



Australian Government  
Australian Centre for  
International Agricultural Research



THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA



## ACIAR Cassava Value Chain and Livelihood Program

*Developing value-chain linkages to enhance the adoption of profitable and sustainable cassava production systems in Vietnam and Indonesia AGB/2012/078*

### Final Review Meeting

**Impact pathways and sustainability from Dak Lak  
(incorporating value chains, markets and  
livelihood impacts)**

**TNU, CIAT, UQ AND STAKEHOLDERS**



**Tây Nguyên Uni, 14 July/ 2020, <https://www.ttn.edu.vn>**

# I. Introduction

- ✚ As of 2018, the cassava area in Dak Lak province reached over 38,000 hectares, accounting for 6.1% of agricultural land, with an average yield of 18.4 tons / ha and an output of about 716,410 tons.
- ✚ About 48.6% of cassava products from the province are exported as for export as cassava starch or dried cassava chips. The rest is consumed domestically, in which as animal feed (22.4%), manually processed chips (16.8%) and consumed fresh (12.2%).
- ✚ In Dak Lak, cassava is grown in poor soil, by households with challenging economic conditions - more than 30% of cassava farmers are classified as poor households. Cassava cultivation is categorized by low investment in materials such as fertilizers and mechanization as well as the use of unsustainable farming techniques such as not intercropping legumes, rotations, preventing erosion and erosion. In some years, pests and diseases were serious problems
- ✚ Cassava is identified as an important crop within Dak Lak, and the province plans to have 36 thousand hectares under production in 2030. In 2020, there are 10 cassava starch factories operating in Dak Lak

# II. Activities of Dak Lak Team



**Impact pathways and sustainability for  
Cassava from Dak Lak**

# 2.1. Analysis of Value-chain linkages in Dak Lak

1. Cassava  
value  
chain/mar  
ket

## CASSAVA PROGRAM DISCUSSION PAPERS

### Value Chain Analysis, Household Survey and Agronomic Trial Results in Dak Lak, Vietnam

Nguyen Van Nam, Dominic Smith, Lava Yadav, Cu Thi Le Thuy, Le Duc Niem,  
Nguyen Van Minh, Nguyen Van Dat and Jonathan Newby  
Discussion Paper Number 2  
May. 2018

Hoa et al.: Advancing smallholders' sustainable livelihood through linkages among stakeholders in the cassava (*Manihot esculenta* Crantz) value chain: the case of Dak Lak Province, Vietnam  
- 5193 -

### ADVANCING SMALLHOLDERS' SUSTAINABLE LIVELIHOOD THROUGH LINKAGES AMONG STAKEHOLDERS IN THE CASSAVA (*MANIHOT ESCULENTA* CRANTZ) VALUE CHAIN: THE CASE OF DAK LAK PROVINCE, VIETNAM

HOA, A. X.<sup>1,2\*</sup> – TECHATO, K.<sup>1</sup> – DONG, L. K.<sup>1</sup> – VUONG, V. T.<sup>2</sup> – SOPIN, J.<sup>3\*</sup>

<sup>1</sup>Faculty of Environmental Management, Prince of Songkla University,  
Hat Yai, 90110 Songkhla, Thailand

<sup>2</sup>Faculty of Economics, Tay Nguyen University, Buon Ma Thuot, 63000 Dak Lak, Vietnam

<sup>3</sup>Faculty of Economics, Prince of Songkla University, Hat Yai, 90110 Songkhla, Thailand

\*Corresponding authors

e-mail: [jirasopin@gmail.com](mailto:jirasopin@gmail.com); [aouxuanhoadhtn@gmail.com](mailto:aouxuanhoadhtn@gmail.com); phone: +66-814-920-585; fax:  
+66-74-282-410

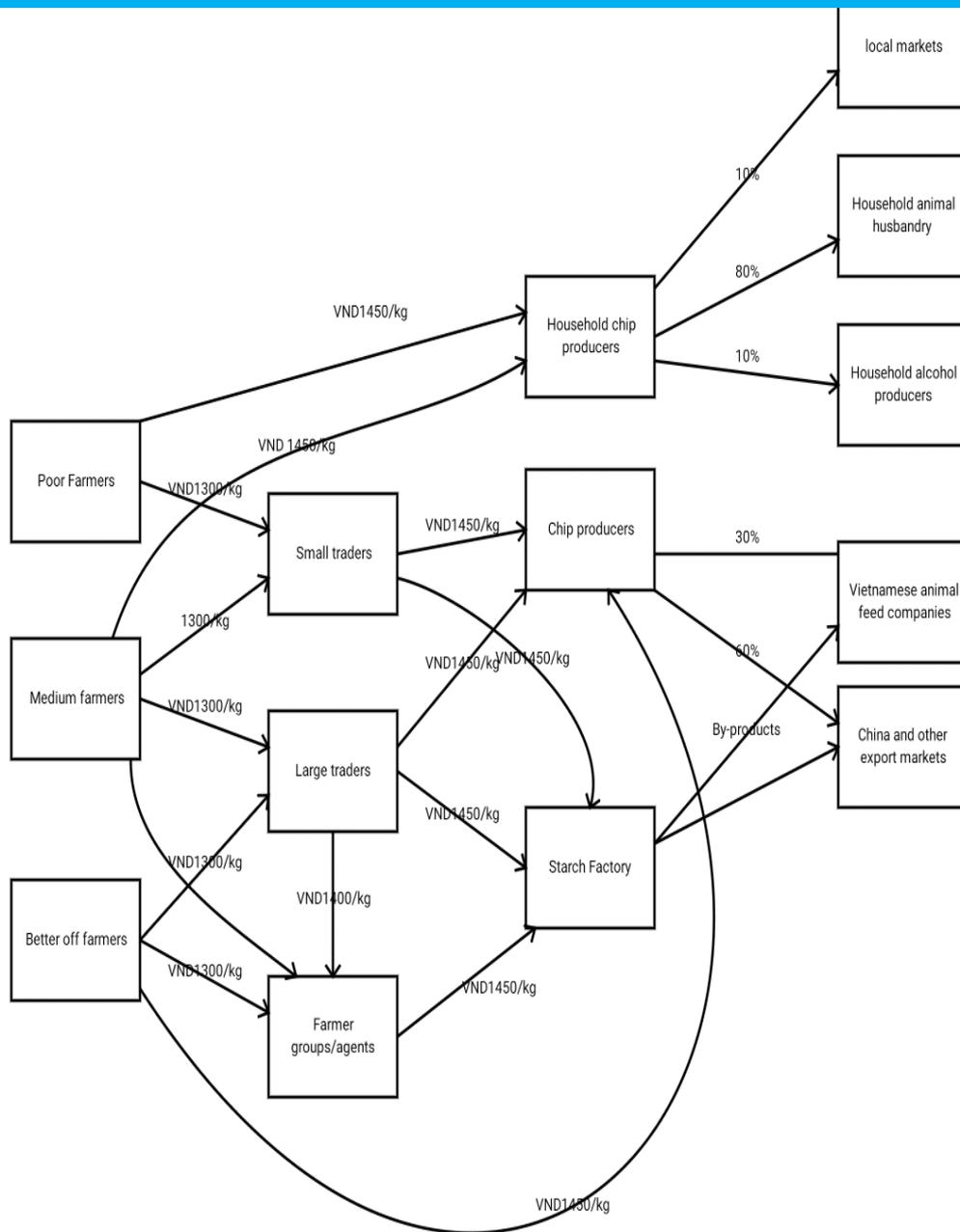
(Received 21<sup>st</sup> Jan 2019; accepted 6<sup>th</sup> Mar 2019)

## 2.1. Analysis of Value-chain linkages in Dak Lak

Analyzing value chains in Krong Bong and Eakar District Sep 2016 and conducting household surveys



# Value-chain linkages in Krong Bong, Dak Lak 2016

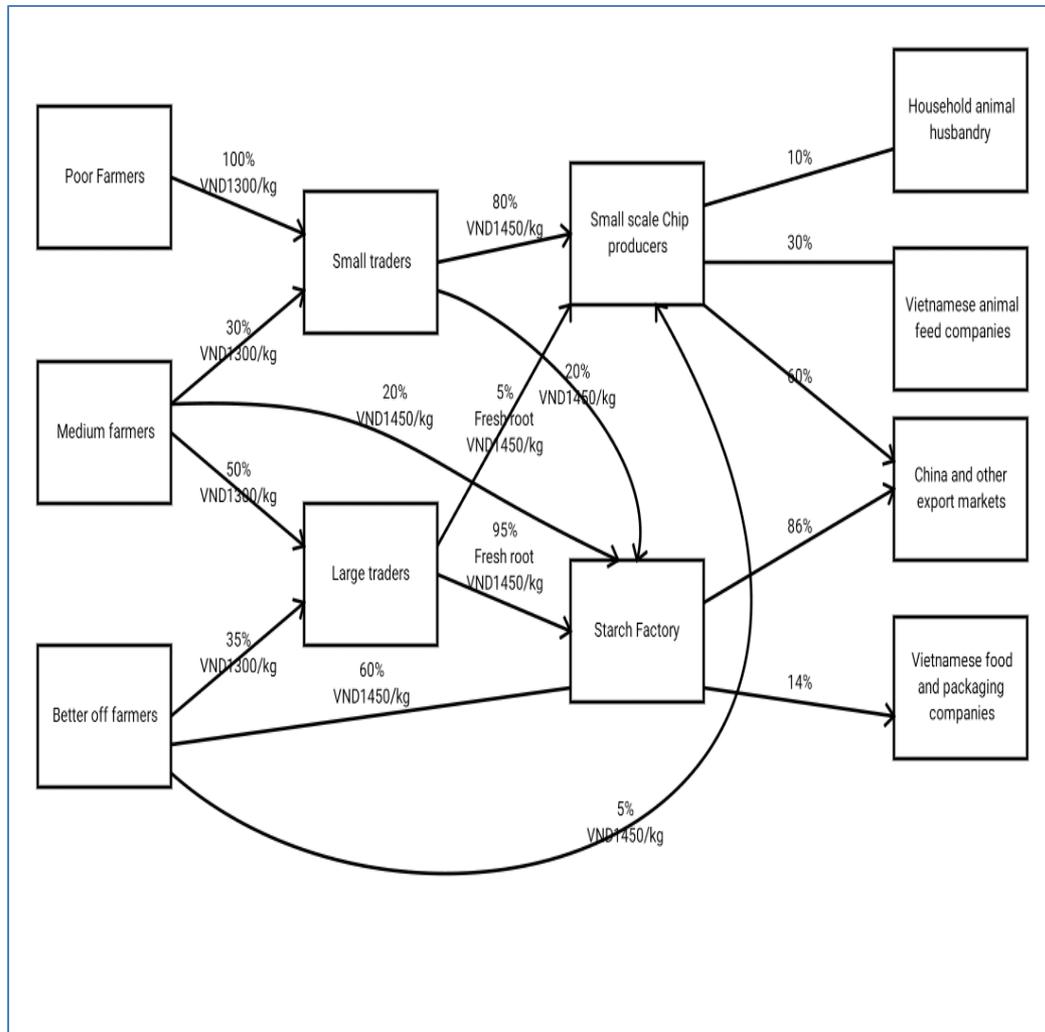


The majority of the 150,000 tons of cassava produced in the district are used by the DAKFOCAM starch factory in Dang Kang commune, with a small proportion being utilized by household scale dry chip producers and medium scale dry chip producers.

Poor farmers sell fresh roots to small traders or directly to household level dry chip producers, while medium farmers sell to small traders, larger traders and also through farmer groups or agents directly to the starch factory. Better off farmers are able to sell to large traders and also through farmer groups or agents directly to the starch factory.

The Krong Bong starch factory has credit arrangements with around 750 farmers from 5 communes close to the factory (Dang Kang, Hoa Thanh, Cu Kty, Hoa Tan and Ea Trul)

# Value-chain linkages in Eakar, Dak Lak 2016

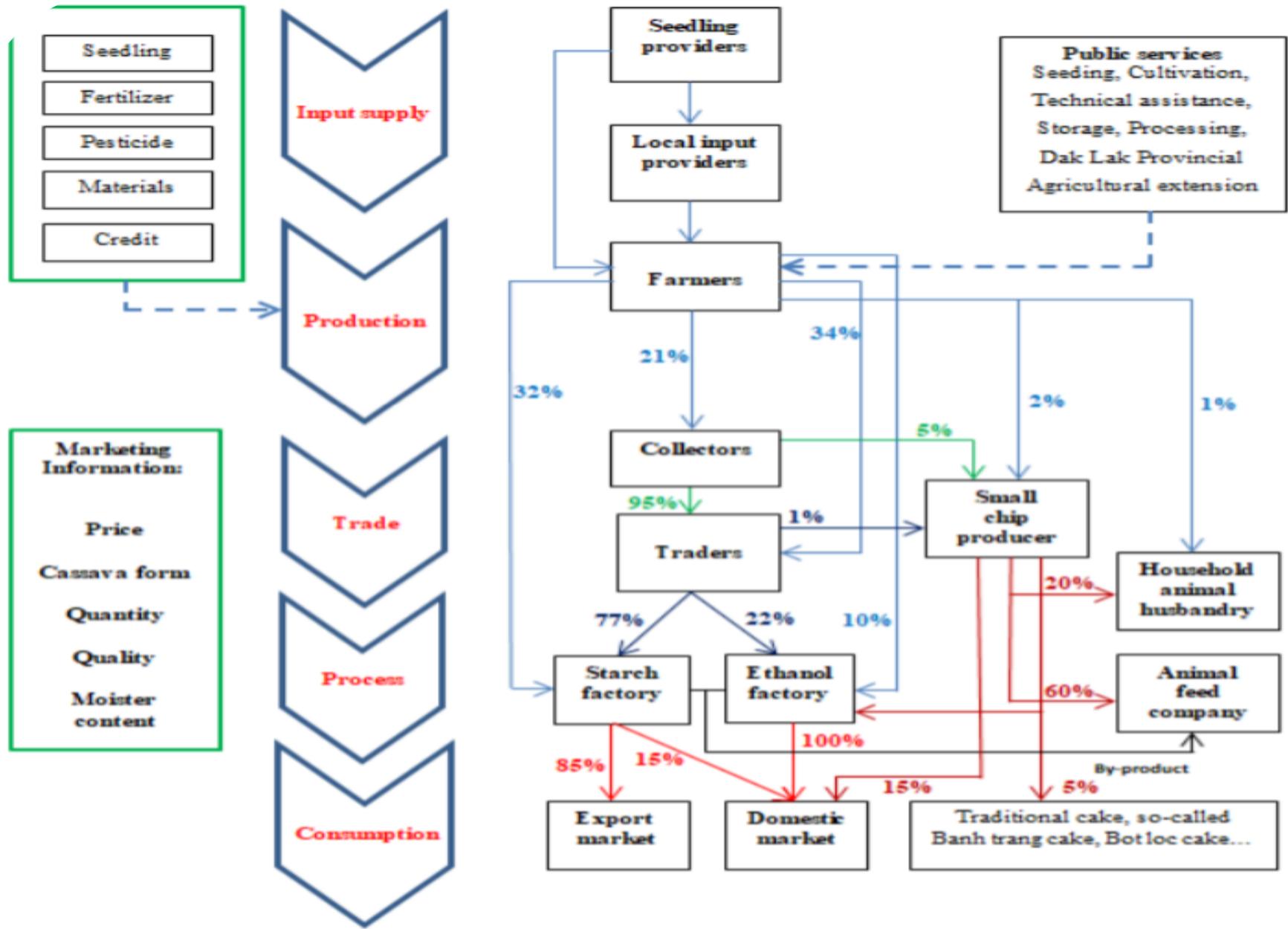


In Ea Kar, the majority of cassava production is utilized by the DAKFOCAM factory with only a small proportion of fresh roots being used by small-scale chip producers.

Poor farmers sell fresh roots to small traders while medium farmers sell to small traders, larger traders and also directly to the starch factory. Better off farmers are able to sell to large traders and also to sell products directly to the factory.

Unlike the Krong Bong factory, the DAFOKAM factory in Ea Kar does not enter into credit arrangements or have supply contracts with farmers or traders and buys on a spot market basis.

# Value-chain linkages in Dak Lak



# Value-chain linkages in Dak Lak

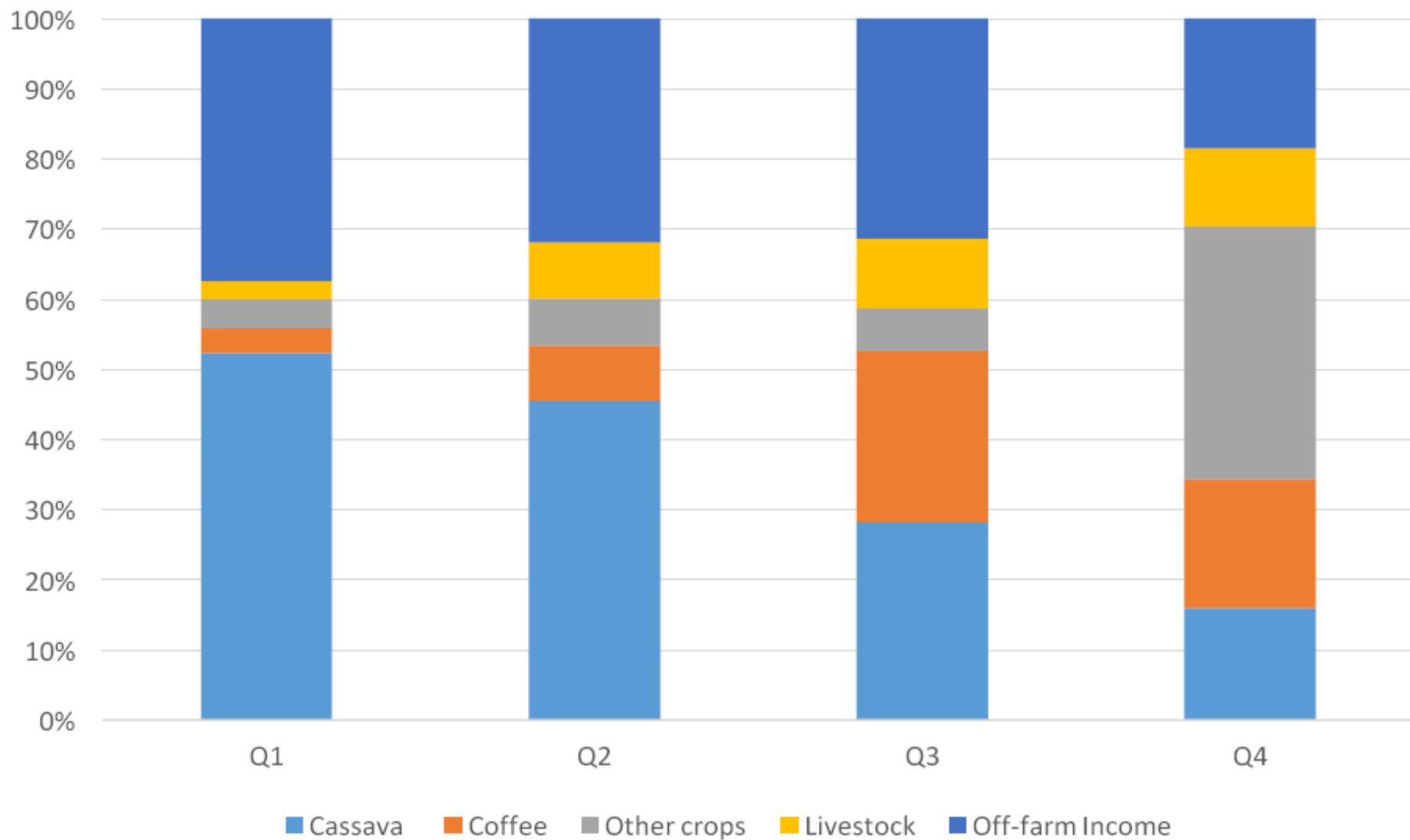
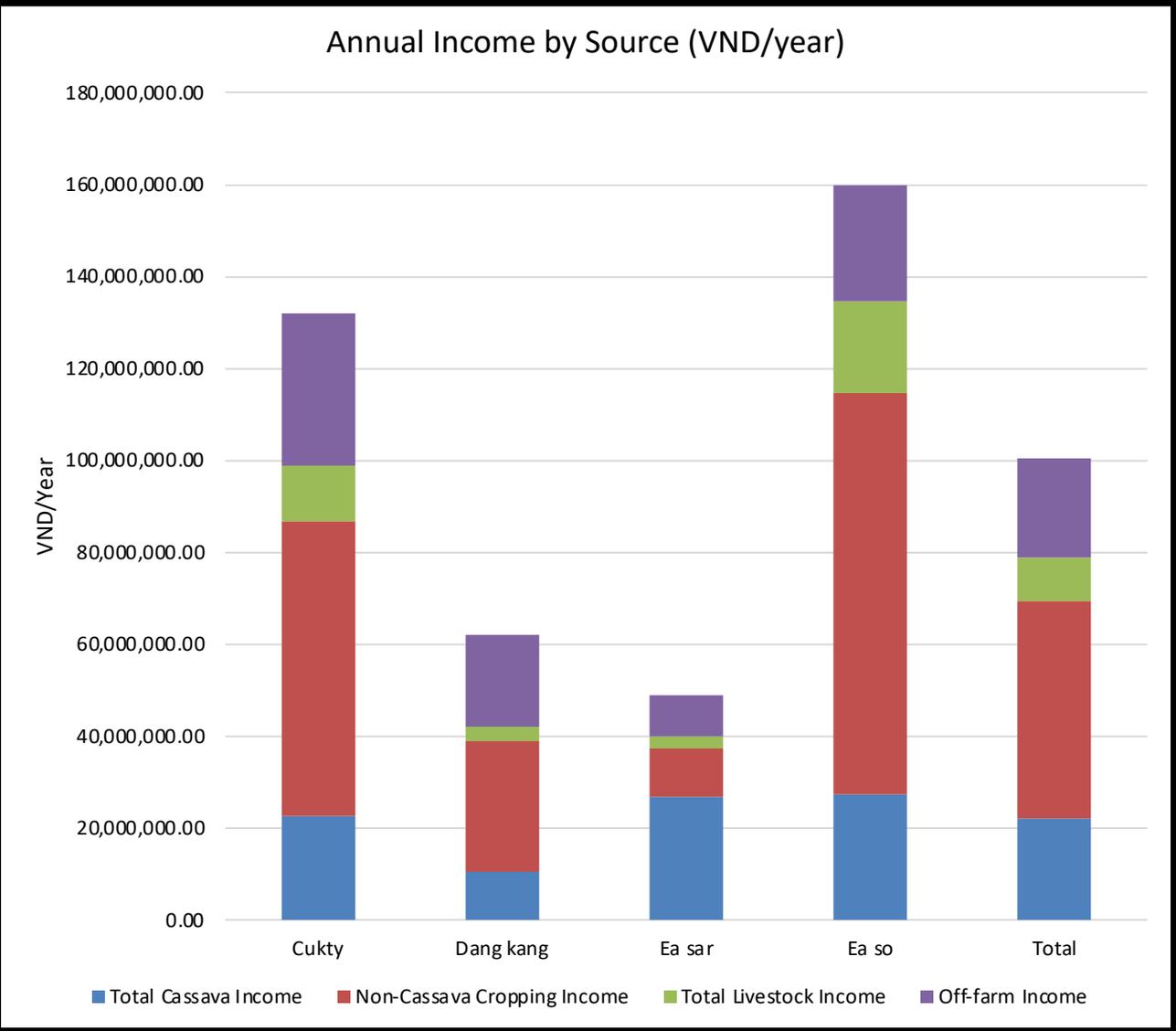


Figure 12: Cash Income sources, by Income Quartile

# Livelihoods of smallholder cassava farmers



**Livelihoods dominated by non-cassava cropping income in Cu Kty (coffee) and Ea So (sugarcane)**

# Stakeholder recommendations on sustainable cassava development

## Project kick-off meeting, 2016

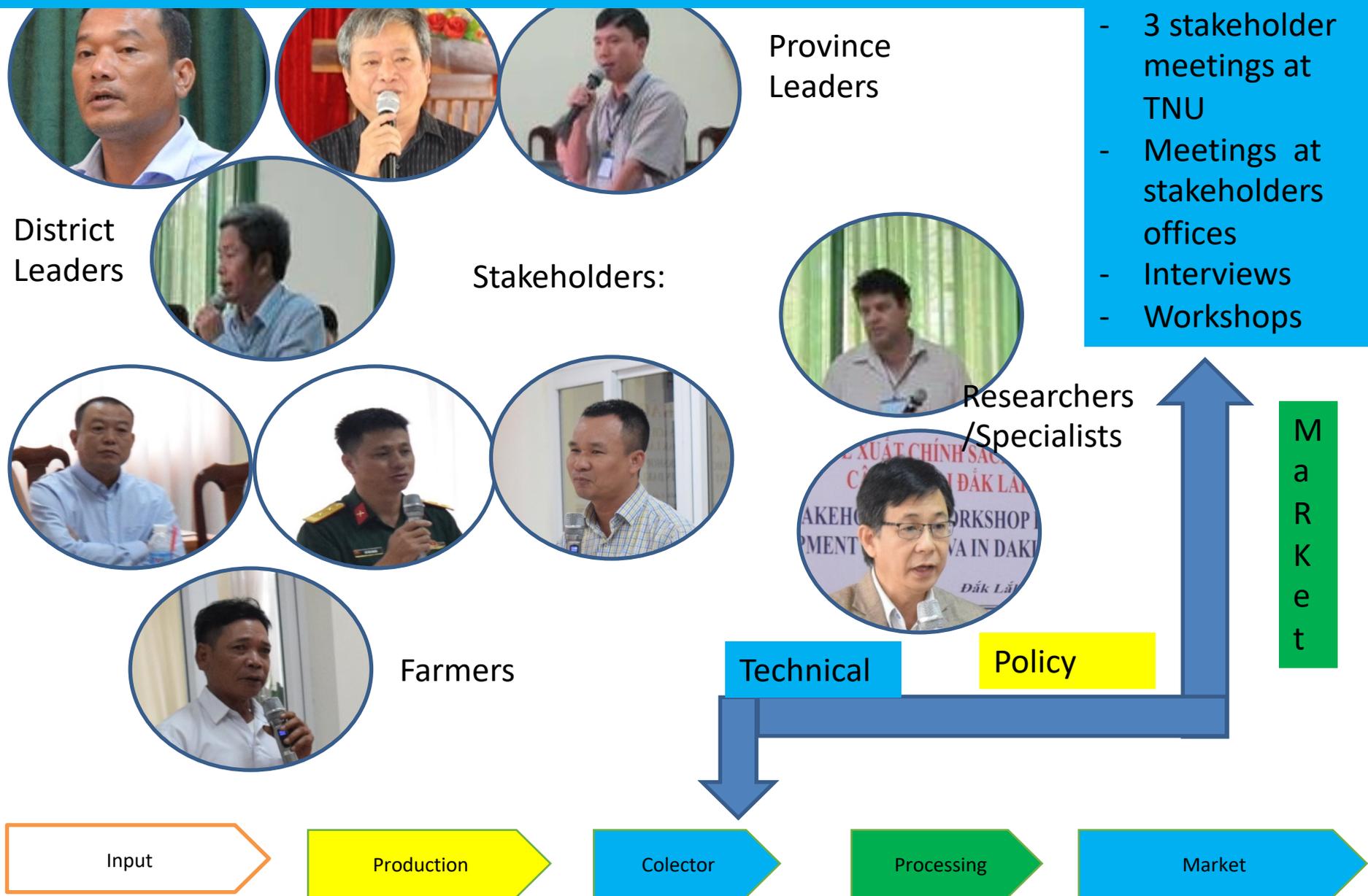


# Policy recommendations on sustainable cassava value chain

## Project-closing meeting, 2020



# Value-chain linkages in Dak Lak



- 3 stakeholder meetings at TNU
- Meetings at stakeholders offices
- Interviews
- Workshops

## Value-chain sustainability in Dak Lak

# Impact of linkages on cassava value chain sustainability

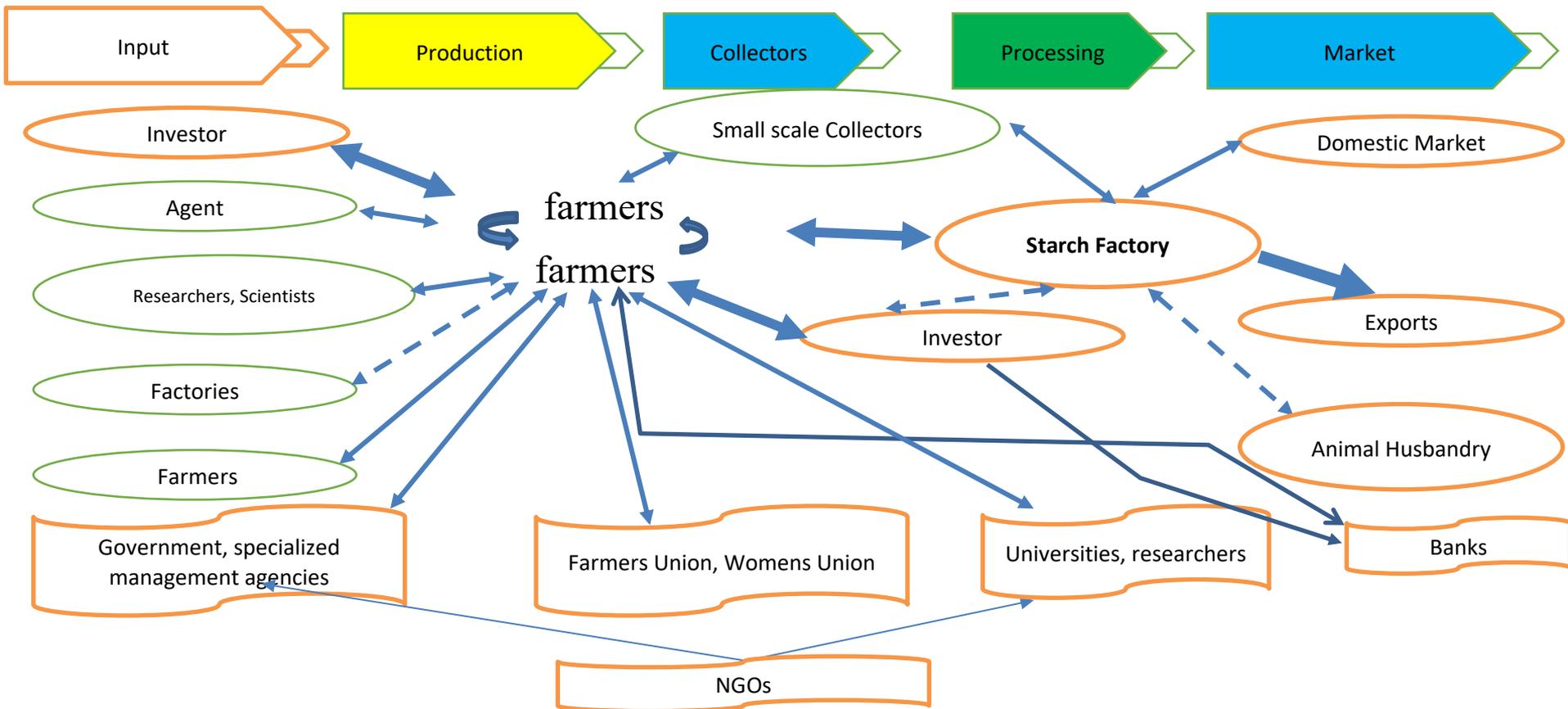
Stakeholders recommendations on policies for sustainable cassava value chains in Dak Lak

- Planning / activity
- Private investment
- Research: engineering, mechanization, irrigation
- Credit: for poor people

- Start-up
- Credit

Private investment  
Deep Processing

Diversity of markets



Making the links: farmer-factory-trader-government agent for sustainable cassava production

# Impact pathways from analysing cassava value chain

Planning,  
making  
Linkages in  
cassava area

- Planning cassava area
- Make links between: farmer, traders, factory, government agents

Technical input,  
farmer groups...

- Farmer groups
- Technical input
- Material input
- New technical mechanisms in cultivation...

*sustainable  
cassava  
production  
in Đắk Lắk*

## Livelihoods

Poor household groups  
Continue growing cassava

## 2.2. Disseminating technical Results

### 2.2.1. Organize a training course on sustainable cassava planting in Dak Lak , 2017

M'Drak: 50 people attended



Chukty & Hòa Phong communes, Krong Bong district: 100 people attended



Easar Commune, Eakar district 50 People attended



1. Technical Procedures
2. Select good variety
3. Maintain soil
4. Pest manages

Linkage

1. Government officers
2. Extension Staffs
3. Leaders and technical staff of Tapioca Factory
4. Farmers

1. Extension Staffs
2. Leaders and technical staff of Tapioca Factory
3. Farmers

Continue training after Project end and make Linkage to support cassava

## 2.2.1. Organize a training course on sustainable cassava farming, 2017

- Training with the participation of starch Factories in order to build up connection with farmer in cassava production
- Transfer disease-free cassava varieties from Krong Puk to Krong Bong in 2020



## 2.2.1. Organize a training course on sustainable cassava farming, 2017

Training conducted with the participation of farmers and extension workers. Extension workers can continue training in the future



## 2.2.1. Organize a training course on sustainable cassava farming, 2017

Feedback from Impact assessment in June 2020



1. Organizing the training course is necessary for cassava growers  
But: The method of organization needs to be more efficient. For example: combining Factory staff and Researchers to transfer technology to farmers
2. The participants doing the training should be mostly farmers who plant cassava. There should not be too many “outsiders” in the training.
3. Cassava planting technical guidance has to be brief and easy to understand and suitable for the locality
4. Some techniques are good but difficult to apply in practice.
5. Cassava farmers here have learned that they need to apply basal and top dressing fertiliser when planting cassava to bring high yields.
6. People know how to apply a number of measures to maintain soil fertility from agricultural production such as corn, bark, corn pulp, cassava, etc.

# Disseminating technical Results

Variety selection



Density and fertilizer



Intercrops



Technical recommendations from project

Government agent

Farmers

- Regular Technical Process approved by government agent

More 30\_40 ton/ha  
Soil fertility maintained  
Pests managed  
More income

**Livelihoods in Dak Lak have been improved**

Technical input from project can make 40ton cassava/ha



Pest management

## 2.2.7. Harvest field days for project result dissemination

- Strong interest from participants in improved varieties



### Stakeholders participating in Trials, training and the harvest field days

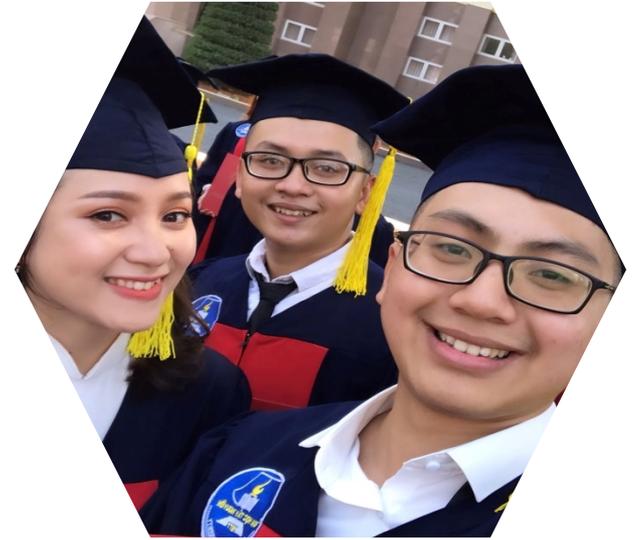
1. Daklak Provincial Department of Agricultural and Rural Development
2. District agricultural officers and extension staff from 7 communes of Eakar and KrongBong
3. KrongBong and Eakar district leaders
4. Representatives from 7 cassava processing factories located in districts of Daklak
5. Representative from 1 ethanol processing factory in Daknong province
6. Cassava traders in KrongBong district
7. 60 farmers from KrongBong district
8. farmers from Eakar district
9. students from TNU: undergraduate, Master and PhD. Can.

(i) how to get access new varieties and appropriate fertilizers

(ii) how to access to clean planting materials

(iii) how to identify and maintain planting materials

## 2.3. Training and Capacity Building



- 2 Doctor, 5 Masters students, 40 students
- Published 3 reference books
- Published 7 articles in Vietnam



For upgrading Cassava value-chains in the future

## 2.4. Policy discussions and recommendations

Policy/value-  
chain linkage

Market

*sustainable cassava  
production systems  
in Đắk Lắk*

Livelihoods

# 2.4. Policy discussions and recommendations

## 2.4.1. Meeting of stakeholders for policy discussions in Dak Lak



### Stakeholders Meeting

- Discussion on policies relating to Processing and Markets
- 10 starch Factories attending
- Encouragement for linking production, consumption and processing:
- Example: Factory- famers, factory-traders now factory-farmer-traders - government agent



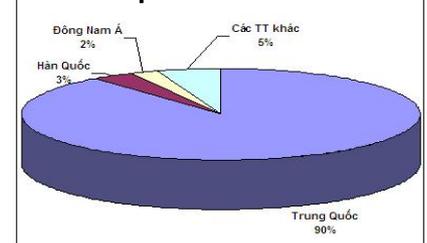
Deep Processing  
???????



50%  
Export



90% Export to China



## 2.4. Policy discussions and recommendations



Stakeholder meeting for policy recommendations for sustainable cassava development July 2020 at TNU

### Stakeholder Agreement on policy recommendations in Dak Lak Province 2020:



1. Review and make new policies and regulations to prioritize the development of cassava growing areas in the planning cassava area

2. Planning cassava growing areas, high-tech and mechanized regions for sustainable cassava development and production under international certification

3. Make of Regulations and policy to encourage and attract private investment in cassava planting, processing and market development

4. Priority policies and regulations in research to enhance the application of new technical advances in production of cassava



## 2.4. Policy discussions and recommendations



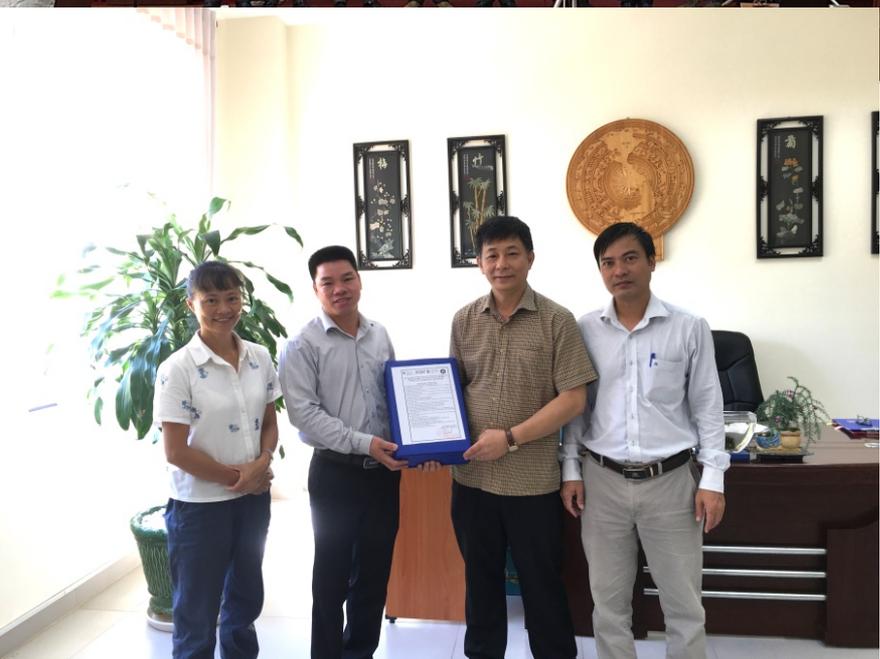
### Agreement of Stakeholders for policies to develop sustainable cassava 2020 in Dak Lak Province

5. Establishing a linking model of sustainable cassava production value chains
6. Analyze economic efficiency and select effective investment options based on productivity and quality and customer needs
7. Planning factories and consumption of cassava products, set up deep cassava processing
8. Training new technical for farmers and cassava growers
9. Build up the government project: "Sustainable cassava development program in the province until 2025 and vision to 2030"

## 2.4. Policy discussions and recommendations



Hand over the project results to relevant stakeholders for further development of cassava in Dak Lak Province



More 40 participants attended to hear technical results and receive technical documents

# Cassava project in Dak lak has elements to improve and maintain livelihoods of cassava farmers



- Know the new varieties
- Know technology for cassava land management and pest control
- Link with value chains
- Participate in policy discussion



**MA NHAU IN BÔNG BÔNG WILL BE GROWING CASSAVA FOR**



House



Bike



Wedding

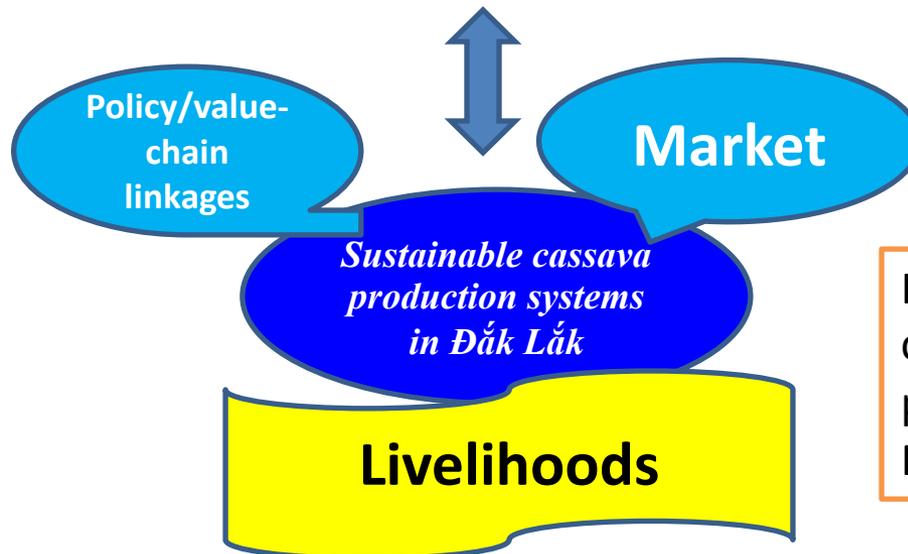


Life

# III. Conclusion



WE TRY TO DO FOR ALL



Hope to upgrade the cassava value chain in the period of Industrial Revolution 4.0

# THANKS FOR YOUR ATTENTION



Australian Government  
Australian Centre for  
International Agricultural Research

CIAT

THE UNIVERSITY  
OF QUEENSLAND  
AUSTRALIA

**HỘI THẢO ĐẦU BƯ**  
"XÁC ĐỊNH MẬT ĐỘ VÀ LƯỢNG PHÂN BÓN CHO GIỐNG SẮC KM 419  
TRÊN ĐẤT XÂM TẠI XÃ CHUKTY - HUYỆN KRÔNG BÔNG - TỈNH ĐẮK LẮK"  
Krông Bông, ngày 9-10 tháng 12 năm 2014



**Australian Government**  
**Australian Centre for  
International Agricultural Research**

