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Abstract

Livestock, and particularly cattle production, represents one of the main sources of revenue for Upper Egypt rural communities. An understanding of the socio-cultural factors influencing rural communities' traditional livestock production systems is essential for the formulation and implementation of any intervention strategies willing to preserve and manage animal genetic resources at community-based level. The objective of this study was to identify and understand the socio-cultural factors responsible for the division of roles and responsibilities within the Upper Egypt rural society in relation to cattle production related activities. A structured survey undertaken within selected households in the governorates of Sohag and Assiut, showed that adult women play the most important role in cattle farming, nevertheless they participate very rarely in the decision making processes, which is typically an adult men responsibility. This fact is most probably due to Upper Egypt rural women's little access to information, as a consequence of their limited interaction outside their family unit, and the economical nature of the decision which is mainly the responsibility of adult men.

Keywords: socio-cultural factors, cattle production, rural communities, Upper Egypt

Introduction

The Arab Republic of Egypt has a surface of 1,001,449 km^2, but only 50,000 km^2 are habitable and correspond basically to the Nile river irrigated lands. Geographically and in a simplified way the country is divided in Upper (Nile Valley) and Lower Egypt (Nile Delta), being this last region the most populated. Egypt is organized in 26 governorates, from which Giza, Beni-Suef, Mynia, Assiut, Sohag, Quena and Luxor comprise the Upper Egypt (MAEC, 2004). In 2003 the total population of Egypt was 71.9 million people, with an annual growth rate of 2%. Egypt's rural population represents 36% of the total country population. Within this population group poverty affects 34.68%, with special incidence on agriculturists' families with little access to land property. In Upper Egypt poverty percentage is higher than in other geographical areas of the country (48% with respect to 36% in Lower Egypt). The illiteracy rate is 44%, reaching up to 38% of men and 62% of rural women (CAPMAS, 2007).

Agriculture is the productive sector employing more people in Egypt, representing an 18% of the Gross Internal Product (GIP). It is also the largest women employer and the most important productive sector in Upper Egypt (AECID, 2006). The Egyptian livestock sector is characterized by a strong atomization (90% of farms have between 1 to 3 cattle heads) and for being a complementary secondary activity to crops production. In deep, the majority of farms have a low productive yield. Even so, the livestock production is developed by 95% of the Egyptian rural population (MALR, 2006).

Agro-livestock biodiversity conservation policies are nowadays a priority in sustainable rural development programs. Local livestock breeds are crucial for sustaining rural livelihoods, especially in marginalized areas, requiring relatively low levels of food, management and health care (Köhler-

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Rollefson, 2000). Breeding indigenous animal breeds not only have a socio-economical impact but also represent a part of the culture and traditions of rural communities (Perezgrovas, 2005). Community-based management of animal genetics resources (AGR) represents a different way of conservation involving the active support of the people who own and uses these animals. The formulation and implementation of any program willing to preserve and manage AGR at community-based level needs to identify the socio-cultural factors influencing on its execution and results (Pashu-Palak and Köhler-Rollefson, 2005).

Against this background, the main reason of this study is to understand which are the socio-cultural factors determining roles and responsibilities in traditional cattle production systems within rural communities of Upper Egypt. This study is part of the activities implemented within the framework of the 'Spanish-Egyptian Project for the Development of Cattle Artificial Insemination in Upper Egypt' willing to improve rural livelihoods through the genetic improvement of local bovine breeds by using artificial insemination.

Materials and methods

Both, a group of women and men composed by people from 23 to 73 years old, were selected in the villages of Batagh (Sohag) and Al-Matmar (Assiut) to discuss different aspects related to the responsibilities, needs and obligations on cattle activities. The election of participants was conditioned to their farming activities and the ownership of at least one cow. The information obtained from was used to design a questionnaire for the data collection of this study. In order to perfect the questionnaire and make it easily comprehensible, a test was carried out in a rural community from Giza governorate, with a model group of two married men and women and two young (single and older than 14 years) men and women. Eight experienced men and women were selected as interviewers, along with two field supervisors. The interviewers attended an inception training where the objectives of the study were explained, the questionnaire's questions were analyzed and several interviews were simulated.

Six villages from the governorates of Sohag (Sahel Tahta, Meshta and Edfa) and Assiut (Al-Nowara, Awlad Elias and Bakour) were chosen for data collection on the basis of the number of artificial inseminations services delivered since the beginning of the Spanish-Egyptian project. In each governorate, the village with the higher number of inseminations was selected, along with the third and fifth. With the assistance of the local veterinarian, a draft map was designed in each village, which were divided in four homogenous areas, where 25 families were interviewed. Eligible families were those integrated at least by a married man, a married woman, a single young man and a single young woman. In addition, the family economy had to be based on farming activities and had at least one cow. Only one family member was selected to answer the questionnaire, so that in each village were interviewed 25 individuals from each one of the categories. A total of 600 interviews were completed, equally distributed between husbands, spouses, young men and young women, all of them belonging to different families.

The collection of data was carried out by two teams, each one integrated by two men and two women, and directed by a field supervisor, who was responsible for the organization on the field and the data quality control. One of the selected villages from each one of the governorates (Sohag and Assiut) was assigned to each team, while in the third village both teams worked together. In order to facilitate data processing, questionnaires were classified by interviewed people categories and a code was added to each question. Completed questionnaires were also identified with a code relative to the interviewer and verified by a different one. Field data was processed using the statistical software SPSS® (Statistical Package for the Social Sciences).

Results

Characteristics of the interviewed sample

The average family size was 8.85 members with a total standard deviation of 4.17. The husbands' age rank oscillates between 22 and 80 and the spouses from 20 to 70 years old. The age rank of young men and women (both must be single) varies respectively from 14 to 32 and from 14 to 30 years old. Information on education revealed that 46.0% of adult men and 64.0% of adult women were illiterate or did not have any formal education. This proportion dramatically decreased in young men (5.3%) and women (12.6%). The classification of families in relation to their economical status in very poor (9.8%), poor (24.7%), within the average (33.2%) and upon the average (32.3%) was made according to the interviewers' perception when visiting the family household. More objective information can be interpreted from land ownership data: 49.8% of the interviewed families cultivate their own land, 27.7% cultivates their own and hired land too and 22.5% rely just on hired properties.

Responsibilities on cattle husbandry

A 75.3% of interviewed husbands declared that the person responsible for cattle is the father/husband of the family. A 58.7% of the spouses, 64.7% of the young men and 58% of the young women interviewed agreed with this affirmation. Nevertheless, approximately one of five people of these three categories (20%, 22% and 19.3% respectively) said that are other men of the family, such as grandfathers, older brothers and sons-in-law, who have the responsibility on cattle husbandry. Only four interviewed spouses declared that another woman in the family (daughters-in-law or sister-in-law) was the person in charge and eight young women said that they or their sisters were responsible to take care of cattle. Only one of five interviewed individuals from all the categories, assured that the mother/spouse (17%) or the grandmother (2.3%) were the cattle responsible people.

Time dedicated to cattle husbandry

When the interviewers asked who was the person dedicating more time on cattle husbandry, 65% of the husbands mentioned their spouses (53.3%) or another woman of the family (12%). A 64.7% of the spouses confirmed to be who dedicate more time to cattle husbandry, while an additional 8.7% assured that this work was the responsibility of another older woman of the family. A similar proportion of young men and women (54.6% and 50.7% respectively) also affirmed that their mothers or other women from the family were responsible for cattle husbandry, whereas almost one fourth of the interviewed from these categories (24% and 21.3% respectively) claimed to be themselves the ones who dedicate more time to this task. Only a 22.7% of husbands assured to be themselves the members of the family dedicated mainly to this work, whereas only a 10% of spouses ratified this affirmation.

Division of roles in cattle related activities

Almost all the interviewed people declared to collaborate in cattle related activities and approximately four of five assured to do it regularly, adult more than young people. Gender and age differences were observed depending of the specific activities.

Decisions concerning cattle's sale

A 74.6% of interviewed women affirmed that either husbands (67.3%) or other men from the family (16.7%) decide if cattle will be sold, while the rest declared that the decision was taken by themselves (6%) or other young men (7.3%). Nevertheless, an 18.6% of the young men claimed to be themselves (11.3%) or another young man (7.3%) who made this decision. According to 24.7%

Table 1. Distribution of cattle related activities within the family (in %).

	Husbands[1]	Spouses[1]	Young men[1]	Young women[1]	Total[1]
Grazing	30.1	8.1	38.9	4.9	20.5
Bringing forage from field	50.0	12.1	64.6	0.7	31.9
Bringing soil from field	17.8	6.7	11.1	1.4	9.3
Spreading soil in stable	5.5	26.2	24.3	41.7	24.4
Cleaning dung of stable	31.5	45.6	38.2	59.0	43.6
Feeding/watering animals	53.4	77.8	62.4	88.9	70.6
Milking	0.0	45.0	0.0	40.3	21.3
Making cheese/butter	0.0	14.8	0.0	12.5	6.8
Selling milk products	1.4	1.3	0.0	0.0	0.7
Buying animals' food	13.0	0.0	2.1	0.0	3.8
Prepare animals' food	3.4	0.7	4.2	0.0	2.1
Watching animals	13.7	2.7	2.8	0.7	5.0
Taking animals to field	4.8	0.7	6.3	3.5	3.8
Others	0.0	0.0	0.7	0.1	0.2

[1] More than one answer, so the sum of percentages is not 100.

of the husbands, 19.3% of the spouses, 17.3% of the young men and 16% of the young women, the decision is taken without consulting with other members of the family. Consulting husbands use to check with their spouses (27.3%). The spouses answered that the person who makes the decision to sell consults with themselves (38%) or another woman from the family (6%) and with the husband/father (10.7%) or another man from the family (15.3%). The young men assured that the decision is consulted with themselves (33.3%) or other brothers (9.3%), but also with the mother (16.7%) and the father (7.3%) or another man of the family (8%). The young women declared that the person who makes the decision consults with the mother (29.3%), with another woman of the family (4.7%), with the father (8%), with another man from the family (12.7%) or with their brothers (16.7%).

Decisions concerning cattle's sacrifice

According to the husbands the decision to sacrifice cattle corresponded to themselves or other men of the family (50%) or to the spouses or other women from the family (50%). A 57.3% of the spouses said that the husbands or other men from the family takes that kind of decision, while a 38% assured that the decision was taken by themselves or other adult women from the family. For young men (42.7%) and women (70%) it is a decision of the father or other men of the family. According to 58.7% of the husbands, 39.3% of the spouses, 57.3% of the young men and 28.7% of the young women, the decision is taken without consulting with other members of the family. Consulting husbands use to check with the spouses or other women from the family (16%), with other men of the family (15%) or with their sons (5.3%). A 32% of the spouses said that the person who makes the decision consults with themselves or another woman of the family, whereas a 17.3% assure that the person that makes the decision consults it with her husband or another man of the family. The interviewed young men attributed a less important consultancy role to adult women (6.7%), while a 35.3% of young women agreed that the consulted people are mothers/spouses or another woman of the family.

Detection of cattle's heat and decision on breeding services

About half of the husbands (52%), spouses (57.3%), young men (48.6%) and young women (42.6%) declared that adult women of the family discover first the animals' heat. Contrarily, 32.6% of the husbands, 32.3% of the spouses, 29.3% of the young men and 28.7% of the young women assured

that husbands/fathers or other men from the family were who detected if the animals were on heat. According to the husbands (95.2%) and adult/young women (80%), the decision of where to take animals for breeding services is made by the husband/father or other men from the family. However, 16.7% of young men assured to be themselves or their brothers the ones who decide. Only two husbands and 10.6% of the spouses said that adult women were in charge of this decision. When the interviewed people were asked who gets the cow to be mated or inseminated, 60.6% responded that is the husband/father and 47.7% that is another man from the family.

Marketing milk and milk by-products

Only 12% of husbands and 7.3% of young men confirmed that milk and/or milk by-products produced within the household were sold. However, a considerable proportion of spouses (26.6%) and young women (26.6%) responded also affirmatively. The 109 interviewed people who gave a positive answer were asked who sells these products, the spouses, young men and young women (47.5%, 54.5% and 60% respectively) indicated that were the spouses/mothers. However, a 50% of the husbands claimed to be themselves who commercialize it. Although the young men and women also were mentioned in the accomplishment of this task (8.3% and 3.7% respectively), it does not seem that it is their main responsibility. According to the interviewed some other people can be also involved in milk and its by-products, such as grandparents, uncles or intermediaries who come to buy milk to house directly.

Meeting with the local veterinarian

Most of the husbands (91.3%) and young men (74.7%) had met the local veterinarian. On the contrary, only 45.3% of the spouses had met the local veterinarian, but 17.3% of them never had spoken with him. A 70.7% of the young women never met the veterinarian, a 20.7% meet him but never spoke with him and only an 8.7% said to have met and spoken with him. When they were asked which were the benefits of their meeting with the veterinarian, most of the interviewed people responded that they got information on the best medical cares for cattle (53%), feeding and nutrition (26.9%), cattle diseases (17.4%), artificial insemination and its benefits (15.4%), preventive care (14.6%) and general information (12.6%). In general, the young women interviewed provided the smaller variation in the benefits of their meetings with the veterinarian, which is logical since they are those that have less access to the veterinarian.

General discussion

There is a tendency to oversized families in the rural communities of Upper Egypt, which can be explained by different socio-cultural and economical factors. Young people use to get married early but in most cases do not leave their parents' home, which is often shared by more than two and even three generations. The relatively little access to land could be the main economical reason why young married people can not get established with their own family in a new household. The information obtained when classifying families according to their economical status concords with the national average but is lower than the Upper Egypt average, which could indicate an improvement of the situation. An improvement can be also appreciated in terns of education when compared with national statistics, since a little proportion of young people illiterate, with little gender differentiation compared to adults.

Adult women play the most important role in cattle husbandry, although most of them declare that it is an adult's men responsibility. A deeper study shows that adult women dedicate more time to cattle related activities, since two thirds of the interviewed husbands and spouses affirm that adult women dedicate more time to cattle than men. Half of the young people agree with this statement, but a quarter of them declare to be the ones who dedicate more time to cattle, however a high proportion

does this work occasionally, indicating that young people help but are not responsible. Men carry out the hardest tasks requiring movement out of the household: bringing forage/soil from the field, buying animal's feed in the market, etc. Women cattle related tasks are lighter but are part of their daily routine, such as providing food and water to cattle, cleaning the stable, milking, manufacturing cheese and butter, etc.

Concerning cattle sale/sacrifice, although is the husband/father of the family who decides, women play an important role and use to be consulted before a decision is taken. Only young women seem not to have any influence in the process of decision making. It is interesting to observe that the role of women is more important when the decision entails cattle sacrifice, probably due to the fact that when animals are sacrificed it is mainly for being consumed in the own household or during special occasions, such as like weddings and celebrations, bringing the decision to the female domestic influence (Ayrout, 2005).

Men and women are both capable to detect signs of heat on cattle. The fact that older women in the family (spouses, mothers, grandmothers, mothers-in-law or others) are the firsts to detect the cow's heat also proves that they are the members of the family dedicating more time to cattle husbandry. Therefore adult women are more aware than anybody else in the family to detect any irregular animals sign. Nevertheless, men again are the members of the family who decide where to go and who take the cow for breeding services.

Generally speaking, everybody agrees that milk produced in the household is not sold, however there are a considerable proportion of women declaring to sell it, which most probably indicates that some women sell milk, cheese and/or butter occasionally to get some cash income but men are not aware of it. In most cases milk not suckled by calves is consumed by children and elders or it is processed into milk by-products, which are usually exchanged with neighbours by other food products. Selling milk is a socially reproachable act and represent a kind of shame for the family, because indicates that the family poverty degree is so that they even have to sell their animals' milk.

Women reduced access to information, particularly young women, become obvious when observing the significant low proportion of interviewed women that have meet and spoken with the local veterinarian and therefore, which has received direct information from him concerning cattle issues. Since men are generally those who receive this information, it is logical that they are the ones who take most of the cattle related decisions. Women's little access to information, as a consequence of their limited interaction outside the family unit, and the economical implications of many cattle related decisions, avoid then from participating more often in the decision processes.

Therefore, all intervention strategies willing to preserve and manage animal genetic resources at community-based level should take into consideration all these particular circumstances. Even if adult men, as the main family decision makers, are essential partners in these kind of interventions, it can not be forgotten the important role that adult women play in Upper Egypt's traditional cattle systems. There is a need to empower women by increasing their access to information and improving their capabilities.

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