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Assessing the sustainability of activity systems to support agricultural households' projects

Méduline Terrier, Pierre Gasselin, Joseph Le Blanc

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Knowledge systems,
learning and
collective action



Transition,
resilience and
adaptive management



Energy production,
CO₂ sink and
climate change



Sustainable
food systems



Landscape and
rural land use

PROCEEDINGS

Building sustainable rural futures

THE ADDED VALUE OF SYSTEMS APPROACHES
IN TIMES OF CHANGE AND UNCERTAINTY



IFSA
INTERNATIONAL
FARMING
SYSTEMS
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EUROPE GROUP

4 - 7 JULY 2010 IN VIENNA, AUSTRIA
9TH EUROPEAN IFSA SYMPOSIUM



The Symposium is hosted by the
University of Natural Resources
and Applied Life Sciences, Vienna



9th European IFSA Symposium
4-7 July 2010 in Vienna, Austria

Building sustainable rural futures

The added value of systems approaches in times of change and uncertainty

Proceedings

Edited by: Ika Darnhofer and Michaela Grötzer

Vienna, July 2010

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The IFSA Europe Group

The European Group of the International Farming Systems Association has been organising Symposia every two years since 1994. These symposia invite all researchers, whether their research takes place in Europe, in countries of the global South, or in other industrialised countries. The common thread is that they follow the farming systems approach. This approach is systemic, as much attention is put on how the elements of the farming system are linked and how they interact; it is multi-disciplinary in that agricultural technology, agronomy, ecology and social sciences are understood as necessary to understand a farming system; and it is trans-disciplinary since the farm family as well as other stakeholders are an integral part of the farming system.

At IFSA Symposia papers are presented in Workshops. Each Workshop is organised by one or several convenors. Convenors are in charge of writing the call text for their workshop, selecting the papers that will be presented in their Workshop, reviewing the full papers, and accepting the final, revised version of the paper. As the convenors ensure the scientific quality, they are the scientific committee of the IFSA Symposia.

For more information, please refer to the website of the IFSA Europe Group: www.ifsa-europe.org. This website is also a repository of previous IFSA Symposia, i.e. the full papers of all presentations can be downloaded freely.

Assessing the sustainability of activity systems to support agricultural households' projects

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Abstract: *This paper aims to show why an evaluation tool assessing the sustainability of activity systems could support farming households, particularly at the establishment stage, and how such a tool could be set up. Pluriactivity has been marginalized in France by modernization and specialization policies, despite its long-term existence and its potential to help farmers cope with sector and territory challenges. Therefore it's seem necessary to set up an operational tool that will enable agricultural advisors to support households in setting up sustainable farming projects, in pluriactivity or not. This tool should also provide project initiators with the capacity to analyse the sustainability of their project in a dynamic perspective. It should enhance support, dialogue and learning. This paper analyses three methods used to appreciate the farm sustainability and identifies not only their limits, but also their contributions to our own methodology, at the level of complex activity systems in which farming production is combined with transformation, sales or outside activities. We propose to recognize two different contributions to sustainable agriculture: a farm-focused sustainability and an extended sustainability, which means a contribution to the sustainable development at a regional scale. These theoretical elements were regularly confronted with the analysis of advisors' practices and comprehensive surveys with households in Southern France, where an analysis was carried through a partnership with researchers and local actors. It produced a tool to appraise agricultural projects, with pluriactivity or without, distinguishing farm-focused and extended sustainability.*

Keywords: *activity system, pluriactivity, sustainability, extension tool, decision-making process*

Introduction

This paper aims to show how an evaluation tool assessing the sustainability of activity systems could support farming households, particularly at the establishment stage, and how such a tool could be set up.

French authorities have considered farm establishment as a priority for more than ten years. Farm establishment is crucial to maintaining and developing rural areas. However farm establishments are not enough to renew the agricultural population with one departure on two not replaced (MAAP, 2007). French state supports farm establishment as part of a plan associated with financial support according to eligibility criteria. In 2004, only one third of the farm establishments has benefited from this support (Lefebvre *et al.*, 2006). In Southern France, the regional council of Languedoc-Roussillon proposes its own help facility in the farm establishment support plan and targets farm establishments that are excluded of state support. Concerning this issue, advice structures shape and coordinate farm establishments at the territory level. Financing and advice access depends on standards which are common or specific of these structures inserted in various support frameworks. These standards define, often by an implicit way, what is a sustainable farming project.

The pluriactive farmers account for 20% of farmers and one in three farming households is pluriactive (Rattin, 2002). They often do not benefit of the national farm establishment support (Laurent and Mundler, 2006). In France, the agriculture professionalization trend has marginalized pluriactivity in spite of the fact that it appears as an alternative to the main productive stream. Indeed, it is a residual social form which has demonstrated a strong capacity to resist sector-based and territorial crisis. Because of its resilience, it appears as a pertinent situation upon which to base a sustainability assessment tool.

Sustainable agriculture recognizes to agriculture different functions: productive and marketable but also environmental and social ones. It is fundamental to empower the extension actors with capacities and tools to promote sustainable farming projects, whether pluriactive or not. Moreover, these tools should enable project initiators to analyse their project sustainability in a dynamic way. Therefore the goal is to produce an intermediary tool, a mean to support and generate dialogue and learning. This work undertaken in Aude in the South of France was carried out as part of the action-research-project Intersama (« Insertion territoriale des systèmes d'activités des ménages agricoles » in Languedoc-Roussillon) led in partnership with researchers and actors within the framework of the PSDR3 program (« Pour et Sur le Développement Régional »). This research work fits the context of the regional recognition context of both farm establishment without national aids and pluriactivity.

The first part of the article examines the conceptual analysis framework of farming project sustainability, whether pluriactive or not. Then, the two-part method adopted to design the tool is introduced and justified. The third part of the paper details the results through analysis of three methods, scoring modalities and designed frame tool. The last section proposes improvement perspectives.

Agricultural pluriactive project sustainability as study focus

The French rural code defines agricultural pluriactivity at the individual scale as the exercise of one or several remunerative activities apart from farm work. Activities extending the production process such as processing or marketing activities are considered farm activities. Specific abilities, various types of know-how and different networks are however mobilized by these activities which lead some – with whom we agree - to analyse them in terms of pluriactivity (Blanchemanche, 2000).

The household seems to be the relevant social entity to examine the farming project sustainability in the economical, social and historical study context. Indeed, although a household is most often a decision-making and managing unit but also a residential, consumption and accumulation unit.

Pluriactive household studies require an analysis framework that enables the understanding of relationships between the household, its resources and activities and their consequences on the whole global functioning. To understand pluriactive household production system logic, they should be considered as part of an inclusive system – the activity system – which allows to grasp the interactions between the different activities implemented (Paul *et al.*, 1994). These interactions are various: risk management, activity signification, work organization, incomes, etc. The household makes activity and resource allocation choices that depend not only on economical but also identity, affective and axiological rationalities. These four rationalities registers are expressed in synergy or tension and build the base of the farmer and family decisions coherence. Household farm activities must be set back in a broader activity system without hypothecate on the different activities roles in the system (Mundler *et al.*, 2007). Activities are linked each other within the activity system by functional and/or temporal and spatial links and each one plays a specific part in the global dynamics of the system. This dynamic balance may be a durability determinant.

Sustainable agriculture is a sustainable development sector-based declension of the concept with the same definition pitfalls (Landais, 1998). Defining what sustainable development means implies the need to specify goals and action standards shared by everybody. Consequently, any stake or action relative to sustainable development should be foreseen considering the different stakeholders positions and representations. There are varying definitions of sustainable agriculture in the scientific literature. Within a pragmatic perspective, sustainable agriculture means agriculture able to carry out its crop and livestock systems reproduction and therefore the natural resources on which they depend. In this way, an “enlightened productivist agriculture” is possible (Desfontaines, 2001). Others define sustainable agriculture as an economically viable, ecologically safe and socially fair agriculture (Vilain, 2008). It is an “agri-environmental” agriculture which regards environment as a production goal while at the same time taking local actors into consideration, social links maintain and inputs savings. From a more general perspective, sustainable agriculture must satisfy two goals at the same time (Godard and Hubert, 2002): (1) be sustainable by and for itself through the use of

sustainable practices ; referred to here as farm-focused sustainability (2) contribute to the sustainable development at a regional scale ; in which case we are talking about extended sustainability. Farm-focused and extended sustainability are each distinguishable by the analysis scale at which they must be considered. A farm-focused sustainability assessing scale is the farm or the activity system. This notion is similar to the concept of durability which designates the capacity of the system to maintain itself, but is economically and socially limited. Farm-focused sustainability also includes environmental aspects. Social reflections in relation to sustainable development are then referred to the extended sustainability scale. Extended sustainability is the farm contribution to the sustainable development at a regional scale which implies a concrete model definition translated into common goals or at least territorially identified and concerted stakes. Thus, activity system sustainability refers to different organization levels in relation to stakes of different natures (Fig. 1).

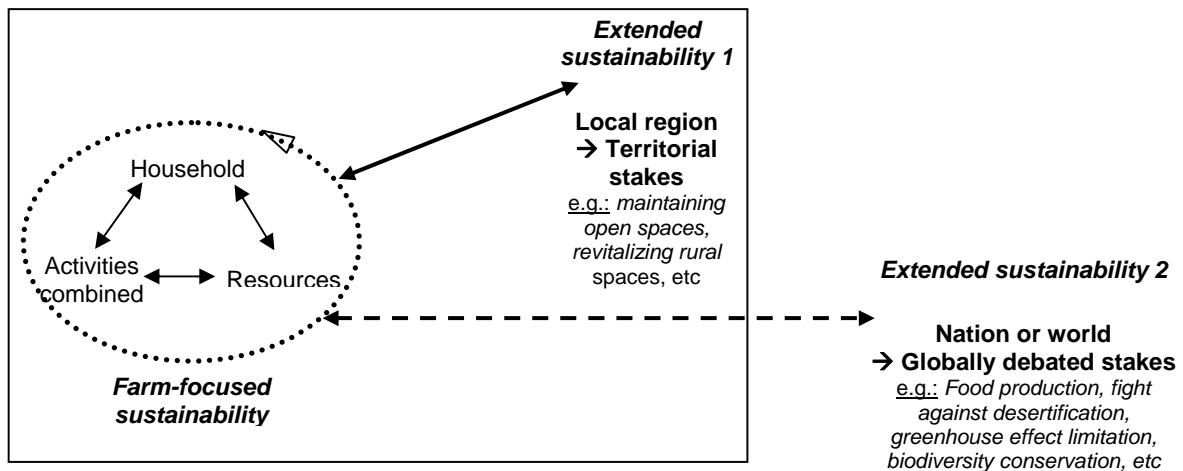


Figure 1. Activity system sustainability refers to different organization scales.

This theoretical position determines the configuration of the tool we propose to design (Terrier, 2009a). Compared to the current farm creation advisory tools, several points make it original:

1. The activity system concept implies a holistic and not longer farm-focused approach of farming projects, whether pluriactive or not. It differs from the main view promoted by the national plan supporting the young farmers establishments which induces farming project focused advice. Indeed, project analysis - as it is practised by the advisory structures part in this plan - overlooks the activities or incomes of the other family members or even of the pluriactivity project initiator.
2. The environmental and territorial dimensions recognized in our extended sustainability definition suggest the tool should be contextualized and calibrated in relation to territorial stakes and specificities. In addition, they imply taking a deeper look at the projects, beyond socio-economical dimensions.
3. We propose an *ex-ante* activity system sustainability assessment tool whereas farm sustainability assessment tools are commonly *ex-post* (Peschard *et al.*, 2004).
4. The tool is designed as guidance support (Paul, 2004). It is an intermediate object that supports the relationship between the advisor and the project initiator. It encourages learning, recognition of room for manoeuvring and to specify progress priorities. It is not designed as a certification tool determining financing access (Gafsi *et al.*, 2006). It is also non normative since it does not create any quantitative standards and does not propose a new project sustainability scoring.

Method

The tool design was lead in two different stages. In the first step, we compared three *ex-post* farm sustainability assessment methods to define a first group of indicators and examine the various assessment and scoring modalities. Then, this first version tool was tested in the field in order to hone and enhance the indicators and their rules of use.

Comparison of three existing methods

There are many *ex-post* farm sustainability assessment tools. We design the first version of our tool from a critical analysis of existing tools. These tools differ from each others by the assessment goal, the analysis and assessment scales (the plot or the farm), the farm productions appraised, the collected data nature, the indicator types (pressure or state, simple or incorporated), the scoring scales and the standard values (Peschard, et al., 2004). Each farm sustainability assessment method defines in an implicit way a farm models family of which would be more sustainable than others. Therefore, choosing one of them, would constitute judging the underlying models sustainability. Thus, we recognize that sustainability criteria are based on one hand on the individual representations of the designers and on the other hand, they depend on a social construction related to stakes that are relevant in a specific territorial context. That is why it was impossible to choose between these tools. However, the different sustainability assessment tools are built on several consensuses we attempted to extract through the comparative analysis of three of them (table 1): IDEA (Indicateurs de Durabilité de l'Exploitation Agricole), ARBRE (Arbre de l'Exploitation Agricole Durable) and RAD (Réseau de l'Agriculture Durable) (Pervanchon, 2004 - RAD and CIVAM, 2001).

Table 1. Characteristics of the three assessment tools.

	ARBRE de l'exploitation agricole durable (ARBRE)	Indicateurs de Durabilité de l'Exploitation Agricole (IDEA)	Méthode du Réseau Agriculture Durable (RAD)
Dimensions of sustainability assessed	Transmissibility, Reproducibility, Viability, Liveability	Economical, Agro-environmental, Socio-territorial	Economical, Environmental, Social
Agricultural productions assessed	Any agricultural production	Mix crop and livestock productions. Some crops can not be well assessed by IDEA (market gardening, honey production, small fruits, etc.)	Dairy production
Territory	France	France	Western France
Assessment scale	The farm	The farm	The farm
Indicators	48 themes declined in 82 indicators	17 objectives declined in 47 indicators	22 indicators
Presentation of the results	A tree presents the results: each indicator is represented by a leaf which is coloured or not depending on the assessment result. ARBRE does not suggest any data aggregation, the results are only visual	For each sustainability dimension, a star diagram presents the results. The final score is the lowest of the three scores	For each sustainability dimension, a star diagram presents the results
Assessment type	Qualitative assessment Individual assessment lead in a farmer group. For each indicator, the response is judged in comparison to the group average for this indicator, and debated in relation to the farmer goal	Quantitative assessment Individual assessment based on data collected by surveys. For each indicator a notation system promotes practices in relation to their sustainability	Quantitative assessment Individual assessment based on data collected by surveys. For each indicator a notation system promotes practices in relation to their sustainability

These three tools share the common trait of proposing a global farm assessment without focusing on a particular dimension or farm production. They aim at an educational goal. Shared sustainability indicators constitute our tool frame. A critical analysis of the three methods enables us to select the consensual indicators rank according to the three sustainable development dimensions. The hold

indicators had been adapted to our study subject, which is the farming activity system. This set of consensual indicators was structured in a first version of the tool, which was then used as a base to subject this first version to real situations by surveys.

Field surveys

Fifteen comprehensive surveys with households who combine several activities tested and widely supported this first tool version. Surveys were taken with a sample of households carrying out a farming activity for three to six years. The sample gathers various situations with two criteria: (1) the farm establishment path, meeting households having received various advisory and aid plans, (2) the household and farmer activities combined. Following Curie et al. advices (Curie *et al.*, 1990), we organize the surveys to cross the three spheres of functional and structural coherence of the activity system, which means the working life (farming and other activities), the private life and the family life. Our activity system aims at identifying strong and weak points as regards to sustainability. To identify these strong and weak points, we analysed together the system functioning and its path by tackling the following points: (1) the economical activities of each household member (2) the private life and (3) the social life seen through the social networks they are belonged (4) the family and domestic life analysed through the activity system history. The strong and weak points identified thanks to the analysis were then confronted to the consensual indicators of the first version of the tool described above. This systematic confrontation enables an iterative and critical enrichment of the tool. At the end of this fieldwork, a last tool confrontation to the theoretical frame allows to complete the assessment tool.

Results

Analysis of three ex-post evaluation methods

The three evaluation methods studied (IDEA, ARBRE and RAD) maintain ambiguity on the level on which the indicators and the scales of analysis and evaluation refer: assessing the agricultural activity sustainability implies to estimate its contribution to sustainable development of wider and encompassing organization levels (territory, nation). Indeed, Allaire and Dupeuble (Allaire and Dupeuble, 2004) notice that the individual farming activities use collective resources which are the product of multiple interdependences.

Thus, an elemental aggregation of elements of sustainability at the farming level is not necessarily correlated to proportional effects at the territory level. The sustainability of each part does not guarantee the sustainability of the whole. Some of the indicators really come to the fore at one precise level. Moreover, there are interdependences between farms and the territories, such as the example of the hedges, proposed by Allaire and Dupeuble (*ibid.*). The three methods consider the length of hedges as an indicator of the contribution to landscape protection and biodiversity conservation. Nevertheless, hedges contribution to landscape protection and biodiversity conservation is more than a simple addition of lengths and requires the contribution and coordination of several actors.

Besides, the three methods studied use without any discrimination indicators of farm-focused and extended sustainability. For example, the «quality of life» indicator is about the farm-focused sustainability whereas the «transmissibility» indicator is about the extended sustainability. According to the people we met during the surveys, «quality of life» is a transversal notion which depends on the relationships to the work, the farm place, the social connection and the welfare but also to the representations of geographical, cultural, professional or affective isolation: the «quality of life» indicator informs about the capacity of the system to maintain itself. In opposition, the «transmissibility of the farm» criterion is linked to the stake of renewing activity and population: it is a criterion of sustainability on the long-term at the territory scale.

In agreement with this, we identified for each criterion whether it was belonging to farm-focused or extended sustainability criterion which implies important consequences on the evaluation method. On one hand, farm-focused sustainability is evaluated by indicators informing us about the system capacity to last in the time. Such indicators are identified at the scale of the activities combination, by observations and surveys with the households. On the other hand, extended sustainability can only be read through wider knowledge and informations (for example the environmental sustainability of agricultural practices), in relation to socially shared goals that might be translated to agriculture. Assessing the contribution of the combination of activities to an extended sustainability asks many questions about the spatial and physical analysis scale. How should those goals be defined? Much has been done about the method and position to identify the challenges and representations of the extended sustainability at the territory scale (Chia *et al.*, 2009). Therefore we characterized those issues in our study combining literature and surveys in the territory.

Another limit of the three evaluation methods lies in their specificities regarding the productions as much as the activity systems, and the scoring method. The three methods differ in their final representation of what is a sustainable farm, but also in their standards and scoring. When an indicator is traduced in a score, it is based on a scientific reality but also on choices of the designer. So, the scoring scale cannot be dissociated of the ecological and socio-economical context in which the tool was designed. This limits the application field of each method. For example, irrigated maize crops always receive bad score for its water consumption, but it would be a non-sense to penalize the irrigated rice in a French farm of Rhone Delta, where water overflows.

Our tool aims to evaluate any type of agricultural production or even any activity in general. Therefore it is not relevant to calibrate it on technico-economical references that are specific to a production context. Moreover, the three methods analysed require large time survey (one to two days) and accurate data; and such a precision may not be possible to apply in an *ex-ante* method, when the system is not implemented yet. So we have decided to elaborate a qualitative tool that enables us to get free from the problem of threshold and to reduce the quantity of data to be collected. The choice of qualitative evaluation makes easier the consensus about the themes of sustainability to be mobilized.

Besides, we had to deal with the problem of aggregation of the criteria of various activities. The three methods studied evaluate the sustainability at the scale of the farm and do not consider the other activities of the household, except the IDEA methods which merges those activities in one single indicator. The social and economical criteria of various activities can be grouped without methodological problems. But it is not the case for the environmental indicators. As a matter of fact, considering the environmental impact of the combination of activities implies to evaluate and compare very different and remote activities, such as road transport and extensive ovine breeding. We made the choice to evaluate the social and economical sustainability at the scale of the combination of activities, but to evaluate the environmental sustainability at the only farm scale.

Modalities of evaluation

We chose a qualitative evaluation that consists in judging the answer to various themes with regard to the objectives expressed by the person and to the application in his practices. This is not a scoring system. It enables the advisor to evaluate the objective sustainability of the system and at the same time to construct a reflection with the project initiator about the progress of the project. The discussion is about the themes, the indicators that make sense for the project initiator (the farmer, the household) regarding the sustainability of his activities in the territory. The list of indicators can be enriched with new indicators that were not proposed at the beginning. Actually, taking an interest in the goals of the person leads to interrogate his demands and his reflections about sustainability. The analysis done by the advisor and the project initiator leads to identify strengths and weaknesses of the project and to define possibilities of progress.

Regarding the agro-environmental indicators, we refer to the good practices as defined and well-marked in the methods ARBRE and IDEA. However, the thresholds for some of these indicators are

not relevant in the context of our study. We can take the example of nitrogen fertilization, a criterion that the three methods use. IDEA and RAD use the indicator of the apparent nitrogen balance, expressed in N kg per hectare. A balance inferior to 30 kg/ha (IDEA) or 20 kg/ha (RAD) gives the best mark; over those thresholds, the excess of nitrogen is penalized. This indicator raises two problems for our tool: (1) as the tool is going to be used for an ex-ante evaluation, precise enough fertilization data do not exist. Even when the project initiator already owns his farm, which is not always the case, he has no idea about his precise technical itineraries; (2) the Mediterranean context where we have designed our tool is characterized by chronic deficiency in nitrogen: in this case, what should be considered a factor of unsustainability is the lack of nitrogen and not the excess.

Therefore, we propose that the environmental sustainability indicators do not give a mark or an evaluation but would be a support for discussion, with the aim of striking up a discussion with people who are not stemming from rural nor agriculture. This evaluation method, though debatable, would constitute a significant progress as it introduces environmental concerns in the field of project evaluation in agriculture, a field where it is not currently considered.

Structural analysis of the tool

The tool is presented in a table. The table is divided into the three axes of sustainable development and agriculture: socio-territorial, economical and agro-environmental. Each axis is divided into themes, and each theme into indicators (Table 2). All the factors of sustainability we have identified in the surveys enter in this table. Some of these did not appear in the first version of the table we had built from bibliography, for example the n°A10 factor: "distribution of the tasks between the household members".

Table 2. The tool themes and indicators.

<i>Dimension</i>	<i>Themes</i>	<i>Indicators</i>	<i>Emerging indicators</i>
Socio-territorial	14	42	22
Economical	9	19	5
Agro-environmental	9	-	-

The structure of the tool represents the differentiated activity system contributions to both farm-focused and extended sustainabilities (Table 3). When the indicator assesses a system contribution to the sustainable development of its territory, the table mentions to which stake it refers. For example, the "animal and vegetal biodiversity" indicator contributes to three environmental concerns: renewing biodiversity, breaking up risks and protection landscape. So each indicator contributes to estimate strength and weaknesses of the project.

As we told it before, the tool evaluates the farm-focused sustainability at the scale of the activity system for the social and economical indicators but reduces the environmental factors to the agricultural activity only. Mundler (Mundler, 2009) perfects the concept of durability (in the sense of "lasting") of the activity systems distinguishing two pillars of resources (internal and external) that we propose to mobilize for the evaluation of the farm-focused sustainability. Thus, the farm-focused sustainability lies in: (1) a internal farm-focused sustainability originated in the members of the households, their resources (being the economical and social capital some internal resources), their activities and the interaction between these activities through the knowledge of the household; (2) an external farm-focused sustainability due to the territory where the activities take place, since several resources depend on this territory: institutional context of the farms like the national and community agricultural policies, rules and standards, other actors' logics, territorial logics.

In order to traduce this dichotomy, we propose to analyse the farm-focused sustainability using the SWOT method (for Strengths, Weaknesses, Opportunities and Threats). We separate on one hand the strengths and weaknesses, that are internal to the activity system, and on the other hand the opportunities and threats that are characteristics of the territory and environment where the household will settle down. This approach leads to identify the aspects of the project that should be

reinforced or limited to adapt it to the characteristics of the territory. This distinction also enables to differentiate whether difficulties come from the household or from the territory.

Table 3. Three common sustainable development dimensions divided in descriptive themes and indicators. Each indicator refers to one or many farm-focused or extended sustainability stake (coloured box).

Sustainability dimension	General themes	Indicators	Intern farm-focused sustainability		Extern farm-focused sustainability		Extended sustainability		Transverse themes (Farm-focused sustainability)			Territorial stakes (Extended sustainability)		
			Strength	Weakness	Opportunity	Threat	Strong point	Weak point	...	Tt n°i	Et n°i	...
SOCIO-TERRITORIAL	A1	A1-1												
		A1-2												
												
	A12	A12-1												
		A12-2												
ECONOMICAL	B1	B1-1												
		B1-2												
		B1-3												
		B1-4												
												
B6	B6-1													
AGRO-ENVIRONMENTAL	C1	C1-1												
		C1-2												
		C1-3												
												
	C10	C10-1												
C10-2														

For example, we can detail the A1 theme: "contribution of the household to local life". This theme is divided into two indicators A1-1 and A1-2 (Terrier, 2009b): "involvement in associative life" and "involvement in politics". The active participation of the household members to associative or political activities represents strength for the activity system because it traduces and causes a social recognition and a territorial insertion. For the household, it is a source of motivation and a guarantee against isolation. It is a proof of the capacity of the household members to create and maintain a social network that allows us to think they will be able to mobilize an additional external work or to access information. It is strength. This household also contributes to the life of its territory and so to its sustainability, regarding this stake. However, the opportunity of taking part in the associative or political life does not depend only on the wishes of the household, but also on the local dynamics or the goodwill of the other actors. Political life in some villages is so locked by natives that it is unreachable for newcomers and turns into a "threat". Thus, the study of this "contribution of the household to local life" theme with those different points of view constructs a global vision.

Finally, to introduce a dynamic lecture of the project, we propose five transverse themes which group various themes and the associated indicators. These transverse themes, that give a global vision of the farm-focused sustainability of the project, are: *coherency between activities, territorial rooting, quality of life, autonomy and adaptability*.

Discussion

We have proposed a first structured tool to assess and support the sustainability of agricultural projects whether they are or not pluriactive. This tool constitutes only a stage and will be strengthened by the confrontation with accompanying experiments and other theoretical works. We mention below four improvements directions.

Extended sustainability stakes were selected from literature and surveys in order to introduce in the tool the most frequently quoted. This choice is based on the hypothesis that these most visible stakes represent goals of sustainability common to all actors of the territory. In order to test this hypothesis, it would be appropriate to put in debate the selected stakes among an actor's sample group. The steps of deconstruction and construction of the representations of sustainable development are the object of recent works. These works guide the methodological principles of a local co-construction of sustainable development indicators (Chia et al., 2009).

The transversal themes of restricted sustainability can also be discussed in the arenae of local co-construction of indicators, in particular to improve the dynamic evaluation. So, the transverse themes "Autonomy" and "Adaptability" will benefit from recent works on the abilities of adaptation of the activity systems and on action in situation of uncertainty (Darnhofer *et al.*, 2008; Gasselin, 2009). The flexibility and resilience are conditions of sustainability but they do not guarantee against socio-economic marginalization or environmental degradations. It is therefore necessary to question the dialectic between sustainability and adaptability (Ingrand *et al.*, 2006). In this sense, it appears as a promising research to work on the identification and understanding of the factors of flexibility and resilience in order to develop an assessment tool of sustainability. Moreover, building indicators of adaptive capacity of activity systems will require to distinguish adaptation, that is the reaction to an event, from change, that concerns modifications of the system with the aim of a better sustainability.

The representativeness and the selection of different themes to be added, kept or removed from the tool remains an open question. We did, indeed, include in the tool all the indicators identified during surveys. This can introduce an imbalance of certain themes in the overall assessment of the sustainability of the activity system. Some of the themes more modified by surveys run the risk of seeming over-represented only because they are easily identifiable during an interview. The number of indicators of a theme does not necessarily mean a greater importance in the sustainability of the activity system. Perhaps it only gives an account of larger variability in its forms of expression. In this case, how do we take it into account in assessing? More generally, is the qualitative approach sufficient to evaluate?

The tool as proposed today is the result of a bibliographic work enriched in the field by real situations. It must be tested and experimented in various supporting protocols so as to define what its integration in the support methods may be. Several modalities of use are possible. The tool could be considered (1) as a log book: a connecting thread in the construction of the project's progression, asked and completed by the advisor on every meeting with the household, or (2) as a "sheet link": an evaluation support for the farmer which he would fill out alone. It also could be considered (3) as an assessment tool to judge the progress and the weaknesses and strengths of the project at a key stage. In addition, the tool is built on an *ex-post* evaluation and therefore must be tested *ex-ante*: is it usable as it is? How much time is needed to evaluate all topics? Are the data easily accessible *ex-ante*?

Conclusion

The article presents the design process and the results of an assessment tool of sustainable activity systems of agricultural households, as a means for their support, especially during their farm creation phase. The tool is available to any organization or advisor who wants to widen and structure their analysis of farming projects. It is conceived as an intermediate object support for dialogue and learning in the interactions between the advisor and the household. Therefore, it is not appropriate for the certification of agricultural households' projects.

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