

Ranches and farms

On breeding ranches in Africa, the production and fattening of young calves is undertaken at the same time on one farm. Other systems involve fattening where young animals are bought in from outside. These are generally located near the larger towns to be near the consumers and to utilise cheap residues from agro-industrial industries (mélasse, cotton seeds) as feed stuffs to maximise profits. Animals are often sold before two years of age to maximise income. The level of exploitation depends on their size: the small herds are often overexploited while the large herds are in contrast underexploited.

Conclusions

Livestock farming systems are an important part of developing farming areas. There are many opportunities to use livestock to achieve good farming outcomes. Livestock can both ameliorate problems and increase production. Livestock farming systems are different in different parts of the world. Large scale animal farming requires significant investment. These can be more important than small animal farming and are not yet developed in developing countries.

Acknowledgements

Thanks are due to funders of this work and for its contribution to the SAPT2010 conference.

doi:10.1017/S2040470010001299

Diagnosis of diversified farming systems in Guadeloupe: First step to implement an agroecological intensification of agricultural production in tropical islands

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Introduction

The project which gathers the Local Public High School of Agricultural Education and Training, the Farmers' association of Guadeloupe and the Center INRA Antilles-Guyane has as its objective the aim of putting alternative agricultural models of production of regional interest, estimated and referenced agroecologically and socio – economically, within reach of developers, teachers and students of tropical island countries. It will thus eventually be a question of integrating into experimental units, training and demonstration, the present various activities on the farms of Guadeloupe, which are currently separately managed.

Materials and method

The hypothesis is proposed that integration encourages significant reductions in environmental damage while increasing profitability and impact and strength of these innovative systems. The project has to assist in the validation of certain research activities. It also has, through diagnosis, to fully identify currently underestimated endogenous innovations on farms of Guadeloupe. This initial phase aims to characterize the mixed farming systems and the practices of integration between various production enterprises inherent within them. It will thus become the object of the present contribution.

A first exploratory survey was undertaken throughout the archipelago of Guadeloupe. Discriminating criteria were determined by collective expertise. Several hypotheses are discarded. The present SPE in agricultural regions with small traditional food-producing gardens (Marie-Galante, Grands-Fonds) do not appear as very integrated in contrast to those areas of more specialized production (sugar cane areas and banana area). Very small-sized farms (less than 5 ha) have no more integrated systems than big ones (more than 15 ha). On average the production variability (number of productive activities on farm) is not correlated at a farm level or by production practices with level of integration. Indeed, the number of productive activities is similar whatever the class of integration considered.

Results and Discussion

The results of this diagnosis show that the characterization of current integrated farms systems in Guadeloupe cannot be undertaken just on the basis of first examination of combinations of production enterprises and their technical management. The functional features of the farms are thus an important part of this phase of diagnosis. With a more accomplished degree of information and analysis, territorial dynamics are highlighted. The preferred productive orientation of a zone and conditions of pedology, climate and socioeconomic of agricultural activity

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identify specific aspects of mixed farming systems. At the same time, certain practices seem to transcend the whole territory and relate little to the activities that dominate a zone. To be able to organize a follow-up of these promising complex systems at farmer and experimental level situation a first evolutionary assessment grid was sketched to enable the selection of the situations. This should allow a more detailed study of the functionality of farms where estimates can be made on the the performances and robustness of systems in terms of sustainable development.

doi:10.1017/S2040470010001305

Systemic Vulnerability vs Resilience in Small Island Territories: Keys for a Viable Adaptation of the Agricultural Sector

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Introduction

The devastating effects of the environmental changes on humanity and on Earth will increase and will be coupled with spatial and social inequalities that imply not only a higher exposure level of some population groups and some countries to these risks, but also a more unsteady ability to face them. Consequently, it is admitted that poor populations, developing countries and island micro-regions are and will be the most vulnerable. In this context, crucial questions for these territories are asked: how to limit the extent of the climate change and its impact on Small island developing states (SIDS)?, how to mitigate the SIDS (economic, social and environmental) vulnerability and how to make these small island entities resilient? Since Rio Earth Summit (1992), SIDS constitute a particular group of countries which declared their willness to include environmental aims within their development plans. This was fully detailed during the Barbados Global Conference (1994) which was the first conference to translate Agenda 21 into a programme of action for SIDS. This programme set forth specific actions and measures to be taken at the national, regional and international levels in support of the sustainable development of SIDS. Many reports dealing with SIDS emphasize the impact of agriculture on the environment and crucial state of their vulnerability. Agriculture and its main characteristics are pointed out (Atkins et al., 2000 ; Guillaumont, 2006): low number of products, concentration of exports and foreign dependence. The aim of this exploratory work is to analyse and assess the contribution of agriculture to macroeconomic vulnerability versus resilience in the SIDS.

Objectives

Questioning the contribution of agriculture to SIDS' macroeconomic vulnerability vs resilience, it can be argued that some alternative farming systems can contribute to the resilience of SIDS. This paper analyses the specificities of these farming systems (diversified, mixed and integrated one (complementarities and interactions between animal and crop productions) and discusses the conditions under which they promote sustainable agriculture and augment the resilience of small islands. The analysis, carried out from a multidisciplinary viewpoint that associates economics, mathematics and agrarian sciences (systemic agronomy and zootechnics), also aims at providing efficient decision-making processes to emerge and public action to be implemented.

Hypothesis

The approach assumes that alternative farming systems (opposite to the usual and historically predominant agro-export production scheme) present strong options to promote resilience. The general hypothesis is that alternative farming systems (opposite to the historically predominant agro-exporting systems) which still exist in SIDS have an intrinsic resilience which is likely to be transferred to the whole agricultural sector if it grows from these viable endogenous bases.

Method

The research links quantitative measurement tools (mathematical theory of viability, economic modelling, simulation) and qualitative approaches (analysis of institutional, market, edapho-climatic contexts and its repercussion on farm production choices from surveys in the field) in order to estimate and differentiate the role(s) dedicated to agriculture in SIDS. A numeric simulation tool is provided based on the mathematical viability theory that allows modelling the spatiotemporal evolution path of farming systems in SIDS. The reasoning unfolds in three steps. Firstly, a robust (generic and reliable) methodology is targeted to identify ad hoc decision rules that would allow course of actions to mitigate the vulnerability of SIDS. Secondly, a systemic and aggregated procedure from agro-technical knowledge is produced for the

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