

**THE MANAGEMENT OF WORK CAPITAL:
AN ENTERPRISE CHALLENGE**

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SUMMARY

This paper called " The Management of Work Capital: An Enterprise Challenge", was developed in the Cienfuegos Integral Forestry Enterprise, belonging to the Ministry of Agriculture. Its objective is to design procedures of work capital management, of the Cienfuegos Integral Forestry Enterprise and to put at the disposal of the enterprise different financial alternatives which will allow operating with an appropriate work capital.

As a result of the work the following matters were determined: the decrease of the Work Capital and the fundamental causes, the insufficient liquidity, the clients that fulfill their payment commitments, the inventory accounts in which the enterprise has the largest investment and the main financing sources in the short term.

For the development of the paper, different techniques were used for the reception of information such as: bibliographical revision, interviews, observation, also analysis abilities of the variation of work capital and also evaluation of the elements that compose it, were developed.

Informatics technology is used starting off from the use of the different Microsoft Office: Microsoft Word and Microsoft Excel applications.

INTRODUCTION

The more and more turbulent, global and competitive environment in which the enterprises develop themselves today, it is not enough to have good ideas, to capitalize on a market opportunity and to try to maximize short term benefits, it is characterized by a greater necessity of continuous improvements and of the flexibility necessary to adapt to the changes.

The Cuban government enterprises should guarantee the satisfaction of the necessities of the client, as well as the profitability for their business, which will allow them to be more competitive, which is one of the main objectives of the process of managerial improvement.

Finances are a main tool to address the potential increase of production with greater added value, a superior efficiency, greater utility and of course more profitability. One of the tools proven to achieve the managerial economic-financial efficiency is the efficient management of the financial resources that each entity has at its service, which are obliged to use in an optimum way. It is necessary to perfect the finances functions, since in our organizations these fulfill a fundamental role, in its good development.

The management of work capital is one of the most important aspects in all the fields of financial management.

- **Scientific problem:**

The method used for the calculation of the work Capital in the Cienfuegos Integral Forestry Enterprise does not determine the procedures for an efficient management of the elements that conform the work capital.

- **Hypothesis:**

If the work capital management procedures are designed, they allow the enterprise to get to know the variations and to make short term financial decisions.

Objective:

To design Work Capital management procedures, for the Cienfuegos Integral Forestry Enterprise.

To fulfill the previous objective the following tasks have been developed:

- ✓ To conceptualize the financial function in the modern enterprise as well as its evolution.
- ✓ To analyze the necessity and importance of the work capital and its appropriate management.
- ✓ To design management procedures of the elements that conform the work capital.
- ✓ To diagnose the current enterprise situation.
- ✓ To apply the proposed procedures.

To carry out this work the budgets or available accounts, realizable and existent ones, were analyzed, as well as the current liability budgets, through recompilation of the enterprise's necessary information, research by means of comparisons and necessary calculations, bibliographical revision and interviews to personnel specialized in the research topic.

In the research the following variables are defined:

Dependents:

Design of management procedures for the work capital.

Independents:

Procedures for the management of the cash, the accounts due, the inventory and the short term financing.

DEVELOPMENT

The origin and the necessity of the work capital is based in the environment of the enterprise's cash flow, which can be predictable, they are also based in the knowledge of the expiration of the obligations with third parties, and the credit terms with each one, but in fact what is essential and complicated is the prediction of the future cash income, since the assets as the accounts due and the inventories are items that are of difficult convertibility in the short term, this evidences that when more predictable are the incomes to future income, the work capital that the enterprise needs, will be less.

"The management of the work capital includes all the aspects of the management circulating assets and equities. The cash management of the work capital requires an understanding of the interrelations between the circulating assets and the current liabilities. As has been able to be checked a great number of managerial bankruptcies are the result of work capital deficient decisions and faulty policies.

The management of work capital determines the liquidity position of the enterprise and this is necessary, at the same time for survival"¹

"The theoretical base that sustains the work capital management to measure the liquidity of an enterprise, is the belief that when greater be the expansion of active circulating with which the Enterprise counts to cover its liabilities in the short term, (current liability), it is in better conditions to pay its bills as they mature"².

The objective of this kind of management is to manage each one of the short term assets and equities of the enterprise, so that an acceptable and constant level of work equity is reached.

1PÉREZ, Aimara Alfonso - "El Capital de Trabajo Neto en la Empresa" Tomado de: <http://www.ilustrados.com/publicaciones/eepulzalynwhmau.php> - 42k resultado suplementario, 23 septiembre de 2005.

2GITMAN, Lawrence, J. "Fundamentos de Administración Financiera / Lawrence Gitman" - México: Harla, 1974. - pág 167.

The Net Working Capital (NWC) can be defined as "the difference that there is between the assets and the average liabilities of the enterprise." ³

One can say that an enterprise has a net working capital, when its current assets are greater than their short term liabilities; this bears that if an organizational entity wants to begin some business or production operation it should manage a minimum of work capital, which will depend on the activity of each one.

Procedures for the Management of the Work Capital.

Work Capital is very frequently defined as the funds or resources with which an enterprise operates in a short term, after covering the amount of debts which mature in that short term. It is calculated determining the difference between the circulating asset and current liability.

Applying this equation enlarged to the results that appear in the General Balance, you can calculate the Enterprise's Work Capital.

Step 1-you analyze the behavior of the work capital in the enterprise and it is also the starting off point for the analysis of each one of the work capital budgets, using the State of change in the financial situation.

Once the work sheet is concluded one prepares the Work Capital State of Movement, taking the penultimate columns of the preparatory Page. For the elaboration of the State of Origin and Application of Resources the last 2 columns of the work sheet are used, reflecting the use and destination of the resources of the Enterprise during a period of time.

Step 2 - Cash Management.

With the objective of analyzing the more important aspects related to the most liquid assets in the Enterprise and to determine their situation, the Method of the average period of maturation is used.

³GITMAN, Lawrence, J. "Fundamentos de Administración Financiera / Lawrence Gitman" - México: Harla, 1974. - pág 167.

Efficient management of Funds

The Method based on the Average Period of Maturation: keeps in mind the period that lapses since the enterprise invests a monetary unit for obtaining of raw materials, manpower and general expenses necessary for the exploitation process, until it recovers them as consequence of the process of sales and being paid the product.

Next the aspects related with this method are analyzed in the enterprise examining the cycle process and cash and rotation.

Cash Cycle:

This is defined as the time that lapses starting off from when the enterprise makes expenditure for the purchase of raw materials until the moment in which it is paid for concept of the sale of the finished product after having transformed those raw materials.

The enterprise's Cash Cycle can be demonstrated by a chart as is shown in annex A.

Consequently, synthesizing the chart we can calculate the cash cycle in the following way.

Cash cycle = Average Inventory Term + Average Term of Bills to be paid to one - Average Term of Bills to be Paid. (Expressed in days)

Cash Rotation:

It is number of times per annum in which the enterprise's cash really rotates.

The relationship that there is between the cash cycle and the cash rotation is similar to that of relationship between the average term and the inventory rotation, bills to get paid and bills to be paid.

Determination of the minimum Fund for Transactions

For the calculation of the minimum fund for transactions it is necessary to divide the annual total payments of cash among the frequency of cash rotation, this value

shows us the minimum balance that the cash account will have to have in the enterprise at the beginning of the year to pay its bills as they mature, conditioning this the fact of not requesting additional loans of funds.

Step 3 - Management of the Bills to get paid.

Most of the companies in the world invest money in bills to get paid, it is considered a short term investment, and therefore the techniques to evaluate it are not the same ones than those for a long term investment. In this paper one proposes a procedure that has as its fundamental objective to evaluate the credit policy assumed by the enterprise using the method A, B, C of management inventory, adapted for the management of bills to get paid.

Procedure for the determination of classes (A-b-C)

Next as there is a procedure developed that will allow visualizing how the three classes (A-B-C), are determined in an enterprise that has several clients that are granted credit.

Subsequently the monetary participation of each client is determined in the total value of the bills to get paid and lastly, columns 1 and 4 should be reordered.

Determination of the Clients which do not fulfill their payment commitments.

Next we will determine clients class A that do not fulfill their payment commitments, that is to say those that do not pay in the agreed time with the entity, keeping in mind the days which are between the date of billing and the payment date, for that, one takes a sample of approximately 10 invoices for each client, and the number of days is determined which are between the date of billing and the payment date.

Determination of the Payment Average for each client.

We use the arithmetic mean to calculate the average of days which, in general it takes each client in liquidating the contracted debt.

Once the arithmetic mean is calculated for each client, we compare it with the credit period of each one. If the arithmetic mean is greater than the credit period, then they are considered as not very serious clients.

An analysis of the balance of the bills of clients to be charged is also carried out.

Step 4 - Management of Inventory based on selected Technique (plan ABC).

Most of the manufacturing enterprises virtually confront thousands of articles from different inventories. Many of these articles are of relatively low cost, as others are quite expensive and they represent great part of the inventory .

Next a procedure is developed that will allow how the three areas are determined (A-B-C) in an inventory constituted by several accounts:

First the inventory data are obtained and subsequently the monetary participation of each bill is determined in the total value of the inventory.

Lastly columns 1 and 3 of chart N° 2 should be reordered, taking the participations of each article in decreasing order.

Step 5 - Short Term Financing.

The enterprises need to diversify and to develop their main activities for which they appeal to loans or financing as short term financial alternative. For that it is necessary to identify the finance sources without specific guarantees and with specific guarantees.

Procedure Validation

Next the obtained results are presented after having validated the procedure in the Cienfuegos Integral Forestry Enterprise.

To make the Work Capital Variation State, the following chart is used that shows the budgets with significant changes in the Circulating Assets and Liabilities. See Chart N°1:

**Chart N° 1: Cienfuegos Integral Forestry Enterprise (\$ cubanos)
Work Capital Variation State
December 31 / 2004 and 2005**

Party (MP)	31/12/2005	31/12/2004	Variation
Assets Circulating			
Cash on hand	\$4377.00	\$2020.00	\$2357.00
Cash in bank - National Currency -	\$195437.00	128078.00	67359.00
Cash in Bank - Foreign Currency	\$8381.00	2457.00	5924.00
Short term bills for collection	\$22706.00	68690.00	-45984.00
Bills to Get paid Short term	\$353851.00	210959.00	142892.00
Payments in advance to suppliers	\$9146.00	9875.00	-729.00
Payments to on account of utilities	\$181430.00	202206.00	-20776.00
Indebtedness of State budget	\$93022.00	1265.00	91757.00
Indebtedness of the organism	\$904.00	2050.00	-1146.00
Finished Production	\$119122.00	84459.00	34663.00
Utensils and tools in warehouse	\$10025.00	14734.00	-4709.00
Utensils and tools in Use	\$15890.00	15266.00	624.00
Other Inventories	\$57156.00	58663.00	-1507.00
Industrial production in Process	\$1630.00	7892.00	-6262.00
Agricultural production in Process	\$31284.00	36691.00	-5407.00
Animal Production in Process	\$115424.00	98745.00	16679.00
Forestry Plantations in Process	\$2125636.00	2555862.00	-430226.00
Other Productions in Process	54111.00	34717.00	19394.00
Investment with Own means in Process		4967.00	-4967.00

Total of Circulating Assets	<u>\$3399532.00</u>	<u>\$3539596.00</u>	<u>\$--140064.00</u>
Current Liabilities			
Bills to be Paid in Short term	\$65723.00	\$22710.00	\$43013.00
Bills to be paid -active Fixed tangibles	8624.00		8624.00
Anticipated Charges	14612.00	67826.00	-53214.00
Deposits Received	20871.00	15325.00	5546.00
Obligations with State budget	59863.00	76037.00	-16174.00
Payrolls to be Paid	30952.00	11110.00	19842.00
Retentions to be Paid	5593.00	3571.00	2022.00
Loans Received	3075574.00	3130471.00	-54897.00
Provisions for Vacations	83894.00	60356.00	23538.00
Provision for Investments	62103.00		62103.00
Total of Current liabilities	<u>\$3427809.00</u>	<u>\$3387406.00</u>	<u>\$40403.00</u>
Work capital	\$--28277.00	\$152190.00	\$--180467.00
Decrease	<u>\$123913.00</u>		

The analyzed periods, 2004 and 2005 determining any variation and results, are analyzed. The chart shows the behavior of the Work Capital where one can appreciate a decrease in 2005.

For the analysis of the chart it is necessary to know some matters about the Integral Forestry Enterprise, as to its fundamental productions and its Economy and Financial position.

This enterprise is devoted mainly to handling, exploitation and commercialization of timber products, such as, sawed wood, tree trunks, carbon and others. Due to the intense drought it was necessary to make adjustment for the loss in the plantations that did not survive, there were also forest fires which lead to non satisfactory results, death of animals and excess of the real cost in the achievement of established plantations.

According to the information contained in the following charts, the Work Capital of the Enterprise presents a decrease caused by the decrement which took place in the Forestry Plantations account in process, in the Bills for collection and in the Bills to be paid in the Short term.

See chart N° 2

Chart N° 2:
Cienfuegos Integral Forestry Enterprise. (\$ Cubanos)
State of work Capital turnover
December 31 / 2005

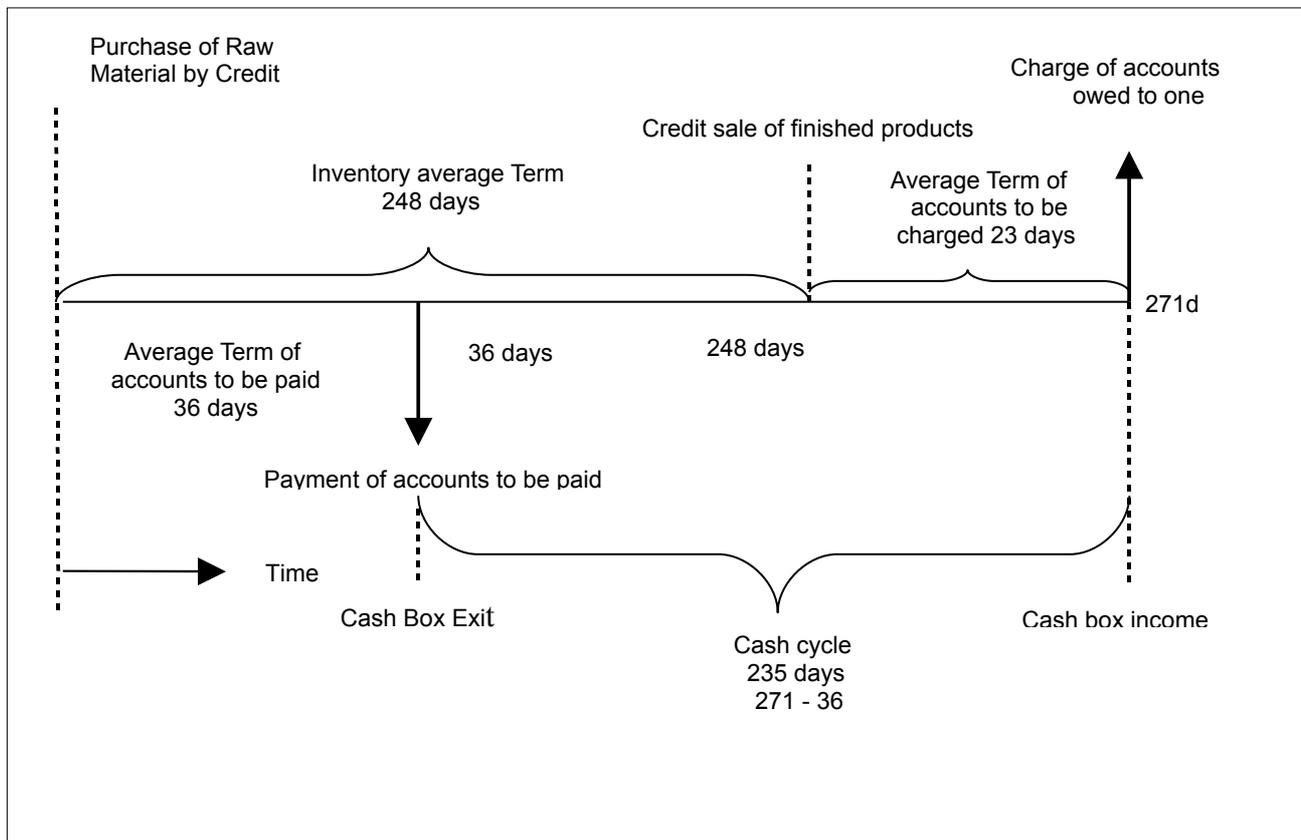
Increase in Circulating Assets	Partial	Partial	Total amount
Cash on hand	2357.00		
Cash in bank - National Currency -	67359		
Cash in Bank - Foreign Currency	5924		
Short term bills for collection	142892		
Indebtedness of the budget of the State	91757		
Finished Production	34663		
Utensils and tools in use	624		
Animal Production in Process	16679		
Other Productions in Process	<u>19394</u>	\$ 381649.00	
(+) Decrease of Current liability:			
Premature collections	53214		
Obligations with State Budget	16174		
Loans Received	<u>54897</u>	\$ 381649.00	
(--) Decrease of the Circulating Assets:			
Short Term Bill for Collection	45984		
Early Payment to suppliers	729		
Deposits of the utilities	20776		
Indebtedness of the organism	1146		
Utensils and tools in warehouse	4709		
Other Inventories	1507		
Industrial Production in Process	6262		

Agricultural Production in Process	5407		
Forestry Plantations in Process	430226		
Investments with own Means in Process	4967	\$ 521713.00	(\$ 15779)
(--) Increase of Current liability:			
Accounts to Pay Short term	43013		
Accounts to pay Fixed tangible – Assets	8624		
Deposits Received	5546		
Payroll to be paid	19842		
Retentions to be paid	2022		
Provision for Vacations	23538		
Provisions for Investments	62103	164688.00	

Procedure for Cash Management.

With the objective of analyzing each one of the components of the Enterprise's Work Capital, beginning with the Circulating Assets and specifically the cash.

Cash Cycle:



Cash cycle = 248 days + 23 days--36 days = 235 days Permissible 360 days

The cash cycle of the enterprise shows that as an average there elapse 235 from the day when the pasture is sown until the plantations have achieved survival, whose established period is 3 years but yearly the services of forestry of the plantations established in the previous period, are charged, the situation is acceptable keeping in mind the characteristics belonging to the activity.

Fund Rotation

$$\text{Fund Rotation} = \frac{360 \text{ days}}{235 \text{ days}} = 1.53 \text{ Times}$$

The cash rotation of the enterprise is shown as very slow, 1.53 times per year situation given due to the characteristics belonging to the forestry activity.

“Determination of the Minimum Cash for Transactions

$$\text{Average Fund Balance} = \frac{\$111625,00}{1.53 \text{ times}} = \$72957.52$$

The result shows that the Integral Forestry Enterprise begins 2006 with an average cash balance of \$72957.52 which means that it does not count with enough cash to pay its short term debts as these mature.

3.3 Procedure for the Management of Accounts to Get paid.

The economic analysis of the accounts to get paid, Integral Forestry Enterprise shows favorable results in its average collection term and the rotation of the accounts to be Charged, the enterprise however needs to identify the clients that do not pay, for which the ABC Method is used for the control of the adapted inventory, to use in the management of the accounts to get paid. For the analysis one needs the information

coming from its Financial Status from December 31st 2005, one also takes into account the amounts of billing of each one of the clients with those with which the entity has credit contracts.

In the chart are placed the clients that conform group A

Enterprise	%
PODER POPULAR	44.75
MINGRI	22.04
MICONS	9.86
CONSTRUCCIÓN DEL PODER POPULAR	4.41
MINFAR	2.97
INDER	2.43
MINAL	2.32
MINED	2.18
MINAZ	1.99
Total	92.95

Next a summary chart is shown that contains the information related to the situation of the clients' payment that have greater participation in the balance of the Cienfuegos Integral Forestry Enterprise Bills to Get paid.

Summary Chart

Enterprise	Credit Period (Days) (1)	Current Average Payment (Days) (2)	Difference in Average Payment (days) (1 – 2)
12 MINED	30	17	13
7 MICONS	30	19	11
20 INDER	30	28	2
3 MINAZ	30	32	- 2
11 PODER POPULAR	30	33	- 3
18 CONSTRUC. PODER POPULAR	30	35	- 5
6 MINAL	30	36	- 6
10 MINFAR	30	40	- 10
8 MINAGRI	30	44	- 14

The clients MINAGRI (8), MINFAR (10), MINAL (6), Construcción Poder Popular (18), MINAZ (3), Poder Popular (11) are considered that they do not fulfill with the credit period established because in general they pay their debts in a longer period than the one established in each client's contract however they are considered not to

be very serious MINFAR and MINAGRI, since the difference in the payment average is of 10 days and 14 days each.

Inventory Management Procedure.

As part of the circulating Asset of the enterprise the inventory is analyzed as from the amount of each one of the accountable bills that conform it, for which we begin with the characterization of the inventory system of the Cienfuegos Integral Forestry Enterprise.

Design of the ABC Control System for the Cienfuegos Integral Forestry Enterprise.

As analyzed, in chapter 1 in its theoretical summary, there exist several techniques for the inventory control, of which we use in the paper the ABC control System, that bases its application starting off from different control levels, attending the classification in three (3) groups: A, B and C.

This process can be made in two ways.

1. Carrying out the classification of the articles in the groups A, B, C, attending to the accounts that constitute the enterprise's inventories system.
2. Taking into account within each account the articles with the characteristics of groups ABC.

The ABC control system applied to the Cienfuegos Integral Forestry Enterprise, according to the design for the accounts that conform the Enterprise's inventory, is presented next.

Accounts group B		%
721	Other productions in process	2.14
201	Inventory of warehouse foodstuffs	1.50
702	Agricultural production in process	1.24
Total		4.88
Accounts group A		%
713	Forestry Plantations in Process	84.01
184	Finished Production	4.63
705	Animal Production in Process	4.56
Total		93.20

Accounts Group C		%
186	Utensils and tools	0.03
202	Parts Inventory in Warehouse	0.41
185	Utensils and tools in Warehouse	0.40
204	Inventory loaded and not consumed in dining room	0.12
205	Fuel not used in utilities	0.09
183	Production Finished Inputs	0.08
700	Main Production in Process	0.06
203	Inventory in Fuel Warehouse	0.05
207	Mobilized Reserve Inventory	0.05
206	Carpentry Inventory	0.03
Total		1.92

Procedure for the short term financing.

Next the short term finance sources are identified without specific guarantees used by the Cienfuegos Integral Forestry Enterprise.

Chart 1 Cienfuegos Integral Forestry Enterprise Finance Sources without specific guarantee

Spontaneous		Bank		Extra Bank	
Budgets	Amount	Budget	Amount	Budgets	Amount
Accounts to be paid	\$ 4 65723.00	Line of Credit	-----	Bill for Collection	\$ 22706.00
Accumulated Liabilities	30942.00	Credit Agreement	-----	Charges in Advance	\$ 14612.00
		Current Credit	\$ 3075574.00	Private Loans	-----
Total	\$ 496675.00		\$ 3075574.00		\$373318.00

The short term finance sources without specified agreements that are used more frequently by the enterprise are the spontaneous sources, because they are less expensive and they do not pay interest; they are also very useful and not less important for the enterprise, the use of bank financing sources since bank institutions offer their clients the possibility of obtaining the necessary funds to complete their economy and social objectives.

The Short term finance sources with specific guarantees are presented in Chart

N° 4.

**Chart N°4:
Cienfuegos Integral Forestry Enterprise
Finance Sources with Specific Guarantee**

Accounts to be Charged				Inventory			
Budget	Amount	Collateral Guarantee	Amount	Budget	Amount	Collateral Guarantee	Amount
135 Bills to Charged in Short Term	\$ 353851	Economy Contract Invoice	0	713 Forestry Plantations in Process	\$2125636.00	7%	\$148794.52
184 Finished Production	119122	Economy Contract National Ministerial Balance	0				
Total	4472973.00		0		21256336.00		148794.52

CONCLUSIONS

- A theoretical summary is carried out on the fundamental aspects of the Work Capital management.
- Procedures are designed for the management of the elements that integrate the Circulating Asset and the Current liability of the Enterprise.
- With the application of the proposed procedures the following results are determined:
- The Change of Status in the Financial Position allows an analysis of the Work capital turnover and of the origins and applications of resources.
- The enterprise's current work capital presents a decrease and the biggest incidence is shown by the account Forestry Plantations in Process.
- The reasons of cash management determine that the cash cycle is acceptable, cash rotation is slow and the minimum balance for operations demonstrates lack of liquidity to pay the short term debts.

- The analysis of the activity reasons of the accounts to be Charged show as an average stable results, but monthly, doubtful clients, are identified in the payment of their accounts.
- The inventory accounts: Finished Production, Forestry Plantations in Process and Animal Production in Process are those of greater participation and in which the enterprise has the biggest investment.
- Short term finance sources are used with specific guarantees and without specific guarantees.

BIBLIOGRAPHY.

Please refer to Article's Spanish Bibliography.