

LANDBOUW-ECONOMISCH INSTITUUT
's-GRAVENHAGE

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1987

DRAFT REPORT ON THE REFORMULATION OF THE
SECOND PHASE OF PAPASA (= Projecto de apoio
a pesca artesanal de Santo Antao, Cape Verde)



Draft report on the
REFORMULATION OF THE
SECOND PHASE OF PAPASA

July 1987



L20-327

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01126681199

ABBREVIATIONS AND UNITS

CECAF = COPACE	Committee for the Eastern Central Atlantic Fisheries
DBM	Direcção de Biologia Marítima
DGIS	(Dutch) Ministry of International Cooperation
DGP	Direcção Geral das Pescas
EMPA	Empresa Pública de Abastecimento
GEP	Gabinete de Estudos e Planeamento
IDEP	Instituto de Desenvolvimento e Estudos das Pescas
MDRP	Ministerio de Desenvolvimento Rural e das Pescas
PAPASA	Projecto de Apoio a Pesca Artesanal de Santo Antão
SCAPA	Sociedade de Comercialização e Apoio a Pesca Artesanal
SEP	Secretaria de Estado das Pescas

ECV = Cape Verde Escudo

1 conto = 1000 ECV

1 Dfl (Dutch Guilder) = 35 ECV

1 t (metric tonne) = 1000 kg

CONTENTS

	Page
PREFACE	4
SUMMARY	5
CONCLUSIONS AND RECOMMENDATIONS	7
PART I: EVALUATION OF PRESENT SITUATION	8
1. BACKGROUND	8
2. PRESENT STATE OF THE PROJECT	11
2.1 Organisation and financial situation	11
2.2 Activities	12
2.3 Infrastructure	13
3. IMPEDIMENTS TO DEVELOPMENT	15
3.1 Production	15
3.2 Consumption	16
PART II: THE SECOND PHASE OF PAPASA	18
4. INTRODUCTION	18
5. SCOPE	18
5.1 Background and justification	18
5.2 General objectives	20
5.3 Specific objectives	21
5.4 Special aspects	21
6. IMPACT	23
6.1 Situation without second phase of PAPASA	23
6.2 Situation after second phase of PAPASA	24
7. IMPLEMENTATION	26
7.1 Work plan	26
7.1.1 Management	26
7.1.2 Supply and support	27
7.1.3 Fisheries promotion	28
7.1.4 Distribution and marketing	28
7.1.5 Time schedule	29
7.2 Budget estimate	31
8. FINANCIAL AND ECONOMIC FEASIBILITY	33
LITTERATURE	35
ANNEXES:	
1. Terms of reference	36
2. Itinerary	38
3. Aide Mémoire	39
4. Survey of PAPASA staff and salaries	44
5. Distribution activity by PAPASA	45
a Statistics	45
b Network	48
6. Budget specification of the second phase of PAPASA	49
7.a Estimate of financial results of PAPASA in the second phase	50
b Personnel and organisation during the second phase	53
8. Exploitation estimate of combination fishing/transport vessel	54
9.a Exploitation estimate of PAPASA after the project	55
b Personnel and organisation after the project	57
10.a Exploitation estimate of improved bote	58
b Estimate of inland retailing by saleswomen.	59

PREFACE

This report is the result of a mission for the reformulation of the second phase of the 'Projecto de Apoio à Pesca Artesanal de Santo Antao' (PAPASA) in Cape Verde. PAPASA is an integral artisanal fisheries development project funded by the Dutch Government. It was identified in 1978 and implementation started in 1981. The first phase of the project ended in 1986.

The mission was carried out on request of the Dutch Ministry for International Cooperation (DGIS) during the last week of March and the first week of April 1987. Terms of reference of the mission are given in Annex 1.

The mission consisted of:

mr. J.W. de Wilde, Dept. of Fisheries, Agricultural Economics Research Institute, The Hague, The Netherlands;

who was accompanied throughout his stay in Cape Verde by:

mr. J. Mauricio, Interim-Director of PAPASA.

The project was inspected and extensively discussed during a one week stay on Santo Antao. Then in two days of discussion the present state of the project and proposals for the second phase drafted by the Cabinet for Studies and Planning were reviewed at the State Secretariat of Fisheries (for Itinerary see Annex 2).

The findings of the mission and discussions of proposals for the second phase of PAPASA were summarized in an Aide Mémoire submitted to the State Secretariat of Fisheries of Cape Verde (see Annex 3).

The author wants to express his gratitude for the friendliness and hospitality experienced and the assistance obtained from the Project Director and his staff and from the Director General of Fisheries and the Director of the Cabinet of Studies and Planning.

SUMMARY

The Artisanal Fisheries Development Project PAPASA on Santo Antao, the northernmost island of Cape Verde, started in 1981 and the first phase terminated mid 1986. A second phase, also to be financed by the Dutch Government, was formulated, but doubts arose on the effectivity of the project. A mission was sent to reformulate the second phase, so that eventually a number of self-supporting, economically viable activities would result.

The mission found PAPASA surprisingly alive, with a very capable interim-manager. The financial situation however was precarious, as a remittance of about .4 million Dfl due for the first phase had not arrived.

Apart from the supply of fishing gear and materials, inland marketing of cheap fish, produced by improved 'botes' with purse seines introduced by the project, had become a major activity of PAPASA. In one year 180 t has been sold, resulting in an increase of average consumption of fish by nearly 4 kg/cap/year.

With its activities PAPASA has attacked and partly overcome a number of problems traditionally mentioned to impede development. Some impeding factors of general socio-economic nature can hardly be influenced by the project.

In view of the results of the project up to now a continuation is certainly justified. General objectives of a second phase remain to be the increase of production and productivity of fishing, the increase of the consumption of fish by the island population and the improvement of the working and living conditions of those involved in the fishing industry.

Specifically this implies an increase of production for the island market to more than 1000 t/year, raising average consumption to 20 kg/cap/year. To reach this objective the project will extend its activities to the promising Tarrafal de Monte Trigo area. Apart from establishing 10 private fishing firms with improved botes and some inland retailing firms, PAPASA will become self-sufficient through the combination of development with commercial activities.

The position of the saleswomen requires special attention, as they tend to be driven out of their traditional economic activity by the introduction of new techniques.

Without a second phase the general objectives ^{Wulke} of the Second National Development Plan can not be reached in Santo Antao. Depending on the payment still due for the first phase, PAPASA could become a private enterprise more or less involved in fisheries development. Financial support by the Cape Verde Government is impossible on a longer term.

With a second phase the objectives mentioned above can be reached. A situation can result where the artisanal fisheries can be developed further without external financial support.

The State Secretariat of Fisheries has proposed a reformulated second phase for the project that can be generally followed. A major deviation recommended is to renounce the foreign (Dutch) co-manager, as his contribution could not be in proportion to his cost. In relation to this the national manager has to be carefully selected. Extra support by experts and consultants will provide for ad hoc know how required. A data collection system will be set up, partly to measure the effects of the project. In view of the character of the project a duration of four years is foreseen.

A third support centre will be built in Tarrafal and besides some port construction activities, more winches and slipways will be installed. Ten improved botes will be built by the boatyard, that is to be privatised, and sold to fishermen on credit. A program of social activation and cultural stimulation will be the mainstay of the second phase of the project.

The Fisheries Promotion Section will test a number of fishing techniques, mainly for lobster and tuna fishing, and extend the results to the fishermen. Scholarships will be made available for courses in navigation and fishing techniques in Mindelo. PAPASA II and CRUZINHA will be used as testing and training vessels.

The project will train and support saleswomen to take over the inland distribution activities. Efforts will be made to enlarge the distribution network. Outlets will be developed for surplus production of fish through whole-saling operations over land from Ponta do Sol and over sea from Tarrafal to Mindelo. For the latter activity a combination fishing/transport vessel may be purchased after satisfactory tests with CRUZINHA.

First priority in the execution of the second phase have the appointment of the project manager and the recruitment of a cultural worker with the planning of the social and cultural programme. Then the building of the Tarrafal centre should not meet further delay. Timing of the CRUZINHA transport trials is also rather crucial.

The total budget required for this programme is estimated at 2.4 million Dfl, that is 84 million ECV. About one third of this will be required in the first project year. In the following years the amounts required will gradually decrease. This is partly due to the decreasing contribution of external financing in paying the staff salaries.

Eventually PAPASA can become economically self-sufficient. Fishing with improved botés and inland retailing can be commercially attractive activities. As a whole the project appears to be economically feasible.

CONCLUSIONS AND RECOMMENDATIONS

1. PAPASA has shown remarkable impetus after the departure of the manager at the termination of the first phase. The appointment of a highly qualified national interim-manager has contributed to this. A key-activity has been the inland distribution of relatively cheap fish caught with purse seines by improved botes introduced by the project. With this the project has proved its viability.
2. It is recommended to continue Dutch involvement in the project through financing a second phase and providing support to it where and when possible.
3. A plan for a second phase has been (re)formulated by the State Secretariat of Fisheries (SEP) of Cape Verde, with an emphasis on training and extension. This proposal can generally be adhered to. With a view on the character of the project it is recommended to stretch the project duration over a full four years.
4. In contrast to the proposal however it is recommended to cancel the participation of a foreign (i.c. Dutch) counterpart to the national project manager, as his contribution to the success of the project could not be in proportion to the required budget. A more generous ad hoc back-stopping by experts and consultants is recommended instead. By this the total budget for the second phase to be funded externally can be reduced to 2.4 million Dfl (84 million ECV). (This budget implies also a gradual reduction of external funding of staff salaries).
5. With relation to the contents of the project it is recommended to put more emphasis on the socio-cultural component and to raise the status of the cultural worker to be responsible for it accordingly.
6. Particular attention shall be given to the socio-economic position of the saleswomen. It is recommended to build in possibilities to monitor this into the data collecting system to be set up by the project. Eventually saleswomen have to take over inland distribution of fish from PAPASA. The project shall stimulate and support this.
7. The relatively large investment in a combination fishing/transport vessel shall be considered carefully during the second year of the project on the basis of trials by the present training/fishing vessel.
8. The project will result in an increased production of relatively cheap fish for the local market, sufficient to reach the target level of average consumption of the National Development Plan (20 kg/cap/year). Apart from that the production of tuna and rock lobster for the export market will increase considerably.
9. Exploitation estimates show that private fishing and retail trading firms emanating from the project can be profitable and commercially attractive.
10. After the project period PAPASA will continue to be the central organisation for fisheries support and promotion on Santo Antao. Fishing and whole-sale operations can and will see to its economic independence.
11. A tentative assessment of the economic feasibility of the project results in a satisfactory economic rate of return of 7.5 %.
12. It is recommended that the parties concerned fix an agreement on a procedure for the disbursement of funds to the project, in order to avoid recurrent problems of the past in this respect.

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PART I. EVALUATION OF PRESENT SITUATION

1. BACKGROUND

General

The Republic of Cape Verde is an archipelago of nine inhabited and some small uninhabited islands of volcanic origin, lying in the Central Eastern Atlantic Ocean at about 400 miles (720 km) West of Dakar, Senegal. The country came independent in 1975. The population is about 340,000, with nearly as much emigrants living abroad, mainly in European countries and the United States of America. Average per capita Gross National Product is 320 US\$. The main sources of income are remittances of emigrants and foreign aid.

The Exclusive Economic Zone of Cape Verde has an area of nearly 735,000 sq. km. Little more than 1% of this has a depth of less than 500 m. The area of less than 200 m. depth is only 5,400 sq. km. As a result of this and the absence of large upwelling systems - sources of food for primary marine production - the fish resources of the archipelago are of a moderate size. Sustainable yields are now estimated at a total of about 45,000 tons, but no firm assessment is available yet.

The main group of species are tuna and tuna-like fish (Yellowfin, Skipjack, Wahoo). They are thought to be partly local and partly seasonally migrating populations. Then some Horse-mackerel like species (Cavala, Chicharro, Olheu Largo) and Sardinella are fairly abundant and finally there is a rather limited resource of bottom-fish (demersals). Apart from this a promising stock of Rock-lobsters (Green and Pink) has to be mentioned, while Sharks up to now had to be considered more as a nuisance than as a resource.

Fish being one of the very few natural resources of the Republic and practically the only one that can result in considerable export earnings, apart from contributing to the nutrition of the people, the Government of Cape Verde is preoccupied with the development of fisheries. From an early stage Dutch Co-operation was involved in this.

Santo Antao

Santo Antao, the Northernmost island is characterized by steep mountains and deep valleys. The population of about 46,000 mainly lives spread over the North-eastern half of the island. Houses are often built in seemingly inaccessible uphill locations. Agriculture is the main source of employment and income. Considering its general scarcity in Cape Verde, water is relatively abundant in the N.E. part of Santo Antao. However transport problems, caused by its precipitous nature, have impeded the island to become an important source of food for the whole country. Sugar cane is one of the main crops and "grogue" distilled out of it one of the main products of the island.

The Dutch Government has more or less adopted Santo Antao for development Cooperation. Since 1977 a rural development project, since 1982 including reafforestation, is being executed. A continuation was decided upon recently.

Fishing on Santo Antao

The characteristic steepness of Santo Antao is continued under sea-level. The coastal zone of less than 200 m. depth is little more than 2 km wide on average, having an area of only 270 sq. km. The best fishing grounds are found to the West of the island, possibly as a result of some upwelling. Wahoo is specifically abundant in that area. The rocky coast offers a good potential for rock lobster fishing. In the first four months of the

year, before the general tuna season is coming up, cavala is concentrating around the island, probably for spawning.

Well sheltered bays and coves are scarce along the coast and very few have flat, sandy beaches. The southern part of Porto Novo is well protected under most circumstances; the small northern harbour of Ponta do Sol is exposed to westerly ocean swell and waves, occurring occasionally from December up to March. Apart from these larger fishing villages there are 7 other fishing communities spread around the island, with more or less well protected landing places.

About 320 fishermen man a fleet of nearly 100 wooden beach landing rowing boats of about 5 m length. Three quarters of the boats is mechanized, generally with out board engines. Very few boats are equipped with sails. The main fishing method is handlining.

The Directorate of Marine Biology (DBM) estimates the production in 1985 at 805 t (1984:604 t). Most of this is distributed inland, traditionally by women. According to Hanek (1986) on Santo Antao 176 women with more than 1000 dependants are occupied with local fish trade. Due to lack of hinterland fish from the Western villages of Tarrafal and Monte Trigo is for a considerable part sold to Mindelo.

PAPASA

In 1978 a project for the development of the artisanal fisheries of Santo Antao was identified. It was to be an integral fisheries development project, drafted along classical lines. The installation of more or less extensive infrastructure in practically all fishing villages was foreseen, together with trial and extension of new fishing methods, provision of fishing gear, mechanization and introduction of improved fishing craft, improvement of distribution and marketing of fish.

Implementation of the project, called Projecto de Apoio à Pesca Artesanal de Santo Antao (PAPASA), started in 1981 with the appointment of a (Portuguese) director. As no buildings and housing were available yet, the project was initially established in Mindelo, in the SCAPA premises. The seat of the project was to remain there until shortly before the first phase of the project ended.

In the course of years the major part of planned infrastructure was built, some of it being scratched as it was not longer considered useful or necessary. Test fishing was done and in a later stage, provision of fishing gear to the fishermen of the island began. Successive missions evaluating the project generally reported favourable on it, although progress appeared to lag behind expectations. This was mainly ascribed to the recurrent financial problems of the project, resulting from slow disbursement of funds. In contrast to what has been stated by earlier missions Dutch officials put the blame for that principally on liquidity problems and paying politics of the Cape Verdian Ministry of Finance. Such problems are not uncommon in developing countries and knowing this expectations of progress probably have been pitched too high.

Originally the project was planned for a duration of 4 years, until mid 1985. As all activities foreseen could not be finished within that period, an extension up to the end of 1986 was proposed by a mission in October 1984. The activities in this extra year were to be aimed at consolidation of the project. Special attention should be given to extension and training. The Netherlands financial assistance would be extended from 2.6 mln. Dfl. to 4.0 mln. Dfl.

In March 1986 a mission visited the project to formulate a continuation for another 4 years up to the end of 1990. For this second phase of PAPASA a budget of 4.4 mln. Dfl. was foreseen. Although 25 % of this was to be spent on infrastructure, the emphasis in the second phase would be on support activities directed at distribution and marketing, training and instruction, extension and participation and data collection. The project was to become gradually more self-supporting, so local staff would be

more and more financed from PAPASA revenues.

After an initial acceptance of the proposals, the report of the formulation-mission aroused some doubts with Dutch Government officials. These concerned:

- the effectivity of the project: could and would production and consumption of fish on Santo Antao indeed be increased by the activities of PAPASA;

- the potential of the project to become self-sufficient in the end.

On account of this another mission was sent to the project, of which this is the report.

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2. PRESENT STATE OF THE PROJECT

2.1 Organisation and financial situation

Since the last mission visited PAPASA the project has shown remarkable progress. The expiration of the first phase of the project and the departure of the first project manager mid 1986 did not bring about a turn down of activities in expectation of a continuation in an eventual second phase. On the contrary, the present mission found the project in full swing.

Shortly after the last mission left, the seat of the project was moved from Mindelo to Ponta do Sol. With the expiration of the manager's contract nearing, a successor of high reputation in Cape Verde, Mr. Jorge Mauricio (founder of EMPA, designer of the social security system, former director of CabMar) was appointed for an intermediate period. During the month of June the coming and the going manager worked together to assure a good transfer of the administration of the project.

Apart from showing the interest that is taken in the project this can be considered as a felicitous choice for more than one reason. Mr. Mauricio was born on Santo Antao and therefore well known and trusted by the people and on the other hand quite familiar with local circumstances. With a view on the recommendation of the former mission to put more emphasis on participation of the fishing communities, these are advantageous qualities for a manager of the project, if not requirements.

Then Mr. Mauricio is more of an administrator, where as Mr. Rocha, the first manager was a technician primarily. A very good job was done with the establishment of the project, but, again referring to the former mission, a change of course was called for, together with some administrative order which could provide data on the proceedings of the project. This administrative order was set up in a short time and has resulted already in a Financial Account and a Balance Sheet over the second half of 1986. Regrettably these did not come at the disposal of the mission as they still were subject to the approval of SEP.

From the Draft Account it was clear the project had hit the bottom of its treasury. The initial liquidity balance of more than 2 mln ECV was reduced to little more than 100,000 ECV in half a year, in spite of the remittance of 3.5 mln ECV by the DGP and proceeds from sales in the order of magnitude of 3 mln ECV. The expenditure of about 8.5 mln ECV involved concerned roughly 20 % investments, 25 % personnel and exploitation costs, 25 % services from third parties and 30 % purchases.

The diminution of liquidity was primarily blamed to the absence of payment by the Dutch Government of an amount of 430,000 Dfl (abt. 15 mln ECV) still due for the first phase of PAPASA. The project management and the DGP were very preoccupied with the disbursement of this amount, even to the extent that they told the mission to be eventually prepared to renounce a second phase of the project if only this money was payed. The management was confident in that case to be able to turn the project into a profitable commercial operation. (But that would mean of course the original objectives would have to be greatly abandoned).

At the time of the mission the project was unable to pay the staff salaries due over March. (The interim-director is payed by the Cape Verde Government). As PAPASA was considered by the Director to be overstaffed anyway he submitted proposals to the DGP for considerable staff reductions. If agreed upon, these could lead to nearly halving the then present staff of 24, with a corresponding reduction of personnel costs. A survey of staff and salaries is given in Annex 4.

2.2 Activities

The most important activity developed by the project since the departure of the 1986 mission is the distribution of fish. From April 1986 over a 12 month period 180 t of fish - mainly cavala - was sold, more than 90 % for consumption and the balance for bait. (Statistics are given in Annex 5.a). The activity combines in it several aspects which touch the core of the objectives of the project.

Firstly, fish taken in by PAPASA was bought (for a fixed price of 30 ECV/kg) in a kind of market intervention: it would have been left unsold otherwise. As such it can be considered as additional production above 'normal' supply. It consisted largely of fish landed by the improved boats built by PAPASA and sold to and operated by private fishermen, caught with purse seines tested, introduced and supplied by the project. Only in this way the commercial operation of the new boats and nets could become viable, as traditional fish trade by women was as yet unable to handle the quantities involved.

Then PAPASA distributes primarily in inland regions where fish used to be available only occasionally, due to the limited range of action of traditional fish trade. (An impression of the distribution network is given in Annex 5.b). Fish consumption by the 40 % of the population living in those regions (HANEK, 1986) this has increased considerably: in a rough estimate by about 7 kg/Cap/year on average. For the island population as a whole the PAPASA activity increased average consumption of fish by more than 3,5 kg/Cap/year.

The fish is transported by project pick-ups in boxes, when considered necessary on ice, protected against sun and dust. The actual selling is done by women, hired on a daily basis for a fixed salary (200-300 ECV/day). A fairly regular service has been established, with fixed vending places, where people wanting to buy fish assemble. Warned by the pick-up horn from afar they know reasonably priced fish of good quality will be for sale. Cavala, generally counting 4 or 5 to the kilogram, are sold at a fixed price of 50 ECV/kg.

With its handling practice the project has been setting a quality standard for fresh fish, that has aroused a certain consumer preference for PAPASA-fish. The example of handling and transporting relatively great quantities of cheap fish is beginning to be followed by private fish mongers. 'A luguer' pick-ups can be hired generally for 2,000 ECV/day all-in, the project is prepared to hire out boxes and to sell ice.

Some of the fish is sold for bait to the fishermen at a fixed price of 40 ECV/kg. Fishing communities are regularly provided with ice (at 10 ECV/kg) in insulated boxes for the conservation of the bait during a number of days. The availability of bait used to be one of the most important limiting factors for fishing. The service provided by PAPASA has put an end to that for the villages within reach of the project (apart from Ponta do Sol and Porto Novo: Cruzinha, Sinagoga and Paul). The project management was convinced this had resulted in an increase of days at sea. The statistical data collecting system of DBM however appeared not (yet) to be able to record such increases.

Apart from the effects directly concerning the primary goals of the project (to increase the production and consumption of fish on Santo Antao) the distribution activity of PAPASA generated a dearly wanted cashflow which contributed to the continuation of the project. For that reason also one of the project boats engaged in commercial purse-seining, although the fishermen's cooperative of Janela wanted to buy it. The 14 m fishing boat of the project 'Cruzinha' that has mostly been used for the same purpose has been lying idle in Mindelo since November 1986 with a broken engine. (Spare parts from Japan became available only by the end of the mission).

Another activity PAPASA started last year is selling means of production - boats, nets, outboard engines e.g. - to fishermen on credit. An initial down payment of at least 10 % is required, further redemption being paid by part of (the proceeds of) the catches. Only those fishermen considered to be trustworthy and solvent are accepted. Landowners and other persons not actively engaged in fishing are principally not eligible. No interest has been charged until now, but it will be in future. The administration of the scheme showed good repayment rates with 10 to 25 contos per month on loans of 300 to 500 contos.

By the provision of fishing gear and materials and repair of outboard engines PAPASA has become practically indispensable to fishermen within reach of the project. Although a 30 % margin is charged on all materials and in the case of repair jobs increased with wages and another 30 % overhead, those activities did not appear to be profitable probably due to overstaffing.

On the other hand the two local skilled carpenters employed by PAPASA for building and repairing boats were said to bring the project some profit. The carpenter's shop is not equipped with mechanical tools and building an 'improved bote' completely by hand takes 3 to 4 months. According to the project-manager this could be reduced to 3 to 4 weeks by the use of an electrical band-saw and a hand planer.

A total of 10 boats have been delivered: 5 of the traditional size and 5 'improved botes' of 7 to 9 m length. The latter are built to similar lines as traditional 'botes' of Santo Antao and Sao Vicente, but larger, half or fully decked and of solid construction. Some of them have in board diesel engines installed. From a boatbuilders' and fishermen's point of view this step by step approach is traditionally the most easily accepted way of developing new boat types. Most of the new boats were sold to private fishermen, but one small and two of the larger boats remained property of the project.

They are primarily used for experimental fishing (apart from the generation of cash flow mentioned above). As the mission was on Santo Antao, the older 8 m boat with 35 hp outboard engine was equipped with a relatively large purse seine (270 x 30 m) made by a master fisherman from Mindelo hired by the project. The new 7 m boat with 8 hp in board diesel engine is concentrating on lobster fishing with creels made by the project. Results have been promising, but some development of pot design and construction and fishing technique (positioning and hauling) is still necessary. Even so some private fishermen are already experimenting with lobsterpots on their own account.

A last activity of the project worth mentioning is training of fishermen and other people in making and mending of nets. The effect of teaching people ashore how to make netting is particularly directed at persons with a physical handicap. For this cooperation is sought with the Ministry of Social Affairs and Public Health. A small cottage industry is already developing with PAPASA providing yarn and paying for the labour put into the netting that is delivered.

2.3. Infrastructure

Since the 1986 mission left not much change has been brought about in the infrastructure built by the project. In Port Novo the extension of the project building with an engine and boat repair shop was started, but discontinued due to lack of finances. The generator for Port Novo has not yet been transferred from Ponta do Sol and was actually serving as a stand-in for the generator there. For its installation some reconstruction of the Porto Novo building was under consideration. A fixed live lobster storage was under construction at the shoreside in Ponta do Sol, but it had been damaged by the waves in a winter storm. The construction of a support centre in Tarrafal has been initiated.1)

1) Due to lack of transport the mission was unable to visit this area.

A survey of the on shore support infrastructure built by PAPASA is given in table 2.1, which has been derived from the G.E.P. report 'Reavaliação do PAPASA'.

Table 2.1 On shore support infrastructure of PAPASA.

	Ponto do sol	Cruzinha	Sinagoga	Paul Novo	Porto Tarrafal	Ribeira Grande
- Platforms, slipways	1	1				
- Winches	1		1			
- Sale of engines, nets	1			1		
- Engine workshops	1					
- Carpenters workshops	1					
- Netting workshops	1					
- Salting and drying stations	1				1	
- Refrigerated rooms	2			1		
- Ice machines	1			1		
- Fish selling stands	1			1		1
- Pick-up cars	3			1		

Some comments of GEP in its report are reproduced here shortly, as they put the present facilities into perspective:

'In this field PAPASA has had a very dynamic part, but of somewhat doubtful utility, as the use made of most of the facilities will have difficulty to contribute not only to its own depreciation but to the development of fisheries of the island as well.

- the selling stands are little or not used.
- the buildings in Ponta do Sol and Porto Novo are overdimensioned, the cooling and workshop departments having an extremely low level of activity. The sale of fishing gear however is a very positive action.
- the salting and drying station in Tarrafal is abandoned; the new support centre now building seems too expensive.
- landing platforms are all damaged by the sea; the winches are all in working order.

Monumentality seems to have been put above functionality, thus diminishing the reach and potential to put the investments in infrastructure to use.'

These remarks have to be taken seriously, as they express the concern of SEP with what has been done until now. However it should not be considered as a final judgement. The potential of the project was only tested last year and not yet fully realized. A lot of work still can and has to be done and the second phase of the project should see to that.

3. IMPEDIMENTS TO DEVELOPMENT

A number of factors is hampering the development of fish production and consumption on Santo Antao. Most of them have been mentioned in previous reports. From the paragraphs above it appears that the project has attacked part of them with notable success. It is beyond the power of the project to affect all factors, as some of them are connected with the general - economic, social, physical, etc. - situation in Cape Verde. However in some instances it can be possible to develop activities that avoid or alleviate the effects of those factors. The following will also go into this, but it not very deeply, as no thorough study could be made in the available time.

3.1. Production

Well known bottle-necks in the field of production and action of the project to overcome them are:

- lack of bait; PAPASA regularly provides fresh bait to the fishing villages within reach.
- rough sea conditions; according to the project management this is not an important factor: last winter fishing was impossible for this reason for less than 10 days. Conditions however differ from place to place. Anyhow, by improving landing facilities and introducing (outboard) engines and more seaworthy boats, progress has been made at this point.
- lack of fishing materials and primitive fishing methods; the project has been primarily active in this field, by establishing stores for the provision of good quality fishing gear to the fishermen and by testing and introducing new fishing methods.
- insufficient market capacity; with its distribution activity PAPASA has opened hardly accessible inland markets, which have been able to absorb substantial increases of production without difficulty.
This does not mean any amount of fish could be sold on the islands as will become clear from remarks later on. With further expansion other outlets will become necessary.

Fish stock potential is generally one of the limiting factors to be considered in fisheries development. Although no stock assessment has been made COPACE-officers are of the opinion that stocks will be able to sustain further increases in fishing pressure. They consider marketing the fish produced to be by far the greater problem.

Social economic factors will also affect development of the fishing sector. Without pretending to be complete two of those factors are considered here. One is that many, if not most, of the fishermen on Santo Antao have secondary activities and some even have fishing as a side-line. Not all are fishing out of free choice or vocation, quite a lot are just doing it out of necessity to earn a living. And the other way about: those who consider themselves professional fishermen may need secondary activities, as fishing is too insecure and insufficient to fully support them. In this situation not all fishermen will be prepared to develop at an equal pace, as development will entail a greater commitment and professionalization. A number of fishermen will become full-time, well equipped professionals, to others fishing will just remain a side-line which they have no interest to develop, and all stages in between may occur. This divergence will have to be accepted.

Another socio-economic factor that may have influence on the development of fishing on Santo Antao is the ownership of the means of production, specifically boats, engines and nets. Most of the boats used to be and still are owned by people outside of the fishing industry : landowners, shopkeepers, emigrants etc. For those entrepreneurs in most cases this is only a side-line, securing some addition to their main source(s) of income : nice to have, but not really necessary. From experience in other countries it appears that such a situation without direct involvement and interest in fisheries easily leads to a certain negligence. This is surely not the optimal basis for development. Encouraging ownership of boats and gear by proper fishermen through a credit system therefore can be considered as an essential element in the project.

3.2 Consumption

Under this heading also general marketing problems will be considered. Two factors affecting the level of consumption of fish on Santo Antao can be mentioned : the limited availability of fish in inland regions and the limited buying power of the inland population (consumer rejection is out of order).

According to Hanek 40 % of the population of Santo Antao are regularly provided with fish (9 - 10 months of the year) and another 40 % irregularly (3-4 months of the year). For 20 % of the inland people fish is never available. The most important reasons for the unequal distribution of fish are the (relative) inaccessibility of the inland regions and the limited range of operation of the fish trading women. But these are extensible notions, influenced by the market situation. Why go far and take risks, a living can be made nearby, will be the general reasoning. But in periods of glut competition gets stronger and a greater effort is required, so also regions more inland are supplied.

Distribution by PAPASA has shown that problems of accessibility and transport can be overcome at least in the regions with seasonal supply and that fish can be sold there throughout the year. The project management estimates to have increased supply in those regions by more than 100 % . The areas where no fish used to be available however are also out of reach to the project.

The action of PAPASA could be followed by the saleswomen, but in this operation relatively much money, so risk, is involved (Annex 10-b). Social factors will be as important, if not more so, as with fishermen. About half of the women sell fish for 9 - 10 months of the year (Hanek calls this full-time). The other half is only active during the high season of 3 - 4 months. Only a few can (and have to) be expected to be prepared to expand their business to the scale of the PAPASA operation. Relatives of purse-seine fishermen *) may have the best perspectives, as they might take fish in consignment and make a definitive settlement afterwards. Other credit schemes may appear to be inoperable.

As was remarked before, it is impossible to sell practically unlimited quantities of fish in the inland regions. The present Development Plan aims at an average consumption of fish of 20 kg/cap/year. At the price level PAPASA has kept to (50 ECV/kg for cavala), a family of 5 or 6 persons would have to spend about a minimum day's wage of the 'frentes' (100 ECV) every week to reach the target consumption level. This is more than can be expected, but as the target is an average, expectations for the group with minimum incomes may be pitched much lower.

No data on income distribution on Santo Antao are available, so the following cannot be more than a reasonable guess. If it is assumed that 20 % of the population is in the minimum income group eating only half the target consumption, and another 20 % will remain without supply of fish, then 60 % of the population will have to eat 30 kg/cap/year to reach the target.

*) Two thirds of the fish saleswomen are related to fishermen (Hanek).

This does not seem totally unrealistic. A rough estimate of the distribution of fish consumption last year is :

no fish available	: 20 % abt	0 kg/cap/y
inland regions	: 40 % abt	10 kg/cap/y
coastal regions	: 40 % abt	25 kg/cap/y
total	: 100 % abt	14 kg/cap/y

According to the project management no signs of market saturation have been apparent.

A lowering of prices to bring fish more within reach of the poor people is only feasible to a limited extent. Fishermen as well as saleswomen have to make a living out of it and to them the activity should be attractive, or they will divert their efforts. The present producer price for cavala (30 ECV/kg) is at the same level as the world market price for frozen horse-mackerel. If for the island market a considerable reduction of prices would be required, sale to more powerful markets (Mindelo e.g.) or even for export may become more attractive. On the other hand fishermen's earnings could become insufficient (Annex 10.a). A similar reasoning applies to the margin taken by the saleswomen. A little pressure may be accepted, once trade has been established, but if squeezed too hard, the women will step out again. The project will have to act carefully to arrive at an acceptable balance between consumption by the poor and production and distribution.

PART II. THE SECOND PHASE OF PAPASA

4. INTRODUCTION

Proposals for a modified second phase of PAPASA were made by the State Secretariat of Fisheries in the report of the Cabinet for Studies and Planning (GEP) on 'Revaluation of PAPASA - Mission to Santo Antao' dated March 31, 1987.

These proposals are generally adhered to in the following reformulation of PAPASA II. Some exceptions are made, where a different course of action is recommended. This will be mentioned explicitly in such cases.

The objectives of the project continue to be:

- to increase the production of fish and the productivity of fishing;
- to increase the domestic consumption of fish;
- to raise the living standard of workers and their families in the fishing industry.

The emphasis in the second phase of the project will be on training and extension of innovations combined with social and cultural formation of fishermen and saleswomen and their families. The range of the project will be extended to all fishing communities on Santo Antao. An outlet for surplus production will be organized. By the end of the project a variety of self-supporting commercial activities will be established: fishing firms with improved boats and new types of gear, trading firms selling fish in inland regions, a boatyard. PAPASA is to be a self-sustaining centre of support for the fishing industry of Santo Antao, with sufficient momentum to continue acting as a flywheel for development of the industry.

In the SEP proposals the end of the project is planned implicitly in accordance with the originally formulated second phase till January 1, 1991. In view of the year that has passed since then and the character of the primary activities in this phase, it is recommended to extend the duration of the project to its original length, ending one year later by the end of 1991.

5. SCOPE

5.1. Background and justification

The general background of the project has been given in Part I of this report. The most important points are summarized below:

- On Santo Antao about 330 fishermen are fishing out of 9 fishing communities with about 100 boats. These are traditionally small open wooden rowing boats of 4.5 to 6 m length, crewed by 3 to 5 men, called 'botes'. About 75 % of the botes is equipped with outboard engines (through PAPASA I).
- Fishing methods are relatively primitive, handlines being the most important gear used. PAPASA I has improved supply of good quality gear through the establishment of stores in its support centres in Ponta do Sol and Porto Novo.
- Only the villages just mentioned have more or less well protected ports. Conditions of the sea combined with the generally rough and rocky coast make putting to sea and landing risky in most places. PAPASA I has made an effort to improve landing facilities in several places.
- PAPASA I has tested and introduced purse seining and is testing lobster potting and gill netting. To arrive at more seaworthy boats, able to apply more sophisticated gear improved boats were developed: larger (7 - 9 m long), half or fully decked, strongly built wooden botes. Five have been built by local carpenters, some of them equipped with inboard diesel engines.

- Production is estimated by SEP at 600 t in 1984 and 800 t in 1985. In 12 months from April 1986 onwards PAPASA has distributed 180 t of fish, the greater part of production by private fishermen with improved boats and purse seines. This can be considered as additional production.
- Availability of bait is a limiting factor for line fishing. This problem has been practically eliminated in the fishing communities within reach of the project, by supplying bait fish and ice for conservation.
- Fish resources are not particularly abundant in Cape Verde. Expert (CECAF) opinion is that a further increase of production will not endanger stocks. Rock lobster, Wahoo and horse mackerel are considered to be promising species around Santo Antao.
- Fish landed is generally sold to the island population by about 175 saleswomen, two thirds of whom are related to fishermen. Transport is on foot, carrying the fish on the head, so only small amounts can be transported over limited distances.
- For this reason the coastal regions, where 40 % of the island population of abt. 45,000 live, are well supplied. More inland regions, with another 40 % of the population used to be only supplied in the high season of 3-4 months. The remaining 20 % of the population have no supply of fish, as they are out of reach for saleswomen on foot as well as for transport by car.
- The area of Tarrafal and Monte Trigo has no hinterland, but good fishing grounds. About 80 % of fish production (160 t in 1984) is estimated to be sold at low prices to Mindelo. Activity of the project has been small in this area.
- According to 1984 estimates average consumption of fish on Santo Antao was about 10 kg/cap/year. PAPASA activities have resulted in an increase of nearly 4 kg/cap/year, so average consumption can now be roughly estimated at 15 kg/cap/year. By concentrating its distributive action on the regions with limited supply of fish, the level of consumption there was said to have been more than doubled. The Second National Development Plan has set a target of 20 kg/cap/y to be reached in 1990.
- Consumer prices of fish are relatively high generally in Cape Verde, with generous trade margins (200 - 250 % e.g. on tuna) for the saleswomen (HANEK 1986). PAPASA deliberately buys and sells fish at fixed, moderate prices : 30 ECV/kg resp. 50 ECV/kg. Fishermen can earn a good income from it, while fish is made available to people with low incomes; 1 kg, 4 to 5 fishes, costing half a minimum day's wage. At that the project was making a profit out of the action as such.
- A credit system was started by PAPASA to make ownership of means of production possible to fishermen. Generally boats, engines and nets used to be owned by people outside of the fishing sector.

Although the project period for PAPASA I was terminated mid 1986, activities were continued under an interim - director provided by the Cape Verdian Government. No external financing was received in this year, although an amount of more than 400,000 Dfl was still due for PAPASA I. The bottom of its financial resources was reached in March 1987.

Still in last year the project seems finally to have started to reap the fruits of its earlier efforts. Lack of finance threatens to put an end to this, while the task of the project certainly is not yet fulfilled:

- . some areas - Tarrafal and Monto Trigo, Janela, fish-less regions - are not yet served by the project.
- . participation and interest of fishermen and saleswomen in project activities have to be increased to make them really effective.
- . some activities have only just started and need further trial and extension.

Experience with PAPASA has been used as an example in working out the National Development Plan for the Artisanal Fisheries of other islands, so PAPASA is considered as a pilot project. This and the quality of the interim - manager illustrate the appreciation of the Government for

the project.

Fish is one of the very few resources of the Republic of Cape Verde that is not only able to supply the home market, but also to produce for export. In the Government plans the artisanal fisheries are foreseen to produce primarily for the home market. As fish is rich in high valued protein a considerable increase in consumption of fish will greatly contribute to the often weak nutritional situation of the population. Development of the fishing industry therefore has a certain priority in Government policies.

Apart from fishermen and saleswomen, consumers should benefit by the project. An increase in consumption of fish is most needed by the lowest income groups in inland regions. Prices will have to be as low as possible to enable those people to buy fish in acceptable quantities. This may imply a continued intervention by the project.

On Santo Antao a Rural Development Project is being executed with Cooperation of the Netherlands. Development of artisanal fisheries cannot be completely separated from rural development, if only because fishing communities generally are rural communities. Fishing and agricultural activities are often complementary in offering employment and subsistence-food. But also they can compete sometimes for the available labour. Apart from this the economic situation of the agricultural regions greatly affects the marketing possibilities for fisheries products. And finally a wealthy fishing sector may increase some secondary industries, generating an attractive multiplier effect. (With a view to this connection SEP has been brought under the Ministry of Rural Development MDR). As particularly marketing will be an important activity in the next phase of PAPASA, a closer, more regular contact with the Rural Development Project is recommended. The newly installed Project Coordinator of DGIS could eventually see to that. (Such contact could also serve simple practical goals like the coordination of transport activities.)

5.2. General Objectives

In the National Plan for Fisheries Development general objectives are stated for the development of artisanal fisheries until 1990. These will be summed up summarily together with a discussion of the relevance of project activities.

- Inland fish consumption should rise to an average of 20 kg/cap/year. For the realization of this the production by the artisanal fisheries has to increase and inland marketing of fish has to improve. Both are fields where PAPASA II will be primarily active. A good start was made by PAPASA I and continued intervention will bring the target within reach for Santo Antao.
- Productivity shall be boosted by the introduction of new, improved boat types, using more productive fishing methods. Average production is set at 75 t/year. This is very near the average realized by the purse seiners introduced by PAPASA and may will be a realistic estimation. More boats of this type will be built, or at least financed, by PAPASA II.
- Fishing for lobster will be stimulated, leading to a 3 month season with substantially increased production. PAPASA has been testing fishing with lobster pots for sometime and the second phase will extend technology and know how to the fishermen.
- Fleet reconstruction is supported by PAPASA with its credit scheme.
- Construction of port and landing facilities will be continued by PAPASA II and extended to Tarrafal and Janela.
- Technical and social support centres have been established in Ponta do Sol and Porto Novo, a third one will be built in Tarrafal. Apart from training and extension, repair and maintenance and sale of gear and equipment, these centres will serve to stimulate the formation of producer organisations.
- Administrative personnel is to be trained. Although not included in the project proposals, PAPASA could offer opportunities to gain practical experience. This however should not hamper normal progress of activities, nor weigh upon the project budget.

5.3. Specific objectives.

The primary objective of the project is to raise average consumption of fish on Santo Antao to a level of more than 20 kg/cap/year.

This calls for an increase in supply of fish. Supposing the population of Santo Antao will grow to 50,000 by the end of 1991, production of fish by the artisanal fisheries for the island market will have to increase to more than 1,000 t per year.

Also a further development of the distribution of fish is required, resulting in an increase of supply to the inland regions which used to have seasonal supply (defined by HANEK, 1986) to more than 300 t/year (corresponding to the present level of consumption of the total island population). It should be tried to realize some supply of fish to the regions traditionally without supply.

During the second phase the construction of infrastructure shall be completed. This includes :

- a fisheries support centre in Tarrafal and Monte Trigo (equipped with one of the store rooms of Ponta do Sol).
- the workshop in Porto Novo.
- port and landing facilities like:
 - . breakwaters (Tarrafal, Cruzinha, eventually Ponta do Sol)
 - . winches and slipways (Tarrafal, Janela, Cruzinha)
- live lobster storage cages in Ponta do Sol, Cruzinha and Tarrafal.

PAPASA is to become self-supporting ; the proceeds from more or less commercial activities shall be sufficient to cover the costs of continued non-profitable activities. The most important activities to be continued are (+: positive cashflow ; -: negative cashflow):

- + supply of gear and equipment and of ice
- test fishing and extension of new fishing methods ; support and training of fishermen
- development and extension of handling and transport methods ; support and training of saleswomen
- + transport and wholesale of fishery products
- (+) provision of credit to fishermen and saleswomen
- (- management, administration and data collection)

A number of economically feasible commercial activities by private firms shall be set up:

- a boatyard
- at least 10 improved boats more than at present, owned and operated by (groups of) fishermen, applying new fishing methods (e.g. purse-seining, lobster potting, gill-netting, trolling)
- marketing of fish in inland regions by saleswomen.

Experimentation, testing, training and extension during the second phase shall result in :

- the introduction and commercial application of new fishing methods (e.g. lobster potting, gill-netting, long lining, trolling etc.)
- an improvement of handling practice and quality standards for fish for consumption.

Considerable effort will be put into the stimulation of associative activities during the second phase of PAPASA. Where viable this can result in the foundation of organisations of groups with common interests: producers, traders and eventually consumers. (As people can not be forced to cooperation, no measure of the success to be achieved in this field can be given beforehand.)

5.4. Special aspects

The position of the saleswomen deserves special consideration. Frequently women are pushed out of their traditional economic activity in a development process. Generally this goes together with the introduction of new technologies given automatically into the hands of men.

Although new technologies are meant to increase productivity, doing more work with the same effort, an expulsion of labour can be avoided in a growing market.

The project management has to be aware of these mechanisms, as an increased project activity in local distribution may indeed tend to push fish saleswomen out of the market. This must be prevented and instead the women should be supported to strengthen their market position. Some suggestions are:

- Women could be stimulated to cooperate and take over (part of) the inland distribution together, at first supported, guided and guarded by the project, but gradually becoming independent.
- For local distribution means can be sought for transport of larger quantities under improved conditions (for women as well as fish).
- An inland retail trade might be developed with donkeys for transport to otherwise inaccessible areas. In this field particularly development may be a prolonged process, but impatient actions, introducing new methods too fast, can easily undermine the livelihood of the saleswomen.

In view of the experience of phase I of PAPASA, improved procedures for the disbursement of money to the project are considered necessary. A progress of activities depends highly on a timely availability of the required funds.

After termination of phase II foreign exchange will continue to be an important factor in the economy of the fishing sector, as practically all materials have to be imported. For this an intermediary role is foreseen for PAPASA, but to be able to fulfil it, some access to foreign exchange should be created.

In connection with this the foundation of a National Institute for the Promotion of Fisheries IDEP has to be mentioned. This will be a service rendering and coordinating body for the development of artisanal fisheries. As part of its task the procurement of fishing materials is foreseen, leaving the final distribution to local organisations. Another activity will be the continuous evaluation of fisheries development projects, including PAPASA. For this the collection of relevant data is necessary.

6. IMPACT

6.1. Situation without second phase of PAPASA.

If PAPASA would not get a follow-up phase and the money still due for the first phase would not be disbursed, the project would have to wind up most of its activities. At least all non-profitable activities would have to be cut, the first being the fisheries development branch. Only a private fishing enterprise, fishing commercially with two improved boats and the training vessel 'Cruzinha' might remain. This enterprise could do its own marketing and, if considered profitable, also add fish from other boats to that.

Supply of fishing gear might be a side-line of the firm, at least as long as stocks last. Replacement of stocks could become as difficult to PAPASA as to any other fishing firm in Cape Verde, depending on the attitude of the Government towards it. Granting credit to fishermen probably would have to be discontinued, depending on the actual financial position and the profitability of the fishing and marketing activities. It is likely that in this situation the market for new boats would weaken considerably, forcing PAPASA to cut the boatbuilding branch as well.

Under these circumstances it is uncertain whether the production and consumption of fish on Santo Antao can be maintained at the present level. Most probably supply to the inland regions would decrease and in the coastal regions competition of PAPASA acting commercially could put pressure on the traditional saleswomen.

Payment of the remaining 400,000 Dfl of the first phase to PAPASA, without a continuation of the project, would at least leave the private firm that would emerge in a better starting position. The firm could provide itself with a good supply of spare gear and materials for its own fleet. It would have some financial leeway for experimental fishing to broaden the scope and strengthen the basis of its fishing activities. Also it would be possible to maintain and eventually strengthen its inland distribution network.

Backed by favourable prospects and results in fishing and marketing the firm might be prepared to continue some less profitable activities, like building boats on credit for fishermen, supplying and repairing engines and nets and supplying fishing gear and materials. Also in this case, for the procurement of materials, spare parts and equipment, all requiring foreign exchange, the firm would be dependent on the benevolence of the Government. It is imaginable this will be greater for a firm with some activities to the benefit of the fishing sector as a whole. But it must be kept in mind that PAPASA would be a private company, primarily acting for its own profit.

Fisheries training and extension would not be part of its program, no more than supporting fish saleswomen. In fact the firm would be a strong competitor on the market. In this situation supply to the island population could probably be maintained and perhaps even increase slightly in the longer run. It is however not likely that the targets of the National Development Plan could be reached on Santo Antao.

Anyway the Cape Verde Government is unable to finance a continuation of present PAPASA activities in the field of fisheries development. So only a continuation of commercially viable activities can be expected with a severely reduced organisation. At best one of the support centres would be maintained as company-headquarters, abandoning the other one. Fish selling stands might be passed on to local market authorities; landing platforms and winches would be left to the fishermen to maintain, as they will have to anyway in the future.

6.2. Situation after second phase of PAPASA.

In the second phase of PAPASA the project will become the central support and service organisation for the fishing and related industries on Santo Antao. After termination PAPASA will continue to fulfil this role. This includes the following activities :

- supply of fishing gear, spare parts and materials,
- repair and maintenance of fishing boat engines, ^{*)}
- trial and introduction of new fishing methods,
- training and extension of methods and skills,
- development of improved handling and transport methods,
- training and extension to saleswomen,
- granting credit to fishermen and saleswomen,
- support of social and trade organisations of fishermen and saleswomen.

Of these the supply, repair and credit activities will earn money, more than sufficient to cover their direct costs, but not sufficient to pay for all of the other development and support activities. As no outside financing will be available after termination of the project, PAPASA will have two additional activities, sufficiently profitable to cover the remaining costs:

- commercial fishing
- transport and whole sale of fish.

An estimate of costs and earnings of PAPASA after the second phase, together with a survey of personnel and organization are given in Annex 9. In table 6.1 a summary is given of the estimated financial results per year. From this it is clear PAPASA will be able to sustain its activities without external financial support.

Apart from the operational revenues PAPASA's financial basis is reinforced by revolving fund capital, consisting of:

	(1,000 ECV)
- credit fund (from introduction of improved botes)	12,000
- working capital fund for gear, spare parts and materials	2,500
total	<u>14,500</u>

Normally this capital should be tied up of course in the activities it is meant for. Application to other, similar activities need not be excluded.

Through the introduction of ten improved botes and the extension of new fishing methods the project will boost fish production by more than 400 t. This is supposing 4 will be purse seining and 6 will have a mixed tuna and rock lobster fishery.

Most of this will be fit and available for consumption on Santo Antao. Improved distribution by saleswomen, stimulated and supported by the project, will make the increased supply available to the coastal and inland population, seeing to it that the target level of consumption is met.

Surplus production, primarily consisting of tuna, will have an outlet to Mindelo through the wholesale activities developed and established by the project.

The economic benefits to the fishermen and saleswomen directly involved can be expected to have a multiplier effect, inducing a higher level of activity in other sectors of the economy. Together with social and cultural education and activation by the project this will result in improved living conditions for the fishing communities of Santo Antao.

^{*)} Contrary to the SEP-proposals engine repair and maintenance is considered here as a task of PAPASA. This is meant to assure the fishermen of a prompt and high quality service, as not only his livelihood, but his very life may depend on it. Only when the required standard of service is warranted, this crucial activity may be left to a private company. The mechanic concerned should be trained and qualified by the engine manufacturer(s) concerned.

Table 6.1 Estimate of yearly financial results of PAPASA (1,000 ECV)

Net proceeds:	fish catching	8,100	
	fish trade	3,200	
	sale of gear and materials	2,100	
	interest on loans	<u>600</u>	
	total proceeds		14,000
Costs of exploitation:	salaries and wages	6,600	
	materials	2,000	
	services	<u>2,500</u>	
	total exploitation costs		<u>11,100</u>
Gross result			2,900
	depreciation		<u>2,500</u>
Net result (before taxes)			<u><u>400</u></u>

7. IMPLEMENTATION

7.1. Work plan.

In this paragraph the activities of the project will be described summarily with an indication of priorities and planning in time. The SEP-proposals from the Revaluation Report are generally followed. However one major deviation has to be mentioned first.

It is recommended to refrain from the appointment of a Dutch (or other foreign) counterpart to the national project manager. Based on last year's experience it is expected a well qualified local project manager can be found. In view of the character of the project, that will be more educational and social than technical, and the diversity of the activities in it, it is felt that the contribution of a Dutch co-manager would not be in proportion to the costs involved (20 % of the originally proposed budget). A more extensive use of the services of national as well as foreign experts and consultants on an ad hoc basis will be more effective.

Further, less specific support in the execution of the project shall come from regular, if desirable formalized, contact with the Rural Development Project Management and staff and with the Project Coordinator on Cape Verde, appointed by the Netherlands' Ministry of Development Cooperation. At least once a year a mission will be sent to assist in evaluating progress and planning the next stage(s) of the project.

The second phase of PAPASA will have four main fields of activity:

- Management
- Supply and support
- Fisheries promotion
- Distribution and marketing

Although in the following the activities in the various fields are considered separately, it will be clear that there are numerous inter-relations.

7.1.1. Management.

The success of the project is primarily dependent on the qualities of the project manager. These have been discussed at the SEP in Praia and there was no difference of opinion about it. Before the start of the second phase activities a capable manager shall be selected and appointed by SEP, in consultation with the interim-manager. It is recommended that the new manager is broken in his job intensively by the leaving interim-manager. This is facilitated as the PAPASA administrative staff is not new to the job.

Apart from day to day management and decision making traditional activities under the direct responsibility of the project management are: administration and finances, planning and evaluation.

A natural implication of these activities is the collection and processing of data on the project proceedings. For measurement of the effects of the project a wider range of data is required, concerning roughly: fishing activities, landings, prices, distribution and consumption, costs and earnings of fishing and trade. Most of these data are required also by DBM for their data base. A data collection system will be set up in consultation with DBM and GEP in an early stage of the project. External assistance will be called upon if desired. The necessary personnel will be recruited and will be chargeable to the project during its implementation. After that the collection of data outside the PAPASA administration will have to be discontinued or taken over by SEP.

7.1.2. Supply and support.

Under this heading the existing supply of gear, equipment and materials and connected services are brought together with the construction activities of the project and the important new support activity of social activation and cultural stimulation.

The stocks of fishing gear, equipment and materials, including (out board) engine spare parts, have to be replenished regularly. Sufficient stocks shall be procured at the start of the project.

The construction of a new support centre in Tarrafal will be finished during the first year of the project. The supply of gear, equipment and materials from the centre will start as soon as practicable, followed by other project activities. The establishment at the support centre of an agency for the supply of fuel and lubricants to boats fishing in the Tarrafal and Monte Trigo area is under consideration. This could bear part of the costs of the centre.

The construction and installation of infrastructure, started in the first phase of PAPASA, will be completed in the first half of the second phase. Handwinches and (re)movable iron slipways will be installed in Janela, Porto Novo, Tarrafal, Monte Trigo and possibly in Cruzinha. Furthermore port constructions and improvements are foreseen in Tarrafal (possibly a floating quay), Cruzinha (extension of platform and breakwater) and Ponta do Sol (removal of dangerous rocks near the harbour entrance). Expert advice, particularly for the Tarrafal facilities, will be required.

In the course of the project duration ten improved botes, variations and further improvements on the types already introduced, will be built. Completely equipped with the necessary gear and auxiliaries they will be sold on credit to private fishermen, on conditions to be determined later on. Interest paid can be used for the maintenance of landing facilities installed by the project. Redemptions should go into a revolving credit fund, that will also be accessible for the distribution and marketing sector. The credit fund will be under the direct responsibility of the project manager.

The boats to be built in the framework of the project will assure the carpenters of a continuous and substantial flow of orders for some time. As boat building as such is considered to be profitable, requiring no direct involvement of the project, the boat yard could become a first commercial activity established by PAPASA in an early stage of the second phase. The yard could stay on the PAPASA premises in Ponta do Sol and receive guidance in the initial set-up. It should be equipped with some electric tools on credit (energy provided by the project generator will have to be paid for).

The maintenance and repair service of outboard engines should stay with PAPASA, as long as an adequate service from private mechanics is not guaranteed. In addition to this an increased installation of in board diesel engines is envisaged with the construction of the series of improved botes. The project should prepare itself very well for this move if it is not to end in disappointment and failure. The benefits of diesel propulsion can only be reaped with proper and accurate maintenance of the engines. An early and well considered choice should be made of a single make to be installed. Cooperation with the manufacturer should be sought for the education and training of the project mechanic and interested fishermen and for the procurement of spare parts.

A programme for social activation and cultural stimulation will be the mainstay of the second phase of PAPASA. It is intended to improve the working and living conditions of fishermen and saleswomen and their families. Instrumental in this could be the formation of associations looking after the common interests of the members. Eventually such associations could become involved in the management of PAPASA. An able local cultural worker will be recruited at the beginning of the second phase and be employed at least during the project period.

He / she will develop activities with support from external consultants and in connection with other components of the project. Use will be made of the facilities offered by the three support centres. In view of the importance of this part of the project it is recommended to express the responsibility of this function in a level of remuneration that is at least equal to that of the master fisherman.

7.1.3. Fisheries promotion.

The fisheries promotion section of PAPASA will continue and expand the work that was started during the first phase in the field of increasing production and productivity of fisheries of Santo Antao. A variety of technical innovations that could successfully contribute to a solution of the majority of problems will be tested and when considered viable introduced. Fishermen will be instructed and trained in the application of new fishing techniques by the team of master fisherman, auxiliary fisheries technician and extension and credit officer, supported by the cultural worker.

Activities foreseen in the programme of this section are summarily:

- increasing the number of improved botes equipped with a purse seine ('rede de alto mar') for an increased production of horse mackerel (cavala) for inland consumption primarily.
- testing and introduction of new, easily stocking and handling models for catching rock lobsters, shrimps and spider crabs.
- installation of fish wells in improved boats to enable them to transport and keep small quantities of live bait and lobsters.
- introduction of floating cages or viviers in Ponta do Sol and Tarrafal for the storage of live bait and lobsters.
- testing and introduction of improved and more productive methods of trolling for tuna.
- experiments with light attraction in fishing for small pelagics for bait.
- testing and introduction of gill nets for tuna fishing and also for demersal species.
- introduction of small mechanical winches on board of boats fishing with creels. Such winches can also be used for long lining for demersal fish.

This programme will be executed throughout the project, concentrating at first on lobster fishing and gradually changing the accent to improved tuna catching methods. Local making of fishing gear using generally available materials as much as possible, will be stimulated. Instruction and training of fishermen and other interested people in appropriate techniques will be part of the programme. In addition to this scholarship will be made available to enable 10 % of the island's fishermen to follow a month course at the National school in Mindelo or the Artisanal Fisheries Training Centre.

For test fishing and extension activities use will be made of the present fleet of two improved botes - PAPASA I and II - and the large training vessel CRUZINHA. For a troublefree fulfilment of its task, the purchase of a replacement engine and a set of spare parts is foreseen for the latter. Purse seining has been sufficiently developed to allow an early sale of PAPASA I, which is specifically equipped for this technique.

7.1.4. Distribution and marketing.

The distribution of fish for inland consumption and finding and organizing outlets outside of Santo Antao for surplus production of fish will be the task of the commercialization section of PAPASA.

The inland distribution has become well established in the past year and in the second phase of PAPASA efforts should be directed at the extension of this activity, including the methods for handling and transport, to private saleswomen. Earlier in this report - par. 3.2 and 5.4 - several remarks and suggestions were made on this subject. This transfer of know how and activity should be a combined effort of the commercialization section, the cultural worker and the project manager.

It is recommended to call on expert advice and support for a careful and proper development of this process.

Meanwhile PAPASA should continue its distributive activities as long as considered necessary in order to avoid a stagnation of supply to the inland consumers. Also solution should be sought for the supply of fish to those regions which were traditionally out of reach of saleswomen and PAPASA. In the activities the project should see to it that no harm is done to the position of traditional fish traders. For this a monitoring scheme could be set up, possibly in combination with the data collection system. Eventually the inland retail trade should be taken over completely by the private sector, with PAPASA only acting as a wholesaler, but it is not to be expected this situation can be reached within the project period.

The stands for the sale of fish to the public, built during the first fase of PAPASA, have not functioned very well up to now. They will be handed over to local market authorities or to concessionaries for exploitation early in the project period.

PAPASA will also start an intervention for fish that is not absorbed by the local markets. In fact this will be a wholesaling activity, buying fish at the producer level and selling it to retailers, occasionally on Santo Antao, but mostly at Sao Vicente, or to INTERBASE, the public inter-island wholesaling and export company.

Two types of operation are being aimed at: one over land by project pick-up(s) from Ponta do Sol to Porto Novo and by ferry to Mindelo; the other one over sea by boat from the Tarrafal de Monte Trigo region. Fish will be transported on ice in 600 kg insulated containers, with ice from the Mindelo plant as a return freight. Local ice making will be discontinued almost completely, as this costs nearly three times as much as the Mindelo ice. One of the cold store rooms of Ponta do Sol will be moved to the Tarrafal support centre for the preservation of fish on ice during 2 to 3 days while waiting for transport.

For the Tarrafal operation the purchase of a combined fishing - transport vessel, similar to CRUZINHA is envisaged. While fishing in the relatively rich Tarrafal waters for tuna during the season and for wahoo (serra) and lobster in the off-season, surplus catches of these and other species will be bought up regularly from local fishermen and brought to Porto Novo and Mindelo. It is recommended to test this operation extensively with CRUZINHA during one or two seasons, in order to get a good idea of its requirements and prospects before deciding on this major investment. One point of consideration has to be that CRUZINHA's role as a fisheries support and training vessel should not be impaired by a possible additional employment as a transport vessel. On the other hand operation of two of those vessels by the project should be financially feasible. Eventually one of the vessels could be sold for private commercial operation at the end of the project period.

The inland markets of Santo Antao and Sao Vincente have insufficient capacity to absorb all of the (considerable) potential catches of wahoo. Therefore an export marketing study is wanted on a short term, to establish outlets for surpluses of this species. In a later stage a similar study is foreseen for the export of excess supplies of horse mackerel (cavala).

7.1.5. Time schedule.

Many of the activities mentioned in the foregoing paragraphs will go on throughout the project period and some of them even beyond that. To put those into a time schedule would be rather useless. But a number of activities will have a limited duration or require special attention or timing when starting up. Most of such activities fall in the first half of the project. They are indicated roughly in the schedule of fig. 7.1.

Fig. 7.1 Time schedule of non-continuous PAPASA activities

Year nr.	I	II	III	IV
<u>Management</u>				
- selection and appointment of project manager	XXXX			
- project planning and evaluation	XX	XX	XX	XX
- setting up of data collection and monitoring system	XXXXXXXX			
<u>Supply and support</u>				
- construction Tarrafal support centre	XXXXXXXXXXXX			
- port construction and landing facilities	XXXXXXXXXXXXXXXXXXXXXXXXXXXX			
- replenishment of stocks of gear equipment and materials	XX XX XX	XX XX	XX XX	XX XX
- setting up independent boat yard	XXXXXXXXXX			
- delivery of improved botes	XX XX	XX XX	XX XX	XX XX
- recruitment of cultural worker and planning programme for social activation and cultural stimulation	XXXXXXXX			
<u>Fisheries promotion</u>				
- purchase of engine and spare parts for CRUZINHA	XX			
- sale of PAPASA I	XX			
<u>Distribution and marketing</u>				
- removal of cold store room to Tarrafal	XX			
- purchase and installation of floating viviers	XX	XX		
- transport trials by CRUZINHA	XXXXXXXXXXXXXXXXXXXXXXXXXXXX			
- evaluation of trials and decision on purchase of new vessel		XX		
- purchase of insulated 600 kg containers	XX	XX	XX	
- transfer of exploitation of fish selling stands	XX			
- export marketing study for serra	XXXXXXXX			
- export marketing study for cavala		XXXXXXXX		

Of course this schedule should not be considered to be imperative but more as an indication of timing and duration of non-continuous activities in the second phase of PAPASA. Crucial activities for the progress and success of the project or parts of it, as other activities depend on them, are:

- the appointment of the project manager,
- the appointment of the cultural worker
- the construction of the Tarrafal support centre
- the transport trials by CRUZINHA.

These activities should keep the schedule as well as possible. This goes also for the setting up of the data collection and monitoring system, as the project's results have to be measured by this system. For other activities a more flexible approach is allowable.

As is clear from the schedule the end of the second year marks an important stage in the project. By that time the project should be completely settled and stabilized, with 'only' routine activities remaining. These will concentrate on extension and transfer of inland distribution to saleswomen, expansion of the range of inland distribution, the social and cultural programme, wholesaling of fish and extension of new fishing methods. Most of these activities will be continued after termination of the second phase of PAPASA.

7.2. Budget estimate

In the GEP revaluation report a revised budget for the project is proposed, amounting to 105 mln. ECV, that is 3 mln. Dfl. This proposal which is reproduced in Annex 2, can be greatly adhered to, but for deviations resulting from changes in the project plan recommended in the preceding paragraphs.

The most important deviation is the cancellation of a foreign co-manager from the project. This results in a reduction of the project budget by 600,000 Dfl. Budget increases result from the recommended raise in salary of the cultural worker (600 contos = 17,000 Dfl) and from keeping a mechanic for engine repair and maintenance with PAPASA (716 contos = 20,500 Dfl). The former however falls within the margin of contingencies, the latter can be paid from the budget originally foreseen for staff salaries.

In exchange for the removal of the foreign co-manager a more intensive support of the project by consultants and experts was recommended in 7.1. As it is understood the sector mission that was planned in 1986 will not be part of the project any more, the amount that was reserved for this activity in the proposed budget can be added to the budget for consultancies, trebling it. In this way an equal amount of money will be available for consultancies for each of the three main fields of activities of the project.

In order to bring about a gradual transition to self-sufficiency the contribution of the project budget to the payment of staff salaries is reduced year by year. In this way only about 70 % of total salaries during the project period is covered, the remaining 30 % has to be brought forward by the supply, fishing and whole-saling activities. This enables to stay within the original budget.

A more generous estimate for contingencies is recommended, consisting of about 5 % of estimated expenditure for physical contingencies and an average of 12,5 % for price contingencies. The latter would allow for a possible yearly rate of inflation of about 6 %.

With these adaptations the total estimated budget for the second phase of PAPASA amounts to 2.4 mln. Dfl. or 84 mln. ECV. A comprehensive survey, specifying the amounts involved in various purchases and activities, is given in Annex 6. Estimated costs are distributed tentatively over DGIS cost types and over the years in accordance with the time schedule of fig. 7.1. A summary is given below in table 7.1.

Table 7.1. Summary of budget estimate for the second phase of PAPASA
(in 1,000 Dfl).

	project section				Contingen- cies	Total
	Mana- gement	Supply & Support	Fisheries Promotion	Commer- ciali- zation		
DCIS cost type:						
100 missions	100	65	50	164		379
200 personnel	150	260	50	16		476
400 materials		492	115	326		933
500 oper.cost	20	33	81	11		145
600 trianing	20		80			100
800 contingencies		11			356	367
Project year :						
I	105	340	168	93	69	775
II	65	209	79	245	102	700
III	65	160	69	169	107	570
IV	55	152	60	10	78	355
Total	290	861	376	517	356	2,400

Earlier in this report it was recommended that the authorities involved and the project management should agree upon a procedure for the disbursement of funds to PAPASA in order to ensure a smooth progress of the project in this respect.

8. FINANCIAL AND ECONOMIC FEASIBILITY

In this chapter two questions have to be answered:

- Is the project able to provide for the current expenditure that is not covered by external funding?
- Will the project eventually result in activities that are economically feasible?

The answer to the first question is derived from the estimate of financial results of the project, given in Annex 7.a. The estimate is based on data from the GEP Revaluation Report and it has been made for a year about midway the project duration. A summary is given in table 8.1.

Table 8.1 Financial results of PAPASA by project section (in contos)

Project section	receipts	expenditure	result
Management	0	1,600	-1,600
Supply and support	7,100	6,700	+400
Fisheries promotion	6,300	5,500	+800
Commercialisation	<u>6,900</u>	<u>6,400</u>	<u>+500</u>
TOTAL	20,300	20,200	+100

From this table it can be concluded that the project indeed will be able to cover its expenses from receipts from fishing and trading, although the margin may seem rather small. It should be remarked however that in the expenditure the total cost of the staff salaries at nearly 2,800 contos per year has been included. The situation that this has to be covered completely will only arise after termination of the second phase. By that time the turnover of particularly the supply and commercialisation sections will have increased considerably as a result of expansion of the fleet by improved botes and an expected general increase of productivity. This will greatly raise financial results.

Apart from this the fisheries promotion section can at any time, by moving its position from fisheries development towards commercial fishing, increase its financial contribution to the project at will. Finally the activities of a fishing/transport vessel have been left out of consideration. This also can contribute substantially to the project's finances, as will be clear from Annex 8, where a net result before taxes is estimated.

This gives also a first, partial answer to the second question: a combination fishing/transport vessel can be exploited profitably (also commercial fishing alone can be profitable). The question of economic feasibility of PAPASA as a whole after the project period has been answered satisfactorily in paragraph 6.2: a yearly net result of 1600 contos, about 10% of net proceeds, can be obtained.

Annexes 10.a and 10.b give exploitation estimates for improved botes and for inland distribution operations by saleswomen. Fishing with an improved bote appears to be profitable for boat owner as well as crew members. Gross results are sufficient to enable a redemption of loans within little more than two years. Also inland distribution in the PAPASA way can be very profitable for saleswomen, particularly when cooperating, sharing the risks and profits of larger operations. Distributing 600 kg on one day (about the average handled by PAPASA in 1986) would earn them a week's wage of a project driver. For a single woman 200 kg would be about the absolute minimum to earn a day's wage, but the margin is very small indeed.

Finally an attempt has been made to evaluate the economic feasibility of the project as a whole and its contribution to the Cape Verdian economy. For this purpose yearly cash-flows, resulting from extra production brought about by the project reduced by the extra costs involved, are offset against the investments in the project.

Eventually the project will have introduced 14 improved botes, 2 larger fishing/training/transport vessels and the PAPASA infrastructure and organisation. The total (extra) production of the fishing boats is valued at Mindelo prices, thus simulating f.o.b. world market prices minus processing, handling and transport costs. Total extra production is estimated at 44 million ECV per year. The estimate of total costs includes all materials for boats and PAPASA, supposing they will have to be imported, and the service costs for PAPASA. Labour is valued at full costs for PAPASA staff and at minimum wage level for crews of boats (as an opportunity cost). Total costs are estimated at 20 million ECV per year.

Taking the total project funding of first and second phase at 6.4 million Dfl, = 224 million ECV, as initial investment, the project would have an internal rate of return of 7.5%. This must be considered as satisfactory for this kind of project.

LITTERATURE

- Bravo de Laguna, J. Plateaux insulaires et zone économique exclusive de la République du Cap Vert (Projet pour le renforcement du Secrétaire d'Etat aux Pêches du Cap Vert, CVI/82/003/RAPP/TECH/6(Fr)).
Praia, mars 1985.
- Fonteneau, A. Les ressources thonières dans les îles du Cap Vert, perspectives biologiques.
Dakar, janvier 1985.
- Gonçalves, E. Relatorio; Reavaliação do PAPASA-Deslocação a
Barros, S. Santo Antao.
Pinto, P. Praia, março 1987.
Horemans, B. Etude préliminaire sur les revenus des unités économiques de pêches en République du Cap Vert. (CVI/82/003/RAPP/TECH/15(Fr.)).
Praia, juin 1986.
- Hanek, G. Le rôle des femmes dans la pêche de la République du Cap Vert. (CVI/82/003/RAPP/TECH/20(Fr)).
Praia, novembre 1986
- Hanek, G. Cap Vert: pêche artisanale.
Horemans, B. (CVI/82/003/RAPP/TECH/5(Fr))
Lozac'hmeur, J. Praia, octobre 1984.
Hartsuijker, L. Santo Antao Artisanal Fisheries Development Project (PAPASA), Formulation Report.
Wageningen, January 1985.
- Knoops, P. Food Strategy Study, the Republic of Cape Verde, preliminary report; Volume V Fisheries.
Wilde, J.W. de Wageningen, 1982
- Lips, M. Santo Antao Artisanal Fisheries Development Project, Evaluation of PAPASA 1 and Formulation of PAPASA 2.
Utrecht, June 1986
- Lof, B. 'Djunta-mô', Een traditie met toekomst.
Nijten, R. Wageningen, november 1983.
Ubels, J.
Zuidam, H. van
Lozac'hmuier, J. Rapport de voyage à l'île de Santo Antao (No. 39) (CVI/82/003/TRAM/39).
Praia, 1985.

ANNEX 1

Terms of reference for a mission to reformulate a follow-up phase of the 'Projecto de Apoio Pesca Artesanal de Santo Antão' (PAPASA).

1. Introduction

PAPASA became operational in 1981; the first phase was extended to the end of 1986. An evaluation mission visited the project in March 1986. In the resulting report a follow-up phase is formulated, emphasizing distribution and marketing of fish, extension and training of fishermen and (fish-trading) women and data-collection. However some doubts were cast upon the effectiveness of the activities of the project, insofar that no increase in production and consumption of fish on Santo Antão was apparent.

2. Documentation:

The mission may refer to:

- Formulation Report PAPASA Project; 1985
- Evaluation and Formulation Report Santo Antão fisheries Development Project(PAPASA); June 1986.
- Project files and relevant project correspondence
- Other relevant documentation, such as the reports of the FAO-project, for the Reinforcement of the State Secretariat for Fisheries of Cape Verde e.g. ' Le rôle des femmes dans la pêche de la République du Cap-Vert' by George Hanek (November 1986).

3. Composition of the mission

- Mr. Cape Verde, State Secretariat for fisheries
- Mr. J.W. de Wilde the Netherlands, Fisheries Economist,
Agricultural Economics Research
Institute(LEI)

4. Itinerary of the mission:

Departure Amsterdam:

- Sal - Praia - Mindelo - Santo Antão - Mindelo -
Praia - Sal - Dakar - Amsterdam

Departure Sal:

5. Tasks of the mission

- a. - look into the technical, economic and social impediments to growth of the production and consumption of fish on Santo Antão .
- reconsider the follow-up phase for PAPASA as proposed in 1986 and adapt and reformulate proposals (in this completely new elements and/or activities need not be excluded).
- indicate project costs, way of financing and project benefits.
- see to it that proposals shall:
 - . be in accordance with national development priorities
 - . not impair, but rather strengthen the rôle and position of women in the distribution and retail-trade of fish on Santo Antão.
 - . in the end result in activities which are self-supporting
 - . allow a speedy start of the follow-up activities.
- b. - look into the feasibility of the installation of freezing equipment at the Mindelo cold store.

6. Reporting

The mission shall formulate conclusions and recommendations in an Aide Memoire to be submitted to and discussed with Cape Verdean authorities concerned. A report in English will be submitted to DGIS in April 1987.

The Hague, 13-2-1987

Annex 2. ITINERARY

date	activity	people met
March 24 (Tue)	-departure Amsterdam	
25 (Wed)	-arrival Mindelo	J. Mauricio
26 (Thu)	-travel to Santo Antao -visit PAPASA -arrival Ribeira Grande	J.A. Delgado
27 (Fri)	-visit PAPASA seat, Ponta do Sol -settling programme -inspection distribution routes and PAPASA activities in Ribeira da Torre and Paul region	N.M. Fernandez
28 (Sat)	-inspection distribution routes and PAPASA activities in Cruzinha and Ribeira Grande and tributaries -dinner and talk with Dutch Rural Development Project Staff	K. Dijkshoorn E. Kloosterboer
29 (Sun)	-study of reports, preparation of discussions	
30 (Mon)	-discussion of project elements, dinner at PAPASA seat	H. Santos
31 (Tue)	-discussion of project elements and plans for second phase	
April 1 (Wed)	-round up of discussions on second phase -dinner and talk at Kloosterboer's -visit to Ribeira Torta	
2 (Thu)	-return Mindelo	
3 (Fri)	-talk at INTERBASE -travel to Praia	J. Duarte Monteiro
4 (Sat)	-discussions at SEP on project activities and second phase -dinner with J. Maurizio	V. Andrade Gomez J.L. Sa'Nogueira E. Gonçaves
5 (Sun)	-trip to Tarrafal	
6 (Mon)	-continuation discussions on second phase -writing Aide Memoire	
7 (Tue)	-travel to Dakar	
8 (Wed)	-visit COPACE, discussion project aspects, obtaining reports on Cape Verde fisheries	M. Ansa-Emmim T.R. Brainard D.J. Faggianelli
9 (Thu)	-return Amsterdam	

ANNEX 3

AIDE MEMOIRE

Reformulation mission (March/April 1987) Phase 2 (1987-1990)

SANTO ANTAO ARTISANAL FISHERIES DEVELOPMENT PROJECT PAPASA

Introduction

From the report of the evaluation and formulation mission in March 1986 some doubts arose on the effectiveness of the project. A mission, consisting of undersigned J.W. de Wilde, was sent to look into the restrictions to growth of production and consumption of fish on Santo Antao and to reformulate proposals for a second phase of PAPASA, resulting in selfsufficiency of the activities of the project. A sideline of the mission was to look into the feasibility of the installation of freezing equipment at the Mindelo cold stores.

The mission visited the project from March 26 tot April 2, was in Mindelo on March 25 and April 3 and had discussions and debriefed in Praia from April 4 to April 6.

PAPASA

Since the last mission the project has shown a remarkable progress, by which some of the criticisms resulting from that mission are refuted. Some data on activities are:

- The project has built 5 boats of an improved and bigger type (besides 5 of the traditional size), three of which are operated by private fishermen, the other two (still) staying with PAPASA.
- The project has introduced 4 purse seines, which are used by the bigger boats.
- A financing system was set up for fishermen only, repayments being done by parts of the proceeds of landings, showing pay back periods for less than two years.

Annex 3. (continued)

- A distribution-system was started and maintained, bringing cheap fish (cavala), the product of the purse seines, to inland consumers and providing bait to fishing communities. Over a period of twelf months - April 1986-March 1987 - an additional production and consumption of fish of about 180 tons was realized, giving an extra per capita consumption of abt 4 kg.
- Sales of fishing materials and outboard engine repair are well established activities.

The administrative centre of the project has been moved to Ponta do Sol. At the departure of the former projectleader Mr. Rocha, the direction of the project was on a temporary basis taken over by Mr. Mauricio, a highly experienced manager. An accounting system was set up, which can be used as a tool of management for the project and is a source of data on the various activities. This system has already resulted in a draft Balance Sheet and Report on Financial Results over the period July-December 1986.

From this it is apparent the project has completely depleted its financial resources. The main reason for this is the delay of payment of Dfl 430,000 still due for phase 1 of the project. An extra factor is the engine breakdown of "Cruzinha" (for which parts from Japan had to come), keeping her inactive since the beginning of November 1986. The present situation is desperate, as the project has not been able to pay the March staff-salaries.

In discussions on project activities and future developments it was made clear that:

- Without the remaining money the project would come to an abrupt and immediate end.
- With this money, but not further external financing PAPASA could become a fine private enterprise, negating the purposes it was set up for.
- With further financing of a second phase the activities of the project could become selfsufficient and the original purposes fulfilled.

Freezing equipment INTERBASE

The original objectives for the cold storage of Mindelo - offering storage room to visiting (and home) fishing fleets - have not come true. With the present industrial fleet consisting of freshers the need for an efficient freezing installation at the cold stores has become urgent. Plans have been drafted in 1984 and will, after updating, again be submitted for financing by the Duth Government.

Phase 2 of PAPASA

The Cabinet for Studies and Planning (GEP) has recently made an extensive study of the development of the project until now and the potential for the future. Based on this study a reformulation of Phase 2 has been made, aiming at autonomy and self-sufficiency of project activities in 1990. Financial estimates have been made to assess the potential for every activity envisaged.

A change in philosophy and strategy for the project has to be noted: from more or less imposing and directive it will become participative. Mainstay of the project will be a revolving fund, with which new techniques will be introduced, extension and training will be financed, as well as the financing system for boats and materials (in which the factor interest will be introduced).

By changes in projected activities, mainly concerning infrastructure that has been dropped, the total amount of money involved in PAPASA 2 has gone down from 140,000,000 ECV to 104,900,000 ECV, that is about 3,000,000 Dfl. A copy of a comparison of former and reformulated project costs is attached.

The importance of an efficient, dedicated and strict management of the project is emphasized. A project Director of Cape Verde, preferably Santo Antao origin is envisaged, to be assisted by a Dutch expert, who will also be a liaison officer with Dutch

authorities. Although some practical coordination with the Rural Development projects on Santo Antao may be desirable, a strong organisatory bond between both parts of Dutch cooperation is thought to be inadvisable.

The need to get PAPASA out of its financial predicament is once more stressed and promise is made the utmost will be done to end it. Also the mission expresses to be impressed by the effort made by the State Secretariat for Fisheries and the Cabinet for Studies and Planning in reconsidering and reformulating the second phase of PAPASA. This has greatly lightened the task of the mission.

The documents obtained from PAPASA and SEP will be studied on return in Holland and a draft report prepared. This will be submitted to Cape Verdean and Dutch authorities concerned for comment and in mutual accordance be finalised.

Acknowledgements

I want to express my gratitude for the friendly and hospitable reception by all I met in my mission, but more specially I thank:

- Mr. Andrade Gomes and Mr. Sa'Nogueira for their frankness and willingness to provide any information asked for (as well as for trip and dinner offered);
- Mr. Manuel Fernandez for his friendliness and companionship;
- but most particularly Mr. Jorge Mauricio, who never tired of broadening and deepening my insight into the Cape Verdean economy, more specially that of the fishing sector, that of Santo Antao in particular, for his patience with me and his comradship throughout my mission.

Praia, April 6, 1987

J.W. de Wilde

Vincente A. Gomes



SECRETARIA DE ESTADO DAS PESCAS

GABINETE DE ESTUDOS E PLANEAMENTO1. PROPOSTA DE ORÇAMENTO

Relatório de Avaliação de Junho de 1986		Proposta de Março de 1987	
Recolha de dados	4 200	- Recolha de dados	4 200
Infraestruturas	7 000	- Infraestruturas	7 000
Barco de transporte	10 500	- Cruzinha II	10 500
Construção de barcos	10 500	- Construção de 10 botes melhorados	12 000
Infraestruturas portuárias	24 500	—	—
Centros de Treino	17 500	- Dinamização do associativismo e animação cultural	4 000
Programa de formação	7 000	- Fundo para ensaio de inovações	6 000
—	—	- Bolsas para estágios de formação	800
Pessoal externo	21 875	- Pessoal externo	21 875
Pessoal local	7 700	- Pessoal local	7 700
Missões	2 800	- Missões	2 800
Missões para o sector das pescas	3 500	- Missões para o sector das pescas	3 500
—	—	- Estudos de marketing para exportação	4 000
Consultores	1 750	- Consultores	1 750
Equipamentos	4 375	- Equipamento	2 500
		- Aprestos de pesca	450
		- Fundo de maneo inicial	3 752
Contingências	16 800	- Contingências (13%)	12 068
TOTAL	140 000	TOTAL	104 900

SURVEY OF PAPASA STAFF AND SALARIES

TABELA DE SALÁRIOS DOS FUNCIONÁRIOS DESTA PROJECTO

<u>Nomes</u>	<u>Funções</u>	<u>Venc. Base</u>
1-Manuel Maria Fernandes		35.250\$00
2-Joaquim Assunção Delgado	Delegado PN	17.625\$00
3-Humberto Delgado Medina	Chefe Sec. P.S.	12.000\$00
4-Armando E. Martins	" Armaz.P.S.	10.000\$00
5-Anibal Lima Oliveira	Praticante P.S.	7.500\$00
6-Lucette Oliveira Costa	" P.S.	7.500\$00
7-Admar Pires Tavares	" P.N.	7.500\$00
8-Daniel Sebastião Monteiro	" P.S.	7.500\$00
9-Vitalina Medina Ramos	" P.N.	7.500\$00
10-Carlos Alberto Oliveira	Condutor PN	10.000\$00
11-Cristiano Santos Costa	" PS	10.000\$00
12-Filipe José Lima	" PS	10.000\$00
13-Sátiro Modesto	Mecânico PS	28.500\$00(a)
14-Francisco Borges Lima	" PS	16.750\$00(a)
15-Ana Eugénia Delgado	Servente PS	2.000\$00
16-Joana Baptista Lopes	" PN	2.000\$00
17-Graciana Lopes	" PS	2.000\$00
18-José Júlio Gomes	Carpinteiro PS	8.640\$00
19-Marcelino Gomes	" PS	8.880\$00
20-José Pedro Cruz	Ajudante PS	3.600\$00
21-Albertina Martins	Servente PS	2.400\$00
22-Fernando Costa	Guarda PS	4.900\$00
23-Filipe Neves	" Folga PS	2.000\$00
24-Maria Gomes	Servente PS	1.500\$00
		<u>225.545\$00</u>
Previdência e Seguro		<u>42.085\$00</u>
		267.630\$00

a) Por força de contrato com o PAPASA, tem direito a alojamento, água, luz e 2 deslocações mensais a S. Vicente que custa ao PAPASA 3.600\$00 mensais.

COMERCIALIZAÇÃO DE PESCADO

PONTA DO SOL

MÊS/ANO	PROCEDÊNCIA	QUANTIDADE	DIAS
ABRIL 1986	Ponta de Sol	10.993 Kg.	8
" "	Porte Neve	9.190 Kg.	20
	SOMA	20.183 Kg.	
MAIO 1986	Ponta de Sol	6.034 Kg.	9
" "	Porte neve	6.815 Kg.	12.
	SOMA	12.849 Kg.	
JUNHO 1986	Ponta de Sol	4.010 Kg.	7
" "	Porte Neve	4.676 Kg.	11
	SOMA	8.686 Kg.	
JULHO 1986	Ponta de Sol	4.247 Kg.	10
" "	Porte Neve	2.340 Kg.	6
	SOMA	6.587 Kg.	
AGOSTO 1986	Ponta de Sol	8.649 Kg.	14
" "	Porte Nevo	9.756 Kg.	12
	SOMA	18.405 Kg.	
SETEMBRO 1986	Ponta de Sol	8.013 Kg.	12
" "	Porte Nevo	8.021 Kg.	9
	SOMA....	16.034 Kg.	
OUTUBRO 1986	Ponta de Sol	5.029 Kg.	8
" "	Porte Nevo	3.750 Kg.	5
	SOMA	8.779 Kg.	
NOVEMBRO 1986	Ponta de Sol	3.244 Kg.	7
" "	Porte Nevo	5.695 Kg.	8
		8.939 Kg.	
DEZEMBRO 1986	Ponta de Sol	5.135 Kg.	9
" "	Porte Nevo	4.910 Kg.	8
		10.045 Kg.	
	TOTAL...	110.507 Kg.	

COMERCIALIZAÇÃO DE PESCADOPORTO NOVO

<u>MÊS/ANO</u>	<u>PROCEDÊNCIA</u>	<u>QUANTIDADE</u>
JULHO 1986	Porto Novo	4.075 Kg.
AGOSTO 1986	" "	3.392 Kg.
SETEMBRO 1986	" "	3.542 Kg.
OUTUBRO 1986	" "	4.832 Kg.
NOVEMBRO 1986	" "	5.296 Kg.
DEZEMBRO 1986	" "	<u>2.915 Kg.</u>
SOMA		24.052 Kg.

RESUMO:	PONTA DO SOL	110.507 Kg.
	PORTO NOVO	<u>24.052 Kg.</u>
	TOTAL	134.559 Kg.

Ponta do Sol, 30 de Março de 1987

COMERCIALIZAÇÃO DE PESCADOPONTA DO SOL
=====

<u>ANO/MÊS</u>	<u>PROCEDÊNCIA</u>	<u>QUANTIDADE</u>	<u>DIAS</u>
JANEIRO 1987	Ponta do Sol	5.131 Kg.	- 8
" "	Porto Novo	6.534 Kg.	- 10
FEVEREIRO 1987	Ponta do Sol	4.498 Kg.	- 8
" "	Porto Novo	7.215 Kg.	- 9
MARÇO 1987	Ponta do Sol	5.979 Kg.	- 7
" "	Porto Novo	4.925 Kg.	- 6
		<u>34.282</u> Kg.	

PORTO NOVO
=====

JANEIRO 1987	Porto Novo	3.250 Kg.	- 8
FEVEREIRO 1987	" "	4.725 Kg.	- 10
MARÇO 1987	" "	4.012 Kg.	- 8
		<u>11.987</u> Kg.	
	SOMA....	11.987	Kg.

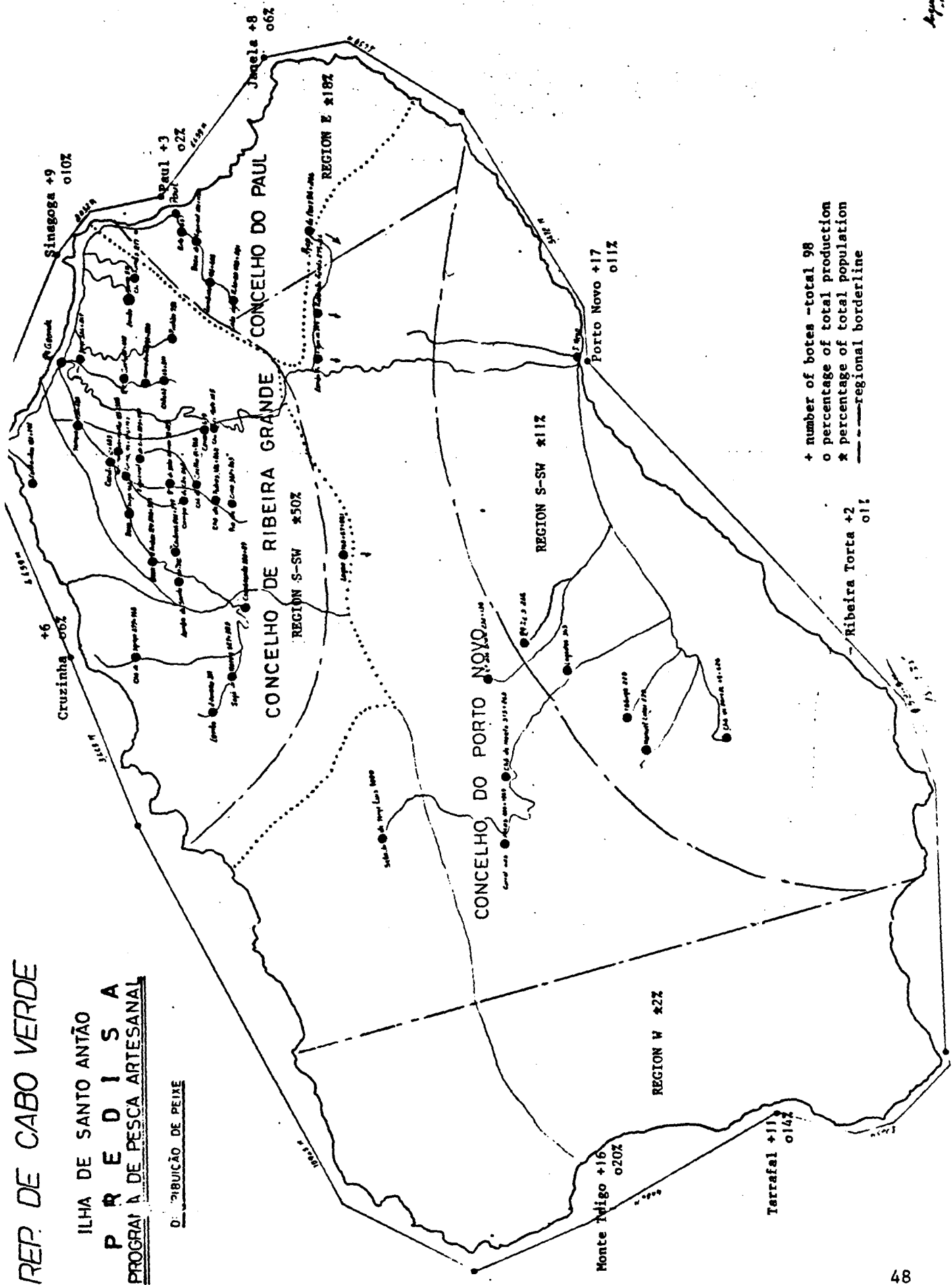
RESUMO:	PCNTA DO SOL	34.282 Kg.
	PORTO NOVO	<u>11.987 Kg.</u>
		46.269 Kg.

Ponta do Sol, 1 de Abril de 1987

August 1984

REP. DE CABO VERDE
 ILHA DE SANTO ANTÃO
P R E D I S A
PROGRAMA DE PESCA ARTESANAL

DISTRIBUIÇÃO DE PEIXE



+ number of botes -total 98
 o percentage of total production
 * percentage of total population
 - - - regional borderline

Annex 6. Budget specification of the second phase of PAPASA, to be financed by the Netherlands (in 1000 Dfl)

Project section	min ECV	1000 Dfl	total	DGIS cost type (tentative)								project year						
				100	200	400	500	600	800	miss.	pers.	matr.	oper.	trai.	cont.	I	II	III
Management																		
- staff (5)	3.12	90		90										25	25	25	15	
- data collection	4.20	120		20	60		20	20						60	20	20	20	
- missions	2.80	80		80										105	65	65	55	
subtotal	10.12	290																
Supply and Support																		
- staff (7)	2.27	65		65										22	22	14	7	
- infrastructure: Tarrafal supp. centre	2.00	57		20	37									57				
winches and slipways	1.00	28		10	18									14	14			
port construction	4.00	115		15	50	50								58	57			
- working capital fund: fishing gear	1.17	33		33										33				
outb.eng.sp.perte	.89	26		26										26				
boatbuilding mater.	.46	13		13										13				
- 10 improved boats	12.00	343		85	258									69	68	103	103	
- social & cultural progr.	4.60	131		30	57		33		11					33	33	33	32	
- consultancies	1.75	50		50										15	15	10	10	
subtotal	30.14	861												340	209	160	152	
Fisheries promotion																		
- staff (5)	1.74	50		50										25	17	8		
- equipment: engine CRUZINHA	1.40	40		40										40				
spare parts	.19	5		5										5				
- fishing gear CRUZINHA	.45	13		13										13				
- working capital	.84	24					24							24				
- innovation fund	6.00	171		57	57									43	43	43	42	
- scholarships	.80	23												3	4	8	8	
- consultancies	1.75	50		50										15	15	10	10	
subtotal	13.17	376												168	79	69	60	
Commercialisation																		
- staff (2)	.56	16		16										8	5	3		
- equipment: 10 ins. containers	.60	17		17										4	7	6		
5 floating viviers	.30	9		9										3	6			
- working capital	.40	11												11				
- fishing/transport vessel	10.50	300			300											150	150	
- consultancies	1.75	50		50										10	20	10	10	
- export marketing studies	4.00	114		114										57	57			
subtotal	18.11	517												93	245	169	10	
Total basic expenditure	71.54	2044		379	476	933	145	100	11					706	598	463	277	
Contingencies: physical (5%)	3.54	101												101	30	21	11	
Contingencies: price (12.5%)	8.92	255												255	72	84	65	
Total budget	84.00	2400		379	476	933	145	100	367					775	700	570	355	
(% of total budget)		(100)		(15)	(20)	(39)	(6)	(5)	(15)					(32)	(29)	(24)	(15)	

Annex 7.a ESTIMATE OF FINANCIAL RESULTS OF PAPASA IN THE SECOND PHASE BY
PROJECT SECTION

Preliminary remarks

The estimate is based on data provided by the GEP Revaluation Report.

The estimate is made for a situation about midway the project period. This implies that inland distribution is not yet totally privatised and wholesaling activities are not yet fully developed; the boatyard is already independent; a new fishing/transport vessel has not been purchased and CRUZINHA fulfills the dual task of training and transport vessel.

The collection of data and the social and cultural programme are excluded from the estimates, as they will be completely financed by external project funding.

The purpose of this estimate is to demonstrate the ability of the project to provide in the current expenditure involved and eventually in the (major part of the) staff salaries (amounts in contos).

		Result by section
<u>Management</u>		
expenses:		
- staff salaries & soc.security	867	
- materials	300	
- services: transport	300	
building maintenance	100	
various	40	
total	<u>1607</u>	
gross result		-1607

<u>Supply and support</u>		
receipts:		
- sales of gear, spare parts, materials	6788	
- interest on credit	300	
total	<u>7088</u>	
expenses:		
- staff salaries & soc.security	755	
- purchase of materials	5531	
- services: transport	72	
maintenance of stores	150	
maintenance landing facil.	150	
various	37	
total	<u>6695</u>	
gross result		+393

carry over gross result		-1214

Annex 7.a (continued)

carried over gross result

-1214

Fisheries promotion

receipts:

- innovation fund		1500	
- sales of catches: PAPANSA II		787	
CRUZINHA		<u>4046</u>	
total			6333

expenses:

general:

- staff salaries & soc. security		871	
- extension support materials		440	
- transport & various		<u>230</u>	
subtotal			1541

PAPANSA II:

- crew wages: fixed		523	
variable		<u>76</u>	599
- materials: fuel & lubric.		<u>28</u>	
fishing gear		300	
ice		70	
various		<u>40</u>	438
-services: maintenance & repair		<u>42</u>	
adaptations		100	
insurance		20	
various		<u>16</u>	178
subtotal			1215

CRUZINHA:

- crew wages: fixed		698	
variable		<u>339</u>	1037
- materials: fuel & lubric.		<u>284</u>	
fishing gear		366	
ice		210	
various		<u>86</u>	946
- services: maintenance & repair		<u>50</u>	
adaptations		200	
insurance		160	
various		<u>40</u>	450
subtotal			2433

total 5189

gross result

+1144

carry over gross result

-70

Annex 7.a (concluded)

carried over gross result

-70

Commercialisation

Inland distribution (300 kg/day, 15 days/month)

receipts:

- sales of fish to inland population 2160

expenses:

- salaries & soc. security driver/saleswoman 204

- purchases of fish 1350

- ice 95

- transport (pick-up) 263

- various 48

subtotal 1960

sub gross result

+200

Overland whole-saling Ponta do Sol-Mindelo

(half of GEP estimate)

receipts:

- sales of fish and lobster in Mindelo 2750

expenses:

- salary & soc. security driver 140

- purchases of fish and lobster 2100

- ice 55

- transport (pick-up) 134

(ferry) 25

- maint./repair cold stores, boxes, cont. 50

- various 21

subtotal 2525

sub gross result

+225

Oversea whole-saling Tarrafal-Mindelo

(half of GEP estimate)

receipts:

- sales of fish in Mindelo 2150

expenses:

- crew remuneration 59

- purchase of fish 1505

- materials: fuel & lubric. 57

ice 150 207

- maint./repair cold stores, boxes, cont. 50

- various 99

subtotal 1920

sub gross result

+230

gross result

+655

Total gross (financial) result

+585

Annex 7.b PERSONNEL AND ORGANISATION DURING THE SECOND PHASE (ECV)

SECTION	FUNCTION	MONTHLY SALARY (ECV)
MANAGEMENT	1. Manager	35,000
	2. Administrator	12,000
	3. Assistant Administrator	7,500
	4. Guard Ponta do Sol	5,250
	5. Servant Ponta do Sol	2,000
SUPPLY AND SUPPORT	6. Storekeeper Ponta do Sol	10,000
	7. Mechanic (Cultural Worker	17,000 18,000 ¹⁾
	8. Storekeeper Porto Novo	7,500
	9. Guard Porto Novo	5,250
	10. Servant Porto Novo	2,000
	11. Storekeeper Tarrafal	10,000
	12. Servant Tarrafal	2,000
FISHERIES PROMOTION	13. Master Fisherman	18,000
	14. Assistant Fisheries Technician	10,000
	15. Extension Officer	10,000
	16. Skipper of CRUZINHA	12,000
	17. Engineer CRUZINHA	10,000
COMMERCIALISATION	18. Driver	10,000
	19. Driver	10,000

¹⁾ The Cultural Worker will be part of the Project Staff but is paid from the budget of the Social and Cultural Programme.

Annex 8. EXPLOITATION ESTIMATE OF COMBINATION FISHING/TRANSPORT VESSEL
(in contos)

Proceeds:			
- sales of catches		7300	
- sales of fish bought from Tarrafal fishermen		4300	
total			11600
Expenses:			
- crew wages: fixed incl. soc.secur.		320	
variable 1)		3380	3700
- purchases			3400
- materials: fuel & lubric.		300	
fishing gear 2)		150	
ice 3)		350	800
- services: maintenance/repair 2)		100	
insurance		300	400
- various			100
total			8400
Gross result			3200
- depreciation			1000
Net result (before taxes)			2200

Remarks:

The estimate has been derived from the GEP Revaluation Report. Changes were made at the following points:

- 1) In most crew sharing systems variable wages are based on proceeds minus direct costs, including generally landing costs, fuel & lub.oil and ice. This practice has been followed here.
- 2) Costs of fishing gear and vessel maintenance and repair were estimated rather low and have been raised.
- 3) An amount of ice half the weight of fish is sufficient for the circumstances and desired keeping time in Cape Verde. On the other hand the price has been raised to the cost price of 3.50 ECV/kg.

Annex 9.a EXPLOITATION ESTIMATE OF PAPASA AFTER THE PROJECT (in contos)

<u>Management</u>		
Expenses: - staff salaries & soc.security	870	
- materials	300	
- services	440	
total		1610
Depreciation: - buildings	250	
- inventory	60	
- car	80	
total		340
Net result		-2000

<u>Supply and support</u>		
Receipts: - sales	11400	
- interest	600	
total		12000
Expenses: - staff salaries & soc.security	900	
- purchase of materials	9300	
- services	600	
total		10800
Gross result		1200
Depreciation: - stores	200	
- landing facilities	200	
total		400
Net result		+800

<u>Fisheries promotion</u>		
Receipts: - sales of catches bote		800
Expenses: - staff salaries & soc.security	1000	
- materials	650	
- services	300	
total		1950
Gross result		-1150
Depreciation: - improved bote	100	
- gear and equipment	50	
total		150
Net result		-1300

carry over combined net results		-2500

Annex 9.a (continued)

carried over combined net results			-2500
<hr/>			
<u>Commercialisation</u>			
<u>Whole-saling Ponta do Sol - Mindelo</u>			
Receipts: - sales	8400		
- purchases	<u>-6100</u>		
gross trade result		2300	
Expenses: - driver's salary	140		
- ice etc.	200		
- transport	540		
- various	<u>140</u>		
total		<u>1020</u>	
Gross result		<u>1280</u>	
Depreciation: cold stores, containers, viviers		<u>580</u>	
Net result			+700
<u>Exploitation fishing/transport vessel (Annex 8)</u>			
Net proceeds (sales minus purchases)		8200	
Expenses		<u>5000</u>	
Gross result		<u>3200</u>	
Depreciation		<u>1000</u>	
Net result			+2200
Total net result of section			+2900
<hr/>			
Total net result PAPASA (before taxes)			+400

Remarks:

- The estimates are based on data from the GEP Revaluation Report.
- The over land whole-saling activity is reduced to half of that in the GEP Report, in order to allow for a larger number of purse seining botes and also not to be over optimistic about the effects of the project in the introduction of improved gear and methods. For oversea activity this is not considered necessary. Should an operation in the order of magnitude as foreseen by GEP be realised, then the net result of over land whole-saling could rise to 3.5 times the result estimated here, raising the total net result of PAPASA to more than 2000 contos per year (before taxes).

Annex 9.b PERSONNEL AND ORGANISATION AFTER THE PROJECT

SECTION	FUNCTION	MONTHLY SALARY (ECV)
MANAGEMENT	1. Manager	35,000
	2. Administrator	12,000
	3. Assistant Administrator	7,500
	4. Guard Ponta do Sol	5,250
	5. Servant Ponta do Sol	2,000
SUPPLY AND SUPPORT	6. Storekeeper Ponta do Sol	10,000
	7. Mechanic Ponta do Sol	17,000
	8. Storekeeper Porto Novo	7,500
	9. Guard Porto Novo	5,250
	10. Servant Porto Novo	2,000
	11. Storekeeper Tarrafal	7,500
	12. Servant Tarrafal	2,000
	13. Extension & Credit Officer	10,000
FISHERIES PEOMOTION	14. Master Fisherman	18,000
	15. Assistant Fisheries Technician	10,000
COMMERCIALISATION	16. Driver	10,000
	17. Skipper of fishing/transport boat	12,000
	18. Engineer fishing/transport boat	10,000

Annex 10.a EXPLOITATION ESTIMATE OF IMPROVED BOTE

	mixed fishing	purse seining
Number of crew	4	6-8
Landings (in 1000 kg)		
- tuna	24	-
- wahoo	4	-
- demersals	1.5	-
- rock lobster	1.5	-
- small pelagics	-	70
	(contos)	(contos)

Proceeds	1565	1750
Expenses:		
- crew wages	710	800
- materials: fuel & lubric.	30	30
fishing gear	50	100
ice	50	120
bait	70	-
- services: maintenance & repair	65	75
insurance	20	20
- various	30	35
total	<u>1025</u>	<u>1180</u>
Gross result	540	570
- depreciation	100	100
- interest	<u>40</u>	<u>40</u>
Net result	+400	+400

Remarks:

- The estimates are based on the GEP estimate for PAPASA II.
- Landings by purse seiners are based on experience in 1986.
- Crew wages are half of proceeds minus direct costs (fuel & lubric., ice and bait).
- Fishing gear was probably underestimated by GEP; doubling the amount for mixed fishing may not be sufficient yet; the estimate for purse seining is adequate.
- Ice is taken at half the weight of fish to be cooled.
- Maintenance and repair have been raised, taking into account the use of the tender with purse seining.
- Insurance is also raised, as the value of the bote is estimated at above 750 contos (including the tender).
- For the same reason depreciation is raised; also life span is reduced to 8 years.
- Interest is calculated at 5% over two thirds of 1200 contos.

Annex 10.b ESTIMATE OF INLAND RETAILING BY SALESWOMEN ON A DAY BY DAY BASIS
(in ECV)

A. SINGLE WOMAN, selling	200 kg	300 kg	400 kg
Purchases	5000	7500	10000
Sales	8000	12000	16000
Gross trade result	3000	4500	6000
Expenses:			
- ice	350	525	700
- rent of boxes	100	150	200
- rent of pick-up	2000	2000	2000
- various	300	300	300
total	2750	2975	3200
Earnings	250	1525	2800

B. TWO WOMEN, selling together	300 kg	450 kg	600 kg
Purchases	7500	11250	15000
Sales	12000	18000	24000
Gross trade result	4500	6750	9000
Expenses:			
- ice	525	790	1050
- rent of boxes	150	230	300
- rent of pick-up	2000	2000	2000
- various	450	450	450
total	3125	3470	3800
Total earnings	1375	3280	5200
Earnings per woman	688	1640	2600

Remarks:

- Fish (cavala) is bought at 25 ECV/kg and sold at 40 ECV/kg.
- Ice is taken at half the fish weight.
- Box rent is put at 10 ECV/day per 20 kg box.
- Various should cover expenses for equipment like scales, carving boards, knives, aprons, cleansing materials, etc.

