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Productivity, Comercialization and Quality of Life in the Dairy Producers of the *"Cienega"* Region of Jalisco, Mexico

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Abstract- In order to determine the existing relation between the productivity of the dairy farms, the forms of commercializing the milk and the quality of life of the dairy producers in "La Cienega" region with their educational level, this study was made. In this, a total of 90 surveys were applied (30 by locality) in the three potential municipalities: Atotonilco el Alto (AA), La Barca (LB) and Tototlán (TOT). The producers were selected from the Association of Dairy Producers list in each municipality, taking into account the percentage of presence from the three established productive layers in an official way (FIRCO, 1985 and SAGARPA, 2005) in the State of Jalisco: 60, 30 and 10% for small (pp), medium (mp) and big producers (gp) respectively. On the basis of this classification, the considered producers were 54pp, 27mp and 9gp, likewise 18pp, 9mp and 3gp for each one of the three studied municipalities.

Keywords: productivity, commercialization, life of quality, dairy producers, education, age, cienega region.

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Keywords: productivity, commercialization, life of quality, dairy producers, education, age, cienega region.

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I. Introduction

The present world has entered a quite complex economic intersection, where the insecurity, the suspiciousness in the authorities, in the people and in one himself have been taking possession upon us and they have been positioned in an important and deplorable way in our lives; nowadays we unusually lack of certainties in many areas of our life: insecure jobs, rachitic and not sufficient income to have access to a worthy life, a hungrier and spiteful world, an increasing absence of confidence and solidarity among and inside the society, a steady increase of insecurity and corruption, all that joined to a well-known and gradual loss of values and confidence towards the whole society. This is basically due to the economic resource being privileged at all costs to the detriment of the human development; and in this context, education and health play a fundamental role in our lives and in the explanation of the reason of this state of things through which we unfortunately live in this country.

It is also imperative to extent that the inadequate design and deficient performance of the public politics handled at present to attend the big challenges the food production implies, puts in risk the well-being and health of the present and future generations in our country; standing out in a very important way, that in the next decades one of the most important challenges that the diverse world food and agriculture systems (developed or not) will have to confront, will be assuring the sufficient food supply for its population (SAGARPA, 2011), and it would seem unfortunately, that for the authorities of the diverse governmental ambiences it would not be mainly important.

It is convenient to establish clearly that the world food demand will intensify due to several aspects, namely:

a. Constant growth of the population

b. A major life expectancy, consequence of the medical and technological advances; which implies a major quantity of healthier and more hygienic food.
c. The pursuit of these two previous points will involve noticeable changes in the patterns of consumption, which will go basically towards more healthy food.

In counterpart, to produce this food, the present conditions will be more challenging and more difficult to attack and/or to resolve, due to:

1. Decrease and/or depletion of the cultivable grounds.
2. Major conditionings and/or regulations to be fulfilled in the produced and/or processed food.
3. The higher use of eatable agricultural products for not food uses; basically destined for the biofuels and bio-energetics production.
4. Increase of environmental contingency, consequence of the harmful effects from the climate change and the lower availability and/or access to irrigation water.

We will have to add to these risks the pressing need to produce at accessible and/or economic prices for the consumer, in addition to considering the form in which the food will be distributed in an effective way up to our tables; this way, the only viable solution represents the increase of the productivity in the diverse agricultural developments, for which there will have to be carried out countless adjustments in different processes that have an effect on this, principally in the use of the technology, infrastructure, machinery and equipment available, the credit availability, subsidies and/or sufficient support to all the producers, independently of their productive state and the uninterrupted presence of opportune and efficient technical assistance.

Theoretically, the educational level of any person will have direct relation with the productivity of his/her company, on the ways of carrying out the commercialization and distribution of the product and on their development and/or economic growth; nevertheless, this is unfortunately not a rule that appears at all times, since a large number of environmental factors exist and don't, that will affect and/or determine the presented quality of life.

In this context, the new productive structure established in the most recent studies (Núñez, 2010), where there is indicated a proportional structure of 30:60:10 for small, medium-sized and big producers in "Los Altos" and "La Cienega" regions of Jalisco; and where there is change in the traditional structure (FIRCO, 1985 and SAGARPA, 2010) in the state of Jalisco and that was reported in 60:30:10, take special relevancy.

The reason is the high incidence in the whole state of Jalisco of producers with scarce or limited economic resources, in addition to a supposed limited education and a high age of the dairy producers, aggravated by the abandonment of the cattle developments, the more frequent incursion in the informal commerce and the gradual but constant phenomenon of the national and international migration, which has provoked developments with high presence of elders, adolescent, and even women with these conditions.

This way, the objective of the present study was the following one:

Objective: To determine the relation established between the educational level of the dairy producers with the productivity of their development, the implemented type of commercialization and the perception on their own quality of life, independently of their productive stratum.

To fulfill this target, we managed and/or determined the following classifications:

a. *Educational Level:* without education, primary, secondary, high school, technicalstudies and highereducation; it is relevant to point out that the producers were integrated into one of these 6 levels either they have completed their studies or not.
b. *Productivity:* low, medium and high; taken according to the average dairy yields of their animals in production (up to 10lts/d for low production; from 10.1 to 18lts/d for average production and more than 18 liters for cow per day for high production).
c. *Commercialization:* individual, organizational or group; either they belonged or not to a producers' association that would facilitate in a certain way the reception of their liquid and the determination of the price for their product.
d. *Quality of Life:* deficient, acceptable and satisfactory; established according the living conditions and economic income received and brought in the study, in addition to the diverse satisfactory material felt in the interview and the application of the survey, which was added to the proper perception of the polled producers.

II. Methodology

The study was carried out among the dairy producers in 3 of the most representative municipalities of the region "La Cienega" in Jalisco: "Atotonilco el Alto" (AA), "La Barca" (LB) and "Tototlán" (TOT); in this work there were selected and polled 30 producers for every municipality, which resulted in a total of 90 producers for three tackled municipalities.

Attending on the already stated official structure (60:30:10 for pp:mp:gp) and in an approximate population of 900 officially enrolled dairy producers in the lists of 3 respective Municipal Dairy Cattle Associations, a sample was taken corresponding to the

10 % of the population; in which 54 producers were small, 27 medium-sized ones and 9 big.

These producers were selected randomly, being interviewed in the facilities of their same development between September and December, 2011 by students of the career of Agribusiness of the University of Guadalajara.

The information was analyzed by means of an analysis of interrelation and retrogression, taking the educational level as an independent variable and as dependent variables were taken the productivity, commercialization and quality of life; there were also obtained the averages and standard deviations of the variables involved in the study.

The information was analyzed by the statistical suite STATGRAPHIC version 2010.

III. Results and Discussion

The results obtained from the compiled information and the implemented statistical analysis were the following ones:

Table 1 : General Characteristics By Productive Stratum in the Three Considered Municipalities

Option	Small producers	Medium producers	Big producers	Total
• Present educational level in greatest proportion	Elementary (91%)	Elementary (70%)	Elementary (67%)	Elementary (82%)
• Average age	62.8	60.4	54.3	59.8 years old
• Do you have access to institutions and/or programs of public health for your attention?	Yes (54%)	Yes (44%)	Yes (78%)	48 (53%)
• Personal perception on your current quality of life (1982 – 2011)	Less (100%)	Less (90%)	Less (100%)	Less (97%)
• Have you modified your nutritive habits due to economic issues?	Yes 100%	Yes 81%	Yes 56%	Yes 91%
• Do you know about de-capitalized developments in the last 5 years?	Yes 37%	Yes 60%	Yes 30%	Yes 57%
• Do you know about producers who have migrated nationally and internationally in the last 5 years?	Yes 90%	Yes 70%	Yes 60%	Yes 73%
• Do you know about producers who have ventured into the Informal Commerce in last 5 years?	Yes 70%	Yes 70%	Yes 40%	Yes 60%
• Do you know about producers who have appealed or appeal periodically to lenders in the last 5 years?	Yes 80%	Yes 40%	Yes 20%	Yes 47%
TOTAL	54	27	9	90 producers

Source: Direct, obtained from the information compiled in the study

Table 2 : Educational Level by Productive Stratum in the Three Considered Municipalities

Educational Level	Small producers	Medium producers	Big producers	TOTAL
• Without Education	0 (0%)	0 (0%)	0 (0%)	0 (0%)
• Primary	49 (91%)	19 (70%)	6 (67%)	74 (82%)
• Secondary	4 (7%)	2 (7%)	1 (11%)	7 (8%)
• High School	0 (0%)	2 (7%)	0 (0%)	2 (2%)
• Technical Studies	1 (2%)	4 (15%)	1 (11%)	6 (7%)
• Higher Education	0 (0%)	0 (0%)	1 (11%)	1 (1%)
• Totales	54	27	9	90

Source: Direct, obtained from the information compiled in the study

Table 3 : Reported Educational Level in Each of the Three Considered Municipalities

Educational Level	Aa	Lb	Tot	Cienega
• Without Education	0 (0%)	0 (0%)	0 (0%)	0 (0%)
• Primary	25 (83%)	22 (73%)	27 (90%)	74 (82%)
• Secondary	2 (7%)	4 (13%)	1 (7%)	7 (8%)
• High School	0 (0%)	1 (3%)	1 (3%)	2 (2%)
• Technical Studies	3 (10%)	3 (10%)	0 (3%)	6 (7%)
• Higher Education	0 (0%)	0 (0%)	1 (3%)	1 (1%)
• Total	30	30	30	90

Source: Direct, obtained from the information compiled in the study

Table 4 : Productivity in Each of the Three Considered Municipalities

Productivity	AA	LB	TOT	CIENEGA
• Low	10 (33%)	7 (23%)	3 (10%)	20 (22%)
• Medium	18 (60%)	19 (63%)	22 (73%)	59 (66%)
• High	2 (7%)	4 (13%)	5 (17%)	11 (12%)
• Total	30	30	30	90

Source: Direct, obtained from the information compiled in the study

Table 5 : Type of Comercialization In Each of the Three Considered Municipalities

Type of Comercialization	AA	LB	TOT	CIENEGA
• Individual	4 (13%)	2 (7%)	0 (0%)	6 (7%)
• GROUP Or ORGANIZATIONAL	26 (87%)	28 (93%)	30 (100%)	84 (93%)
• Total	30	30	30	90

Source: Direct, obtained from the information compiled in the study

Table 6 : Personal Perception of the Producers Themselves about their Quality of Life in the Three Considered Municipalities

Quality of Life	AA	LB	TOT	CIENEGA
• Deficient	25 (83%)	21 (70%)	26 (87%)	72 (80%)
• Acceptable	3 (10%)	6 (20%)	2 (7%)	11 (12%)
• Satisfactory	2 (7%)	3 (10%)	2 (7%)	7 (8%)
• Total	30	30	30	90

Source: Direct, obtained from the information compiled in the study

Table 7 : Correlation Analysis among the Variables Involved

Variables Involved	Correlation
• Educaction and Productivity	0.83
• Education and Comercialization	0.52
• Education and Quality of Life	0.67

Source: Direct, obtained from the information compiled in the study

IV. Conclusions

- 82 % of the producers in the three municipalities involved in this study hold a primary educational level as maximum.
- 91 % of the small producers holds the primary as the maximum level of study, in contrast with 70% of the medium-sized producers and 67 % of the big producers.
- The three municipalities present a very poor level of study, which determines the productivity, the commercialization and the presented quality of life.
- The average age found among the dairy producers of three municipalities involved is 59.8 years old.
- The small producers present an older average age (62.8 years), in contrast with 60.3 years in the medium-sized producers and 54.3 years old in the big producers.
- 53% of the producers in three polled municipalities, have access to some public health institution.
- 54% of the small producers is provided with health access in this type of institutions, in contrast with 44% of the medium-sized producers and 78 % of the big producers.
- 97% of the dairy producers in the three polled municipalities has the perception that their quality of life is currently less than compared with the one they had in 1982.
- The totality of the small and big producers are getting convinced that their quality of life has reduced from 1982 to date, while only 10 % of the medium-sized producers think that it has improved.
- A relevant matter involves the fact that 91 % of the producers of three municipalities has had to modify their nutritive habits for economic issues.
- The situation becomes even more relevant when analyzed by type of producer, since 100 % of the small producers has changed its nutritive habits, in contrast with the 81 % of the medium-sized producers and 56 % of the big producers.
- These results indicate that we are gradually becoming a country with famine and with clear economic restrictions for the food acquisition.

- 57% of the producers expressed knowing about at least one de-capitalized development that has left their development in last 5 years.
- By type of producer, 37 % of the small producers expressed knowing about de-capitalized development among their union, in contrast with 60% of the medium-sized producers and 30 % of the big producers.
- The abandonment of the developments has contributed in a significant way to the increase in the informal commerce, migration and internal family conditions.
- 73 % of the producers in the three tackled municipalities has known about producers who have had to migrate in the search of better living conditions.
- By analyzing this variable for type of producer, it was found that 90 % of the small producers know about at least one producer who has migrated out of the country, in contrast with 70 % of the medium-sized producers and 60 % of the big producers.
- As expected, there is a bigger economic vulnerability among the small producers on having compared them against the medium-sized and big producers that is reflected on a major incidence of migration.
- Diversely, up to 60 % of the producers in the three polled municipalities showed to know of some producer who has ventured into the informal commerce for economic issues in the last 5 years.
- By type of producer, it was found that 70 % of the producers with less economical resources knows about some producer who is dedicated now to the informal commerce, in contrast with 70% of medium-sized and 40 % of the big producers.
- It is a fact that the informal commerce has grown impressively in the last years, which has triggered underpaid jobs, unstable and with scarce to void opportunities of growth and economic progress in short and medium-sized term.
- Another worrying matter is represented by the fact that 47 % of the producers has had to appeal some lender in last 5 years, which reveals serious economic restrictions.
- It is also clear that when having less resources, there is a greater recurrence to these lenders, since up to 80 % of the small producers expressed to have had to appeal a lender against the lack of sufficient economic income; while 40 % of the medium-sized producers and only 20 % of the big ones revealed to have resorted to them.
- 22% of the 90 producers in total reported low productivity (up to 10 liters in average per cow a day), contrasting with their 66 % reporting an average productivity (between 10.1 and 18 lts/cow/d) and only 12 % reporting a high productivity (more of 18lts / cow / d).
- In each of three municipalities, the average productivity stood out in greater measurement having it compared with the low and high productivity.
- 93% of the producers belongs to some producers' association, where the produced milk is commercialized in an organized way; contrasting with only 7 % of the producers doing it individually.
- In the three municipalities happens this tendency of commercializing the product through an official organization of producers, which obviously looks for the acceptance of the liquid and the best possible prices to be achieved
- 80% of the producers has the perception that their quality of life is deficient, against 12% who consider it to be acceptable and only 8% considers it as satisfactory.
- In the three implied municipalities appears the same tendency referred to a greater percentage to the deficient quality of life and a scarce percentage in the satisfactory quality of life.
- There was a wide relation of 83% between the educational level and productivity; education increases productivity.
- There was an average relation between the educational level and the type of commercialization of 52 %; which means that there are other factors that will determine to be organized or not to commercialize the milk.
- The education is related also in 67 % to the quality of life, which implies that the better education, better conditions will appear to live better.
- It is very important to establish with clarity that the food and agriculture systems of the world have ahead themselves the enormous challenge of producing cheap, healthy and sustainably produced food.
- It is very pertinent stressing that continuing with the current system of agricultural production will lead with a lot of probability to not being capable of producing the necessary food quantity.
- It is urgent also to prioritizing and to strengthen the familiar production, rescuing the genetic resources and supporting the scientific investigation.
- It is fundamental to consider and/or to size the importance for the agricultural future of the country in the south and southeast regions, where there is sufficient water and fertile ground, but there is lack of education and integral plans of technical assistance and suitable use of innovative technologies along with channels for commercialization and suitable and/or functional distribution.

- It is time to create an agriculture that answers the needs and demands of an increasing and claimant population; it is necessary to rescue in an efficient and gradual way the experiences and exposure of each of three producers' strata (small, medium-sized and big).
- It is essential to make the authorities understand that having food for the internal consumption of the population cannot depend exclusively on the imports.
- Youth with higher academic preparation is the most damaged sector by unemployment; 66 % of the young people works in the informality, which makes them poorer and more vulnerable.
- It is necessary to modify the economic scheme that has established till now the privatization of profit and the socialization of losses; and that has done of this Mexico of ours a country with clear and enormous economic inequality.
- It is more well-known the fact that it has been incubating gradually and constantly a dissatisfaction and/or anger generalized among the society, against the prevailing economic situation that has frequently detonated in the shape of predisposition to personal conflicts between people both in their labor and familiar context.

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