



Introduction, context and objectives

Introduction: Limiting the use of pesticides and selling locally: a major challenge that gathers both public and private actors.

Specificities and challenges of small island economies: Dependence on imports, lack of organization of the sector, increased exposure to natural hazards and important pest pressure. Comparison Martinique, Guadeloupe and Reunion.

Research objectives: Understanding the farming and marketing strategies adopted by farmers, the environment in which they evolve and studying their impact on the development of a safe and local production.

Theoretical approach

On the farmer's side:

Identification of:

- farmers' individual and structural characteristics
- the role of innovation adoption on performance

On the supply chain's side:

Consideration of:

- all interactions and coordination of farmers with actors in the chain
- the impact of organizations membership in the implementation of alternative practices

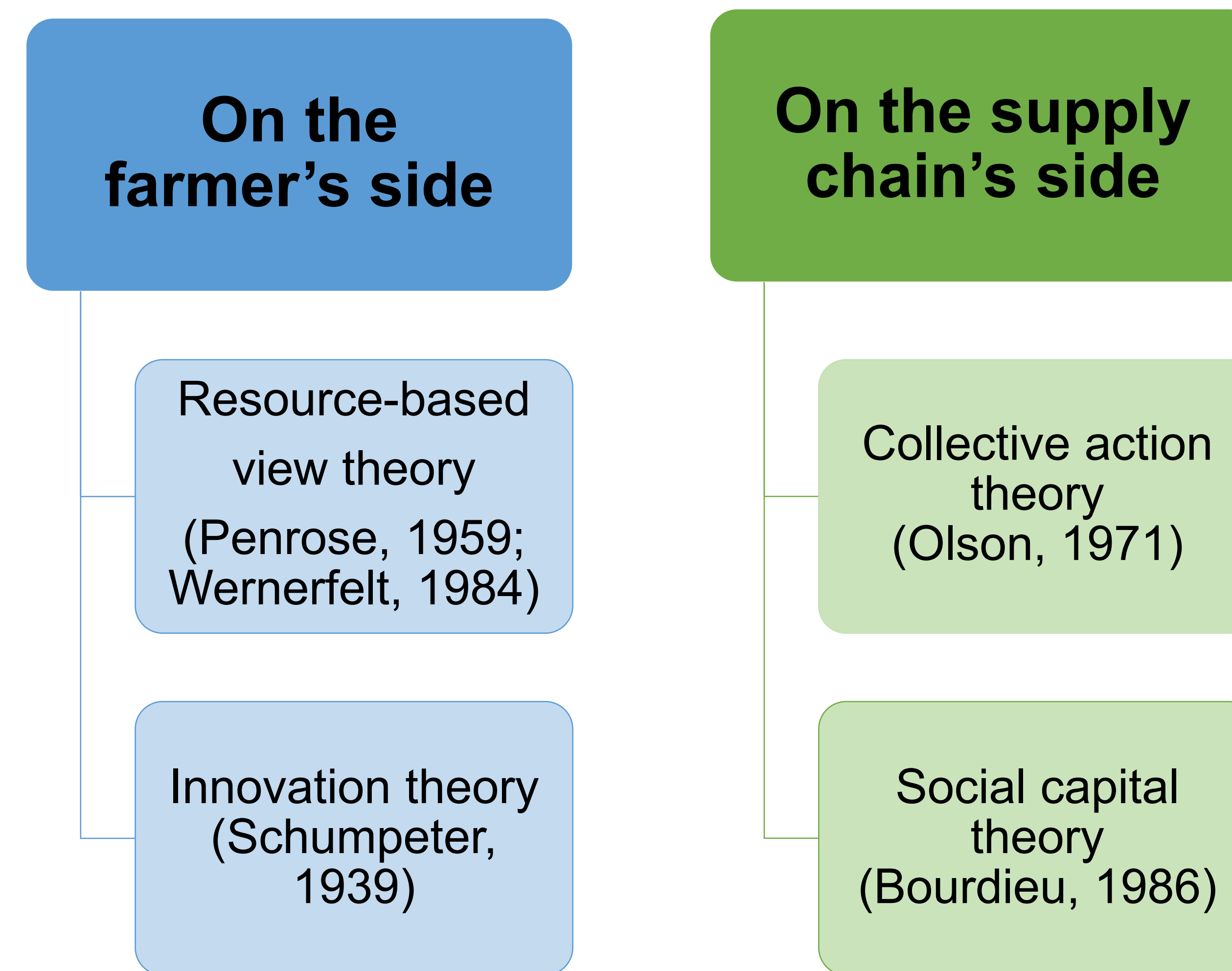


Fig. 1 Two scales of analysis

Data and methodology

Multiple data sources: official databases from the agricultural censuses / farm structure surveys and field surveys conducted in Martinique and Guadeloupe (N≈400).

Methodology: Propensity score matching and difference-in-differences methods to study the impact of the marketing strategy on farms' sustainability.

Simultaneous equation models and count regression models to study the impact of organizations' membership on changes in agricultural practices.

Preliminary results

Income (€/month)	No membership	Membership
≤ 500	28 %	13 %
500 < ... ≤ 1000	51 %	37 %
1000 < ... ≤ 1500	17 %	38 %
> 1500	4 %	12 %
Total	291	104

$$\chi^2 (4) = 34.48 \quad p < 0.001$$

Tab. 1 Chi-square independence test between farmers' organization membership and income

	Number of agroecological practices Mean (sd)
No membership	2.97 (0.10)
Membership	3.53 (0.20)

$$t = -2.81 \quad df = 393 \quad p = 0.005$$

Tab. 2 Mean difference of agroecological practices depending on farmers' organization membership

Conclusions and perspectives

Martinique and small island economies: understudied contexts that raises many research questions and opportunities.

Preliminary results depict significantly higher income and more agroecological practices implemented for organizations' members. More advanced econometric methods will be used to confirm or infirm these results.

Future qualitative surveys with farmers' organizations to deepen the study of their role in the change in agricultural practices and farms' development.