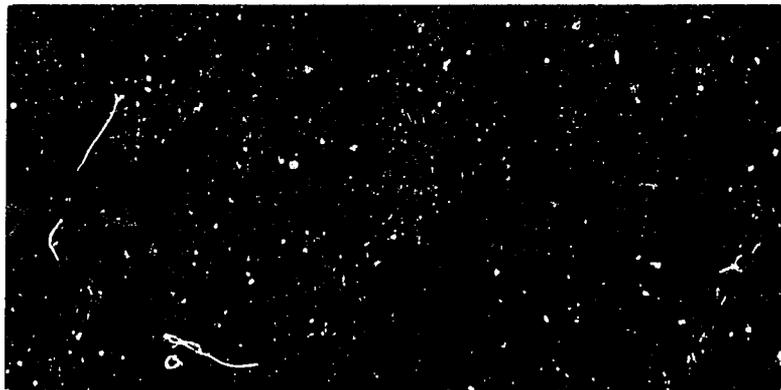


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FACTORS AFFECTING THE PROCESS OF CAPITAL
ACCUMULATION IN PERUVIAN SHEEP
PRODUCER COOPERATIVES:
A CASE STUDY OF CAP EL DIEZMO PALCAN

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PREFACE

This report summarizes some of the main results of the author's Master of Science thesis conducted in the Department of Agricultural Economics, University of Missouri-Columbia. The thesis, entitled "A Comparative Analyses of Capital Accumulation in Two Peruvian Sheep Associative Enterprises: Factors Enhancing and Restricting their Development" was submitted to the Graduate School at the University of Missouri in May 1983. During Ms. Valdivia's graduate study, she received support from the Department of Economics and Planning and the National Agrarian University in Lima, Peru; the Department of Rural Sociology at the University of Missouri-Columbia; and Winrock International Livestock Research and Training Center. The latter two institutions provided support through subgrants of the Small Ruminants Collaborative Research Support Program. Principal funding for this program is provided through U.S. Agency for International Development Grant No. AID/DSAN/XII/G-0049 in collaboration with the National Agrarian University as well as other collaborating institutions in Peru.

The research reported here is one of several studies examining the technical and economic structure of the institutions created following the 1969 Agrarian Reform in Peru. These large cooperative sector units produce most of the wool in Peru, control most of the sheep, and also produce significant quantities of alpaca fiber. Ms. Valdivia's Master of Science thesis was a comparative study examining the two major types of cooperative units established following the Agrarian Reform -- the Agrarian Production Cooperative (CAP) and the Agrarian Society of Social Interest (SAIS). In particular, the thesis contrasted four variables -- capital accumulation, income generation, participation, and identification -- between the two organization types. The study reported here focuses on these variables for the Agrarian Production Cooperative El Diezmo Palcan. We believe that these variables have an important impact upon the ability of these units to adopt research results being generated by the SR-CRSP in Peru.

The author gratefully acknowledges the contributions of her thesis advisers at Missouri -- Stephen Matthews and Jere Gilles, the Principal Investigators of the two Small Ruminant CRSP projects that provided research support (John De Boer at Winrock International and Mike Nolan at the University of Missouri), and the support of her husband, Domingo Martinez, who was also a student at Missouri at the same time.

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ABSTRACT -- The study focused on the ability of cooperative enterprises to accumulate capital and increase productivity per unit of labor. Four variables were relevant in explaining these processes of capital accumulation--sources and levels of members' income, productive base, members' participation in cooperative activities, and the process of identification of members with the cooperative. The main source of members' income was wages as opposed to members' flocks and agricultural production in the SAISs. The productive base was the most important factor supporting total income per cooperative member. CAP Palcan averaged 327 sheep units per family, twenty more than the minimum number determined for subsistence requirements for a family of five. The basic conflicts evident in distribution of cooperative profits resulted in more funds being invested in the production unit than was distributed as profits or social funds.

Index terms: Sheep, cooperatives, Peru, capital, investment, participation.

1. INTRODUCTION

The main result of the agrarian reform that took place in Peru beginning in 1969 was the change in the land tenure. The military government's alternative to the haciendas was the cooperative system. The Agrarian Society of Social Interest (SAIS) and the Agrarian Production Cooperative (CAP) became the main forms of entrepreneurial organization in terms of the amount of land received and the amount of production for the market.¹

An important research question concerns the ability of these cooperatives to accumulate capital resources and increase productivity per unit of labor. Therefore, the objective of this study was to determine the

¹ Matos Mar and Mejia (1980a:184) point out that these two production organizations received 59% of the land expropriated. Maletta (1980) estimated that they produce 50% of the sheep for the market.

factors that affect the process of capital accumulation and the development of cooperative forms of production. Based on a literature review, four variables were selected to explain this process: The sources and levels of income of the members, the productive base and the change in capital assets, the participation of members in their cooperative, and the process of identification² of the members with their cooperative.

This paper is based on a larger study (Valdivia, 1983) of two cooperative units, a CAP and a SAIS of the Central Highlands. Here, we present only the results obtained from the analysis of CAP El Diezmo Palcan, a sheep producer cooperative in the Department of Pasco, Peru. The data used is based on primary sources such as the accounting books and sheep production records. Secondary sources were used to compare production and productivity with other cooperatives. Four main hypotheses were established:

1. Only cooperatives with a minimum level of productive base per family are capable of both capital accumulation and member identification (Caballero, 1980).
2. There is a conflict between capital accumulation and four variables: wages, agrarian debt payments, profit distribution, and accumulation of social cooperative funds.
3. Member participation in the cooperative's management helps reduce potential levels of internal conflict noted in (2) above.
4. Identification can take place if the cooperative can ensure income levels that allow retention of the labor force.

² Identification (Caballero, 1980:84) is defined as a feeling of purpose as a group by the members of the cooperative. It contains a sense of commitment of the members towards their cooperative that shows up through the willingness of the members to maintain or develop this production form. Identification exists because each member relies on the enterprise as their source of income.

2. LITERATURE REVIEW AND SELECTION OF VARIABLES

Most studies about the Peruvian agrarian reform of 1969 agree that it took place because of the inability of the oligarchy to become the leading force of the country, and to provide alternatives for the development of the agricultural sector. This led to peasant unrest (Pease, 1977; Maletta and Foronda, 1980; Caballero, 1980) and pressures for reform.

As a result of this, there was a change in land tenure towards those emphasizing a cooperative system (Caballero, 1980; Garcia-Sayan, 1977). The reformed units are primarily in the Central and Southern Sierra, and sheep and American cameloids are their main activities. Guillet (1979: 171) states that the success of the production form (cooperative) depends on the development of the productive forces. In this sense, Caballero (1980:96-97) points out that in the cases of both SAIS and CAPs, the government imposed social relations of production that had no basis given historical production relationships. Inflation, unequal exchange between agricultural and industrial products, taxes, agrarian debt repayments, subsidies on imported products and wage controls made capital accumulation impossible in the Cooperative (Long and Roberts, 1970; Figueroa, 1980).

3. CONFLICTS

Cooperatives in this setting present a series of internal conflicts. According to Matos Mar and Mejia (1980a:80; 1980b:246), conflicts exist between capital and labor that arise when decisions are made in favor of capital accumulation or wage increase (Luxemburg, 1971). This means that members play a dual role within the cooperative: as workers their aim is to increase wage levels, while as managers they make decisions that favor investments in capital stock.

Another conflict that Guillet (1979:192-193) and Horton (1977:221) found in the cooperatives that they studied was the use of cooperative lands and pasture for private benefit. This interferes with the process of capital accumulation because less of their labor time is invested in the cooperative. In sheep producer cooperatives, this shows up in many ways, such as the use of the best pastures for their personal flocks (called huacchos) and investing more labor time in them. Caballero (1980:95) states that conflicts arose regarding the use of Cooperative resources and that siege on the lands of the cooperative is a result of conflicts between modern capitalist production (the cooperatives), the subsistence peasant economy (workers and poor peasants), and the capital accumulation of leading peasant sectors.

A review of the relevant literature indicated that the sources of members' income, the productive base and capital accumulation, participation, and identification are the variables considered of importance in the development of the cooperatives. This paper will indicate the importance of these variables in the analysis of capital accumulation and development of the cooperatives. Income generation shows the cooperative's ability to absorb labor. Monetary and nonmonetary income were analyzed to explain income generation and members' subsistence.

Wages and benefits distributed to the members were the monetary forms of income analyzed. The huaccho flock in cooperative lands was the only form of nonmonetary income considered. Other forms of nonmonetary income such as cheese and meat sold at subsidized prices to cooperative members were not considered. The importance of the different sources in the generation of income shows the levels of capitalist development, that in this case means the separation of the workers from their private means of production and the accomplishments of the social goals that define the cooperatives.

The process of capital reinvestment, new investments, and accumulation of different sources of savings were considered as components of capital accumulation. Analysis of the productive base was considered necessary

to determine the importance of natural pastures (grasslands), breeding herd, capital assets, and technological development in determining the capacity for creating and accumulating value. The base year for the analysis of the process of capital accumulation was 1969, the year when the land was transferred to the new cooperative.

Pasture improvements, breeding herd, machinery, equipment and buildings were considered capital assets in the analysis (Barkai, 1977:112). The depreciation fund, reinvestments, and new investments were added to determine the levels of capital accumulation. Relationships between capital accumulation and factors such as wages paid (Caballero, 1980: 96-97; Luxemburg, 1971), distributed surplus, and the agrarian debt payment (Martinez, 1980; Matos Mar and Mejia, 1980b) were established. These authors found conflicts or opposite trends between these factors and the process of capital accumulation.

The Agrarian Reform Law established the governments control of the cooperatives through decisionmaking, favoring the process of capital accumulation and productivity increases controlling the levels of member participation (Martinez, 1980:147; Guillet, 1979:184; Roberts and Samaniego, 1978:245). Definitions such as full, partial, and pseudo participation were considered to determine the forms and levels management and control that members of the cooperative have. Governments and members' real roles were the objectives of analyzing participation. Pateman's distinction of different types of participation is important to establish the members' and government role in decisionmaking.

Full participation (Pateman, 1974:66) takes place when all the individuals have equal power to determine the outcome of decisions and management of the cooperative. Pseudoparticipation takes place when managers convince the workers that decisions that have already been made were their own decisions. These are not made by the group but endorsed by it (Pateman, 1974:68-69). Partial participation happens when the workers suggest their decisions but the final decision is that of the manager. There is no relation of equals, but there is a capacity to make some

decisions and suggest others. Martinez (1977:52; 1980:142) shows that Peruvian cooperatives have inadequate levels of participation by pointing out problems such as low productivity of labor, and almost no members' access to the cooperative management. Guillet (1979:198) suggests that the cooperatives in Peru are not really self-managed enterprises, which is the common perception of how cooperatives operate. The manager makes most of the decisions, thus limiting the chances of participation, especially for the more important decisions.

Conflicts about wage increases and use of the cooperative land for private purposes are measures of participation used by Martinez (1977). Eckstein et al. (1978), Horton (1977:227), Guillet (1979), Roberts and Samaniego (1978:245), Martinez (1980:142-143), and Caballero (1980) agree when they point to the low levels of member participation and control of the cooperatives.

Identification was used as a measure of success of the cooperative's development. Both capital accumulation and fulfillment of social goals had to take place to define success. The following were considered as social goals: members' participation in cooperative management, improvement in living conditions, members and families permanent labor absorption, and cooperative consciousness development.

Identification, as already defined (page 1), is not a moral feeling but material relations that make the members recognize the cooperative as theirs. Members will be able to identify with the form of production and possibly be willing to participate if the enterprise can generate income for the members, provide permanent employment for them and for their children in the future. Martinez (1977:61-62) found that a lack of consciousness of being the real owners of the enterprise, very small amount of profits distributed, wages at below subsistence levels, and conflicts with neighboring communities (especially in SAIS organizations) determine lack of identification.

Siege was measured by the percentage of huaccho animals in cooperative lands and the percent of cooperative pastures used by this flock. Identification was measured both by the existence of siege and the separation of the workers from their private huaccho flocks and the increasing importance of wages and profits as main sources of income.

4. CAP DIEZMO PALCAN

The CAP Diezmo Palcan is located in the Department of Pasco, Central Sierra of Peru, at 4,200 meters above sea level. The characteristics in terms of geography and natural resources determine the type of productive activities, which is predominantly sheep production.

The production cooperative was established in the marginal lands of the Hacienda el Diezmo, in 1969, with an area of 8,464 ha and a carrying capacity of 4,212 sheep units³ determined by the Subdirección de Reforma Agraria y Asentamiento Rural of the Agrarian Zone X.

With the formation of the Central de Cooperativas Pasco, the members of Palcan, first established as a SAIS, decided to change into an Agrarian Production Cooperative (CAP). Main objectives of the CAP were: increase the production and productivity levels, be source of employment and absorption of the available labor force, start a process of industrialization, and be the center of the development of a cooperative system.

³ Flores and Malpartida (1980) established that five sheep units equal one animal unit (a cow).

5. CAPITAL ACCUMULATION

The productive base, capital assets, surplus distribution, payments of the Agrarian Debt, and provision for social funds were considered in the analysis as factors that influence the process of capital accumulation.

- o The Productive Base. The pastures given to the members of the cooperative had a carrying capacity of 4,212 sheep units, determined through the evaluation of living conditions done by the Agrarian Reform Office (Subdirección de Reforma Agraria y Asentamiento Rural, 1969) which also established that 307 sheep units was the amount needed to support a family with five members. Based on this carrying capacity, table 1 shows the overstocking rate. Even though this amounts to be 2.7 times the grasslands' estimated carrying capacity, no obvious signs of overgrazing are present.

TABLE 1
CAP PALCAN: CHANGES IN THE PRODUCTIVE RESOURCES
1971-1979

Year	Total Animal Herd (Sheep Units)	Overstocking Index ^a	Animal Herd Increase Index	Labor Force Index	Breeding Herd Index
1971	5,294	126	100	100	100
1972	5,537	132	105	133	124
1973	7,118	169	134	150	191
1974	7,354	175	139	150	251
1975	7,489	178	141	167	166
1976	8,025	191	152	192	230
1977	8,803	209	166	175	262
1978	8,955	213	185	217	287
1979	10,422	247	196	200	261

^a Established on base of 4,212 sheep units as the pastures carrying capacity.

Source: Corinne Valdivia (1983: 87, 89, 97).

- o Animal Resource. The cooperative bases its income on the production of dual purpose sheep. Sheep population has increased 96% from 1971 to 1979. The breeding flock in 1979, is 2.6 times the population of 1971.

- o Labor. As a result of the increased production for the market through the CAP, the labor force use has doubled.
- o Capital Assets. With respect to the change of these resources there was an increase in equipment while the buildings, vehicles, and breeding flock generally decreased. Two things should also be considered. There was an increase (year not considered in the table) in the value of vehicles because of new acquisition in 1980; and the values used for the breeding flock were the nominal⁴ (book value) and not the market values. The cattle in hands of the CAP diminished its participation from 44% to 17% of the capital value while the sheep flock increased to 55%.
- o Technological Development. The Corriedale breed for sheep genetic improvement was introduced in 1972 and again in 1975. Recommended range management practices have been used since 1973 and artificial insemination techniques were first applied to sheep in 1976.

The introduction and development of these practices resulted in an increase of wool production and productivity. In 1971, yield was 1.8 kg of wool per sheep per year, but by 1979 yield was 3.2 kg. There was also an increase in production from 1,377 kg in 1971 to 1,436 kg in 1979 (Valdivia, 1983:95).

6. EVALUATION OF CAPITAL ASSETS

The net value of capital assets increased through 1974 (table 2). Starting in 1975, the value of the breeding herd begins to decline because of inflation and because of the procedure used in valuing the herd through nominal, not market values.

⁴ Nominal prices are determined by the government and used in the accounting books.

Considering both the net capital assets and the investment savings, which include gross savings and the capitalization funds, there has been a process of capital reproduction and accumulation. Table 3 shows that over a period of 10 years, starting in 1969, there has been an increase that amounts to 2.36 times the original capital assets of the unit.

Conflicts occur when decisions are made about how the surplus is to be distributed among the capitalization and different categories such as tax payments, agrarian debt payments, cooperative social funds for education and development, and distribution of profits among the cooperative members. Even though 80% of the debt was paid by the CAP, they were able to continue the process of capital accumulation. The members decided to capitalize most of the distributable profits (75%), so they only received shares from these profits in 1976. Up to 1980, no other distribution was carried out. The policy of reinvestment coincided with the military government policy in its second phase that was oriented towards the capitalization of the unit. The CAP capitalized amounts of surplus that were above levels established by the government.

TABLE 2
CAP PALCAN: CHANGES IN THE REAL VALUE OF THE PRODUCTIVE RESOURCES^a
1971-1979
(Base year 1971=100)

Year	Equipment	Buildings	Breeding Herd
1971	100	100	100
1972	101	91	98
1973	91	66	140
1974	120	80	172
1975	493	68	89
1976	351	47	89
1977	699	28	70
1978	405	16	61
1979	408	12	32

^a Constant sales of 1973.
Source: Valdivia (1983:99)

The various cooperative funds that must be covered with the surplus distribution can be classified among those used for social purposes such as the development of the cooperative system, education and health, and those used for capitalization such as reinvestment and reserve funds.

If a comparison is made between the capitalization and social funds, a ratio of 3 to 1 in favor of the first was found up to 1976. In 1978, the ratio was 7.5 and reached 21.6 in 1979 (Valdivia, 1983:111-112).

7. INCOME GENERATION

This variable measured the CAP's ability to absorb the available labor force. Three sources of income were considered as parts of the members' income: wages, distributed profits and the huaccho flock, which usually only the oldest members have.

TABLE 3
CAP PALCAN: CHANGES IN TOTAL CAPITAL
1969-1979
(Constant soles)^a

Year	Capital Assets Net Value	Gross Savings	Accumulated Capitalization Funds ^b	Total	Index (1969=100)
1969	711,940	-	-	711,940	100
1971	2,688,886	50,773	-	2,739,659	385
1972	2,495,465	57,982	179,747	2,733,194	384
1973	2,796,984	155,446	585,907	3,538,337	497
1974	3,080,853	188,943	701,790	3,822,206	537
1975	2,133,331	212,210	1,082,105	3,024,064	425
1976	1,854,661	343,301	975,489	3,148,976	442
1977	1,482,473	362,908	807,942	2,653,323	373
1978	1,051,207	297,918	549,947	1,899,072	267
1979	585,655	289,127	803,481	1,678,263	336

^a Year base 1973.

^b The cooperative funds for capitalization, the capitalizable surplus and 75% of the distributable profits constitute the capitalization funds.

Source: Valdivia (1983).

- o Wages. Both member and nonmember permanent workers⁵ rely on wages as their main or sole source of income. These were always above the minimum established by the government, though there was a constant loss in their purchasing power as shown in table 4. The CAP was able to use all the labor force available at the time of its establishment, and by 1975 the needs were higher than the labor force available.
- o Profit Distribution. This only occurred in 1976. The policy of both CAP management and their members was to capitalize and reinvest most of the distributable profits, favoring the process of capital accumulation.

TABLE 4
CAP PALCAN: CHANGES OF THE INDICES OF
CAPITALIZATION, INDIVIDUAL WAGES, AND TOTAL WAGES
1972-1979
(Year Base: 1972=100)

Year	Capital Accumulation Funds	Individual Wages	Total Wages Paid
1972	100	100	100
1973	326	183	261
1974	390	156	293
1975	602	126	259
1976	543	178	344
1977	449	149	299
1978	306	108	241
1979	447	78	215

Source: Valdivia (1983, 108-110).

- o Huaccho Flock. The huaccho animals, mainly sheep, were managed individually by each owner until 1973 when the members decided to unify all huaccho animals into a flock handled by a shepherd paid by the CAP. This allowed all members to participate and use their time for the CAP's activities. Eighty-five percent of the members participated in this process, providing huaccho ewes and yearling

⁵ Fully employed seasonal workers.

ewes into the communal flock. These contributions went from 10% to 100% of a share.⁶

- o Evolution or Change of the Sources of Income. Fifty percent of the workers received income from the huaccho flock by 1979. From this 50%, 63% received the income of a share. The worker that relies on wages as his/her sole source of income has lost 20% of his purchasing power while those with huaccho income, even with a great fall in 1975 and huaccho animal deaths in 1978, have had an increase in their real income. As table 5 shows, the huaccho flock importance as source of income diminishes from 54% in 1972 to 17% in 1979 (Valdivia, 1983:134).

TABLE 5
CAP PALCAN: CHANGES IN SOURCES OF INCOME OVER TIME
1971-1979 (Constant soles)^a

Year	Yearly Wage Payments	Wage Index (Base:1971)	Yearly ^b Income	Income Index (Base:1971)
1971	15,213	100	12,553 ^d	100
1972	15,770	104	39,225	312
1973	28,800	189	38,336	305
1974	24,643	131	39,829	317
1975	19,931	131	(c)	-
1976	27,995	184	64,136	511
1977	23,524	155	33,924	270
1978	17,001	112	26,539	211
1979	12,130	80	15,111	120

^a Consumer Price Index. Source: Cuentas Nacionales del Peru.

^b The distributed surplus and huaccho income are included in 1976. Source: Valdivia (1983:115).

^c No huaccho data available.

^d This data refers to 1969 where no wage income existed; if wages are added no increase occurs in this group. This was not done because not everyone was working at that time for the unit.

⁶ A share is equal to 50 ewes and 30 yearling ewes of the huaccho breeding herd.

8. PARTICIPATION

Members that contributed to the original capital were 89% of the total by 1973. There is access to the management of the CAP which is possible because of the small number of members. However, many important decisions remain in the government's hands such as wage increases, tax payments, amount of profit distribution, amount of cooperative funds and investment of surplus, which are set out in the decree-laws 18299, 21381, 21500 of the Agrarian Reform.

Full participation (Pateman, 1974) as present within the enterprise for decision making with respect to profits, investment, and production and investment planning. Partial participation was found regarding wage levels, capitalization, amount of surplus distributed and admission of new members.

TABLE 6
CAP PALCAN: MAIN SOURCES OF MEMBER INCOME^a
1969-1979 (Nominal soles)

Year	Wages	Huaccho Flock	Distributed Profits
1969	0	9,534 ^a	0
1972	16,344	19,472	0
1973	28,800	9,536	0
1974	28,800	17,748	0
1975	28,800	-	0
1976	56,604	55,527	11,580
1977	65,796	24,537	0
1978	74,052	37,494	0
1979	88,320	18,188	0

^a Calculated by the Subdirección Regional de Reforma Agraria y Asentamiento Rural. Zona Agraria X. Considers sheep, cattle, and llamas. Source: Valdivia (1983:125).

9. IDENTIFICATION

The measures used were siege and workers separation from their private means of production, in this case the huaccho flock. Problems of internal siege were present when identification was low. The number of huaccho animals in the CAP's land and the amount of hectares grazed by them were the measures of the siege. All lands were grazed by the huaccho flock in 1969. A fixed amount of land for huaccho animals was used since 1973. This represented 450 ha of a total of 5,279 ha suitable for grazing (8.5% of all land).

The cooperative's production started in 1972 and the CAP's flock rose to 55% of all animals on the land. After the flocks unification, they became 14% of the total. This number was drastically reduced because of animal deaths in 1979 (Valdivia, 1983:131). Bad range management was the reason for this.

The process of separation of the workers from their private means of production has been present as seen through the change in importance of the different sources of income. This and the reduction of internal siege showed that members identified their interests with the cooperative that coincided with their willingness to capitalize most of the surplus and distributable profits.

10. CONCLUSIONS

The research supported the hypothesis that established a need for a productive base that can assure the survival of the members and their families and can serve as a source of permanent employment and income. CAP Palcan has an amount of 327 sheep units per family, twenty more than the amount determined by the Agrarian Reform office for the subsistence needs of a family of five members (Valdivia, 1983:187).

With respect to the second general hypothesis, an opposite relationship was found between capital accumulation and wage increases. The process of capital accumulation was not affected by the payment of the Agrarian Debt and the conflict between the distribution of profits and capitalization was solved in favor of the latter. These results do not agree with those of Maletta and Foronda (1980), Caballero (1980), and Martinez (1980) who found that the Agrarian Debt Payments and wage increase decisions affected the CAP's and SAIS's studied.

As Maletta and Foronda (1980:25) showed, an opposite relationship was also found in CAP Palcan between capital accumulation and wage increases. There was a process of reproduction and accumulation of capital. At the same time, wages decreased, especially in 1979 when the policy towards capitalization was strengthened. This supports Luxemburg's (1971) hypothesis as stated earlier.

According to Martinez (1980:149), Horton (1977:111, 126) and Eckstein et al. (1978:60), the process of decapitalization present before the process of agrarian reform affected the levels of accumulation of associative or cooperative production forms, which was not the case of CAP Palcan. This cooperative was able to absorb the available labor force. Eckstein et al. (1978:60) made a point that should be considered which is that livestock production has an advantage not present in cropping which is the possibility of capitalizing with their own flock by reducing the culling rate. This may have contributed to the development of this cooperative.

According to Caballero (1980:96-97), payment of the government minimum wages became a disadvantage to capital accumulation, which was not the case of Palcan where high levels of capital accumulation were observed even though wages were above the minimum. A second conflict between capital accumulation and Agrarian Debt payments pointed out by Martinez (1980:46) was not present in CAP Palcan. This was able to pay 80% of the debt while part of the surplus was also capitalized (Valdivia, 1983:201).

The contradiction between profit distribution and capital accumulation was solved in favor of the latter by the CAP. Seventy-five percent of the distributable profits, three times higher than the minimum fixed by the government, was capitalized by the members. This shows that member-identification contributes to strengthen the levels of capitalization.

With respect to the third hypothesis, the results showed that partial participation was a necessary condition for capital accumulation while full participation (Pateman, 1974) was not needed to guarantee levels of capital accumulation. Participation was present in the CAP although government had control upon wage increases, capitalization and agrarian debt payments. Martinez (1977:32; 1980:142) stated that an increase in productivity takes place because participation is present. If this is correct, then levels of participation existed because productivity did increase over the years.

Partial participation and labor absorption (permanent employment) were adequate conditions to assure levels of capital accumulation, especially because wages are the members' main source of income. These results are different from others such as Eckstein et al. (1978:58) and Guillet (1979:192) who found that the huaccho flock was more important. In Palcan's case the huaccho flock was used like a savings account for emergencies. This was also found by Rojas and Rojas (1978) in their analysis of cooperative forms of production in Puno region in the southern Sierra of Peru. Their results show a decrease in the huaccho animals and a greater dependency on wage labor.

Finally the results showed that securing the members' income through permanent employment had greater importance than an increase in wage levels for identification to exist.

The quoted authors agreed that identification was not present in the cooperative's and SAIS's studied because they could not ensure permanent flows of income to their members. On the contrary, CAP Palcan was able to capitalize amounts above the government limits because employment and

partial participation allowed identification to take place. The unification of the huaccho flock was part of a process that meant a reduction of internal siege and also that members' identification was present.

The economic differentiation between the members and families of the neighboring CAPs and peasant communities was a result of the level of development reached by the cooperative. This resulted in external siege (land invasions) of the CAP, which showed that even though it provided subsistence for the members, it was not yet capable of the development of the region. CAP Palcan is important as a case that shows that cooperatives, under specific circumstances, may be an alternative in maintaining families in sheep production. This is important if we take into account that one of the government's policies in the 1980s is to allow land markets to develop, which will probably result in parcelization, which is not necessarily a good alternative for resource use by families in the highlands.

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