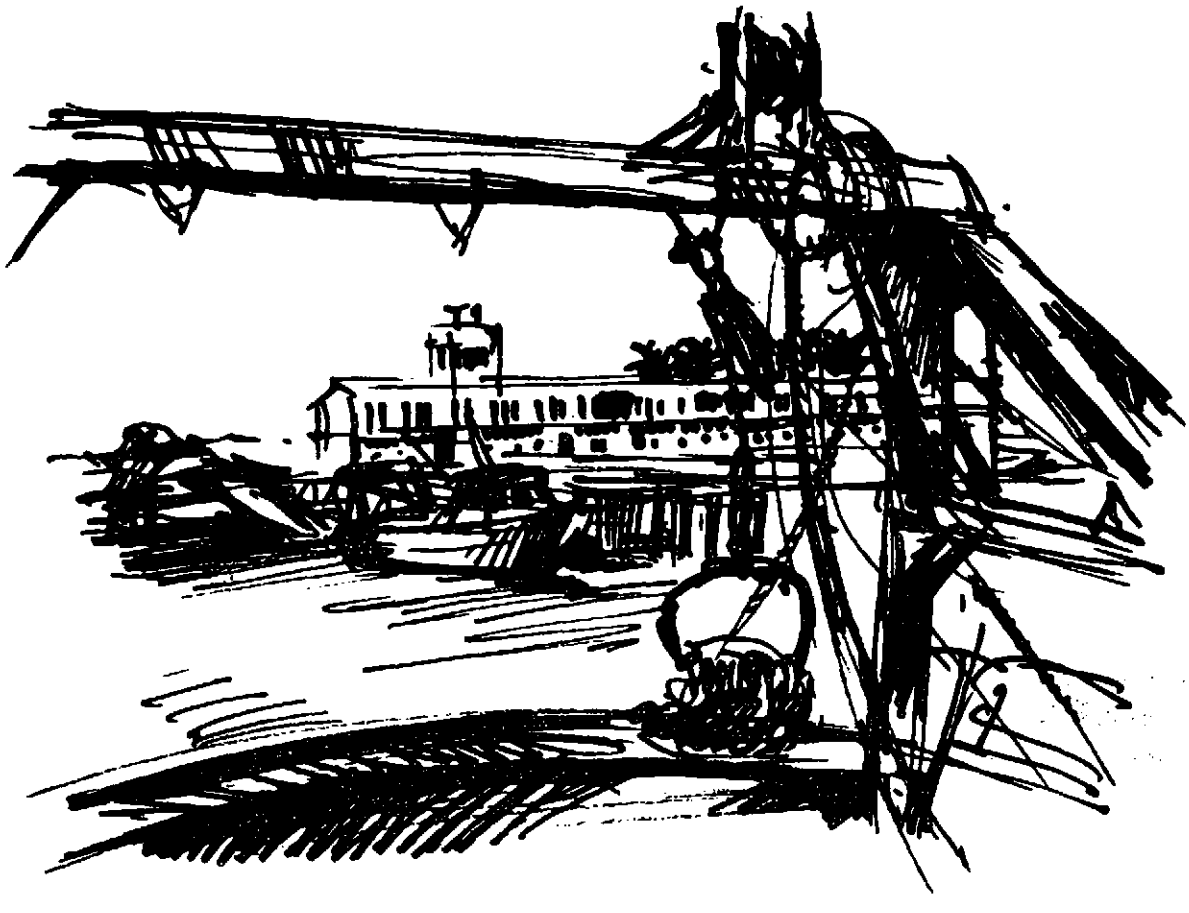
EDUCATION DIVISION DOCUMENTS NO 28

STUDY ON FISHERY TRAINING IN ANGOLA



Report from a SIDA Consultancy
Mission 11 February - 9 March 1985

By Annina Lubbock
Staffan Larsson

Gothenburg, May 1985

PREFACE

Sweden has since 1979 been supporting the programme for the development of fisheries in Angola within three areas, artisanal fisheries, research and training. In this programme a vocational training school, CEFOPESCAS, was built in Cacuaco just north of Luanda. The school started in 1982 in temporary buildings and in the beginning of 1985 the school was moved into the permanent buildings with a capacity for 300 students. The existing agreement for support to CEFOPESCAS beteween Angola and Sweden expires by the end of 1985. To prepare a possible continued support it was agreed that a study should be made in order to furnish a basis for the coming negotiations.
The study attempts mainly to describe the situation and problems for CEFOPESCAS in its context, that is both the fishery sector and the Angolan education system. For further details see the terms of reference in Appendix 1.
Two consultants were engaged for the study which was performed in February/March 1985. The consultants were:

Annina Lubbock, Education (11 Feb. - 9 March)

Staffan Larsson, Fishery (11 - 23 Feb.)

On the Angolan part the mission was supported by representatives from the Ministry of Education, the Direccão Nacional de Recursos Humanos within the Ministry of Fisheries and CEFOPESCAS.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

General conclusions

With the new vessels from Spain and Italy the capacity of the Angolan state owned fishing fleet will increase by approximately 150%. Initially the new vessels will have to be manned by foreign crews. To substitute them with nationals in the shortest possible time it is necessary that:

- there be a general plan, involving Min.Pescas schools, specifically geared to this objective;
- intake of students for different types of courses be planned according to need and to forseeable geographical distribution of vessels;
- the practice period (estágio) be considered part of the basic training program and improved in quality;
- subsequent placements of ex-students be planned to ensure the best experience;
- careers be designed and incentives given to encourage trainees to stay in the sector;
- qualified nationals be chosen as teachers.

Intake of students

Personnel requirements for the fishing sector were estimated in relation to size and type of vessels (existing and due to be acquired). These were compared to the forseeable five-year output from the three Min. Pescas training institutions. This shows that intake of future engineers (motoristas) should be increased considerably and that of electricians reduced. Training of a limited number of teletechnicians (radio técnicos), will require a higher level than other types of courses (entry with 8th class). It should preferably be given in a centre already training in this field. Fishing officers (gestores de pesca) should be trained for artesanal fisheries.

Recruitment

The majority of CEFOPESCAS students are from Luanda and intend to work there after graduation. This situation must be corrected to ensure better geographical distribution of ex-CEFOPESCAS employees, to avoid duplicating the Centro de Reciclagem and to make better use of boarding facilities at CEFOPESCAS. Students must be recruited to a larger extent from coastal areas other than Luanda. A plan to this effect should be carried out jointly by Min.Pescas and Min. Educacao. Recruitment should also be done through companies. Provision must be made for students to take their entrance tests in the provinces. In most cases present CEFOPESCAS students do not come from families with a tra-

dition in the fishing sector. They have high ambitions for the future and wish to continue their studies as soon as possible. It might prove difficult to keep them in the sector at an operational level. To increase the possibility of recruiting people who are more likely to stay in the sector and to improve the geographical distribution of the students CEFOPESCAS should plan to admit students with a lower level of qualification also. They would take a shorter course (either a curso de superação or a curso de formação profissional especifica) not giving a general school qualification (equivalência). A feasibility study should be carried out to determine curriculum contents and duration.

Plans for recruitment to CEFOPESCAS should be reviewed annually taking into consideration possible changes in the other two Min. Pescas training institutions.

Training needs for artisanal fisheries

Artisanal fisheries will require mechanics (motoristas) refrigeration mechanics, (mecánicos de frio), fishing instructors, (monitores de pesca), instructors and fishing officers (gestores de pesca). The first three positions can be filled by present trainees from the three Min. Pescas institutions. A new course should be organized for gestores de pesca. In the initial period at least, the course should not give equivalência and admit students with both 4th and 6th class. For a curriculum to be designed, the Pesca artesanal division of Min. Pescas should specify requirements (functions to be carried out, organizational levels). Teachers must be nationals. Some should be recruited from the institutos médios training in administration and management. Also, someone with experience in cooperative management and development and extension work should be recruited through the Ministry of Agriculture.

Practice period (estágio)

There have been delays in placing the students for their practice period. Many are not in a position where they can best develop their abilities. The practice period should function, as originally intended, as an integral part of the training program. It should be properly supervised (in the provinces as well) and companies should be made to take proper responsibility for the trainees. Salaries of students on their practice period must be increased. After conclusion of this period Min. Pescas should draw up and carry out a plan to ensure that ex students are

placed in such a way and for the time necessary to ensure early substitution of foreign crews. The practice period could be organized more effectively if CEFOPESCAS could use one or two training vessels which could also be operated commercially.

Careers

There is a danger of ex-trainees moving to other sectors (especially to the Merchant Navy and possibly also to the private sector). An adequate career system should be identified and incentives applied in order to keep them in the sector and, especially, to encourage ex-trainees to work in the provinces.

Careers for mestres de pesca should be designed according to IMO standards. Trainees could qualify for certification as Skipper B (fishing vessels under 24 meters) after sitting an examination equivalent to the one now taken at CEFOPESCAS, followed by one year's practice period (estagio) and another year or two of certified sea-going experience. The examination should be standardized for the three Min. Pescas training institutions and be recognized by the port authorities (Capitania do Porto). To progress to Skipper A further sea-going experience and one semester of training in navigation will be necessary. Provision should be made for this type of training to be given in Angola.

Certification for engineer B and A (maquinista) would follow the same pattern. There are no international specifications for other types of personnel.

Official job descriptions (qualificadores) only exist for motoristas (engineers) and electricistas and do not allow for adequate placement of ex CEFOPESCAS trainees. Qualificadores must be drawn up for pescadores, contramestres de pesca, mestres de pesca, mecanicos de frio and gestores de pesca. In devising them the training given in the three Min. Pescas schools should be taken into account, as well as the proposals contained in this study.

Teacher training

The present Angolan teachers at CEFOPESCAS require further professional experience and technical training. Training of these and of the ex-CEFOPESCAS students who are to reenter as instructors monitores should be aimed primarily at these objectives rather than at increasing their level of general education. In future it would be advisable to recruit:

- teachers (professores) from institutos médios (where possible);

- instructors (monitores) from the sector (skilled workers without regard for school qualifications);

A system of careers and incentives should be developed for teachers also and the most qualified professionals encouraged to go into teaching.

CEFOPESCAS' position in the training system

CEFOPESCAS' function is to serve the fishing sector. Since needs are great and resources limited students who are to work in other sectors should not be admitted. An exception could be made for some students to be placed in the Ministry of Agriculture's inland fisheries program. The Ministry of Agriculture should be required in exchange to give support to the course for gestores de pesca.

Plans for the three training institutions should be coordinated by Min. Pescas. Where courses are similar recruitment areas should be defined. Where they differ specific functions should be assigned to each school according to an overall plan. The statute for CEFOPESCAS must be approved as soon as possible.

1. SECTOR DESCRIPTION

1.1 Background

The waters of the 1.650 km Angolan coastline have a vast potential of fisheries resources. Within the Exclusive Economic Zone (extended to 200 miles in 1975) the annual potential harvest is estimated to be in the order of 655.000 tons.

During the Portuguese colonial period intensive fishing was developed mainly for pelagic species. The principal method was purse seining, which accounted for 95 % of the catches. In 1972 there were approximately 360 seiners and 75 tuna liners.

The production was mainly used for fishmeal production (70 %), which was exported, and about 20 % was dryed. The catches before the liberation reached a peak in 1972 with 600 000 tons.

Since the liberation the national catches have decreased from 153.580 in 1975 to 75.880 in 1983. With the departure of the Portuguese Angola lost most of the fishing expertise as well as a large part of the fishing fleet. All aspects of the sector were disrupted. Lack of expertise, equipment and maintenance affected vessels and infrastructure adversely.

At the MPLA first party congress in 1977 it was stated that the fishery sector shall have priority. The fish production should be increased through rehabilitation of the existing fleet and construction of new vessels, as well as through training of personnel, through establishment companies for preservation and marketing and through establishment of cooperatives.

The production target for 1980 was 500.000 tons. At the party congress in 1980 the production targets were revised to 220 - 250.000 tons for 1982 and 350 - 400.000 tons for 1985.

From 1983 there is an emergency plan. The production target for 1983 was 114.000 tons. A strategy was formulated in 1982. The general aim is to increase the national fleet with production mainly for the domestic market and meanwhile to reduce the foreign fleets.Specific aims were as follows:

- the artisanal fishery shall be developed and supply the domestic market;
- the national industrial fishery shall cover the remaining demand and the surplus shall be exported;
- catches from joint-ventures shall be used for export.

According to a report from CIPASE (Commission Internationale des Peches de l'Atlantique Sud-Est) and FAO (FAO/TLP/ANG 2202, 1982) the total sustainable yield amounts to 650.000.
The most important fishing is done along the southern coast and for pelagic species.

In addition to the 75 - 100.000 tons caught by the national fleet some 400.000 tons are caught by foreign fleets. By the end of the seventies there was a peak in the catches by the foreign fleet with considerably higher catches than before.

1.2. National fleet

According to a survey made in 1983 there were 418 mechanized fishing vessels in the Angolan fishing fleet. The total tonnage was 11.608, an average of 28 tons per vessel. These figures include all existing vessels, also small mechanized ones. Only half of the fleet was functioning, and for some vessels repair would not be worthwile.

The ownership was:

Government 47%, Private 27% and Cooperative 26%.

The industrialized fishing fleet was distributed as below:

	Cabinda	Luanda	K. Sul	Benguela	Namibe	Total
Purse Seiner	1 (1)	8 (8)	11 (6)	23 (12)	13 (32)	56 (59)
Trawler	6 (8)	22 (11)	3 (1)	5 (4)	0 (1)	36 (25)
Tuna liner				16 (5)	12 (9)	28 (14)
						120 (98)

(The figures within brackets are vessels not in operation)

The state owned vessels are 76 % of the purse seiners, 61 % of the trawlers and 73 % of the tuna liners.
The vessels vary both in size, from 20 to 30 m. in length and in design. Most of the privately owned vessels are of semi-industrialized "traineiras" type, and are built in wood.

After the liberation Angola took over a contract for 20 trawlers to be built in Brazil. Due to disagreement the contract was cancelled and only 12 trawlers were delivered.

The trawlers, 30,5 m of length, are built for shrimp fishing with processing and plate freezing facilities on board. At present 8 of the trawlers are in operation with an average crew of 18 men, of which some are Koreans. One boat visited by the mission had 6 Koreans.

A joint-venture with the Soviet Union operates 10 fishing boats from Luanda, 7 trawlers and 3 purse seiners. The boats are manned with a crew of 4 - 9 Russians depending on type, and about the same number of Angolans. The purse seiners have a higher number of Russians on board.

1.3. Foreign fishing

The foreign fishing fleet consists of mainly large long distance vessels from the Soviet Union, Italy, Japan, Nigeria, Portugal and Cape Verde. The license conditions are normally to discharge 15 - 25% of the catch in Angola.

In 1982 the catches of the foreign fleet were estimated to 428.000 tons, of which 97.000 were landed in Angola.

The Spanish fleet has a license for 18.000 tons of shrimps annually. Out of these six small 90 ton purse seiners are fishing for the payment of the license and deliver the double, amount i e 36 000 tons of fish in Angola.

1.4. Artisanal fisheries

During the colonial period the artisanal fisheries played a minor part, fishing mainly for local consumption. Since the liberation the development efforts have mainly been favouring the industrial fisheries.

In the newly formulated strategy the artisanal fisheries have attained greater importance.

The Ministry of Fisheries' plans for the artisanal fisheries are to increase production and to improve the social and economic situation for the fisherfolk through:

- Technical support such as boats, gear and infrastructure
- Organizational support to assist the fishermen forming associations
- Support centers will be established to function as local administration units and for canalizing the government support to the sector

The structure of the artisanal fisheries consists of three levels:

- traditional fishing with canoes and "chatas" (flat bottom boats) operating from the beach and from the villages scattered along the coast.

- mechanized fishing operating from small towns with harbour or shelter, most often in connection with a fishermen cooperative or association

- Semi-industrial fishing with small purse seiners, trawlers and tuna liners of Portuguese "trainaera" model, operating mainly from harbours like Luanda, Benguela, Namibe and connected to a cooperative.

There are 13 fishermen cooperatives or association along the coast from Cabinda in the north to Namibe in the south. The Swedish support to the artisanal fisheries is the most important input and, apart from the Soviet's support to the cooperative in Cacuaco, so far the only foreign support to the artisanal fisheries.

The officially landed catches are increasing and amount to around 3 000 tons. The total annual production from the artisanal fisheries is estimated at 20 000 tons.

1.5. Boat yards and service facilities

During the Portuguese period boat yards were established in Cabinda, Luanda, Lobito, Benguela and Baia Farta. Most of the yards were small and mainly used for repair of wooden boats. The Sorefame yards in Luanda and Lobito, however, were of a larger kind and used for building vessels both in wood and steel.

After the independence the state took over the management of the yards under the ERNAMAL company.

The existing boat yards have serious problems with the supply of spare parts and wood. There is a lack both in adequate numbers and in the qualifications of the staff. There is a shortage in skilled technicians such as carpenters, mechanics, electricians as well as in managers.

The present capacity of the Sorefame yards in Luanda and Lobito is 100 boats per year.

There is also a shortage in manufacture and repair facilities for fishing gear. There are two factories in Benguela that supply trawls, purse seins and longlines. The production in 1982 was for 45.800 kg.

A net-producing factory called ARRIBA is situated in Lobito, receiving assistance from Japan. The factory manufactures standard sheet netting sizes. There are temporary problems due to shortage of raw material.

The company ENATIP is responsible for the provision of machinery, equipment and spares etc. ENATIP is responsible for the processing and distribution of foreign orders through an import license system. The system needs to be improved so as to achieve a more rapid process.

1.6. Distribution and processing

EDIPESCA is the company responsible for the first preservation/preparation phase of fish in the way to the consumer. The company holds cold store-houses in most major locations along the coast. The fish is sold fresh, on ice, frozed or dryed.

Danida has been supporting EDIPESCA. Cold stores with ice-factories have been built or rebuilt in Luanda, Porto Amboim, Benguela and Port Alexander. At present two service centers for refrigeration equipment are under establishment in Luanda and Benguela.

In Baia Farta there is a canning factory under EMPROMAR. The factory is processing tuna, horse mackerel and sardines. Only a few of the former 34 fishmeal factories are now in operation.

1.7. Prospects to the future

According to the development plans Angola has ordered altogether 51 trawlers and purse seiners from Spain and Italy.

The vessels from Spain were built at five different yards and are of five different types, as indicated below:

No	Type	LOA (m)	BRT	Engine	
2	Freeze trawler	53.75	490	1740 hp	B & W
5	" "	36.43	250	1125 hp	Caterpillar
8	Fresh trawler	34.66	284	1125 hp	"
5	Purse seiner	31.68	166	725 hp	Guascor
17	" "	26.00	150	520 hp	"

The vessels were completed in 1983 and 1984 but have not yet been delivered to Angola. The reason given is lack of crews to man the vessels. However there are plans to commence the delivery of the vessels mid-85. The vessels will have Spanish, Cuban and Nigerian officers for the first years.

The plans are to base the trawlers in Luanda, and the purse seiner in Kwansa Sul, Benguela and Namibe.

Delivery of the vessels built in Italy will presumably start between the end of 85 and the beginning of 86. The vessels are of three types.

No	Type	LOA (m)	BRT	Engine	
2	Tuna seiners	40.75	350	1125	Caterpillar
5	Fresh trawlers	32.5	250	862	"
7	Freeze trawl.	32.5	250	862	"

The vessels are planned to be based in Port Amboim, and are included in a joint investment program. A jetty and cold store plant will be constructed. The catch will be processed ashore, mainly frozen. There will also be facilities for maintenance and repair of the vessels.

In order to train crews for the vessels a 49 m stern trawler has been proposed as a training vessel. Alternatively there is a proposal to use two of the new trawlers as training vessels, stationed in Luanda. The proposals have not yet been considered by the Angolan authorities and will require an approval for funding from the Italian government.

Apart from the vessels from Italy and Spain there is no other investment planned for the industrial fleet. In recent years investment plans have been formulated for the artisanal and semi-industrial fisheries. It is not clear whether this is an occasional shift or planned emphasis on small-scale fishing.

With funds from BADEA there are plans to build 10 vessels of about 10 meters' size to be used for fishing in the south, and 10 tuna boats of similar type to supply tuna fish for an Angolan-American canning factory.

In a proposal made by an African Development Bank team in 1984, about 35 USD will be spent on developing the semi-industrial fisheries. The project would involve:

- construction of, and equipment for 18 16-meter purse seiners. The vessels will be built in wood, and most likely they will be of the "traineira"-type. One of the conditions is private ownership of the boat.

- establishment of fishing centers in Luanda and Benguela with jetties, service facilities and cold stores

- rehabilitation of seven existing tuna vessels

- improvement of the Baia Farta Canning Factory

- technical assistance and training

The proposal has not yet been approved by the Angolan authorities.

2. CEFOPESCAS IN THE VOCATIONAL TRAINING SYSTEM

2.1 The general education system

The general educational system in Angola is on four levels: (Plate 1)

a) - I nivel, four classes preceded by one year's iniciacao (final qualification, 4a classe);

b) - II nivel, two classes, final qualification 6a classe;

c) - III nivel, two classes, final qualification 8a classe;

d) - this level is followed either by:

- two-year cursos pre-universitários giving access to University (final qualification, 10 a classe)

- four-year cursos médios which combine general education and training for a particular profession (final qualification, 12a classe).

Current education statistics show that I nivel and iniciação absorb 91,6 % of the total number of students in Angolan schools. Those in II nivel are 6,6 % of the total. Drop out rates are very high. The highest percent-ages of II nivel students are in Luanda (20,6 %) and Uige (16, %) (tables 1 - 3)

2.2 The vocational training (v.t.) system (Plate 3)

The vocational training system can be entered either after completing I° nivel (I° ciclo de trabalhadores qualificados or after II° nivel (II ciclo de trabalhadores qualificados

There are two main types of vocational training:

- formação profissional regular, which combines general school subjects and vocational training: here the student obtains both a formal school qualification (4a or 8a according to whether it is I or II ciclo) and a professional qualification valid within the agency which is running the v.t centre;

- formação profissional especial , again on two levels, recruiting trainees with either 4a or 6a classe; these courses do not give formal school qualifications but only vocational training (this is what is meant when it is said that it does not give equivalência).

  Other shorter ad hoc courses are called cursos de capacitacão (or superacão).

CEFOPESCAS is a school belonging to the II ciclo de formacao profissional regular with students entering with 6a classe and combining general education and vocational training.

2.3. Coordination

The Ministry of Education is at present not in a position to exercise the functions of coordination which are laid down in legislation Conselho dos Ministros, (Decreto no 110/83 de 1 de Dezembro) For the moment coordination by the Ministry of Education only extends to the general school subjects (curricula and examination tests are subject to approval) and to approval of the statute which each v.t. centre should have.
This is important to enable the student to continue into further education. It is not relevant as far as the professional qualification is concerned.

Responsibility for the vocational training part of the course lies with the Recursos Humanos Divisions of the various agencies (either ministries or large state companies).

Theoretically, the Ministry of Education should not release the general education certificates (either 6a classe or 8a) unless the centre has an approved statute (there are exceptions to this rule since there are a few centres which do not have statutes).

CEFOPESCAS does not at the moment have an approved statute, although a draft has been prepared.

Apparently it has not been approved so far simply because the problem of equivalencia only arises when the trainee wishes to continue into further education. Furthermore, - as mentioned above - exceptions have been made in the past to this rule.

2.4 Practice - period (estagio)

The post-qualification practice period which is termed estágio does not exist as such in legislation.
According to Ministry of Labour regulations new employees go through a periodo de adaptação lasting six months with a salary of between 3500 and 7000 kz (estagiários from CEFOPESCAS get 3500).

2.5. Teacher training

There is only one centre training v.t. teachers, an instituto medio in Huambo. (1).

A distinction is made between professores (teachers with a level of education higher than 8a classe) and monitores (teachers with a lower level of education). Owing to chronic shortage of qualified personnel for other jobs, it is generally not possible to recruit teachers with a higher level of education. They tend to be recruited among people with the same level of qualification as that at which the v.t. centre is operating.

Some have taken short courses abroad and generally receive a short training in educational methods from the Ministry of Education. A "career" as a v.t. teacher does not appear to exist. In the same way as methods, organization and curricula vary from one v.t. centre to another, salaries of teachers also vary. (For example, there is a difference of 5000kz between the salary of the monitores at CEFOPESCAS and those in the Centro de Formaçaõ em Telecomunicaçaões.

2.6 Existing vocational training (v.t.) centres

Out of the existing 74 v.t. schools in Angola one third are in Luanda. They cover 144 different "professions" and have a potential capacity for about 10.000 students.

Electricians and mechanics of various kinds are trained in several different v.t. centres. There are 22 different courses training in mechanics and about 16 training in electricity. Apart from the three centres belonging to Min. Pescas, electricistas navais and motoristas navais should also be trained in CEFOMAR (attached to Min. of Transport) although these courses are not being given at present (see below). The other centre, apart from CEFOPESCAS and Helder Neto training refrigeration, technicians is the Cazenga centre in Luanda.(Plates 4-8).

There is no centre giving training in management of cooperatives or associations.The Ministry of Agriculture has organized some ad hoc courses Cursos de capacitacâo. Plate 4 shows v.t centres training in administration and accountancy.

Some details are given below about centres giving training similar to CEFOPESCAS.

(1) Courses are in operacoes de corte de metais, construçào civil e industrial, mecanizaçâo da agricolthura; servicos tecnicos e reparaçâo de automoveis, tecnologia de soldagem; formaçâo politécnica.

2.6.1. Helder Neto (1)

The Helder Neto centre in Namibe operates at the same level as CEFOPESCAS(formacao profissional regular II ciclo) and offers the following courses:

- electricistas;
- mecanicos de frio;
- mestres de pesca;
- mecânicos diesel;
- radiotécnicos;

Attached to the Centre is an instituto médio teaching fish processing.

The Centre is staffed mainly by Polish professores and monitores (there are expatriates in both these categories). With 82 students it is operating well below its total capacity of 440. This is due to severe material difficulties, the main one being inadequate board and lodging facilities for the students. At attempt is being made to solve this problem and this would make an increase in the number of students possible. Largely because of these problems its catchment area is said to be limited mainly to the province of Namibe. Not many of the trainees appear to have stayed in the fishing sector. Some have set up private business (especially the electricians and radio-technicians).

The school does not have its own vessels and practical training is given in the boats of the national fleet stationed in Namibe. According to our information,Helder Neto may at present be working more as a multi functional centre serving the province, than as a national training centre specifically serving the fishing sector. Equipment is said to be good (according to some, better than the equipment in CEFOPESCAS).

2.6.2. Centro de Reciclagem

The Centro de Reciclagem in Luanda is supported by the USSR. Practical training is given on board the vessels of the expedição conjunta angolano-sovietica. Equipment and facilities are good. Its courses come under the heading of formação profissional especifica (they do not give formal school qualifications or equivalência. Students with both 4a and 6a classe are admitted to the courses. The Centre attempts to recruit through Min. Pescas companies but it is hard to find workers with more than 4a classe. Students with 6a classe are generally not employees. The course are for:

- mestres de rede;
- contramestres pescadores;
- electricistas navais;
- motoristas navais;
- radiotelegrafistas (6a classe only)
- marinheiros pescadores (4a classe only)

(1) It was not possible for the mission to visit the school. Indirect information was obtained from various sources, including a document by the school.

Other una tantum courses have been held on:

. quality control;
. fish processing;
. fish processing technology.

The Centre does not have boarding facilities. Consequently the catchment area is limited to Luanda. Min. Pescas has plans to move the Centre to Benguela where boarding should be provided.

2.6.3. CEFOMAR

(Min. of Transport) is at present undergoing severe material and financial difficulties. Facilities and equipment are very poor. At present only courses for marinheiros de Ia and marinheiros de 2a are being held. Other courses given in the past are those listed in the 1981 SIDA survey. The teachers are all Portuguese cooperantes.

2.6.4. Centro de Formacao em Telecomunicações

The Centro de Formação em Telecomunicações has hitherto been supported by ITU/UNDP. It is attached to the electric company (ENATEL) to continue next year with the support of only one ITU consultant and bilateral cooperation (Portuguese and Brazilian teachers). As from September 1985 the courses will be the following:

a) for students with 8a classe:

. Radio Transhorizont;
. Radio Multiplex;
. Pentaconta 1000-A;
. Pentaconta 1000-C;
. Commutação 5005;
. Commutação Telex;

b) for students with 6a classe:

. Redes;
. Linhas e apareehas;
. Energia.

c) school qualifications unspecified:

. operadores telefonistas (interurbanos)
. operadores telefonistas (internacionais).

The courses are organized according to a three phase system with the students reentering production at the end of each. It is formação profissional especifica without equivalência. It has boarding for 60 students.

Tests for admission are taken in the provinces as well and the students are well distributed geographically.

For more detailed information on the subject matter covered in this section se Additional paper 1: Education and Vocational training in Angola with special reference to the fisheries sector.

Table 1.

PERCENTAGE DISTRIBUTION OF STUDENTS PER PROVINCE

	1º nivel		2º nivel	
Cabinda	1,6		1,8	
Zaire	2,0		2,2	
Uige	13,6		16,2	
Luanda	11,7		20,6	
Kuanza-Norte	6,6		7,6	
Kuanza-Sul	8,7		7,0	
Malange	12,3		9,0	
Lunda-Norte	3,5		1,1	
Benguela	9,8		9,2	
Huambo	9,6		9,3	
Bie´	6,6		3,8	
Moxico	3,5		4,8	
Kuando-Kubango	0,7		0,	
Namibe	1,2		1,5	
Huila	6,1		4,1	
Cunene	0,1		0,1	
Lunda-Sul	-		-	
Bengo	1,6		1,0	
	100,0	1.178.430	100,0	105.673

Table 2

PROPOUT RATES (81/82 - 82/83) (1)

	No of students		
	81/82	82/83	% dropout rate
I nivel			
1a classe	488.386	446.509	
2a "	384.553	357.841	26,7%
3a "	240.882	224.899	41,5%
4a "	164.837	149.181	63,3%
II nivel			
5a classe	78.694	73.063	49,5%
6a "	32.497	32.610	58,5%
III nivel			
7a classe	14.282	11.174	65,6%
8a "	6.743	6.666	68,7%

(1) Calculated on the basis of the difference between, for example student in 1a classe in 81/82 and those in 2a in 82/83.

Tab.3. ANGOLA - Nº OF STUDENTS ENROLLED AND PERCENTAGE VARIATIONS

Level - Year	1976/77	1977/78	1978/79	1979/80	1980/81	1981/82	1982/83
Iniaciacao + I nivel	1.315.342	1.375.612 + 60%	2.167.167 + 48,2%	2.379.317 + 20,7%	1.736.552 - 22,3%	1.601.174 - 5,5%	1.470.859 - 6,4%
II "	70.933	94.317 + 33%	113.884 + 20,7%	176.681 + 55,1%	150.204 - 15,0%	111.191 - 26,0%	105.673 - 5,0%
III "	8.025	19.010 +136,8%	24.663 + 30,0%	40.272 + 63,3%	36.433 - 9,5%	21.025 - 42,3%	15.640 - 25,6%
Ensino medio	- - - -	1.411	3.216 + 127,9%	6.569 +104,2%	7.291 + 10,7%	5.266 - 27,6%	6.389 + 21,3%
Pre.univ.	- - - -	1.382	1.912 + 38,3%	2.043 + 6,8%	2.536 + 24,1%	2.362 - 6,7%	3.545 + 50,1%
Ensino superior	1.093	1.131 + 3,5%	1.254 + 10,9%	2.000 + 59,5%	2.183 + 9,1%	2.798 +28,0%	3.004 + 7,4%

Table 3

3. JOBS, CAREERS AND JOB MOBILITY

3.1. Job descriptions

The Ministry of Labour and the Ministry of Planning together issue job descriptions (qualificadores). They are grouped into a salary scale comprising of different numbers of levels according to the different sector they refer to. The ones issued so far refer mainly to the categories of operarios qualificados. Lower groups include non-skilled workers. Higher categories should include tecnicos. Qualificadores have been issued only for a few of these, none of which are relevant to the finishing sector. Job descriptions which are of interest for CP are in the decrees which refer to fisheries, naval construction and the merchant navy (Plate 9).

The qualificadores describe skills and abilities requires to carry out a particular job. In the case of the merchant navy, they are also related to the type of training and the number of years of service in a particular post. In no case are they related to formal school qualifications.

Qualificadores for pescadores, contramestros, mestres de pesca and mecanicos de frio have still to be defines. Job descriptions exist for motoristas and electricistas navais. On the whole they do not allow for adequate placement of ex trainees from CEFOPESCAS. Personnel requirements listed below in section 4 clearly show the need for new job descriptions.

3.2. Certificates

At present in Angloa there is no system for obtaining qualifying certificates for skippers, officers, chief engineers, etc for the fishery sector.

The only possibility of obtaining a certificate for navigation in Angola used to be to sit an exam as mestre costeiro de alto (boats up to 55 meters) at CEFOMAR. The Capitania do Porto would then issue the certificate. The old Portuguese regulamento de inscrição maritima which is still being used in Angola also gives specification for a mestre costeiro pescador (skippers on boats up to 200 tonnes). At present ther is no possibility of taking this exam in Angola. These regulations are obsolete and do not correspond to international standards. The Capitania Porto seems to be open to accept proposals from the Ministry of Fisheries for new regulations more suitable for Angolan conditions.

3.3. Horizontal mobility

3.3.1. In theory, horizontal job mobility and mobility within the educational system are subject to stringent regulations. After terminating each cycle of formaçao profissional it is compulsory to work for two years in the sector before either changing jobs or continuing into further education.

Exceptions are made if necessary (as for the CEFOPESCAS monitores who were allowed to begin their cursos preuniversitarios immediately). Even then, these steps should be authorized by the employing agency, the Ministry of Labour and (in the case of further education) by the Ministry of Education. Since control is difficult, changes of sector before completion of the required two-year period or without authorization are frequent. There is a tendency for skilled workers and technicians to move to larger state companies or to private firms (especially oil companies) which give higher salaries and sometimes, fringe benefits. Some will set up small private businesses of their own (this has happened with many, of the trainees from Helder Neto), The Merchant Navy is attractive for people in the fishing sector since it is possible here to travel and earn foreign currency.

3.3.2 Plate 10 shows where professionals trained in CEFOPESCAS might move to, if they were to leave the sector. It is not clear just how great the loss to the private sector might be. Possibilities of moving out of the sector are obviously greater for the non-fishermen from CEFOPESCAS. They have several alternatives open to them both on the official and the private market. The only obvious opening for the pescadores is the Merchant Navy. The latter may be glad to have them since CEFOMAR is at present only training marinheiros.

3.3.3. All those who work on board are supposed to have a cedula maritima released by the Capitania do Porto. In the attempt to stop people moving out of the fishing sector the port authorities have recently started to put "only for fishing vessels" on the cedula of trainees issuing from the three Min. Pescas training institutions. It is not clear to what extent this does and will act as a real deterrant since control is difficult. If the Merchant Navy needed a person with specific training they would presumably not themselves make an issue of the fact that the type of cedula was inappropriate.

4. PERSONNEL REQUIREMENTS FOR THE FISHING SECTOR

4.1 There is a need for trained and skilled personnel in almost all parts of the fishery sector. The need is large at present and will increase considerably due to the planned investment programmes.

4.2 Tables 4 and 5 give estimates for personnel required both to work in the professions for which CEFOPESCAS is or will be giving training. Broad professional fields include various possible jobs.

Fishermen/skippers: fishing masters (mestres de rede), fishing skippers (mestre de pesca, contra mestre) officers (for large vessels): (Imediato, oficial). Net menders (trawl and net workshop): fishery instructors/administrators for the fishermen's associations. (pescadores monitores)

Mechanics - engineers (motorista/maquinista 1a, 2a depending on engine) chief engineers (chefe de maquina) workshop mechanics (at yards and fishermen's associations) (mechanico).

Refrigeration mechanics/engineers - engineers (tecnico de frio on board) mechanic/orerators (cold stores ashore), mechanic (for service and repair). (mecanico de frio).

Electricians - naval electricians (electricista naval on board); electricians (electricistas, cold stores and shore-based for repair)

Teletechnicians - teletechnicians (radiotecnicos based on shore for repair of the electronics on board), telecommunication technicians (radiotelegrafistas for operation of radiocommunication units along the coast).

Fishery officers - (gestores). Local fishery administration, fishing companies, fishermen's associations.

4.3 Figures for the sea-based personnel (table 3) of the Spanish built vessels are based on plans presented by the Ministry of Fisheries. An analogous system of calculation was applied to obtain the figures for the Italian-built vessels. For the remaining Angolan state owned fishing fleet the figures have been estimated from information available.

4.4 Figures for the shorebased personnel (table 4) are roughly estimated on the basis of various information obtained on the shore-based activities and assumption that these have to be extended considerably with the arrival of the new vessels. The Angolan state owned fleet will increase with about 150%. We have assumed that for approxiamately every fifth vessel one mechanic will be required and for every tenth vessel one electrician will be required.

4.5 As little information was available on the present number of qualified Angolans these have not been included. On the other hand neither have replacements over the 5 year period been included.

ESTIMATED REQUIRED CREW FOR THE ANGOLAN FLEET

Figures within rackets = foreigners for the initial period

	Fishing Skippers	Fishing Masters	Officers	Chief eng.	Engineer	Electr.	Refr.eng.	Fishermen
Italian built								
5 Fresh trawlers	(5)	(5)	(5)	(5)	(5)			40
7 Freeze trawlers	(7)	(7)	(7)	(7)			7	49
2 Tuna seiners	(2)	(2)	(4)	(2)	(4)	(2)	(2)	(4) 24
Spanish built								
2 Freeze trawlers 490 BRT	(2)	(2)	(4)	(2)	(8)	(2)	(2)	(6) 24
5 Freeze trawlers 250 BRT	(5)	(5)	(5)	(5)	(15)		5	35
8 Fresh trawlers	(8)	(8)	(8)	(8)	(16)			(16) 64
22 Purse seiners	(22)	(22)		(22)				242
12 Pescangola Trawlers (Brazil) 6 in operation	(6)	(6)	(8)	(8)	(16)			
5 Pescangola	5	5		5				
10 Anglo/Soviet	(10)	(10)		(10)				
8 Propesca Benguela/Namibe	5	5		5				
GOA	(1)	(1)	2	(1)	2	1		
18 Purse seiner (ADB proposal)	18	18		18				
	96	96	43	96	73	5	16	

1) Figures for the Italian vessels and those belonging to the Angolan fishing fleet have been estimated on the basic of plans for the Spanish vessels and should not be quoted as definite. The object of this table is to make a rough estimate as to the total figure but to give an indication as to the proportion between the different professions.

ESTIMATES FOR SHORE BASED PERSONNEL (1)

	Mechanic	Electr.	Teletech.	Refr.eng.	Fisheryoff.	Fisherman/Adm. fishinginstructor
Cabinda	3	2	1	2		
Luanda	10	8	5	21		
ERNAMAL Boatyards	20	3				
Porto Amboim	4	6	2	6		
Benguela	8	7	3	20		
Baia Farta	3	1	1	3		
Namibe	4	6	2	5		
Tombwa	2	2	1	3		
Pesca Artesanal						
Cabinda-Luanda	25			4	50	25
Luanda-Tombwa	25				40	25
Trawl/netmenders (2)						15
	104	35	15	62	90	65

2) There ought to be a demand for netmenders in some of the localities here is included a total figure. They could have a basic training as fishermen.

1) The figures are estimated based on various informations on the shore based activities and rough estimates on neccessary future extension. Not to be quoted individually.

SUPPLY

5.1 According to present plans the output at CEFOPESCAS will for a fiveyear period be according to table 6 below. The figures should be adjusted for drop out but this has been considered when comparing to the need.

Table 6

Year of entry training completed	'83 '85	'83 '86	'84 '87	'85 '88	'86 '89	Ttl.
Fishermen/skippers	12	20	20	75	75	202
Mechanics	8	10	10	15	15	58
Refr,technicians	8	10	10	15	15	58
Electricians	8	10	10	15	15	30
Teletechnicians				15	15	30
Fishery administrators				15	15	30

5.2 Table 7 gives the estimated supply of students in different categories from the three v.t. centres managed by Min. Pescas in the following 5-year period. Figures for the Centro de Reciclagem are based on their own plans. Those for Helder Neto are based on the current trend which is very irregular. It should be borne in mind that if its material problems are solved, output could be increased. In this case the balance between supply and need (Table 8) could improve. Furthermore students on grants abroad were not included since exact figures were not available.

Table 7

TOTAL SUPPLY OF STUDENTS (1985 to 1989)

	Centr. Rec.	Helder Neto	CEFOP.	Ttl
Fishermen/shippers	75	30	202	307
Mechanics	75	30	58	163
Refr.technicians		25	58	83
Electricians	75	25	58	158
Teletechnicians [1]		30	30	60
Fishery adm.				

1) Teletechnicians are trained at the other institutions. Radiotecnicos at Helder Neto however very few and at Centro de Reciclagem only radiotelegrafistas are trained.

Table 8

5.3 Comparison supply - need

	Reduced supply 30%	Need	Balance
Fishermen/skippers	215	300	-85 (72%)
Mechanics	114	273	-159 (42%)
Refr.technicians	58	78	-20 (74%)
Electricians	111	40	71 (276%)
Teletechnician	42	15	27 (280%)
Fishery adm.	21	90	-69 (23%)

5.4 Required output to meet need

When comparing the output to the need, a number of factors have to be considered that will reduce the number of trained students. An estimate of the reduction could be around 30% to allow for:

- Dropouts - students leaving the training for various reasons.
- Military service - during the study periode the student is not supposed to be drafted until training is completed. Military service can be up to five years.
- Leaving sector - there is a risk that student after completing the cumpolsory employment will seek a more attractive job (see par. 3.3.).
- Continued studies - most of the students are eager to continue their studies.
- Geographic background of the students which make it difficult for them to move to areas where they are needed.

According to this estimate, at the end of the 5 year period, there would be a major shortage of mechanics and an access of electricians and teletechnicians. The number of fishermen/skippers and refrigeration technicians would be slightly below the ones required. The shortage of fishery administrators is understandable, since training will only begin next year. This shortage will level out in time. The figures we have given describe the potential need. The actual capacity to absorb trainees (i.e. to keep the fleet working at full or near full capacity) will depend on port facilities, maintenance, etc as well as on proper-geographical distribution of trainees (it seems that saturation point may already have been reached in Luanda since many vessels are not operating and output of trainees from this area is high).

5.5 Training needs for artisinal fisheries

5.5.1. At the evaluation of the 8.5 m fishing boats supplied by Sweden it was stated that there was a clear need for training for the artisanal fisheries. The sector has gained a greater importance and even though it is a question of low level technology there is a need for trained personnel.

5.5.2. There are today local fishery administration in all more important localities along the coast. Some will in the future play the role as support centres. The fishermen will be encouraged to form associations.

There is today a shortage os qualified personnel and this will be accentuated as the fishing is developed.

5.5.3 A study was planned for looking into the problem and need of training and recommend how this could be solved. The different categories required are:

a) Fishery officers/administrators (gestores, conselheiros) Working at the local fishery administrations/support-center (Delegaçao/Centro de apoio).

Duties will be to:

- stimulate association development
- arrange supply of equipment and commodities
- arrange credit and amortization plans
- collect and market fish
- collect statistics
- give advice

b) Fishing instructor (Pescadores monitores)

Will be serving an association or a group of associations Duties will be to:

- manage the association's store for fishing gear, equipment and supplies
- take care of administration of the association
- instruct the members in fishery technical matters
- they should be recruited from within the fishing community

c) Mechanics - will be employed by an association or a group of associations or the support centre.
Duties will be to:

- manage a workshop
- order and stock spareparts
- repair the engines
- implement maintenance programs for the boats
- train the fishermen in operation and maintenance of the engines.

d) Refrigeration operators - will be employed by the local fishery administration where cold stores or iceplants are installed.
Duties will be to:

- manage the plant technically
- repair the machinery
- implement maintenance programs

5.5.4. The Ministry of Agricultures inland fisheries program supported by the UN identifies an organization structure on three levels, with personnel with different qualificatopns at each level. These requirements are fairly similar to the ones identified above.

6. STUDENTS AND EX-STUDENTS IN CEFOPESCAS

6.1. The students

A survey was carried out during the mission on the students through interwievs and a questionnaire. Respondents were 76 out of a total of 81 students. The majority of the students were living in Luanda before entering the school and 75% of them think they will be working there. Most of the students also want to continue their studies as soon as possible.

6.1.1. 65% of the students are under the age of twenty. Three are over 30. (Table 9). Only 4 students are married and only 10 have done their military service. 59% of the students entered CEOPESCAS with the required school qualification (6a class) but all the rest have a higher one (Table 10). 12 of the respondents have actually finished III nivel (8a class)

6.1.2. Only 14 respondents (18.4% of the students) were employed before entering CEOPESCA (Tab 11). 8 of these were what could be called white-collar workers. In each course there is only one person who before entering CEOPESCA was actually doing something connected with the course they eventually chose.

6.1.3. 70% of the students heard about CEOPESCAS through informal channels, namely friends (in many cases CEOPESCAS students) and relatives. Another 26% received information through the mass media (Tab 13).

6.1.4. 55% of the students have relatives who are employed in the fishing sector (Tab 12). In 25 cases (nearly 2/3rds) they are white-collar workers. 10 of these are CEOPESCAS staff. Three of the pescadores have relatives who are fishermen (one of whom is in pesca artesanal).

6.1.5. 35% of the students have their parents living in Uige. 5 are from Sao Tomé, 4 from Manje, 4 from the province of Zaire (M'Banza Congo). The remaining 35 have their parents in Luanda.

The majority (76%) were, however, living in Luanda before entering CEOPESCA. Excluding 5 students from Sao Tomé, only 12 of the others were living in places other than Luanda (11 in inland area and one in N'Gunza). (Plate 10 -11).

6.1.6. The students think it would be possible for them to work only where they have some family to support them. Otherwise problems with board and lodging are too great. Consequently , in the question to find out where they would like to work, we asked where they thought they could actually go since they had relatives living there.

5 of the students mention inland areas (including two fishermen). 6 tecnicos de frio and 4 pescadores mention other coastal areas. 75% of the respondents think they will be working in Luanda. (Plate 13).

6.1.7. Answers to the question What would you like to do after estagio" (Tab 17) can be grouped into 4 main categories:

- those who mention work
- those who would in some way like to combine work and study
- those who would like to work for a year or two after estagio and then continue their studies
- those who only mention continueing their studies.

11.8% of the students (most of whom are pescadores) say they only want to work. 52.6% say they only want to continue their studies; the majority of these are first year students. Another 34% mention both work and study; of these 19 are second year students. This means that the students become more aware of existing regulations (two years in production before continuing their education) as they progress through the course. (10 students explicitly mention this arrangement).

6.1.8. The students were asked what type of course they would like to take if they continued their studies (Table 15). Definitions of the types of course they would like to take vary greatly. Of the pescadores, 9 mention coursed in fishing; the other 19 mention courses which have to do with navigation. Of the 17 técnicos de frio who answered the questionnaire, 16 would like to take a further course in refrigeration and one in electronics. 4 of the electricians mention courses in electricity. All the others mention both electronics and electricity.

Only three of the motoristas mention boats in connection with the type of further course they would like to take.

6.1.9. Interviews with the students confirm their high ambitions for the future, their desire to study abroad and to work on"sophisticated"vessels and equipment. These, according to many, only exist in Luanda. The students did not know that most of the new boats are not to be stationed in Luanda.

The desire to continue their studies as soon as possible is also largely motivated by the wish to avoid military service. However, they attach a great value to formal education as a way of acquiring higher technical abilities and skills.

This may partly be due to the fact that in the present situation in Angola it is difficult to gain a significant professional experience in the working context.

The ambition of the pescadores is to"become captain of any vessel". They were unware of but interested in the possibility of a career with intermediate stages (see par. 7.9). However, they would want to progress further to their goal as "captains on any vessel" (meaning ships of the Merchant Navy as well).

The pescadores do not seem interested in the prospect of getting together in an association to buy a boat. They appeal to feel this is an inferior activity which would assimilate them to the pescadores artesanais of whom they do not have a high opinion.

They were more interested in the prospect of becoming advisors to the associations. However, working in this capacity in rural areas would depend on having the proper facilities (essentially board and lodging).

6.2 Students on practice period.

6.2.1. Of the students who are on their practical period (estágio) 8 are in the provinces and the remaining 27 are in Luanda. 12 students were taken for military service since their papers (carta de adiamento) were not in order; 4 had got back. The students found it difficult to get accepted by companies and in a few cases several months went before they started working. It seems that although Min.Pescas formally assigns the estagiarios to certain companies, these are not given adequate information as to what the estagiarios are supposed to be doing and what their responsibilities towards them are as regards training.

6.2.2. According to the labour laws estagiarios (who are not mentioned as such) could be considered as workers who are undergoing a periodo de aprendizagem. CEFOPESCAS estagiarios do not have the right to a ration card (cartao de abstecimento) which would imply that they do not in fact have legal status as workers. This causes considerable difficulties since they continue to receive 3500 kz as they did as CEFOPESCAS students, but without board and lodging. Conditions have been particularly hard in this respect for estagiarios who were sent to Cabinda.

6.2.3. Follow-up on the part of the school has so far consisted in sending a form for the students and one for the employing agency to fill in each month with details on how the practice period is progressing. So far, no company has sent in a form and only four students have.

Estagiarios who are in Luanda keep in touch with the school and visit their teachers from time to time.

6.2.4. The estagiarios we met were asked whether, in the light of their work experience, they thought the training they had received was adequate. On the whole they do not seem to have particular difficulties in handling problems which arise, often on their own. Some say they would have liked to have had training on "more complex equipment". Often the estaguarios are not working in a position where they can both put their abilities to the test and learn more.

Boats and machinery may be immobilized for a long time for lack of spareparts, fuel, etc. Often there may not be a more qualified person to supervise then. If there is, he may be an expatriate who has difficulty in speaking Portuguese. Some estagiarios also complain that once on board they are not given the right kind of job to do.

6.3. Monitores

6.3.1. The monitores live in Luanda and are fetched in CEFOPESCAS transport. Domestic problems, transport and study have meant that the monitores have not actually spent enough time in CEFOPESCAS to do all the activities they were meant to do. Also, the Swedish teachers complain that they themselves have been too busy with teaching the other students to spend time on the monitores.

6.3.2. The monitores we interviewed complain that they do not have enough training to give them the necessary confidence to teach. More practical experience in their profession is what they think they need most. They would like to have experience with more complex equipment and say that certain equipment is lacking in the school (for example, we were informed that equipment for the electricity course has been in Luanda docks for about three months).

They feel they should be at least one step ahead of the students and that the gap between their training and that of the Swedish teachers is too big. They also complain that they were not sent to study abroad because they were needed as monitores. They have been told they can go when the monitores come, but they do not think this will actually happen. They also point out that their salaries were low: a monitor with 6a class in Cazenga earns 14.000 kz, whereas they only earn 13.000.

The opinion of the Swedish teachers on the subject of their training is similar. The monitores are better, they say, at teaching the theory.

(Table 9)

DISTRIBUTION OF STUDENTS BY AGE

16 - 20	21 - 25	25 +
66,5%	22,4%	13,1% (1)

(1) 3 are over 30

(Table 10)

SCHOOL QUALIFICATIONS ON ENTRY

	PESC.	MOT.	ELEC.	FRIO	TOTAL
6a	16	9	7	13	45 (59,2%)
7a	10	3	3	1	17 (22,4%)
8a	6	2	1	3	12 (15,8%)
n.i.	1		1		2 (2,6%)
Tot.	33	14	12	17	76 (100%)

(Table 11)

RESPONDENTS WHO WERE EMPLOYED BEFORE ENTRY TO CE-FOPESCAS

	PESC.	MOT.	ELEC.	FRIO	TOTAL
Yes	4(1)	4(2)	3(3)	3(4)	14 (18,4%)
No	29	10	9	14	62 (81,6%)
Tot.	33	14	12	17	76 (100%)

(1) Marinheiro empresa de pesca (Sao Tomé); escrituario Min. Pesca (Sao Tomé); escrituario de 2a; professor escola de I nivel.

(2) ajudante impressor Sonangol; calculadorista Sonangol; pintor, Min. Pescas; escrituario Min. Comercio Interno (curso de mecanografia).

(3) Secretario JMPLA; ajudante electricista; operador textil.

(4) auxiliar de tecnico de frio; escrituario Min. Justiça; auxiliar de contabilidade.

Table 12

RELATIVES WORKING IN THE FISHINGSECTOR

	PESC.	MOT.	ELEC.	FRIO.	TOTAL
NO	14	8	7	12	42(55,3%)
YES	19	6	5	5	34(44,7%)
					76(100 %)
	TYPE OF JOB				
Cefopescas staff	6	2	1	1	10(28,6)
Min.pescas employees (Administrative)	7	2	3	3	15(42,8%)
Motorista	1	1			2
Mestre navegadori mestre pesqueiro	2				2
Pesca artesanal				1	1 (28,6%)
Mecanico de frio	2		1		3
Electricista Naval		1			1
Boiseiro ao exterior	1				1
					100%

(1) 3 are employed in the provinces (Namibe-Benq.K.Sul)

Table 13

HOW THE STUDENTS HEARD ABOUT C.P.

Mass Media	Friends and relatives	Fishing company	Other ways	Total
20(25,0%)	53(66,3%)	1(1,2%)	x6(7,5%)	80(100%)

x 2 had applied for Helder Neto and were tolds by Min.Pescas about C.P.. 3 are from S.Tomé and received the information through their ministry. 1 lives in Cacoaco.

Table 14

WHERE STUDENTS WOULD LIKE TO STUDY

	Pesc.	Mot.	El	Frio	Total
Abroad	29	9	9	14	61(80,3%)
Either in Angola or abroad	2	-	-	-	2(2,6%)
In Angola	1	-	1	-	2(2,6%)
Don't specif.	1	5	2	3	11(14,5%)
	33	14	12	17	76 100 %

Table 15

PREFERENCES FOR FURTHER STUDIES

ELECTRICIANS

a) Electricity	Electronics	Electricity electronics	Other	Non spec.
4	1	4	1 x	2

x Philosophy in Lubango

MOTORISTAS

b) Mecânica (Maquinas, Mecanica)	Motorista Naval/maqui Nista navali Engenheiro Naval	Motorista	Refrige- Racao	Other x
6	3	2	1	2

x 1 radiotecnia naval - 1 capitao naval

Table 15 (cont.)

PREFERENCES FOR FURTHER STUDIES

e) PESCADORES

Fishing (1)	Navigation (2)	Electronics	Non spec.
9	19	2	3

(1) Definitions used: mestre de pesca, curso superior de pesca, pescador, tecnologico de pescas.

(2) Definitions used: capitao superior, mestre navegante, navegacao, engenheiro naval maritimo, piloto de altura, capitanaria naval, tripulante naval.

d) MECANICOS DE FRIO

Refrigeration	Electronics	Non.Spec.
15	1	1

Table 17

WHAT THE STUDENT WOULD LIKE TO DO AFTER ESTAGIO

	Pesc.	Motor	Elce.	Tec.Frio	Total
Work	3(1°) x 4(2°)	2(1°)	1(1°)		10 (12,0%)
Work and study	1(1°) 2(2°)	3(2°)	1(1°) 4(2°)	5(2°)	16 (21,3%)
Work a year or two after estagio and then resume studies.	3(2°)	1(1°) 1(2°)	1(1°)	4(2°)	10 (13,3%)
Continue studies	16(1°) 4(2°)	4(1°) 3(2°)	4(1°) 1(2°)	7(1°) 1(2°)	40 (53,3%)
					76 (100 %)

x (1) 1st year
(2) 2nd year

COUNTRIES IN WHICH THE STUDENTS WOULD LIKE TO CONTINUE THEIR STUDIES

Brazil	Denmark	DDR(East Germany)	France	Malys.	Japan	Portugal	Spain	Sweden	Tcheko-slovakia	USSR	Total
2	2	1	4	5	1	1	21	16	1	3	57
(3,5%)	(3,5%)	(1,7%)	(7,0%)	(8,8%)	(1,7%)	(1,7%)	(36,8%)	(28,7%)	(1,7%)	(5,3%)	(100%)

Table 16

7. CONCLUSIONS AND RECOMMENDATIONS

The following recommendations are based on the assumption that CEFOPESCAS' function is primarily to serve the interests of the fishing sector and not just to make a general contribution to vocational training in Angola. This is important when defining what intake of trainees in the different categories should be and possible relations with official agencies outside the fisheries sector.

7.1 Intake of students and courses to be offered

The present and planned output of CEFOPESCAS does not correspond with the future need as identified in section 4. According to the findings the distribution between the courses must be adjusted.

7.1.1 The most evident shortage is the output of engineers/mechanics. To meet the need the number of students should be four times higher. Taking into consideration the total capacity of CEFOPESCAS the number of students should at least be doubled in the first stage.

7.1.2 The intake of students in electricity should be reduced. This could be done by admitting new students every other year or a number of them could be given further training as teletechnicians. As shown in table 4, electricians are only needed in the largest trawlers. (5 in total). Most of the electricians will work ashore. (table 5).

7.1.3 As to the proposed course for teletechnicians, there is doubt as to whether it would be possible to train qualified teletechnicians within three years of study as at CEFOPESCAS. They would be required to repair and deal with the most advanced equipment on board. Training for this type of technician in the Centro de Telecomunicações is on a higher level (entry with 8a classe). Radiotecnicos from Helder Neto are working with more simple equipment. With the similarity between electricity and electronics it would be advisable to let electronics be a further training course after completion of the course in electricity. This would also be a way of absorbing some of the excess of electricians. This training could be given at the Centro de formação em Telecomunicacoes (with an agreement between Min. Pescas and ENATEL) either within the existing courses, or as a special course which could be supported by SIDA.

7.1.4 There is an evident need to have courses to train gestores de pesca for the artesanal fishery sector (for proposals see par. 7.4). This type of course would be quite different from the existing ones.
Pesca artesanal in Min. of Pescas should define training needs and Angolan teachers should be recruited. The course cannot be planned until these two questions have been solved.

Although not in the immediate future some places at CEFOPESCAS will eventually have to be reserved for ex students on further training courses (see below par. 7.9)

7.1.5 There is a request from Min.Pescas for CEFOPESCAS to consider setting up a course in carpintaria naval. This does not seem possible at present since other needs are more urgent and resources are limited. Furthermore there is no reason why it should be a course at the same level as the others. Well organized on the job training in a boat-yard would be the best way to produce carpenters.

7.2 Recruitment

It is very important to recruit more students from the coasta areas other than Luanda. This will not be easy since 36,8% of students in IIo nivel are concentrated in Luanda and Uige. A specific effort could be made in Benguela, N'Gunza and Soyo and all areas north of Benguela where there is artisanal fishing. As the experience of the other training centres shows, it is not easy to find employees in fisheries who have completed 6a classe. An effort should be made nevertheless to recruit through companies. At the summing-up meeting between the various components of the study group set up during the mission it was agreed that Min.Pescas and Min.Educação should draw up and carry out a plan to inform students in schools about CEFOPESCAS. SIDA should make a contribution by helping to prepare information on the sector, courses and careers to be given to students and teachers. The present situation in which students reach CEFOPESCAS through informal channels should be corrected. This perpetuates bad distribution of students. It must be made possible (as the Centro de Telecomunicações does) for the students to take their entrance tests in the provinces. Travel and accomodation problems are too great for students not living in Luanda to come to the capital to take them. CP staff could perhaps take part both in advertising the courses and in selection, travelling in the school boats to avoid travel and accomodation problems. Subdivision of students between the various courses should always take motivations and, where possible, previous experience into consideration.

7.3 Educational qualifications for admission

7.3.1 The students' ambitions for the future can be largely explained by the fact that they are already a fairly privileged minority. Students in IIIrd level education in Angola are only 1% of the total student population. Quite a number of the students in C. P. actually have a qualification higher than 6a classe when they enter. Also, conditions in CEFOPESCAS are better than in most of the vocational training centres in the country. Many of these students will want to move out of the sector or

continue their education. To increase the chances of a better geographical distribution of students entering CEFOPESCAS and increase the possibilities of recruiting trainees who would stay in the sector, CEFOPESCAS could offer courses open to employees in the fishing sector with 4a classe. To have had a working experience directly related to the type of course should be an essential condition for admission.

7.3.2 It might not be possible to organize this type of course already in the coming school year. A feasibility study should be conducted to determine duration, curriculum contents and general subjects to be given as a support (especially Mathematics and Portuguese). It should not be a course giving a formal school qualification (equivalência). It would therefore come into the category of formação profissional especifica. In determining duration it should be borne in mind that it might be difficult for workers not resident in Luanda to leave their families for a long continous period. It should be possible to bring these students up to a sufficient standard to take the examination which the other students take as well at the end of the two-year course and which will entitles them, after the necessary practice period, to acquire certification as Skipper B (see par7.9)

A study on the workers with 4a classe studying in the Centro de Reciclagem could be useful to help identify training needs for this category.

7.3.3. So long as the Centro de Reciclagem is in Luanda, CEFOPESCAS should not recruit trainees with 6 a classe form Luanda; when it is moved to Benguela the types of courses and the recruuiting areas for CEFOPESCAS should be reviewed in relation to the Centro de Reciclagem's new prospects.

7.3.4 In general recruitment plans for both categories of students should be reviewed anually in relation to the other schools and to developments in the sector (in particular in relation to where the new vessels are actually stationed.

7.4 CEFOPESCAS and training for artisanal fishing

7.4.1 In the section on personnel needs for the artisanal fisheries (par.5.5) mechanics and refrigeration engeneers were included (categories c) and d)). These could be CEFOPESCAS trainees (as well as trainees in the same professions from the other two schools) with an additional short course (curso de superacao) on cooperatives and associations.

The pescadores could also carry out some of the functions indicated under category b, (fishing instructors monitores de pesca), although the ultimate aim should be to train people from within the community for these functions. Ultimately train- and visit programmes could be organized for people in the associations. CEFOPESCAS trainees could form teams operating in a flexible way serving a number of associations. Specific training will have to be organized for personnel in category a) (gestores).

Unless some incentives are provided, it will be difficult to get present CEFOPESCAS students to work in the areas where there is artisanal fishing. Recruiting from these areas and admitting students with 4a classe would increase the possibility.

7.4.2 In section 5 the main functions of the different categories for pesca artesanal were identified. At this stage at least training requirements and levels of basic education should not be rigidly defined. The sector is only just beginning to develop. Associations vary greatly in size, type and geographical proximity. Staffing requirements will also vary. Assisting them can be a more or less complex function. To ensure greater productivity associations should be allowed to develop according to their needs and capacity to handle innovation. Superimposing a rigid and hierarchical organizational structure would hamper their development.

7.4.3 As far as a possilbe course for gestores is concerned, contacts between Min. of Agriculture and Min. Pescas were initiated during the mission to cooperate in identifying organizational structure, personnel requirements and curriculum contents since needs for inland and sea fisheries are similar. Furthermore, The Ministry of Agriculture has experience in organization and training for agricultural associations and extension work which could be useful. On the basis of their experience the Ministry of Agriculture stress the need that personnel in our categories a) and b) (gestores and pescadores minitores) should not only know about administration and management, but also about how to lead a group, decision-making, leadership, communications and how to identify basic needs. This type of course has much to do with Angolan legislation and the local political and organizational context. This is why teachers should be nationals and training needs laid down by the Angolan side. SIDA could supply some support in teacher training for these people with the help of an expert in cooperatives and associations. Teaching materials developed by MATCOM/ILO could be used.

For teaching in administration and accountancy, a contact was established with the Instituto Karl Marx in Luanda which trains middle-level personnel in those subjects. It also has a course in accountancy for students with 6a classe. They would be prepared to supply teachers (perhaps some graduates from the Institute who are to become teachers there) for a certain number of hours per week. It was agreed that contacts would be resumed when the curriculum for the gestores de pesca has been more clearly defined so as to make it possible to identify contents and the exact number of hours required for the different subjects. A particular effort should be made to get a person with experience in association development and management through the Ministry of Agriculture to teach these subjects.

It is up to the Pesca artesanal Division to lay down in greater detail what the functions of gestores should be and where they are to be employed. Recruitment of trainees from the pesca artesanal areas is also their responsibility. To make this possible students with 4a classe also should be admitted and the course should, at least initially take the form at a curso de superacao not giving a school qualification (equivalencia). It could be given later on when the sector develops and there is a need for more highly trained people, who could progress into further education.

7.5 Relations with other training instructions in the sector

7.5.1 Where the three training centres attached to Min.Pescas are giving the same types of courses, the ministry should define what the catchment area fo each one should be. They would become regional schools covering different areas. This would improve distribution of trainees after graduation and make follow-up and further training easier.

It is important to evaluate what the real prospects are if 'Helder Neto's material problems are being solved in the not too distant future. Once solved, the centre could operate at full capacity and also recruit from areas other than Namibe. Output would increase and change our estimates general output from the three schools (see par5) If they are not solved, then it is probably true that it is destined to become a multifunctional training centre only serving the province of Namibe. If this were so, then CEFOPESCAS' responsibility would increase.

At present, CEFOPESCAS and the Centro de Reciclagem duplicate each other to a certain extent since they both recruit from the Luanda area. CEFOPESCAS should try to recruit from outside this area to make the best advantage of the boarding facilities.

If the Centro de Reciclagem is really transferred to Benguela with residential facilities, CEFOPESCAS would have to recruit from Luanda upwards.

7.5.2 Since the three schools are giving the same type of course, coordination should be brought about by the Recursos Humanos Division of Min Pescas. The Ministry of Education should also participate in this. The ultimate aim would be to develop common curricula and teaching materials and cooperate in teacher training. In the immediate period an agreement should be reached concerning standard and contents of the final examination since this should be recognized by the Capitania do Porto, as the training component of the specifications to become skipper B according to the career structure in par.7.9 . As concerns teacher training and teaching materials the three schools appear to have reached a similar stage and a coordinated effort might produce good results. Each school might prepare the type of teaching materials for which it has most experience, which might then be used by the others. Monitores being trained in one school could spend some time in the others as well so as to broaden their experience

7.5.3 As well as giving similar courses, the three schools are to a certain extent already, and will do more so in the future, developing different functions. These should be assigned by Min. Pescas within an overall policy for training in the sector. Specialized functions such as training, recurrent education of workers, special courses etc. should be divided between the three schools in such a way as to make the best use of different types of potential and avoid costly duplication and place certain types of personnel where they are most needed.

7.5.4 To normalize CEFOPESCAS' situation in the general education system the statuate should be approved. This should, according to the law, be preceded by a decreto executivo conjunto between the Ministry of Fisheries and the Ministry of Education. A draft has already been prepared and there seems to be no reason why it should not be finalized.

7.6 Relations with agencies outside the fishing sector

7.6.1 A possible contact with the Ministry of Agriculture was mentioned in par. 7.4.3.

They would be very interested to receive some trainees from CEFOPESCAS to work in the three inland fisheries programs which are all in the Luanda area. They do not at present have any training in this field although there are plans for the future. An agreement could be reached in the common interest with the Ministry of Agriculture providing support (teachers, teaching materials) to the course for gestores.
Since so many CEFOPESCAS students are from Luanda.

and the capacity of the sea fisheries sector in Luanda to absorb them is limited at present, working in the inland fisheries in the area would be an alternative solution which would be preferable to trainees leaving the fishing sector altogether for lack of adequate placement.

7.6.2 The advisability of attaching the electronic and telecommunications training to the Centro de Telecomunicações was discussed in par. 7.1.3.

7.6.3 In the planning stage of the CEFOPESCAS program, there were contacts into the Ministry of Transport and CEFOMAR in particular. The aim was to coordinate the parts of the curricula that were in common, to exchange teaching materials and in general cooperate on points of common interest. At present there is a request from CEFOMAR to Min. Pescas to merge with CFOPESCAS:

The primary object of SIDA's involvement in CEFOPESCAS is to support the fishery sector. All resourses should be used to further this objective. Also there are in fact few points of contact (except in name) between the job descriptions for the two sectors. The second, and most important, is that if the two schools were to merge even more students might be attracted away from the fishing sector in favour of tne Merchant Navy. If, on the other hand, it were decided from the beginning that some students should go into fisheries and some into the Merchant Navy this would create discontent among the students.

7.7 Teacher training

7.7.1 Both the monitores themselves and teachers at CEFOPESCAS agree that the level of technical training of the monitores who are terminating their cursos pre-universitários is too low. It has not proved possible to effectively continue that course and technical training as teachers in CP. They have aquired a certain ability to teach the theory, but lack the professional experience and technical skills. Provision should be made for them to gain both further and more systematic technical training and more qualified practical experience in a real working context. They could get this experience in a similar way to the estagiarios (see par.7.1D).The best placements could be reserved for them and they should rotate from one to another. In some cases they could be coordinating a group of estagiarios. The Swedish teacher trainers will be providing the extra technical training and should help supervise monitores working out in the field as mentioned above. Spending some time in the other two fisheries schools would also help to broaden the future teachers' experience by working with equipment different from the type in CEFOPESCAS.

7.7.2 Training of the group of ex-students who are to enter as monitores in September should follow the same pattern. It is not advisable, that they should enter a curso pré-universitario or medio. In this way it would take a very long time (as the experience of the first groups shows) to produce a teacher possesing a high level of general education and technical skill and professional experience as well.

7.7.3 In the present situation it would be better to try and have two categories working together a) instructors (monitores) for practical training and b) teachers (professores) for the theory. This system does have disadvantages but in the present situation this could be the best way to make use of the human resources, of shortening the time needed for teacher training and for keeping the proper balance between theory and practice.

For category a) one should recruit some workers into long-standing professional experience without regard for school qualifications. For category b) one should recruit graduates from cursos pré-universitarios or institutos médios (such as the Makarenko institute training in mechanics and electricity). This would not be possible for the fishermen for whom there is no further training. These would require a more privileged training effort and would be recruited from category a).

In all cases, both categories would require further training of a different kind, although shorter than that which is required in the present system.

7.7.4 Salaries of CEFOPESCAS teachers should be made comparable to those of teachers in other sectors. Some kind of a career should be identified for them also (at least within the fishing sector since there is no general policy for v.t.teachers). So should possible incentives. Since it is necessary for them to continue to gain more professional experience a kind of 'revolving system' should be developed with people going from teaching into the profession for a period of time and viceversa. Lack of prospects for a career, inadequate salaries and material difficulties might make it difficult to keep the monitores or professores in teaching.

7.7.5 Lack of a general policy for training v.t. teachers in Angola as well as within the fisheries sector in particular puts a heavy burden on each training centre and is uneconomical in terms of resourses. A policy and action in this sector are urgent. The awareness of the need, as an investment for the future, of putting some of the most qualified nationals into teaching must increase. Otherwise either dependence on foreign technical assistance will not decrease for a considerable time or the quality of the teaching will not be adequate and vocational training will not be able to make a real contribution to the country's development.

7.8 Careers in general

7.8.1 To allow for proper placement of trainees new and more appropriate qualificadores should be developed. As discussed in section 3 some are missing altogether. Also, it should be clarified whether (as it would appear from the existing qualificadores) CEFOPESCAS trainees are operários qualificados or técnicos básicos (as trainees of this level are called in the vocational training system in general), and how it is possible to progress from one category to the other.

Proposals put forward in this report concerning careers should be taken into account when the new qualificadores are established. They should be simple and avoid excessive fragmentation of duties.

7.8.2 The function of a qualificador is principally to determine salary level. Given the present economic situation in the country increasing monetary income may not be a worker's only objective. The survey on the students shows there are other motivations as well, such as: the desire to work with more complex machinery and improve technical skills, to reach a position of responsibility, to continue studies and less explicit motivations, such as the desire to avoid military service, to travel. Some of these motivations can lead the student to aim for the Merchant Navy or big companies. They can also lead them into the private market.

7.8.3 Much could be done to keep trainees in the sector:

- by providing material and social benefits as incentives in general for employees in the fishing sector especially for those who should go to work in the provinces;
- if the sector were in a position to compete, in terms of salaries, with large companies and economically more powerful sectors of the economy
- by designing a career structure enabling them to progress quickly to positions of responsibility (as described in par. 7.10.4.).
- by making provision for further studies;
- by binding trainees to a contract (contrato de aprendicagem) obliging them to work in the sector for some years which would be more binding than the present regulations; increasing control to stop employees moving out of the sector before it is legal for them to do sc but at the same time making it relatively easy to progress to other sectors which might be more attractive after a sufficient number of years in the fishing sector (this might prevent some from going into the private sector).

7.8.4 It is important to define prospects for careers as clearly as possible. Both students and teachers should be given this information. It is also essential for them to be given information about the fishing sector and its priorities. It would also be good to introduce the students to the concept of appropriate technology.

At present, their aspiration is to work on the most 'sophisticated' type of vessel. Their interest in the artesanal fishing sector might increase with better information.

In general, it is important for Min. Pescas to continue, as it has started to do, to give young people information about the fishing sector which has at present rather a poor image.

7.9 Careers and continued education/certification specific categories

In order to meet the needs and requirements of trained personell to the fishery sector the training at CEFO-PESCAS has to be adjusted and appropriate to its context. The system of certificates should meet with international standards. For fishing boats a working group within IMO has been working on recommendations for international standards.

The proposal has been presented to the member countries and decision will be taken at the general assembly in November 1985. This will only concern skippers and engineers.

7.9.1 With the recommendations applied and other necessary adjustments according to the missions findings the careers and continued training could be as described below:

a) Fishing skippers

Training/practice	diploma title	certificate
2 yrs course		
1 yr practice (estagio)	fishingmaster (contra mestre)	
1 yr experience	coastal skipper (mestre costeiro)	Skipper B (fishing-vessels<24m coastal
1 yr experience	Skipper (mestre de pesca)	Skipper B unlimit waters
1 semester navigation training	Skipper (mestre de pesca de alto)	Skipper A (fishing-vessels >24 unlimited waters

To apply the international standards will be simple. The two year course at CEFOPESCAS should include enough navigation training to meet the requirements for skipper B, (fishingvessels shorter than 24 meters). The student will have to pass an exam in navigation approved by the Capitania do Porto. This should be common for all the institutions within the Ministry of Fisheries. The students will then be able to obtain a certificate after 3 years of approved and certified seagoing practice. It could be possible even earlier, say after 2 years to obtain a restricted certificate for example only Angolan waters. This could be decided by the Angolan authorities.

Navigation along the Angolan coast is quite simple. The coastline is fairly regular with the depthline sloping westward. However, for the fishing operation especially bottomtrawling it is more complicated to define an exact position as there is no navigation system covering the Angolan coast.

For skipper A certificate (fishingvessels longer than 24 meters no upper limit) one semester of additional navigation training should be sufficient. It is not necessary to have all the required 3 years practice before starting the training.

b) Mechanics/engineers

Training/practice	diploma title	certificate
2 yrs CEFOPESCA		
1 yr practice (estagio)	Motorista de Pesca	
1 yr experience	Maquinista de Pesca	Engineer B < 750 kW
1 semester training at CEFOPESCAS	la Maquinista de Pesca	Engineer A > 750 kW

The proposal for international standards for fishing-vessel engineer are divided into two levels depending on the enginepower. Below 750 kW (approx 1000 hp)qualifications for engineer B and above 750 kW engineer A. The systems for examinations and practice should be the same as for skippers.

Of the existing Angolan fishingvessels none will require more than engineer B. Out of the 51 vessels ordered from Italy and Spain 17 have engines of more than 750 kW.

Even though there will not be a formal requirement for further training for most of the students it is desirable, as most of the vessels in the Angolan fleet are equipped with advanced machinery and that proper maintenance is essential.

c) Refrigeration engineer/mechanics

Training/practice	diploma title
2 yrs CEFOPESCA	
1 yr Practice (estagio)	Refrigeration engineer (Mecanico de Frio)

There are no international standards for refrigeration engineers onboard fishingvessels. There will however only be a small number working onboard, a larger number will be required as refrigeration mechanics ashore.
A continued training could be desirable to improve quality and standard of work.

d) Electricians/teletechnicians

Training/practice	diploma title
2 yrs CEFOPESCA	
1 yr Practice (estagio)	electrician (electricistas naval)
1 yr Training in telecommunication and electronics	teletechnicians Radiotecsnico

There are no international standards for electricians onboard fishingvessels.

The possibility of giving some electricians the chance to get further training in electronics was mentioned above in par.7.1.2 Otherwise electricians and refrigeration engineers will have reached the top of their career as operarios qualificados in the fishingsector at the conclusion of their estagio. It should be classified how they could progress further as técnicos.

7.10 Practice period and continued training

7.10.1 A year of supervised practical experience (estágio) is an essential component of CEFOPESCA's training program. The courses are not complete without it. No qualificador can be applied before the end of it. At present it is not a training component since there is no supervision by the school and quality is low. Min. Pescas and CEFOPESCAS together must make this possible and carry it out. The Swedish teacher trainers will be available for this got also Companies where the students are placed.

They should be identified and informed well in advance so time is not lost in placing the estagiarios. Also, their responsibilities towards the students should be clearly laid down and enforced by Min. Pescas. During this year the student's working experience should be aimed at increasing his abilities. A trainee program could be drawn up for each student (especially for the fishing students) where they could spend certain periods in different types of jobs. Itis evident therefore that their status is not that of a normal empolyee. Nor can this period be considered simply as a period of apparentice ship (periodo de aprendizagem). estagiarios are still students. Nevertheless it is essential to improve their present conditions either by increasing their salary or by other incentives. In any case it should be made clear to the students from the beginning that their training in lasts for three years.

Supervision of estagiarios who are not in Luanda could be done by travelling in the school vessels.

7.10.2 The foreign crews with which are to man the new vessels in the initial period will be extremely costly for Angola. Substitution by nationals must take place rapidly. For this purpose even after estagio a continuing training program under the control of Min. Pescas must involve ex trainees from the three schools.

In par 7.9.1 the number of years and the type of training to achieve formal certification were laid down. Apart from the legal aspect there are a number of factors influencing the possibilities and the time required to get national skippers and engineers actually capable of operating effectively and independently.

7.10.3 It is primarly a relation between the size and type of technology used in the fishingvessel contra experience, and skill of the skipper. A talented student from CEFOPESCAS could after some years of experience besome skipper of a vessel of semi-industrial type "traineira".

To become skippers and engineers of the vessels ordered from Italy and Spain will require a lot more experience. The vessels are sophisticated and are built for advanced fishing and with advanced technology.

If nothing is done more than for the first practice period (estágio) the students on the larger vessels with a lot of special posts will start as deckhands and will require a number years before reaching any qualified position.
On a smaller vessel most of the crew share the different functions and it is easier for the student to get a whole picture of the operation.

7.10.4 In order to improve the practical experience for the exstudents this should be planned as if it were a practical training. This could be done in several ways.

A trainee programme could be drawn up for each student especially for the fishing students where they should rotate between different jobs. However, a contradiction arise (especially when it comes to getting training as a skipper) between the demand of running a profitable fishing operation contra the time and risks involved in the training situation and the possibility of lower catches.

The best solution would be to have some vessels especially for training. These should run a commercial fishing but include special training programmes. A training vessel should not be too large. The 26 meter purse seiner built in Spain would be suitable. The best would be to have these vessels directly connected to CEFOPESCAS. These would also be used for the estagiarios and future teachers at CEFOPESCAS. The students will be forced to in an early stage be placed in the wheelhouse and under supervision of the skipper command the fishing operation.

There could be failures and fishing result might be lower but for Angola this most likely will turn out to be the most profitable in the long run.

7.11 Training equipment

The CEFOPESCAS school is moving from the temporary to the permanent school. The school will gradually expand to its full capacity. Most of the additional teaching material and equipment have already been ordered. However, it would be very usefull to purchase equipment of the same type and make as the one used in the vessels ordered in Spain and Italy. Echosounders, radios, pumps etc. will most likely be of the same type. If the student were trained with the same equipment as they will use later,it would make operation repair and maintenance easier.

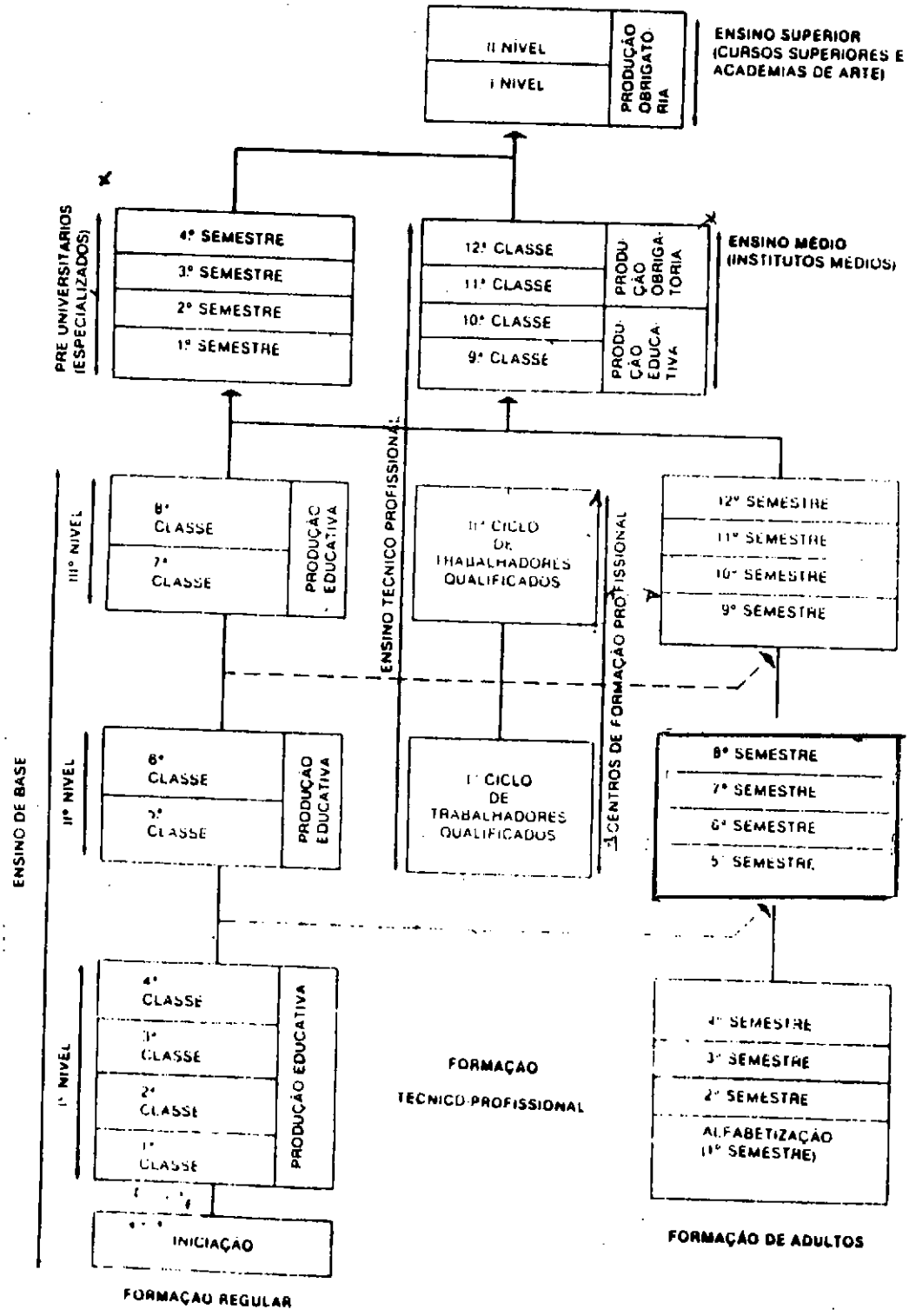
CEFOPESCAS could also be used for repairing some of the equipment. A system with interchangeable parts could be introduced.

REPÚBLICA POPULAR DE ANGOLA

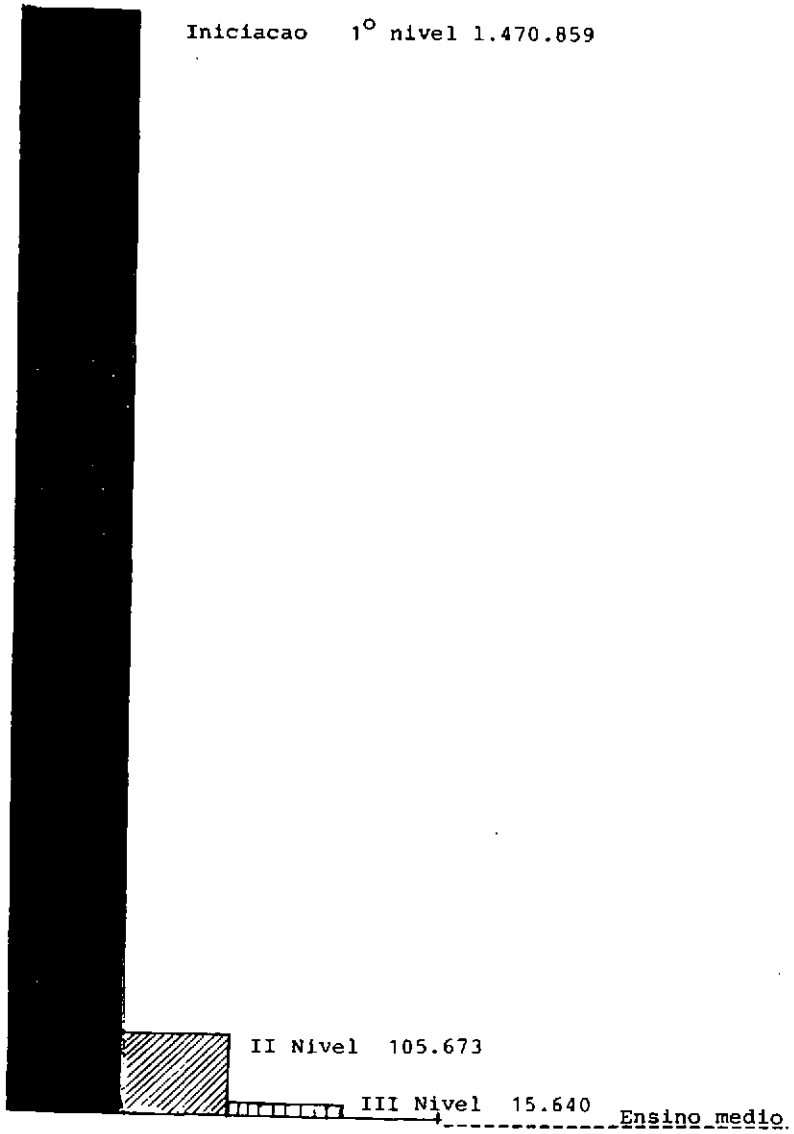
MINISTÉRIO DA EDUCAÇÃO

Plate 1

- SISTEMA DE EDUCAÇÃO E ENSINO



RATIOS BETWEEN DIFFERENT LEVELS OF EDUCATION 82 - 83



DISTRIBUTION OF STUDENTS PER YEAR
I°, II°, III°Nivel 1982-83

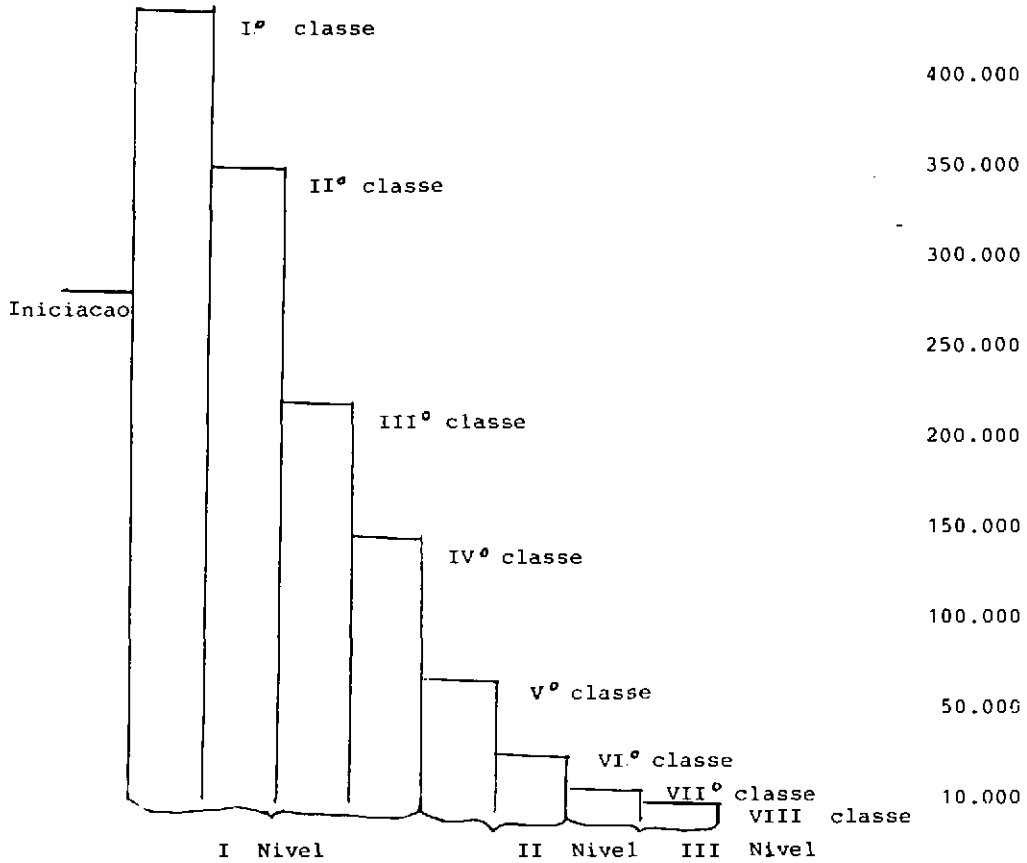
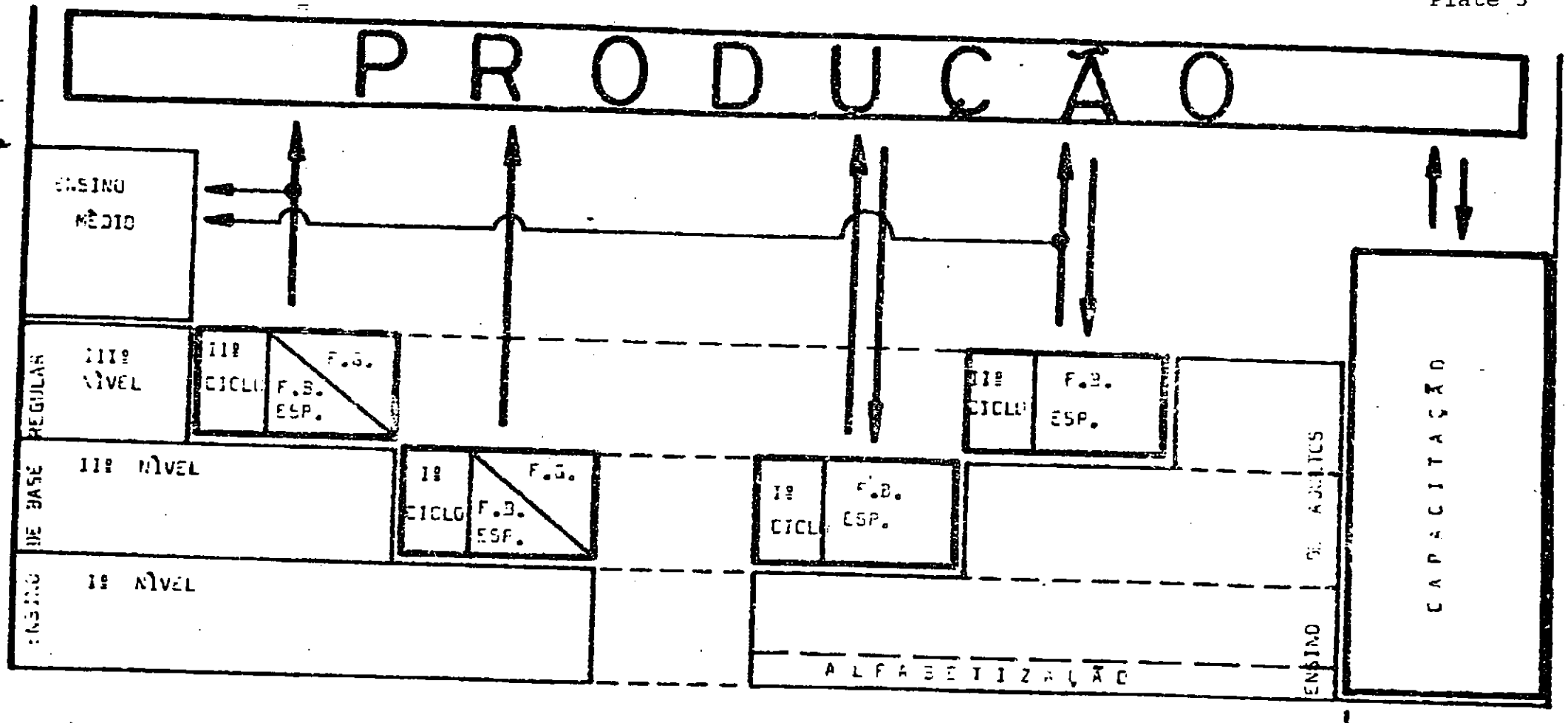


Plate 2



FORMAÇÃO PROFISSIONAL REGULAR OU SISTEMÁTICA

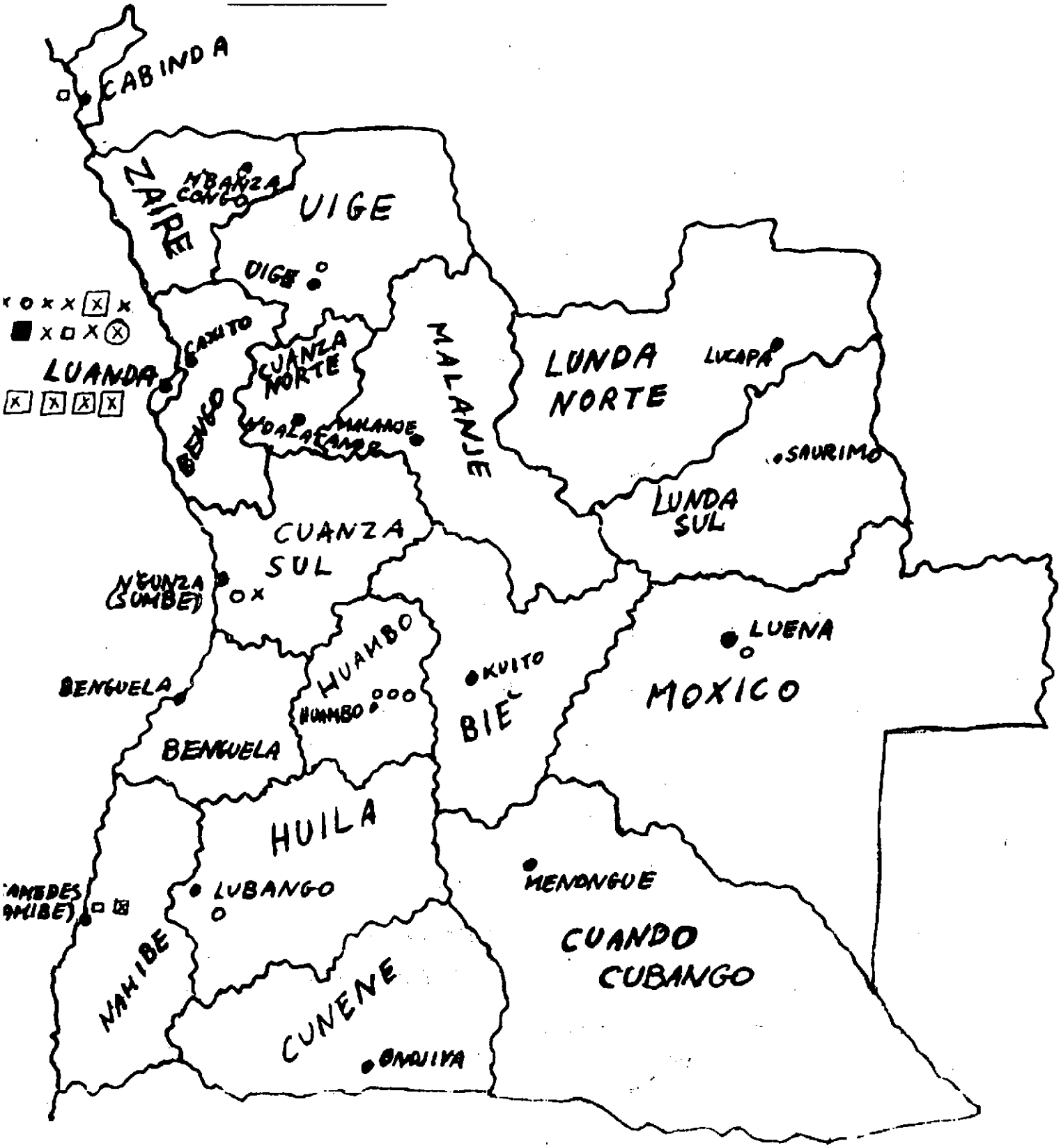
ANEXO 1 - ESTRUTURA DA FORMAÇÃO PROFISSIONAL NA R.P.ANGOLA

Plate 4

MANAGEMENT/ADMINISTRATION/ACCOUNTANCY

V.T. CENTRES: ELECTRICITY, ELECTRONICS, TELECOMMUNICATIONS

N.of courses



○ F.P. 1º CICLO

□ F.P 11º CICLO

× ESPECIAL

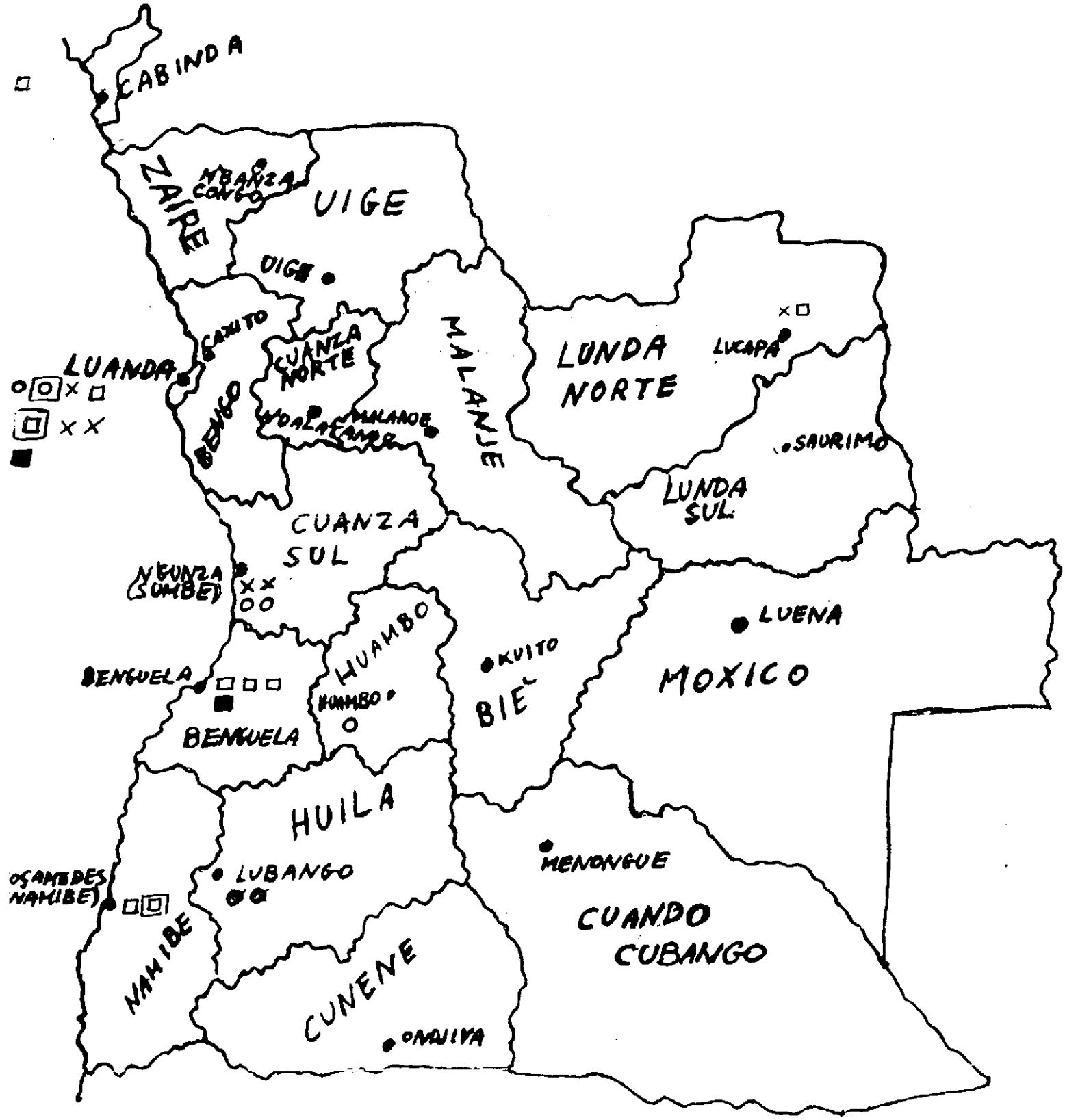
⊠ TELECOMUNICAÇÕES

■ MEDIO

Ⓔ ELECTRONICA

Plate 6

MECANICOS/MOTORISTAS/TECNICOS DO FRIO



E.P. 1º CICLO ○

E.P. 11º CICLO □

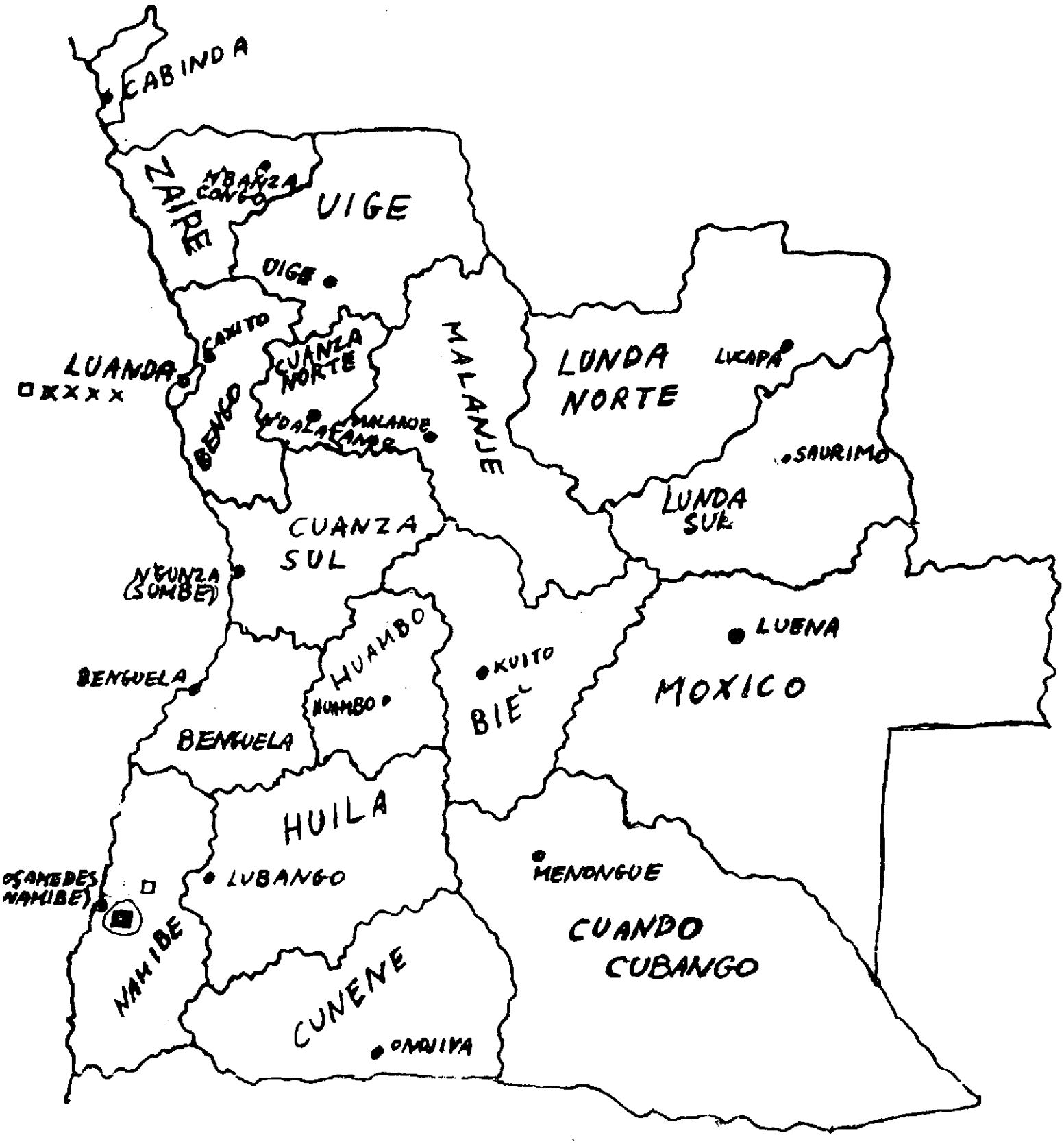
ESPECIAL ×

MEDIO ■

TECNICO DE FRIO (T)

Plate 7

FISHING/FISH PROCESSING/NAVIGATION (No of couses)

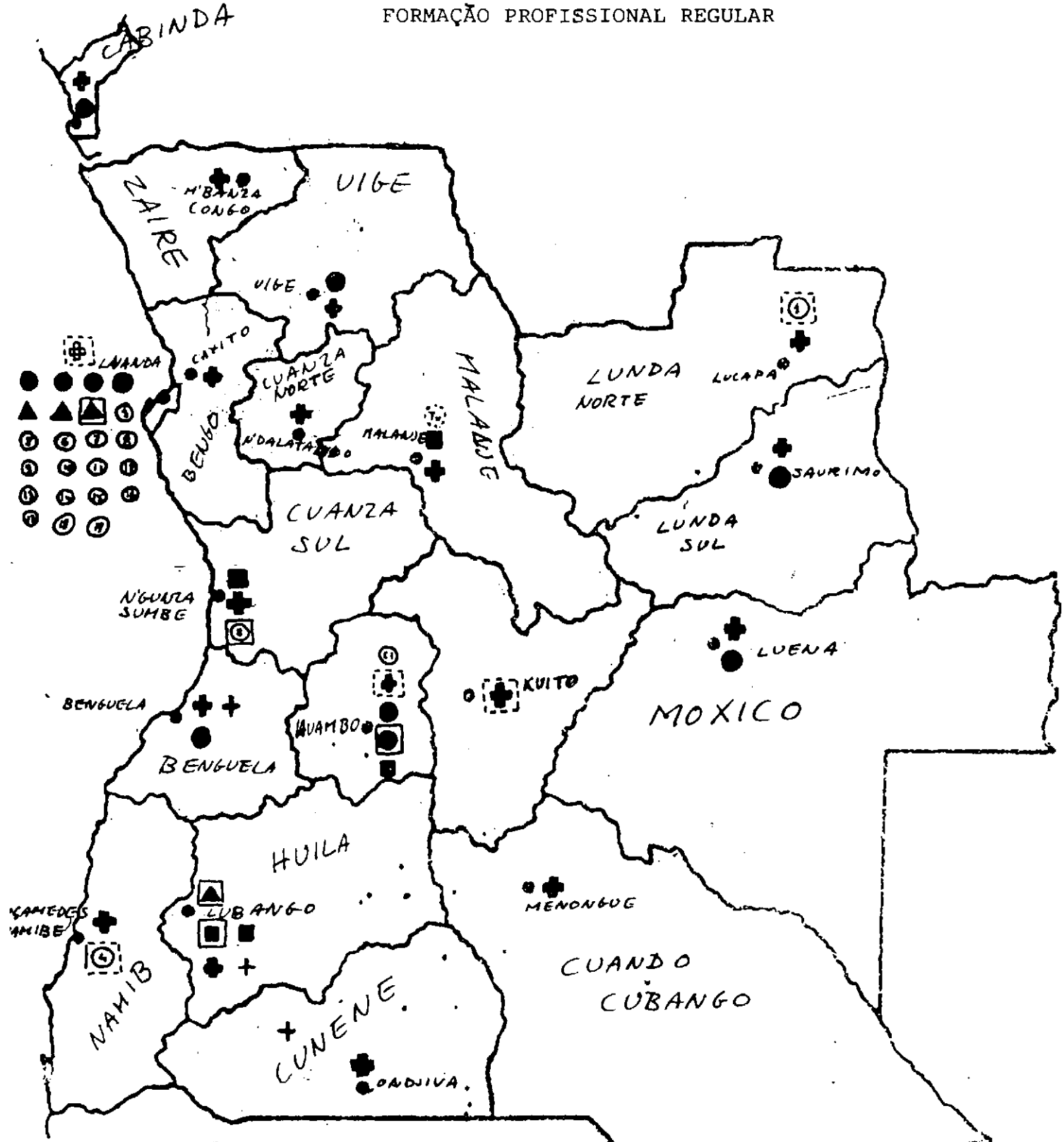


- ○ F.P. 1º CICLO
- □ F.P. 11º CICLO
- X ESPECIAL
- PROCESSING
- MEDIO

Plate 8

DISTRIBOTION OF V.T. TRAINING CENTRES IN ANGOLA

FORMAÇÃO PROFISSIONAL REGULAR



RAMO	CAPACIDADE		Nº de Cur.	Nº de Cur. (I, II)
	LAR	TOTAL		
● INDUSTRIAL	680	1537	10	(19,21) 40
▲ ECONÓMICO	-	735	4	(4, 4) 8
■ AGRÁRIO	875	875	5	(6,15) 21
✚ SAÚDE	-	2850	21	(-,11) 11
○ ESPECIALIZADO	960	2734	19	(23,60) 83
	2515	8731	59	(52,111)163

PLATE 9 JOB DESCRIPTIONS (QUALIFICADORES)

PESCA/MAR (1)	PESCA/TERRA (2)	MARINHA MERCANTE (3)	CONSTRUÇÃO NAVAL
Grupo V (7200 kz)			
Auxiliar de motorista Marinheiro Guincheiro	Calafate de 3a Quincheiro Operário de cozedura de peixe Operador de chupador Operador de instalacoes Refrigeração de 3a Operário de maquinas de cravação Operário de limpeza de latas Operador tanques de fabrico o de gelo	Chegador	Calafate de 3a Marcador naval de 3a Operador de alagem de 2a
Grupo VI (8755 kz)			
Motorista de 3a Chateiro Poupeiro	Calfate de 2a Operador de centrifugação Operador de instalacoes de refrigeração de 2a	Ajudante de electricista Ajudante de motorista Ajudante de marinheiro Patrao de lancha	Calafate de 2a Marcador naval de 2a Operador de alagemde 1a Pintor naval de 3a Traçador naval de 3a
Grupo VII (10.125 kz)			
Argoleiro Motorista de 2a	Carpinteiro naval de 3a Operador de instalacoês de refrigeracao de 1a Operador do plano inclinado Operador de prensa de oleo de peixe	Fogoeiro Faroleiro de 2a classe Motorista pratico de 3a Marinheiro de 2a	Carpinteiro naval de 3a Electricista naval de 3a Marcador naval de 1a Serralheiromecanico naval de 3a Tubista naval de 3a Solador naval de 3a
Grupo VIII (11.700 kz)			
Motorista de 1a		Bombeiro maritimo Marinheiro de 1a Padoleiro de maquinas	Caldaireiro naval de 3a Mecanico naval de 3a Pintor naval de 2a Soldador naval de 2a Traçador naval de 2a Tubista naval de 2a
Grupo IX (13.500 kz)			
	Calafate de 1a Carpinteiro naval de 2a	Artifice Contramestre	Calafate de 1a Caldaireiro naval de 2a

Plate 10

POSSIBILITIES FOR HORIZONTAL MOBILITY

	OFFICIAL	PRIVATE
FISHERMEN	MIN OF AGRICULTURE (INLAND FISHERIES PROGRAMMES) MARINHA MERCANTE (1)	(PRIVATE OWNERSHI OF BOAT) (2)
MECANICO DE REFRIGERAÇÃO	MIN OF AGRICULTURE MIN COMERCIO INTERNO	REPAIRS OF REFRI GERATORS AND AIR CONDITIONERS
ELECTRICISTAS NAVAIS	MARINHA MERCANTE (3) (NO OTHER SECTORS PROBABLY SINCE THERE ARE NUMEROUS COURSES TRAINING ELECTRI-CIANS)	SMALL REPAIRS
MOTORISTAS NAVAIS	MARINHA MERCANTE (3) MIN OF AGRIC. (INLAND FISHERIES) (NO OTHER SECTORS FOR SAME REASONS AS ABOVE)	SMALL REPAIRS
RADIOTECNICOS	MARINHA MERCANTE;OIL COMPANIES; AIRLINES; DIAMANG ENATEL;MIN DEFEGSA /RADIO & TV ETC	RADIO & TV REPAIRS

1 Placement would be as either a marinheiro de la or as contramestre, but would be inadequate since the types of jobs are very different from those in the fishing sector.

2 Students do not at present seem interested in this prospect

3 Suitable qualificadores

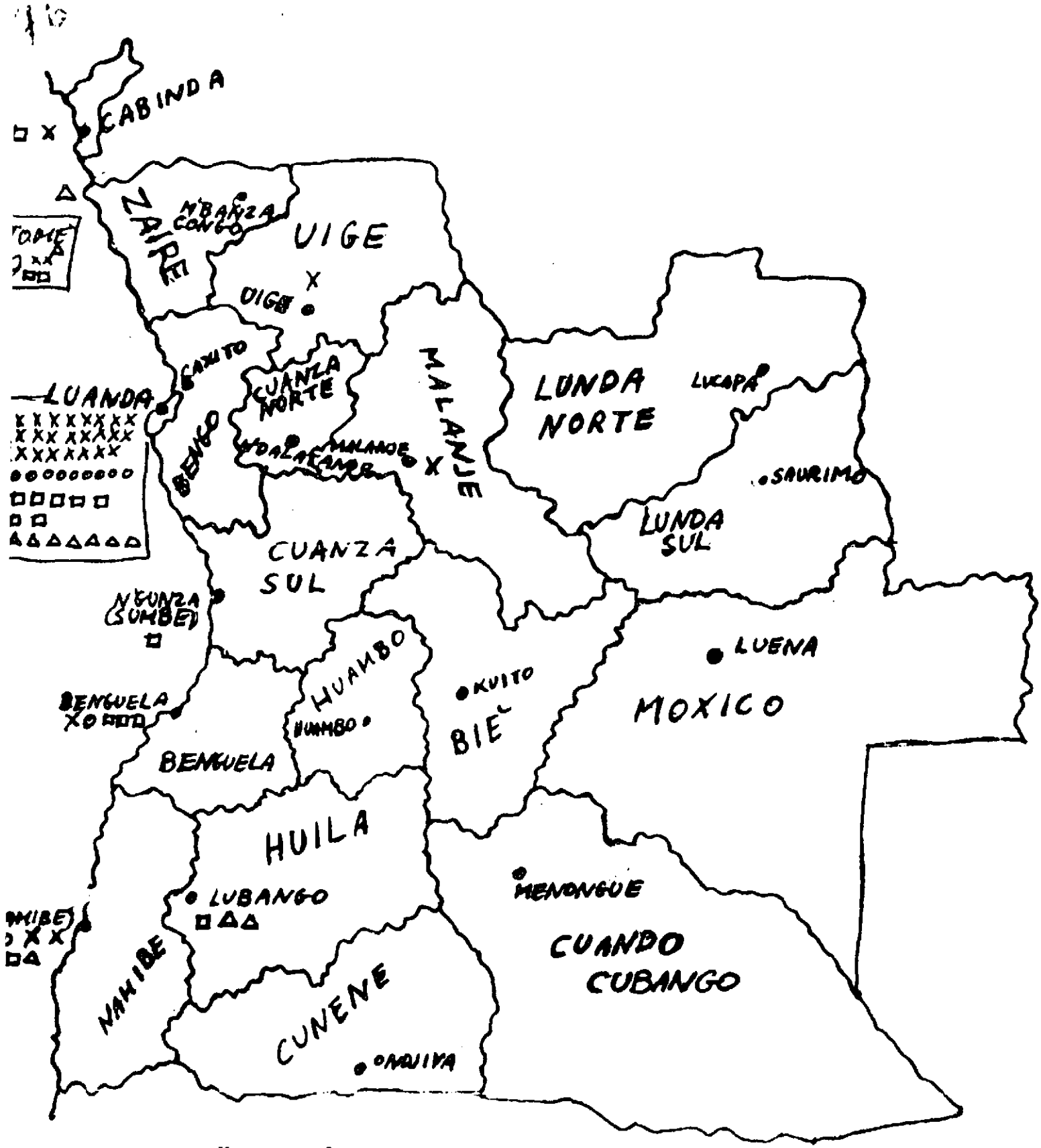
WHERE STUDENTS WERE LIVING BEFORE ENTERING CEFOPESCAS

Plate 12

WHERE STUDENTS' PARENTS ARE LIVING AT PRESENT

Plate 13

CHOICE OF PLACE WHERE TO WORK



X pescadores

O Motoristas(1 says he would work anywhere)

□ necabucis de frui

△ electricistas(1 doesn´t have any family)

PLATE 14 DISTRIBUTION OF STUDENTS ON PRACTICE PERIOD (1)

CABINDA: 3 motoristas

NAMIBE: 1 pescador
1 electoricista
2 mecanicos de frio

BENGUELA: 1 electoricista

LUANDA: Marinha de Guerra: 1 electoricista
1 pescador
1 motorista

Edipesca: 1 mecanico frio
Cefopescas: 2 motoristas
CIP/GOA: 1 motorista
1 pescador

Pescangola: 3 pescadores
3 electricistas

Expedicao conjunta angolano-sovietica: 7 pescadores
2 electoricistas
3 mecanicos frio
1 motorista

(1) The information should probably be checked. A mecanico frio and an electricista were quoted for GOA and estagiarios actually found on board were a motorista and a pescador.

The mission shall

1. describe the problems regarding the provision of crews with the necessary qualifications for the Angolan fishing-vessels for a five-year period.

2. make a survey of existing fisheries training in Angola as well as other training activities related to the trades for which training is given at CEFOPESCAS.

3. describe how the training given at CEFOPESCAS is related to similar training activities in Angola and give suggestions regarding how it should be related.

4. give a background for a discussion regarding level and emphasis (fields and specialisations) of the training at CEFOPESCAS during the next five-year-period and its relation to the formal educational system.

5. give suggestions regarding how the need for upgrading to certified skippers for the fishing vessels should be provided for.

6. give suggestions regarding the arrangement of the practice period for the students at CEFOPESCAS and the desirable degree and character of the involvement of the school.

7. survey the situation at the institutions mentioned above regarding teachers/instructors as well as existing or planned training of teachers/instructors with relevance for CEFOPESCAS.

8. give suggestions regarding possible forms for cooperation with institutions for fisheries training and other relevant vocational training programmes concerning teaching aids and learning materials, teacher/instructor training etc.

9. give suggestions regarding how to meet the training needs of the artisanal fishery.

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Swedish International Development Authority (SIDA)
Education Division
S-105 25 STOCKHOLM

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