Policy Debate

From agroecological practices to policy approach: Challenges and lessons learned from NOMAFSI

VAAS, tháng 11 năm 2021
➢ Total land area: 33.1 million ha,
➢ Agricultural lands: 7.3 mill ha (21%).
➢ Sloping lands: 25 million ha (75%),
  + 4.5 million ha with slope less than 25%.
  + 20.5 mill. ha slope higher than 75%.
➢ Ethnic and poverty rates are the highest.
- Application of ecological principles to design and manage agriculture sustainably

- Ecological principles: interaction between living and non-living components
AE development and policy process for NOMAFSI

- **Project trial/demos**
  - Identify the AE practices
  - Small scale

- **Project models (KN, P)**
  - Demonstrate the AE practices
  - Large scale

- **Project modeling**
  - Validate the real results
  - Large scale

- **Project technology transfer**
  - Local extension participation
  - ToT, trainings, field days; study tours

- **Project technology transfer**
  - Protocol
  - Policy brief

- **Policy advocacy**
  - Policy local influence
  - Policy integration
NOMAFSI’s mission on AE

+ Research for identifying the potential Agroforestry systems
+ Actively provide technical support for building Agro-forestry model at household or landscape level
+ Developing and promoting market-based agroforestry and forest rehabilitation options
AE development from NOMAFSI

- **Mulching for maize cultivated on sloping land**: Reduce erosion 50-90%; Yield increase 20-60%
- **Mini-terrace and DMC**: Reduce erosion 65-99%; Yield increase 30-60%.
- **Maize intercropped with legume**: Economic efficiency increased 20% - 30%
- **Cassava intercropped with legume**: Soil fertility improvement
- **Fruit intercropped with cover crop (Arachis pintoi)**
AE development from NOMAFSI

- **Building capacity for farmers:** VietGAPs, safe area production: safe for the users, safe for food products and, safe for the environment
- **Agroecological pest controls (ACP):** Pheromone, biochemical pesticide development,
- **Agroforestry:** Evaluate the benefit of shade trees and/fruit tree on the areas of Arabica coffee, tea
- **Vegetable systems:** Diverse varieties, less chemical use, more market approaches
AE development from NOMAFSI

- Testing and cultivating improved forages and legumes on sloping land for cattle feed: New forages (grasses and legume) intercropped with timber and fruit farms.
Main results

- Increase in crop and livestock productivity, quality and safety
- Additional income and local livelihood
- Resilience (nutrition recycle, pests interactive functioning, soil water, biogas) to climate change
- Reduce soil erosions, soil nutrient losses/protect soil fertility and reduce water contamination
- Social network strengthen, gender improvement and ethnic inclusion
Extension and communication in policy support

- Conferences, forums, workshops:
  - 3rd CA conference in Southeast Asia (2012, Hanoi)
  - EA stakeholders' workshops, schools (2017 in Hanoi, Can Tho, My Tho)
  - Brisance conference 2014

- Network CANSEA and AliSEA; organizations: VAAS network, ACIAR, ICRAF, CIRAD, CIAT, Aus4Innovation
  - Exhibition “Conservation Agriculture and Direct Seeding in Mulch-based Cropping Systems in Southeast Asia and the World” in Hanoi, 2011
  - Showing film and discussions on CA sustainable intensification, in Hanoi, 2013

- Trainings: farmers and extension officers
  - Agro-ecology and agroecological control of crops (ACP)
  - Conservation agriculture(CA): NOMAFSI & SFRI researchers; NOMAFSI became the leading institution in CA R4D in Vietnam

- Communication documents
  - Policy brief (cassava)
  - Protocols (sloping land cultivation technique); safe tea protocol
  - Technical reports
AE challenges for NOMAFSI missions

- Understand success achieved remains fragile:
  - Unsustainable adoption of project practices (case of Agroforestry/ADAM)
  - Unsustainability of project results to scale out (case of ACIAR maize and other)
  - No direct policy on agroecological practices
  - Driving force of market dynamic, climate change and local culture interest
  - AE practices are unclearly proving the effectiveness/complicated/
  - Internal project design systems exclude the policy advocacy
  - Role of DARD in transferring AE practices
Causes of unaccepted/limited AE adoption

- Limited and complicated/difficult for application
- High input costs, high risks
- Unforeseen the immediate effectiveness and likely to have in a long term
- Required more labor
- Do not have markets/branch names of agroecological products, prices are not different
- Consider local cultural context in conducting agroecological practices
- Small scale: household scales/farmer groups scale, difficult to compliant with standards (VietGAP, GPS…)
- Do not have agroecological practices integrating in province/national policies
- Equipment and tool are not suitable and need to improve
### Labor pressure

<table>
<thead>
<tr>
<th>Practices/items</th>
<th>Year 1 (man-day/ha)</th>
<th>Year 2 (man-day/ha)</th>
<th>Year 3 (man-day/ha)</th>
<th>Total (man-day/ha)</th>
<th>Increased (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control (mono-orange)</td>
<td>120</td>
<td>140</td>
<td>160</td>
<td>420</td>
<td>0%</td>
</tr>
<tr>
<td>Orange + legums</td>
<td>140</td>
<td>192</td>
<td>207</td>
<td>539</td>
<td>28,3%</td>
</tr>
<tr>
<td>Orange + Grass Grass trip</td>
<td>130</td>
<td>170</td>
<td>185</td>
<td>485</td>
<td>15,48%</td>
</tr>
<tr>
<td>Orange + Grass Grass trip + legum</td>
<td>145</td>
<td>190</td>
<td>210</td>
<td>545</td>
<td>29,7%</td>
</tr>
<tr>
<td>Orange + tea</td>
<td>130</td>
<td>140</td>
<td>170</td>
<td>440</td>
<td>4,7%</td>
</tr>
<tr>
<td>Orange + taro</td>
<td>130</td>
<td>180</td>
<td>200</td>
<td>510</td>
<td>21,4%</td>
</tr>
</tbody>
</table>

Labor required on agroforestry practices are all higher (4.7%-28%) than conventional practices.
Economic benefit from agroforestry demos in Van Chan Yen Bai show higher input costs and negative economic benefit at the first 2 years while only starting having positive profit from the third year.
Unsuitable innovative tool

Innovative equipment and tools are not suitable and need to improve
Recommendations

Agroecological practices are required:

- Develop agroecological policy/integrating to local/national policies to support
- Have agroecological markets/standards/branch to support agroecological products
- Practices in landscape levels/community approach
- Co-funding are recommended from Central-local-NGO-private sectors to leverage the funding resources and effective transfer to end-users
- More hand-on participatory research and trainings
- Incentives for agroecological practices
- New introduced techniques should be integrated between agriculture and livestock (cycle system)
Thank you