











Agroforestry and Sustainable Vegetable Production in Southeast Asian Watershed: A Baseline Study

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Introduction

A baseline study was conducted to provide an analytical basis for socioeconomic impact assessment of integrated vegetable-agroforestry systems. The data generated by this study is being used for economic analysis of vegetable farming, specifically: (a) analysis of the current of demographic data of farmers, and (b) analysis of the current of vegetable farm practices in social and economic.

Working hypothesis of the study is that the socio-economic characteristics of farmers' household influence the type of their vegetable farm system and its economic productivity

JAKARTA ✓ Toll Road / Main Road PANDEGLANG 9 National Park Boundaries Elevation Nanggung 500 - 1000 m 1000 - 2000 m Kecamatan Nanggung BANTEN 1. Topographic Map 1:1,000,000, BAKOSURTANAL 2. The SRTM Digital Elevation Models 3. Forestland Function Map, BAPLAN WEST JAVA

The Study Site

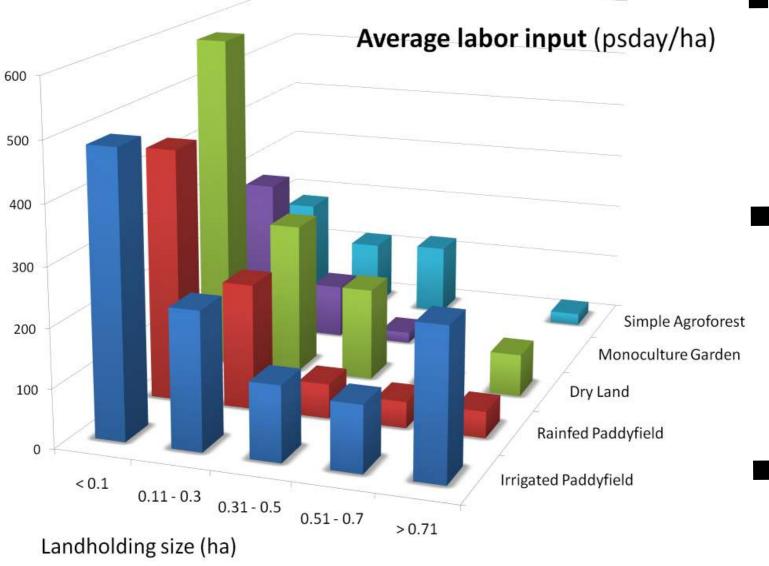
- The study was conducted in three villages (Hambaro, Parakan Muncang, Sukaluyu), in Nanggung sub-district, West Java, Indonesia
- Total area of 109.99 km², 70.223 km2 (63.8%) is arable
- Elevation: 200-1800 masl ■ Annual rainfall 3,000 to 4,000
- Average annual temperature 22°C and 34°C

Demography

Ograpij	Hambaro	Hambaro Parakan M.				
		Parakan Muncang	Sukaluyu	Sample Villages		
Family member 1. Total household members (persons) 2. Sex Ratio	n = 62	n = 63	n = 60	n = 185		
2. Sex Ratio3. Household Size	343 112	328	289			
1 4	112	105	98	960 105		
5 8 > 9	34% 52%	33%	48%			
4. Average family size	15%	64% 3%	43%	38% 53%		
5. Nuclear Family Member	5.5 9 6%	5.2	8% 4.8	9%		
Age Structure	7070	95%	96%	5.2 96%		
< 15 15 65	35%					
> 65	63%	24% 72%	34%	31%		
Average labor force per household	2% 3.5	4%	63% 4%	66%		
Dependancy Ratio	0.0	3.8	2.9	3% 3.4		
Most of the room	59%	38%	59%	3. F		
- TOOLULINA KOODALLI			J / /0	F10/		

- Most of the respondents (59.4%) engaged in agriculture as their main
- About two-fifth of the respondents also engage in off-farm activities for
- Educational attainment, 5.9 % of the respondents were illiterate, and most of the respondents (87.6%) never went beyond elementary level. Primary school

Farming System



- Agricultural land controlled by the surveyed household is comprise of rice fields, dryland agriculture, monoculture gardens (ex. cassava, cucumber), and traditional multispecies tree gardens
- Species mostly cultivated by farmer in dryland and simple agroforest plots: banana (Musa sp.), long bean (Vigna sinensis), cucumber (Trichosanthes cucumeroides maxim), kucai (Allium tuberosum) and string bean (Phaseolus vulgaris)
- Farmers who have larger area of agricultural land, without a sufficient amount of labor tend to practice less labor intensive agricultural systems, such tree-based systems

Landholding

	Hambaro	Parakan Muncang	Sukaluyu	Sample Villages	
Land use					
Irrigated Paddyfield	60%	60%	40%	54%	
Rainfed Paddyfield	37%	32%	35%	35%	
Dry Land	40%	37%	58%	45%	
Monoculture Garden	11%	3%	15%	10%	
Simple Agroforest	16%	29%	25%	23%	
Complex agroforest	2%	0%	0%	1%	
Shrub	0%	2%	2%	1%	
Land size by household (m ²)					
< 0.1	45%	27%	38%	37%	
0.11 - 0.3	18%	40%	12%	23%	
0.31 - 0.5	15%	6%	17%	12%	
0.51 - 0.7	16%	5%	3%	8%	
> 0.71	6%	22%	30%	19%	
Descriptive statistics of landholding size					
Total Land Size Surveyed (Ha)	20.6	27.05	29.22	76.88	
Avg Land Size (Ha/Hh)	0.33	0.43	0.49	0.42	
Land Size Range (Ha)	0.003 - 3	0.002 - 2	0.003 - 1.8	0.002 - 3	
Std. Deviation	0.33	0.3	0.31	0.31	

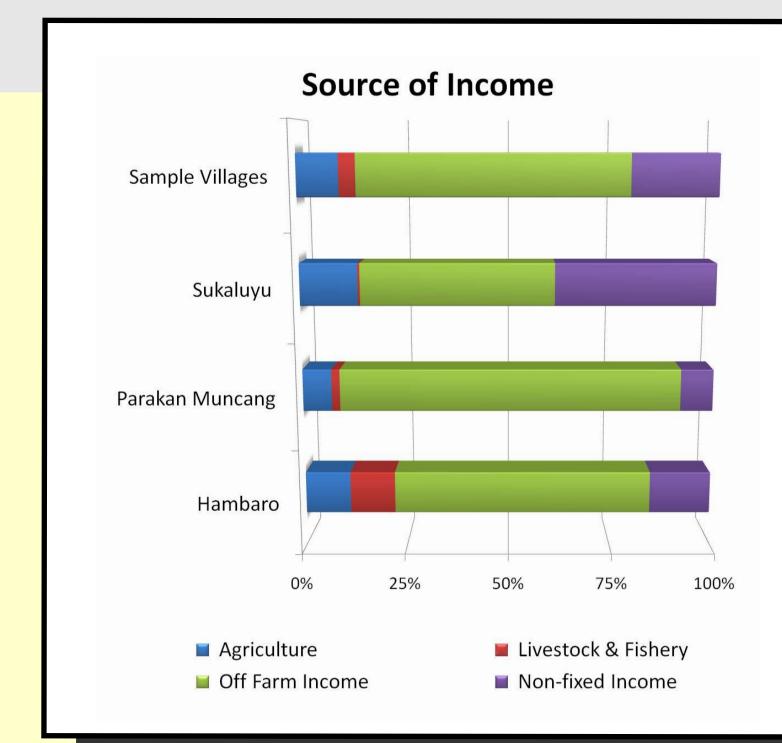
SUKABUMI

- Average landholding size 0.42 ha per household
- 60% household controlling less than 0.31 hectare of land
- 11% of total agricultural land belong to others and is cultivated by means of renting, sharecropping, or Numpang (cultivating others land free of charge)

Fruit & vegetable marketing channels Farmer Farmer ocal collector Farmer → Local collector Urban custon Farmer > Local collector Local trader egional trader/ > Urban custome

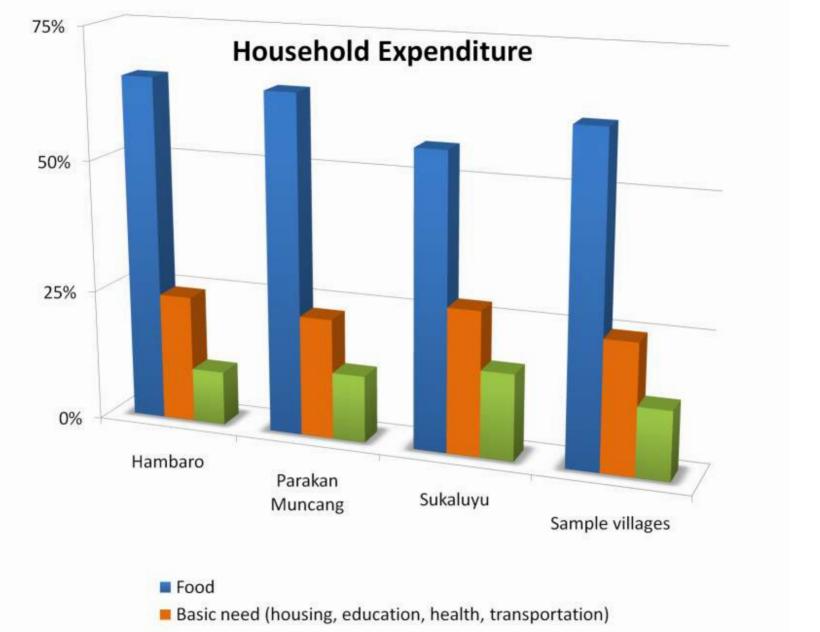
Further information: WORLD AGROFORESTRY CENTRE Southeast Asia Regional Office

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Elncome & Expenditure

- Agricultural activities alone contribute 14% to the total households' income
- More than half (52%) of the surveyed household are below poverty line
- Average expenditure per households is lower than average family income



others (telphone, individual needs etc)