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ACACIA WOOD PRODUCTION AND COMMERCIALIZATION SYSTEMS FOR SMALLHOLDER LIVELIHOOD DEVELOPMENT IN CENTRAL VIETNAM

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INTRODUCTION

- Vietnam **wood procesing sector** shows the **significant growth** and makes **important contribution** to **national economy**, e.g. in 2015, export turnover of wood and wood products was recorded at 6.4 billion USD and around 7 billion USD in 2016 [1]
- Restriction of timber harvests from natural forest in 2014 - > **domestic material sources** for Vietnam forest-based industries mainly come from **plantation forests**
- **Around half** of plantation forests is under the management of **smallholder households** [2]
- **Acacia hybrid** (*Acacia auriculiformis x Acacia mangium)* gains popularity due to its **multi-purpose use** and **shorter-rotation** compared to other locally important (exotic and indigenous) plantation species (*e.g. Pines)* [3]

OBJECTIVE

Elucidating the **contribution** of Acacia hybrid plantations and commercialization systems for **smallholders' livelihood.**

METHODOLOGY

- Basic theoretical framework: Sustainable livelihood framework [4]
- Data emanated from preliminary research, applying stratified random sampling method, carrying out **household survey (n=60)** and **in-depth household interview (n=6)** in Nam Dong district; Thua Thien Hue province, central Vietnam, as well as **group discussions** and **expert interviews**.
- Basically, households were classified into 5 income groups: Lowest, Low-mid, Middle, Mid-upper and Upper based on the Decision number 59/2015/QD-TTg of Vietnam Prime Minister. After interviewing, all information about financial status and income of smallholders was cross-checked and grouped with village office.

KEY FINDINGS

a, General characteristics of Acacia hybrid smallholders

Table 1: General characteristic of Acacia hybrid small-scale producers(n=60)

Attributes	Nam Dong district	
	Mean	Sd
Household social-economic attributes		
Household (HH) head's age (years)	49.0	12.7
HH size (No.)	4.9	1.7
HH people in working age (No.)	3.1	1.8
HH main workers (No.)	3.0	1.4
Household head education (schooling years)	4.8	3.6
Total land holding (ha)	3.8	3.2
Total income (USD)	3819.3	3244.8
Acacia hybrid production attributes		
Acacia area holding (ha)	2.9	3.1
Experience in Acacia business (years)	12.2	7.7
Distance to plantation areas (minutes)	54.3	50.3

- Acacia production system can be characterized as domination of middle and upper age classes of HH heads with availability of family labor.
- Low level of education attainment (the avarage schooling years of farmers in Thua Thien Hue province is 6.3 years)
- Acacia hybrid plantation areas are key natural capital for the family economy, however, they are relatively small and dispersed.
- Due to hilly terrain + poor infrastructure --> increase moving time from village to Acacia plantation forest

b, Drivers of participation and level of engagement in Acacia hybrid production and commercialization systems

- Motivations driving smallholders into Acacia production activities are mainly related to technical (78.3%), economic conditions (early income) (68.3%) and suitability of such system with local condition (60%) (figure 1).

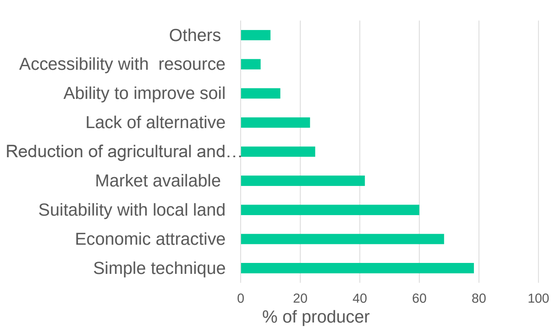

Fig. 1: Producers 'reasons for their engagement in Acacia business(n=60)

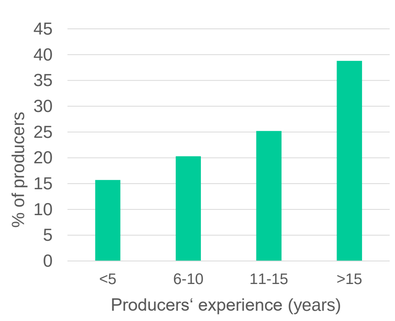

Fig. 2: Involvement level of producers in Acacia business (n=60)

- Even considered as a new land use system, Acacia plantations have been accepted as a stable and long term source of income by smallholders (figure 2)

KEY FINDINGS (CONT)

c, Resource access and management in Acacia hybrid plantation systems

- 3 routes to establish plantations by smallholders: allocation of Government (26.7%) (mostly barren or degraded land), reclaiming uncultivated land (50%), or converting from other land uses (23.3%).
- Regeneration: 89.7% of producers use local seedlings with low quality, only 9.3% use improved seedling.
- Producers usually have accumulated traditional knowledge and skill for production.
- Normally premature harvest (around 96.67%), and burning field after harvesting (93.3%)

Table 2: Acacia area holding by income groups (n=60)

Income groups	Mean (ha)	Sd
Lowest (1)	0.74	0.39
Low-mid (2)	1.48	0.78
Middle (3)	2.56	1.32
Mid- upper(4)	8	5.88

- No household in upper income group involved in Acacia plantations
- Plantation holding areas vary substantially between households and increase with the wealth status of the owners (Table 2).
- Correlation between household Acacia areas and total land holding and total household income are significant (R-square= 0.95, P= 0.000 and R-square=0.70, P=0.000 respectively).

d, Livelihood portfolios of Acacia hybrid small-scale producers

- Cluster analysis demonstrates that general livelihood strategies of producers are identical, as most of them have been following activities releated to crop, forestry and livestock production .
- Diversity level of livelihood is low as:
  - ✓ 1.67% households depend only on Acacia hybrid plantation
  - ✓ 8.34% and 58.33% producers respectively combine 2 or 3 different income sources and less than 20% of producers engage in 4 or 5 income sources.
- Income from Acacia plantation system accounts for crucial part in smallholders' livelihood, especially compared to the limited alternative income sources, e.g salary, trading.

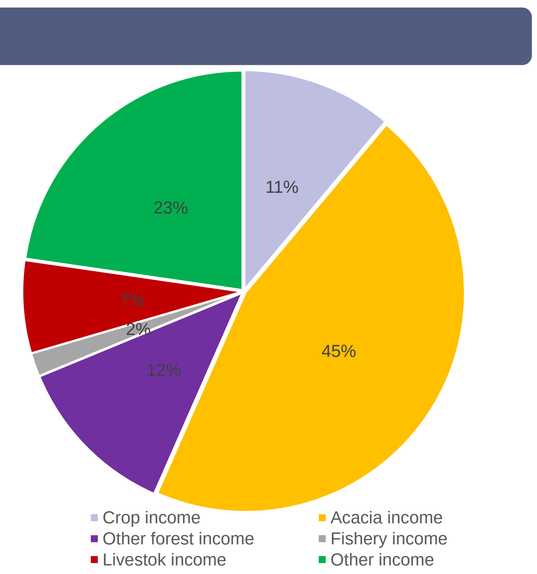

Fig. 3: Share of major income sources of Acacia producers (n=60)

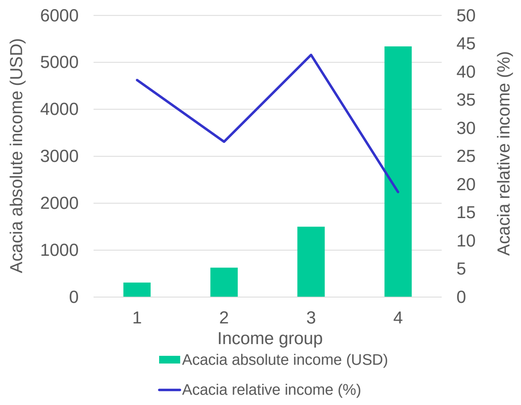

Fig. 4: Acacia absolute and relative income of different groups (n=60)

- Better-off households realize higher income from Acacia than lower ones (figure 4), which could be related to their better access to resources and market.
- ANOVA reveals a statistically significant difference in Acacia hybrid income between groups (F=23.03, P=0.000)
- Similarly, the productivity per unit of plantation area increases following the financial status of producers, from 418.79 USD/ha (lowest group) to 667.42 USD/ha (mid-upper group).
- Consistent with common hypothesis in forest-poverty link, relative dependence on Acacia hybrid income is generally decreased from the lower to higher income groups.

e, Interaction of smallholders with other actors in Acacia hybrid production and commercialization systems

- Weak horizontal coordination between producers as no formal cooperation between them except in FSC group.
- Informal cooperation of smallholders for : planting or selling timber together; sharing market information, platation techniques or labors (locally called *"doi cong"*)
- Advantages from participating FSC group: access market information and external supports, e.g.traning, inputs like seedilings, but only 15% of producers join recently.
- No formal business contract between produces and their customers.
- Far distance + poor infrastrure + low financial status --> difficulty in access to processing company.
- Connection with local traders normally based on social relationship, in some cases through informal loans and advance payment (can lead producers to captive relationships)
- It is rare for smallholders to receive market information from local traders.
- Despite the numbers of rules and regulations, direct effects of government on household's activities is unclear.

CONCLUSION

- Acacia production and commercialization activities represent an indispensable part of households' livelihood sources by generating considerable cash income.
- There are various actors involved in Acaciy hybrid production and commercialization system, however the interaction between producers and other participants is rather weak if not absent. Result also suggests that in order to achieve the poverty reduction and rural development target, producers' behaviors should be put in larger context, like value chain analysis, to measure profoundly their characteristics, activities and performances.

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