

# Cassava as a Subsistence and Commercial Crop in Eastern Indonesia

University of Brawijaya Team

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# INTRODUCTION

- Cassava is a root crop commonly used as a food and a source of starch for various industries
- Indonesia is third largest cassava producer but also a large importer of starch
- A major problem is high cost of transportation considering Indonesia is a large archipelago with 16,056 islands

# INTRODUCTION

- Indonesia is a tropical country with regional differences in land conditions and environments
- In the west (e.g., North Sumatra) climate is equatorial with higher rainfall
- In the east (e.g., Nusa Tenggara Timur = NTT) climate is monsoonal with wet and dry seasons

# OBJECTIVE

- The objective was to analyze the role of cassava as a subsistence and commercial crop on the island of Flores in eastern Indonesia





# RESEARCH METHODS

- The study was conducted in Sikka Regency, Flores, NTT, selected to represent areas where cassava is a major staple food
- There were 2 surveys:
  - Value Chain Survey, interviewing groups of farmers in three villages, traders, and small-scale processors in 2016
  - Household Survey, interviewing 114 cassava farmers selected by simple random sampling and field observation in 2017



Maumere

Kewapante

Wetakwekoh

Koting

Nita

Tebuk, Nita

Sikka Regency

4.34 km

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Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
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Sika

Google Earth

# Number of survey respondents

Sub-District	Village	No.	Total	%
Nitta	Tebuk	26	38	33.3
	Bloro	11		
	Lusitada	1		
Kangae	Habi	18	60	52.6
	Tanaduen	19		
	Namangkewa	1		
	Langir	22		
Koting	Koting A	16	16	14.0
Total			114	100

# Respondents by age group

<b>Age Group</b>	<b>Number</b>	<b>Percent</b>
27-33	5	4.4
34-40	14	12.3
41-47	28	24.6
48-54	20	17.6
55-61	15	13.2
62-68	10	8.8
69-75	5	4.4
76-82	3	2.6
Total	114	100.0

# Number of respondents based on status in household

Status	Number	Percentage
Male Household Head	43	37.7
Female Household Head	25	21.9
Married Couple	42	36.8
Son/Daughter	4	3.5
Total	114	100.0

# RESULTS AND DISCUSSION

- Cassava is one of the main crops in Sikka
- At higher elevations cassava is cultivated within an agroforestry cropping pattern
- At lower elevations cassava is intercropped with maize and beans
- Farmers cultivate cassava for subsistence consumption, to sell as a food crop, and for livestock feed



# Cropping Patterns

Zone	Cropping pattern
Higher elevation, inland	Cassava in agroforestry system with coconut, cacao, cashew, tamarind, banana, lontar palm, candlenut ( <i>kemiri</i> ), pepper, nutmeg ( <i>pala</i> ), mango, avocado, maize
Lower elevation, coastal	Cassava intercropped with maize and beans

# Cassava in agroforestry system















**Cassava in coastal intercropping system with maize and pigeon pea**



# Intercropping trials in coastal zone





# Cassava Production

- The inputs used in cassava production:
  - Stakes (from previous year's cultivation)
  - Labour
    - household labour
    - mutual cooperation with other farmers
    - hired labour
  - Fertilizer
    - Most farmers did not use fertilizer
    - Some used subsidised fertilizer for maize

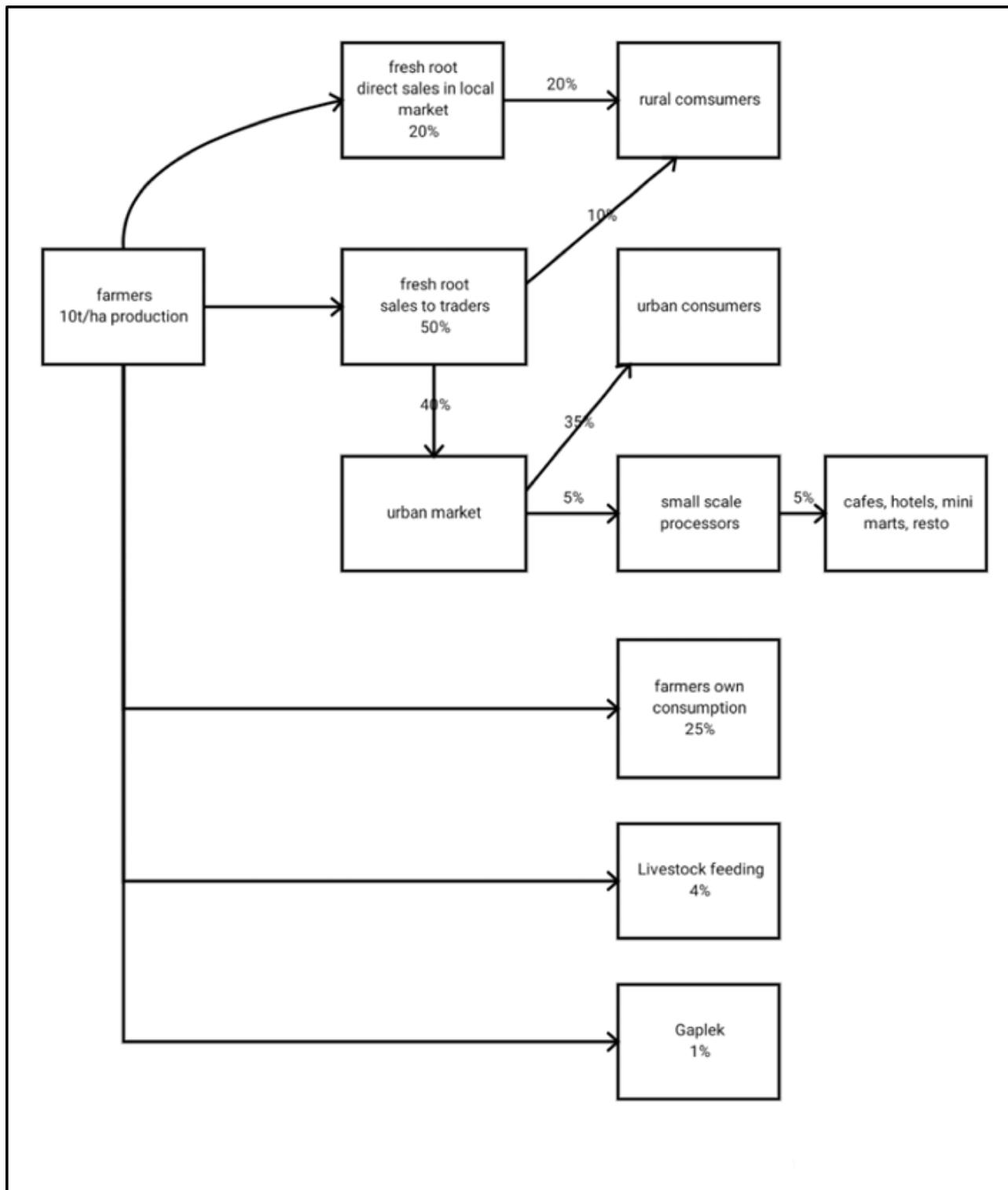
# Cassava production

- Main pest is cassava mealybug - increasing



# Cassava Utilisation

- Cassava mainly used as food, whether consumed by farm-household or traded in local markets
- Utilisation of cassava
  - 30% for home consumption, including food and livestock feed
  - 20% sold directly to local market
  - 50% for sold to traders
- Farmers sell cassava gradually in small quantities (about 10-20 bundles, 1 bundle = 5-10 kg)
- There is no starch factory in Sikka Regency





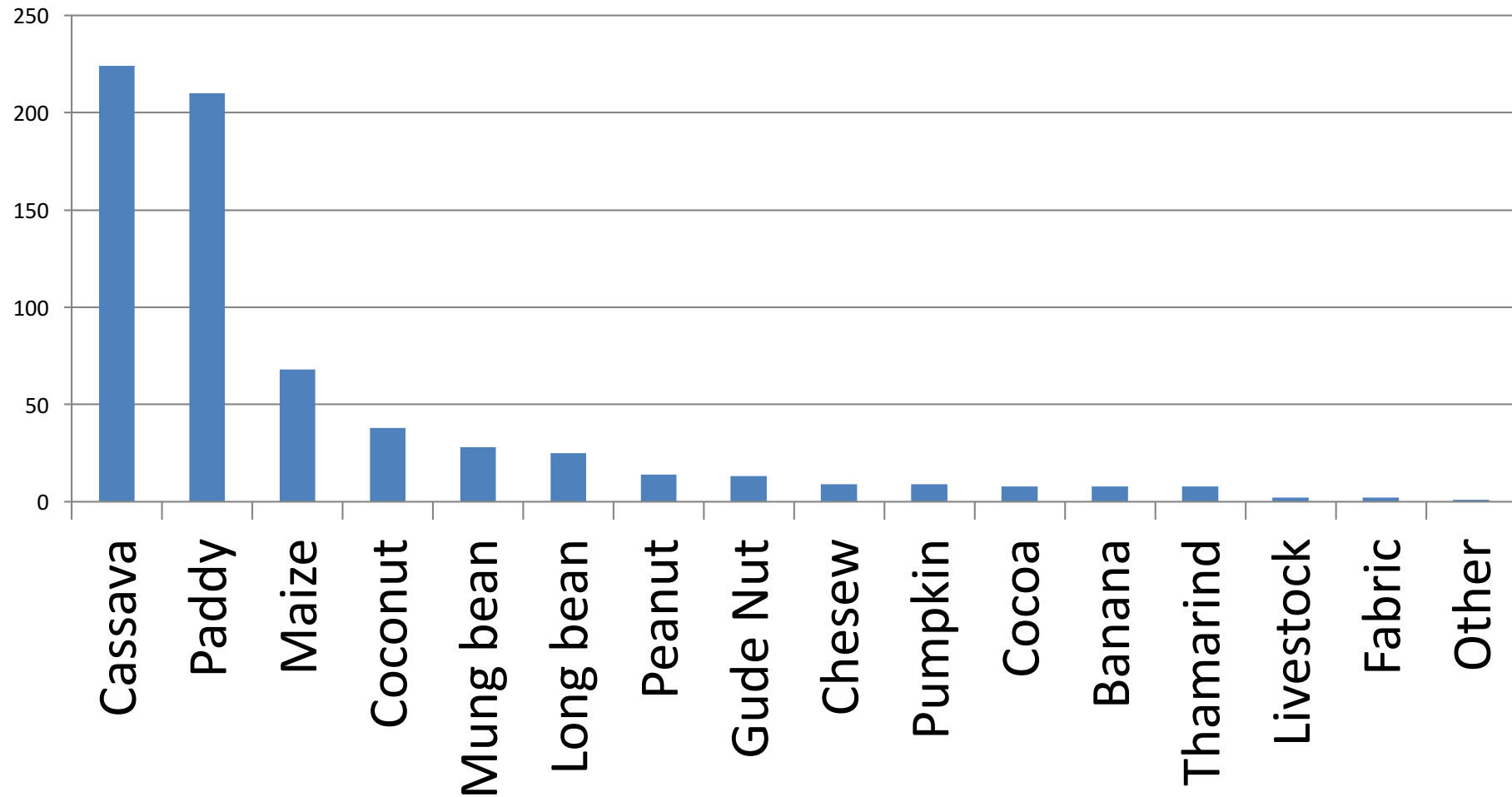




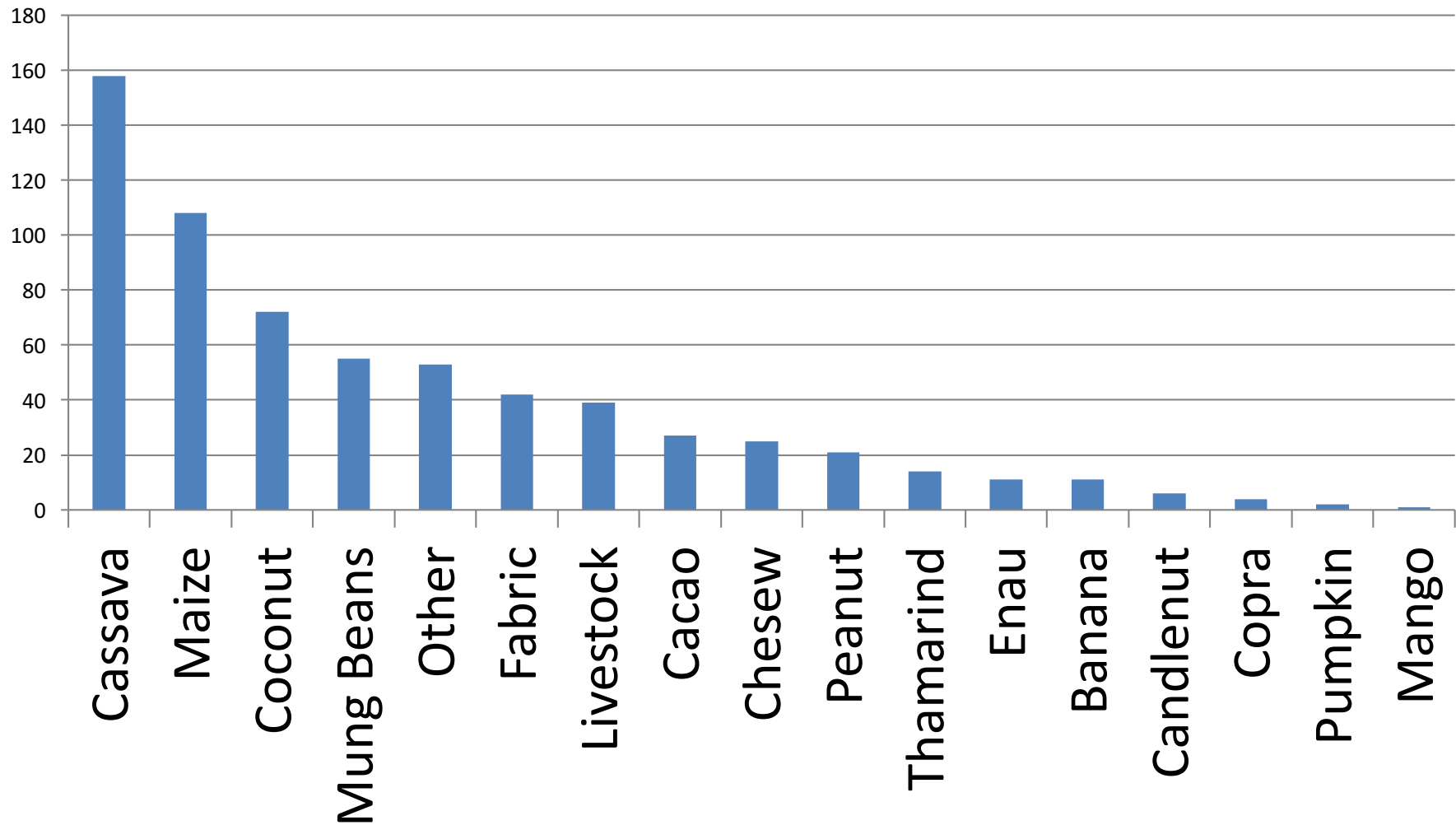




# Ranking of Activities for Food Security



# Ranking of Activities for Cash Income



# Conclusion

- Cassava farming has an important role in food consumption and trade within Sikka
- Farmers use cassava for home consumption, livestock feed, and trade
- Can improve productivity of cassava as food crop
  - improved intercropping in low-elevation coastal zone
  - new, high-yielding sweet varieties for local consumption
  - pest and disease monitoring and control (mealybug)
  - investigation of possible processing industries (e.g., MOCAF)

Here's to a prosperous future



