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Getting more satisfaction? How species diversification and direct selling reshape labour's organization in organic market gardening. A French case study.

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This study was run by sociologists and agronomists belonging to a research unit in Avignon, within a program dedicated to analysing non-economic performances of OF found by the INRA (Epab-Agribio - 2010-2012),. Parts of results have been recently presented at the IFSA world congress in Aarhus, in June 2012 (Navarrete, et al. 2012). This latter paper was grounded on an agronomical perspective while the present one is more sociologically oriented.

Working paper – please do no quote

According to IFOAM, Organic farming (OF) refers to « a production system that sustains the health of soils, ecosystems and people. It relies on ecological processes, biodiversity and cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved. » As described, OF appears as a powerful lever to share benefits among different components of society and aim at global societal goal that goes with sustainable development. However, most of these criteria are not translated in standards and organic requirements only concern agronomic points and not social ones – as it's done in fair trade activities. On the other hand, sustainable development, as far agricultural activities are concerned, at least in the North, also neglects social aspects and focus on the compatibility between environment and economy. In both cases, nothing is said about the organization of work, labor, and social justice. Nothing can certify it and conventionalization of organic farming is being pointed out (Buck et al. 1997), i.e. the present trend/risk of OF to mimic the model of conventional agriculture as regards social, technical and economic characteristics.

According to many authors, in market gardening, OF principles encourage diversified crop rotations, which are considered as an efficient way for preventing from pests and fertility problems (Altieri, 1999). The need to increase crop rotations, in order to protect and guarantee long term fertility and pest control goes together with the culture of a pretty wide range of species : never under 3 and to 40 sometimes. And such an agronomic situation contributes to determine the marketing choices and outlets referring to short channels, in connexion with local consumers and consumption areas. Such systems make possible new relations between consumers and producers that fulfil the growing demand for renewing social networks, social knowledge and territorial solidarity. We can say that consumers as well as “society” are implicitly or explicitly concerned in what one could consider as a win-win relation. In that sense, OF appears as a powerful mean to re-assemble different categories of actors and interests and to strengthen some main continuities between them and their respective spaces that have been broken down by industrialization of agriculture. Biodiversity, soil preservation, quality of

food are quite well underlined as very important public benefits, if we take into account a large and collective scale.

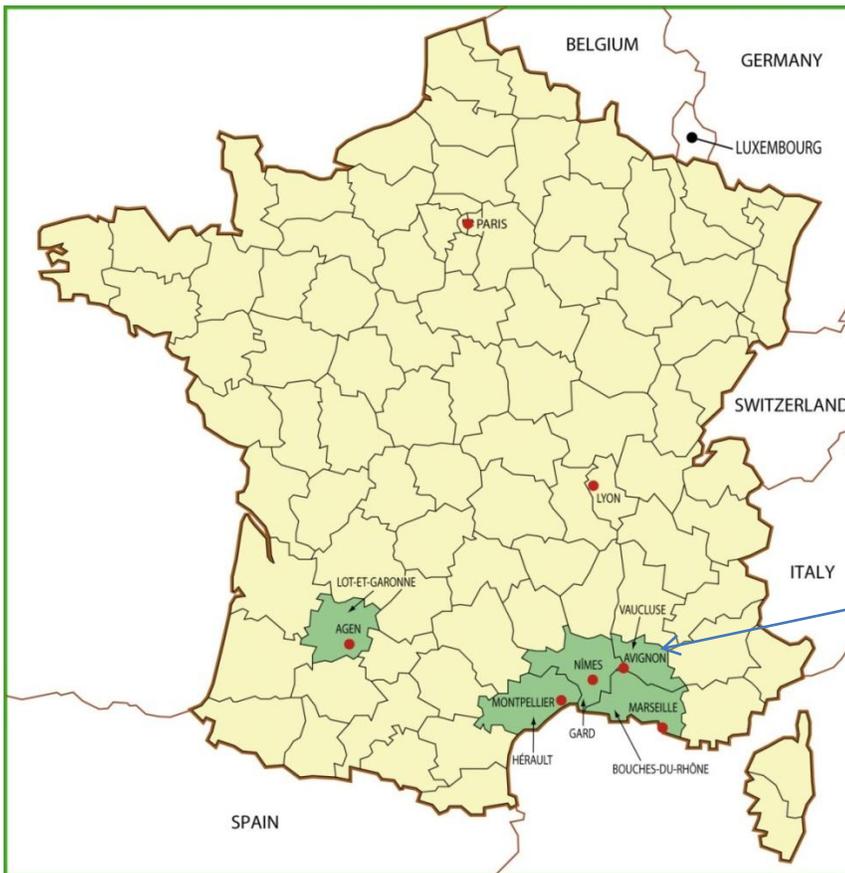
Behind this pretty idealistic situation, it is to be underlined that most of farmers who get out of OF highlight a situation of overwork they would not be able to face to. This point reminds us that the sustainability in OF is generally focused on agronomic goals and environmental benefits, and most social aspects dealing with social inclusion, rural vitality, solidarity are too often neglected. Thus, this paper would like to address the following and under explored issue referring to the way OF affects agricultural work.

Our analysis is based on 3 different scales that are linked to our three core theses:

- Our first thesis is on household scale: we describe the way diversification compels farmers to reshape their productive systems and argue about the very notion of “work satisfaction”. We include familial members involved in the farm work and the way labour’s division is thought.
- The second thesis refers to direct selling : we’ll show that it does increase labour demands and affect farm’ work.
- The third point deals with social and territorial expectations referring to rural community revitalization and the contribution of OF to social inclusion (hired employment, solidarity between farmers and consumers...).

The area : a very specialized horticulture zone

The PACA region (Provence Alpes Cote d'Azur) is in the south of France. It is the first French region for organic production with 10.5% of the usable agricultural land devoted to organics and rapidly increasing (Agence Bio 2010). The region is specialised in fruit and vegetable, warm climate and sheltered crops enabling to supply French northern urban areas in « primeurs ». We focused on an area with intensive vegetable production characterized by a high density of gardening farms because of its good water resources and irrigation system and hot climate, the presence of many small cities and also some bigger ones (Marseille, Avignon, Salon-de Provence) that are strategic places to sell vegetable on open air markets, for instance, or throughout collective retail shops. The area is also well-known as one of the main destination for agricultural migrant seasonal workers mainly coming from North Africa and Eastern Europe (ref.), as frequently observed in Spain. Avignon and its neighbourhood are a very touristic place from April to October, and especially on July, because of the national theatre festival. In summer time, fresh vegetables are very much in demand in the restaurants of the area.



The area of the case study around Avignon mainly counties (Vaucluse and Bouches du Rhône)

Methodological indications

(⇒ For methodological precisions, report to Navarrete *et al.* 2102.)

The sample consisted in 31 organic farms combining market-garden productions with other typical productions of the Mediterranean area (wine, olive, fruits and cereal crops) or cropping a large number of vegetable species (Evens, 2011; Marguerie, 2011).

The study was based on combined social and agronomical qualitative surveys to collect both (i) factual data to describe farming systems, farm functioning, labour organisation and marketing outlets, and (ii) the reasons expressed by farmers: part of the survey was based on open questions to help farmers to express their decisions. The farming systems and their relative importance were described, especially those with vegetable crops: number of species cropped, crop rotations, technical management. Marketing networks were identified as well as the percentage of vegetable sold in each of them. We collected information concerning the evolution of labour on the farm since the conversion (including both aspects of producing and marketing), in order to lead the farmer to evaluate the quality of the work, its organization at farm level and his self-satisfaction at work. Farmers were then asked to point out works requirements referring to diversification (knowledge and skills, engines, equipment, hired and familial work). At the territorial scale, we then explored employment and marketing issues ; survey has also been carried out in agricultural institutions charged with these questions.

To analyse data, a farm typology was realized based on the surface area devoted to market-gardening and the number of vegetable cropped, which was the main determinant criteria shared by sociologists and agronomists. The typology is based on the farm position along two axes: the number of vegetables cropped and the surface area devoted to market gardening. Two types are to be distinguished: specialized farms and diversified farm. Within each of them, two types can be made in regard with the area dedicated to vegetal production (surfaces and shelters). Within each type, we characterized farming systems, marketing networks and labour organization and highlighted the link between these elements. We are developing here results concerning work aspect, focusing on diversified farms (Types 2 and 4 of our sample).

Organic specialized farms: types 1 and 3 (from 3 to 8 species)

Fourteen farms of the sample cropped a limited number of vegetables (3-8). Depending on the surface area under vegetables, two types were identified. Type 1 consisted in farms with a small surface area for vegetables, mainly in open-fields. Market-gardening was a minor activity compared to orchards, vineyards or cereal crops which represented more than 6 ha for 6 farms. Type 3 farms had a larger vegetable area (especially under shelters), however also cropped large amounts of fruit, grapes and/or cereals.

Organic diversified farms: type 2 and 4 (from 10 to 22 species)

Seventeen farms of the sample have a much diversified vegetable production, with 10 to 22 species, in open fields and under shelters. As most market-garden farms which converted to OF in the last decades, farms of type 2 are small, diversified and engaged in local selling networks (82% of the market garden farms, Agence Bio 2010). They have a small surface area under vegetable and few shelters. Half of them crop only vegetables and the other combined with fruit and grapes. Cereal crops are very rare (only 2 farms out of 12). The other diversified farms belong to type 4. Surfaces devoted to vegetable are quiet large (about 10 ha); orchards are sometimes cultivated but hardly no cereals.

Reshaped work in diversified vegetable farming

Diversified farms and diversified farmers

Seventeen farms of the sample have a much diversified vegetable production, with 10 to 22 species, in open fields and under shelters. Within this type, we can roughly distinguish 2 kinds of farms.

As most market-garden farms which converted to OF in the last decades, farms type 2 are small, diversified and engaged in local selling networks (82% of the market garden farms, Agence Bio 2010). They have a small surface area under vegetable and few shelters. Half of them cropped only vegetables and the other combined with fruit and grapes. Cereal crops were very rare (only 2 farms out of 12). Except 2 cases, conversion very quickly followed the beginning of agricultural activity or was simultaneous to it. Farmers are a bit younger (average is 41, and half of them under 40). They carry on a familial farm or start OF for their own after a first experience (as hired workers for example) ; others are new comers in farming. For 80%, they sell to short channels (on farms, markets, restaurants, etc.).

The other diversified farms belong to type 4 and includes at least one permanent worker. Surfaces devoted to vegetable are quiet large (about 10 ha); orchards are sometimes cultivated but hardly no cereals. Farmers started market gardening in the 1980's, but converted after a long while (n+15), or for economic motivations because of structural crisis, or for more environmental considerations. They are over 50 years old.

The necessary diversification of species appears as the most determinant element affecting work, its nature, its organization and division and its intensity. Our findings show that agronomic requirements resulting from OF are the most determinant in the over-work every farmer underlined.

✕ *Much more work but better conditions of work*

According to Hill and Mac Rae (1999), the transition from conventional to sustainable agriculture relies on 3 different and successive steps, constituting the ESR grid. The first one is called Efficiency: It refers to minor changes to existing operations that help to make them more efficient. The second is Substitution ; it consists in replacing one measure by an alternative one. And the third Redesign, means to reorganize production systems according to ecological principles (Hill et al. 1999). In OF, chemical weed killers and pesticides are more or less forbidden in remedial treatment. Consequences of such requirements are double. Concerning environment, it does contribute to maintain a cultivated biodiversity as well as a wild biodiversity surrounding the farms (hedges, bees, birds...) because cropping is more respectful towards nature and environment.. As a result, professional risks and diseases are reduced compared to what can be observed in conventional farming. But on the other hand, the agronomic system relies on a set of substitution practices and on preventive actions taken by farmers. That often means a very important hand-based work, often exhausting and painful, and that needs an important task force. Weeding is a good example that requires either a very regular manual and painful work, or an alternative substitution with a synthetic mulching. But this latter solution is expensive, requires more labour and is sometimes criticized as a non organic practice (even if plastic mulch can be biodegradable). The mechanized alternative is often limited because plots are generally smaller than in conventional farming: that means that either equipment has to be adapted (and this means special engine), either mechanization is reduced. In that case, workers need to be tough and resilient (conditions of working is also to be connected with a very hot climate under shelters) and some working days are definitely exhausting and back breaking. In addition, as chemical fertilizers are not welcome, that means that manure is requested. It can be animal or green manure – and in that latter case, it has to be cultivated, and does contribute to increase labour demands.

* From an “over work” situation to a reshaped / redesigned work

In OF, everything is to be cultivated: not only vegetable of course, but also green manure for example. That means necessarily additive work and also available plots. In Type 2 where the land devoted to vegetable is limited, growers rarely used green manure (only 5 out of 17) or soil solarisation, which takes place for 2-3 months during summer. The reasons were that their land was rarely available for it in summer, or they did not have enough time to sow, water, cut and bury the green manure. They also considered that alternative techniques were not necessary because there was enough diversity in vegetable species to avoid the development of pathogens.

As regards labour, a major point was that a large diversification creates a high complexity for the growers referring to crop rotation. Our findings are very much in line with all researches dedicated to this issue. One of the farmers summaries pretty well the situation compared to his conventional experience: *“Before, it was more difficult to sell; now it is more difficult to produce”*.

Indeed, for all, the main difficulty refers to the cropping organization and crop calendar that needs a long experience before being efficient and stabilized. Crop rotation appears as one of the most difficult aspect to control because of its high level of complexity that requires to coordinate the annual production and to be able to anticipate the plantations, referring agronomical and outlets constraints,. Therefore farmers often try to simplify crop management and farm functioning. As several species are cropped simultaneously on a same plot, they do not adapt water or fertilizer amounts to each crop; they sometimes renounce to a particular treatment when it is not adapted to the next crop (Marguerie, 2011). Farmers also delegate some defined tasks to workers or to agricultural enterprises (tillage, plant nursing) (Jean 2011). And finally, they sometimes reduce the number of species cropped (without ever reaching that of non-diversified farms). In that case, farmer's choice refers to agronomic, economic and labor constraints: species that require too much work are often excluded (strawberry, spinaches, peas, lentil...), so are those for which special equipment is needed (leek or potatoes).

Farmers who converted after a very short experience in conventional gardening had not elaborated yet a very proper and structured system in conventional farming ; they were quite open to largely rebuild their farming systems, possibly up to a large system *Redesign* (according to Hill and Mc Rae's grid, 1996) but are lacking experience to feel secure at work. On the contrary, farmers who can benefit from a previous experience because they've worked as hired workers for instance, feel well at ease. They strongly recommend such an experience for new comers. @

Obviously, farmers insisted on the fact that diversification increased work but no one declared to be hardly overwhelmed (one of the farmers even declared to feel comfortable at work). They rather suggest that both organic and diversified production require another way of working. One of them summarized it that way: *“smaller surfaces but more intensive work”*. Hence, diversification requires an everyday presence on plots in order to observe vegetables and if necessary to bring a relevant and quick technical response to every problem. It is also necessary to have *“many things to think at the same time”, to accomplish a great diversity of tasks that overlap and intersect always* : *“we always have to plant, to look after, to harvest and to sell vegetables, all year long and at the same time”* .

“I have fun as never !”

For most of them the everyday activity gets more attractive and enjoyable because more diversified, less boring and less monotonous both for the farmers and the workers. It also means that the farmer shares his working time in many different tasks every day, and has to acquire a very large range of skills and knowledge. All what concerns soil is particular referring to a very long time cycle that can be very disturbing for farmers who are often not prepared to such delay – since the administrative duration of conversion is 3 years. Farmers

often estimate that at least 5 years would have been requested in order to become able to “*understand their*” soil quiet well - five years they sometimes compare to High School studies...

Watchfulness, regular presence, adaptation are some of the main capacities to control the crops. To conclude this point, we can say that all farmers admitted that diversification requires a new organization and more work, but the work being more diversified becomes also more rewarding and pleasant, more challenging and interesting because it does always / often force farmer to think and re-think on his system. Most of them admit that, thanks organic farming, they reach the “real core” of their job and feel more over proud of their vegetables. Compared to conventional ones, they estimate more valuable: (“*my aubergine is nothing but silk !*”). Once this stage has been reached, it appears that an intellectual comfort, a “culmination” and a clear conscience, in compliance with ethical, moral ideas, can dominate. We can make the hypothesis that for some farmers, it does contribute to accept more easily the failures that occurs sometimes with some plantation - for example when ravaged by a pathogen. In that case, the diversity of crops spreads economic risks and make such a situation may be difficult but not endangering the whole farm.

Discussion about “work satisfaction” and autonomy in work

Farm work satisfaction is pointed out as better whatever the national and marketing context (selling to national retailer for example as studied in Australia by Rickson et al. (1999) or in California (Shreck, et al. 2006) or referring to short channel and consumers (Tovey 1997). However, it appears that this is a double-edged dimension: for some farmers of our sample, the challenging dimension is dominating; for others, less experienced and more vulnerable, the main point is difficulties and failure, too stress and exhaustion. Researches in Australia (Rickson *et al.* 1999) and in Germany (Rap 1994) insist on the fact that work satisfaction refers to a certain independence towards institutional networks and specially those linked to chemical and input suppliers. This could have been observed in our study. But at the same time, it is worth noting that in our sample, many farmers insisted on the loneliness, and the concurrences between organic farmers – some of them confessing they have better relations with conventional farmers than with organic ones. Individualism and competition among organic farmers have also been underlined nearly each time, especially in direct selling activities and more generally concerning cooperation, mutual help, and engine lending. Of course, some of them are involved in collective groups but the issue is not to be hidden, because it contrasts with the most frequent findings establishing that organic farming refers to an agrarian vision of family and community. This finding is linked to the specificity of the area traditionally characterized by very individualist values.

As transitions to our second core thesis, we'll just introduce another important point concerning familial involvement in the farm. Our findings are very much in line with further researches (Meares 1997, Hall et al. 2005) : organic farming does not affect considerably the balance of work, decision making, and gender equality within the family, although concerning farms that can be classified as household farms that can count on familial members and kinship (wives retired, uncle, even children sometimes) ; neighbours or friends also contribute when occasional help is needed. Hired workers are only seasonal.

When wives are involved in farm work, it mainly concerns, as traditionally observed, the administrative work, everyday tasks relying on weeding, and the sale activities as we'll come to see next. If some choices can be decided within the couple (which species and varieties to grow for example), two tasks are significantly never been carried by the spouses, even when they were administratively registered as farmer themselves: rotation calendars and the irrigation of the plots. Some tasks cannot be delegated. For example, most farmers considered that the irrigation is one of the tasks that cannot be done by anyone else except themselves for at least three reasons: first, the simultaneous presence of several crops on a same piece of land makes irrigation pretty complex. Second, it allows the farmer to personally watch over the crops, and hence does constitute a very strategic activity. And last but not least, irrigation occurs at the end of the afternoon, when hired workers stop to work and are generally back home.

Therefore, and it was not surprising, women get rather involved first, in domestic household (and two farmers did emphasize a lot their involvement explaining how much it did contribute to the farm success) , and second to non-agricultural farm work (campsite, tourism) and selling activities at farm shops, market place, box scheme. In one farm, the wife decided to create a plant nursery she manages completely alone. This case is pretty interesting because doing so, she controlled a very important task in farming, often neglected although it does refer to the reinforcement of autonomy of the farm.

To discuss this point in a few words we can argue the specificities of familial workers, that is never or so little – as for I read - pointed out. Studies insist on this very agrarian vision of the family, considered a more satisfying way of life. However, the family members are obviously very flexible. It occurs sometimes that husbands underestimate their wife's contribution in farm labour (*"my wife? no, she's not involved... Not really, only for 2 or 3 hours a day..."*).

On the one hand, we can underline that familial workers or helpers do contribute to strengthen the whole farm, thanks a very flexible work, partly dedicated to the sale they are involved in and guarantee that way its sustainability. On the other one, we can address the status of this work. Is it a "voluntary" work? What about the acknowledgment this work leads to - in term of money, social rights, status, symbolic capital, etc (Dupré 2011).

(2)

Direct selling

Restoring relation between cities and rural spaces, between producers and consumers

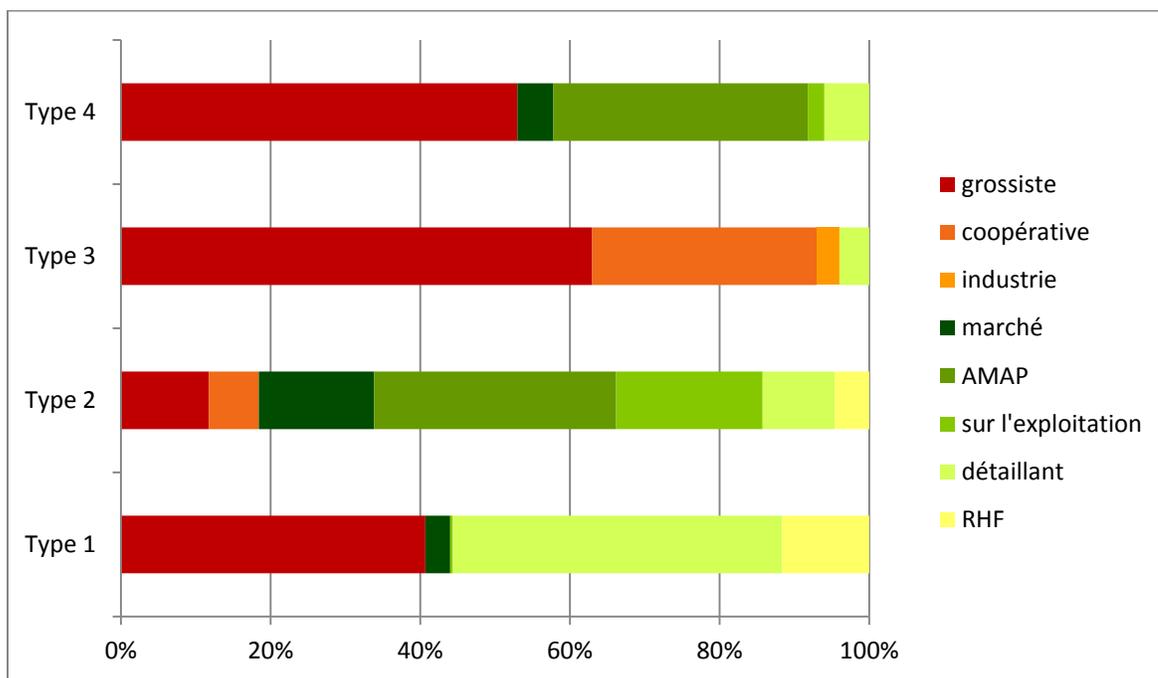
As pointed by Lamine et al. (2012), societal expectations are particularly high in the fruit and vegetable sectors, with growing consumer concerns about the health effects of pesticide residues, access to local products, and the development and maintenance of peri-urban agriculture. Organic farmers make a different use of these different short channels that can be a collective farm shop, selling at a market place, restaurants, Amap or any other box scheme.

The second thesis we'd like to present deals with selling activities that, it is well known, not only affects farm work but also increases labour force used for direct selling (Rapp 1994) in which women are strongly involved. Short supply chains are pretty interesting respecting at least the 4 following points. First, farmers get prices more valuable; second), consumers can benefit from local, fresh, organic and diversified vegetable; third), they can also get involved in local agricultural activities, and support farmers; and fourth), farmers can have a direct feedback from "their" consumers throughout the relationship that is most often described as more grateful and more rewarding for them.

Direct selling rather concerns farms from type 2, with small surface devoted to vegetable, and small amount of products that make farmers unable to deal with long channels outlets, generally based on wide amount. It is to be underlined a strong relation between this economic choice and the presence of familial help or workers. Direct selling requires therefore a very important additive work often shared (or devolved to) with a wife or a daughter / son in charge with this activity. That means that on these farms, familial task force is very important to reassure the farm in short term as well as in long term. Familial help and workers (or for selling either for gardening) is really needed in these farms.

In Type 2, where area devoted to vegetables is limited, farmers were nearly specialized in short channels (82%) and combined several outlets (box schemes, open air market, on farm selling, local retailers). Box schemes represented 25% of the amount of vegetables sold. Quite often, farmers also cropped one particular

vegetable in larger quantity for a wholesaler having tight relationships with him (3 farms out of 12), which increases farm security. Unlike in Type 2, farms of Type 4 produced larger amounts of vegetable and could not afford to only supply short channels, except 2 of them which combined 2-3 box schemes. Thus 53% of the products were sold to wholesalers. But what is surprising is that diversification was not always used as an agronomical lever. In most farms, the land was divided in two parts, one very diversified dedicated to short channels and the other cropped with few vegetables, destined to wholesalers. One of the reasons is that the cultivars for wholesalers or export are specific (long shelf life, ability for transportation, uniformity of colours...) whereas other criteria are preferred for short channels (diversified colors and tasty cultivars).



The rhythms and the nature of direct selling have also to be taken into account in a reflexion on work, because it does interfere a lot in reshaping agricultural work. Direct selling needs a lot of time and a very good work organization. For example, open air market is only possible when farmers are quite close from it; otherwise they would spend more money and time than what they could earn. Direct selling may also be a problem because only small amounts of vegetable can be sold through this way and it needs to manage unsold vegetable (usually by developing an on-farm processing activity). In that way, it can be pretty uncertain.

For that reason, some farmers prefer to choose box schemes because this organization relies on regularity (one box each week), secured income (annual contract with consumers), and farm work can be structured more easily. As it requires a large diversity in products all year long in order to build boxes with at least 5 or 6 vegetables each week, crop organization is strictly planned throughout the year to supply consumers during the longest possible period (not only thanks to the combination of species, but also for each species, with several planting dates and/or cultivars). Combining crops in open field and under shelters also contributes to enlarging the harvesting period. This high complexity explains why inexperienced farmers have difficulty in box schemes and prefer direct selling networks less constraining, such as open air market or on farm selling, where they don't have to contract with consumers (Navarrete 2009).

Direct selling also contributes to strengthen a professional proudness and helps farmers to better cope with their additional work on the farm. But consumers might also complain, criticize the vegetable, and express their

discontent and their dissatisfaction. And these situations can be extremely difficult to cope with for farmers deeply affected by this direct and violent feed-back. Some of them talks about a misunderstood from consumers used to big store and who are not “educated” in organic vegetable and its particularities. One of them summarizes: “*when although you’ve done your best, you are so strongly criticized, then, you just seek*”.

(3)

What contribution to social inclusion ?

Solidarity, cooperation and employment at the territorial level

In this third point, we’d like to stress the social dimension considered at a territorial scale. We address the contribution of OF market gardening to social inclusion, and the revitalization of rural areas, through developing employment.

Short supply chains can be considered as an element of social coherence and social vitality that might contribute to renew the relations between the consumers and the producers by facilitating information, mutual understanding, and even solidarity. The Amap for example is based on voluntary help offered by consumers who have contracted with a grower. This latter can call them when he occasional needs help for a given tasks. If such a system appears not very efficient on a long term and for ordinary tasks such as weeding for example, one farmer insists on the fact that it works very well, when a big operation is to be done in the farm - for example, to move a shelter.

We said that within farms, cooperation appeared pretty unusual. But some collective dynamics have been observed, based on exchanges or coordination. Except for the exchange of engines between farmers (limited because of the same agricultural calendar that leads farmers rather to resort to an equipment cooperative), farmers sometimes share a hired worker (through an employers’ group for example). Even if it has been quite rare till here, they could also exchange plots of land for a few years in order to improve the rotation possibilities. At least, when belonging to the same professional or commercial organization, they are involved in economic and agronomic regulations, in which each farmer defines his own production relatively not only to his own constraints, but also to the market needs and the other farmers’ productions (Navarrete, *et al.* 2012).

Individual solutions to solve over-work problems consist in employing hired workers. In our sample, only farms from type 4, who have large surfaces of shelters, do employ permanent workers. But many farmers explain that when diversifying, they select the varieties in order to employ the hired workers as long as possible. As for occasional workers, farmers can sometimes, employ workers from organizations devoted to social insertion. Concerning seasonal workers, they usually employ the same crew every year. They also sometimes employ foreign migrant workers, thanks to the OMI (International Office for Migrations). This is a very important point of this regional scene, that has been very much criticized because of some scandalous situations of abuse that have been denounced.

OMI’s contracts is a kind of atypical form of work associated with precariousness. It was created after ww2 in 1946 to quicken national reconstruction. It is a seasonal contract (4-6 months, and exceptionally 8 months) that farmers can use for their seasonal tasks when and only if they can prove no French workers are available for these jobs. They ask then the department authority for workers coming from this or these countries and then the OMI’ agency situated in the country organizes the employment and send workers in the farm. The farmer has to pay a tax to the state (360 euros/contracts) and normally must house the workers he employs. Farmers having recourse to these workers are very big and intensive farmers. Contracts concern men aged from 20 to 50 years old, belonging sometime the same family (the case of female immigration exists in the south of Spain

(Hellio 2008). They are nominative (that has very consequences on the relation between workers and farmers; they foresees that the worker has to go back in his country when it is over (if not, it will be impossible for him to come next year and he'll become an illegal immigrant on French territory). OF are possibly concerned by such an employment network, which does not mean that these O. Farming are necessarily running conventionalized farm, nor pro-slavery bosses. The situation appears much more complex and a survey should be done also concerning these workers in order to understand better their professional experience and their personal trajectory, especially when they are back home.

As a conclusion

As pointed out by Jansen (Jansen 2000), this issue is a very tricky one. On the one hand, because it depends on which definition of labour the reflexion is based: economists often use a too narrow definition of labour and the way organic might affect agricultural work relies on very complex interconnections between many different variables that are very rarely intertwined (size of farm, age, formation, yields, etc.).

Let's now question the sustainability for diversified market garden farms and the societal goals. As shown above, diversification offers the opportunity to prevent from some soil borne diseases, even if the succession in crops is more organized for marketing reasons than for controlling pests. Moreover in diversified farms, the technical risks are spread over several crops. Hence a possible failure in irrigation, fertilization or pest control of one particular crop is counterbalanced by other crops. That is probably why in France a large part of farmers who start organic farming nowadays are involved in short marketing channels (Lamine, 2011). In diversified farms, work intensity does increase, and so does hardness of everyday tasks, but this situation is quite well balanced with work satisfaction to run the farm throughout a more interesting and challenging work as pointed in previous studies (Rickson et al. 1999; Paturel 2010). Professional identity and social acknowledgment (particularity in case of direct selling) are also much more grateful.

Our main hypothesis is that OF could met a big societal (ecological, social and economic) challenge when the over-work mainly generated by diversified vegetable production (and not specifically by organic requirements) that we can observe at the farm level could be shared and spread with hired workers, and if possible permanent and full time workers. In other words, the societal challenge is to be succeeding in realizing a strong link between work and employment and to re-balance between over-work (at farm) and unemployment situations, in order to promote social inclusion and rural vitality and fight against precariousness and social exclusion.

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