

Corn production, risks and their respective uses "Case study communities: La Capilla, Despensas and Palmarcito"

Produccion del maiz, riesgos y sus respectivos usos "Caso de estudio comunidades: La Capilla, Despensas y Palmarcito"

CABRITA-CRUZ, Edwin†*, CALDERÓN-COLLAZOS, Cristian and SEMO-MORENO, Jorge Alberto

Universidad Mayor Real y Pontificia de San Francisco Xavier de Chuquisaca, Bolivia

ID 1st Author: *Edwin, Cabrita-Cruz*

ID 1st Coauthor: *Cristian, Calderón-Collazos*

ID 2nd Coauthor: *Jorge Alberto, Semo-Moreno*

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Abstract

Peasants of Palmarcito communities and pantries have strategies that allow them to cope productive climate risks agro ecologies own header area chaco Chuquisaca, enabling them to respond in some way to the ongoing climate change experienced by the planet. Production strategies are built based on a system of access to the resource (land). Access to this resource is possible within the community, which has its own regulatory framework in this area that ensures the right conditions to develop these strategies, a large percentage of community members and a significant proportion have their land individually titillation. The villagers cultivate corn whole which is aimed at raising pigs, being his main source of income and main source of wealth generation in families. Corn along the whole production cycle is at risk, in the present study identified three stages in the life cycle of corn, in each stage the risk is manifested differently, which greatly impairs to producers of corn and finally the corn to be aimed at raising pigs also carries risks both in price in sowing and in the process of raising the pigs, they can be affected by certain diseases, as well as by lack of food at certain times of year. Some production strategies applied by community may be correct, which would need to be stimulated by policies of different agencies, which should not only aim at strengthening markets.

Resumen

Los campesinos de las comunidades y despensas de Palmarcito cuentan con estrategias que les permiten hacer frente a los riesgos climáticos productivos de las agroecologías propias de la cabecera del área chaco Chuquisaca, permitiéndoles responder de alguna manera al cambio climático que vive el planeta. Las estrategias de producción se construyen sobre la base de un sistema de acceso al recurso (tierra). El acceso a este recurso es posible dentro de la comunidad, que cuenta con un marco normativo propio en esta área que asegura las condiciones adecuadas para desarrollar estas estrategias, un gran porcentaje de comuneros y una proporción significativa tienen sus tierras titilladas individualmente. Los lugareños cultivan maíz integral que tiene como finalidad la crianza de cerdos, siendo su principal fuente de ingresos y principal fuente de generación de riqueza en las familias. El maíz a lo largo de todo el ciclo productivo se encuentra en riesgo, en el presente estudio se identificaron tres etapas en el ciclo de vida del maíz, en cada etapa el riesgo se manifiesta de manera diferente, lo que perjudica en gran medida a los productores de maíz y finalmente al maíz por ser destinado a la crianza de cerdos. También conlleva riesgos tanto en el precio en la siembra como en el proceso de crianza de los cerdos, pueden verse afectados por determinadas enfermedades, así como por la falta de alimento en determinadas épocas del año. Algunas estrategias de producción aplicadas por la comunidad pueden ser correctas, lo que debería ser estimulado por políticas de diferentes agencias, que no solo deben apuntar al fortalecimiento de los mercados.

Peasants, Markets, Corn

Campesinos, Mercados, Maíz

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* Correspondence to Author (Email: ed_mat@hotmail.com)

† Researcher contributing as first author.

Introduction

This document is a proposal for the application of different theories that allow us to accurately understand the reality of the communities under study, which in turn is aimed at knowing and investigating the different relationships that exist between producers and the destination of corn.

Palmarcito and Despensas are communities in the municipality of Monteagudo, Department of Chuquisaca, these communities have a high productive potential of corn, this being the main economic activity that has the greatest impact on family income.

The research work will begin by analyzing the participation of the peasant in the area, as a supplier and demander in the market, as a result of the need to obtain income to satisfy their most urgent needs, buying goods and services, through their own strategy of family reproduction, accumulation of wealth and the strategies that farmers use to face the risks that affect corn production.

Corn presents a problem as complex as any other product that makes up the dietary pattern of the communities under study, not only because of its predominance in the diet, but also because of production problems, the way the market is organized and the predominance of self-consumption.

The problem of corn is understood as the result of the progressive loss of productive capacity and the consequent impoverishment of grain producers when they are not favored by the prices of either corn or, in this case, the pigs that they raise.

In later chapters, the different theories and approaches that explain how the peasant economy works will be analyzed, based on different conceptions of authors who historically dealt with the subject.

Background

Corn: "this cereal is originally from America. The European conquerors of the 16th century found vast crops of this grass in the three Americas, the main agents of diffusion throughout the rest of the world were the Spanish and Portuguese colonizers [...].

Nowhere on this continent has maize been found in the wild, today it is grown all over the world and adapts to any agricultural land" (González M. 2006: 27).

In our country, different varieties of corn are cultivated in the highlands, valleys and tropical plains, within which there are varieties of hard and soft corn, each one is destined for different uses, the soft is consumed in (corn) and the varieties hard, it is generally used to make flour and balanced food for animals. Before the arrival of the Spanish, corn was already one of the main crops of the inhabitants of what is now our country, in 1521 the Spaniards contacted the Guarani, then they found corn everywhere.

In San Juan del Piraí, most of the settlers use corn to raise pigs or pigs (their domesticus) and cattle or cattle (bos taurus). In pig breeding, the Hernando Siles province stands out at the departmental level "the city of Monteagudo, capital of the Hernando Siles province, was chosen in 1975 as the headquarters of the project called Fomento a la Lanadería Pcina (FGP), sponsored by the IDB, this city It is located 60 km. of the study area [...]. When the first two phases of the unique project of this type in the country were completed, the Inter-American Development Bank (IDB) decided to extend the program to the departments of Santa Cruz and Tarija with the name of the National Porcine Program, which would be for breeding and pig production also promoted the diversification of crops both for animal feed (corn, soybeans) and others that also generate income for pig farmers (chili, peanut, citrus)". (González M. 2006: 57)

Other community members raise cattle, Creole cattle are the most widely raised in this area, although there is already a great mix with other breeds within the different cattle herds, corn is used to improve the feeding of the cattle, the Creole cattle have great qualities just by improving its diet and handling, it easily becomes an excellent producer of meat and milk, and adapts to different climatic conditions from the burning and dry chaco where the grass gives way to the thorny scrub, up to 4000 meters above sea level.

This area has provided livestock to the market for many years, but the corn was commercialized in the market only since the 90s, that does not mean that it was not produced before, what happens is that there was no road to get the production of corn, which is why it was only used to raise cattle and for barter.

Although bartering was not very important, it was only carried out by some community members, who had means of transport, for this they required horses and mules, bartering was limited to a few people who did it not only in order to exchange products but also in order to obtain monetary income by selling cañazo drink, this was highly required and expected every year by the living of the Azurduy municipality, that is to say, deep down the issue was more for commercial purposes and those who did not dedicate themselves to this had to wait for a traveler to arrive from Azurduy to be able to get products brought from these places and to be able to sell their products that they produced as locals.

Currently these forms of coexistence and exchange are no longer carried out, they disappeared completely with the constant improvement of the roads to the different communities, it is no longer necessary to walk because all these products arrive from other parts in trucks.

Currently the Canton San Juan del Pirai still does not have a road in good condition, it does not have electricity, there are no projects to support corn production, or livestock, although there were attempts to help by some institutions, without actually having concrete results. Despite this, there is a great advance in the modernization of production and cattle raising, where some community members already have small huts, with gasoline mills and use balanced food to raise pigs, the same happens with the larger livestock, many community members They begin to improve their cattle for meat, not so much for milk due to the difficulties in this sector to dedicate themselves to dairy. Most of the community members still do not have grasslands, they are just in the process of planting grass.

Materials and methods

Location of the study communities:



Figure 1 Chuquisaca - Monteagudo political map

Historical-Logical

To start with this investigation and proceed with its structure, data from the last 15 years will be used, resulting in real information that allows a logical knowledge of the facts.

Analytical Method - Synthetic

These methods will allow us to make a complete analysis of each of the parts of the research topic, allowing us to identify the different components involved.

Once the data has been obtained, a complete analysis will be made of each of the parts and variables that the investigation will take, this will allow to identify the different actors and components involved.

Inductive-Deductive

In this research, analysis of particular data will be taken into account to reach general conclusions and vice versa. Resulting in more complex analyzes that allow us to make a correct interpretation of the information. Design of Techniques and Instruments for Information Collection in field work. Participant Observation.

In this case, to begin with, we will ask ourselves the following questions: What to observe? Where? How? This observation is not formally assumed as an important technique for the research work, but it is necessary to take a first step before using the other techniques that are more specific, for the collection of information, we will proceed by participating in the different activities of the community, that is, doing what they do, in this way to be able to write down everything they say and do, in a field notebook, the information obtained will be used, in order to complement the interviews and the survey.

Interview

Informal Interview

This technique will be applied to anyone, anywhere, to people who belong to the communities under study. For said interview, the interview will begin by talking about any topic and throughout the conversation, deviating the talk towards the topic to be studied to obtain a wide information on the subject in question with open questions generally referring to the production and use of corn, there will also be questions about customs, experiences, etc.

Key informants

In this case, key informants will be any person who is willing to give information that is not necessarily those who held or occupy positions, if not, they are people who know about the subject in question, they must have the verbal ability necessary to transmit information, have a great capacity for expression and are willing to talk to the researcher.

Poll

This instrument, because it is a standardized procedure to collect information (oral or written), will be applied by means of a questionnaire to the community members, where each subject surveyed will give different answers that may or may not reflect the reality of our subject to be investigated so that it can be collected information in a structured way, the answers will be grouped and quantified to be examined later using statistical techniques, where the reliability will depend on the sampling error, the questionnaire design and especially the field work.

Statistical method

Presentation of quantitative information

Considering the size of the sample of the interviewed and surveyed population, the data will be presented in a summarized way, elaborating tables and graphs that allow us to show the representative characteristics of the subject to be studied.

Descriptive analysis of the data

Once the tables and graphs have been constructed, they will allow us to make a first general review of some of the most outstanding aspects of the investigation, but here we also need to make a description of the data, through the different descriptive measures.

Results and discussion

Maize cultivation in Bolivia

Corn (Scientific name *Zea mays*, Gramineae Family, genus, *zeaes*) a very remote crop of about 7,000 years old and was cultivated throughout the areas of Mexico and Central America. Today its cultivation is very diffuse throughout the rest of the countries and especially throughout Europe where it occupies an extremely high position. The United States of North America is another of the countries that stands out for its high concentration in the cultivation of corn. Its origin is not very clear, but it is considered to belong to a crop from the area of Mexico, since its oldest finds were found there, although studies carried out by Ibarra Grasso also say that corn has its origin in eastern Bolivian part of Brazil and Paraguay.

Each variety of corn has its own peculiarity, before sowing those seeds resistant to diseases and pests are selected. It is sown at a depth of 5cm. Sowing can be carried out in the chacos with a hoe, also with blows with the ratchet, or in furrows. In chacos the separation of the lines of 0.8 to 1 m between one line and another and the separation between the blows is between 60 to 80 cm. Seed quantity: 30 to 35 kg per hectare. Furrow system 50 cm between one line and another, two seeds every 50 cm or one seed every 25 cm. Below are some results of the surveys carried out in the communities of palmarcito and pantries.

In this case, the surveys were carried out on people who make up a family, among which 10% are between 18-28 years old, very young, many of these are newlyweds, although the majority live as common-law partners, a high percentage of these, they still do not have their own land, they all live on their parents 'or in-laws' land, on the other hand they are the ones who mostly migrate to other regions of the country in search of better living conditions, so many of these families They are of working age and can adapt anywhere, and they have the ability to do any job.

These families would also be fine staying in their place of origin since this area is very productive, but they do not have many opportunities to accumulate wealth, they find better living conditions, either in Santa Cruz, as well as in the sister Republic of Argentina.

All these migrants leave their communities with the illusion of finding better living conditions in the short term, most of them always do well, so many go from simple farmers to become transporters, urban workers in different trades, bricklayers, etc.

One of the characteristics of young migrants is that they always stay to live in the places where they go to work, they only return to their place of origin during holidays or at the end of the year, with the purpose of staying a few days or a few weeks. to be with your family and friends.

People who are between 29-39 years old are the ones who have the greatest stability, very few are those who leave the communities if they do it is because all their relatives are in other places and they feel alone, and with The purpose of re-meeting with their relatives leaves their places of origin, but they are no longer in a position to adapt to any place so they are the ones who suffer the most, for different reasons.

People over 40 years of age are the ones who really remain in the communities and are the ones who have a well-formed family, have economic stability, manage to accumulate wealth, generally their wealth is based on the amount of cattle, cattle and pigs they have and they sell every year.

Age of respondents

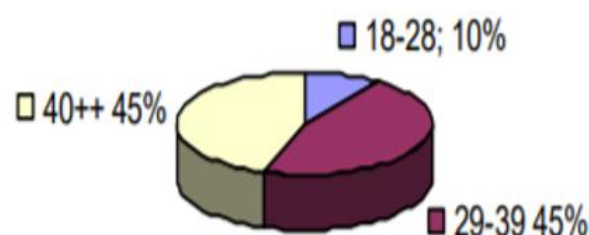


Figure 2 Education level

In addition, the families that manage to accumulate wealth are those that have their houses in better condition, they have some machinery such as chainsaws, corn mills, etc.

The enormous disadvantage that the peasants in the area have is that 90% of those living there cannot finish primary school, 10% manage to take a secondary level course, this is a huge shortcoming because knowing how to count is very necessary. Because the main product of commercialization, which is the pig, is sold in Kgs. At prices that are generally not exact, that is, they have decimals, and using a calculator is of vital importance, in addition to being the sale of pig the only source of income is the main means that gives rise to the accumulation of wealth, in the producer families, it should be remembered that there is a total formal subsumption of the main wealth-generating merchandise, to the intermediate sector that generally do not belong to the communities, these They are the most benefited, because they have great bargaining power against the peasant producers, it is this sector that accumulates the greatest wealth with the work of the people, who It does not have any decision-making power, at the time of selling its product, it only comes to have some power when there is a shortage of pigs, it is then when producers can set a price but not with total independence, but always formally subordinate to the capitalist sector that has monetary capital to buy pigs.

The value paid by intermediaries is the value that, as Marx says, self-valorizes, serves to generate greater wealth and give way to capitalist accumulation, "Just as simple reproduction continually reproduces the capitalist relationship itself, capitalists on the one hand, wage earners on the one hand, the other, reproduction on an enlarged scale, that is, accumulation, reproduces the capitalist relationship on an enlarged scale, plus the largest capitalists or capitalists at this pole, more wage earners at that pole" (Marx, 1967: 761)

A certain accumulation of capital in the hands of individual commodity producers thus constitutes the assumption of the specifically capitalist mode of production.

Therefore, with the accumulation of capital, the number of capitalists grows to a greater or lesser extent. Two points characterize this type of concentration, which is based directly on accumulation or, rather, is identical to it. First, the degree of increase in social wealth limits, under otherwise equal conditions, the increasing concentration of the social means of production in the hands of individual capitalists. Second: the part of social capital located in each particular sphere of production is divided among numerous capitalists who oppose each other as independent producers of commodities and compete with each other ... The concentration of capital, or the process of its attraction, becomes more intense in the proportion that, with accumulation, the specifically capitalist mode of production develops. (Marx, 1967: 775-778).

"The first condition of accumulation is that the capitalist has managed to sell his merchandise and convert most of the money thus obtained into capital. In what follows, we always assume that capital goes through its circulation process in a normal way" (Marx, 1967: 778). "The privileged method and instrument in this accumulation process is the development of labor productivity. To raise the accumulation rate it is necessary to increase the productive force of social work" (Echeverría, 2011; 664).

The exchange process is carried out, then, through the following change of form: commodity-money-commodity M - D - M, as regards its material content, the movement M - M is an exchange of merchandise for commodity, metabolism of social work, as a result of which the process itself is extinguished. Two opposing phases are distinguished. In the first of these, D - M, buy, money is transformed into merchandise. In the second phase, M - D, sale, the merchandise is converted into money. (Marx 1967: 178-182).

We have seen how money is transformed into capital; how by means of capital more value is produced and more capital is obtained from the extra value. However, the accumulation of capital presupposes surplus value, surplus value capitalist production, and this the pre-existence of relatively large masses of capital in the hands of commodity producers. The whole process, then, seems to suppose SIGNIFICANT MARXISM /% 5bBIBLIOTECAMARXISTA% 5d / MarxEngels / capital1 / 24.htm - fn1 # fn1 an "original" accumulation prior to capitalist accumulation (Marx, 1967: 129).

"In this sense, the formation of economic surpluses is directly related to the insertion of the agricultural producer in the market economy, that is, in a Mercantile Economy, which appears after the feudal mode of production" (Orlandini et al., 1999: 25).

100% of the families cultivate corn, which almost entirely is used for raising pigs, the economic structure of these communities is basically characterized by the use of the land for agricultural production (corn, peanuts, chili peppers, potatoes, citrus), cattle and swine in full development. Agriculture and livestock vary in intensity and technological level according to the geographical position in which the properties of the peasants are located and those that are close to the road link to consumer markets.

91% of the families consume corn daily and 9% do it every two or three days, each family uses corn in a different way and according to the time in which they want to analyze, corn is generally used for mote, chicha, peeled and mainly in the corn season in tamales or humintas, the average daily consumption per family is 0.95 kgs.

Education level

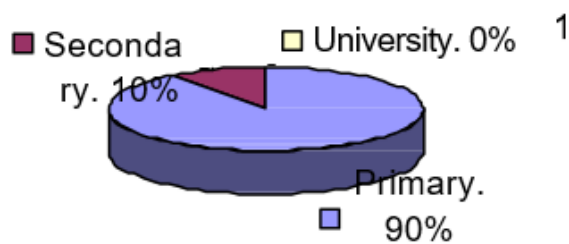


Figure 3 Land tenure individual title

In general, the use of soils in the surroundings of concentrated communities or family dwellings is intense, there is grazing and compaction of soils, degradation of the forest due to the felling of timber trees.

The community lands comprise forest and grazing areas because both make up the silvopastoral system that feeds livestock.

The average of communal soils with individual titration is 41.04 hectares per family, here the communal areas are not included because it is not possible to know what surface corresponds to each family, it is calculated that more than half of the surface of both communities belong to a communal area which is delimited according to customs and understandings between the owners of the properties for their use in agricultural activity and for livestock, there are no limits regarding their use since each family can graze their livestock at the same time. along the surface.

Pasture lands and mountains are common, this is one of the reasons why the raising of livestock (cattle, pigs, etc.) is extensive.

The small agricultural units cover only the cultivated parcels of the family plot and their production will manage to place the family at a level within the social structure of the community compared to the medium and large agricultural units, belonging to landowners who have a greater surface area of land. grasslands and mountains, which gives economic power to their owners and a privileged status within their social structure.

The origin of the property owned by the settlers comes from the assignment that was made in 1952 with the Agrarian Reform Law, in some cases they come from the inheritance of ancestors, in very few cases the property comes from acquisition, usually they only enter for purchases those that come from other communities.

Currently, the vegetative growth of families is determining a lower allocation of land via endowment to new families that are formed from marriages between community members.

The agricultural calendar is determined by the climatic regime, with two vital limitations that condition crop production and productivity. The frosts that occur in the months of May, June, July, August and the lack of rain in the months of September to December. These random triggers determine a seasonal agricultural regime and prevent more crops from being obtained in the same agricultural season.

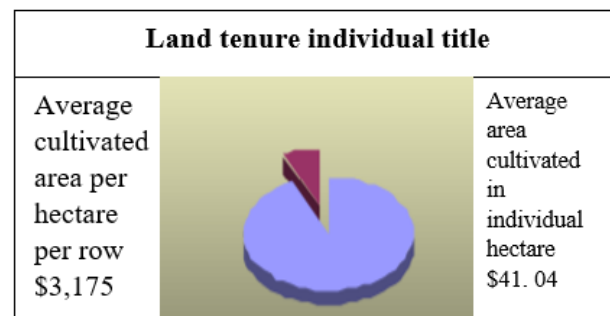


Figure 4 Places where people get corn seeds

People get the seeds in different ways, 35% of those surveyed buy certified seed from the city of Monteagudo, 15% select the seed of their own property, they only make some changes of place to plant their production from the chaco they select To sow it in pampas or fallows, they transfer it from the pampas to the chacos, they state that this strategy is adequate because the production is almost equal to that of certified seed, while 35% of producers buy seed from their neighbors who live on the other side of the river also turns out to be a good strategy to exchange seed from one side of the river to the other and finally 15% of the community members carry out the three previous strategies, that is, they use a little of each modality.

Under these conditions, the average production of corn is 70.65 qq. Per hectare taking.

Chacos and pampas are taken into account, which means that there are lands that produce between 50 qq and others that produce between 90 and 100 qq.



Figure 5 Maize crop yield in qq per hectare

In the case of the sale of corn, the following income per hectare of cultivated land can be obtained, assuming that the corn is sold in the city of Monteagudo, at market prices, the price behavior is very turbulent so there are times when those that the income shown in the following table, can significantly decrease or double.

Traditional cultivation in chacos avicados 5 km. Off the road valued in Bs.											
Prod net	Production costs / ha						Performance				
	Seed	Land preparation	Sowing	Cultural work	Harvest	Transport	Total	Yield avg.	C / u	Average yield qq / ha in Bs.	Total profit
Hard corn	60	400	150	300	650	1100	60	70,65	50	3532,5	872,5

Traditional cultivation in uncultivated pampas on the side of the road valued in Bs.											
Prod net	Production costs / ha						Performance				
	Seed	Land preparation	Sowing	Cultural work	Harvest	Transport	Total	Yield avg.	C / u	Average yield qq / ha in Bs.	Total profit
Corn	60	350	250	500	450	800	10	70,65	50	3532,5	1122,5

Table 1 traditional cultivation in chaos avocados 5 km. from the road valued in Bs

The level of income from the sale of corn is relatively low, so people prefer to raise pigs, which according to the testimonies of the community members themselves would be more profitable.

Discussion

The risks in the production of corn are present from the moment the producer puts the seed in the ground, between the months of October, November and December are the sowing seasons, one of the most unfavorable climatic factors at this time is the drought, the producers hope that there will be a rain to sow it, it happens that after that rain it often stops raining, in these cases the community members are not experts to predict the weather, they think it will continue to rain.

They sow the corn is born but, but a drought kills all newly born corn, especially in sandy soils and many times it is not even born due to drought, when the soil is very dry, a small worm appears that begins to eat the corn from root to stem, many times the farmers have They have to re-sow the corn again, which causes them a very great economic damage both in seeds and in labor, these are some factors that affect planting times to.

In times of growth and filling of the corn, among the most damaging climatic risks are drought, wind, and storm, on the other hand, there is the factor of labor management in times of weeding, this is one of the most important stages in the ones that should be more careful with maize from all dangers.... "The interest of analyzing the growth course of a crop through the variation of its weight and the partition of dry matter between its different organs, along the same , is that, while the first describes the behavior of the production process considered as a whole, the second allows to inquire about the strategy put into play to determine the number of reproductive structures and the effective filling of the harvest organs "(Andrade et al., 1996 in Maturano: 2002: 9)... "The growth rates are a good measure to compare the effect of environmental and nutritional factors on the growth of the corn crop" (Radford, 1967; Hunt, 198 2 in Maturano: 2002: 9).

As it is one of the most important stages in the maize production cycle, it is necessary to analyze some factors that make maize grow faster, among these the most important is the level of nutrients in the soil, in chacos. or fallow, the infiltration capacity of the water in the land and finally the manpower in terms of weeding and others ... "All the methods require knowing which is the water availability capacity of the soil, which combines the knowledge of the lower and upper limits for each horizon and the deepening and exploration of the roots in the profile, which makes it necessary to define criteria of thresholds of consumption of the available water for each type of soil and for each particular crop "(Phene et al., 1990 in Maturano: 2002: 12)... Temperature has a great influence on all rates of biological processes and affects all aspects related to growth and development. Development is defined as an orderly progress towards defined states from germination to death (Maturano: 2002: 65).

In the stage of filling the grain is where the rain is essential, it depends on this that an ear is completely or half full, when the ear manages to fill the corn well, it is of great quality, and has a high yield, a high level of productivity, As this stage is very important for the production process, it is necessary to analyze more in depth, too much rain can affect the corn, according to the community members that in weak soils corn is affected by a disease called Khasawi, which could be a virus, which It affects from the roots it reaches the leaves and finally does not allow the grain to fill completely, this disease could manifest itself in two ways, one is that the leaves begin to become more yellow and the other that the leaves turn black, the latter is the one that more affects in full bloom season.

In the first weeks after female flowering, the fertilized grain accumulates little weight, since it is in an active phase of cell division; This stage is called the "lag" phase. Unfavorable conditions at this stage decrease the potential grain size (Jones et al., 1985). The potential force of the destinations for the transfer of assimilates to the grain is determined at this time (Reddy and Daynard, 1983) (Maturano: 2002: 90).

The ear stage is when the ear begins to form ... After this period, the actual grain filling stage begins; the filling rate at this stage is relatively constant, unless there is a deficit of assimilates stored to translocate during grain filling (Ritchie et al., 1991 Maturano: 2002: 92). This stage is characterized by the duration and rate of the growth of the grain, which little by little begins to harden and passes that period, no longer has any danger of a climatological nature ... The duration of this stage depends on the final weight that the grain can achieve and on the greater or lesser speed in reaching that weight, depending on the temperature. The average weight of the grains is then the combined effect exerted by two concurrent factors: the duration of the effective filling period and the filling rate.... The growth rates of the grain are related to the duration of the lag period. The longer the duration of the "lag" stage, the higher the grain growth rates ... The presence of a water deficit in pre-flowering and during the early stages of grain development decreases the number of grains per year in the cultivation of corn (Hall et al., 1981).

The decrease in the number of grains may be due to an asynchrony in flowering, abnormal development of the embryo, and failure in development after pollination (Maturano: 2002: 102).

In this stage of corn is where the monkeys and different species of birds that eat large amounts of corn take advantage of eating, among the best known are the parrots that eat corn starting from the tip of the cob, this generates problems at harvest times. Many times the rains continue and the corn damaged by any animal rots in its entirety causing losses to the producer, in this last stage it can also be affected by lack of labor.

Activities	Months												
	Sep	Oct	Nov	Dec	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug	
Snap and burn													
Preparation of the ground and carp													
Swing													
Pest control and													
diseases,													
Wheeling													
Harvest													
Commercialization													

Table 2 Activities carried out for the planting of corn

Advance plantings are normally made with the cultivation of corn for consumption as corn, but these are punished by all kinds of animals, both from the field and dogs that do not allow to produce when sown in advance, the other annual crops, including corn for grain They begin their cultivation in the big sowing of the months of October and November.

In this way, it is confirmed that most of the crops start their land preparation coinciding with the first rains, although this may vary from one year to another.

In general, the main pests and diseases that affect different stages of corn production are the following: Worm, Stalk Worm, Fall Armyworm, Kasawi, Tarajchi, Quarter Worm, Parrot, Goldfinch, Bobcat, Monkey.

Conclusions

It can be pointed out that the corn producers allocate their production to raising pigs, which is sold to the rest of society the product of their activity at prices, in many cases equal to the value of their production, making use of marginal lands, the labor force and low-cost, low-productivity means of production.

The peasants have been playing the complex role of corn producers, which is destined almost in its entirety to the raising of pigs, with which the peasant sector obtains monetary income, which is destined to the purchase of products from the industrial sector.

If the situation is this then it is worth asking. Why do peasants continue to plant corn? Why not plant other products that can be more profitable? The importance that the peasants assign to the plot, however marginal it may be, is due to the fact that it provides them with a minimum of food security and various consumption opportunities, most of which are not marketable, which only produce utility under the conditions in which the peasants are reproduce, these products are cassava, potatoes, sweet potatoes, chili peppers, peanuts, beans, and a variety of vegetables. The corn produced in these communities is of high quality, which is why it is used to prepare various foods for human consumption, such as chicha, tamales, mote, peeled, etc. Moreover, apart from feeding pigs, chickens, ducks, sheep and dogs are also raised, the dry stubble is used to feed draft and pack animals.

In the traditional sowing of notched corn, elements that have no effective cost can also be detected, many producers use the seed from the previous harvest, while others make an effective expense buying certified seed either in its entirety or half of the seed that they will use in planting.

In this area there is no other agricultural product, such as dent corn, with its ability to adapt to the diversity of the environment and which has fewer risks from natural disasters.

Without corn, the communities under study and all those close to them are extremely vulnerable to external and internal shocks.

For both communities, the soil factor and climatic risks turned out to be the most limiting factors, affecting crop yield through all the stages involved in its formation, starting from the sowing, growing, filling stages. of grain and in harvest times.

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References

- ALBARRACIN Jorge (2002) "La teoría del riesgo y el manejo del concepto del riesgo en las sociedades agropecuarias andinas". CIDES-UMSA.
- Barril G., A. y Almada, F. 2007. "La Agricultura Familiar en los países del Cono Sur" /Asunción: IICA, 189 p.; 25 cm.
- Bartra Armando...et al; compilado por Andrés Martínez; revisiones de Lorenzo Soliz; Pamela Cartagena Memoria Seminario Internacional 2011, La Paz, 25-27 abril, Santa Cruz, 28 y 29 de abril de 2011 "Modelos de Desarrollo Rural y Economía Campesina Indígena" La Paz Centro de Investigación y Promoción del Campesinado, 2011. 342p;il;28x21 cm.
- Cortés, Fernando y Cuellar, Oscar (1986) "Lenin y Chayanov: Dos enfoques no contradictorios" Nueva Antropología. No. 31. 1986, pag. 62-103
- Claus Köbrich, Liliana Villanueva, Martine Dirven (2004) "Pobreza rural y agrícola entre los activos, las oportunidades y las políticas una mirada hacia Chile" Revista de la CEPAL No. 144.
- Crespo Valdivia Fernando (2000) "Incidencia de las reformas estructurales sobre la agricultura Boliviana" Revista de la CEPAL No. 144.
- Dirven Martine (2002) "Las prácticas de herencia de tierras agrícolas: ¿una razón más para el éxodo de la juventud?" Revista de la CEPAL No. 135.

DIRVEN Martine (2004). "El empleo rural no agrícola y la diversidad rural en América Latina". Revista de la CEPAL No. 83.

Echeverría Bolívar (2011) Crítica de la modernidad capitalista Impreso en Bolivia

Flores Magdalena de la Luz de Luna (2007) "CAMPEINADO: OBJETO DE ESTUDIO Y SUJETO DE POLITICA PÚBLICA" La evolución de las organizaciones campesinas en México

García Linera Álvaro (2009) "Forma Valor y Forma Comunidad" Aproximación teórica abstracta a los fundamentos civilizatorios que preceden al Ayllu Universal" CLACSO cuenta con el apoyo de la Agencia Sueca de Desarrollo Internacional (ASDI). Muela del Diablo Editores La Paz-Bolivia

Godelier Maurice (1974) "Antropología y economía" EDITORIAL ANAGRAMA BARCELONA Gonzáles Moscoso René (2006) "Nueva Geografía Económica de Bolivia". Sucre-Bolivia

Gonzalves Gonzalo (2007) Economía Campesina y Economía Comunitaria. Apuntes para analizar las experiencias en proyectos de desarrollo rural. Santa Cruz 26-27 de Febrero, 2007

Gómez G. Vilma (sin fecha) Economía campesina: balance y perspectivas

Instituto Nacional de estadística (INE). (2009) "Estadísticas e Indicadores Socioeconómicos del departamento de Chuquisaca"

JIMÉNEZ Elizabeth. (2007). "La Diversificación de los Ingresos Rurales en Bolivia". Iconos, Revista de Ciencias Sociales. No 29. Quito-Ecuador. Septiembre de 2007.

Karl Marx y Friedrich Engels (...) El Capital Tomo I Tomo II Tomo III

Krugman Paul R. Maurice Obstfeld. (2006) "Economía Internacional, Teoría y Política" Pearson educación, S.A., Madrid, 768 pag. 7a edición

Morales Miguel, coordinador (2011) "HABLEMOS DE TIERRAS, Minifundio, gestión territorial, bosques e impuesto agrario en Bolivia": Consultora SUR/ Reino de los Países Bajos/ Plural Editores. Sucre Bolivia.

Orellana Aillón Lorgio (2011) "Poder y acumulación de capital en el sector de hidrocarburos durante el gobierno del MAS (2006-2011)" ¿Quién comanda en el sector de hidrocarburos? Investigador del Instituto de Estudios Sociales y Económicos I.E.S.E. U.M.S.S.

Orlandini González Ingrid E. et al 1999 Campesinos intermediarios en la compra-venta de papa "estudio de caso en las comunidades de Sasanta y Yurubanba"

Pellens Tom (2006) "Composición del Ingreso Familiar y la Diversificación Agrícola" Una aproximación a seis zonas campesinas de Cochabamba y Norte de Potosí- Centro de Investigación y Promoción del Campesinado (CIPCA).

Plan de Desarrollo Municipal PDM, Monteagudo, 2007 – 2011

Ramírez De Haro Valdés Gonzalo (1997) "ESTRUCTURA ECONÓMICA ANDINA, RACIONALIDAD CAMPESINA Y ORGANIZACIONES DE COOPERACIÓN PARA EL "DESARROLLO" Análisis teórico y estudio del caso de Chinchero (Cusco, Perú), en el período 1980-1992. TESIS DOCTORAL Madrid.

Regalsky Pablo y Teresa Hosse (2009) "Estrategias Campesinas Andinas de Reducción de Riesgos Climáticos Estado del arte y avances de investigación en los Andes bolivianos" CENDA-CAFOD Cochabamba,

Sevilla Guzmán Eduardo (1990), "Redescubriendo a Chayanov: hacia un neopopulismo ecológico" Agricultura y Sociedad nº 55 (Abril-Junio) pag, 201-237

Soliz Lorenzo y Silvia Aguilar (comp.) (2005) "Producción y economía campesino-indígena" experiencias en seis ecorregiones de Bolivia 2001-2003 La Paz: CIPCA, 244 p.: ilus., tbls. – (Cuadernos de Investigación; 62).

Shanin Teodor (1988) "El mensaje de Chayanov: aclaraciones, faltas de comprensión y la <teoría del desarrollo> contemporánea" Publicado en inglés como introducción a la 2.^a edición de la obra de Chayanov: Teoría de la economía campesina (Wisconsin University Press, 1986). Agricultura y sociedad n° 48 (Julio-Septiembre 1988) Pag, 141-174.

Urioste Fernández de Córdova Miguel (Sin fecha) *for t a l e c e r* LAS COMUNIDADES Una utopía subversiva, democrática... y posible

Valencia Horacio & Diego Vera (2011) "Diversificación de ingresos en el Área Rural: Determinantes y Características" 4to encuentro de economistas sucre Bolivia

Zeballos Hurtado Hernán (2006), "Agricultura y Desarrollo Sostenible" SIRENARE, COSUDE, y Plural Editores primera edición.

ZOOMERS, Annelies, compiladora (1998). "Estrategias Campesinas en el Sur Andino de Bolivia: intervenciones y desarrollo rural en el norte de Chuquisaca y Potosí. Plural Editores. Sucre Bolivia.