Multidimensional benefits of smallholder farmers' good practices

A case study in Kampong Thom, Cambodia

Evaluation des bénéfices liés à l'apprentissage des bonnes pratiques agricoles

Etude de cas à Kampong Thom, Cambodge

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May 2017
Brussels

Introduction

Agriculture : Traditional mainstay of the Cambodian economy

- almost 90% of the Gross Domestic Product (GDP)
- employing around 85% of the work force

BUT :

Traditional farming practices and intensification chaotically
(exclusively rice culture, low average yields, only consumption needs,…)

Introduction

MODE

= non-governmental organization called Minority Organization for Development of Economy

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- Spreads organic agricultural good practices to local vulnerable farmers (trainings, field demonstration, agriculture kits,…)

- In 8 communes of the Cambodian central province (Kampong Thom)

- Project started in 2011

Introduction

Objectives :

1. To measure the sustainability of agriculture in Cambodia
2. To assess the project of the organization MODE
3. To provide tools and support to the organization

Sustainable agriculture (FAO, 2014) :
Management and conservation of the natural resource base, and the orientation of technological change in such a manner as to ensure the attainment of continued satisfaction of human needs for present and future generations.

Sustainable agriculture conserves land, water, and plant and animal genetic resources, and is environmentally non-degrading, technically appropriate, economically viable and socially acceptable.

Material and methods

- Methodology selection based on literature review : SAFA (FAO, 2013)

21 Themes
56 Sub-themes
112 Core Indicators

➔ 53 indicators selected based on their local relevance

Positive	Negative
- Existing and solid framework - Ease of use, flexibility and exhaustiveness - Adaptation	- Restriction of number of indicator (concept and context) - To assess action or intention (no consequences) - Time consuming

Material and methods

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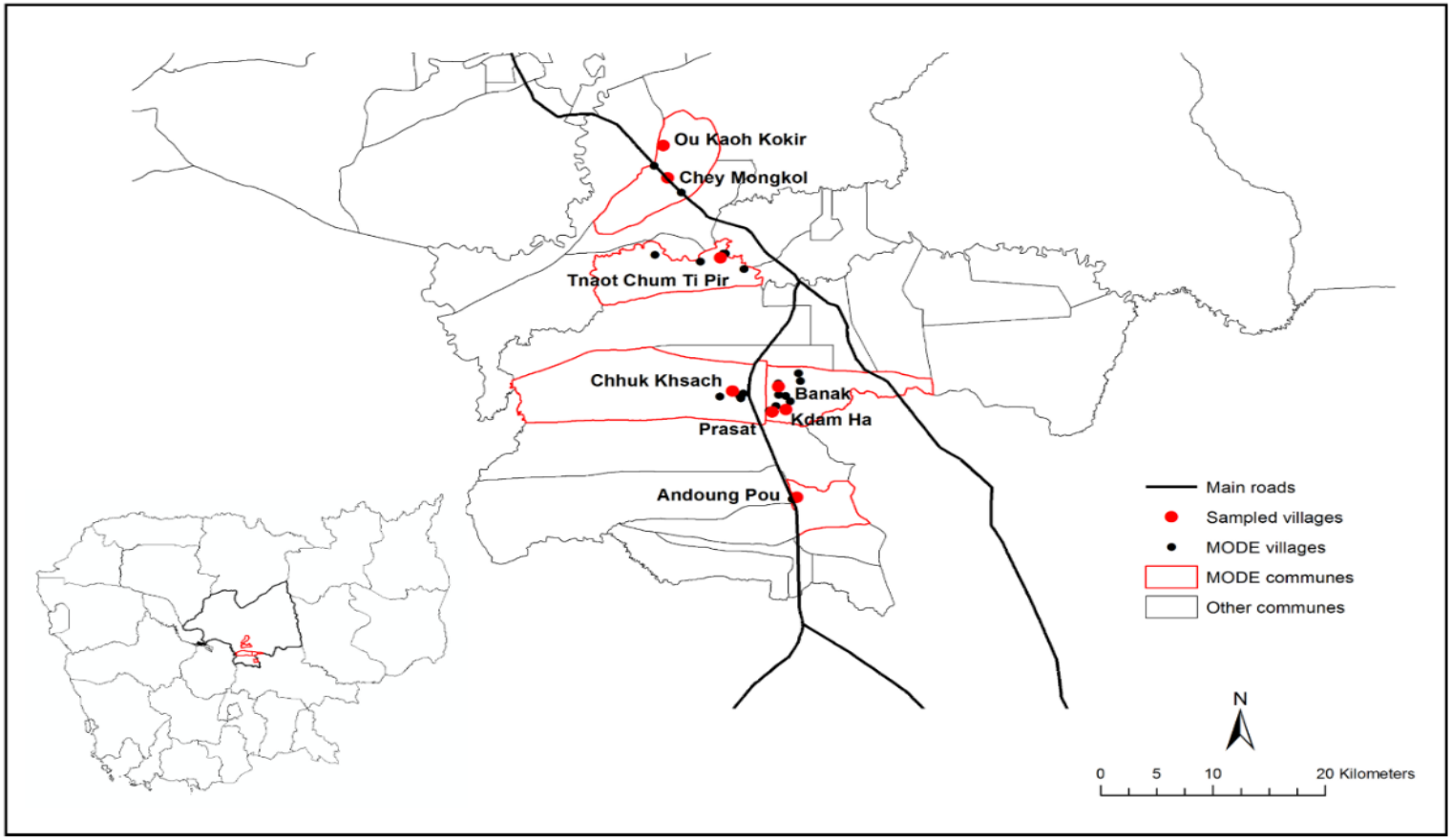
- Questionnaire designed and corrected by on-field tests on volunteer farmers.

Material and methods

- Panel of 80 farmers divided in two groups (beneficiaries vs non-beneficiaries)



Results

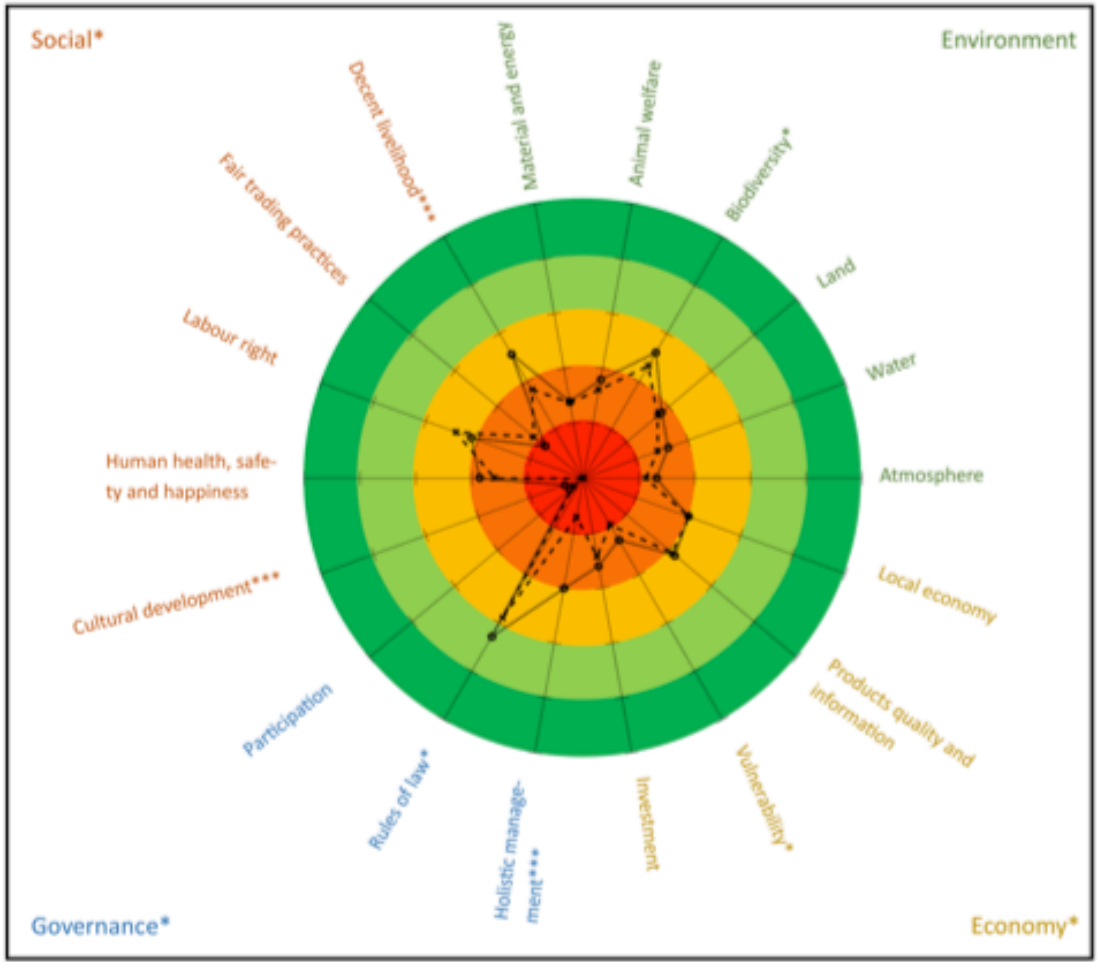
	B			NB			p-value
	Mean	Min	Max	Mean	Min	Max	
Farm size [ha]	1.4	0.01	7.08	1.51	0.04	4.56	0.73
Family size	4.9	1	9	5	1	8	0.6
Number of products [-]	8.07	3	14	5.44	2	11	10^{-5***}
Income [$/month]	119	0	1066.7	54.9	0	503	0.0485*

*significant at P = 0.05 and *** significant at P = 0.01

B = Beneficiaries, NB = Non-Beneficiaries

- Groups are similar in terms of vulnerability (Farm and Family size)
- Diversity of production and income significantly larger

Results



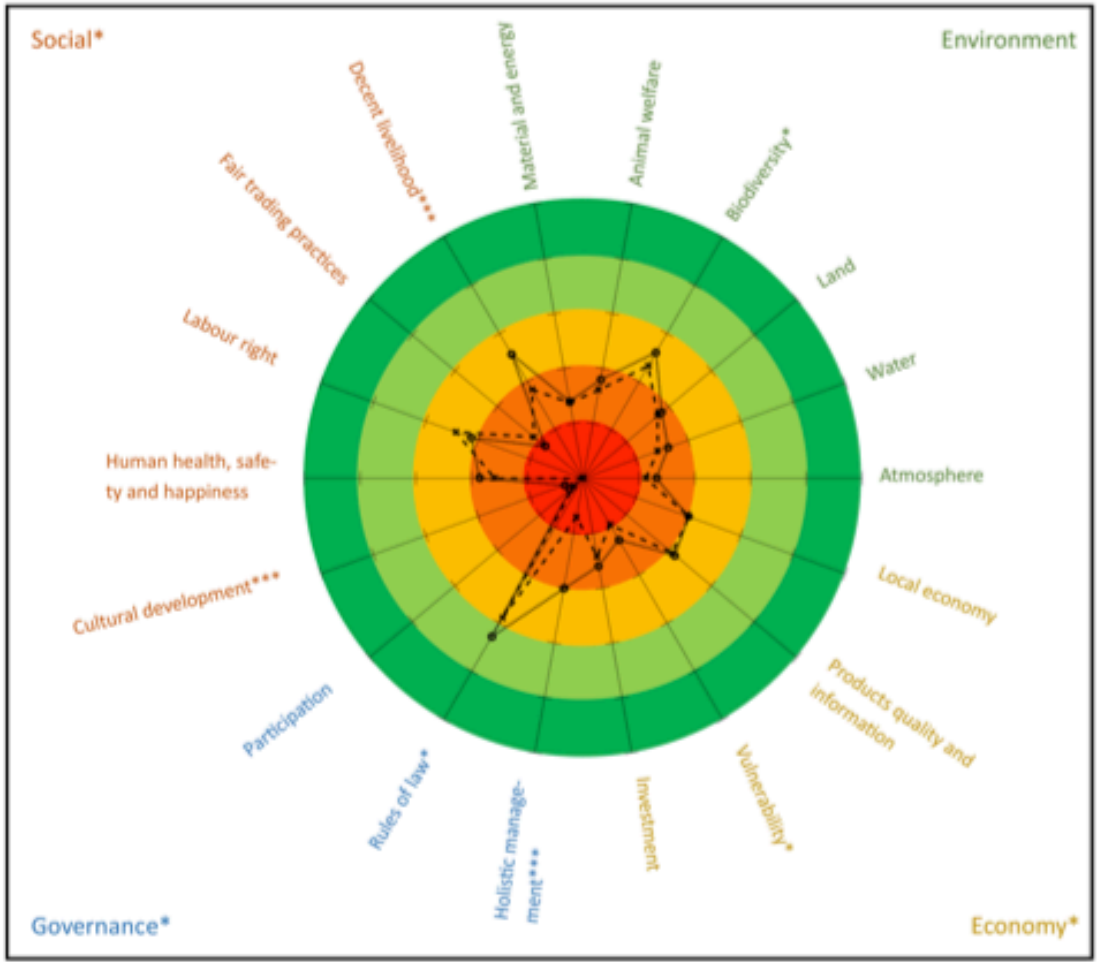
Blue = governance, **Green** = environment, **Yellow** = economy, **Red** = social
Dotted dark line = Beneficiaries (B) and **Dashed line** = Non-beneficiaries (NB)
Outer dark green circle=1 and **Inner red circle** = 0 in term of sustainability
* Significant at p = 0.05, *** Significant at p = 0.01

- Low level of sustainability

- Higher value for beneficiaries

- 3 pillars, 6 themes and 12 indicators significantly different

Results



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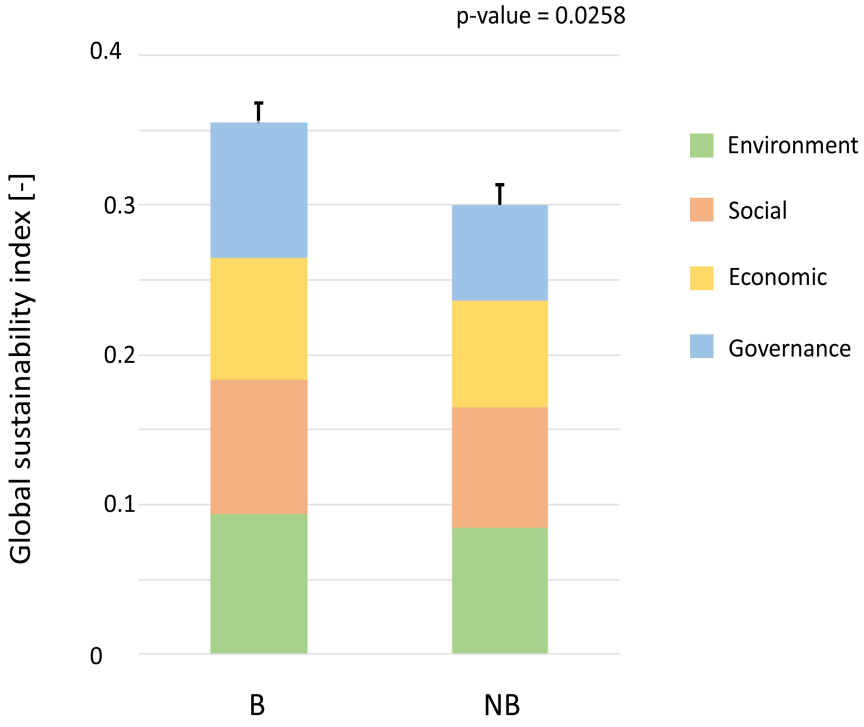
- Greenhouse gas mitigation practices,
- Water conservation practices,
- Ecosystem connectivity,
- Diversity of production,
- Waste reduction practices,
- Free prior and informed consent,
- Sustainability management plan,
- Risk management,
- Long-term profitability,
- Right of fair access to land and means of production,
- Public health,
- Food sovereignty

Results

- Global sustainability index significantly different (larger for beneficiaries)



Discussion

- Significance ≠ causality

- Lack of agricultural knowledge of farmers.

- Give the keys to assess their action;

Conclusion

- ✓ To measure the sustainability of agriculture in Cambodia
- ✓ To assess the project of the organization MODE
- ✓ To provide tools and support to the organization

Thank you for attention