awareness



Organic Agriculture

- Sugarcane



- Organic rice/ducks



Aquaculture



Coffee



Arabica Coffee Production

- Arabica Coffee grows better at higher altitudes, (800 metres+)
- Arabica commands a higher price on the international market than Robusta coffee, which can be grown at lower altitudes and has a higher yield than Arabica
- Planting Arabica in these higher areas has many benefits:



Organic Arabica Benefits:

- Maintain forest cover & habitat for native animal species
- Prevent soil erosion, watershed protection
- Farm crop diversification, and therefore increased economic security



Challenges:

- Informal land records so available farming areas unknown, altitude unknown



Treacherous for inexperienced climbers to survey

Far from utilities: electricity, roads

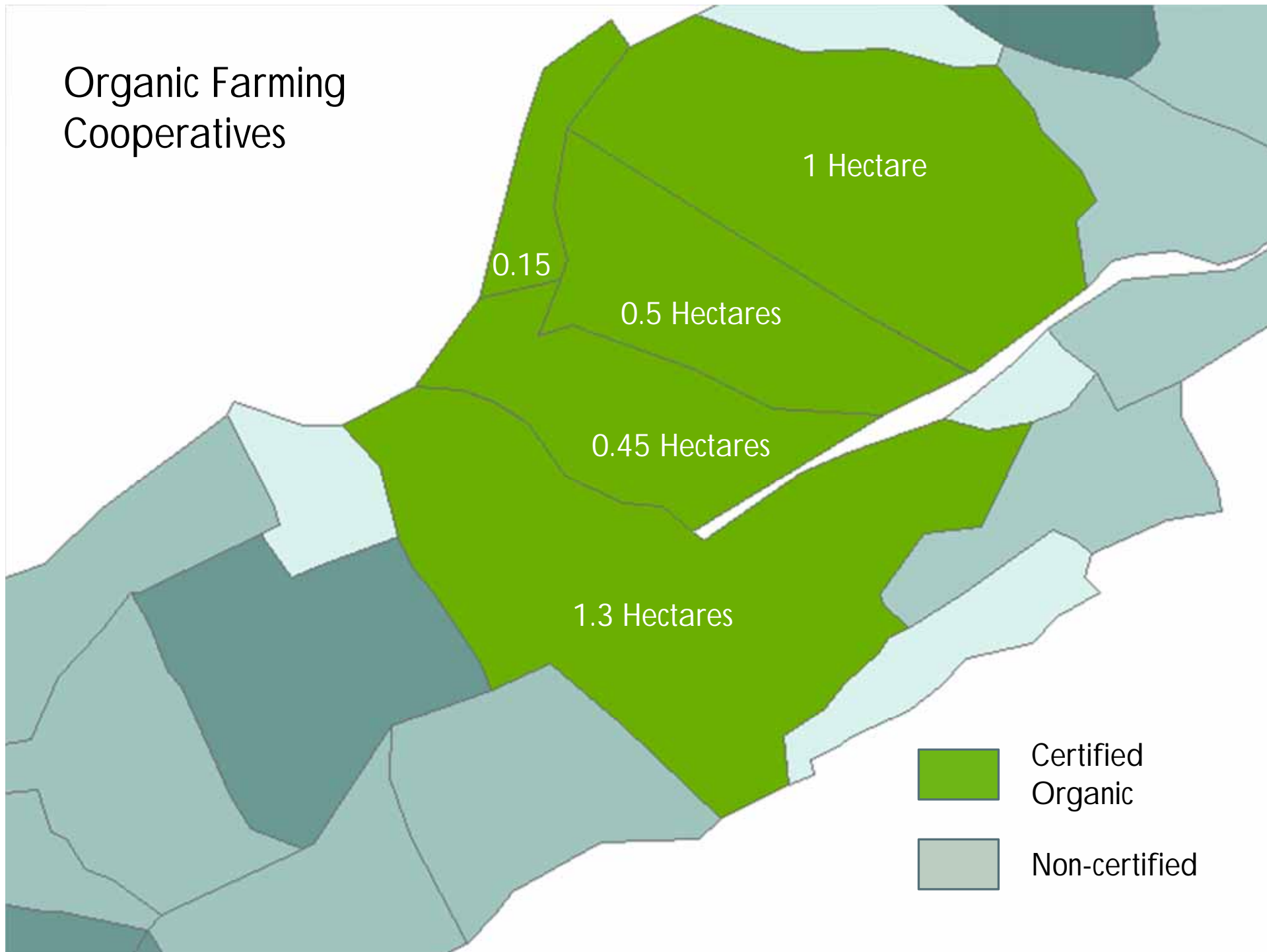
4WD required for access, then further on foot

Technological issues





Organic Farming Cooperatives



Coffee Cooperatives


Saved Money throughout the supply chain:

- Lower cost of certification as a cooperative
- Coffee preparation:
 - de-hulling
 - roasting
 - transport
 - packaging and labeling
- Branding & marketing:
Negros Island Rainforest
Organic Coffee



Mt Kanlaon Coffee Project

- Involving the farmers in the mapping of their own lands
- Greatly reduced costs for survey
- Quality assurance program ensured that survey was of suitable accuracy for its intended purpose
- Source of income for survey team
- Ownership taken by the whole community for the results



Some current success from
Hernani Mondia's survey
team:

- Over 600 farms surveyed
- 6 team members involved in the survey process, including 2 girls
- Over 100, 000 Arabica seedlings purchased for planting as a result of NISARDs efforts, 1 Million to be plated by 2014.



Paterno Sumugat

Any questions?

