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Profitability of Ecological Agrarian Business and Female Labour Productivity

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Abstract: The study presents the microeconomic data of a family-run agrarian farm that is representative of a general farm type (in the agrarian irrigation areas of Los Monegros, Spain) which has the particularity that it only uses female labour as part of an integrated business management approach. The economic data show the positive impact of the exclusively female study on business performance. These data as well as the productivity and characteristics of the female human values that are responsible for them are analysed. In the particular case study, these characteristics have saved costs and facilitated human resource management. With these results, we question the generalized model of agrarian management which practically always uses a male employed workforce with the consequent dominant male values. We will also set out the consequences of the use of female labour in organic agriculture in the region of Los Monegros. These facilitate population settlement and economic dynamisation due to a working day that optimises profits and favours the conciliation of work and family life.

Key words: Productivity indexes, cost structure, agroecological production profitability, female human values, Spain

INTRODUCTION

The literature on the differences in human values and behaviour between men and women is vast. There are some who defend sexual differences which means recognizing that the differences in question are biological in origin. There are others who defend gender differences which means recognizing that the differences are socially induced.

Now-a-days in the academic world at least, there is a broad consensus that denies the existence of essentialist differences between men and women claiming that the differences observed between the behaviour of women and men are derived from the process of socialization to which they are subject over the course of their lives. This is what gives rise to gender diversity.

However, public opinion does not seem to accept these ideas. The term gender that represents the social origin of these differences meets with broad rejection. Even if we do firmly believe that the differences in behaviour between men and women stem to a large extent from the processes of socialization, we should not forget that there is a biological difference too. It is women who reproduce life. Maternity is an unquestionable fact that puts an end to many a debate on equality (Haynes, 2008). In the short term, we fully accept the existence of differences in behaviour between men and women irrespective of the origin of these differences yet the implications in the medium and long term are clear. If we accept that the differences are caused by biological characteristics, we will have to accept that these differences will never disappear by contrastif the differences are produced by processes of socialization, there is reason to believe that in the medium or long term changes can be undertaken to bring the behaviour of men and women closer together in the future (Twenge, 1997). Such a process of growing closer has been taking place in recent years but not in both directions.

It is becoming more and more frequent to see how women are gaining access to positions and activities traditionally considered male yet one does not as often come across men entering into activities and positions traditionally considered female (Kvande, 1999). The reason seems obvious; the inequalities of power between men and women imply a hierarchy in which male roles are located in a higher position than female roles (Fagenson, 1990).

Male models are considered neutral and universal so the only way of bringing male and female behaviour closer together appears to be for women to assume the dominant behaviour which is traditionally male. This results in the phenomenon we have observed; women are changing their behaviour, adapting to the dominant model (Rose, 2007) whereas there is virtually no questioning of the dominant model or change in behaviour towards female models (Whitehead, 2001).

The aim of this study is to call into question, the so-called dominant model on the basis of the results of work performed exclusively by women on an ecological farm in order to show the possible benefits of a female model of human values on agrarian production. We shall see that the dominant values within a female workforce display a substantial difference from businesses with a male workforce. To this end, an irrigation-based farm which uses an employed workforce that is exclusively female (farm F) within an integrated business management approach is compared with an irrigation-based farm which uses a male workforce without this integrated vision (farm M). Using the integrated business management approach as well as the business management model of learning communities (Kofman and Senge, 1993), we shall propose that non-hierarchical human values and attitudes to communication and functional organization are the cause of the better economic results.

Non-hierarchical functional organization is never based on relationships of domination-subordination but on equality in the recognition of the other as a legitimate other with her or his specific differences.

According to Maturana (1969, 1980), the former type of relationship is characteristic of the values on which today's dominant patriarchal culture is based on a play of competition in which there are winners overruling the losers; the latter type of relationship based on the recognition of the legitimacy of the other and on co-operation, forms part of the relational cultural network that Maturana calls matriztica whose values are transmitted from parent to child in the first years of life through the mother-infant relationship of trust.

Even though both men and women may be guided by either type of value, the values of the matriztica are upheld above all by women in their role as givers and preservers of life. We cannot overemphasize that the recent theories of the biology of knowledge (Maturana, 1970, 1975) have been a major inspiration to the main researchers and proponents of the integrated theory of business management.

The creators of this theory, Fred Kofman and Ken Wilber are currently running the consultancy firm Axialent which advises multinationals such as GM, Chrysler, Ford, Michelin, Volkswagen, Shell, Microsoft, IBM, Hp, Telecom, Coca-Cola, PepsiCo, Banco Santander, HSBC, Citibank as well as 20 other major multinationals operating in branches ranging from education, the social services, the media and health to distribution, logistics, financial services, food, new information technologies, energy, the car industry and metallurgy.

Not with standing the fact that the theories are neutral and can be used for the common good depending on the dominant interests involved, it is beyond question that this client portfolio shows the practical utility of the integrated theoretical approach to business management. Undoubtedly, the success of this approach is due to the fact that the traditional formal dimension of business where success is measured in terms of economic value is combined with 2 other dimensions; the dimension of the human collective where success depends on trust and affective relationships and the individual dimension where success means being enthusiastically committed to a shared vision and feeling fulfilled through this. The research of management consists in integrating individual behaviour within a collective expression of cultural values in an environment conducive to achieving the desired business results.

The owner of the model F farm has indeed adopted an integrated approach to management. The great importance given to the collective dimension in this approach based fundamentally on co-operative human relations together with the greater predisposition of women to engage in this sort of relationship in the experience of this businessman has resulted in him preferring to take on a female than a male workforce. This makes it interesting to seek in the characteristics of the female workforce the explanation for the better economic results that have been achieved.

MATERIALS AND METHODS

Obtaining the data from the farm type with a female workforce and integrated business management (farm F): We start from a real family-run farm business covering an area of 20 ha with 100% in ecological agriculture and 100% ownership. It is located in Los Monegros (Aragon, Spain). The experience of ecological agriculture dates back 9 years. It only employs women, 4 part-time workers with a total of 4 UTA (unidades de trabajo agrario, i.e., units of agricultural labour) including the 2 whole working days of family labour (research by the owner himself) that are used.

About 20% of the farm cultivates vegetables which generate most of the farm's added value and the rest is extensive crops (mainly cereals and lucerne). This distribution is what provides the livelihood of the owner of F who devotes himself full-time to agriculture. In changing from conventional to ecological farming, farm F adopted an integrated business strategy. As part of this strategy when integrating the three levels business, individual and collective. It was observed that it was more profitable to abandon large-scale production areas and extensive monoculture.

These areas made it necessary to take out loan accounts with high banking costs and keep on increasing the size of the farm in order to generate more income through the common agricultural policy-entailing a vicious circle of needing more machinery and having higher fixed costs in general.

In the new ecological phase, the owner of F opted to reduce fixed costs give up the leased land, reduce machinery and inputs and to stick with the profitable vegetable crops that generate added value, himself taking on the direct marketing of the products in nearby markets and maintaining the extensive cultivation of barley and alfalfa which do not require financial costs. It is noteworthy that it is easier to undertake an ecological farm business plan starting from nothing (designing the number of hectares that make it profitable, deciding the services and machinery that are required depending on the type of crops, making 20 years amortization and viability plan) since when a farm changes from conventional to ecological agriculture, it tends to be saddled with major debts with a constant renewal of costs which are then taken on by the ecological enterprise.

Even so, today this type F farm has succeeded in reducing its debts to zero and lowering its fixed costs by 25%. The farm has completed its amortization and hires certain services for important tasks. It has just the machinery required using an 80 horse power tractor (as opposed to the over-importance generally attached to quantity of machinery).

This keeps the costs of future amortization very low, making it all the easier. Nonetheless in the cost structure, we shall take into account a provision for amortization. This constitutes a handicap for the farm F when comparing it with the other type M, yet it provides rigour in accounting terms and long-term business consistency for the farm with the female workforce.

Finally, we should like to emphasize that the 100% ownership of the cultivated area represents an ecological production that is not dependent on the dominant trading system which makes large extensions of sing le-crop farming necessary in order to be competitive. The social and economic characterization of F makes it a prototype that yields useful data for extrapolating from the micro-level results to the macro-level. Likewise, the fact that the employed workforce is exclusively female provides an interesting sample to be analysed in terms of the economic results of the ecological farm.

Obtaining the data from the farm type with the male workforce (farm M): We start from the data by Bernal. With a view to gathering the differences that exist between the main business strategies within ecological production which do not generally follow an integrated management approach. We show the dual origin of the data for pepper in the M farming model which were obtained by averaging the cost structures of:

- On the one hand, a farm with a similar structural strategy to the model F farm as regards: a reduced structure of fixed costs with low financial costs in machinery and amortization; high labour costs. It also sells its products directly at nearby local markets like F but without adopting the integrated management approach. We shall call this farm Mp
- On the other hand, another farm which we shall call Mi with a different structural strategy as reflected in greater dimensions of fixed costs; machinery, amortization and financial costs; lower labour costs. Unlike F and Mp, it sells its produce to large-scale industry. Like Mp, it does not adopt an integrated management approach

Specifying the economic data: We have chosen tomatoes and piquillo red peppers as crops representative of the margins for ecological agriculture because these are fruit crops with a long cycle (a minimum of 90 days), the harvesting has to be staggered they take up a large area of land they require high production and the profitability has to be high given the risk involved. Indeed on the one hand, they provide most of the added value obtained in the farm F (some 60%) and on the other hand, they also reflect the greater risk that can be taken with a horticultural crop.

As such they are a good indicator of the range of economic margin-risk within which any horticulturalist might find himself or herself. The data used to explain the differential economic factors of female work in the ecological farm are shown in Table 1 and 2. Figure 1-4 show the results of a comparison of the cost structures and productivity for tomatoes in the two farms, M and F. We have not presented Fig. 1-4 for peppers (with respect to average economic margins) because they do not provide any additional information on top of that obtained for tomatoes. The accounting structure of the model F farm was provided by the owner on the basis of the average data for the 9 years of ecological agriculture for each accounting concept.

These data are specified for presentation in the complete official cost structure of the Spanish National Agricultural Accounting Network (Red Contable Agraria

Table 1: Cost structure: tomatoes

Tomatoes (€ ha^{-1})	Employed female workforce	Employed male workforce	Cost variation (%): female vs. male employed workforce
Direct costs			
Plants	385	556.00	-30.8
Fertilizers	642	250.00	156.5
Phytosanitaries	278	298.00	-6.7
Other supplies	40	1,059.00	-96.2
Total direct costs	1,345	2,164.00	-37.8
Machinery			
Hired jobs	0	634.00	-100.0
Fuels and lubricants	47	741.00	-93.7
Reparations and replacements	742	900.00	-17.5
Total machinery	789	2,274.00	-65.3
Employed workforce	1,240	2,770.00	-55.2
Indirect costs paid			
Social security contributions	248	554.00	-55.2
Insurance of owned capital	94	39.00	139.4
Interest and financial expenses	0	146.00	-100.0
Lease contract	0	715.00	-100.0
Contributions and taxes	72	24.00	196.1
Maintenance and repairs of buildings	0	0.00	0.0
Other general expenses	2,000	633.00	215.9
Total indirect costs paid	2,414	2,112.00	14.3
Amortizations	335	513.00	-34.8
Other indirect costs			
Land opportunity cost	586	586.00	0.0
Interest on other owned capital	0	502.00	-100.0
Family workforce	620	693.00	-10.4
Total other indirect costs	1,207	1,781.00	-32.3
Total costs	7,331	11,615.00	-36.9
Accounting structure of economic margins			
Production (kg ha^{-1}) (1)	80,000	84,276.00	-5.1
Income from products (2)	80,000	25,325.00	215.9
Subsidies (3)	0	0.00	-
Compensations and other incomes (4)	0	0.00	-
Gross product (5) = (2) + (3) + (4)	80,000	25,325.00	215.9
Sales price (€ kg^{-1}) (6) = (2)/(1)	1	0.36	
Price obtained (€ kg^{-1}) (7) = (5)/(1)	1	0.36	177.3
Direct costs (8)	1,345	2,164.00	-37.8
Standard gross margin (9) = (5) - (8)	78,655	23,162.00	239.6
Machinery+employed workforce (10)	2,030	5,045.00	-59.8
Gross margin (11) = (9) - (10)	76,625	18,117.00	322.9
Indirect costs paid (12)	2,414	2,112.00	14.3
Disposable income (13) = (11) - (12)	74,211	16,005.00	363.7
Amortizations (14)	335	513.00	-34.8
Net margin (15) = (13) - (14)	73,876	15,492.00	376.9
Other indirect costs (16)	1,207	1,781.00	-32.3
Profit (17) = (15) - (16)	72,669	13,711.00	430.0

National) used by the prior Spanish Ministry of Agriculture, Fisheries and Food. The data from the model M farm are those obtained in the field work for the results in Bernal.

RESULTS

Differntial economic factors for farm F due to the global business strategy adopted: As explained earlier, these factors are the following:

- The greater cost of machinery is due to the drip-irrigation which prevents weeds and saves on herbicides with the ensuing strengthening of the ecosystem's balance by virtue of not using phytosanitaries not even those tolerated in ecological agriculture
- Farm F does not use plastic padding because, even though this improves quality (increasing homogeneity), thus resulting in greater income and keeps the land free of weeds, it also increases machinery costs and generates waste. With good crop rotation and alternation, drip-irrigation without plastic padding, though requiring more labour-leads to decreased machinery costs of 240 € ha^{-1}, a saving that compensates for the profitability provided by the padding. Moreover, farm F does not require the roughly 15 days earlier harvest provided by the plastic as it is not seeking to compete in distant markets and in nearby ones this time advantage hardly leads to any gain in profitability. These decisions mean that the owner of farm F: optimizes profitability; creates more employment and avoids creating waste

It is relevant to stress these factors because not all the differences observed in the model F farm are due exclusively to the fact that the employed workforce is made up of women but rather as we explained in the introduction, it is having an integrated vision of business management that led to the use of this type of workforce.

Main differential factors due to the employment of an exclusively female workforce: The price obtained is greater in F in accordance with the higher quality that is achieved. Table 1 and 2 and Fig. 1 show lower total costs in F in spite of the costs of biofertilizers (animal manure), the insurance of owned capital and other general costs being considerably higher.

Noteworthy is that the low costs in herbicides in particular are due in large measure to the meticulous weeding work performed by the female workforce. Not only, the lower total costs but also the lower fixed costs suggest that farm F is more compact and has a greater capacity to resist downward variations in the market price (lower variable and fixed costs).

Table 2: Cost structure: peppers

Peppers (€ ha^{-1})	Female employed workforce	Male employed workforce	Cost variation: female employed workforce vs. male workforce (%)	Strategy sales to industry	Strategy based on direct sales to nearby local markets
Direct costs					
Plants	66	588	-88.70	1,001	175
Phytosanitaries	541	215	152.10	250	179
Pesticide products	0	149	-100.00	298	0
Other supplies	210	451	-53.50	340	562
Total direct costs	817	1,403	-41.70	1,889	916
Machinery	0	0	0.00	0	
Hired jobs	0	346	-100.00	634	58
Fuels and lubricants	47	435	-89.20	741	129
Reparations and replacements	21	515	-95.90	900	130
Total machinery	68	1,296	-94.70	2,274	317
Employed workforce	2,851	3,358	-15.10	1,889	4,828
Indirect costs paid	0	0	-	-	-
Social security contributions	570	563	1.30	401	724
Insurance of owned capital	94	23	303.20	39	7
Interest and financial expenses	0	75	-100.00	134	17
Lease contract	0	519	-100.00	715	322
Contributions and taxes	72	19	272.90	24	14
Maintenance and repairs of buildings	0	1	-100.00	0	3
Other general expenses	233	377	-38.20	340	415
Total indirect costs paid	970	1,578	-38.60	1,654	1,502
Amortizations	335	1,622	-79.40	513	2,731
Other indirect costs	0	0	-	0	0
Land opportunity cost	586	579	1.20	586	572
Interest on other owned capital	0	324	-100.00	146	502
Family workforce	1,248	869	43.60	472	1,266
Total other indirect costs	1,834	1,772	3.5	1,205	2,340
Total costs	6,875	11,029	-37.7	9,425	12,634
Accounting structure of economic margins					
Production (kg ha^{-1}) (1)	18,815	19,500	-3.5	20,000	19,000
Income from products (2)	16,572	16,986	-2.4	13,589	20,383
Subsidies (3)	0	0	0.0	0	0
Compensations and other incomes (4)	0	0	0.0	0	0
Gross product (5) = (2) + (3) + (4)	16,572	16,986	-2.4	13,589	20,383
Sales price (€ kg^{-1}) (6) = (2)/(1)	0.881	0.876	0.53	0.68	1.07
Direct costs (8)	817	1,403	-41.7	1,889	916
Standard gross margin (9) = (5) - (8)	15,754	15,583	1.1	11,699	19,467
Machinery + employed workforce (10)	2,919	4,654	-37.3	4,164	5,145
Gross margin (11) = (9) - (10)	12,835	10,929	17.4	7,536	14,322
Indirect costs paid (12)	970	1,578	-38.6	1,654	1,502
Disposable income (13) = (11) - (12)	11,865	9,351	26.9	5,882	12,820
Amortizations (14)	335	1,622	-79.4	513	2,731
Net margin (15) = (13) - (14)	11,531	7,729	49.2	5,369	10,089
Other indirect costs (16)	1,834	1,772	3.5	1,205	2,340
Profit (17) = (15) - (16)	9,697	5,957	62.8	4,164	7,749

F offers a remuneration of 5 euros an hour, above the average in the sector (3.6 euros an hour) which provides the women with a greater incentive to work. Experience has shown the owner that the greater the workers' remuneration, the greater their output. This comes to light not only in productivities but also in the lower labour costs.

On comparing farms F and M in this respect, the conclusion is that the women do the same amount of work in less time. It is interesting to note that by spending less time working they are able to combine their work with their family life.

In Fig. 2, it can be seen that farm F has greater productivities of economic margins by the employed workforce than farm M does. These indicators of productivity are obtain by dividing the corresponding results for the standard gross margin, net margin and business profit by the costs of the emplyoed workforce for Fig. 2 and by the sum of the employed plus the family workforce for Fig. 3.

This is the case both for the standard gross margin and the business margin and profit. In other words, the female workforce is more productive in financial terms. This conclusion is shows in Fig. 4. This shows that the percentage increases of farm F over farm M in terms of the productivity of the employed workforce are greater than the percentage increases of F over M in terms of the productivity of the total workforce. One

Fig. 1: Comparison of cost structures for tomatoes (€ ha^{-1})

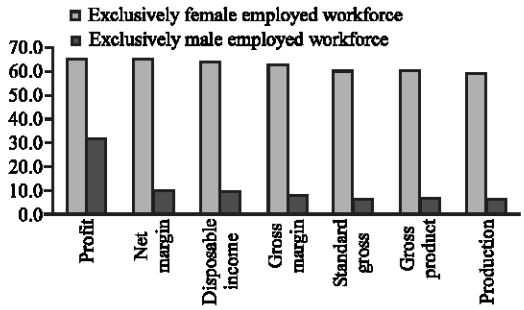

Fig. 2: Productivities of the employed workforce for tomatoes

interpretation of this result is the greater productivity of the female workforce in relation to the total (standard) workforce.

Figure 3 also shows greater productivities from the total workforce in farm F. In other words when the employed workforce is made up of women, the productivities of the total workforce (employees+family) are also greater. One reading of this is that in F there are greater synergies between the family workforce (which coincides with the owner of the farm) and the employed workforce, i.e., between entrepreneur and workers.

Differences in economic concepts between the model F farm and the main business strategies within ecological agriculture (Mi, Mp): Analysing the data from Table 2, we can see the following differences as regards the variables that concern us between farm model F and farm models Mp and Mi.

Results of the comparison F-Mp: Even sharing theirstructural strategy, the total costs are 45.6% lower in F than in Mp. This is due mainly to F's lower total labour costs, since in both farms the total workforce represents the highest percentage of the cost categories (48% in Mp and 60% in F). In spite of this, farm F spends 40.9% less on its employed workforce, even though it pays a higher

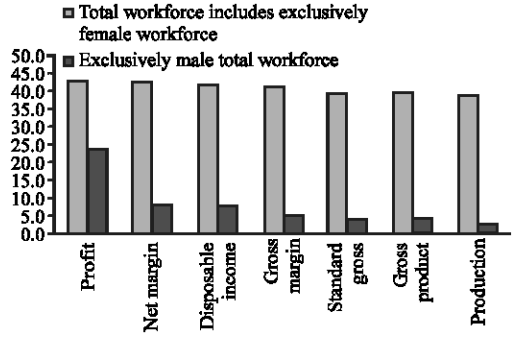

Fig. 3: Productivities of the total workforce for tomatoes

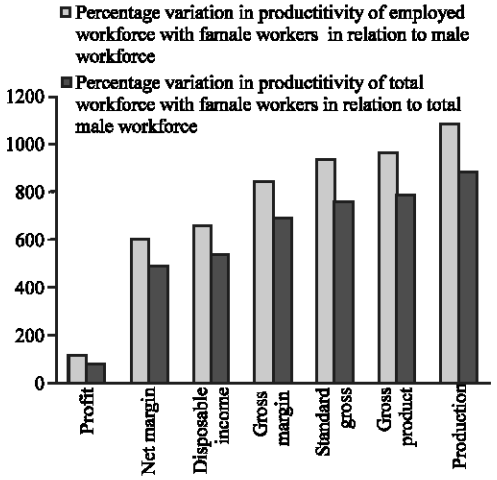

Fig. 4: Comparison of percentage variation in productivities

remuneration (the level of UTA being the same in Mp as in F). All this is consistent with expenditure on the family workforce that is practically the same in the two farms. The percentage of fixed costs over the total is 19% in F and 36% in Mp which makes F a more robust structure in the face of market fluctuations. The productivities are also greater in F for all the indicators of economic margin (indicators that are synthesized in that for profit). Taking only the employed workforce into account, the profit per Euro spent on hiring workers is 112% higher in F than in Mp. If we consider the total workforce (employed+ family), this percentage falls to 86%, consistent with the result in this results support the findings of Kinkingninhoun-Medagbe *et al.* (2010) who suggest that there is considerable scope for improving the productivity of women through increasing their access to production resources, understanding this access not just as giving them the material ownership of the production resources but even as a different way of organizing the work in the farm giving the women decision capacity through communication and a functional not hierarchical organization.

Results of the comparison F-Mi: The total costs are 27% less in F than in Mi. This percentage difference is less than the above comparison (F-Mp) due to the fact that in Mi the percentage of total labour costs over total costs is reduced to 25% from 48% in Mp. This is consistent with Mi's strategy being based more on investment in capital than in labour (F is most labour-intensive). Due to this strategy pursued by Mi and to the greater remuneration paid by F, the latter spends 50.9% more on its employed workforce.

All this is logically consistent with spending on the family workforce that is 164% greater in F. The percentage of fixed costs over total costs is greater in Mi (27%) which reaffirms F as a more robust structure in the face of market fluctuations when compared with the two structural strategies that use a hired male workforce. Productivity of profit is also greater in F. Considering only the employed workforce, the profit per Euro used to hire workers is 54.3% greater in F than in Mi. If we consider the total workforce (employed+family), this percentage falls to 34.2%. In conjunction with this result lends weight to the conclusion that there are greater synergies between company and workers in F than in M. These results should serve as a reference point for the following reflection: the role of women as fostering the potential capacity of agriculture and in particular of ecological agriculture as an economic sector that drives rural development and leads to population settlement.

Qualitative variables: Having presented the quantitative economic data, we now seek an explanation for them in the qualitative variables that exist in farm F and that are based on the characteristics of the female workforce that is employed. Greater attention and responsibility in working which is reflected in a clear difference in how the tasks are carried out. Work on the farm in question involves stamina and not strength and women are not only the equal of men but do better in this respect. Proof of this is found in tasks such as planting: women say and show that it is better to go slowly so the plantation turns out uniform and optimal in the knowledge that this has an effect on quality.

They also display greater responsibility and attention in the task of weeding as corroborated by the experience of the farm owner when his farm was still conventional and used male and female workers at the same time. When it comes to weeding, the greater responsibility and attention shown by women means that they get rid of all the weeds whereas in general men lay greater weight on doing a quick job and cause more harm than good (if well done, weeding only needs to be done once; if poorly done, weeds remain and compete with the crop, leading to worse results).

A greater capacity for communication which is considered a key factor in the organization of work and the achievement of excellence according to modern theories of business management with an integrated approach (Kofman and Senge, 1993). One example of this is that the female workers themselves feel bad if a mistake is made in the harvesting. The problem is discussed and an attempt is made to minimize the effect of the errors.

A system of work relations that are functional and not hierarchical: functional organization based on characteristics such as skill and agility, co-ordination of movements, irrespective of the capacity for physical strength in the task.

There are no hierarchical work relations, fostering the before mentioned communication and thus improving the organization and contributing to the achievement of high quality. The good communications and system of functional relations are interpreted as the reason for the synergies between the firm and the workers. According to the integrated approach to business management, this in turn results in better-quality produce, allowing a higher sales price and making it possible to organize the work so as to reduce total costs, thus achieving greater productivities of economic margins. This is confirmed by the case of farm F. It is interesting to highlight the experience of the owner of F which closes the circle between human attitudes at work and economic results, he says: when harvesting when the plants are good, productivity is greater because people are happier working and this certain empathy that forms with the crop and with the other workers makes the work much more joyful. When the product is of lower quality, there is less joy, there is less attraction in picking it and it is less fun and experience tells me that the work done is less productive preference for part-time work as a way of combining work with family life. Experience shows that part-time work is more productive than full-time work because after 4 h working tiredness leads to a reduction both in physical performance and in concentration at work (fundamental for most tasks in ecological agriculture which calls for a greater quantity of labour). The increased productivities that are achieved mean that the owner can pay them more and this higher remuneration in turn underpins the women's preference for part-time work.

Consequences for the management of the company and human resources: In the light of the characteristics of the

female workforce, we have synthesized the following consequences for the management of the company and human resources in ecological farms:

- Negotiation of the working day is simplified
- Time is saved in the management of human resources
- Better financial results
- Better economic results
- The higher productivities reveal greater efficiency in the use of resources in general and thus in the use of the resources of land and water in particular

These results are of use when it comes to planning agricultural policies that foster sustainability. The greater profitability of ecological crops, once the period of transformation has been overcome in conjunction with an integrated vision of business management, allow for increased remuneration for the female workforce in turn encouraging women to work in the sector and to stay within the area.

with the higher need for labour in ecological agriculture, this has a positive impact on population settlement in the area. In turn, the special characteristics of female work improve the profitability both of the ecological farm in financial terms and of the society in economic terms. Economics analysis is broader in technical terms than the merely financial. Whereas the former seeks the maximization an objective function that reflects the well-being of society as a whole, the 2nd is limited to mazimizing an objective function that reflects solely the monetary flows that occur in a particular private investment.

CONCLUSION

In the case under study, both the workers and the business prefer part-time work which allows the women to combine work with family life and thus further deters them from opting to emigrate to an urban environment. As such, the synergies between ecological agriculture and female work may represent a major factor promoting population settlement in the rural environment. This point should be borne in mind to provide more decisive support for ecological farming in agricultural policies seeking to foment sustainable rural development.

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