



the courier

EUROPEAN COMMUNITY – AFRICA-CARIBBEAN-PACIFIC

N° 30 – MARCH-APRIL 1975



**TRANSPORT
AND THE E.D.F.**

**From
"Association
News"
to
"The Courier"**

"Association News" changed its cover with the last issue: now it changes its title. The reason is, of course, that the Associated African States and Madagascar have joined their new African, Caribbean and Pacific partners under the Lomé Convention. The spirit of association has become a spirit of partnership between 55 countries. *"The Courier"* aims to serve as a link between them all.

Judith Hart — The British development minister brings style and experience to the conferences of the Nine as well as to the A.C.P. negotiations. At the end of a tangled year of international politics, Mrs. Hart explains the basic principles that have directed her development policy and their wider implications for development aid. **Page 3**



Protection of nature — Pollution and the illicit destruction of wildlife for commercial gain seriously threaten many species of flora and fauna. It now seems inevitable that some species of animals, especially the big cats, will become extinct unless action is taken in time. Christian Zuber (photo) is among those who devote most of the lives to the protection of nature. **Page 10**

Guinea-Bissau — Shortly after independence, ex-Portuguese Guinea joined the group of 45 A.C.P. countries negotiating an agreement with the European Community. Mr. Vasco Cabral, Commissioner for Finance and the Economy, represented his country at the Dakar A.C.P. ministerial conference and at the A.C.P.-E.E.C. ministerial conference in Brussels. He told the "Courier" how Guinea-Bissau means to develop its relations with the world, and in particular with nine-nation Europe. **Page 19**



Transport and the E.D.F. — The development of transport constitutes one of the keys to development in general. That explains why about a third of E.D.F. investments over some fifteen years have been devoted, at the associated States' request, to transport projects. Their special value is in improving the flow of internal trade and agricultural and industrial exports as well as improving inter-regional trade among African countries. **Page 24**

Gabon — Most of Gabon's external trade goes by sea, and four years ago a special organisation was set up to make sure that the country's trading was efficiently organised. This was the Conseil gabonais des chargeurs (Gabonese Board of Shipping). M. Jean-François Ntoutoume, Secretary-General of the C.G.C., describes the organisation's work. **Page 49**



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When it comes to developing a country, transport has to be considered at every stage and in relation to every economic activity. It is this which makes it specially important. It cannot be considered in isolation, for it is and will remain the essential link for every economic sector. It is an industry which serves all the other industries and must be so conceived from the first. There can be transport without economic development; but there cannot be economic development without transport.

The transport infrastructure calls for very large investments, and it is these which determine the growth of productive activity. It is a natural point of economic policy to choose the form of transport which will be least expensive; and since the cost price depends so largely on the volume of traffic, the best choice may be anywhere in the range between the aircraft and the railway, according to whether it is a question of transporting small tonnages of high value per unit of weight or big tonnages transported with sufficient regularity to provide reliable revenue to write off a costly infrastructure. Transport, therefore, is an essential factor in any choice of the location for an industry, since it will enable activities to be undertaken which could not otherwise have existed and will eliminate, at least partly, the constraints of geography and population, so that production will no longer depend so much on the proximity of raw materials and markets.

These are generalities which would repay more extensive study, but we do not for the moment need to dwell on them. It is worth noting, nevertheless, that transport improvements can be a strengthening factor in national unity and an instrument for bringing remote populations into the general community, and thus for promoting regional cooperation and working towards wider markets stretching across the barriers set up

«Where the foot does not tread, the heart cannot follow» (*)

by political artifice or the historical heritage of language. In this way transport is not only an accompaniment to economic growth, but part of the motive force.

There are experts who say the road makes the traffic. Evidently, transport shortens the distances between human beings, creates new needs, makes it easier to get about, promotes community concentrations and is a powerful force in the changing social picture.

* *

The European Development Fund has, for the past 15 years, been carrying out transport investments in the countries of the A.A.S.M. This experience shows that there are indeed difficulties of access and penetration to be overcome, and that in some cases these difficulties are partly due to the fact that the means of transport available are not suitable for current requirements. The problems vary greatly according to what means of transport are under consideration.

In a recent number dealing mainly with the African railway systems, we came to the conclusion that the part played by the railway is still important and even growing in importance, especially for the movement of minerals and timber. Another 1974 number showed that a very big development programme for telecommunications had been brought into action since 1968. In the present number we shall be concerned with other means of

communication—by sea, by waterway, by road and by air. It is well known that in Black Africa the landborne communications systems are largely a function of seaport activity; and this is steadily growing, for the traffic passing through the ports in French-speaking Black Africa has doubled in the past 10 years. There are rivers which are navigable, though only over specific stages, while air transport is of constantly growing importance, especially as a link between Africa and other continents. It is the road, however, which is the essential and fundamental instrument for the transport of passengers and goods in Black Africa. In Senegal the number of motor vehicles in circulation has now reached one for every 75 inhabitants. This is the highest figure in West Africa, and the Ivory Coast is not far behind. There is of course a great variation in traffic densities between the big urban centres and the rural areas; but the motorised traffic is on the increase everywhere. Moreover, great arterial highways are under construction or on the drawing board, including Dakar-Ndjaména, Dakar-Lagos, the trans-Sahara highway and the trans-African highway to link Mombasa with Lagos.

For the past 15 years, at the request of the Associated countries, the European Development Fund has been playing an important part in developing all the forms of transport. In the period 1969-74 about 37.5% of the resources available were applied to roads and bridges, railways, ports, navigable rivers, airports and telecommunications. The E.D.F. interventions have been largely concerned with promoting local commercial traffic, the export of agricultural and industrial goods and making regional integration easier by facilitating trade across the frontiers between the different countries in specific zones of Africa. This is an important aspect of the conception, the planning and the execution; and for this reason, the Dossier in the present number is a discussion under the heading, "Transport and the E.D.F." ■

(*) Proverb from Niger.

Mrs Judith HART, British Minister of Overseas Development:

“Aid ought to be orientated towards the people in greatest need”

Mrs Judith Hart is Minister of Overseas Development in a Labour Government for the second time in five years, a period which has involved Britain, as a new member of the E.E.C., in the Community's unprecedented activity for the developing countries. Her strong personality and clear statements of principle have been a feature of the E.E.C.-A.C.P. negotiations, notably at the break-through Kingston conference, and she has presided over Britain's commitment to defend the interests of the Commonwealth A.C.P. during a particularly complicated period of international affairs.

Mrs Hart, married with two sons, has held several ministerial positions since entering Parliament in 1959. Besides her posts in the development and Commonwealth fields, she has been Minister of Social Security and Paymaster General. She studied sociology at the London School of Economics, and her book "Aid and Liberation: a Socialist study of Aid Policies" was published in 1973 ⁽¹⁾. Mrs Hart has been, until recently, a member of the Bureau of the Socialist International.

Information Service-Ministry of Overseas Development



▶ Mrs. Hart, you have always insisted on the need to open European aid to developing countries in general, rather than limiting its application just to an Association, and you have been a leader in bringing the E.E.C. round to this point of view. As one of the most

experienced of the development ministers, what do you think should be the principles of development aid?

— Well, my own principle here, and the one that is now adopted in this ministry and will be put to our Parliament shortly, is that aid ought to be oriented towards the people in greatest need, which means a poverty-oriented programme, which

means that one takes the poorest countries and the poorest people in the poor countries. And what I have been concerned about, of course, is that this principle was rather far from that of Community aid in the past, which is really what all the discussion and dialogue have been about.

I am very glad, of course, that the Community has now accepted the

(1) Reviewed in Association News No. 28, November-December 1974.

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principle of aid to countries which are not associated with it. But in my view, that really is only the beginning; one has to see that principle translated into firm financial commitments.

► *What are the main policy lines of the current British development aid programme, and how do you think it will probably develop?*

— We already have a high degree of orientation towards the poorest countries, for all kinds of reasons: historic reasons, philosophical reasons. I think we have a very sound approach. We are emphasizing this in what we call our aid framework, which is our planning for the next three, four or five years, in terms of allocations to the countries that get most of our aid.

We are also giving very strong emphasis to rural development which, in fact, preceded the World Food Conference by many months. We are not a country which has simply picked up the conclusions and the discussions of the Rome World Food Conference; we have been adopting the kind of principles that were emphasized in Rome in our own aid programming. Now, there are great difficulties in this. First of all, developing countries themselves often give higher priority to industrial development than to rural development and, because our aid, indeed most donor countries' aid, is on a Government-to-Government basis, you are dependent to some extent on the kind of assistance that they ask for.

So in my view, and this is not just within the context of the E.E.C. but in very general terms, there is a problem of the developing countries themselves asking for higher priority to be given to assistance to rural and agricultural development. And how one achieves that, of course, is very delicate, and whether it can be achieved, and what they will think about it. But certainly our intention is that wherever we can, we would hope to respond to requests from developing countries for rural development and give priority, as we have given for some time, to the poorest countries, that is to say taking need as the major criterion. We

hope that our programme will be as good as anybody's—I think, in fact, it is a good deal better than most.

► *Britain naturally has a role to play in introducing the Commonwealth to the Common Market, and this issue is one of the fundamental points of the British "renegotiation" of E.E.C. terms of entry. So far it seems to have been one of the most successfully renegotiated of these issues. Where have we got to in Britain's activity on behalf of the Commonwealth Associates, and also non-Associates?*

— If I may say so, I think that question implies an incorrect attitude towards what we are trying to do. It is not that we are trying to introduce the Commonwealth into E.E.C. aid. It is that we are genuinely concerned about the poorest countries. Historically it happens to be the case that the poorest and most highly populated countries, the countries most seriously affected by the oil price rises, the countries in greatest need, are those of Asia; and India, Bangla Desh and Sri Lanka happen to be Commonwealth countries.

But it is not because they are Commonwealth countries, it is because they are the poorest and neediest countries by any objective criteria. So I would not like it to be thought in the E.E.C. that in fact our motivation is in any way geared to our trying to protect the interests of Commonwealth countries in the way like France has traditionally protected the interests of the francophone countries in Africa. It is not like that. Historically, it happens to be the case that the Commonwealth countries are the poorest in Asia. But it is very important to understand that the whole process of aid-giving, as a world process as well as an E.E.C. process, ought to be based on the correct criteria: the correct criteria can only relate in my view to the poverty of people and to the need of people, and it is from that that everything else has flowed in terms of my efforts within the E.E.C.

► *When Britain joins the E.E.C. aid scheme, will she maintain her bilateral commitments at the same level as they are now?*

— Yes, give or take a tiny bit here or there. The answer is yes.

► *The British Government has committed itself to giving development aid a bigger boost than practically any other sector of public expenditure. In view of the present economic climate in Britain, are we to fear a cut-back in aid despite the Government's intentions?*

— No, you need not fear a cut-back in aid.

► *Do you think that Asian countries should be invited to join a Common Market Association Convention? If so, would E.E.C. aid not become too diluted to be of real use and too unmanageable to handle efficiently?*

— I think the decision on this would obviously be for the Asian countries rather than for us. What I think is very important is the effort to ensure better generalised preferences for the Asian countries outside the circle of Association, and my colleague, Mr. Peter Shore (1), has been achieving a great deal in this direction. And I very much welcome the new direction that seems to be appearing in E.E.C. attitudes towards trade with the non-Associate countries. I think it is very important that they have achieved certain results here, although there is a good deal further to go in this direction, as in the aid direction.

You ask me if dilution will not follow spreading aid to include the Commonwealth countries in Asia. This is true, but then you see, you can argue this, that in relation to any distribution of aid, a certain country is giving a high proportion of its aid to country X in the developing world and it may not be that this is based on absolutely correct criteria, maybe it is not based on criteria of poverty or need, but if we dilute it and if we try to spread it... you know, now where does that argument lead you to? It leads you to a position in which the criterion of need just doesn't get anywhere at all. I have also been

(1) British Trade Secretary.



emphasizing for some time that one of the factors that should be taken into account in determining the distribution of aid, alongside the criteria of need, is the per capita aid received by developing countries. Because, you might identify three or four countries as being the ones who need the most aid, but unless you know what they are receiving from everybody else and are able to take account of that, you can get a tremendous distortion in aid distribution. And that is a very relevant factor.

► *Does this suggest that aid should be vetted by international organizations before you can decide to allocate it?*

— Well, it is already vetted. I mean, the annual reports of the Development Assistance Committee of O.E.C.D. give every country the information it needs about aid per capita on which to base sensible judgments to ensure that distortion does not occur. What I fear is that a good many donor countries, and I would hope that E.E.C. aid would seek to avoid this mistake, do not in fact give consideration to that information in the existing published reports.

► *I think I am right in suggesting that your ideas, and perhaps those of Mr. Pronk of the Netherlands, are on the whole among the more radical ideas currently being discussed within the Council of Development Ministers, and you have just outlined a few of them. Do you go as far as Mr. Pronk in suggesting that aid must be controlled according to the political system of the country receiving it?*

— I think that one considers this question very, very carefully. You see, if one wants to benefit the poorest people, in the poorest countries, then quite clearly one factor that is bound to influence one is whether the Government of the country in question—remembering that this is Government-to-Government aid—is itself trying to introduce policies, perhaps involving quite considerable institutional change, designed to benefit the poorest people. In other words, you might have a very, very poor country according to all the economic analyses, you might have

a country with a very low per capita income, if in fact that country were using its aid in such a way that only its own élite and its own better-off people were benefitting, then that obviously must be a factor that you take into account.

Now that, of course, does to some extent involve, in the broadest sense of the word, political systems. I would not myself describe it in quite that phraseology, although I think this is probably a translation question. I have often said, and would maintain, that in order to get development assistance to benefit the

Why do Denmark, Sweden, the Netherlands, Britain, Germany, the Americans, the World Bank and everybody else want to help Tanzania? And I would suggest that the answer is because Tanzania seems, although it is not operating in a Western capitalist market economy, to be doing things its own way, and its way will be different from our way, but is clearly seeking to benefit its poorest people.

Now, is that radical? Is it radical to want to give aid to Tanzania? Is it radical to want to insist on the importance of

Netherlands's Information Service for Development and Cooperation



Judith Hart with Netherlands Development Minister Jan Pronk.

poorest people one must take account of the degree of institutional change required to achieve that. Now, it is probably more interesting to talk about this in terms of practical examples. And I think that Jan Pronk and I, and the ministers of various other countries that are not necessarily in your category of radical countries, find for example, that Tanzania is a country they wish to help. In fact, I think Tanzania has more donor countries assisting it than probably almost any other. And so one must ask the question, why is this so?

the rural development that Tanzania is carrying out? Is it radical to think that the kind of institutional changes and policies that Nyerere is pursuing, are in some way questionable? I think it is just natural that donor countries who study the question of which people they are actually helping are bound to come up with the answer that where you have a country like that, which is not afraid of change to help its poorest people, than Jan Pronk and I and other ministers are going to want to help them.

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► *For a résumé, perhaps could I ask you: looking at the present Association Convention, and looking at the new Convention which we hope is about to be signed, what changes would you like to see in the new Convention? (*)*

— Well, I think for the Convention arrangements there are still one or two question-marks, particularly those arising out of the present problems about sugar. We have our total commitment, as you know, which I re-emphasized in Jamaica last summer, to an access of 1.4 million tons of Commonwealth sugar to the European market. Of course, that was taken note of in Jamaica and has since, in all the discussions amongst the agricultural ministers of the Community, been generally accepted, but then, of course, it means very little unless you get the price settled. And there we are in the middle of price problems, so this is a factor which means that what happens at the end of the day on the new Convention has to await for the resolution of these problems. They are not just in my view ancillary problems; this is a very real, basic problem affecting the whole thing.

Well, there is one change I would want to see, and I think shall have to insist on seeing, in the distribution of E.D.F. aid amongst the Associates and the new Associates, and that again relates to the distribution of aid. It is not just a matter of saying such or such a percentage of E.E.C. aid goes to the Associates. It is a matter of saying to which and on what basis and what principles. And as you probably know, I pointed out in the past that the present distribution of E.D.F. aid to the existing Associates is wholly distorted and bears no relation whatever, as far

as one can see, the poverty criteria. The two examples I have given have been Gabon and Chad, the one with a very small population, a very high per capita income and a very high receipt of aid. The other, Chad, with a very large population, extremely poor and with next to nothing in aid, which is a complete nonsense. So, there is the question of distribution of aid between the old and new Associates; then there is the question of the distribution of aid as between the Associates as a whole and non-Associates, and that really takes us back to your earlier questions on the Asian countries.

► *But there are some important innovations in the new Convention: the stabilisation of export receipts, for example. Do you approve of this?*

— Well, I think the general reporting of the occasion in Jamaica was that I had been of some assistance in ensuring that this got fairly whole-heartedly accepted!

► *Talking about attitudes, a final question: I have described you as being among the more radical leaders—which might not be the word—sometimes your ideas are described as attractive but occasionally found a little unrealistic. Is this a fair criticism?*

— I find these descriptive adjectives a little extraordinary. I believe that the kind of policies I am talking about are the only sensible, realistic policies. Now, if somebody else wants to describe them as radical, it can only reflect on their own basic position: it must mean that they are so far to the Right that these sensible policies appear unreal to them. So there-

fore I do not really accept these attitudes. I would say that the kind of policies I advocate are the only correct ones if one is concerned with development, which means people, which means poor people in the Third World.

Now, the challenge to them can only come from people who have at the back of their minds that really aid ought not to be about people, but ought to be about the pursuance of self-interest, the pursuance of objectives which are based on one's own national needs. And if that is so, if in fact this is the undercurrent of resistance to what I regard as being the only logical, sensible view, then I think people had better think again about what self-interest really means. Because on the one hand there are many of us who have talked for a very long time about the need for compassion and concern about the peoples of the Third World; but I think the last year has brought out far more clearly than at any point in the past, is that the economic survival of the industrialized aid-giving countries is so closely linked with the economic viability of Third World countries that there is now such an identification between self-interest and compassion that the two could hardly be separated. Now it may be that the simple fact of the matter is that those who regard the kind of ideas that I put forward—which I do not believe to be particularly radical, as I say, but just sound—it may be that they have not really thought it through. And they have not really brought themselves up to date on the kind of the world we are living in and the inter-relationship between Third World countries and the industrialised countries, for example, those of the E.E.C. ■

Interview by
Barney TRENCH

(*) This interview was carried out in London before the conclusion of the E.E.C.-A.C.P. negotiations. Mrs. Hart's reply here is naturally, nonetheless, of more than merely academic interest.

Population and the developing countries

by Alfred SAUVY

Nowadays in every country it is common to talk about the "Third World", but not many people know the origin of the phrase. It was in fact first used in 1952 by a Frenchman, Alfred Sauvy. He is a master of many trades, professor in the Collège de France and member of the French Economic and Social Council, and known the world over not only as an expert in population problems, but as an economist and sociologist. To all these disciplines he contributes strict scholarship and passionate interest.

Alfred Sauvy has been the director of France's National Institute for Population Studies since its formation in 1962. He is a member of the International Statistical Institute, French representative in the U.N. Population Committee and a member of

the Dakar Club. He is the author of many works, including "Wealth and Population", "From Malthus to Mao Tse Tung", "General Theory of Population", "The Prevention of Birth" and "Zero Growth?", the last of which appeared in 1973.

During 1974 three international conferences were held on questions of fundamental importance to humanity. These were the World Population Conference in Bucharest; the Sea Law Conference at Caracas; and the F.A.O. World Food Conference at Rome in November.

Professor Alfred Sauvy gives "The Courier" an account of his approach to some of the main problems tackled at these conferences, more especially in relation to demographic problems in developing countries.

In the developing countries of the world the very rapid demographic growth of recent years is spoken of rather critically as a "population explosion". In practice the developing countries are the poorer countries, and the growth in their population has been a legitimate matter for anxiety for the last 25 years.

Distortion of techniques

The disturbance of the balance results from a very unequal dissemination of contemporary techniques. These techniques can be put under three headings:

- prevention of death;
- prevention of birth;
- increasing the production of goods and produce.

The techniques which are being most rapidly propagated are those in the first category. In practice the more advanced techniques have only a very limited demographic significance, but it is the mass techniques—vaccination, anti-sepsis, drinking water supplies, to mention a few—which are having most influence. They do not cost very much and call for only a comparatively small number of highly qualified experts.

At the same time, for the moment at any rate, those three horsemen of the Apocalypse, famine, epidemic and war, are having much less influence than in former times; and the countries con-

cerned find their population is increasing at a rate far beyond anything in their history, with a 2% annual growth figure almost always exceeded and sometimes even the 3% figure.

So the doubling of population in a single generation, which Malthus described with a good deal of confusion, has in fact become a frequent occurrence if not entirely a norm. And we know how geometric progressions accelerate...

The rich countries sound the alarm

It was the naturalist Voght who sounded the alarm as long ago as 1947 in his work "The road to survival", which provoked violent reactions in Communist, Catholic and scientific circles.

The reactions were in fact almost exactly the same as those of the 19th century Socialists, Christians and others to the cynical egoism of Malthus. "There is only one man too many on Earth", said Proudhon, "and that is Mr. Malthus". Karl Marx was even more violent, for it was upon the poor that Malthus laid the blame for social poverty. If the poor are as poor as they are, he said in effect, it is not the fault of private property, but their own fault for having too many children.

In our own time we are experiencing precisely these reactions on the inter-

national scale, for it is on this scale with the necessary adjustments, that the social problems of the nations arise in the world of today. It is a matter for regret that the rich countries—especially the United States, Great Britain and Sweden—should have acted with more logic than discernment, for there was another explosion, that of Bucharest, which they could well have avoided.

The World Population Conference

In August 1974 a World Population Conference was organised by the United Nations at the suggestion of the Americans. This was a conference of a political character and not a technical one, like its predecessors. It was the first time in the history of the world that mankind as a whole met together for the purpose of making decisions about its own numbers.

A world plan of action had been prepared by the Population Division of the United Nations; and the United States expected to secure agreement at Bucharest on imperatives duly expressed in figures. The idea was that all the countries at an early stage of development should be asked to diminish their birth-rates by 10 per thousand before 1985. In other words, this meant that a country with a birth-rate of 44 per mille should bring it down within 10

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years to 34 per mille. It was extremely naive.

From the first day there was the usual reaction against good intentions badly expressed. Algeria took the lead in the revolt with the counterpart arguments that:

— Economic development must have top priority. Birth control is not excluded, provided it is only an accessory in general development in which, still better, it should be no more than a natural consequence.

— The best contraceptive is economic development, said one of the Algerian representatives.

After much argument and slow progress, a "world plan of action" was in the end approved. It was very different from the foregoing, expressly proclaiming the absolute sovereignty of each individual country and putting the main accent upon economic development.

The background

It is worth sketching the course of the population curve in developing countries over the past 25 years.

At the beginning the rate of population growth owed its rise not only to lower mortality rates but also to a rise in live birth-rates, resulting from a sharp fall in deaths in childbirth under the influence of antibiotics. At present, however, there is a certain irregularity and a wide dispersion in growth-rates, reflecting less the attempts to limit the birth-rate than the cultural progress which is the key to success.

People who think the task is easy and say simply, "at all costs the flood-tide must be kept at bay", are merely mumbling exorcisms. They really do not know what it is all about.

For example, we can take the case of two islands, Puerto Rico and Martinique—close neighbours with pretty well the same climate and agricultural economy. In Puerto Rico the policy followed since the war has been malthusian to a degree, and the means of enforcement are strong. In Martinique until the last few years, the dominant policy was the expansionism of France. Yet **the birth-rate in each case is the same—23 per mille.**

There are other cases exactly opposite. In Brazil, for example, the law is the same for all the regions, but the birthrate

in the south is only half what it is in the north-east.

There is no lack of other examples which suggest that, in determining the birthrate, **culture** in its broadest sense **plays a more important part than direct official policy.**

As long ago as 1952, the dangers inherent in these exuberant birth-rates became apparent to two such powerful bodies as the Ford and Rockefeller foundations, which joined forces in setting up a **Population Council** which was given considerable resources for its work. One of its immediate

Bangla Desh who had agreed to take the pill had been making a practice of taking a whole week's dose on Monday morning in case they forgot during the week. The pill, in short, has suffered rather a setback and further research has had to be undertaken.

In this connexion I should like to mention an experience of my own. In the summer of 1962 I was in Santiago when I received a telephone call from the head of the maternity hospital. He implored me to go up and see him; and when I got there he showed me the first of the new **sterilets**, an intra-



Family planning centre in Hong Kong.

Are such centres effective against over-population?

targets was to discover new contraceptive techniques which would be easier to use than those available hitherto. The career of the contraceptive pill began in 1958, but the results are far below expectations. In some cases it was the husband who took the pill, telling his wife, as was the case in Ceylon, that she "would never know how to use it". Recently it has been found that some of the few women in

uterine device. "This appliance", he said, "will sterilize a woman for an indefinite length of time. It is so effective that I am scared of this sort of progress. What I fear is that Chile will be depopulated and history will leave me a lot to answer for". Though I did not even know how the thing worked, I assured him he had nothing to fear, and that the Chilean birth-rate would be higher than necessary for a long time yet.

After we had had a short chat, a curious confirmation of my views happened. It was the case of a woman who had just had her ninth baby. The nurse had asked her whether she was pleased at this addition to her family and the answer was: "You bet I am happy—I've never had a baby in bed before". Her home was just a shed in a shanty town suburb of Santiago.

The woman in fact had not really understood the question, and she could see nothing amiss in having an extra mouth to feed. I pointed out to the hospital director how decisively this allayed his fears.

Since the I.U.D. was made available soon after 1962, there has been a considerable campaign to improve the pill and find an approach to long-period sterilization. In such matters the control services are extremely severe for fear of harmful side effects, and this means that positive results are not to be expected for several years.

Successes

Apart from Puerto Rico and Martinique, mentioned above, there have been a number of countries in which the birth-rate has fallen sharply. The outstanding cases are Hong Kong, Formosa, Singapore, Mauritius, Jamaica and Trinidad. The common factor to all of them is that they are **islands and comparatively small**; and it seems that new ideas and new techniques get around more quickly and more easily on an island than in a continental community. Moreover, in the first three of the countries mentioned the fall in birth-rate **began before there was any family planning policy**. The secret of the success seems to lie in the very low rate of infant mortality. The two things seem to go together; and infant mortality is undoubtedly the decisive test of the cultural level of a nation or a social class.

The population in these countries is still growing fast, nevertheless. This is simply because the population is young and its death-rate correspondingly low. In Singapore, for example, the birth-rate has fallen by a half in 20 years, a bigger fall in a shorter time than in Europe in the 19th and 20th centuries. The birth-rate fell from 45 to 22 per mille, but the death-rate is only 5.5 per mille, so that the natural increase in

population is as high as 16 per mille or 1.6%. This is three times the rate of growth in the most prolific of the developed countries of Europe. **It serves to show how important is the inertia factor in all matters of population.**

The great setback

With all these successes it is sad to note the setback which occurred where it most mattered. This was in the case of India, where measures to curb the excessive population growth have been in progress since they were initiated by Pandit Nehru nearly 25 years ago. Intensive propaganda for the I.U.D. gave rise to great hopes and in 1967 there were 900 000 insertions; but later it had to be admitted that the whole procedure was disliked, even though it had seemed entirely suitable for populations which are badly housed and where the educational level is low.

Since 1971 the States of Kerala and Gujarat have been following a very singular procedure. This is mass sterilization, which takes place in an atmosphere of fairground festival. Amid all the singing and dancing and the theatrical shows, there is a big building fitted with 40 cubicles, each of which contains an operating table and a surgeon to perform the operation. The patient, as soon as he has been sterilized, gets up, gets dressed and makes way for another. In this way in 1971 and 1972 some 300 000 men were sterilized. It sounds a lot, but in India it is little enough.

This episode serves to emphasise the futility of expecting it to be easy to spread birth control among poor, scantily educated people.

The outlook

Because of the difficulties I have mentioned and the inertia of any population, it is comparatively easy to estimate the best expectations which can be based upon the gradual success of birth control practices in the absence of any great national catastrophe such as famine. In the big continental areas the state of things technically known as a net reproduction rate equal to unity—in which each generation produces no more children than will just replace it—cannot be reached before the year 2050 or 2060. This will correspond to a modal family with a little more than two children, but even so, the population

will still go on growing because of the larger numbers of the adults and the aged. There are thus two forms of inertia between which we must distinguish:

- inertia of sociological adaptation to the two-child or three-child family;
- mechanical inertia preceding the stage of stationary population, which will be about the year 2150. In actual fact from about 2100 or 2120 onwards the rate of population increase will have become very small. By this time the population of the individual countries will be three or four times as great as it is at present.

Real problems and illusions

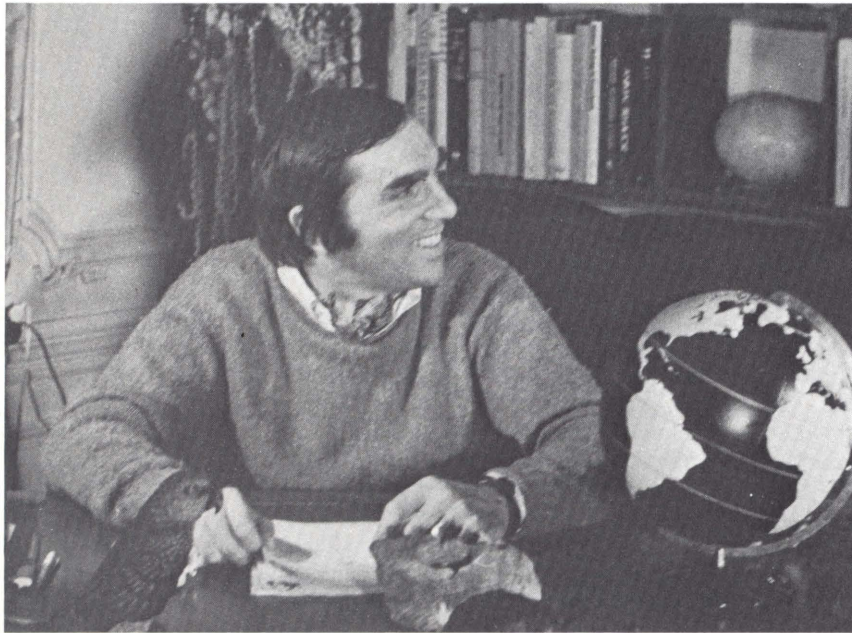
These prospects emerge essentially from the demographic aspect, leaving aside the economic outlook and, more especially, the food question. The present illusion consists of arguing in broad terms about the population of the world as a whole, as though there was such a thing as full solidarity and total freedom of migration. This still lies a long long way ahead.

So we must think in terms of regions and even of nations. When we do this we find the position of India and Bangla Desh takes on a very special importance. Even inside India, too, the solidarity between the different States is a long way from being total, especially when it comes to food.

There are thus real dangers of a revival of mortality rates, as a result of acute famine or chronic undernourishment. The over-feeding of the wealthy countries with meat deprives the poorer countries of enormous resources in the form of cereals; but there are very big socio-political obstacles to the abolition of these iniquities.

Yet in spite of all this, the darkest future is that of the wealthy countries, for they are growing old and have lost their belief in life. The poorer people have the immeasurable privilege of being young. They can suffer serious losses, but they will nonetheless continue to exist, and in the end they will triumph over the wealthy set in the fat of their own seniority. The unexpected, of course, can always happen; but it is a heavy responsibility which lies on the shoulders of western economists, naturalists and demographers on account of the views they have expressed. ■

A. SAUVY



Christian Zuber

TALKING TO CHRISTIAN ZUBER

Modern man and his world are a threat to the natural life of animals and plants. Christian Zuber, the main part of whose life is devoted to the protection of nature, describes why.

Explorer, traveller, film-maker and photographer, writer and lecturer, Christian Zuber is a very busy man always between one journey and the next. His books, his films and his appearances on French T.V. under the title "Camera in hand" ("Caméra au poing") have made him known to a wide public. At present he is devoting his energy to the protection of nature and the safeguarding of animal species facing extinction. Next winter he will be coming to Belgium to give a series of lectures and present a film entitled "Noah's Ark".

► *Christian Zuber, you are one of the committee of the French section of the World Wildlife Fund (W.W.F.), the symbol of which is the panda. I think the French section was formed only recently. What does it do?*

I think I should say that before I became a member of the committee of the French section, I was already a member of the committee of the international section. Moreover I have worked with the international section, which is located at Morges near Geneva (Switzerland) and has now been there eight years. I would remind you that it was a result of a number of studies made by international bodies such as UNESCO that the International Union for the Protection of Nature decided to set up a sister organisation with a financial assignment. This is the W.W.F. The story, in its simplest terms, is that 10 years ago a scientific organisation realised that the problem of the protection of nature was such a serious one, all over the world, that a section to collect the money for tackling these problems was a necessity.

The W.W.F. is non-political and international, and the Morges office is its headquarters. Its President is Prince Bernhard of the Netherlands, and its executive committee, which works from the head office, comprises representatives of 22 countries. The task of its members is to get the organisation known, and more especially to collect funds; for it is our belief that if mankind is destroying the animal world by the million, it is our job to mobilise millions to protect it. It is important, too, that the public should know that if you contribute a franc, that franc will duly arrive at the front where the battle of the protection of nature is being fought.

► *I agree that's very important. And when it comes to definite action, what instruments and weapons does W.W.F. possess?*

This brings me back to the structure of W.W.F. At Morges and under the orders of Prince Bernhard, there is an executive committee of salaried officers. Below them is the committee itself which is divided into three sections. The first

is scientific, consisting of biologists, ornithologists and research workers who determine just where action has got to be taken for nature protection. They work in close cooperation with the experts from the International Union for the Protection of Nature. They may say, for example, that something must be done to save the white oryx in Arabia; that in East Africa help must be given to the Kenya and Tanzania governments so that they can lay out five more national parks; that the last five falcons in Mauritius must be saved and a subsidy found for the purpose; that we must go on with our work in the Galapagos islands for saving the last of the giant tortoises.

► *Can we take it that the international union is more or less a technical assistance organisation where there are experts to give definite and very exact indications on the action needed?*

That's right. After all this, there comes the W.W.F. finance committee, which determines the procedure to be followed to get the money needed. In some case

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procedure is by "national appeals", sponsored by the national section in each of the 22 countries. There is also internal action, like the protection of the beavers in the Camargue and the Vanoise (France). Thirdly there is international action, such as we have sponsored for the past five years to protect the tigers in India. In this case we made our own appeal to the 22 national sections, and now the plan is working very well. I might add that we shall be spending about a million dollars in India to protect the last of the tigers. Naturally the money won't be sent to India in dollars or notes, but in the form of Land Rovers, aircraft, training courses for game wardens and so forth. Nine national parks are to be set up and these will have the blessing of Mrs. Indira Gandhi, with whom, incidentally, I had the honour of a long talk about this. She is a woman of fantastic range and she has fully understood that the salvation of humanity, which really is the question in her country, implies the salvation of the environment and that you can't really tackle the one without the other.

► *And these national parks, are they to be in any special area?*

No, they will be more or less all over India, but more especially in the north and east and in uninhabited country, so as to avoid clashes between the farmer and the wild animal. There are thus two lines of action—one, which for France or Switzerland I would call national—and action on the international basis. The tiger campaign has gone quite well, but I should like to tell you about another which is more difficult, on which we made a start just four months ago, and which will certainly yield results. This is what we call "operation primaevial forests". We have made a map of the forests all over the world, more especially in Africa and the amazon country; and we have noticed that the great forests are now being devatated by human beings. An international forest protection campaign is currently in progress. Films have been made and information provided for the public. I would not call it a counter-attack, but it is a rescue plan for the forests which has been put in hand by the international union.

► *I should like to ask you some questions more specifically related to Africa, where most of our readers live. Africa possesses its national parks, which are in fact reserves of fauna and flora. Those in East Africa are specially attractive to the tourist and the photographer. Do you think the national parks formula is the one which gives the best results?*

For such an enormous territory as Africa, there cannot be a single formula which would work identically in every region. You spoke of East Africa; and here we must remember the fabulous fact that 52% of the budget of Kenya is taken from the tourist trade. This is certainly a world record, and it is an example. The Kenya government, acting under presidential authority, has just now laid out a number of national parks, which are a separate organisation and self-financing. These are running perfectly well and it seems that the problems of nature conservancy have been fully understood. The organisation is now wholly in the hands of the Africans. From what I hear there are still two Englishmen helping the organisation, for the simple reason that they are passionately interested in the subject; but all the management staff are Africans and the outfit functions extremely well. This is a standing argument against the defeatist allegations that it will take two decades for Africans to understand the protection of nature and its problems. I am fundamentally opposed to such arguments. I would even say the Africans have found in themselves, by their knowledge of nature and their personal intuition, a real feeling of contact with nature and respect for it which many Europeans lack.

► *Then you think these national parks, under the direct responsibility of the Africans, are giving satisfactory results?*

In East Africa they are giving excellent results; in other regions help may be needed.

► *Is this because of the lack of foreign wardens?*

Certainly. The great problem is the enormous area. It is quite absurd to try using formulae which are suitable enough

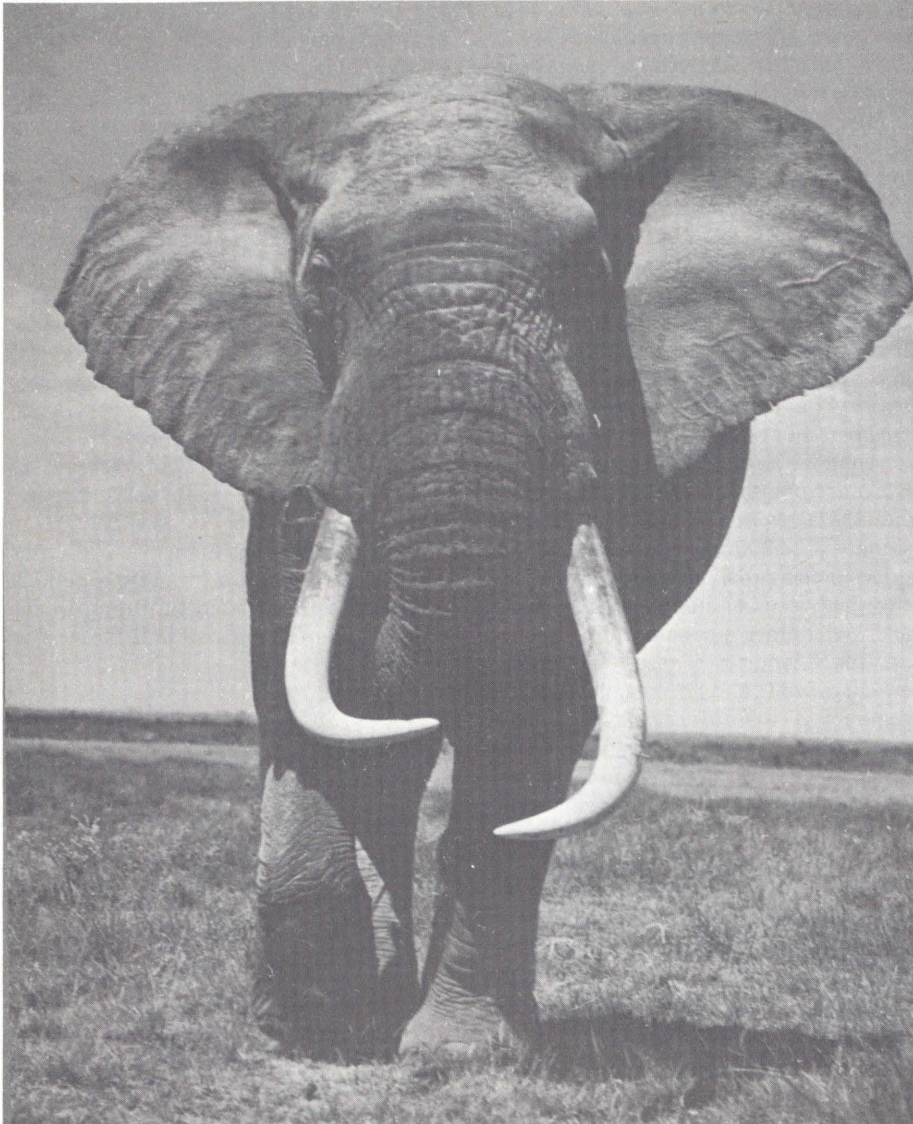
for the Vanoise in places such as the national parks in Zaire, which are a quarter as big as France and appreciably bigger than Belgium. The great problem in these African countries is the lack of trained personnel. In my own view the right approach is the simple and practical one which we have put in hand, consisting mainly of providing training for the staff responsible. I far prefer this to playing at neo-colonialism, sending investigating committees and specialists to Africa for a visit of a few weeks, lodging them in the grand hotels from which they venture out to report on living conditions among the giraffes.

The W.W.F. has a school for wardens which is expected to give very good results in West Africa, and indeed I am myself going out there very shortly. I believe the solution for quite a number of the difficulties is to be found in the training given to the staff in these African national parks.

► *An adequate number of well-trained game-keepers should certainly help in the fight against poaching. There are a number of animal species which are threatened with disappearance, such as the sea-lions and the gorillas. What do you think about this and how is it possible to deal with the poaching problem?*

I have direct experience of this problem and I should like to emphasise at the outset that this accusation of poaching is apt to be flung at the heads of African authorities rather too glibly. What, in fact, is poaching? It is often the action of people who are very poor and often illiterate, who have nevertheless a wide knowledge of hunting techniques and find their way into the hunting reserves, or even into the national parks. Why do they do this? The motive is always financial. And where, you may ask, do they send the ivory or the spotted hides of felines or whatever? In fact it goes to supply the Japanese, the American or the European market. Nowhere in Africa have I seen a single African woman wearing a panther coat, and nowhere in Africa have I seen young Africans adorning their houses or villas with carved ivory. To take a few more examples, I never saw a single stuffed iguana in the house of the mayor of Saintes in the French Antilles; in nobody's

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Odinga was Kenya's most famous elephant. For years he was the joy of thousands visiting the Amboschi Park; but about 1967 this old half-tame male was shot down by a hunter who lay in wait for him outside the park at the foot of Kilimanjaro.

home in Brazil, Ecuador or Colombia have I seen stuffed birds or ocelot skins. Obviously it is the American, Japanese and European markets which provide the exceptional demand for such products and that is where the poaching ends up. For my own part, through my television work, the books I write, the people I see and articles like yours on which I have an influence, I struggle to make European opinion better informed. I would ask people to think about all this talk of poaching. It is we ourselves who are the real poachers. Can you see how important this is?

► *One of the threatened species, nowadays often in the news, and on which you yourself lately gave a television programme, is the gorilla. Most of the gorillas concerned are those which can be found in the Albert Park in Zaïre and the Queen Elizabeth Park in Uganda. Is the threat to this species really serious?*

This gorilla business is all very simple. In the first instance I should like everybody who reads this article and who is really interested in nature to get it firmly in his head that the things he has read in the press, or seen on the television,

are mostly rubbish. The people who really understand gorillas can be counted on the fingers of one hand. There are all sorts of preconceived ideas, and one of these is that there are lots and lots of gorillas in Africa. This is utterly untrue. Even in the early days, in the days of Stanley and Livingstone, the gorillas in Africa were almost nothing compared with the great herds of grazing animals or the lions and panthers, of which there were many. In the regions you have just mentioned there has never been any big population of gorillas. Secondly, the gorilla's publicity has built him up a horror-image—immense, formidably muscular, well-nigh human in aspect but ungovernably ferocious. All this is the opposite of the truth. I have a little boy one year old and I can tell you frankly I should have no fear whatever in leading him, or carrying him, into some place where there are gorillas around. The gorilla does not charge you, he runs away from you. There are travellers' tales of gorillas slaughtered by the hunters of the past at the very moment they were limbering up for a charge; but in reality this was just an attempt to frighten, while the gorilla was doing what he could to give his little family time to escape into the bush. The only exceptions are wounded animals and animals defending their young.

► *And the famous cry of the gorilla—just a weapon of dissuasion?*

Yes, absolutely. It is a frightening cry, and it resounds loudly through the forest; but it is just as much a weapon of dissuasion as the trumpeting of the elephant. I should like to talk a little more about the Africans, because I hope this article will be read by many of our African friends. It has been said that the Africans are gorilla-eaters, and we have made several enquiries, the most thorough of which was in Gabon last year, to prove or disprove it. On this occasion I went deep into the bush into the wildest and loneliest places, inhabited only by the so-called "primitives" who, incidentally, could teach a lot of things to "civilised" beings like ourselves. I found my way into villages where nobody could read or write but where the people could find their way by the stars, understood birth-control and lived



a much happier life than do we in our big towns. These are the primitives whom it is said eat gorillas.

In most of these tribal populations the ancestral practice was to keep the skulls of the animals you had eaten. For the most part the animals were killed by the hunters. Each morning one or two hunters would set out from the village into the local countryside, returning in the evening with their bag which, with its garnishings of manioc, is the basic food on which the population live. Usually the meat would be dried, for it would only be in conditions of great hunger that it would be eaten straight away. For the most part the meat is dried and put in the larder. When it is full there is less work for the hunters, and when it begins to empty it is time to go hunting again. Small antelopes make up about 98% of the game taken; and of the 2% remaining, I would say that four animals in every five are monkeys other than gorillas. The gorilla proportion, you see, cannot be very much. We did indeed find a case of a young gorilla, the head of which, scorched and blackened, had been preserved. It was probably in the previous year that the meat of this beast had been eaten, but it is extremely rare, even among the pygmies, that gorilla figures in the diet.

On the other hand the gorilla is much appreciated as a zoo animal. We are just now preparing a T.V. programme about the technique of capture, which is not known to many people, though it is both horrible and distressingly simple. The buyer is usually a man of substance, generally the director of a zoo; and he will buy himself an airline ticket, arrive in one of the main towns and take a room at the best hotel. Though hunting is under strict control, he finds no difficulty in buying a supply of cartridges, for he knows, as everybody knows, that almost anywhere in the forest there is a gun to be found.

The next step for our buyer is to eat and drink well and call up some young African lovelies to keep him amused. After a spell of this he calls in the local traders who, adequately rewarded in cash, will be willing enough to go out in their Land Rovers distributing the cartridges among the heads of the villages. They are looking for young gorillas, they say, and will be back in



These giant tortoises survive in the Seychelles, as they do in the Galapagos islands. They are inoffensive and strictly protected.

two or three weeks to see if there are any for them. This is the cue for the local poachers to go out with their guns and the cartridges they have just received. When they find a female gorilla mothering her young, they will shoot her to wound; but if she should show signs of defending her young they will not hesitate to kill. They will do their best not to hurt the young gorillas and bring them back to the village. They have not the least idea how to feed or look after them in captivity. Usually they will hobble their back-legs with barbed wire and tether them to a tree, and often when the merchants come back a fortnight later, the young gorillas may be dead, or at best there will be a couple of survivors among a catch of half a dozen.

After this, the next step is to get them out of the country. Most of the airline companies have signed international conventions with W.W.F. which would prevent their shipping animals of the disappearing species—among which gorillas head the list—but there are a number which will nevertheless be willing to stow them in crates in which they are less visible than usual, stick on a false label (for other kinds of monkey are a permitted export) and take them to some remote destination. We are fully aware of the names of airline companies indulging in this practice, and we have proofs, photos and many particulars which we shall be publishing on the television next winter. The fact

that this traffic takes place is a secret to nobody. I have even been given, by one of the staff of a very well known airline company, a set of particulars for making the trip, with particulars of cost and suggestions regarding the little sweeteners to be handed to customs officers.

The traffic is extremely well organised, and thus our gorillas arrive in the zoological gardens of Europe, especially France. I am at present working with an inter-ministerial committee on an attempt to secure enforcement of various laws. These would oblige zoo directors to give up buying very rare animals, and to draw up lists of existing specimens of the rarer species. The members of the committee include veterinary surgeons, nature protection societies, museum personnel and, of course, those responsible for the zoos have to be there as well.

It is extremely easy for such animals to be marked. This could be very important, because as things stand, if a little gorilla were to die, it could be replaced by another, and nobody would know the difference; but if there was a marking requirement, they would be given a number and there would be a record kept of the animal's entry into the zoo. It is my personal claim that if such a system were introduced the dreadful massacre of these animals would be brought to an end within a couple of years and their import would be stopped altogether.

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The sad story of the gorilla.

This at any rate is what we want. There are a great many of us who would like to see the end of the European traffic in these animals.

So much for the sad story of the gorillas. Through our T.V. programmes I believe we shall influence public opinion and be able to persuade the authorities in Europe to bring in entirely new legislation. I have also been to see the authorities overseas, and among them the assistant to the President of Zaïre, who is the Minister responsible for tourism, and who was utterly stupefied to learn what I had to tell him. Very shortly he is to bring in new legislation. President Mobutu himself has said: "In Europe you have cathedrals, we have the great animal species". For my part I would say to the Africans: "Nature is part of your capital. Keep it, protect it, do not allow any foreigner to dig into it, especially if he is doing it for financial reasons which are of no benefit to you".

► *This really is interesting, especially since there is a real prospect of improvement. I should like to ask you two questions. First, what do you think of Louis Pauwels' argument that it is just as natural for some of our existing*

species to disappear as it was for the dinosaur?

I have read Mr. Pauwels' books and I know they are very popular, but personally I find in them a heartbreaking childishness. You have just brought up a point which is fully comprehensible even to people who are not scientists or research workers. Right, let us talk about dinosaurs. You will remember, of course, that the reign on Earth of the great reptiles lasted 110 million years, and man has existed only for 4 million years. These are figures we must never forget. The disappearance of the dinosaur was due to the facts of geography and temperature. In other words he died from natural causes. The existing species on behalf of which W.W.F. has taken up the fight in the past 10 years are disappearing because of the action of man, and they have only been disappearing for quite a short time. We can date the beginning of their disappearance pretty accurately. It dates from the time of our grandparents, from the period of the discovery of the steamship and modern firearms, from the time when the rifle first found its way into the countries of Africa. Since these times the massacres have been altogether

shocking and the animal species are disappearing predominantly because of the European hunter. To a small extent, of course, they disappear through the activities of the tribal hunter; but not so long ago this was a bow-and-arrow affair, which put man on much the same level as other beasts of prey, and there were no wholesale massacres. For example, the tribal hunters never slaughtered 30 zebras simply because they were short of meat; they would just kill a single zebra and leave it at that.

► *So that to some extent the balance of nature was preserved?*

Yes, indeed, for the archer-huntsman was in fact helping to keep the balance. When Mr. Pauwels says that animal species have got to disappear, naturally I should like to know where this argument comes from. He himself is part of the human race which has been here for 4 million years; and on the opposite side of the argument is the undisputed figure of 110 million years. Nobody is talking about preserving the dinosaur which disappeared in the ordinary, normal way. Who is able to say in 1975, what species of animal is the dinosaur of our own times?

Should the giant tortoises of the Galapagos islands disappear, or should they not? Such a question is astonishingly childish. We believe that protection should be found for all species which exist today which are disappearing because of the activities of modern man, and we also think that there is no person on Earth capable of deciding that any specific animal species ought to disappear.

► *One final question. We were talking just now about Zaïre, and the story is that the naturalist Charles Cordier found there an unknown anthropoid species which was not gorilla nor chimpanzee nor man. Do you think that at the present time there are still some unknown animal species?*

I am working on an enormous book about this for a French publisher and you will appreciate that I cannot recount all the facts I have collected. What you say, however, is really true. Africa is not the only region where there is



indisputable proof of the existence of large anthropoids. I am not thinking only of the abominable snowman. There are undeniable traces in western Canada, and there is certainly and indisputably some foundation to the Yeti story. There is too much evidence for it to be wholly unfounded, and God knows whether there may not be more such creatures, cunning and elusive as the big monkeys, somewhere in China or other regions of the world where humanity has set up its habitat but which have not yet been scientifically explored. Somewhere in between the advanced primates, such as the gorilla, and the over-developed homo sapiens which we are today, there may well be a species which has so far escaped notice and which disappears into the forest, the snow or other inaccessible hideouts whenever man appears. It may well be our aircraft have flown over every region of the world; but flying across a forest is one thing and penetrating its interior is quite another. If you just think of the forest in Borneo, the Amazon and some of those in Africa where the most you can do is advance 30 metres in a day, you can easily realise how an animal which can whip through the undergrowth may have escaped the scientific explorer. If the international press were suddenly to announce the discovery of a snowman or a forest man, hitherto completely unknown, I would not be at all surprised.

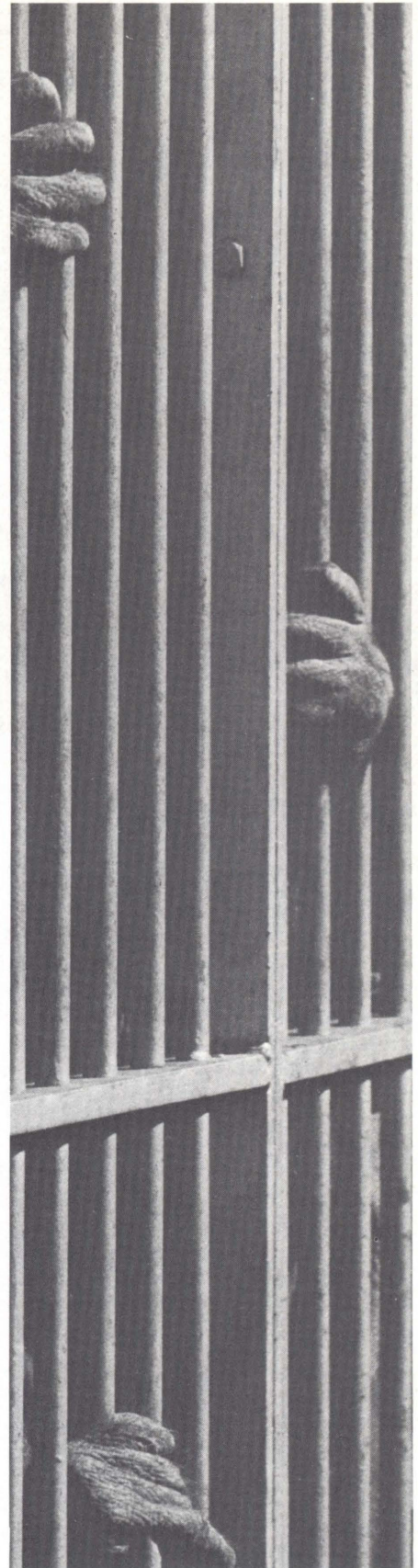
The perplexing aspect of the Cordier disclosures is an indisputable matter of teeth. You probably know that the teeth are one of the principal classification elements in investigating the big primates. I learnt a certain amount about this when I was working on a film in the Omo region under Professor Coppens, Director of the Museum of Man, who has been responsible for much research about the origins of mankind. This was two years ago in Ethiopia, where conditions were made as easy as possible for us by the help of the Ethiopian government. Some of our researches were aimed at finding the oldest human jawbone known to science. It was great good luck to me to be in constant touch with a man of science, not for a mere 48 hours, but for several months. Living under canvas in these equatorial regions, where the sun sets daily at 6 o'clock, the evening

is apt to be long and there is plenty of time for talk. This was when I learnt how the teeth are used for classifying almost all animals, and in any case all the big anthropoids. You can learn a tremendous amount from teeth. A single tooth may disclose to you the whole diet of the man or pre-man from whose jaw it came. The interesting factor regarding Cordier is, as you said, that he caught glimpses of these beings in trees where there was some hard fruit somewhat resembling the apple. In these fruits he found traces of teeth, the particulars of which he immediately noted, but which do not correspond to the teeth of any known jaw, certainly not that of the gorilla, the man, nor the pygmies who rank in the human category and are present in considerable numbers in the region concerned. Here, therefore, is an enigma which has still to be solved.

I only hope we shall have time to discover survivors of these primate species before it is too late; for it may be that a time will come when there will only be fossils and skeletons, as with the case of the aepioris in Madagascar, which were the ancestors of the ostrich and of which I now have one of the eggs in my possession. This bird was a contemporary of early man. It was twice as big as the ostrich of today, and its head would certainly reach up to the ceiling of a normal room, while the egg it laid was twice as big as that of the modern ostrich. This egg of mine has been under the X-ray and there is indeed a baby bird curled up inside. If there are still creatures of which we have no knowledge, whether they be on the face of the world or in the depths of the ocean, I hope our modern world will not be in too much of a hurry to tread them into extinction. In such matters the scientists are the witnesses both for us and for future generations, and so too are the cameramen. Let us hope they will be allowed to see these animals while they are still living creatures in the world we know. ■

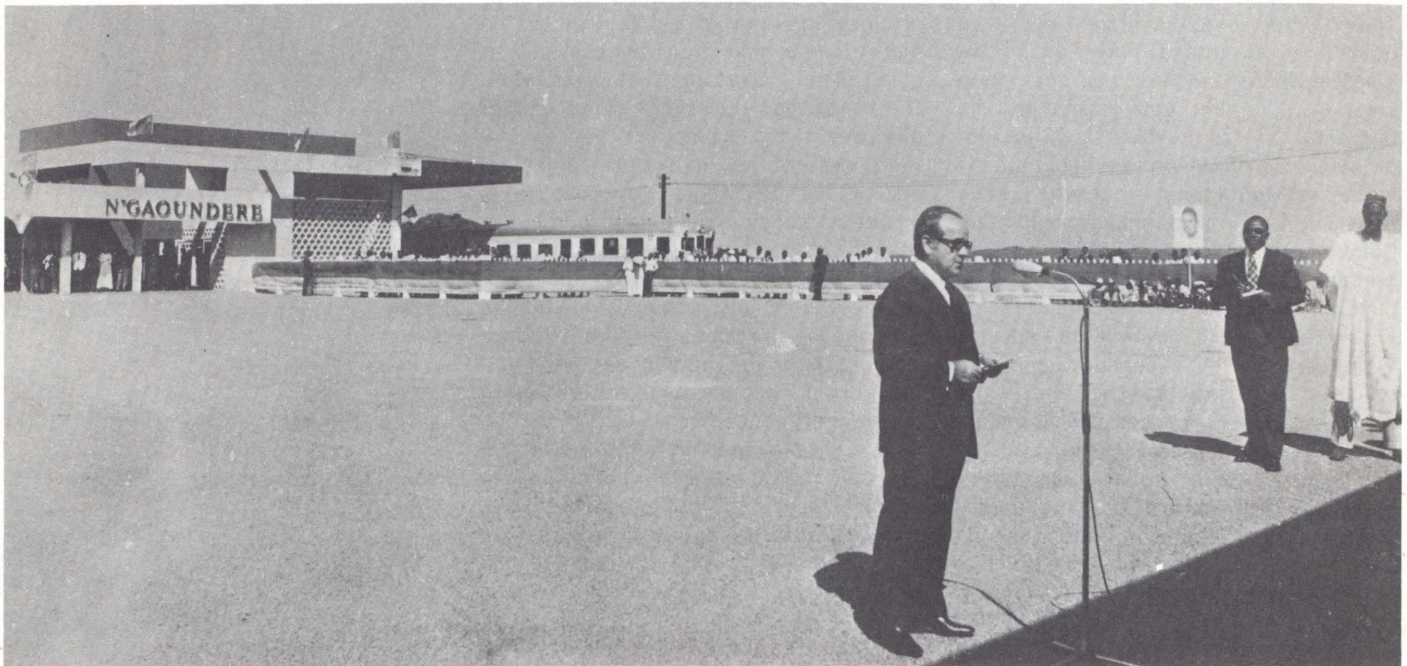
Interview by **Alain LACROIX**

Caged animals:
The drama of captivity.



Inauguration at Ngaoundéré

Photo "Cameroon Tribune" — Yaoundé



Jacques Ferrandi

Deputy Director-General for Cooperation and Development, speaking at Ngaoundéré.

The Trans-Cameroon Railway was officially inaugurated on December 10, 1974 at Ngaoundéré. It is the second longest railway in Africa, coming next after the Tanzam (Tanzania-Zambia Railway). The construction of the section of line from Yaoundé to Ngaoundéré, which is now in full operation, has called for big investments, and nearly half these were contributed by the E.E.C., either through the European Development Fund or through the European Investment Bank.

The inauguration was a major event. With the President of the United Republic of Cameroon, Mr. Ahmadou Ahidjo, were the heads of State of the People's Republic of the Congo, the Central African Republic and the Republic of Gabon. The delegation from the E.E.C. Commission was led by Jacques Ferrandi, Deputy Director-General for Develop-

ment and Cooperation, who is in charge of the coordination of EDF operations.

President Ahidjo said he found in this new railway "a factor of unity and development for the Cameroon nation" and a "new link, a factor in joint development, fraternal friendship and peace in Central Africa".

Mr. Ferrandi, in a speech commenting on this great joint achievement, said: "This solidarity is no chance matter. It has a name. It is called Union, and that union is U.D.E.A.C. It is called Association, and that association is the Convention of Yaoundé. It is called Community, and that community is Europe".

Because of the importance of the occasion and the interest attaching to what Mr. Ferrandi said, the Ngaoundéré speech of the Deputy Director-General is reproduced in full below.

I am very much aware of the honour you do me by inviting me here, in the absence of the President of the Commission, who has had to go to the Conference of Heads of State in Paris today, and of Mr. Cheysson, who is at the European Parliament in Strasbourg delivering his budget speech.

Sometimes, chance seems like necessity and coincidence as inevitable as a narrow pass: one can only go that way. Although you would not be aware of it, Mr. President, this ceremony was arranged for a date exactly 34 years after I boarded a ship due to drop me at Douala on December 10, 1940. For

I had chosen to make your country not simply my career, but my profession. In the event, the chances of war stopped my ship at Dakar; it went no further, nor did I.

And so here I am at the rendez-vous, 34 years late.

There are inaugurations like Aesop's

fables. They can be the best and the worst of things, they mean nothing in themselves. They can be like a piece of chewing-gum with no taste left that you go on chewing absentmindedly. Or they can be profoundly significant, with an exemplary value, when they are the crowning of an effort, the point of departure of a new stage, in a word, when they show what a policy really means. I feel this is the case of today's inauguration.

It is exemplary because it is an illustration of an intelligent development policy. In Africa, where distances are enormous, traffic constantly growing, and where nothing counts until it is completed, there was no lack of people a few years ago who said railways were an outdated form of transport and that Africa could "skip" this stage of development.

Really, the railway has made only one mistake, but a fundamental one: it came into being before the motor car. Through a kind of intoxication with progress, with the myth of modernity, which makes us believe that everything that comes **after** is better than everything which went **before**, we have long thought that the car would relegate the train to oblivion. And we quietly forgot that — for the same tonnage transported—road transport uses five times as much energy as rail transport. We have been abruptly brought to our senses by the oil producers, who have shattered these illusions and confirmed the realism of those who, like yourselves, had put their trust in the railway.

This achievement serves as an example in another sense—it shows what the will of a man in the service of a grand design can do. The idea of cementing the North and the South of your country together by an indestructible means is, we know, one of the driving forces behind your policy. As Napoleon said—What we call a great policy is more often than not only common sense applied to a great problem.

While defeat is always an orphan, victory, it seems, is claimed by a hundred fathers. But who can doubt, Mr. President, that this railway is your child?

Finally, this inauguration sets an example in its objective and in the means which were brought into operation.

Thanks to the Transcam and its road extensions, Cameroon's domestic trade can develop and its role of providing

Photo "Cameroon Tribune" — Yaoundé



The inauguration of the Transcameroon

Among the Heads of State in the photograph are: MM. Ahmadou Ahidjo (Cameroon) in a white gandoura; Marshal J.B. Bokassa (Cent. Afr. Rep.); and Bongo (Gabon) on the right of the President of Cameroon. Behind left, French cooperation minister Pierre Abelin.

a line of communication serving the neighbouring states, in particular the Republic of Chad and the Central African Republic, can be strengthened.

As it will be possible to transport imported goods to the interior more economically, so it will be easier to supply Yaoundé and Douala with agricultural produce from Adamaoua and northern Cameroon.

There is no doubt that the railway will contribute enormously to the promotion of products for export—I am thinking of cotton from northern Cameroon and southern Chad and of timber from the forests of Cameroon and the Central African Republic. The railway thus appears as both the ferment of the national unity of Cameroon and as the instrument of fruitful cooperation between Cameroon and its neighbours.

Cameroon, France, Germany, the United States and the European Community collaborated on this project. A Franco-Cameroon team directed the works, which an Italian company executed with remarkable competence and precision.

This solidarity is not fortuitous. It has a name: Union—in this case U.D.E.A.C. (Central African Economic and Customs Union); Association—the

Yaoundé Convention; Community—in other words Europe.

U.D.E.A.C.-A.A.S.M. today—A.C.P. tomorrow—whether 4, 19, 25, 44, or 53 countries are concerned—all these mysterious initials move outwards from an idea like a circle of ripples until, little by little, they reach the shores where the general interest takes the place of particular interests, where Utopia becomes reality.

This Utopia of yesterday which is to be the reality of tomorrow is the Community. The era of the isolated world is finished, and those who refuse to see this and look back to the past will be changed into pillars of salt like Lot's wife.

This is the lesson of today's ceremony. This is why, on behalf of the European Community, and on behalf of all those who have collaborated in this splendid undertaking, which is so only because it is a fine achievement and one full of hope, we are happy—and we thank you for having been "associates"—that is the right word—in a development policy which, in its rigour, its determination to be independent, its realism, and its soundness, warrants the esteem and requires the respect of all men of good will. ■

J.F.

THE DAKAR CLUB

The Dakar Club was formed after a constitutive meeting on December 1 and 2, 1974 by a number of personalities in the international, political and economic world. This was mentioned in our previous issue. The Club now has 50 members—politicians, industrialists and intellectuals—and has fixed its maximum membership at 120, from industrial and developing countries, without any exclusion. This was explained at a press conference by Mohammed T. Diawara, Planning Minister for the Ivory Coast and President of the Club. Its members will take part in discussions on a personal basis.



Photoivoire

Mohammed T. Diawara.

The club has set up a promotion committee, chaired by Louis Alexandrenne, Senegalese Minister for Industrial Development and the Environment. It is a committee of eight and will be able to approach people of particular abilities and ask specialist companies and societies to carry out studies on such subjects as it may choose.

For this work the club will have a budget covered by contributions from governments, foundations, private individuals and other donors. According to informed sources close to the club, the 1975 budget may be around 60 million CFA francs.

The membership of the promotion committee reflects the diversity of the club's own membership. It consists of:

— two African ministers—Mr. Alexandrenne and Mustapha Zaanouni, Tunisian Secretary of State for Economic Planning;

— two other African members—Seydou Djim Sylla (Mali), Executive Secretary of the group of African, Caribbean and Pacific countries negotiating with the E.E.C.; and H.M.M.A. Oonitiri, Director of the Nigerian Institute for Economic and Social Research in the University of Ibadan (Nigeria);

— four European members—Marcel Boiteux, Director-General of Electricité de France; Ernst Plasser, Director-General of the Deutsche Bank (F.R.G.); Arene Romolo, Director of External Relations of I.R.I. (Italy); and Pierre Piganiol, President of the Association internationale des Futuristes (France).

In addition to these eight personalities, the Chairman of the Club, Mr. Diawara, is a member ex-officio, bringing the number of ministers to three.

The following were among the founders of the Dakar Club: Claude Cheysson, Member of the E.E.C. Commission; Jacques Delore, Associate Professor at the University of Paris IX; Jacques Ferrandi, Assistant Director General for Development and Cooperation at the E.E.C. Commission; Louseph Ki-Zerbo, Secretary General for the African and Malagasy Council for Higher Education; Alfred Sauvy, Professor at the Collège de France; and Paul-Marc Henry, President of the Development Centre of the O.E.C.D., France.

The founders' declaration

"At a time when the world is having to face serious problems, especially a high rate of inflation, food shortages, famine and the widening of the gap between the rich countries and the poor, and on account of the uncertainties concerning the future of the world, a group of public and private figures met at Dakar on December 2 and 3, 1974. They set up the Dakar Club. These members of the club, who come both from industrial and from developing countries, take part in its proceedings on a personal basis.

The club intends to consider the ways and means which can be used to secure a better

and more effective concerted approach to study the problems raised by desirable changes in the international division of labour in agriculture and industry, and by financial transfers to developing countries.

The study undertaken by the club will be concentrated mainly on the more delicate points which contain the risk of insoluble disagreement and dramatic consequences which would be prejudicial to all the countries without exception.

Both industrial and developing countries must become aware of the necessity for their structural transformation so that they can deal with the requirements of progress and proceed coherently to the construction of their common future.

The Dakar Club will not take part in the political life of the different countries, but will bring to the attention of public opinion, and persons in responsible positions in public and private life, the results of its investigations and discussions, so as to contribute to the individual and collective growth of all nations from which everybody will benefit".

Mr. Diawara said the Dakar Club was a private organisation unlimited by frontiers and ideologies and which may extend its membership to the Arab countries, to Japan and other countries of Asia, to the United States of America and to the Socialist countries, each member joining it on a strictly personal basis.

He added that the Dakar Club—like the Rome Club, which made Europe aware of the pollution problem—hopes to alert the world's public opinion to a number of specific problems.

Mr. Diawara quoted as an example, the attempts to persuade developed countries that it is more profitable for everybody that the developing countries should export processed goods and not merely raw produce; and that at the same time, they should export less of their manpower. He pointed out that in a town such as Mulhouse the inhabitants no longer wanted careers as textile workers and workers were imported from Africa to weave cotton which had also come from Africa.

Mr. Diawara pointed out that it would be much more logical that the industry in Mulhouse, if it intends to grow, should undertake this growth in Africa, so that the Africans may weave their own cotton on their own soil, and the high-level technicians of Mulhouse can continue to work for the industry. ■

**Vasco CABRAL, Economic and Finance
Commissioner of Guinea Bissau:**

**"Cooperation and friendship
with the European Community"**

Mr. Vasco Cabral, Economic and Finance Commissioner of Guinea-Bissau, represented his country at the Europe-A.C.P. ministerial conference in Brussels, January 13-15, 1975. In this interview he summarises his country's policy towards relations with the outside world, and especially with Nine-nation Europe.

▶ *Mr. Cabral, your country has just assumed its international sovereignty and has been quick in giving its assent to the wishes of the other African, Caribbean and Pacific countries, and to the offer made by the European Community, that it should become the 46th country of the A.C.P. Mr. Claude Cheysson, Member of the E.E.C. Commission, was the first Community politician to pay an official visit to your government. How would you describe your country's open policy towards the outside world, beginning with Nine-nation Europe?*

As you know, we have had a hard fight for freedom and the right to safeguard the interests of our people. Throughout the struggle we have recognised that our best interests lie in good relations with all the other peoples of the world. For ourselves we have followed a policy of non-alignment, which means that we are completely free and open to relations with every nation, based on the fundamental principles of full respect for our sovereignty and equality of rights, coupled of course with reciprocity in regard to our interests.

We are thus ready to enter into relationships with any other country, provided it accepts these principles. The

A.C.P. comprise a large number of countries which have always been on our side and ready to struggle side-by-side with us, and we consider it quite natural to join with them to negotiate together, laying down the lines of cooperation and friendship with the European Community. It goes without saying that in these discussions and these relationships, it is always the

interests of our own people that we are defending.

▶ *You took part in the ministerial A.C.P. meeting at Dakar on December 17, 1974. You were present in Brussels for the conference between the European ministers and those of the A.C.P. countries. What are your first impressions?*

Dakar was our first direct high-level contact with the A.C.P. countries as a group. We took advantage of the meeting for making this contact, getting to know the other delegations, discussing various problems linked with our present position and ascertaining how far aid can be given us in the present phase of our struggle. We came to Brussels to participate afresh in the meeting between Europe and the A.C.P., and to make a closer study of the relationships between the A.C.P. and the Community countries. We can see for ourselves that there are difficulties, but we can also see that they are not insurmountable. We hope an agreement will be possible, and that it will be an agreement which takes into account the rights and interests of our respective peoples.

▶ *There are other countries such as yours which have just become independent. What are the problems which arise?*

The chief problem now is to reconstruct our country. Our struggle for liberation has been a long one, with armed strife which has continued for 11 years. Our people have made many sacrifices; there have been many casualties and separated families. The major objective at present is to get our country back into the paths



C.E.C.—J. L. Debaize

Vasco Cabral
Making an entrance.



GUINEA-BISSAU

Guinea-Bissau and the Cape Verde Islands rank as a single territory; but for Guinea itself independence was proclaimed on September 10, 1974, on which date Portugal, as the colonial power, recognised the international sovereignty of the new Republic. This was 11 years after the beginning of the country's armed struggle for independence. Guinea-Bissau is a West African country, with its coastline on the Atlantic and frontiers with Senegal in the north and the Republic of Guinea-Conakry in the west and south.

Area (1): Mainland section, including Bissagos archipelago: 32 125 sq. km. Cape Verde Islands: Ten islands and five islets with a total area of 3 929 sq. km.

The country: Guinea-Bissau is a flat country with a very jagged coastline and a number of rivers, which make it a moist region. In Cape Verde, on the other hand, the shortage of water is one of the perpetual problems. In south-eastern Guinea the country rises to the Fouta-Djalón foothills.

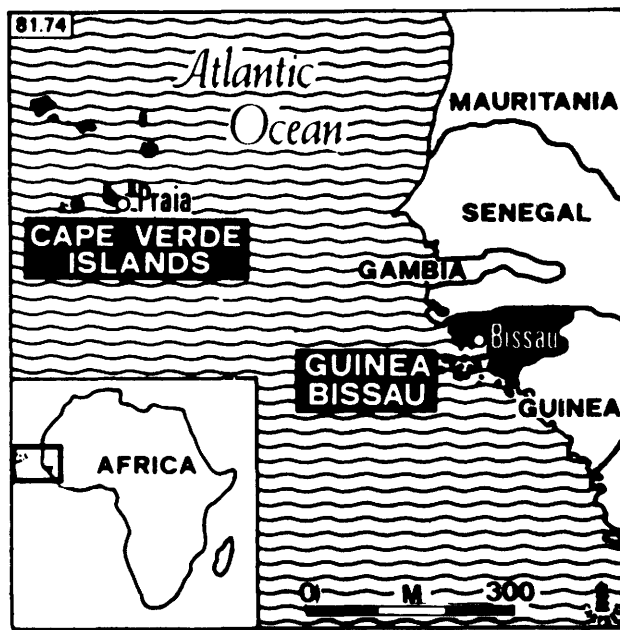
Population: Mainland: 800 000 inhabitants, including 150 000 who took refuge in neighbouring countries.

Cape Verde Islands: 200 000 inhabitants.

The new capital has been set up at Madina do Boé.

Economic resources: Rice, cola nut, palm oil, palm kernels, groundnuts, timber, rubber, wax, honey, cattle-cake, sesame, hides. Tourist industry; chemicals and pharmaceuticals, tanneries, furniture, artisan production, fruit juice, flour and fibres. The fisheries are productive, especially around Cape Verde. The currency is the Escudo, with the same parity as the Portuguese escudo, but this circulates only in Guinea (1.7.74).

Potential: Fruit and market gardening, bauxite, oil, zircon, phosphates, ilmenite, lime, crocodile breeding.



(1) Revue Afrique-Asie (Paris) No. 66, September 23 to October 6, 1974.

of peace and progress. It is on this that we are at work, which means that we must destroy every vestige of colonial structure and create new and better living conditions for our people. During the liberation struggle we had regions which were liberated, and where we built a new town and a new society. Our people lived for the first time in an atmosphere to which they had never been accustomed, because the key to the colonial domination had been exploitation, poverty and obscurantism. Our present struggle is against the sequels to this, against some of the aspects of the heritage left us by the Portuguese colonists. Today we are masters in our own house, with all power in our own hands; and as arbiters of our own destiny, we propose to broaden the living conditions we have created in the liberated areas, and which will now apply throughout the territory.

There is of course one problem which is not yet fully solved. This is the problem of the Cape Verde Islands, for we consider that our people comprise not only the mainlanders but also the people of these islands. Our party, the

P.A.I.G.C. (1) took charge of the struggle for liberation and always made the unity of the Guinea and Cape Verde peoples a fundamental principle of its activities. The problem of the Cape Verde Islands is at the moment being solved. We have extremely good cooperation with the Portuguese Government and we have agreed with them that the independence of Cape Verde should become a reality, just as did that of Guinea. We have had a very tough armed struggle for our freedom, and it is due to this that we have secured for our people all the advantages they now enjoy. As a result we in Guinea are now free, but it is through this same struggle for liberation under the aegis of the P.A.I.G.C., that we shall also be fully liberated in Cape Verde.

► *Then you believe in the early reunification of all the Guinean peoples, including those on the mainland and those on the Cape Verde Islands?*

(1) African Party for the Independence of Guinea-Bissau and the Cape Verde Islands. This was founded by Amílcar Cabral, who was assassinated at Conakry on January 20, 1973.

Certainly. The union has got to be decided upon by the Cape Verde people themselves, but we are sure it will come. Our party has always considered this union a necessity and worked on the agreed principle of unity supported by the whole people in Guinea and in Cape Verde. There have been frequent demonstrations in Cape Verde, some of them very recent, which go to prove the rightness of the P.A.I.G.C. attitude. This is striking proof of support for a cause that will inevitably be won.

► *In what field does European aid for your country seem at present to be most urgent—economic, financial, industrial, technical or even cultural?*

There are several sectors in which aid is necessary and urgent. Naturally when it's a matter of making the country into a going concern, the first essential is economic and financial aid. With aid in this class we can start solving many problems, including those of agriculture and the technical problems, the cultural problem and perhaps others.



► *Mr. Cheysson paid special tribute to the Government and people of Guinea for their "exceptional courage" in the fight for independence. When you get international sympathy like that, does it give you more confidence in the future, despite all the difficulties inherited from your long colonial past?*

I should tell you that international sympathy, such as you mention, is not a simple phenomenon. Since the beginning of our struggle we have had considerable support. It began with the African countries, but soon there were others, including the European countries. At the outset the Socialist countries were on our side and supported us from the very beginning of the struggle. After this came the Scandinavian countries, who brought us support at a certain moment, and then there were the countries of America and Asia who also gave us their aid. International support is thus a thing to which we are already accustomed. Some countries of course, especially some of the western powers, have long been supporters of Portuguese colonialism, but that is something we were powerless to prevent. The relations with other nations which we are now seeking to create will not be founded on this regrettable aspect of the past, for we are not defending fixed positions and dogmatic arguments. We have fully understood the attitude these countries have taken, and we know they now recognise us and have really made up their mind to respect our rights and treat us on an equal footing, recognising us as a sovereign people. Our relations with them will be the better for this. And indeed, I must tell you that all international sympathy is, and will continue to be, an encouragement to us.

► *One last question, Mr. Cabral. Will you use "The Courier" to say a few personal words to our readers in Europe, Africa, the Caribbean and the Pacific?*

Even if it's a bit late, I should like to send your readers my very best wishes for their good fortune in 1975. I wish prosperity and progress to every one of the countries for which you write—progress towards cooperation and mutual understanding between the peoples, towards a better future and the peace of the human race. ■

Interview by
Lucien PAGNI

Liberia: an element of union and cooperation in West Africa

**Interview: S. OTHELLO COLEMAN,
Ambassador of Liberia**

Liberia, as its name suggests, has always represented freedom. Now with a population of over a million and a half and covering some 110 000 km², Liberia is one of the world's biggest iron ore producers and still has some of the world's biggest rubber plantations, while Monrovia is one of the busiest ports in West Africa.

Situated between francophone and anglophone countries, Liberia is ideally placed to bring them together over the barriers of language and former colonial ties. In our interview below, the Liberian ambassador to Brussels, Mr. S. Othello Coleman, describes his country's aspirations and hopes for the E.E.C.-A.C.P. Convention.

► *Mr. Coleman, Liberia is the only Black African country never to have been a colony. Would you give a brief description of your country?*

— You are correct that Liberia has never been colonised and in the history of Liberia, we have virtually pulled ourselves up by our bootstraps. Fortunately or unfortunately, we do not enjoy the legacies of colonialism.

► *Liberia owes its creation to the United States. Does your country have anything of an American character or Constitution?*

— Perhaps it is correct to say that the constitution of Liberia is largely based on that of the United States. The Constitution was written by an American, Greenleaf, and it provides for three branches of Government with a presidential form and legislative and judiciary branches. But I would say our people were African in character.

We are neighbours to two English-speaking and two French-speaking coun-

tries, Sierra Leone and Ghana, the Ivory Coast and Guinea.

► *So you are in an ideal position to bring together English-speaking and French-speaking African countries.*

— Precisely.

► *Liberia is relatively little-known in Europe. Would you hope to bring it before a wider international public?*

— Well, I hope that my mission here would place me in a position to do so, and I would not spare any pains in projecting the image of Liberia and improving the environment for the expansion of trade.

► *What image would that be?*

— Liberia has, for over 27 years, projected an image of the open door. We boast one of the most modern ports along the West African coast, Monrovia,

→

facilitating movements of shipping. Through our investments programme and our tax holidays we have provided a wholesome environment for investment, and we feel that this open character is the best avenue for development.

▶ *What about the economy of Liberia?*

— Well, until the advent of iron ore, rubber was our principal export. With the exploitation of iron ore we have had the advantage of an additional export to assist our development.

▶ *Do you think the new Convention with Europe will help you to diversify the economy more than it is now?*

— I think that is the whole purpose of the exercise.

▶ *Would you like to see a reorganization of the production structure?*

— This is the policy of President Tolbert, to remove some of the inequities in the economy as rapidly as possible by a complete redistribution of the income of the country.

▶ *Do you think the new Convention might help you towards this? And if so, how?*

— The new Convention will indeed help us to diversify and to develop the Liberian economy, but I should not say that the new Convention will bring about a redistribution of the income per se. This is probably dependent upon Government policies, especially tax policies.

▶ *Of the main aspects of the new Convention—financial and technical aid, trade measures, industrial help—is any one more important to you than the others?*

— I think they are all inter-related, in a way that should help to build up the industrial and agricultural sectors that are so important for developing countries, and through these I think that a



S. Othello Coleman.

redistribution of income might be achieved.

▶ *Could you describe the development of Liberia's relations with Europe?*

— We have had very close ties with the United States, but at the same time we have always enjoyed close political and commercial ties with Europe. As a matter of fact, back in the 1800s, Britain was one of the first countries to recognise Liberia's independence, and this preceded recognition by the United States. So in a political sense we have had close ties with Europe even before we have had them with the United States.

▶ *When the possibility came for Liberia to join the A.C.P. negotiations, what were your initial reactions?*

— We felt it was an opportunity to join with the rest of Africa in helping to create a new economic order, one in which the countries of the Third World might collectivize their interests towards building a new world economic order for the expansion of trade and commerce and thereby improve the environment for developing their own economies via trade and commerce.

▶ *For the English-speaking countries, this was something new. Did you have any hesitations?*

— No, we have never had any hesitations because we have felt all along that this was necessary in order to avoid being isolated from the rest of the world.

▶ *To take a particular point, the European Development Fund, which is still one of the difficult points of the talks: do you think that the A.C.P. should have a bigger hand in running the E.D.F.? And what do you think should be the fund's priorities?*

— Certainly I think that the A.C.P. States should have an equal hand in managing the fund. I think the time has passed when we permit ourselves to sit and have our economies directed remotely, from a distance, by someone who does not know or cannot perceive our needs in the way that they best relate to our economies. The A.C.P. should participate to the extent that they largely manage the fund.

For the priorities of the E.D.F., I think both industrialisation and agriculture projects are essential and that due attention should be given to both sectors.

▶ *Liberia has always played a role in international organizations, and was in fact one of the founder-members of the United Nations organization. Do you intend to go on playing this role?*

— Indeed we intend to, because we see the United Nations as perhaps mankind's only hope for peace on earth.

▶ *So regional cooperation might be one of your interests in Africa from now on?*

— Certainly, and on the 27th of this month (January) we are hosting the next meeting of the African countries which are in the process of trying to form a West African Economic Community.

▶ *Could you tell us more about that?*

— There are some 16 countries involved in all, including the newly-independent country of Guinea-Bissau, and I would venture to say that in the same way



that Europe has forged a Community, and as East Africa has done through the East African Economic Community, we feel the time has come when the countries of West Africa must forge their own economic and commercial links into a Community similar to that of the E.E.C. and the East African Community.

▶ *This would be the first such Community including both English-speaking and French-speaking African countries.*

— Correct. The initiative was taken by Nigeria and Togo, but this is an idea that we have toyed with ourselves for some time. Back in the '50s we felt the need for regional cooperation; the impediment to this has been the language

barrier and the fact that the countries of the French-speaking zone have perhaps had too close a tie with the European Community to break away. Now the time has come for us to join together.

▶ *May I ask a question that might seem less serious—why do so many ships fly the Liberian flag? Has the question of flags of convenience been raised in the discussions on non-tariff barriers and rules of origin?*

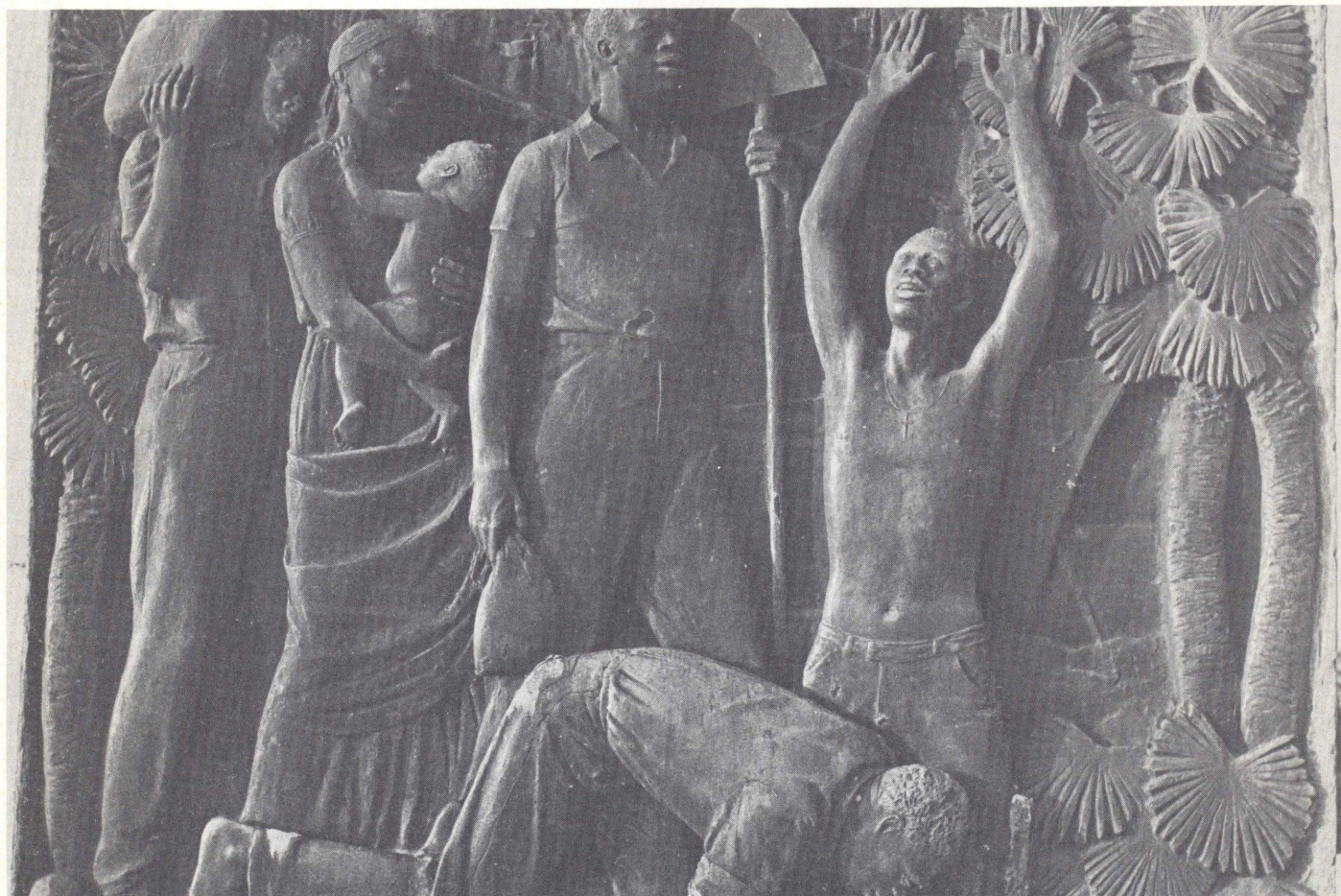
— No, it has not arisen as a point of argument; but for Liberia the registration of ships is a source of revenue and we have had no reservations about registering ships under our flag. It has also helped to project the image of Liberia.

▶ *A last question: to resume, what does Liberia hope for from its eventual association with Europe?*

— To answer that I would have to compress all the advantages which are comprehended in this association with the Community into a short statement. But I think specifically that Liberia might find this to be an opportunity to diversify its economy, and perhaps to build upon the trade foundation which has been made in previous years and improve and expand its areas of trade throughout Europe. At the moment we trade with most of the European countries, and I think that the opportunity of association might open the way for still further expansion. ■

Interview by
Barney TRENCH

The pioneers' memorial, overlooking Monrovia from Fort Norris, represents the arrival in Africa of the freed black American slaves who were the first Liberians.



Transport and the E.D.F.

For more than 15 years the European Development Fund has been responding to requests from the Associated countries by giving aid in the transport field. In the period of the first EDF, 43.5% of the funds made available were devoted to transport. In the second EDF the proportion was over 32%. In the period 1969-74 (part of the 3rd EDF), about 37.5% of the funds were applied to roads and bridges, railways, ports, waterways, airports and telecommunications.

In 1973, for example, the analysis given in the 1974 report of the Commission to the Association Council shows 16 Community financing decisions for the improvement of economic infrastructures in the AASM. This covers roads, bridges, waterways, ports and airports; and the total amount was UA 48 157 000 or 28% of all the EDF and European Investment Bank commitments during the year.

An examination of these financings shows two main lines of policy which throw clear light on the aid given by the European Community. The interventions in question will make it possible:

— first, to facilitate local trade and the export of agricultural and industrial goods and so get the economic benefit of these products. This applies to most of the projects financed in 1973, and the action taken by the Community under this head is the natural complement to its aid in developing production;

— secondly, to expand inter-state trade in specific regions of Africa, and so to promote regional integration. Examples are the improvement of the Lomé-Ouagadougou road and of the trans-equatorial waterway, and the construction of an integrated high-tension electric network covering Burundi, Rwanda and Eastern Zaïre, described in our last issue. In all these cases the Community was following its natural vocation by encouraging cooperation between economic systems which are naturally complementary.

There are three further comments to be made on the finance decisions designed to improve the economic infrastructure of the Associated countries:

— many of the projects financed consist of improving or modernising an existing infrastructure—surfacing an earth road, enlarging the handling capacity of a port or an airport and similar objectives;

— very often these improvement projects are related to older projects which have already been carried out, and which had Community finance in the past. Some of these are improvements to projects which have been already carried out and finished; and in some cases it is a question of putting in hand a new section of some much bigger project;

— all these financings are for purposes given priority-ranking by the beneficiary countries, and so take their places in the infrastructure improvement programmes of the countries concerned.

Central African Republic: the Bangui-Damara road.



Should we build more roads ?

by Corrado CORNELLI (*)

If we compare the state of road-building programmes with that of rural development projects, the difference in relative advancement is obvious.

A gap between production and road infrastructure⁽¹⁾

In general the road-building projects were made into programmes and carried out within the appointed time, or subject to a fully acceptable delay. In recent years they were considerably affected by cost inflation and were subject to the great number of technical hitches inseparable from such projects; but their execution depended ultimately only on the availability as required of sufficient technical and financial resources. This is an undoubted facility, which makes it possible to overcome the occasional crises in the execution of the work and thus to achieve the desired objectives.

The same does not apply to the rural development operations, aimed at expanding production. These projects habitually seek to increase the quantities produced by introducing new rates and measures of production, and they seek permanent economies beyond the actual external financing. They are thus comparatively less influenced by any additional availability of technical or financial resources. In most cases agricultural production was not successfully raised as scheduled by the planners, nor was the timetable for each specific project respected in its entirety. The delays may have been due to weather conditions, defective management, price policy, bad marketing policy or, more especially, insufficient training and supervision. The delays have continued despite the special and increasing efforts which are made to eliminate them.

The present article makes no attempt at a detailed analysis of this, but it should be noted that there is general agreement that the attainment of an adequate and steady rate of production,

independent of external aid, cannot normally be done within the time specified in the programmes, which is often much too optimistic.

This gap between road-building and agricultural production does not seem likely to disappear automatically. It might be argued that the more advanced state of the road programme is not in itself a hindrance. When the applications for finance for the road projects were originally put forward, they did not require extensive justification, apart from such economic arguments as were in reality administrative, social and political motivations. The roads were international and national in character and their importance is clear.

Against this background any comparison between the kilometers of road built and the tons of additional production obtained would not be really relevant, especially not as a basis for conclusions regarding future programmes.

Risk of a check to development

It is nevertheless clear that a persistent or growing imbalance between the road infrastructure and agricultural production cannot avoid having the general long-run effect of blocking the country's development process, especially in those countries which have agriculture as their principal resource. They would be faced with the dilemma requiring them either to find unduly large sums for road maintenance from budget resources which had remained unduly anaemic, or allowing the road equipment to go into disrepair, despite its importance in national development; and it has often been seen that this can happen very quickly.

So it is a good idea to consider what possibilities there are of reducing the gap and its consequences by influencing the factors which may have the most positive results, but avoiding, at any rate for the moment, a substantial modification in the policy of international aid for maintenance purposes.

Any such action should, if possible, operate at the same time on the two factors being considered. For the agricultural

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(*) Director of E.D.F. Technical Operations in the Commission of the European Communities.

(1) Editor's subtitles.

projects, however, I do not think their share of the total aid provided can reasonably be increased to any great extent. In this field, too, at any rate at the present stage, it is not a question of increasing the number of interventions, but rather of eliminating little by little all the obstacles—defective management, lack of training, price policy, trading policy and so forth—which hold back the project and prevent their reaching the desired targets. This is a long-term job, and the projects currently in course of execution are very largely angled upon it; but the results cannot be decisive before the present development stage is completed.

Varying targets for road programmes

On the other hand, good effects could be obtained from road programmes much more easily. It is not a question of curtailing the programmes themselves, as the title to this article might have suggested; the line of action is rather to rethink the programmes and give them a variety of objectives.

Up to the present the European Community has helped in the construction of 4 000 km of road. These are "heavy" roads, intended to carry heavy and intensive traffic. They are international and national highways of communication, needed by the Associate countries as links between their own capitals and centres with international roads or the coast. The targets in these cases were absolute priorities; but by now they can be regarded as satisfied, or at any rate very largely so.

In a country with a flourishing economy, one could of course go on building a collection of roads and road networks of the same technical standard applied for the major highways, always providing there is no exceptional factor. Thus, after building links between the big urban centres, other roads could be made to link the centres of secondary importance, and so on down to the village communities.

But most of the countries with which we are concerned are not in an economic condition which would justify an equipment policy on these lines, calling for big expense of investment and continuing heavy maintenance expenditure.

Speeding up development

These countries have an enormous need for means of communication and the important thing is that the roads should no longer be thought of as mere ribbons of asphalt providing quick and easy passage between centres of reasonable importance. They should be considered primarily as essential instruments of rural development.

So much has been said and written about the importance of road investment in developing economies that the point does not need to be emphasised further. The vital point about a road is its intimate connexion with the life of the regions traversed. The road system serves many destinations; it is almost unbelievably accessible, for absolutely anybody may set out upon it whenever he wishes, wherever he may be, and using no matter what means of locomotion. In this the road is different from all other means of communication. It provides scope for potential communities to choose their place of settlement, and it provides for development in contiguous areas, stimulating the influence upon one another of the different rural groups, of town life upon country life and vice versa. It can play a significant part in harmonising methods of production, habits of consumption and the general cultural background. It can increase the pace of development, just as a chemical reaction is stimulated by a catalyst.

If, however, the road is to yield its whole enormous potential and no longer limit its function to being a link between towns, its influence must be extended to the very edge of the regions it serves. This can only be done by building secondary networks, or reconstructing those already there and integrating them into the general picture.

In the forthcoming road investment programme, these secondary road networks are brought into the planning on a big scale. This is what I have called "a variety of objectives".

Constructing a coherent road system

This diversification of objectives must of course be accompanied by a much more flexible approach to the physical character of the roads concerned. There is no single standard to be laid down for such factors as width, foundations, surfacing and the course the road shall take. Each must be determined case by case, in the light of the potentialities and the requirements appropriate to the level of development locally attained.

By developing the secondary roads, carefully adjusting their technical features to the need, and going down the scale from the arterial roads which have already been built, it will be possible to set up an organic road system in which every element down to the rural track plays its part in rural development and thus helps to bridge the gap between the production of agriculture and the development of the road system.

When this has been achieved, the roads will at last constitute an infrastructure which may truly be called economic. ■

C. CORNELLI

E.D.F. assessment of transport projects

by André VANHAEVERBEKE

The European Development Fund has used a large part of its resources for financing transport projects, including roads and bridges, railways, ports, waterways and airports.

The intention in this article is to describe the economic argument which produces the ultimate decision whether or not to finance the projects brought forward in so important a sector. What particulars are needed in presenting the project? What criteria are applied in its appraisal? How are the responsibilities for the decision divided between the Community and the partner countries?

This will in practice call for a description of :

- ① First, the arguments by which any project is assigned its priority ranking in the process of a country's development;
- ② The part played by the E.D.F. in the appreciation of the priority ranking.

I. Analysis of the transport system

The primary objective of investment in the transport sector is to reduce the cost of carriage and so to promote the growth of production and consumption of goods and services. The function of transport is thus indirect and must be studied in close connexion with such factors as the localisation, the physical extent and the value of a country's economic and social activities. This interdependence implies that aid in this sector needs to be part of a long-term programme, linked with the development prospects of the economy in question. This is the first major difficulty in assessing transport projects, the figures relating to which are closely tied in with the general development programmes.

The other main difficulty results from the interdependence of the various elements which go to make up a transport system. These may be elements which are mutually complementary, such as modes of transport specially suitable for traffic of various kinds, or so adjusted that they can pass from one route to another; or they may be in competition with each other, as when rail and road transport can be substituted each for each, or alternative routes taken. There is a risk that a change in any of these elements may affect the whole of the network. This interdependence of the transport investment with, on the one hand the practice of production and consumption and on the other, with the rest of the transport network, can only be allowed for through study of the system analysis, treating the various elements as integral parts of the whole. This is an important

aspect of transport projects, and must not be lost to sight while the proposals are being investigated.

II. Alternative approaches by which the project objectives can be attained

One of the weaknesses often seen in the examination of projects, is the tendency to short-circuit the analysis of the various alternative solutions for securing a given objective. A bridge project, for example, is examined without noting that it is only one, and not necessarily the best, way of securing the more general objectives of time-saving and greater security in crossing water. The real purpose of the economic analysis is not only to establish that the project would improve the existing situation, but also that it is the best of the various ways of doing so. In matters of transport the principal questions to be asked are the following:

① In the first place, is it necessary to make new infrastructure and equipment investments? Are there not ways by which what already exists could be made to function better? This question is very important because it can eliminate expensive investment proposals, the main pretext for which was to improve the functioning of existing equipment. For example, a new railway track is proposed, whereas it would be quite possible to deal with the expected flow of traffic for several more years by simply reorganising the use of the existing material.

② What shall be the mode of transport—railway, road, river? Every mode of transport has its own characteristics, which imply advantages or inconveniences, with different traffics and in different circumstances, and when judged in terms of effectiveness, regularity, suitability for goods of specific types and similar standards of judgement. The railway is efficient and profitable for carrying heavy consignments over long distances, and is also the more regular and the most economical on fuel. Road transport, on the other hand, provides a door-to-door service, is more flexible and is indicated for carrying merchandise of high unit value over short or medium distances. When it comes to the offtake of minerals, is it better to build a railway, an ore-duct, a road or a conveyor belt or similar apparatus?

③ What route shall be followed? There is often a choice of several routes between two centres, and the shortest is not always the best. Various factors have to be taken into account. These of course include the length; but the cost may be affected by the nature of the ground traversed and the identification of other demands for transport at points between the terminals of the system, which would naturally increase the traffic using the same infrastructure. In these cases, too, the solutions do not

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always follow the most obvious line, because such factors as the distribution of populations and productions have to be considered with the rest. A number of alternatives have therefore to be studied.

⊗ What shall be the technical characteristic of the project? If it is to be a road, should it have one traffic lane or two, should it be compacted earth or should it be given a hard surface? If it is to be a railway, what should be the gauge and the thickness of the ballasting? And many other such questions will have to be answered.

The ultimate value of the decision reached will of course be conditioned by whether the list of alternatives is exhaustive. What, for example, is the real value of a decision to electrify a railway if the alternative of diesel traction has not been considered? However sophisticated may be the econometric technique brought into play, it will not have the slightest effect on the insufficiency of such an examination.

III. Costs and advantages of a transport project and its alternatives

Once the problem is defined and the various possible solutions have been duly listed, the next stage is to determine what effect any and each of these will have on the economy as it would have been without the project (*). A comparison of the possibilities by the same criteria will make it possible to classify the details from the different points of view relevant to the case and thus to prepare the final choice. In practice any transport investment is apt to modify the flow of traffic and the conditions in which it is carried, and these modifications affect the incomes of the various categories of agent concerned in the project. The appraisal, therefore, will be carried out in two stages, defining the flow of transport and the effects on the economy.

Traffic demand and expectations

Any transport investment will be made to cover an actual or expected demand. The proof of this demand is of course a basic factor in the appreciation, but it is also the most difficult. It is in essence a translation, into terms of traffic in goods and merchandise, of the forecasts of production and marketing. These factors of course are interdependent; for, though the transport investment has to be adapted to the growth in traffic, this growth itself depends on the transport system insofar as it reduces costs. Causes and effects are thus closely linked together; and to them, of course, must be added the uncertainties inherent in economic forecasting, especially if it is to be on a sufficiently long-term basis to correspond with the long prospective life of the transport infrastructure. There is no real remedy for this handicap, except to give an explicit statement of the basic assumptions about development in general,

(*) This is not the same as a before-and-after comparison which would not take into account changes which would have happened anyway, whether or not there was a project. If a road is not resurfaced it will go on deteriorating and the cost of operating a vehicle will continue to increase. In this case, therefore, it is the chronic increase in operating costs which has to be compared with the new condition resulting from the project, and not the level at which operating costs were running before and after the intervention. This formula would result in a considerable underestimate of the effects of a project.

unless indeed they are to be laid out in a succession of forecasts specifying their chances of success. The prospective ratios of costs to advantages can now be analysed and appraised for each of the fundamental alternatives.

In general, transport forecasts distinguish between three main traffic categories. These are:

- the **normal** traffic made possible by the existing infrastructure, and the growth of which is independent of the proposed project. This will have the full benefit of the advantages inherent in the new project;
- the **derived** traffic effects, following the execution of the project. For example, the construction of a road between two towns which are already linked by a railway, creates for various reasons a risk that some of the existing traffic may be diverted to the new facility;
- the traffic **engendered**. Starting from any given demand for transport, the lowering of costs normally engenders new traffic in passengers and merchandise.

The advantages to be attributed to any project will vary in terms of the traffic categories, the carriage of which is to be facilitated.

Effect of transport projects

Any transport investment must result in a change, by comparison with what would have been the case if there had been no such project, in the incomes of the various categories of people concerned (*). These consist primarily of the users and the firms which operate the system of transport benefiting from the government investment. The project may also have an indirect effect on competing transport systems, and agricultural and industrial undertakings which are able to produce and market more, because of the fall in transport costs. In some cases, too, another factor to be taken into account is the effect the project may have on the manpower used for its functioning and its maintenance.

Effect for the user

The principal advantage of a transport project is of course the saving of **operating costs** for those who use the new system, including the diminished deterioration of vehicles and the reduced fuel consumption. The evaluation of these advantages for different categories of traffic depends on what the situation would have been without the project. For **normal traffic** it is the operating cost of the means of transport which differ from what they would have been. For the **derived traffic**, the advantage is measured by the difference between the costs under the new system or the new route by comparison with the system or route which has been abandoned. The gain to the user, therefore, is not necessarily net, especially in the case in which he is using a different form of transport. If, for example, he is changing over from rail to road, his gain is of course the gap between what he used to pay for rail transport and what he now pays for road transport. Nevertheless the whole of this

(*) Only nationals will be considered here. In international or regional schemes, however, the effects on those outside should also be brought into consideration.



gain is not a profit to the economy as a whole. When rail transport was used, the freight paid was based on average costs, and the actual cost of handling this particular traffic was marginal, so that the turnover to a different system is a loss to the railway undertaking. In the system of analysis proposed, this loss appears under another heading as "indirect effect on competing transport undertakings".

One must be careful to include all the transport costs paid by the user and not simply those resulting from the freight rates he pays to a given carrier. This can be important in comparing road and rail costs, because the user of rail transport also has to pay the cost of loading and discharge and delivery costs.

For the **engendered traffic**, measurement is harder, since it is concerned with additional satisfaction given to users who formerly did not use the transport system. The whole reduction in operating costs cannot be ascribed to the engendered traffic, because without these reductions the traffic would not have existed. For the most part it is not possible to define a relationship between the scale of the reduction and the increase in the engendered traffic, but it is usually agreed that there is a proportional relationship, and half the cost reduction is brought into account as an advantage. For example, if b is the volume of engendered traffic and a is the reduction in costs due to the project, the economy to the user is estimated as $(a \times b)/2$.

It should be noted that the benefit brought in on account of the engendered traffic does not include the economic advantages due to new activities induced by the reduction in transport costs. These figure among the indirect effects.

There may also be other advantages to the user such as saving time and reduced accident risk. In some cases, such as the building of a bridge to replace a ferry, these elements are determinant factors. They are difficult to quantify, but they should not be neglected.

Effect on firms operating the transport systems (1)

The execution of the project may have an effect on the incomes of the firms which operate it, and also indirectly for competing firms.

Many transport projects, while they reduce the total operating costs of the user, also lead to reduced maintenance costs for the infrastructure. Thus, the adaptation of the foundations and surface of a road to the type of transport it carries will reduce the depreciation of the infrastructure and therefore the cost of maintenance. Such advantages are to the benefit either of the transport companies (e.g. railway or water transport companies), or the State itself as the body responsible for maintaining the roads. (2)

(1) This analysis is equivalent to the normal calculation of financial profitability at firm level.

(2) These economies must nevertheless be set against the corresponding increase in the investment cost. In building a road, for example, there is a choice between the investment cost of a hard but expensive surface, which costs little to maintain, and more perishable road laid on compacted soil. The choice must ultimately depend on a comparison of the total cost—investment and maintenance—of the two solutions. There are, in addition, other factors which come into play, such as the technical and financial capacity of the government to maintain roads made of compacted earth. If it cannot undertake this, it often appears preferable to adopt a solution which seems less economic in terms of the cost-efficiency ratio, but which will reduce the recurrent charges which have to be financed from the State budget.

On the other hand, a new project through which freights or costs are reduced on any mode of transport or any specific line, may have indirect effects on firms running competitive systems and facilities. Thus the building of a new road parallel to a railway could well divert traffic to the latter. Unless the railway was already overloaded, the advantage to the user will be a loss to the railway. This contrast between the two categories of people involved must have its place in the assessment of the overall advantages of the project. It is a statement in terms of an individual project of the general interdependence between the different modes of transport.

Effect for the State

There are various ways in which the State may be concerned in the execution of a project. In the first place it may be the manager on whom falls the duty of maintaining a transport network; and in this rôle it will have the benefit of advantages described under the last heading. Secondly, it is concerned in the transfers, such as the loss to the State from petrol duties if the project results in a smaller consumption. This will appear in the calculations as a credit for the user and a debit for the State, the only real economy for the country being the fall in the consumption of fuel taken at its untaxed price.

Indirect effects on production and marketing

Lower transport costs may lead to the setting up of new industries and other activities, or in stimulating the competitive capacity and reducing the prices at which the consumer can buy the products. This is particularly the case for **channels of penetration** which open up new regions for economic development. Before advantages of this type can be ascribed to a transport project they must, however, be shown to be a pre-condition for the regional development envisaged. Moreover, the means of transport is only one element which has led to this development and it is difficult to be sure how much of the benefit should be attributed to it. In these the most satisfactory solution is not to consider the road as a separate factor, but to survey as a whole the investments needed for the general development of the zone, including not only the transport infrastructure, but also the agriculture and the popularisation of methods.

If justification can be found for the investment scheme as a whole, the transport project itself can be dealt with by a cost-efficiency analysis conceived on the following lines:

— in order to secure a given development objective, what is the least expensive mode of infrastructure investment, measured in real economic terms, which will make it possible to move the volume of traffic under consideration?

The merit of this approach is that it draws the attention of those responsible to the necessity for regarding the various aspects of a region's development as being essentially complementary; and the mystics who believe that transport alone sets development in motion are suitably brought back to earth.

Effects on employment

Among the costs of operating the investment projected is the wage outlay for maintenance and for operation. In some cases

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these must be brought into account as additional revenues. This is the case when the expenditure in question will be remunerating manpower which would otherwise have been partly or wholly unemployed. Bringing work to the unemployed is not in fact a cost to the economic system, but rather an additional revenue determined by the difference between the wages received in virtue of the project and the position as it would have been if there had been no project (1).

Effect of the project on the economy as a whole

The net advantage of the project to the economy as a whole, thus becomes an exercise in algebra, consisting of the sum of the direct and indirect effects under the different headings and the increase or diminution of incomes accruing to each category of persons concerned. This is the element which lies at the base of an economic appreciation. As we shall see, nevertheless, this has to be used with a good deal of caution.

IV. Criteria of choice

We now have all the facts we need to choose between the different projects, including the investment cost and the net effects on the economy and on individuals. What, however, are to be the criteria of judgement regarding the effect of all this on the economy?

In general, an investment project can be judged good or bad in proportion to its capacity to engender during its lifetime more advantages than costs. The balance between the untaxed investment costs and the net additional revenues, provided we take both factors as from the economy as a whole, is in fact the **economic profitability** of the project, which can be compared on this basis with other projects, so that they can be set in order (2). Choosing the most profitable of the projects is a guarantee of the good utilisation of public funds from the standpoint of general economic growth (3).

(1) This would not be fully correct if part of the manpower employed were unproductive. This would be the case, for example, in a government-operated railway system, enjoying a transport monopoly in which a number of jobs could be eliminated altogether without affecting the operation of the railway and all other factors remaining unchanged. In this case the wages of the people laid off should be regarded as profit to themselves, but expenditure to the State by which they are subsidised, or by the user who thus has to pay higher freight rates than he would in a competitive system. These costs in fact are in reality **transfers**.

(2) This comparison raises problems which it is not proposed to consider here. It will be recalled, nevertheless, that the various elements, if they are to be comparable, have got to be expressed in their present value, which implies the application of a negative interest rate. Profitability itself can be demonstrated by various forms of calculation, such as the cost/benefit ratio, the net present value or the internal profitability rate. The choice of a procedure raises practical problems, but these are less important than the correct definition of advantages and costs in relation to the standpoint adopted.

(3) In the calculation itself, it will be noted that in some cases the cost/benefit ratio can be replaced by a cost/efficiency comparison, so that it is no longer necessary to measure the advantages of the project. The classic example is that of an isolated mine, the output of which has got to be moved by a transport facility serving no other purpose. In this case the demand for transport does not depend on its cost, but is determined by the rate at which the mine is operating. In this instance the problem is to identify the least expensive solution for satisfying the demand. In other words it is a question of minimising the present value of the various elements of transport costs (which are real costs for the economy as a whole and including the investment cost, the maintenance cost and the functional cost, both for vehicles and material). The real justification for a transport investment is linked with that of the production project itself.

If investment resources were the country's sole shortage, and if overall economic growth were its only objective, the problem would be simple, for priority would go to the most profitable projects within the limit of finance requirements and resources. In reality there are many things which may be short or lacking. For example, when a country is suffering from a chronic deficit in its balance of payments, should the currency aspect be brought into the criteria of choice? In the same way, a country may be in the grip of intractable budget difficulties which diminish its capacity to provide maintenance for its investments, and in this case it may be led to give preference to a project involving little recurrent expenditure over another which might well be more profitable in operation but which would cost more in maintenance. External finance organisations, such as the E.D.F., are not in a position to take the maintenance costs on their own account, and this often necessitates their adopting such an attitude. This amounts to a form of economic calculation which gives extra weight to State costs and receipts.

Moreover, even in the limited framework of transport, the general growth target cannot be accepted without qualification, especially when it comes to the distribution of incomes. Those responsible for political decisions, though they do not give detailed explanations, often assign different weighting to different categories of incomes according to the class or category of people by whom they are enjoyed. For example, if the transporters have a monopoly of fact and it is to them that the revenue from a project will accrue, without bringing any benefit to users, those responsible for the decision may prefer to bypass the solution of a maximum overall profit in favour of another which they regard as providing a better distribution of incomes. Similar distribution preferences may also affect the choice of routes leading, for example, to priority being given to some transport users being given priority over others.

In most cases, therefore, a project cannot be assessed solely from a single standpoint. The multitude of conditions and constraints, and fact that many of the effects cannot be put into figures and added up, often necessitate recourse to the use of many criteria so as to give due weight to many points of view.

Moreover the problem of economic choice does not stop at determining the best alternative solely for transport purposes. It has also to be shown that the project under study in the best version found for it, does indeed deserve priority among all the investment potentialities in the country concerned. When, for example, it is a matter of getting from one side of a water-course to the other, the analysis cannot be limited to showing that the cost/benefit ratio for a permanent bridge is more advantageous than for a better ferry, a wooden bridge or a drawbridge; it must also show that the sum of the advantages resulting from a bridge is at least as high in relation to the cost as could be had from (for example) a hospital, a school, a factory or a rice field.

Many of the effects of any project cannot be put into figures, and comparisons of this type are necessarily very difficult. What value can be assigned to the saving of a life, to education, health or the reduction of unemployment? Even the effects which can be quantified do not always affect the same beneficiary. Can we put the same value on an extra franc of income accruing to users of a new bridge and an extra franc accruing to

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(see page 67)

Transport

in the latest Commission report to the Association Council

Under Article 29 of the 2nd Yaoundé Convention, the Commission reports annually to the Association Council on the past year's financial and technical cooperation. The 1974 report therefore covers the year 1973. Below are the main passages relating to transport.

ROADS AND BRIDGES

There were nine projects under this head, amounting altogether to UA 31 663 000, or 57 % of the finance provided for improvements in economic infrastructures.

Some of these projects were for continuing and improving projects for which finance had already been provided in earlier years.

The following are instances:

— **Renewal of surface on the N'Djaména-Massaguet road (78 km) in Chad** for which UA 486 000 was granted from the 3rd E.D.F. This road was originally laid with Community aid as a road on compacted soil, and owing to the growth in traffic an asphalt surface was financed in 1967. The combination of climatic conditions and the vigorous growth in traffic have resulted in the surfacing being worn out exceptionally quickly, and a third intervention became necessary. The Community brought the project under the Council of Association resolution of October 10, 1972 which, subject to certain conditions, authorised the E.D.F. to take over major or exceptional repair costs for infrastructure items of its own financing.

For other projects the motivation was the desire of Associated countries to make the most of local production by an easier flow of traffic between the production area and the consumption centres or ports of shipment. Under this head come the following:

— In **Chad** the construction of a new **road bridge over the Ba-Illi river**, the crossing of which is still the chief obstacle in north-south traffic between N'Djaména and Guelengdeng. The new bridge will enable the traffic to flow in all weathers and will facilitate the development of the central Chari valley.

— In the **Central African Republic** the **surfacing of the Damara-Sibut road** financed from the 3rd E.D.F. This will result in a considerable reduction in transport costs on this much used highway, and thus in a material reduction in the supply costs for the main crops (including coffee and cotton) from the north-eastern part of the country.

— **Resurfacing of the Afgoi-Scialambot road in Somalia**. This will facilitate the effective surfacing of the region between Mogadiscio and Merca, the latter being the principal development centre for bananas and citrus fruit.

— In **Cameroon** the improvement and surfacing of the arterial highway between **Victoria and Kumba** in the Muntengene-Bolifamba and Banga-Kumba sections. This will make it possible to complete the north-south arterial road (Mamfé-Kumba-Tiko-Victoria) which is the kingpin of the road network in west Cameroon, affecting not only the internal traffic but also the trade with Nigeria.

Two projects on a bigger scale are intended as contributions to the development of two important regions, the south-western part of the Ivory Coast and the Kwilu region in Zaïre:

— **Surfacing the arterial road between the port of San Pedro and Issia in the Ivory Coast**. In this case the Community is intervening in two ways—by a loan on special terms from the E.D.F. of UA 6 842 000 (1) and a normal loan from the European Investment Bank of UA 7 920 000 (1). This project is part of the Ivory Coast Government's development plan for the south-western area, and is to be extended northwards (road improvements and surfacing on the Issia-Man section) with finance from the World Bank. The main livelihood in this region comes from forestry and the development will be quickened by the many agricultural and industrial schemes in course of execution or at the project stage.

— **Financing of section B (108 km) of the Kenge-Kikwit road in Zaïre**. The finance amounts to over UA 11 million and is thus on a particularly big scale. It will provide a link between the port of Matadi and the capital city of Kinshasa on the one hand, and the eastern part of the country on the other. It will also help to bring the Kwilu region, which covers 50 000 sq. k and has a million inhabitants, out of its present isolation due to the lack of communications. At present Kwilu is only accessible by river and roads which are scarcely practicable.

Another two-fold financing scheme is provided for **Togo** involving UA 540 000 from the 2nd E.D.F. and UA 4 069 000 from the third. This is an addition to a number of other financings contributed earlier and will make it possible to continue the **road improvements on the cross-frontier artery between Lomé and Ouagadougou**. The section developed in 1973 (Lama-Kara-Kandé - 56 km) is in northern Togo and will now be given an asphalt surface.

PORTS, WATERWAYS AND AIRPORTS

Five projects under this heading were financed in 1973, involving a total amount of UA 14 989 000, or 27 % of the total Community finance for improving economic infrastructure.

As was the case with the 1973 road schemes, these finance plans do not envisage setting up new infrastructure, but the extension or improvement of what already exists.

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The vital importance of seaward outlets is now generally recognised, both for the seaboard countries and for those in the interior. With this in view the Associated countries are especially anxious to modernise and extend their seaports.

In 1973, the Community finance was concentrated on the two ports of Lomé and Brazzaville:

— The **port of Lomé in Togo** had been built with bilateral aid provided by Germany and came into operation in 1968. Its traffic has been growing at an average of 10% per annum, and it now has to face the current normal traffic growth and also provide for the future industrialisation of the country for which a cement works, a fertilizer factory and an oil refinery are nearby prospects. The extensions now scheduled are to be 35% financed by a **non-repayable E.D.F. grant** of UA 4 681 000 the remaining 65% (UA 13 251 000) being covered by bilateral aid from Federal Germany in the form of a loan. This Community finance supplements the work undertaken on the Lomé-Ouagadougou road, for the port of Lomé is a key shipment centre not only for Togo, but also for Upper Volta.

— **Extensions to the Port of Brazzaville** for which E.D.F. credit commitments of UA 2 056 000 were made in July, 1971. The work was delayed by a considerable excess cost disclosed when the tenders were opened. The project was simplified and with **non-repayable aid of UA 198 000** it will be possible to start work on this project without further delay. It ranks as part of the collective development scheme known as the trans-equatorial waterway (see below).

Two other financing decisions contribute to the expansion of production in two Associated countries—Dahomey and Mauritania. These are:

— **Additional construction in the fishing port at Cotonou** (UA 540 000), which completes the construction of the port

itself, for which UA 624 000 was provided in 1968 from the 2nd E.D.F. and also the first section of the work, which had been covered by a loan from the Dahomey Development Bank. In this country industrial fishing has had a spectacular boom. It is in fact the only type of fishing which can deal with the growth in demand to 13 kg per head per annum. The essential purpose of the finance is for cold storage and deep-freeze equipment.

— **Airport improvements at Kaédi, Mauritania** to be financed by a non-repayable grant of UA 2 161 000. The improvements to the runway make the airport accessible to aircraft with a loaded weight of 12 tons (DC 6 or Ilyuchin 18). This improvement will make it possible for the Kaédi slaughterhouse in the country's traditional stock-raising area to come into full operation by providing an offtake for refrigerated meat. The slaughterhouse was designed to cover the country's own urban demand for meat and to replace part of the export of slaughter cattle by exports of refrigerated carcasses. It has not yet been able to play its full part because of the transport difficulties. The new capacity of the airport will enable Mauritania to export the full tonnage of meat needed to cover contracts which have been made with the French Antilles and Libya, and will also materially reduce the price of the exports.

The Community also continued providing aid for the trans-equatorial water highway which links Chad and the Central African Republic with the port of Pointe Noire in Congo, on which work began in 1962 (see opposite). This year the intervention approved required UA 918 000 to cover improvements at the **confluence of the Lobaye and Ubangui** and will make navigation possible throughout the year between km 90 on the Logaye and the port of Brazzaville. It will materially improve transport conditions for timber consigned seawards for export. ■



Mauritania: the E.D.F. helps in improving airports.

THE NEW CONVENTION BETWEEN EUROPE AND THE A.C.P.

Claude Cheysson:

"The beginning of new relations between industrial and non-industrial countries"

Brussels—The European Economic Community and the States of Africa, the Caribbean and the Pacific held a final negotiation session at ministerial level in Brussels from January 30 to February 1, 1975. Presiding were Dr. Garret FitzGerald, Foreign Minister of Ireland and President in Office of the E.E.C. Council of Ministers; and Mr. Babacar Ba, Finance Minister of Senegal and Chairman of the A.C.P. Ministerial Committee. The E.E.C. Commission was represented by M. Claude Cheysson.

The negotiations were completed in the morning of February 1, with agreement on the collected texts constituting the new Convention. The arrangements regarding sugar were completed the same afternoon.

The new Convention, scheduled to be signed at Lomé (Togo) on February 28 and so baptised the "Lomé Convention between the E.E.C. and the A.C.P. States", embodies a new form of relationship, based on complete equality of partnership between the nine industrial countries of the E.E.C. and the 46 developing countries in Africa, the Caribbean and the Pacific.

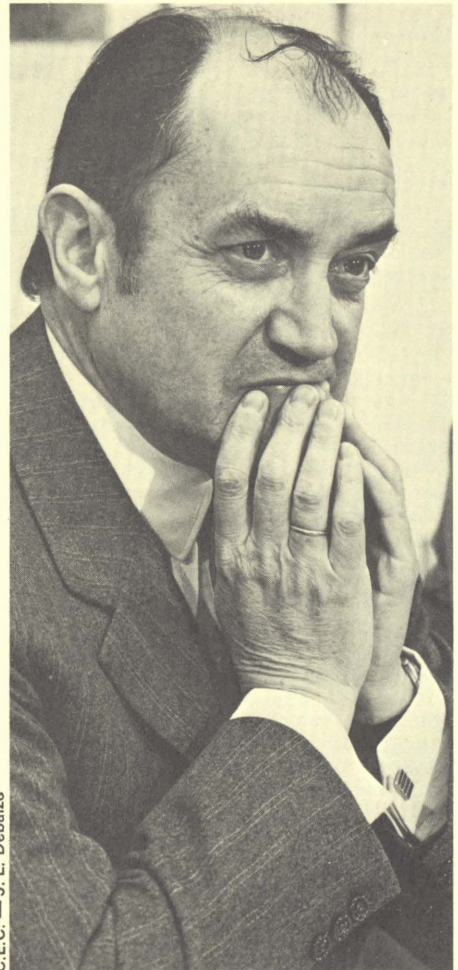
The number of different countries taking part in this venture, and the size of the populations represented, make the new Convention unique. It naturally contains provisions which mark its continuity with the Conventions of Yaoundé and Arusha; but it also contains new matter providing, inter alia, a system for stabilising export receipts and the first steps in industrial cooperation.

There have been quite a number of amendments and adjustments in the other sections covering the commercial, financial and institutional sides, which had their forerunners in the Yaoundé Convention. An aspect to be noted in the commercial section is the abandonment by the Community of any reference to the concept of reciprocity for the free access of A.C.P. products to the Community market. The total financial cooperation provided is U.A. 3 390 m (or the equivalent in Special Drawing Rights) of which U.A. 3 000 million is to come from the new E.D.F. and U.A. 390 m from the European Investment Bank. The E.D.F. portion will cover U.A. 2 100 m of non-repayable grants, U.A. 430 m of loans on special terms, U.A. 95 m in the form of risk-bearing capital and U.A. 375 m for the system of export receipts stabilisation.

Both the Chairman of the enlarged A.C.P. Committee and the President of the E.E.C. Council expressed in their concluding speeches their gratification at the atmosphere of understanding which had prevailed through this difficult final phase of negotiation. They spoke particularly of the political will which had impelled both sides to surmount the final obstacles.

Finally, the two Presidents appended their signatures to the document, which recorded that the texts which had been agreed were the final result of the negotiation between the E.E.C. and the A.C.P., and it was understood that the A.C.P. President would recommend them to the approval of the Council of A.C.P. Ministers at its meeting in Accra on February 11-12, 1975.

M. Claude Cheysson, member of the E.E.C. Commission in charge of cooperation, gives his comments on the Convention in an exclusive interview with "The Courier". He is convinced, he says, that it is of capital importance in the relationship between Nine-nation Europe and the least developed nations.



Claude Cheysson

C.E.C. — J. L. Debaize

► M. Cheysson, in a first interview with "Association News" ("The Courier") in December 1973, you referred to the early negotiations with the A.C.P. and stressed even at that

stage, the unity of the A.C.P. countries among themselves. "We are really going to try to do something very important", you said. Now these negotiations have been completed, are you still

of the same opinion about the importance of what has been done?

— Yes, I think the forecast has proved right. This negotiation was important so long as it continued, and it has led to

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an agreement which I have said is unique throughout the world and unique in history. The negotiation was important so long as it continued, because the countries proved themselves capable of negotiating for 18 months through a single spokesman, on subjects which were often very highly complex, such as the system for banana imports and the structural system of customs tariffs. These are not simple subjects and never in these countries' history had such a thing occurred. There have indeed been occasions when the different countries have together worked out political declarations, discussed various finance problems among themselves or debated the big problems of trade; but never at any time have they covered all these problems at once. For them, the negotiation was the first real demonstration of their unity, and they maintained this unity in astoundingly effective fashion. This gives special importance to the agreement we have reached.

► *You emphasise the international scope of the new agreement and there were 55 nations taking part in the negotiations, or nearly half those of the U.N., representing a population of 510 m. Is it fair to say, as has been said, that the new agreement marks the beginning of new relations between industrial and non-industrial countries?*

— This is my absolute conviction and, as you know, it is not mine alone. A few days ago the last parliamentary conference under the Yaoundé Convention was held at Abidjan and the Ivory Coast President, Mr. Houphouët-Boigny, spoke of this new Convention in very clear terms. It is certainly his view that we have here the beginning of new relationships between the industrial and the non-industrial. It is, he said in his Abidjan speech, "a matter of knowing whether two continents acting on a world scale are capable of a political vision of their common future of sufficient breadth and solidarity; whether they are able to bypass the natural divergences to found a community turned towards the future, which will be as much one of vitality and civilisation as of self-interest and memory".

So we are dealing with fundamentals, with a new model of relationships; and I would indeed remind you that this expression is to be found in the preamble to the Convention signed by all these countries.

► *Drawing up such a Convention has called for long technical discussions inevitably rather above the heads of the general public. But two particular points, the stabilisation of export receipts and industrialisation, have received attention. Do you consider these are essential points in the new agreement?*

— Yes. But I must say at the outset that I do not like separating the agreement

into compartments, because its strength lies in the fact that we are uniting our forces in every field. The two particular fields of which you spoke are very important ones, especially the second, but they won't make sense without the rest. After all, what do we really mean by industrial cooperation? It means that we industrial countries have decided to use every instrument of agreement and bilateral action to help these countries to industrialise. It is a declaration of intent. In virtue of this part of the Convention, we are setting up a number of procedures, industrial promotion centres, organisations of meetings and other methods of promotion. These procedures nevertheless are matters of interest because there is all the rest of the agreement which can be operated along with them—the financial part, the trade advantages, the export receipts, stabilisation and the security it gives to new producers.

The stabilisation of export receipts is an extremely important matter for African countries, so many of which depend on only a single export product, and thus have balances of payments entirely dependent on the income this product produces. When there is a collapse, whether through blight, weather or world speculation, the country in question is faced with disaster. But I will surprise you by saying that, if the project should show a dizzy rise in the market, the position for the producing country is no less difficult. Very recently the Finance Minister of one country told me about this. "Our only export product", he said, "has just risen six-fold. What should I do now? Should I channel the money to my workers? If I did so, I should be re-fixing the entire level of wages and the whole standard of living in the country, to such a point that one day a fall in the price of the product would bring revolution and total collapse everywhere. On the other hand, if I don't let my workers have the money, they will be quite justified in thinking they've been tricked, and revolution would come in through another door. For single-export countries what matters is regular growth in their receipts, and the search for some diversification to ensure their equilibrium. This is much more desirable than wonderful boom markets followed by total depression".

Secondly, our export receipts stabilisation plan raises a principle which, in all the history of the world's economic relationships, is absolutely new. We have recognised the right to compensation for people who have suffered a sudden setback in their export receipts. As I have often said before, it is a compensation right closely resembling the unemployment compensation or sickness compensation such as we ourselves accord to our own workers. We say to our workers: "Even if your firm should fold up so that you no longer have a job; even if you are sick and have to go to hospital, you shall nevertheless receive

a minimum income". This is just what we are saying to the producers in these particular countries. The notion is absolutely new, for, let's face it, we have hitherto been telling these countries exactly what we told our own workers in the 19th century—if you've a good job, so much the better for you; if you've a good market, so much the better for you; but this is not our responsibility. We can give you no security of employment, we said to the 19th century workers; we can give no guarantee of your production or your receipts from selling it. We were saying this, until only a few weeks ago, to the "proletarian" nations. What we have now done is to establish a principle which is fundamental, and which is altogether revolutionary.

► *I should like to raise a rather secondary question for the sake of defining the timetable. I understand there are to be transitional measures, and that after the signature at Lomé on February 28, the new agreement will have to be ratified. What sort of delays are we to expect?*

— Readers of "Association News" ("The Courier") are fully alive to business matters, and I intend to answer precisely. There are in fact two kinds of transitional measures. Up to July 1 next we have prolonged the status quo, so that goods from the A.A.S.M. will continue entering the Common Market under the Yaoundé Convention, and the products described in protocol 22 will continue their access to Great Britain in the same way as did Commonwealth goods before the British accession to the Common Market. For the period after July 1, we hope to enter into a batch of transitional agreements with our new future Associates, which will enable us to bring the non-financial clauses of the agreement into operation before they have been ratified. This should carry us through till ratification has occurred; but it is essential that it should occur, so that the Convention shall be formally brought into force and effect be given to the finance clauses, which cannot lawfully be implemented till after their ratification by the parliaments of the member countries and two-thirds of the A.C.P.

You may ask how long the ratification procedure will last. Some of the parliaments, especially those of Europe, are slow in these matters. Personally I sincerely hope the ratifications can be complete by the end of 1975, so that the agreement can be brought into force at the end of this year. As you know, however, we made a very important last-minute concession. This is, that the Convention is to be retroactive to March 1, 1975; which means that, even if the ratifications do not enable us to give effect to the agreement till the beginning of 1976, it will nevertheless be as from March 1 1975 that it will be taking effect. We shall thus have only four years

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Claude Cheysson interviewed by Alain Lacroix.

to spend all the money in the E.D.F., initially set aside for a five-year campaign. In this way we have increased the intensity value of the E.D.F.

► *Throughout 1974, and up to the present, the Community has been specially active in matters of cooperation and development, and the Commission has made considerable use of its right of initiative and suggestion. Could you give us a brief summary of the reasons, as you see them, for this dynamic Community approach?*

— There are various earlier facts, most of them well known to your readers. Some time before this agreement was signed on February 28, the E.E.C. took part in emergency action for the countries most affected by the crisis—those who had suddenly been confronted with having to pay much more for their vital imports with no growth in the receipts from their vital exports. For this fund the Community and its member countries had promised \$500 m; and this is a good tidy sum to put on the table. With this, too, there was the steady growth in the amount of our food aid. The amount of this in 1975 was nearly U.A. 300 m in new budget provisions, which, with various carry-overs, added up to a considerable sum. Before this, there was the decision of principle to give finance aid to non-associated countries, and this will be implemented in 1976 when the emergency action is completed. There was also the detailed decision to undertake a world promotion policy for the products of developing countries and a decision of principle for world aid to regional promotion. Even before this, the Community was the first trading group

in the world to bring into force a system of generalised preferences which gives the countries of the Third World duty-free access to Community markets for a large number of their industrial goods, subject to various quotas. All these measures add up to quite a lot; and they are to be rounded off—and here I am looking ahead—by the conclusion at, I hope, an early date of agreements with Algeria, Morocco and Tunisia to supplement the one we have already made with Israel, and the opening of negotiations with the Arab countries of the Near East. The general picture is quite a remarkable one, and its central focus is very strong and integral—the policy of Association.

Why have we managed to be so dynamic in this field when there are others in which the Community has found difficulty in keeping the flag flying? There are two reasons. The first is that the crisis which has come upon us has convinced governments, parliaments, other operators and public opinion generally, that we are highly dependent on external markets. The U.S.S.R. and the U.S.A. are very big economic areas, and their external dependence is thus the less pronounced, and they are net exporters of raw materials. We, in common with Japan and others, are wholly dependent on our position as importers. At present, too, we want to sell more goods in expanding markets, which are those of the Third World, and especially the oil markets; and we are therefore dependent in our turn on our access to these markets. All this has opened the eyes of many people to our considerable interest in full economic relations with the countries of the Third World. It is one of the conditions for the independence of Europe. The other

reason is that practically all the policies of which I have spoken, with the single exception of food aid, are policies which could not be brought into effect with 50 or 60 million inhabitants, still less with only 3 million. You can hardly imagine that Germany by herself could bring in a policy of generalised preferences unless her neighbours had done the same. One cannot imagine that even England or France could have so closely integrated an agreement with 50 countries of the Third World; and it has no bearing whatever on the question, if one or other of them has it with only three or four countries. We are talking of matters in which we can only act if several of us act together, and in which the Community policy is not a substitute for the policies of the nations, but different and complementary, and which is the bolder for the fact that the Community is indeed a Community and not limited to the dimension of the national state. I can find no better support for this view than that of Mrs. Hart (1), the British Minister for Development and an eminent member of the Labour Party. Quite lately, speaking in the House of Commons, she recognised that what we had been doing at Community level could not be undertaken by a single State, even by Great Britain. This is a factor which seems to be extremely important.

The last point which I think will interest "The Courier" is that this time the governments gave the Commission the task of being the negotiators, which they had never done before. You will remember that formerly it was the Council of Ministers which negotiated the Yaoundé and other conventions. This was the first time the Commission had been put in charge of negotiations of this type. In taking this action the Council of Ministers put into the negotiation the dynamic qualities it needed for matters of such difficulty. It had never done this before.

► *This does seem of capital importance. Is there any Community action you would like to instigate or develop in the near future, and how do you think relations will take shape in the longer term between industrial and non-industrial countries?*

— I don't think your two questions are in quite the same context. In my own view, the essential thing for future relations between industrial and non-industrial countries is that their logic and their dynamic should be those of cooperation and not of confrontation. In political life, and in diplomatic history, there is a certain logic which runs through entire periods of time, and I think it would be worth your readers' while to think about this. To enter into a cooperation means doing things together; and this means seeing each other quite a lot,

(1) See interview page 3

talking over one's problems, doing one's best to help one another in dealing with them. The more we cooperate on these lines the more it is to our interest to continue, because each time anybody receives at the same time as he gives, he has touched the real cooperation logic. I fear, too, that the logic of confrontation calls for answering strong words with firm expressions of references to what one would do if one were threatened, and equally positive replies as to how one would defend oneself if there were any danger, followed, of course, by the demonstration that these were no more than words. Confrontation, you will note, has its own logic, and this is just as implacable as that of cooperation.

A thing which worries me is that for some months past, both in the industrial countries and the non-industrial, too many eminent people have succumbed to the temptation to recall the elements of confrontation, which are, of course, beyond dispute. There can be no disputing the fact that, if you come and try to strangle me, I shall smash your face in if I can; and if I am much bigger than you, this threat takes on much significance. It is indisputable, and all the world knows it; but from the moment you get yourself caught up in this kind of argument, you are in a logic which is initially only verbal, but can set things moving the wrong way. Between industrialised and non-industrial countries one must be systematic in seeking out the elements of cooperation, so as to set things on the right road.

You asked me, too, if there are other fields in which we would stimulate Community policies, on the ground that they are complementary to the national ones and more advanced in character, rather than substitutes for them. There are indeed other such fields. There is one in which, unfortunately, we are making no progress—our joint energy policy. Without any doubt, we Europeans—there are 250 millions of us—are capable of having an energy policy, an anti-waste policy, a policy of re-balancing our forms of energy consumption, a policy of storage, imports, discussions with other consuming countries and with the producing countries, none of which could be effectively done at the level of an individual country. It is heartbreaking that this is not coming more clearly to the surface, for national policy is no substitute. Either there must be no effective policy at all; or there can be a Community policy which, of course, will take its place among the policies of consuming countries and in the general picture of relations with the producing countries.

This example is absolutely obvious; and there are indeed others. On the social side it is indisputable that there is much progress still to be made in regard to the quality of industrial life; guarantees to the workers in regard to mergers, the formation of multinational groups, progress towards the equality of the

sexes, the improvement of social security, systems of working and guarantees in general. In a competitive world, and in a Europe where there is free circulation of goods, it would be possible to secure some degree of progress at the Community level, but it would be impossible at any other level, because solutions could not be imposed upon the industries of any one country if they were not imposed upon the others. ■

Interview by
Alain LACROIX

THE EUROPEAN COMMUNITY'S FORTY-SIX NEW PARTNERS

The following is a list of the 46 independent countries in Africa, the Caribbean and the Pacific which have entered into the new agreement with the European Community:

1. Nineteen state hitherto associated with the Common Market until January 31, 1975 by the Yaoundé Convention: Burundi, Cameroon, Central African Republic, Chad, Congo, Dahomey, Gabon, Ivory Coast, Madagascar, Mali, Mauritania, Mauritius, Niger, Rwanda, Senegal, Somalia, Togo, Upper Volta and Zaïre.

2. Twenty-one Commonwealth States, to which the E.E.C. had offered special agreements on Great Britain's adhesion to the Common Market:

— **In Africa:** Botswana, Gambia, Ghana, Kenya, Lesotho, Malawi, Nigeria, Sierra Leone, Swaziland, Tanzania, Uganda, Zambia.

— **In the Caribbean:** Bahamas, Barbados, Guyana, Grenada, Jamaica, Trinidad and Tobago.

— **In the Pacific:** Fiji, Western Samoa, Tonga.

3. Six countries of Africa with no special relationship with the countries of the E.E.C. which had been invited to join the above-mentioned because their economies are "comparable": Ethiopia, Liberia, Sudan, Guinea, Equatorial Guinea and Guinea-Bissau.

Association Parliamentary Conference

by **Louis C.D. JOOS**

Abidjan—The parliamentarians of Europe and Africa chose the Ivory Coast capital for their last meeting, January 27-29, 1975, before the expiration of the

Yaoundé Convention (1). It is an agreeable choice. The National Assembly complex is big, fully air-conditioned, and apart from the debating chamber it provided all the facilities needed for the lobby discussions and meetings, which are just as important as the official meetings. An Ivory Coast fruit-exporting consortium had even taken advantage of the opportunity to set up a stand in the entrance hall, where participants could taste bananas, pineapples, passion fruit and other produce.

But if the parliamentarians had hoped to be the main attraction during the three days of their Abidjan meetings, they were in some sort disappointed. The capital of the Ivory Coast has become the focus of African diplomacy and culture, and there is a rapid succession of ministerial visits and congresses. The inaugural session of the parliamentary conference did indeed make front page in "Fraternité Matin", the local daily; but after this, readers' attention was caught up in visits by the French Education Minister, M. Haby and the Foreign Affairs Minister of Ghana, the international medical conference on drepanocytosis (it forgot to tell us the symptoms) and a number of other events. Holidaymakers from Germany, Switzerland and France, peacefully bathing at the Assouindé Club, were somewhat astonished by the arrival of all these gentlemen so formally dressed, while they themselves were stretched at their ease upon the sand. They had perhaps forgotten that beyond the shade of the coconut palms there were still political and other events in the world.

None of this stood in the way of serious work for the parliamentarians. Pride of place went to a report from Mr. Boolell, the Mauritius Minister for Agriculture, analysing the way the Yaoundé Association had been run during the two previous years.

At the last minute, too, and eclipsing all else, there was a discussion of the Brussels negotiation for a new and enlarged Association. This was given extra point by the presence of Dr.

(1) The parliamentary conference meets each year and comprises 114 delegates (three from each Associated country) and 57 members of the European Parliament.

The work at Abidjan was the outcome of the meetings held by the Joint Committee—the more restricted parliamentary organ—at Dinard and Mauritius in 1974 and at Abidjan on January 23-24, 1975. The retiring officers of the Joint Committee were Mr. KASONGO MUKUNDJI (Zaire) and Mr. PIERRE DESCHAMPS (Belgium: Chr. Dem.). Previous sessions of the Conference in 1964/74 were at Dakar, Rome, Abidjan, Strasbourg, Tananarive, Hamburg, Yaoundé, the Hague, Kinshasa and Rome.

Garrett FitzGerald, President in office of the Council of Ministers, and Mr. Patrick Hillery, a member of the Commission. Dr. FitzGerald spoke in French, which produced frowns among some of the British parliamentarians. He considered, he said, that the European attitude was likely to make a new agreement easier. The final concessions, determined at the last ministerial Conference in Brussels, had not yet been fully studied but, he said, they might well bring forth a solution. Amid great applause he went on to speak on personal lines, recalling that Ireland itself had had a "colonial" past, and was thus well able to understand the worries of the associate countries.

Apart from those participating in the Abidjan meeting, there were also a number of observers. These included the Ambassadors of Malawi and Ghana at Brussels, Mr. Mangwazu and Mr. Djamson, and the Tanzanian Deputy Mr. Rulégura.

Apart from the official sessions there were thus interesting conversations between them and some of the British M.P.s about the future representative assembly of the enlarged Association. It was noticeable, too, that both Mr. Mangwazu and Mr. Djamson quite freely used the words "association", "associates" and "associables", though these descriptions were rejected during the official negotiations by the A.C.P. delegations, who were becoming colleagues of the former Yaoundé Associates.

Everybody agreed on the value of the peoples of the countries being represented in the framework of the new Convention, but the form of it is still under discussion. Ghana, for example, looks to a sort of representation by socio-professional category—producers, trade unions and other groups—and perhaps even to professional committees appointed to prepare measures in which they are directly concerned. On the European side, however, the only type of representation envisaged is parliamentary. Nonetheless, President Yacé said, the Association Parliament will have to "stir up the ideas", so as to stimulate the association of yesterday and the cooperation of tomorrow.

One thing is certain. Nobody in Abidjan had any more doubts about the necessity for continued eur-african cooperation. President Houphouët-Boigny, in his opening speech, referred to it in the following terms: "Europe must understand that in helping Africa, she is helping herself. It is only the "Africa both old and young, with its immense potentialities, which is capable by frank and fundamentally broad cooperation to keep old Europe eternally young". ■

Louis C.D. JOOS

The Conference finally approved a declaration on the conclusion of the negotiation in progress between the E.E.C. and the A.C.P. These are its terms:

The Parliamentary Conference of the Association

— recalling the importance which the new Convention between the Community and the A.C.P. will have for all the peoples concerned;

— emphasising that this Convention

—operated and administered through joint institutions and covering in a single overall agreement, both the economic and commercial field and that of financial, technical and industrial cooperation—will be an example of international cooperation and an important contribution to the economic and social development of the peoples in peace, independence and freedom:

1. Formally appeals to all the contracting parties, that the negotiations be brought to a positive conclusion within the shortest possible time, thus fulfilling the unanimous hopes and expectations;

2. Instructs its President to transmit this declaration to the Council and the Commission of the European Communities, and for information to the Council of Association and other competent organs of the Associated and Associate States.

E.D.F.

Following the assent given by the E.D.F. Committee at its 95th meeting, the Commission has approved five further financing decisions for non-repayable aid from the 3rd E.D.F., amounting to U.A. 10.542 million (1)

1. Republic of Mali — *Housing estate infrastructure for young executives at Bamako-Badalagougou*: FM 1 000 million or about U.A. 1.8 m.

(1) 1 U.A. = c.\$1.20 U.S. (new parity).

This is for carrying out a 23 hectare housing scheme at Bamako, for the erection of 430 dwellings to be made available to executive workers in Mali, under a rent-and-buy scheme.

2. Upper Volta Republic — *Aid for improvement of additional stock-raising in the ORD of Banfora*: F-CFA 212 million, or about U.A. 763 000.

The project is designed to promote and improve traditional stock-raising in the south-western part of the country, by means of action affecting animal health, nutrition and improved selection. It is aimed to facilitate an increase in animal production and in the incomes of herd owners.

3. Upper Volta Republic — *Construction of the inter-State school for higher level hydraulic and rural equipment technicians (E.T.S.H.E.R.)*: F-CFA 305 million, or about U.A. 1.098 m.

This is finance for buildings and equipment for the inter-State school at Kamboinsé, near the Volta capital. The school will be regional and will train higher-level technicians in hydraulic and rural work for several French-speaking countries.

4. Malagasy Republic — *Construction of three bridges on the east coast*: F-MA 1 711 000 million, or about U.A. 6.161 million.

The project is to build three bridges on the east coast, replacing existing ferries. It aims to improve the main communications routes in the country, making them into permanent roads and providing a remedy for the isolation of the regions concerned, which are essentially agricultural.

5. Malagasy Republic — *Reconstruction of the bridge over the Fanambana*: F-MA 200 million, or about U.A. 720 000.

This intervention was made necessary by the collapse of the Fanambana bridge, built in 1967 from the resources of the 1st E.D.F. It lies on the Sambava-Vohémar road, which is at present under construction, and its collapse is a disturbance to local traffic and work on the road construction sites.

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Following the assent given by the E.D.F. Committee at its 96th meeting, the Commission has approved further financing decisions for non-repayable aid from the 3rd E.D.F., amounting to U.A. 14.759 million.

It has also authorised an advance of U.A. 5.445 million to the Democratic Somali Republic.



Republic of Chad — 1. Water supply to N'Djaména: F-CFA 2 830 000 or about U.A. 10.190 million.

This includes U.A. 1.88 million additional finance to cover the increase, both in prices and in the volume of work in progress, in respect of the first emergency aid for water supplies authorised in April 1973. The remainder is for the first phase of a bigger programme of U.A. 9.002 million projected for covering the town's water supplies up to 1990.

2. Repair and renewal of hospital buildings and equipment: F-CFA 361 million, or about U.A. 1.3 million.

This project is to improve medical services from various health posts, by the repair of damaged buildings and the renewal of the necessary medical equipment. Also envisaged is the setting up of a permanent management and maintenance service.

3. Mauritius — Formation of three pilot secondary schools: 18.161 m rupees, or about U.A. 3.269 m.

The project is concerned with the building and first equipment of three secondary schools, with a total capacity of 2 450 pupils to serve as pilot schools. The education will prepare the pupils for specific occupations in trade or industry, and will be adapted to the categories of jobs to be expected in Mauritius.

4. Democratic Somali Republic — Advance to the National Banana Office: Sh.So. 42.195 million, or about U.A. 5.445 million.

The money to be put at the disposal of the National Banana Office, will enable it to finance additional expenditure resulting from higher loan interest and conditioning costs for bananas awaiting export to Italy and the Middle East. It is for repayment at the end of three years from the time of the first payment.

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Following the finance decisions which have now been made, **the total commitments from the 3rd E.D.F. amount to U.A. 808 699 000 covering 297 decisions** since the entry into force of the Yaoundé Convention on January 1 1971. This convention having now expired, 89% of the total resources of the 3rd E.D.F. (U.A. 905 million in grants and repayable aid) is committed.

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Emergency aid of U.A. 1 470 000 to the Democratic Somali Republic.

In order to mitigate the more serious effects of the drought in Somalia, the Commission of the European Communities has approved non-repayable emergency aid of U.A. 1.47 million of which U.A. 273 000 is from the 2nd and U.A. 1 197 000 from the 3rd E.D.F.

The drought is due to a continued rainfall deficiency since 1962 in eight regions in the north of the country, where the shortfall this year is estimated as between 60 and 90%. The population directly affected is between 1.5 and 2 million, of whom 90% are nomads and semi-nomads, for whom food and water supplies and medical care are critical despite measures of assistance undertaken by the government. Already 148 000 people are lodged in 18 camps in various districts. The number increases daily by 3 or 4 000 people, who are coming from the more distant areas. The number of deaths resulting from the famine is now estimated at about 1 000, most of whom are children between 1 and 5 years of age, and adults of over 60. The drought has catastrophic effects on cattle-raising and on the pastoral areas. The loss from the herds is estimated at 40%, which is extremely serious, since 50% of exports consist of cattle. On the agricultural side proper, the deficit in maize and sorgho has increased by 45%.

In order to cover immediate food requirements the European Community's food aid policy took immediate action by supplying 12 000 tons of cereals, 350 tons of powdered milk and 500 tons of butter-oil, which is now being dispatched. The 1974-75 programme provides for similar quantities. Other aid sources, including member countries of the European Community, are participating in this action with their own food aid programmes.

The emergency operation for the more pressing requirements provides for:

— direct aid to stricken populations by the local purchase of items of first necessity, other than those supplied by way of food aid. Setting up and running camps.

— supply and distribution of medical items and special products for children;

— re-making tracks and urgent hydraulic work to facilitate the arrival of the aid and water supplies to the population.

This aid is given under Article 39 of Protocol No. 5 annexed to the first Yaoundé Convention, and Article 20 of the second Yaoundé Convention. It was approved by the E.D.F. Committee on January 30 1975. It is additional to the U.A. 240 000 made available on December 27, 1974 from the budget of the Commission for the Somali population affected by the drought. ■

Two loans to Zaïre

The Commission of the European Communities, and the European Investment Bank as mandatory for the E.E.C. for the administration of the loan, have contracted with the Republic of Zaïre for a loan on special terms of U.A. 5 803 000 as counter-value of about 3.5 million zaïres.

The loan is for financing extensions to the primary water distribution in the city of Kinshasa.

Since 1969 the Zaïre authorities have put work in hand, mainly to increase the production capacity by doubling the station at Ngaliema on the river Zaïre and setting up a new one on its tributary river Ndjili. The capacity made available should cover requirements up to 1980.

The project involves more than 28 km of conduits and a storage reservoir of 12 000 cubic metres. This will enable the primary system to be reconstructed and the distribution requirements covered until the nineties.

This loan on special terms is being made from the resources of the 3rd European Development Fund for a period of 40 years, with repayment subject to a grace period of five years. It will bear interest at the rate of 1% per annum.

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The European Investment Bank has made a loan of U.A. 16.6 million (10 million zaïres) to the Zaïre State-owned company La "Générale des Carrières et des Mines" (GECAMINES). It will contribute towards financing the mining and industrial equipment specified in the company's second five-year extension plan covering the years 1975-1979. GECAMINES mines big copper seams in the Shaba region; and it has already (1971) had a loan of U.A. 16 million from the E.I.B. to finance investments carried out under the first five-year extension plan (1970-1974).

The project for which the new loan is earmarked provides for an annual increase in the company's copper production, raising it from 470 000 to 590 000 tons, and the output of cobalt from 16 000 to 20 000 tons. It will have very important effects for Zaïre in terms of value added, fiscal receipts and net earning in foreign currencies. It will also lead to the creation of 2 200 new jobs.

The total cost of the project is estimated at U.A. 381.5 million (Z 230.1 m). Also helping in the finance for the project are the World Bank and the Libyan Arab Foreign Bank. ■

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Claude CHEYSSON: Economic perspectives

E.E.C. Development Commissioner Claude Cheysson spelt out the future of a "new economic order" in January, in a sweeping look at relations between rich and poor countries.

Speaking at the Second International Seminar for Economic Journalists in New Delhi, M. Cheysson described how he felt the international economic crisis could provide new impetus for Third World development and new thinking on long-term economic stabilisation.

The commissioner re-emphasised the gravity of the economic situation both in developed and developing countries. Isolationist tendencies had to be overcome, he said. The situation for many developing countries was "extremely precarious, and will remain so as long as we have the present balance in the world commodity markets, as long as these countries are suppliers of the economic growth in the world and not partners in this world's growth".

The crisis had left the developing countries in very different situations. "For the most seriously affected countries it is the financial facilities that are most needed. For those who depend almost entirely on exports of one or two commodities, the need is for stabilisation of their revenue, of the returns for their exports. For those that now have every chance to develop, it is a conjunction of technical, industrial and scientific cooperation. For all of them, it is access to markets, which will result in better development of their trading capability.

"Between the developing countries struck by the crisis a number of political and psychological elements have also appeared. For some it is fear, fear of collapse, fear of chaos with everything that it may mean in political terms. For almost all of them, it is a contention of the established order which should result in progress because it is going to be a driving force throughout the world... There is also among the developing countries this feeling that 'sticking together' gives you additional strength".

Despite the disappointing reactions of the U.S.A. and the Socialist countries to the U.N. Emergency Operation for the worst-affected countries, the fund had given them a breathing-space. Now their new financial problems would have to be faced. "This will not be covered through a fund, but through the reorganisation

and redistribution of financial flows throughout the world and a very substantial increase in those flows. According to the World Bank, Official Development Assistance should grow from 10 billion dollars—its 1973 level—to 20 billion in 1980 so as to achieve an average growth of 0.8%, which is unacceptable as it means a decrease in G.N.P. for a number of countries. O.D.A. should grow to at least 25 billion dollars within the next five years to guarantee a 2% average growth for the developing countries. At the same time, the borrowing capacity of these countries should be increased from nine to 24 billion dollars."

Four-fifths of financial aid should go to the worst-affected countries, M. Cheysson said. The oil countries' efforts were encouraging.

Turning to world food reserves and commodity agreements, he said planning was essential in both cases. "We are now entering a 10-year period which will be a period of raw materials and commodities, of organisation of world markets." The Commissioner outlined Community approaches on commodities: the stabilisation of export receipts, the sliding-scale sugar price mechanism and possible long-term agreements on agricultural products.

The most crucial issue would be safeguarding and increasing the developing countries' import capacities. The increase could come from better export returns, notably by giving developing countries as free an access as possible to industrialised countries' markets. "There it has been the consistent Community policy to enter into a so-called General System of Preferences, which was started a few years ago. Our G.S.P. now covers very substantial figures: the maximum that could be introduced duty-free into the Common Market almost reaches now three billion dollars per annum. It is an inducement to industrialisation as it bears mostly on industrialised and processed products. We want to make it a permanent system although it was adopted on a temporary basis. Much will depend, of course, on what the other industrial countries will do".

Financial and commercial agreements of this order, M. Cheysson stressed, would depend largely on the initiative of private and national companies rather than on governments. "Consequently, we will have to work more closely than in the past with our companies, our bankers, the economists who know about business, the financial writers. All this of course should be accompanied by an access to the technology developed by the industrialised countries".

The Community did not believe development aid should merely be financial; its policy was one of "partnership", the Commissioner said. "Through contractual agreements we can enter into a compre-

hensive system of aid to development, combining... financial assistance, possibly food supplies, technical assistance, trade promotion, access to the market, guarantee of export returns and institutional facilities." Development aid should be closely integrated with the internal policies of the industrial countries.

M. Cheysson described the Community's approach as "a grand design, a vision of cooperation, not confrontation". Europe had a direct responsibility for development "not only on moral grounds, but because the whole economic balance is at stake". ■

SENEGAL The International Fair: 42 countries exhibit at Dakar

The first International Fair of Dakar was held from November 28 to December 15, 1974. From the standpoint of foreign exhibitors, it was a great success. According to spokesmen of SOFIDAK (the Dakar International Fair Company) all the 23 000 sq.m. of stand space was let to exhibitors from 42 countries, the West African Economic Community, the E.E.C. and COLEAMMA (Liaison Committee of the Associated African States, Madagascar and Mauritius). The biggest participation (after that of Senegal itself) was that of France, covering 2 500 sq.m., the theme of which was "Mastering Africa's Water Problem".

Secondly came China (1 500 sq.m.), followed by Zaire (1 000 sq.m.), Rumania (650 sq.m.), Brazil, Morocco and the United States (600 sq.m. each) and Algeria and U.S.S.R. (500 sq.m. each).

During the Fair there were a number of special events. These included:

29 November to 5 December: Meeting of producers and distributors of electric power in the African countries, Madagascar and Mauritius.

12, 13 and 14 December: First investors' forum, attended by African promoters and business men and bankers interested in the African investment potential.

Those in charge of SOFIDAK regard the first fair as having been a successful experiment. They were very satisfied at having secured the interest of exhibitors from so many countries.

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Léopold Sedar Senghor, President of Senegal, visits the European Community stand at the first International Fair at Dakar. He is being shown round by Mr. Fuscini, Head of the Exhibitions Division of the E.E.C. (Brussels).

It is their intention to organise next May, in the Dakar Fair buildings, the first African exhibition of agricultural and industrial equipment ("Eur-Africa Machines") May 16-22, 1975; and on February 2-8, 1976, the first exhibition of educational material (radio, T.V. etc.).

At Dakar great store is set upon the attraction of the National Trade Centre, and the Congress Palace, both of which are being built in the enclave of the Fair, and should be finished by the spring of 1975. If these hopes are realised, the F-CFA 7 000 million (FF 140 m) spent on the Fair complex (including the Trade Centre and the Congress Palace) should be quickly recovered.

THE INVESTORS' FORUM

One of the most important events in the first Dakar Fair, fully reflecting its claim to be an international trade fair, was the Investors' Forum on December 12-14.

It was intended for industrialists in foreign countries or in Senegal itself, looking for an outlet for their capital and to bring their projects to fulfilment under good conditions, both from the financial standpoint and from that of trained or untrained manpower, which Senegal possesses in abundance.

About 150 potential investors, most of them from the E.E.C. and the A.A.S.M., representatives from international bodies such as the E.D.F. and commercial attachés from a number of embassies took an active part in the forum.

In addition, the last day of the forum included a discussion meeting aimed to

bring before the wider European public the big projects in hand in Senegal, and the conditions in which they will be carried out. Taking an active part in this were the newspapers of the Europa Group—"Le Monde", "la Stampa", "Die Welt" and "The Times".

In an opening speech, M. Babacar Ba, Senegalese Minister for Finance and Economic Affairs, said that "What the Africans expect from the forum is both technical support and financial commitments connected with the projects discussed, by a focussing of the discussions on specific projects already worked out and soon to become operational".

The project attracting most attention from investors during the forum was the plan for an "industrial free zone" at Dakar. This is to cover an area of some 700 hectares and should attract big firms using local manpower and angled either on the export trades or on service companies.

The free zone should provide investors with another tool, over and above the extremely generous Senegal investment code for setting up industries with external outlets (such as textiles, footwear, domestic electrical goods, toys and light machinery) for export primarily to the countries of the West African Community, secondly to the E.E.C. and thirdly to all other countries. Specially attractive features are the freedom of transfer from the free zone, a substantial measure of tax exemption and cheap manpower. These factors should interest European industrialists, who in some cases are facing not only the current economic crisis but also a state of social crisis

reflected in a almost chronic wave of strikes.

Now that a first instalment of F-CFA 700 million has been secured for financing the laying out of the free zone, the work should start early in 1975. Some investors are already impatiently awaiting the opportunity to go ahead with their plans. ■

European Parliament

There were unanimous congratulations for Commissioner Claude Cheysson at the meeting on February 4, 1975 of the Standing Committee on Development and Cooperation, where he was able to announce the results of the final negotiation between the E.E.C. and the A.C.P. at ministerial level.

Nearly all Committee members, under the chairmanship of Mlle Colette Flesch (Lux. Lib.), spoke during the meeting, asking for more details on various aspects of the agreement; and every one of them expressed satisfaction at the effort undertaken and the results obtained after a negotiation which had been long and difficult. It will next be the turn of the President in office of the Council of Ministers, Dr. Garret FitzGerald, to meet the members of the competent committees (the Luns procedure) and tell them officially of the content of these commitments. The meeting will take place at Strasbourg on February 19, and will be followed by a public debate at the March session of the European Parliament.

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M. Renato Sandri (It. Comm.) gave his colleagues an outline of the report he is to make to the 11th session of the E.E.C.-A.A.S.M. parliamentary conference. The Eur-African Parliament, as reported elsewhere in this issue, held a meeting at the end of January at Abidjan. The rapporteur emphasised the success of this meeting, speaking specially of the confident atmosphere, the positive content of the debates and the unanimous agreement on solutions put forward for a happy outcome to the E.E.C.-A.C.P. negotiation. He also noted the presence of three observers from English-speaking A.C.P.—Ghana, Malawi, and Tanzania. The observer from Ghana, indeed, made a speech to the Conference to indicate his interest and satisfaction at the joint work done by the parliamentarians in Europe, Africa, Madagascar and Mauritius.

The report of M. Sandri is scheduled for submission to the European Parliament at its meeting next March.

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M. Giovanni Bersani (It. Chr.-Dem.) gave a first outline of his report on the General Community policy of cooperation. This document is the product of more than a year's work by a special sub-committee chaired by Mr. Ernest Glinne (Bel. Soc.). ■

Port problems

by Dr. Hermann ACKERMANN

On the long road merchandise must follow between the producer and the consumer, there are usually two seaports. These are specially important because they are often—in the case of inter-continental traffic, almost always—the only two obligatory points through which the goods have got to pass whatever use is being made of the great international transport network.

Though there are some who think otherwise, the ports of Africa, and the Third World in general, are an integral part of the great transport chains; and if they are to function effectively, they must have the same capacity and the same rate of working as their counterparts at the other end of a system so manifold and diverse.

Our policy has to be based on this principle, and it is this which makes it so urgent to give help to the countries of the Third World. Problems of much complexity may arise and a brief survey may help to illustrate the requirements of a policy covering matters of importance to every country in the world.

Rationalisation and the size of modern ships ⁽¹⁾

Nowadays the general development of the world's ports is closely linked with the existence of the new generation of ships, the size of which nobody could have reasonably foreseen a little while ago.

The efforts the ports have made to deal with the new requirements only go to show the limits of possible adaptation, whether technical or economic and financial. These limits are especially apparent when it comes to improving the maritime access to ports. This is a special problem and may be more important, not only than the capacity of the port itself, but also as affecting the accessibility of entire economic regions served by a single port.

A second problem lies in the need for rationalising the carriage of goods of all kinds, which forces the ports to deal with systems of combined transport or containerised transport.



Docker loading groundnuts at Dakar (Senegal).

Very often this calls for material changes in the structure of existing ports. Big new areas have to be laid out, new handling equipment has to be provided and the operating system of the ports comes in for adaptation.

These necessities add social and environmental problems to the technical and financial ones. This does not make it any easier to find new industries to use the ports concerned.

These factors have led to a new tendency for the ports to be moved to deep-water sites, partly to mitigate the cost of improving the maritime access and partly to modernise the infrastructure on shore and provide for the development of new industries.

(1) Editor's subtitles.



The move into deep-water sites requires the provision of berthing facilities on the coast, or on artificial off-shore islands created for the purpose.

The extension or construction of coastal or island ports, coupled with adaptation to the new generation of ships, has materially affected the scale of the problems to be dealt with, both on the technical and on the functional and economic side.

New methods for the engineer

The preparation of a port project of this type, calls on the engineer for the use of new organisation and integration methods in the treatment of information of all kinds.

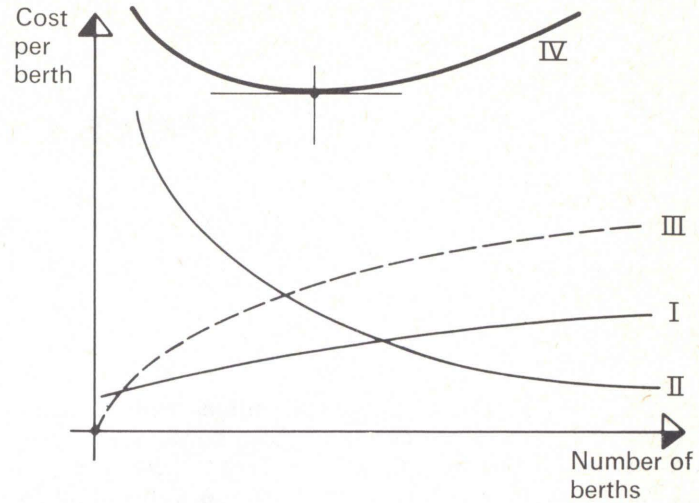
Information of an overall character, whether static or simplified, is not likely to be enough because of the risk that it might yield only imperfect data regarding the best possible economic utilisation of a project in its different phases.

On the other hand the **integrated method of dynamic optimisation**, based on the systematic research into the fundamental elements, makes it possible to determine the best possible relationships in a logical and functional programme between the different interests at all levels of utilisation and applicable at all times.

The accompanying graph (fig. 1) is a diagrammatical presentation of the conflict of interest between port users and port administrations.

The graph shows that:

- the port administrations normally seek to keep the investment costs (curve III) as low as possible; whereas,
- shipping companies, forwarding agents and other users want the greatest possible number of berths for their ships, so as to have a quick turn-round and reduce the time spent



- I = Trans-shipment and handling costs
- II = Demurrage costs
- III = Cost of investment finance
- IV = Total

Figure 1: Port costs and ship costs per berth

alongside (curve II) and provision of a big shore infrastructure so that they can keep their handling charges low (curve I)

Thus, in order to define the optimum arrangement it is usually necessary to set out objectively a number of possible solutions and not simply a statement of the different interests.

True though it is that the main job of a port is the same as it has been for the last 3 000 years, it would be futile to suggest that objective work on the subject avoid paying special attention to modern technicalities. There is no error harder to recover than in the technical planning.

Port at Pointe-Noire (Congo), general view.



Need for strict technical planning

Good technical planning does not necessarily call for long and costly surveys, often useless, made in all-found offices, perhaps in Europe. What it needs is basic observation and research on the spot, backed up by the relevant experience.

In the case of ports and other coastal works, very great importance attaches to knowledge of maximum values on the water level, such as the ground swell amplitude and the tides. To determine heights above water level, the indispensable knowledge includes strength, direction and duration of the winds and the extent to which they are localised, for this has effects which are additional to the ground swell and the tides. In general, these are the three essential factors in deciding the dimensions of the job defined in the project.

There is not much difficulty about determining the different tidal values; but it is much harder to determine the data about the swell, the movement of which towards the coast depends on the various directions of wind. It has to be recognised that the values made available from the water-level gauges are usually statistically inadequate. Additional observation and energy computation are quite indispensable. In coastal waters, because of the decrease in the depth, there is transformation of the swell wave values which somewhat simplifies the spectrum.

Another set of problems needing to be studied with special attention are those connected with the refraction and diffraction of the crests of the waves.

When plans have been drawn up for a system of port or coast protection, one of the more essential phenomena in deciding the required dimensions is that of the "unfurling" or breaking of the waves. This is partly because of its geomorphic effect and partly because of the almost total removal of the energy spectrum of the swell at the moment of the unfurling.

Any maritime construction should, so far as possible, fit in with the existing natural balance and avoid unexpected interferences. For this reason it is important to know about the coastal currents and the carriage of solid matter connected with them.

There must also be a topographical survey of the ground and a geo-technical survey of the soil, so as to define the method of construction, the maintenance requirements and the possibility of future improvements and extensions in the port installations.

This makes it possible to save 80% of the cost of using conventional methods for dredging and maintaining an access channel. The method is known as "hydraulic harrowing" and consists simply of using the energy made available by the current to carry away particles which are artificially set in motion.

It is worth mentioning, too, that climate and weather conditions have a direct influence on navigation, on port operation and the storage of merchandise.

Determining the loading and discharge capacity

The factors which determine a port's loading and discharge capacity at each stage depend partly on the volume of traffic and partly on the system of operations. There is usually no special problem about measuring the fundamental values of the operation itself. On the other hand, the growth in the traffic handled, and the different merchandise categories, call for considerable research surveys to arrive at estimates or measurements, and these must be based on a sound knowledge of the economic structure of the port hinterland.

For the optimisation calculations it is necessary to be able to determine precisely, for any operating circumstances, the probability and duration of a resulting waiting period.

This calculation requires exact knowledge of all the traffic data, in order to determine its intensity and all the functional data for determining the loading and unloading capacities.

These data are a function of the different types of ship and their technical characteristics, the number and frequency of ship movements, the total time spent in port and the net duration of the loading and unloading operations.

All these traffic and operating elements finally make it possible to calculate how many berths will be needed in function of the waiting time, the intensity of traffic and the capacity of the quayside services.

With these results it is possible to arrive at the **master plan for full development**, both on the construction side and the operational.

Such a plan is also a technical document of legal validity providing all the information needed to understand and justify the different technical phases, the functioning, operation, equipment and employment.

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We have seen above that port development throughout the world is at present characterised by the need for adapting port facilities to the requirements of new generations of ships.

We know that the rapid development in ship-building was triggered by the need for rationalisation, with which we are concerned throughout the transport chain.

It is this same idea which brings us on to the problems which seaports may expect to have to face before long.

A glance at the future: containerisation

When we speak of transport rationalisation, we must be very careful to keep our ideas in order, and accept a habit of thought by which we consider systematically all the problems and peculiarities in the full chain of combined transport.

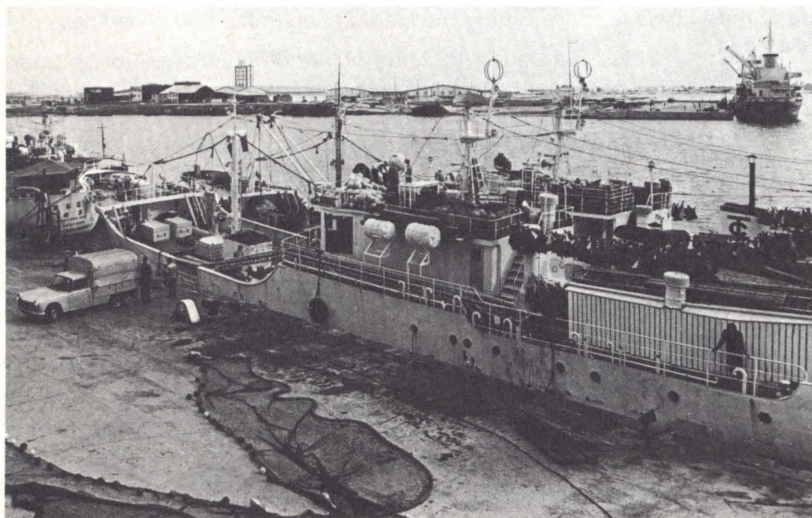
We should be committing a fundamental error if we were to attempt to describe the future of containerised transport as a projection from the position as it is today. Though some ports and some carriers have secured a considerable advance in this field, it must be stated definitely that this form of combined transport is still at its beginnings, whether technically, organisa-

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tionally or with regard to the flow of information. The use of the container is still comparatively limited because its advantages are not fully recognised and many of the old habits and traditions stand in the way of its general acceptance.

This phenomenon is not peculiar to transport, but stems more generally from vanities and ambitions. It may be supposed that we shall continue playing about with the new system for many years, until the time when we are fully committed and will have to reorganise our system rationally and in depth.

Despite all this **the future of goods transport belongs to the combined or containerised system.** The container will not bring its maximum rationalisation effect until it has reached its full technical development; and by then it will be having an influence not only on some of our methods of production but also on our techniques of market analyses. By this time useless load-breaking will have been eliminated from the system, long



The tunny quay in the fishing port at Abidjan (Ivory Coast).

waiting periods in the container parks at the ports or railway stations will have been cut to a minimum, and the container will be integrated into the distribution system.

Our progress in this will largely depend on better cooperation between successive members in the transport chain. The interest of these members are very varied, in some cases quite opposed to one another, and it will be necessary to find a better independent form of organisation, capable of coordinating the arrangements which have to be made and supervising the flow of information.

Reverting to the problems of the ports, there is a very clear distinction between those which lie on routes where there is already a large volume of containerised traffic and those which are still on the side. The former are in some measure technically ahead; but the latter, often influenced by powerful shipping companies, have laid out considerable sums without yet integrating their problem into the system as a whole. This lack of uniformity in the rate of adaptation may well be a hindrance at first, and could be damaging, especially to developing countries.

In the long term, however, the problem will come up on a very different level, and it will be quite easy for ports to make good their present backwardness.

Moreover, the development of ship-building is far from finished. Apart from goods which are transported in bulk and in sufficient quantities, the shipment of merchandise will ultimately be almost wholly by container.

There will be **two systems of loading and unloading.** These will be the quayside operation and the "fender service", using barges to fetch and carry the containers to and from the ship.

There may even be a continuation of one of today's tendencies, which will result in there being at least **two distinct sections in each port.** These will be: an external part for the ships of big draft; and an internal part for ships of normal draft and barges.

The external ports will have no container parks and no equipment for loading or discharge.

The internal ports will have container parks without warehouse sheds, and their equipment and material will be very advanced.

The quayside berthing will either be in deeper water than at present, or will be less deep but fit to receive barges.

These forecasts should help towards laying down a port policy which will not only be fully in line with what is needed in the chain of combined transport but will also facilitate the easy conversion of a conventional seaport into a really up-to-date one.

Seaport organisation is part of a system of integrated transport, and is thus a specially good opportunity for new forms of cooperation with the countries of the Third World, based on equal participation and perhaps even joint operation.

In such a situation the first thing is to discard outworn traditions and replace them by a new style of management, marked, essentially, by a better allocation of responsibilities.

When the working parties are set up it would be a good plan to make a liberal allowance for what can be done by the existing services in the countries concerned, and round them off in such a way as to mitigate some of the failures of integration in preparing and carrying out projects. The potential in question, seen from other sides, always represents the best national unity which could exist, and which naturally contains the best specific knowledge conditioned by the geographical situation.

For the European partner it is desirable to **maintain and improve the present system** of technical working parties, which is well-regarded in the developing countries.

The present and coming phases in the development of seaports sets up a great number of integration problems. For all concerned the best solution of these requires a new form of close cooperation based on genuine participation on equal terms. ■

H. ACKERMANN

Navigable waterways

The Congo-Ubangui-Sangha basin

Navigable waterways rank high among the various possible means of communication because they provide the cheapest way of carrying goods across continents.

Despite this, there has not as yet been any systematic improvement campaign for the possible navigable waterways of Africa. It is to be hoped that the world energy crisis will contribute to a change of attitude in the transport sector, which would be very welcome in present conditions.

The navigable waterways in the Congo-Ubangui-Sangha basin, as they exist at the present time, are an outstanding exception. They are functionally well organised and both the waterways and the material are well maintained.

The routes include a whole network of navigable rivers and streams, with a total length of 4 975 km serving the northern part of the Peoples' Republic of the Congo, the Central African Republic and the south-east of the Federal Republic of Cameroon.

(1) An article in No. 28 (Nov.-Dec. 1974) of Association News ("The Courier") goes into this question and recalls the aid contributed by the 1st, 2nd and 3rd EDF for the improvement of this route.

This important system of communications is part of the trans-equatorial route (1), the main axis of which—Pointe-Noire, Brazzaville, Bangui, N'Djamena (formerly Fort Lamy)—is 2 900 km in length, consisting of:

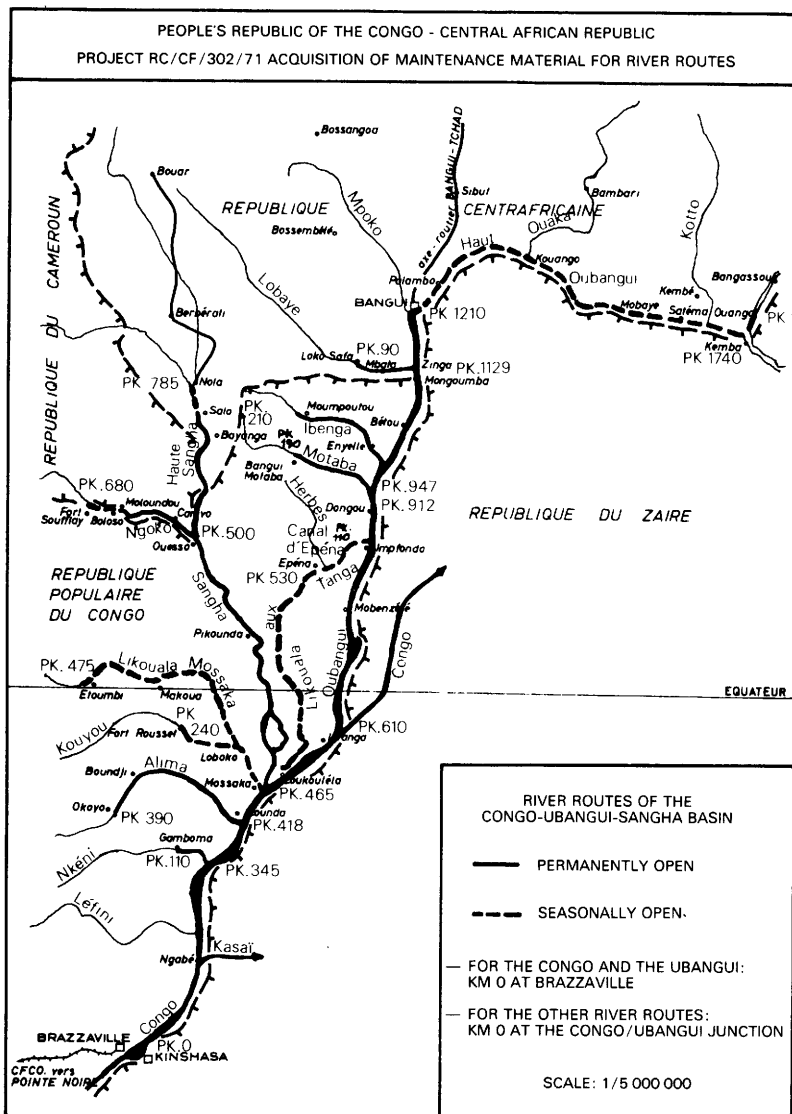
- 515 km of railway between Pointe Noire and Brazzaville, since the rapids in the river Congo below Brazzaville preclude any waterway communication between the coast and the internal waterway network;
- 1 200 km of navigable river between Brazzaville and Bangui;
- 1 185 km of road between Bangui and N'Djamena.

A systematic rationalisation of operating measures over the whole transport chain made it possible to move 3.15 m tons of traffic in 1970. In the same period the river traffic in the Congo-Ubangui-Sangha basin amounted to 438 000 tons. The traffic forecasts put the 1975 figure at 1 600 000 tons.

The two organisations in charge of transport and waterway maintenance are the A.T.C. (Agence Transcongolaise des Communications) and the A.C.C.F. (Agence Centrafricaine des

E.D.F. tugs on the Ubangui river.





The river ports and landing stages rank as part of the navigable waterways. There are six of them in the Peoples' Republic of the Congo and five in the Central African Republic.

The importance of the port of Brazzaville is in its location, at the junction of the Congo-Ocean Railway and the navigable stretches of the Congo, Ubangui and Sangha rivers. In view of the traffic prospects, especially for timber shipments, the port is undergoing changes. The port area is on the eastern side of the town and is made up of two separate parts:

- the public port area covering 55 ha, which has 1 100 m of quay;
- the port for round timber, which covers 22 ha and has 225 m of quay.

In 1970, the total traffic in the port of Brazzaville was 438 000 tons of merchandise and 15 000 passengers. The main items were:

- exports: timber (65%), cotton (25%), other items (10%);
- imports: oil (35%), cement (20%), sugar (15%) and miscellaneous (30%).

The port of Ouessou lies 965 km up-stream from Brazzaville on the right bank of the Sangha. It is destined to play an important part in the economic development of the northern Congo and as a port of call for the river traffic coming down from the Central African Republic and Cameroon. It has 62 m of quay.

The ports in the Congo Basin are the starting points for economic development in a region which is mainly agricultural. The ports are:

- Makona (30 m of quay),
- Boundji (30 m of quay),
- Fort Rousset (50 m of quay).
- Mossaka (100 m of quay and an oil wharf).

Communications Fluviales). Their transport equipment in 1970 consisted of:

- 64 motorised units with a total power rating of 16 850 h.p.
- 158 tow units with a load capacity of 43 900 tons.

With an average distance of 1 200 km these units provide a total annual transport capacity of 465 000 tons.

On the maintenance side the two agencies have 11 squads for the buoy-setting, weed removal, dredging and re-floating work and for hydrographic studies and miscellaneous obligations. They have substantial equipment, repair and maintenance shops and housing is provided.

With the steady increase in the traffic, the A.T.C./A.C.C.F. waterway divisions will have to obtain a gradual increase in the carrying fleet and improve navigability.

In the Central African Republic the principal port is at **Bangui**, where there are 300 m of quay. The usefulness of **Zingha** at the confluence of the Lobaye is mainly for transshipment from the small barges which bring produce from the Lobaye to be carried in the Brazzaville-bound convoys on the Ubangui.

The ports at **Salo** and **Nola** on the Upper Sangha are essentially for the handling of timber.

On the Upper Ubangui there is a landing stage at **Mobaye**, but it has very little equipment, and is used primarily for loading the regions agricultural produce.

The maintenance and renewal of the river-craft is undertaken in the A.T.C. shipyards at Brazzaville and the A.C.C.F. yards at Bangui. ■

H. ACKERMANN

A CROSS-SECTION OF E.D.F. PROJECTS

SENEGAL 1960-1974

Improving the road system

The aid from the European Community to transport and communications in Senegal has been concentrated mainly on the roads. Nearly 90% of the finance provided for economic infrastructure from the 1st, 2nd and 3rd E.D.F. was earmarked for roadworks.

The road system bulks large in Senegal's development plans, and this is likely to continue. This applies particularly to the roads serving agricultural areas, those aimed at ending the isolation of specific areas and those which will play their part in the country's tourist development.

Senegal had to deal with two requirements which are common to developing countries in tropical Africa—keeping the existing road system in good condition at a cost within the scope of the national budget, and giving the country a system of roads which could be used at all times of year.

The aid given by the European Community has to be considered in the light of these objectives. There is a close link between the road projects financed by the E.D.F. and the projects to increase production. In a number of the projects (river region and eastern Senegal) one of the objectives is to do away with the isolation of distant areas. The requirement in many cases, too, was low-cost maintenance and the all-seasons viability of the road links, as in the case of the Casamance.

River Region

In this region the Community aid was provided for road-making under two projects, both of which were aimed at the economic integration of the region by the arterial road Saint Louis-Matam. It is around this road that the big rice-growing areas are to be found in the delta, at Richard Toll and Nianga. From the 1st E.D.F. the Community financed the section from St. Louis to Richard Toll (103 km) with the Rosso branch extending to the Mauritanian frontier. This road was completed in 1965 and the utilisation analysis showed a fall in transport tariffs of about 33%.

The section from Richard Toll to N'Dioum was financed from the Senegalese budget and the 195 km section from N'Dioum to Matam was carried out by the Community from the 2nd E.D.F. and completed in 1972.

The river region now has an all-season asphalt road all the way from St. Louis to Matam, replacing the older earth tracks, some of which were quite impracticable in the rainy season and the overloading of which made the maintenance very costly. The E.D.F. finance amounted to over F-CFA 2 100 million.

Eastern Senegal

This region is served by the central Dakar-Tambacounda highway and the Community contributed to the surfacing work on the section between N'Gatch and Birkelane. After this the road divides into two branches, one of which goes to Kidira and into Mali, supplementing the railway and serving the northern part of the region. The other runs to Kédougou and Guinea, serving the southern part and the Niokolo Koba National Park.

From the 1st E.D.F. the Community financed the 65 km connexion between Bakel and Kidira, which took the form of an all-season asphalt road making it possible for the Bakel region to trade with the rest of Senegal.

In June 1974 a further decision committed the Community for a further F-CFA 1 680 million to extend the Dakar-Tambacounda road to Kédougou. The work will consist of converting the Tambacounda-Dialakoto section (65 km) into an asphalt road and building a bridge of 190 m at Mako to provide an all-season crossing of the river Gambia. By 1976 this road, apart from its usefulness for trade and agricultural development, will be an important factor for the tourist traffic in the region around the Niokolo Koba National Park.

Casamance

There are three reasons underlying the importance of the Casamance to the economy of Senegal. It is contributing on a growing scale to the country's agricultural production, particularly with rice, cotton and bananas; it has a considerable potential for non-nomadic stock-raising, which is being considered; and it has an equally big potential for the tourist trade, the development of which has already begun, especially at Cape Skirring. In the 3rd and 4th Senegal development plans a high priority was assigned to the infrastructure development of this region. This was connected with production projects covering the improvement of communications between Ziguinchor and the interior, the laying out of airports at Ziguinchor and Cape Skirring and improvements in the Casamance river.

The essential contribution by the Community was for road improvements to a total of over F-CFA 7 000 million. The funds came from each of the first three European Development Funds.

The E.D.F. intervention followed the line of the general economic development of the region. In the first instance it covered, between 1962 and 1967, the construction of 123 km

→

of asphalt roads and 454 km of earth roads. This was followed in 1968 by the building of bridges at Baïla and Diouloulou on the Dakar-Banjul-Ziguinchor road and the surfacing of the 200 km stretch between Ziguinchor and Kolda, which was completed in 1974. The next stage was the approval in January 1974 of the projected building of two bridges, 640 m and 180 m in length across the Casamance at Ziguinchor.

Access to the Casamance coastal area

The Casamance region has a population of about 617 000, and its economic activity had hitherto been entirely agricultural. Its climate and its soil made it the "garden of Senegal" and the farm yields were high. The average annual production is 100 000 tons of millet and sorgho, 90 000 tons of groundnuts, 75 000 tons of rice, 30 000 tons of mangoes and 20 000 tons of maize. To this was added a yield of about 10 000 tons each year from the fisheries. Its industrial work consisted mainly of the primary processing of farm produce, such as the extraction of oil, cotton ginning and fish processing.

A start was made recently on developing the tourist potential of the Casamance coastal region around Ziguinchor and Cape Skirring. For this a target was set of 1 400 hotel beds by 1978. Unfortunately the development of the region, especially in the

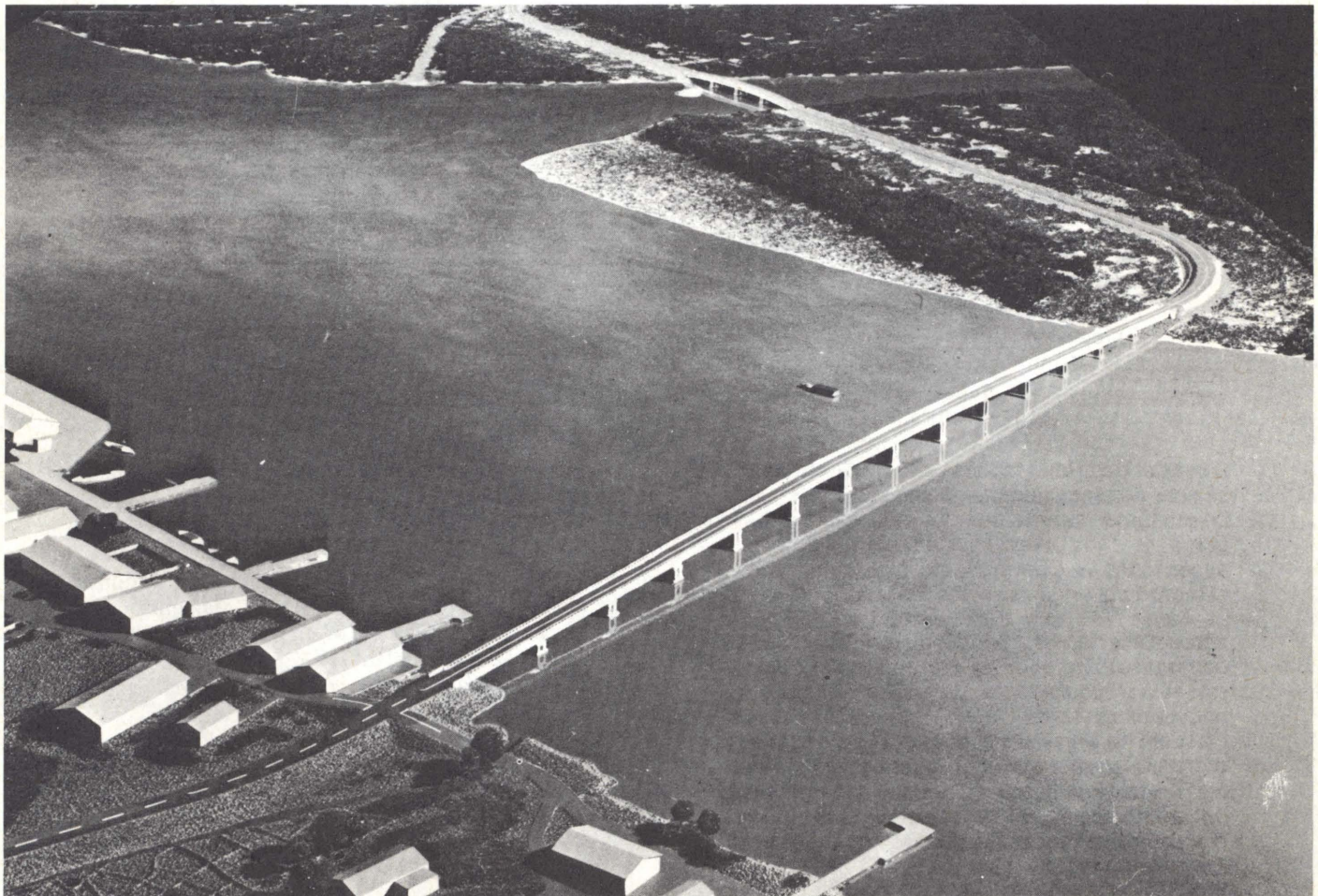
Casamance coastal area, was held up by the lack of an all-season link with Dakar, by the trans-Gambia road. The ferry between Banjul in Gambia and Ziguinchor in Casamance is a crucial bottleneck.

In 1972 the European Community financed a survey for a suitable replacement of the present Ziguinchor ferry-boat, which has been in service since 1960. The survey ruled out of consideration any solution based on a new ferry-boat, a pontoon bridge or a normal bridge with one traffic lane. It preferred the construction of a 2-lane bridge as being more economic in operation and for maintenance purposes. The value of this solution lies in the fact that it puts an end to the isolation of southern Casamance from the rest of Senegal.

The Ziguinchor bridge will be 640 m in span, crossing the Casamance up-stream from the port, thus leaving an area free for ship movements. It will be completed by another bridge, 180 m in span, at the confluence of the Tobor. The access roads to these bridges will link with the Ziguinchor-Kolda road, which serves the interior of the Casamance region and the surfacing of which was financed from the 3rd E.D.F.

This scheme is an important contribution not only to the agricultural and tourist development of the region but also to the completion of the inter-African road between Dakar and Lagos. ■

The economic development of the Casamance, a farming area supplying the industries of Senegal, called for a smooth link with Dakar and the rest of Senegal. More than 6 000 heavy road trucks cross the river each year in a 50-ton ferry-boat; but the two bridges, the model of which is shown in the picture, will give road carriers an easy all-weather passage. Construction is to begin in 1975.



TOGO

The international highways

by Hans CARLE

The present frontiers of the Togo Republic, like those of most African countries, are the product of European conquests in the last quarter of the 19th century and the rivalries thus set up between the colonising powers. The territory of Togo, which covers an area of 56 600 sq.km, is in the form of a north-south corridor, narrow but long and stretching inland. There is only 50 km of seabord and the maximum breadth of the country between Ghana and the Dahomey frontiers is not more than 140 km. Between north and south, however, the greatest distance as the crow flies is 550 km, and by road it is 690 km.

Necessity for a north-south road

The very shape of Togo requires a north-south means of communication if the different regions of the country are to be consolidated as part of the same nation. Apart from the peculiarities of the country's shape, it is well placed for international trade and especially the transit trade, by reason of its opening on the Atlantic and its location in the very heart of a dynamically progressive region. Thus, the extension of the geographical axis beyond the northern frontier provides a seaward outlet for Upper Volta; and the existence of transversal east-west communications helps to promote the movement of people and products inside Togo itself, and between Togo and the other countries on the Gulf of Bénin. The articulation of the transport system upon a north-south road axis thus follows naturally from the shape of the territory and the geographical position of Togo on the West African map.

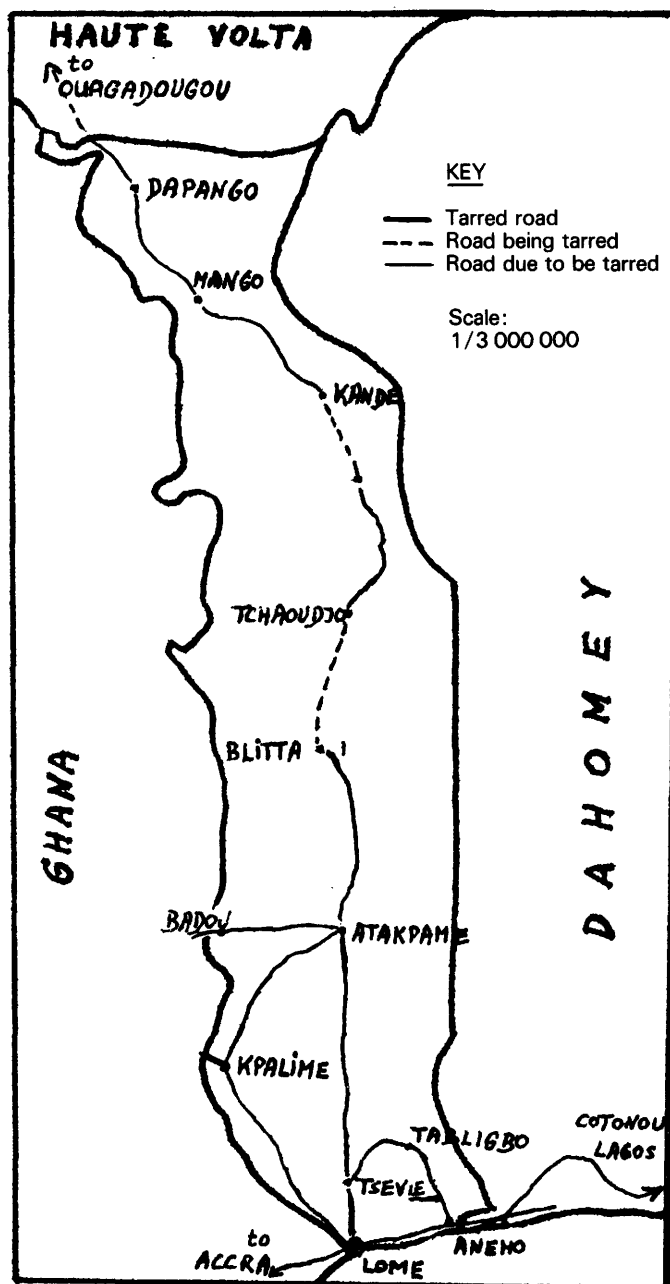
The creation of this system began in the early years of the present century, the first action being the building of three railway lines converging on Lomé (1).

The capital had thus become the turntable for trade between the urbanised areas. At a later stage the accent was put on road-building and since 1951 the more important investments have been channelled in this direction.

The first asphalt road was the 50 km coast road between Aflao on the present Ghana frontier and Hillakondji on the Dahomey border, which was brought into operation in 1953. It was designed for an average traffic of 120 vehicles per day at a basic speed of 60 kmph and a maximum load of 6 tons per axle. It was originally surfaced over a width of 5.40 m.

When Togo became independent it had a road system of about 4 500 km, including about 130 km of asphalt road in the maritime area. Of the 4 400 km of earth road, 1 100 km provided links between different urban centres and 3 300 km served villages.

The Togo government gave priority to building an up-to-date road system around the north-south axis and using the existing infrastructure. The terminal point of the axis was the port of Lomé, the construction of which was begun in 1964, and the extension of which, now in progress, will be completed in 1977 and will strengthen the position of Togo in the handling of international trade. →



(1) In the German period the Lomé-Aného line (44 km) was brought into service in 1905 and the Lomé-Kpalimé line (119 km) in 1907. The central line, which was to link Lomé with Tchaooudjo, was built only as far as Atakpame (1913) and extended to Blitta in 1934, covering a total of 280 km. In addition the Bénin Mining Company of Togo has its own railroad, used exclusively for carrying phosphates over the 26 km separating their extraction at Hahotoe and the quayside at Kpemé.

Three major operations

For the purpose of modernising the road system three major operations were undertaken.

The first of these was the improvement and widening of the coast road Aflao-Hillakondji, on which there had been a rapid growth in traffic reaching 1 000 vehicles per day in 1960. This had also been associated with an increase in the load per axle initially provided for. The work was carried out in 1967-1968 financed by a subsidy of UA 1 502 000 from the 1st E.D.F. This road is at present the most heavily loaded of the whole national road system and one of the most frequented on the international road from Accra to Lagos, with a traffic of several thousand vehicles per day. Not only is it a link between Ghana and Nigeria but it passes through regions which are among the most densely populated in Black Africa. In the maritime region of Togo the population density is 130 per sq.km., in the Atlantic province in Dahomey it is as high as 160 and in some of the interior zones in the country traversed the figures are even higher. The inter-regional trade is concerned primarily with foodstuffs and fish; and the interest of the population in trading activities, in which the women play a predominant part, makes for the rapid development of the region.

The second operation was designed to provide an up-to-date communications system for the plateaux region, so as to facilitate the offtake of an agricultural production which is particularly big and very diverse, including cocoa, coffee, food crops and palm kernels. The road was also calculated to facilitate trade with Ghana, into which it ran. The operation included the asphalt-surface sections Lomé-Kpalimé (119 km), Kpalimé-Atakpamé (101 km) and Atakpamé-Badou (85 km), which were built in 1962-1972. This road link called for finance of UA 9 264 000, which was provided by the E.D.F. as a subsidy.

It is interesting to compare the actual growth in traffic with the 1963 forecasts. This is done in the following table in which the figures are the annual average of the number of vehicles per day:

	Traffic in 1962-1963	Forecast for 1973	Actual traffic in 1973
Lomé-Kpalimé	70	177	966
Kpalimé-Atakpamé	35	60	311
Atakpamé-Badou	22	62	228

The table shows, over a 10-year period, a traffic multiplier of between 9 and 14, according to the section of the road. The 1973 traffic was between 4 and 5 times as much as had been forecast in 1963. A material part of it consists of automobile traffic between Ghana and Togo.

The third operation was by far the most ambitious and required more funds than any of the others. It involved:

- making the south-north road one of the foundations of Togo's national build-up. Quite apart from economic considerations, the road is vitally important to the country;
- opening a third seaward access for Upper Volta (1) and ending the isolation in the south-eastern part of the country.

The latter is to be achieved by building this road from Lomé to Ouagadougou. It will be 977 km in length and its general

(1) Upper Volta now has two land routes to the sea—the Ouagadougou-Abidjan railway and the Ouagadougou-Accra road.

characteristic, which will make it fully capable of carrying heavyweight traffic, will be as follows:

weight per axle	: 13 tons
bridge capacity	: 30 tons
surface width	: 6 m.
traffic speed	: 100 kmph.

The work was put in hand in March 1969, beginning with the earth-shifting for the Lomé-Tsévié section. Joint work by the Togo and Volta governments and support coming from multilateral and bilateral aid have made it possible to complete a large part of the road. The following table shows the state of the work at the end of 1974:

Stage reached	in Togo	in Upper Volta	Total
Surveys completed	Kandé frontier (220 km)	—	220 km
Work in progress	Blitta-Tchaoudjo (78 km) Lama-Karakandé (56 km)	Nianguedi frontier (58 km)	192 km
Work completed	Lomé-Blitta (263 km) Tchaoudjo-Lamakara (73 km)	Ouagadougou-Nianguedi (229 km)	565 km
Total	690 km	287 km	977 km

Thus, 565 km of the 977 km separating Lomé and Ouagadougou have already been surfaced, and the surfacing work is in progress on another 192 km. On the assumption that finance for the remaining 220 km can be found within the next year, the completion of the road could be timed for 1978.

Up to the present the financing of surveys and work in hand or completed has absorbed about UA 45 m, including an E.D.F. subsidy of nearly UA 33 m.

On the sections already open to traffic the growth exceeds the preliminary estimates by a substantial margin. This is shown in the following table, which again gives the figures in the annual average number of vehicles per day:

Section	Traffic 1962-63	Forecast for 1973	Actual traffic 1973
Tsévié-Atakpamé	60	203	383
Atakpamé-Blitta	70	183	193
Tchaoudjo-Lama Kara	65	136	260

There was a spectacular growth in the number of motor vehicles passing, which rose from 3 500 in 1963 to over 13 000 in 1972. The latter included 2 800 buses and cars against only 1 000 in 1963. Gasoline consumption rose from 14 785 cu m in 1967 to 33 207 cu m in 1973 and gas oil from 22 287 to 41 177 cu m. The total length of the road system which had been only 4 500 km in 1960 is now 7 000 km, of which nearly 2 000 km are main roads.

Considerable progress has been made by the Togo government in improving and extending the road infrastructure. Conditions are now such as to facilitate the better realisation of the country's production potential, while the up-to-date road system fulfils Togo's vocation for commercial and transit traffic. ■

H. CARLE

MALI

The airport at Bamako-Sénou

by Albert BERRENS

The financing of work on a new airport at Bamako-Sénou was the first major E.D.F. intervention for an air transport project. It was a matter of building a new airport from the ground up and is thus different from other airport projects financed by E.D.F. for purposes of enlargement, improvement, modernisation or reconstruction of air stations and buildings no longer sufficient to handle growing traffic.

Hitherto the E.D.F. has provided subsidies for the following airport operations:

- improvement of airport at Nouakchott (Mauritania);
- improvement of airport at Curaçao (Dutch Antilles);
- construction of air station at Bonaire (Dutch Antilles);
- construction of air station at Aruba (Dutch Antilles).

Compared with the E.D.F. interventions in agriculture, in schools and hospitals and for transport by land and water, the number of projects relating to air transport seems on the low side. This is quite easily explained by the fact that E.D.F. finances only the priority operations among those put forward by the associated governments. For the most part these countries already have a well-equipped aeronautical infrastructure; and in cases where they had not, they have usually financed one from bilateral aid, which is most apt to come from their former metropolitan countries.

On the other hand, the air traffic in Africa is continually growing, and the countries are having to prepare for the problems set by an expanding tourist industry. In future, therefore, there will be nothing out of the ordinary if the E.D.F. should receive applications for further projects connected with aviation.

A good location

The city of Bamako, the capital of Mali, is centrally located among the other big airport towns of West Africa (Nouahdibou, Dakar, Conakry, Freetown, Robertsfield, Abidjan, Accra, Lomé, Cotonou, Lagos, Ouagadougou, Niamey and Douala).

Bamako Airport should thus have an important part to play as a point of transit for the big airlines between Africa and Europe, as a relief airport for those on the coast and as a stopping place on the inter-African lines, such as those from Dakar, Niamey or Douala.

Though Bamako was geographically well located, its original airport did not enable it to profit fully from its position. It could not handle, as could the coastal airports, the big 4-jet aircraft of the DC 8 or Boeing type, which have in recent years replaced piston-engine aircraft and the medium-distance jets. The effect was that the number of transit passengers passing through Bamako showed a material fall.

Moreover, both the passenger and the goods traffic into Bamako had shown a vigorous increase since 1960. For passengers the increase showed an average of 16% per annum. Bamako was thus obviously important and in 1968 the total traffic handled exceeded the corresponding figures for Niamey, Bangui, Cotonou, Nouahdibou, Ouagadougou and Lomé.

Need for a new site

It thus fell to the Mali government to make the necessary arrangements for Bamako to regain the position it had occupied before the introduction of 4-jet aircraft.

It had to be recognised at the outset that no adequate improvements could be made to the existing airport. It lay close to the river Niger, had part of the town of Bamako around its periphery and was partly surrounded by hills which made extension impossible. The only solution was to build a new airport on a suitably open site offering sufficient safety and scope for future improvements.

Such a site was found at Sénou, some 14 km from Bamako. This necessarily cost more, but there were considerable advantages for Bamako and its inhabitants. The abandonment of the old airport saved Bamako from noise and the safety risk inherent in frequent overflying. The recovery of the airfield, which occupied some 600 ha, provided scope for housing development, while the use of the new airport has made it possible to remove a number of restrictions imposed for safety reasons and so opens the door to further urban growth.

Characteristics and finance

On the basis of preliminary surveys the E.E.C. provided a total credit of UA 10 940 000, which was subsequently raised to UA 11 925 000. The broad allocation of this was as follows:

— infrastructure	4 255 000
— buildings	4 115 000
— technical equipment	2 880 000
— works supervision	675 000

11 925 000 units of account.

The new airport was accordingly built at Sénou, 14 km from Bamako, to which it is linked by an asphalt road.

A construction on these lines was necessarily complex and, for reasons of security, required the airport to have independent supplies of electric power and water.

It is scarcely necessary to list the component parts of the new airport. For handling 4-jet aircraft of the DC-8 or Boeing 707 type, it had a runway 3 200 m. in length and 300 m wide. Added to this are the various parking areas and service runways.

The air station is designed for peak traffic of 300 people at a time. The useful surface is about 3 800 sq.m including departure, arrival and transit halls, reception, restaurant and offices. There are also a number of necessary buildings covering navigation, security, fire protection, electric supplies and other services. The technical equipment includes all the electric and electronic requirements for navigation and navigation control.

State of the work

The main infrastructure work is now finished and the buildings will be completed within a few months, with the technical equipment duly installed.

The airport has been open to traffic since the middle of 1974 and its official opening will take place within the next few months.

The airport is the fruit of close cooperation between the Mali government departments, the E.D.F., survey bureaux, African and European firms, technicians and workers, all of whom have contributed to carrying out an investment which has saved Bamako from some degree of isolation. ■

A. BERRENS

GABON:

Building a port at Owendo

Owendo point lies inside the estuary of the Gabon about 16.5 km above Libreville, the capital.

A trip along the atlantic coast of Gabon makes it clear that there is little scope for building a deep-water port. The estuary of the Gabon has been regarded as the best site for the port of Libreville since the last century.

There is a principal channel about 8.3 km in width, with depths between 10 and 50 m stretching almost to the northern shore of the estuary near Owendo point.

Prospects for 1976 ⁽¹⁾

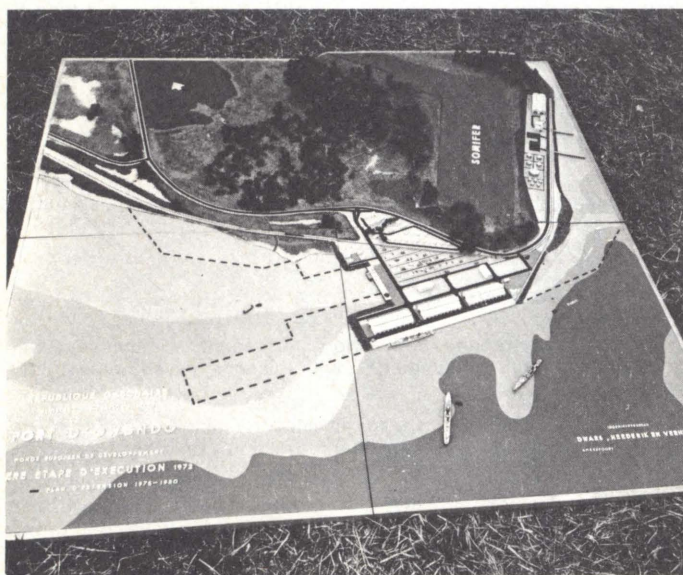
After many soundings and surveys it was decided in 1966 that the first deepwater port in the Republic of Gabon should be built at the Owendo site. At the time it was planned for

- the general maritime traffic of Libreville and its hinterland;
- shipment of iron ore from the Mékambo region;
- setting up storage facilities, industries and services connected with the ocean shipping trade.

The planning for the first of these objectives was calculated to cover requirements arising up to 1976. The tonnage estimates

(1) Editor's subtitles.

First model of the port at Owendo.



for loading and discharge at the new quays, and the quay for the coastwise trade—excluding unloadings offshore and at specialised quays—were as follows:

	1972	1976	1980
Exports (tons p.a.)	240 000	325 000	715 000
Imports (tons p.a.)	200 000	240 000	290 000
Total	410 000	565 000	1 005 000

On the basis of detailed information regarding the various categories of goods, and the selected system of port operation and estimates of the traffic density, the first phase of construction was scheduled as follows:

- construction of three normal berths in line, made of pre-fabricated concrete slabs on a rock foundation, with draft of 10 m;
- construction of three transit sheds, each of 5 000 cu m. surface;
- laying out in the primary port area of 12 000 sq. m of open space;
- laying out of a 3.5 hectare timber yard;
- construction of a link-road to Libreville and of administrative buildings.

Adaptation of the project

After an international call for tenders, the contract for the works was awarded in June 1969 to the EGTH Group of dredging firms—STRABAG BAU A.G. In the course of the initial work of preparing the rock foundations for the concrete slabs of the quay walls, it soon became apparent that the method of construction was unsuitable for the conditions actually prevailing at Owendo.

This was because a verification of the hydraulic data showed that Owendo lay where fresh water met salt water and the density of currents in such a zone set up a very considerable movement of the mud bank at every tide. The depth of the mud bed was ascertained to be 80 cm, and the movement of suspended matter at each half-tide was estimated at 500 tons per metre width.





Bird's eye view of the work.

This volume is altogether exceptional, and it will be readily understood that it made it impossible to clean up the bed so that a rock support layer could be laid.

This made it necessary to adapt the quay technique to the conditions prevailing. It meant scrapping the idea of block construction and substituting open construction on piles driven to bedrock. For the same hydraulic reasons it was undesirable to embank the rear of the quay. The general plan of the port thus had to be somewhat modified, so that the quay includes only the edge-platform and the transit sheds with an access road behind them, and the open spaces are on terra firma.

The final project

The principal item consists of a concrete slab 455 m in length (3 berths) and 70 m wide, resting on 584 concrete piles.

Access to the quay is provided by a concrete construction, also resting on piles, the dimensions of which are 45 m by 41.5.

The defence of the structure against berthing impact is provided by 120-ton fenders at a distance of 20 m from one another.

The slab has an average thickness of 45 cm, with longitudinal girders 1.60 m high at 6.0 m intervals. It is divided into six parts to reduce the effect of temperature changes. The slab is made of B 300 concrete and is not prefabricated.

The 584 piles are up to 26.50 m in length and driven at intervals of 10 m longitudinally and 6 m transversally. They have an external diameter of 1.30 m and a thickness of 14 cm. They were prefabricated in pre-stressed and centrifuged concrete. The concrete quality is B 450 and the pre-stressed steel ST. 160/180.

The European Development Fund provided finance support of F CFA 7 700 m for the port of Owendo. The new construction plan involved an increase in the original estimates.

The port was brought into service at the beginning of 1974. ■

H. ACKERMANN

CAMEROON

Improvements in the Port of Douala

by Dr. Hermann ACKERMANN

The port of Douala lies some 30 km up the Wouri estuary and its current equipment includes 11 berths for general cargo, an oil quay, a quay for clinker, a quay for banana shipment, 40 000 sq. m of transit sheds, 34 sq. m of open spaces and 6 000 sq. m of timber yard.

The goods loaded and discharged in 1973 are reported to have reached 2 040 000 tons, including 1 470 000 tons of general cargo.

Saturation point ⁽¹⁾

Applying a dynamic appreciation to the theoretical potential of the port of Douala, it becomes clear that the present installations are reaching the point of saturation. This initial remark could suggest that all that is needed is to add a few more berths, as is often done in other ports.

(1) Editor's subtitles.

In actual fact the primary modernisation requirement for the port of Douala is the **adaptation of its access channel** to the requirements of the new generation of ships. The Wouri channel provides for a draft of only 5 m from the hydrographic zero, and this is quite inadequate for rational traffic. This fact by itself occasions a loss to the economy of Cameroon running into millions of CFA francs annually.

The deepening of the Wouri channel would require the following dredging volumes:

Depth below zero-high (metres)	Construction (cu.m.)	Maintenance (cu.m.)
-5	—	0.3 . 10 ⁶
-7	4 . 10 ⁶	1 . 10 ⁶
-8	10 . 10 ⁶	1.2 . 10 ⁶
-9	16.5 . 10 ⁶	2 . 10 ⁶
-9.5	21 . 10 ⁶	2 . 10 ⁶

Getting up steam and loading timber at Douala, Cameroon.



The second requirement for modernising the port as it exists today results from the faulty location of its shore infrastructure. A general view of the port shows it to be sandwiched between the river and the town, with open spaces which can hardly be used, road and railway connexions which are archaic and ill-organised, so that it is not able to meet present-day requirements.

The meeting in July 1974

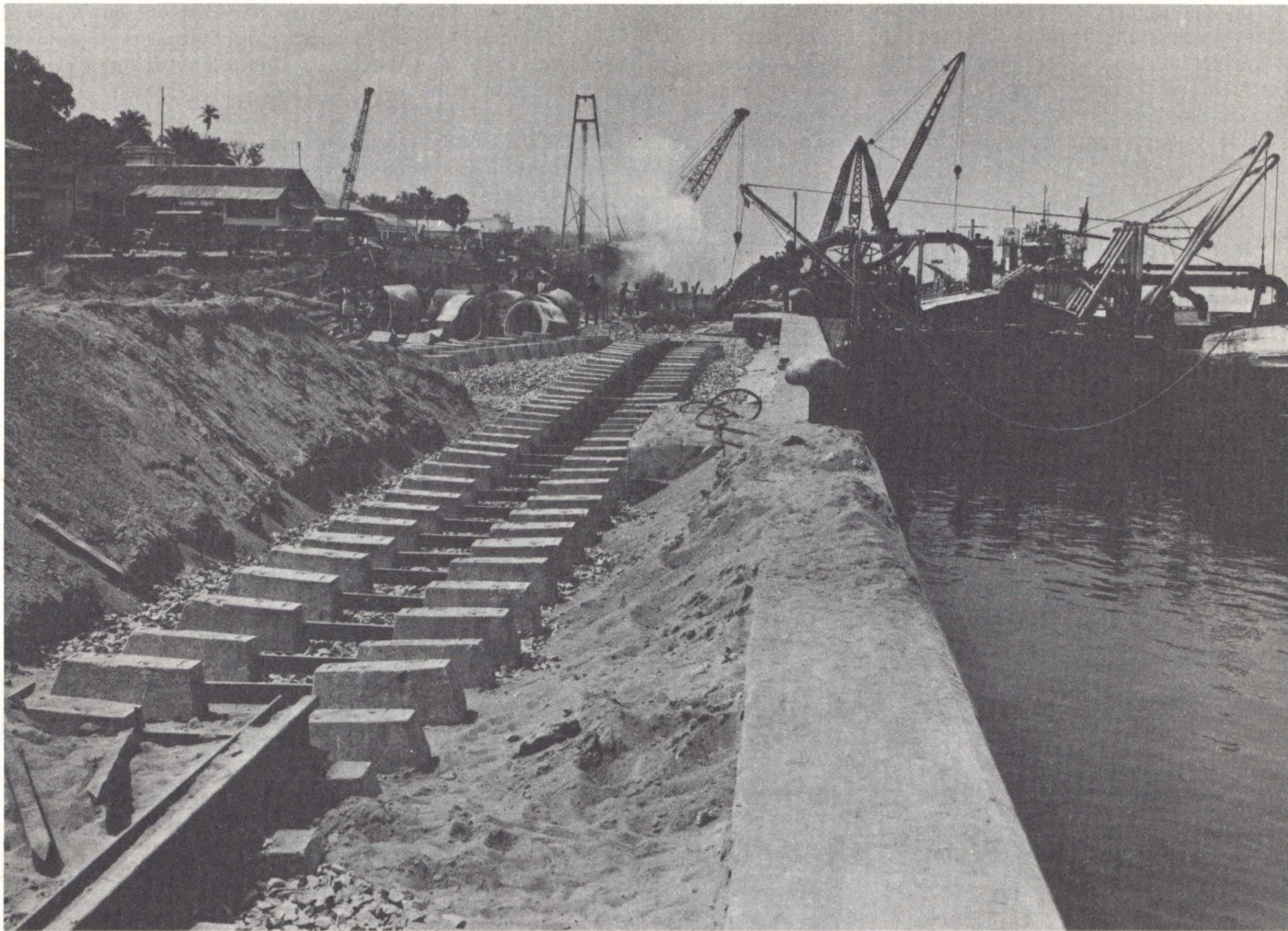
It was for this reason that the Cameroon government issued an invitation to a number of finance organisations to meet in July 1974 to discuss the improvement of the port of Douala. Those represented were the World Bank, A.I.D. (US), A.F.W.

(Germany), the Canadian International Development Agency, F.A.C. (France) C.C.C.E. (Paris), the European Investment Bank, the E.D.F. and the B.A.D. The following table gives a brief indication of the results of surveys and research:

On the basis of these estimates, the solution which apparently satisfies the various potential lenders is as follows:

- In the first phase to deepen the Wouri channel from 5 m to 8.50 m below hydrographic zero.
- Fit out a timber port below the existing quays,
- Lay out a container quay below the existing quays and provide the open spaces necessary,

	1973	1975	1980	1990	2000	
Merchandise: discharged	1 147 165	1 229 372	1 585 939	2 614 745	2 620 691	Tons
loaded	889 546	1 619 265	1 392 206	2 196 909	3 004 862	Tons
Total	2 036 711	2 248 637	2 978 145	4 811 654	5 615 553	Tons
of which: General cargo	1 467 074	1 467 645	1 129 131	1 769 340	2 754 537	Tons
round timber			750 000	1 200 000	1 200 000	Tons
Ship movements:						
cargo ships			705	885	1 200	No.
timber ships	952	977	250	325	300	No.
Ships berthed						
miscellaneous	3 216.61	3 022	1 650	2 364	2 230	days per annum
timber ships			700	1 040	695	
Rate of loading and discharge	10-17	10-17	12-19	13-20	15-20	ton-hours per hold
Working hours	12	12	18	18	24	hours p/d
Arrival factor $\left(\text{Ratio } \frac{\text{incoming ships}}{\text{berthed ships}} \right)$						
miscellaneous	0.38	0.41	0.60	0.50	0.60	
timber			0.43	0.39	0.48	
Berths needed (misc)	9	9	6	9	10	No.
Average waiting time	8.84	5.28	1.60	1.57	0.8	hours
Storage area needed:						
zone I: up to 11 days	17 000	21 000	20 000	35 000	47 000	sq.m
zone II: up to 20 days	42 000	42 000	26 000	40 000	50 000	sq.m
timber: dry	(current) 30 000	(current) 30 000	30 000	50 000	50 000	sq.m
floating	—	—	150 000	200 000	200 000	sq.m



The four berths at Douala were no longer enough for handling the growing goods (largely timber and bananas) and passenger traffic. The E.D.F. provided finance of F-CFA 1 100 m (about UA 4.5 m) for building a quay wall 556 m long and five warehouses of 4 000 and 1 500 sq.m.

- Construct higher up a group containing a fishing port and a yard for small ship repairs,
- Improve the port's shore arrangements and access.

These arrangements should enable the port to handle a normal traffic of about 3 m tons p.a. in 1981.

The first phase of the work would run from 1975 to 1979 and the port office estimates the cost at F-CFA 12 500 m.

It should be noted, however, that if there is to be a long-term port policy which will find its place in the inter-continental transport system, it is vital to look well ahead and provide for conditions at the turn of the century and after.

For this reason the Cameroon government has already put studies in hand regarding the possibility of **building a port directly accessible to ships of 15 and 16 m draft** which the port of Douala will not be able to handle.

* *

The European Development Fund is making use of the experience it has accumulated in highly rational approaches to dredging problems. With this in view it has financed surveys and researches on the **possibility of using a mud-harrow** for deepening and maintaining the access channel of the Wouri estuary.

The principle of hydraulic harrowing is a very old one, and it was in practice long before mechanical dredging apparatus had ever been made. It is therefore easy to apply, using the fact that a current is a potential source of energy and can be used to transport matter which has been put artificially into suspension. Study and experiment have led to the conclusion that the use of the harrow for hollowing out the Wouri channel is in fact a possibility. The method, it is suggested, should be used in **combination with a dredge, in case the operation encounters hard layers**. By comparison with dredging operations using only the conventional present-day methods, there would be a saving of about 50% of the cost. ■

H. ACKERMANN

The Gabonese Board of Shipping

Most of the external trade of Gabon enters or leaves the country by sea. The Gabon Board of Shipping (C.G.C.) was formed four years ago in an attempt to improve the organisation of the country's trade. Its Secretary General, M. Jean-François Ntoutoume,* describes the activities of this organisation to "The Courier".

► *Mr. Ntoutoume, why was the Board of Shipping formed and what does it do?*

Your question will take a little time to answer because it raises the problem of the strategic importance of the C.G.C. in the economic development of the country. Gabon is at present developing its economy on very open lines, so that its growth is linked with its external trade and the economic role this trade can theoretically play in the development process. And it is a well known principle that when the value of exports is proportionately the greater, the external trade becomes a multiplier of the national income. Any change in the amount of exports theoretically involves a redistribution of incomes and jobs, not only in the exporting industries, which are of great importance to Gabon, but also in domestic industry. Exports thus play the same part as investments, while imports are theoretically dependent on the income.

The dependence ratio can be seen quite clearly from the figures for Gabon's gross internal product and her exports and imports over the last few years. The ratio is admittedly decreasing because of the establishment in the country of a number of production units; but even so, it is too high.

More than 90% of Gabon's external trade enters or leaves by sea. Even if we

(* M. Jean-François Ntoutoume has degrees in Letters and in Law, and holds two doctorates in the faculties of Law and Economic Science in Paris. He is a doctor of Political Science, holds the diploma of the Monetary Fund Institute in Washington and is a former pupil of the Centre for Finance and Banking Studies in Paris. He is also a member of the Board of Censors of the Central Bank of African States, and a lecturer on Public Finance and Political Sociology in the Gabon National University, Libreville.

export our goods f.o.b. the abusively high cost of ocean transport often, if not always, makes our goods non-competitive in foreign markets. This was seen recently in the timber crisis, especially for processed timber, such a plywood, the freights for which last June were between 105 and 120 % higher than they were on May 1, 1973. Internally the freight racket for ocean transport is a factor in the lowering of purchasing power and rises in the cost of living.

Even though the June freight rates for other merchandise classes were not all as exorbitant as those I have mentioned, there is not the shadow of a doubt that the increases brought into force over the past six years for every product except oil have been considerably greater than the increases (if any) in the value per ton of the merchandise carried. The cost of ocean transport has a decisive influence in determining the purchase price of the goods we consume and the investment goods we buy, and similarly it determines the price at which our products sell. It is less obvious and should be more emphasised that it is one of the principal—if not the principal—debit entries in the Gabon balance of payments. In general the same applies to all African countries.

In places where there is no board of shipping, it is usual for the shipowners' Conferences to enter into bilateral contracts, either with an individual shipper or with a specific group of shippers. These agreements are usually based on undertakings by the shippers to use the same ship-owner, and give the shippers a right to various rebates on terms specified in each individual agreement.

These rebates are sometimes as much as 25 or 30%. The important thing to emphasise is, that they are not passed on by the shippers as rebates in the selling price of the goods they sell, and they are usually paid into the accounts of the shippers in other countries.

The C.G.C. is a public body, the members of which are all the professional importers and exporters, most of whom are individuals or companies of foreign origin. In the economic policy of a developing country, such as Gabon, the strategic importance of such an organisation is indisputable.

This was fully understood by the Gabon government when it enacted Law No. 7 of December 16, 1971. This constitutes the Gabon Board of Shipping and lays down that its object is to obtain, so far as possible, a comparative steadiness in freight rates for ocean transport, and to work with the price control organisation in introducing a certain moral standard among importers in fixing the prices at which goods are sold.

The formation of the C.G.C. was thus in line with an economic requirement. Wishes to the same effect had been expressed by UNCTAD at various levels on a number of occasions, in the attempt to formulate a development strategy for the countries of the Third World. These wishes were echoed by a number of regional organisations, including OCAM, which specifically recommended its members to set up national councils of shippers under one of its resolutions adopted by the heads of State at their meeting at Fort Lamy (now Ndjaména) on January 28-29, 1971.

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► *Are there contacts between the Gabonese Board of Shipping and similar organisations in Africa or Europe?*

So far we have had no close or continuous contacts with similar organisations in Europe. At the UNCTAD conferences on maritime problems at Geneva, we have indeed talked to some of their representatives and had a quick exchange of views. A particular case was that of Mr. Gerard Verhaar of the Council of Europe Documentation Centre at the Hague.

I should add that the European boards of shipping are strictly private organisations and often the shippers are also ship-owners. Such shipping boards as exist in African countries are public organisations, and it follows that the interests of our own shippers and those of the European shippers are not always the same—very much the contrary—and our views on maritime policy put forward in international bodies are often opposed to one another.

Nevertheless these organisations have a fund of experience which we have not accumulated. We therefore propose to take advantage of this, if they will help us to do so, and to establish continuous connections with them for the purpose.

As a beginning we are thinking of inviting a representative from the Council of Europe Documentation Centre to pay us a visit in Libreville, and later we should like to send one or two of our own heads of divisions to spend a few days at the Hague and see some of the big European ports.

Our relations with other shipping boards in African countries have unfortunately been limited by the fact that on the west coast of Africa there are only two of them—our own and that of the Ivory Coast, which is some way the older. We understand similar organisations are now being formed in Senegal, Cameroon and the Congo.

The negotiating power of the African national boards of shipping will, of course, be the more effective if they decide to set up a common front and act in unison. This is fully understood not only by ourselves but also by our Ivory Coast colleague, Mr. Félix Abounaou; and there is now a close cooperation



J. F. Ntoutoume.

between us which seems to be giving good results. Last April, for example, following the announcement of the general rise in freight rates, we compared notes and took joint action with the conferences, which bore fruit in a three months postponement of the introduction of the new rates and a 4% rebate of the increase.

On the question of mutual information, scarcely a month or even a fortnight goes by without one of us sending information to the other either by letter or more frequently by telex. If the attitudes we adopt are to make the least impression on the shipping companies, we cannot lose any time in deciding upon them.

When there are rather more boards of shipping in Africa, it will be possible to think in terms of forming a regional organisation, which would have the necessary documentation and the task of coordinating the action of all its members, and of making studies of immediate or future usefulness in a field so vital to the economies of our countries.

► *A code of behaviour for maritime conferences was signed in April 1974. It recommends the so-called 40:40:20 principle. What does this mean, and is it a factor in favour of the African countries?*

There is no harm in saying that the maritime conferences are one of the first

cartels to make their appearance in international trade. The most obvious point about them is that the power they create to regulate the terms and conditions prevailing on any liner route are kept entirely in the hands of private interests. In some cases the conference members include companies which are partly in public ownership; but anybody can see that the governments concerned play practically no part at all in determining the conference policy which regulates operations on the routes concerned. As we have already seen, such a situation is a source of discontent for many shippers, as it was in Great Britain at the beginning of this century and in the United States a little later. It was to be expected that the young States of the Third World would not accept this situation or monopoly, and the practice of its abuse. This was why UNCTAD, at the instigation of these countries, formulated this code of behaviour, the application of which will bring at least some degree of uniformity into conference practice and will allow the interests of all concerned to be brought into consideration.

The really important thing is to see that our countries indeed play their part in world trade, which involves among other things, that they have partial control of the circuits by which their export goods come to market. This is what the code seeks to do through the 40:40:20 principle, which is concerned with the sharing of cargoes, the distribution of the carrying trade and pooling agreements.

Any company with maritime interests admitted as a member of a conference will have a right to loadings in the traffic with which the conference deals. If the conference operates a pool or a partial pool, all the conference companies will have the right to participate in it. The national companies are given an assured right to carry 40% of their country's traffic. To put it more explicitly, companies sailing under the flags of the two countries at each end of the route and served by the conference will have a right to 40% of the traffic in both directions.

If part of the traffic is carried by one or more transport undertakings which are not members of the Conference and sail under the flag of a third country,

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their share of the total pool may not exceed 20%.

This is the principle vindicated by the "Group of 77" in the third UNCTAD conference at Santiago, and in the various Geneva conferences which followed. We are well aware that we cannot yet have the full benefit of it; but the essential thing is, that the principle is accepted and we are keenly awaiting the ratification of the code by the various countries and its entry into force. This will be an inducement to the African countries to form national shipping companies, or if necessary to set up multinational African companies capable of securing them a place in the ocean transport business.

► *Are there any difficulties regarding the freight rates charged by the maritime conferences, and how can the Gabonese Board of Shipping intervene in fixing freight rates?*

The difficulty is that the freight rates are constantly being raised and are kept at the absolute limit of what the country's economy can stand.

Though our Board was formed in December 1971, funds and facilities were not available at the time and only began to function effectively a year later. It was not until 1973 that we began negotiations with the chief maritime conferences, the members of which serve our ports. We were seeking to secure agreements and Memoranda of Understanding, which are the only instrument for setting up suitable machinery for permanent consultation between the conferences and the shippers' organisations.

In the absence of such documents we are still forced to submit to the unilateral decisions of the maritime conferences.

Nevertheless, at the beginning of next month, it will be our pleasure to welcome the top authorities of the C.O.W.A.C. for the formal signature of a Memorandum of Understanding. Our negotiations with OCTRAMA are also in their final stages and discussions have begun with other bodies, including the I.W.A.C. and the U.K.W.A.L.

The Memorandum of Understanding is a fundamental instrument for a board of shipping, since the conference is legally bound by it and under an obligation to consult, negotiate and discuss both the principles and the actual rates of an increase before it is brought into operation. It stands to reason that a rate fixed after discussion between two parties whose interests are in principle, or by nature, divergent, will be less severe than one which is fixed by the conference unilaterally.

I should add, however, that we have already secured quite good results with some conferences, without their being bound by any legal document. These included the moderation of the increases announced in April 1973 and in June 1974; and also promotion freights at a very low level, but unfortunately for an unduly short period. These were for the carriage of samples, more especially of various species of timber, which our government expects to market in the near future. We therefore take advantage of the present opportunity to say how pleased we are to note a real spirit of understanding and cooperation among some of the conference personalities, including C.O.W.A.C. and OCTRAMA. I should like them to read in this an expression of our sincere thanks.

► *There is currently a campaign to overcome some of the difficulties of the African seaports by harmonising the port policies of the countries concerned, and to increase the operating efficiency. What do you think of the results so far?*

It is quite true the African seaports have been seeing what they can do to harmonise their policies and cooperate in seeking solutions for their common problems. This led to the formation at Freetown in 1972 of the Management Association of the ports of West and Central Africa. The members are all the ports of the English-speaking and French-speaking countries of the West African coast from Nouakchott to Matadi.

The Association has since held two meetings, at Accra in 1973 and at Abidjan in 1974. There are, however, rather tricky problems in setting up executive structures and a secretariat, and it is still difficult to talk about any

results. Moreover, there has not yet been any far-reaching work because no material or financial resources have been made available, and in the absence of these, there can be no permanent administrative bodies.

The Association nevertheless is a platform for seeking concerted approaches, and the meetings organised up to the present have enabled the port authorities to recognise that many of the problems apply to the whole West African and Central African coast, so that there have been very fruitful exchanges of views about the vital problems.

It is certain that during 1975 we shall see the beginnings of the Association's external activities. For this purpose it will certainly be a great help to have the support of international organisations, such as the C.E.A., UNCTAD, the O.M.C.I., coupled with the cooperation of organisations in the developed countries.

► *One of the major problems in the African ports is to secure a quick turn-around of ships. What has been done about this?*

This is very important. We are not asking shipping companies to be charitable in fixing freight rates at reasonable levels. It is natural enough that they should seek profits; and the shipping companies incur gross losses of up to a million CFA francs per day when a ship is immobilised in a port.

The slow rate of loading or discharge is apt to lead to a port being boycotted by the shipping companies, or to the charging of freight supplements which are inevitably passed on in the selling prices of the goods. It thus becomes very important for the local authorities that the port structure should suffice to cope with the country's expansion and with their own desire to secure acceptable prices for ocean transport.

The Gabon authorities have taken cognisance of this problem; and the deficiency of dock labour has at times led them to use prison labour.

Agreements are now being drawn up with other African countries, with a

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view to obtaining a sufficiency of trained manpower.

In addition, the government has recently asked the lighterage and transit firms to modernise their unduly obsolete equipment so as to speed up the work.

Another possible step towards the quick clearance of goods would be the simplification of customs regulations.

It is clear, too, that one solution of the problem may lie in containerisation, and adequate mechanisation of the port. In this connexion, however, there has to be some caution about containerisation being generalised too rapidly, for it must be remembered that it also leads to increases in the transport costs.

► *What is at present being done to improve the Gabonese ports, especially Owendo?*

The Gabon government has set up the OPRAG (Office des Ports et Rades du Gabon) for the immediate initiation of a new stage in the country's port development.

Though Gabon has a coastline of 800 km, it has to be borne in mind that until the last few months it had only two small lighterage ports at Libreville and Port-Gentil; and the whole of the import traffic had to pass through them in conditions of some difficulty.

The deep-water port at Owendo, some 17 km south of Libreville, will make it possible to handle two big vessels, or three of medium size, and to store goods in 48 300 sq.m of storage space, of which 12 200 sq.m are under cover and 36 100 in the open air. The port began operations some months ago, and will be in full service within a few weeks.

The programme provides in the very short term for the availability of a con-

tainer park of more than two hectares, with a grouping station and customs office of 1 200 sq.m.

In the medium term the whole of the port installations are to be extended. This will include the construction of a ship repair yard.

Moreover, because of the country's rapid economic expansion, it cannot have only a single opening to the sea, however big it be. Plans are therefore afoot for the building of an ore port at Santa Clara, 11 km north of Libreville, which will be linked with Owendo by a road; and other projects are a fishing port at Libreville, a timber port at Owendo and deep-water ports at Port-Gentil and Mayumba. For the two latter the works are scheduled in principle to begin this year.

► *How is the Gabon merchant fleet growing?*

As a matter of fact our merchant fleet has hardly begun to grow, and now comprises only two companies. These are SOGATRAM, which for the moment has only one ship; and SOMARGA, which has three ships and seems to have made a good start, apparently intending to acquire further ships within the next few months. SOMARGA has just been accepted as a member of the Conference of the West African Coast (C.O.W.A.C.).

► *What do you think are the prospects for ocean transport between Africa and Europe?*

This brings us far outside the question of Euro-African relations. It is a general, even a world, problem. This is the more so since the freight rates charged by European shipping companies on the

African routes can be considered without exaggeration as positive penalty rates, by comparison with those they charge on their routes to other destinations. Moreover, the statistics in the various reports by the UNCTAD Secretariat-General give us no reasonable grounds for optimism. During the three first years of the UN Second Development Decade, not only have the developing countries failed to increase their share of the world merchant tonnage, but in some ways their position has deteriorated since 1970. By my memory their share of the total fell from 6.2% in 1970 to 5.3% in 1973. You will of course suggest that Africa's own share has not grown smaller in this period, but has been steady at around 0.3%. Nevertheless in comparative terms it is in fact a decline, for there has been no halt in the growth of African imports and exports.

Nevertheless, "hope is life", and this is just as true of nations as it is of individuals. Some of the European shipping companies are adopting an understanding attitude and they seem to have acquired a better appreciation of the new political and economic data regarding our countries. In the prospective code of behaviour and the various agreements by which our countries are linked with Europe, there certainly seem to be some grounds for optimism about the future of maritime transport between Africa and Europe. Eur-Africa is manifestly a reality, both of geography and of history. In this century of economic values, it is above all through trade that the peoples of the world are linked. For us, the people of Europe are our biggest customers and practically all our trade with them is carried by sea. The Association in its enlarged form, which it is proposed on both sides to bring into more active existence, should find in this one of its best fields of activity. ■

Interview by **Alain LACROIX**

Solving the problems at ground level

Britain's Transport and Road Research Laboratory

A simple earth track linking villages in the Solomon Islands. A computer-designed road network for Kenya. These are just two of the projects dealt with by a specialized branch of Britain's Transport and Road Research Laboratory, a Government-financed team of experts whose Overseas Unit advises on transport problems in developing countries around the world.

The British laboratory is probably the only road research unit in the world with a specialized team devoted solely to development problems. The work began nearly 20 years ago with the establishment of a Tropical Section of the then Road Research Laboratory dealing with developing countries and especially Commonwealth transport problems. The unit's activities now cover a great number of countries, extending far beyond the Commonwealth, and offer all the expertise of the industrial countries in this fundamental development field.

The unit's staff is organized in four sections: transport and planning, which also covers the growing traffic congestion and safety problems of many Third World capitals; highway engineering, dealing with road design, construction and maintenance; geotechnical, analysing terrain; and an important advisory and training section responsible for passing

on the expertise of the laboratory to road experts in the developing countries. The unit's staff are constantly overseas, advising on the wide range of scientific, economic and social questions involved in transport problems.

Naturally, one of the most pressing needs for a developing economy is good communications, which in most cases means a better road network, both to open up remote regions and to get production on the move. The needs of the developing countries are as diverse as the two examples above suggest—from dirt tracks to electronically-controlled city traffic systems—yet a plan for a road in one set of circumstances can very rarely be transferred to another project in similar circumstances. The particular characteristics of tropical and desert soils add their own complications. The essential value of a specialized transport laboratory is, therefore, that it can coordinate the mass of information learned both from developed and developing countries, while keeping an eye on the latest technology, and select the best solution to a particular problem from a very wide experience. The laboratory offers developing countries the possibility of stepping over centuries of hit-or-miss development in more temperate countries. At the same time its function as a sorting office for information gives it resources of special value to experts working on studies of such problems as tropical hydrology, urban congestion or landslides.

Road engineering

In planning a road system where resources are limited, it is particularly important to determine the standard to which individual roads should be built and maintained. To minimise total transport costs it is necessary to know how the standard of the road affects the cost of using it. One project by the special unit was to analyse the costs over three years of running commercial vehicles on roads in East and Central Africa. Some of the roads had bituminous surfacing, some gravel and some were unimproved earth roads. This investigation showed that costs were approximately twice as high on unimproved roads, where rainfall can critically affect operation, as on roads with a bituminous surface-dressing. This sort of information is a basic necessity in calculating at what level of traffic a surfaced road is economical.

In designing economical roads in developing countries, a first concern of the road engineer is to make good use of locally-available materials and to determine the optimum thickness for the road structure. This kind of problem has always been a major concern for the laboratory's overseas unit. A well-shaped, drained and maintained unsurfaced road can provide reasonable all-weather transport up to a limited volume of traffic. The engineer aims to find sandy or gravelly soils with sufficient clay to allow the road to compact well and resist excessive rutting in rain.

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When traffic becomes sufficiently heavy to make a surfaced road economical, the load-bearing capacity of the soil is an essential determinant of the design of the road pavement. This bearing capacity is critically affected by the prevailing moisture conditions in the soil, and the work of the unit has helped make it possible to predict the critical moisture conditions in soils under roads over the whole range of climates experienced in tropical and sub-tropical regions.

Briefly, in dry climates, the moisture conditions reflect atmospheric humidity. In wet climates, the moisture in soils under the roads is determined by the proximity to the surface of the water table. In monsoon climates, the soil type

and its permeability determine the critical moisture conditions under the road.

The thickness of the road pavement also depends on the materials used to construct it, in different layers. Frequently the crushed-rock used conventionally in Europe is not available at economic cost in developing countries, and lower-grade soils must be improved for use as road bases. Stabilisation of soil with small quantities of cement, lime or bitumen has proved a very successful improvement process and intensive research has been carried out by the Road Research Laboratory into the factors influencing soil cement as a road base. The laboratory's overseas unit recently visited Ghana to put the results

of this research into practice. A trial kiln was set up to produce lime, which is easily available, by simple means, to make an effective road-base material. The operation was carried out entirely with local material.

Terrain evaluation

The unit's research into road surveys includes regional surveys for planning purposes, preliminary engineering surveys for route location and feasibility studies, and detailed materials surveys along a proposed route.

Mapping the physical characteristics of developing countries remains a major task in some regions. The unit has developed a system of evaluation from the landform classification techniques used for agricultural land-resource surveys, adapted to highway engineering purposes. The system allows an area to be covered with a minimum of sampling by identifying patterns of rock and soil formation that can be safely predicted. Correlations are drawn between the necessary earthworks for a particular standard of road and the landform characteristics.

Air surveys and seismic studies are also useful for the rapid assessment of terrain for road-building.

A geotechnical mission by the unit to Colombia recently developed a new photo-theodolite technique for analysing the surface characteristics of landslides, a major hazard to mountain roads.

Transport planning and traffic

Many developing countries already have urban traffic problems as severe as in the industrial countries. The basic cause is the same: congestion. One immediate, if temporary, solution is the improved organisation of traffic systems, by the simple application of such devices as lane-markings, linked signals, re-

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(see page 68)



Taking road samples in Somalia.

Hydro-electric development at Edéa

by DAKAYI KAMGA (*)

The Edéa falls have been recognised as a source of power since the beginning of the present century and a number of preliminary studies were made for their development. The equipment work began in 1949 for the distribution of electric current in the town of Douala; in June and August 1953, the Cameroon electricity Concession Company brought into operation the first two 14.5 MVA groups in the Edéa I power station and 71 km of 60/90 kV transmission lines to bring the power from Edéa to Douala.

Over the previous 20 years the average low-water flow was 400 cu.m per second, and the absolute minimum

figure was 150 cu.m. The maximum flow in September-October is between 5 000 and 8 000 cu.m per second. The necessary supply to the turbines to cover the present demand for electricity is 750 cu.m per second.

From the first it was envisaged that the two 14.5 MVA groups at Edéa I would ultimately have to be supplemented if the question should arise of providing power for major industries. The fitting out of Edéa II with one 14.5 MVA group and six of 24.5 MVA, therefore found its justification in the decision of Alucam (Compagnie Camerounaise de l'Aluminium Pechiney-Ugine) to set up an aluminium production unit. The work on the second equipment phase in Edéa II started at the end of 1954, and in January 1957 the first supplies of current

were delivered to the Alucam works at Edéa itself, close to the power station. The third group of 14.5 MVA came into operation in March 1957, and the six new 24.5 MVA groups were brought in successively up to the end of 1958.

Equipment programme for Edéa III

It was possible to consider adding further power groups, if full use was to be made of the Edéa site. Moreover, the small flow of the Sanaga during the low-water season forced Alucam to reduce its production during the first four months of the year. Meantime the Cameroon government had decided to form a new company, Electricité du Cameroun, which was to take over progressively all the electrical generating and distributing undertakings in the country except for those at Edéa.

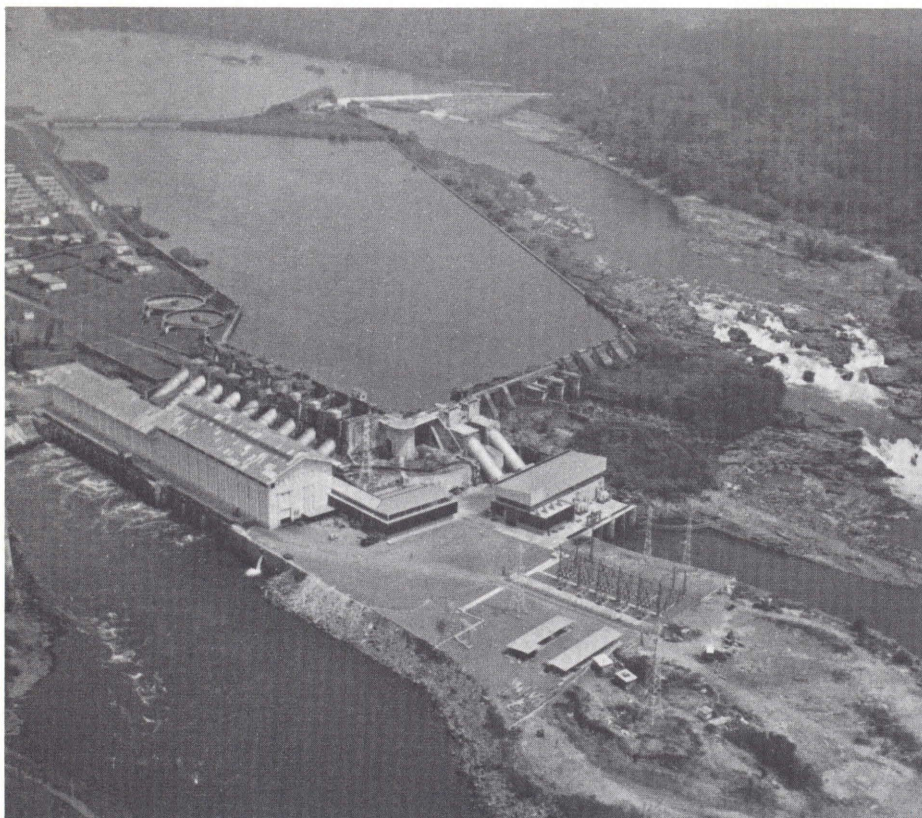
In 1964 the problem was in the first place to provide the new Electricité du Cameroun with an additional 20 MW, bringing the Edéa supplies to the public sector to 40 MW; and secondly, to regularise the flow of the Sanaga in such a way as to improve the Alucam production in the low-water season.

Société Energie Electrique du Cameroun began an additional equipment programme to deal with this problem. The relevant decision was taken in 1966, and the programme included a new power station, Edéa III, which will in the final stage comprise five 24.5 MVA groups, and the building of retention dams in two stages. These were to be at M'Bakaou on the Djerem (capacity 2 300 m cu.m) and Bamendjin on the Noun (1 800 m cu.m).

This programme was carried out in two stages. The first of these comprised the installation in 1970 of two 24.5 MVA groups in the first part of the Edéa III power station; and the equipment of the M'Bakaou dam on the Djerem.

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(*) Assistant General Manager of the Cameroon National Electricity Company.



Edéa III in its expanding phase. Ultimate installed capacity—256 MW.

The second stage includes the commissioning of three further 24.5 MVA groups, the first two of which came on stream in June and September 1974. The third is timed for the end of 1975. In addition, the Bamendjin dam on the Noun was prepared and equipped and the water inflow began in May 1974.

The work on the first phase was begun in 1966 and finished in 1970. For the second phase the work was put in hand in April 1971 and is currently in progress. The Bamendjin dam was completed in August 1974 and the retention lake, which is currently being filled, should play its due part in regularising the flow of the Sanaga by the beginning of 1975. The programme will be completed by raising the height of the M'Bakaou dam by one metre, which will increase the volume of water retained by 300 m cu.m. This will bring us to the limit of possible development at this site.

Productivity of the improvements at Edea III, M'Bakaou and Bamendjin

The improvements described above were carried out for two purposes. The first was to raise the capacity put at the disposal of the public sector from 20 MW to 40 MW, corresponding to additional annual production of 175 m kWh. It should be noted that the current supplied to the public sector from Edéa is at present consigned:

1. to Douala by 90 kV transmission lines;
2. to Yaoundé by a 90 kV transmission line;
3. to Mbalmayo by a 30 kV line from the transformer station 90/15/30 kV of BRGM at Yaoundé;
4. to Edéa through the town's 15 kV network.

The second purpose was to raise the guaranteed supplies to Alucam from 105 to 115 MW. The regularisation of the river's dry-season flow should in a normal year make it possible to increase the supplies at the disposal of Alucam by about 175 m kWh.

It is to be noted that this regularisation of the Sanaga flow has not, during the past three years, been successful in raising the quantities of electricity made available to Alucam. This was due to the exceptionally low rainfall in Africa since 1971. Moreover, the river takes seven days to flow from M'Bakaou to Edéa (640 km) and the corresponding time from Bamendjin to Edéa (420 km) is estimated at four days. Forecasts of the natural flow at Edéa must accordingly be made 7 or 8 days in advance for M'Bakaou and 4 or 5 days in advance for Bamendjin. Moreover the natural flow includes an element from the underground water reserves and a further addition of rainwater. It is difficult to forecast sufficiently far in advance the amount of the flow which will be due to the rain-water. These forecasts are further complicated by the fact that the long distances between Edéa and the two dams result in the loss of a good deal of water by evaporation and infiltration.

Nevertheless, the use of the M'Bakaou dam enabled Alucam to work at minimum rate through the dry season, whereas without this improvement the supplies to Alucam would have been cut to under 20 MW during the dry months.

The work on the second phase will make it possible to raise the guaranteed supply to the public sector from 40 MW to 80 MW and to supply a total of about 450 kWh per annum. In the final phase therefore, the improved version of Edéa will be able to supply about 1 360 m kWh.

Investment cost of the first three Edéa stations and the two new dams

The investments which have been carried out, or which are currently in progress, are as follows:

	en F-CFA (1)
Stations Edéa I and II	7 232 923 024
Station Edéa III:	
• phase 1 (2 groups of 24.5 MVA)	1 855 000 000
• phase 2 (3 groups pf 24.5 MVA)	4 360 000 000
Total	6 215 000 000
M'Bakaou dam	2 898 000 000
Bamendjin dam	1 180 000 000
Raising of M'Bakaou	340 000 000

The total investment thus amounts to F-CFA 17 865 m, of which expenditure on Edéa III (including M'Bakaou and Bamendjin) is F-CFA 10 633 m.

Finance for the Edéa III - M'Bakaou-Bamendjin programme

The mode of finance for the Edéa - M'Bakaou-Bamendjin programme is shown in the following table (million F-CFA).

(1) 1 F-CFA = 0,02 FF.

	Phase 1	Phase 2	Total
— Loans from E.I.B.	1 000	970	1 970
— Loans from C.C.C.E.	650	730	1 380
— Loans from S.C.B.	—	600	600
— Self-financed	3 103	3 580	6 683
Total	4 753	5 880	10 633

Cost of electricity produced under the new arrangements

At present the cost of the electricity delivered to the public sector works

out at around F 4.50 per kWh, but this will decline as the public consumption rises. When the public sector is using the full amount of the capacity reserved for it, the cost will be about F 3 per kWh.



The Edéa improvements and the new company SONEL

In November 1973, the Cameroon government decided to set up a company known as SONEL (Société Nationale d'Electricité du Cameroun) which was in fact formed in May 1974. It has taken over the business of the ENELCAM and Electricité du Cameroun companies in the eastern part of the country and those of POWERCAM in the west. It now has sole responsibility for production and distribution throughout the country, so that it controls all the generating and distribution facilities throughout Cameroon, including Edéa.

SONEL projects to relieve the pressure on Edéa

When the fourteenth 24.5 MVA group is installed at Edéa, the power complex will have been equipped to the fullest possible extent.

The Yaoundé-Douala region, which is the chief consumer of the power supplied from Edéa to the public sector, will be requiring within the next 15 years an installed capacity of 200 MW. By 1978-79, therefore, it will be necessary to provide further production facilities to take over some of the responsibility of Edéa, which only provides the public sector with 80 MW.

The Yaoundé-Douala region has in fact considerable water power resources of its own, consisting of the rivers Sanaga and Nyong, which have catchment areas of 135 000 and 30 000 sq.km respectively and a theoretical hydro-electric potential estimated at 20 GW. Current surveys are accordingly directed to making use of these resources. The first studies relating to the public requirements have been aimed at ascertaining which developments would be most advantageous economically and geographically and on a scale which will satisfy requirements during the 8 or 10 years after they come on stream.

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(see page 68)

The Togo railway network

by Walter RÖHR (*)

The railway system in Togo (1) consists of three lines, all of them starting from Lomé.

1. Central Line— Lomé-Agbonou-Blitta	276 km
Branch Line— Agbonou-Atakpame	4 km
2. Frontier Line— Lomé (Junction)-Palime	116 km
3. Coast Line— Lomé (Junction)-Anecho	44 km
Port Line	1/2 km
Total	442 km

To these should be added about 47 km of urban traffic lines, mainly at Lomé and Anecho and in the port of Lomé. The total network therefore is not far short of 500 km.

1. The Central Line and the Agbonou-Atakpamé branch

This is known as the Northern line. It is a penetration line into the northern part of the country and its chief traffic is cotton. The track from Lomé passes

(*) Director, Togo Railways.

(1) This article did not reach us in time for publication in the number dealing with railways in the A.C.P. countries.

through a region of palm-growing country and then comes into a region particularly good for food crops, cotton and maize.

It gets to Atakpamé, an important territorial centre, by a 4 km branch line at km 162+843 in the station of Agbonou, which is close to the cocoa and coffee-growing areas. After this it runs along the valley of the Anie, from the station of the same name, serving immigrant villages where the crops are cotton, millet, maize and food products.

The terminus is at Blitta, 276 km from Lomé and 80 km from Sokodé, an important centre in the northern region. The recently-surfaced Blitta-Sokodé road is virtually a continuation of the railway further north.

The first section of the Lomé-Agbonou line is 163 km in length, and was brought into operation in 1913 with its 4 km branch line Agbonou-Atakpamé.

There were no special track difficulties apart from a few sharp curves and occasional dips of as much as 16%. The Agbonou-Atakpamé branch, however, is a rather difficult line with curves of 200 m radius and slopes of up to 20%.

Over the whole section the rails used are 26 kg standard. The first substitutions for 20/26 kg rails dates back to 1926 and



Passenger train in Tsévié station.

the last were made from E.D.F. credits between November 1962 and the middle of 1965.

The second section running from Agbonou to Blitta was built between 1929 and 1933 and brought into operation at the beginning of 1934. Over the whole 113 km length the rails used are 26 kg standard. The track was laid out for normal traffic, with curves of not less than 300 m radius and no slope of more than 15%.

2. The frontier line Lomé-Palimé

The line from Lomé to Palimé passes through a palm-growing region and serves the cocoa and coffee-growing area, before running along the Ghana frontier.

It was opened to traffic in 1907. It was initially laid for only a small tonnage of traffic and included slopes of as much as 20% and sharp curves of as little as 200 m radius, especially between Togo plantation and Palimé. Later the track was improved, bringing the slopes down to a maximum of 16% and rectifying the sharp curves. This made it possible to carry a traffic which is almost normal without any cuts in the speed.

The track is laid over its full length with German 20 kg rail, taking 1600 and 1800 TM/km.

3. The coastal line - Lomé-Anecho

The Lomé-Anecho line has been re-laid over a fifth of its length, to enable the port of Lomé to be built and avoid the line having to pass through the town. The new track uses the central line as far as the junction (km 2+500). From this point a new line was built as far as Akodessewa (km 10) using 33 kg rails, welded and laid on metal sleepers (1 500 TM/km). The track is ballasted with broken gneiss.

From Akodessewa to Anecho the line still uses the permanent way laid in 1905, which is horizontal, almost straight and has no bridges.

Utility and current problems

The usefulness of a railway needs no demonstration, but a few years ago serious doubts were raised about it. There was a road scheme which made it possible to consider the whole railway

system being eliminated. This attitude, indeed, was gaining the upper hand, but the last and most important factor was the increase in the price of fuel.

Even so, the Togo railways are still handicapped by the short distance they cover, the load-breaking at Blitta and the modernisation of the road system. The result is that the railways run at a loss.

The prospects, however, seem better. The World Bank has accepted the project to build a railway from the port of Lomé to Tabligbo to serve a proposed clinker production unit, part of which will be used for the Cimao cement works at Lomé while the rest will go for export. The scale of the operation contemplated is 2 m tons per annum.

manganese. The distance from Ouagadougou to Lomé is materially smaller than that from Ouagadougou to Abidjan.

Economic and social questions

The existing railway network, though handicapped by its small scope, nevertheless maintains connections which may be slow, but are undoubtedly sure by comparison with corresponding road links. Moreover the Togo population likes the railways, largely because fares are low and they can carry the voluminous luggage with which the Togolese are apt to travel. For a year, indeed, there was a road craze and the future of the railways looked doubtful; but since 1974



In Togo, even the tourists go by train. Above is a special train for the passengers from m.s. Hanseatic in the port of Lomé.

Another project still on the drawing board, but for which surveys are being made, is for the Lomé-Blitta line to be extended to Ouagadougou. The proposed route would pass through the Fazao range, and then make for Dapango by way of Bassari-Kadou and Sansanné-Mango. Branch lines would run to the iron mines at Sokodé Bandjeli and also to Lama-Kara. At Bandjeli the estimated ore reserves are about 600 m tons.

Another project is a railway link between Upper Volta and Togo. An up-to-date line here could take a large part of the production from the Sahel countries and more especially the Tambao

the passenger traffic has been flowing back to the railways.

Undoubtedly it costs a good deal to build a railway, but it lasts much longer than a road. The Palimé and Anécho lines, which were built in 1905 and are still using the original track material, are standing examples of this. The European Development Fund can scarcely withdraw from its pro-road attitude; up-to-date roads were indeed indispensable for Togo; but with the development of mineral resources up-country, it is certain Togo's economic growth will necessitate an up-to-date railway. ■

W. RÖHR

CAMEROON

The agro-industrial complex at Dibombari

by P.G. MARTINEAU (*)

The Dibombari agro-industrial complex is between 25 and 45 km from Douala. It lies between the Douala-Nkongsamba road on its east, the Mungo river on its west and directly to the north is the Douala-Tiko-Victoria road. N'Kapa, which is on the edge of the plantation, is served also by the Douala-Nkongsamba railway.

The Dibombari plantation area will cover 6 900 hectares, of which 6 236 ha will be for actual plantation and the remaining 664 ha will consist of roads, tracks and various types of undertaking covering a total concession area of 11 695 ha.

The plantations will thus be in a region which has the advantage of the extensions and improvements in the main arterial roads serving Douala (projected highway with Dibombari at km 22), Tiko-Victoria (up-to-date road) and Nkongsamba (project for road reinforcement), where the population will concentrate around the roads, including immigrants from the west and south-west.

This is a region in which traditional agriculture has shown little development and modern farming has been hanging fire. Forestry operations will probably be no more than transitory. There has been no development of industry and no increase in the number of wage-earners in the service and commercial trades.

The Dibombari agro-industrial complex will involve the creation of about 1 000 jobs and thus pump a valuable mass of purchasing power into the local

economy, which has a population bordering on 20 000 people, the great majority of whom are at present underemployed. The market economy towards which this should lead the region, is at present practically non-existent.

The clearing of the ground for the complex includes the mechanical clearance of 4 470 ha of forest and the manual clearance of scattered palm areas covering 2 430 ha.

The contract for the forest clearance has been put in the hands of a firm with powerful equipment in the way of tree-crushers, bulldozers and other material. Most of the manual clearance (2 100 ha) has been undertaken by a Cameroon firm, while the remaining 330 ha will be cleared by the plantation itself.

The clearance programme is spread over four years as follows (figures in ha):

	1973/4	1974/5	1975/6	1976/7	Total
(1)	860	2 400	1 210		4 470
(2)	500	550	550	500	2 100
(3)	60			270	330
(4)					6 900

- (1) Mechanised preparation.
- (2) Manual preparation by contractor.
- (3) Clearance by own means.
- (4) Total.

The planting programme for 1973/74 covers 1 011 ha and that of the following year another 1 800 ha. The full plantation of 6 236 ha is scheduled for completion by June 30, 1977.

The plantings of each year from 1974 to 1977 will come into bearing successively from January 1978 to January 1981. It is not till 1985/86 that production will reach its scheduled rate of between 90 000 and 95 000 tons of stalks, corresponding to an annual production of 20 000 tons of palm oil and 4 400 tons of palm kernels.

The construction of the oil pressing plant is scheduled for 1977/78. It will have an initial capacity of 20 tons of stalks per hour and this should start in the following year. The capacity will have to be raised to 30 tons per hour in 1981/82, with the reserve possibility of extension to 40 tons per hour.

* *

The projected development of oil palm plantation at Dibombari has called for a considerable programme of housing and administrative building. This can be summarised as follows (number of units):

	Plantation	Plant	Total
(1)	500	39	539
(2)	2	1	3
(3)	8	—	8
(4)	40	12	52
(5)	550	52	602
(6)	6	—	6
(7)	19	—	19

- (1) Workers' houses.
- (2) Foremen's houses.
- (3) Houses for assistants etc.
- (4) Intermediate staff houses.
- (5) Total housing.
- (6) Offices.
- (7) Infirmarys, sheds, shops, schools and storage.

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(see page 68)

(*) SOCAPALM Inspector of Plantations, Douala.

Summary of food aid supplied by the E.E.C.

Development of food aid

The Community's food aid has developed in a somewhat pragmatic fashion in two stages:

1. Initially it concerned **cereals** and was—and still is today—based on an **international commitment**: the Convention on food aid.

This Convention, which is an integral part of the International Wheat Agreement, was agreed in 1967 (in force 1.7.1968) and was renewed in 1971 for a second period of three years.

By this agreement, the E.E.C. was committed to supply annually 1 035 000 tons of cereals for the purposes of food aid. This contribution was maintained at a constant level from 1968 until the enlargement of the Community when it increased to 1 161 000 tons in 1972/73 and to 1 278 000 in 1973/74.

The value of these supplies is now about \$850 million to which should be added \$310 million per country.

2. Under the combined pressure of agricultural surpluses and requests from Third World countries whose food deficit, notably in high-protein and high-calory substances, is particularly severe, the Community has extended its activities to **other agricultural products** apart from cereals such as dairy products (powdered milk and butteroil), egg products and sugar.

Contributions in this field have been outside any international commitment, made by autonomous decision of the Community. But since there is no juridical basis for them other than the common rules of organisation of the agricultural produce markets in question, they have remained very much linked to

the levels of availability of these products on the Community market. This legal limitation has meant that the Community has not been able to pursue a regular and continuous a policy for these products as in the field of cereals.

Aware of the need for a measure of separation of Community food aid from the fluctuations of the stocks of agricultural products, the Commission is preparing to define an overall policy in this sphere. This would enable the setting up of continuous programmes covering a wide range of products. Such proposals, if they are accepted, would allow the Community to reply in a more satisfactory way than at present to the qualitative and quantitative needs of developing countries.

Objectives and methods of operation

The Community's food aid, which is always in the form of **gifts** to the recipient states or organisations, meets a triple need:

- to aid countries which are victims of disasters;
- to raise the nutritional level of the people of Third World countries;
- to bring direct assistance to the economic development of these countries.

The pursuit of each of these objectives has led the Community to engage in three types of operation:

1. Emergency assistance

In their very nature exceptional, these operations are intended to fight famine situations caused by natural disasters (earthquake, flood, unusual drought, etc.) or internal or international conflicts.

Thus the Community intervened in favour of the Sahel countries affected by drought (112 955 tons of cereals) and also provided food aid for victims of the Nigerian civil war, and the Bengali refugees in India at the time of the recent war between India and Pakistan.

In this type of operation the Community usually pays for the costs of transport to the affected peoples, as well as for the food itself, which is in principle distributed free to those in need by the governments or specialised organisations with which the Community is working.

2. Operations with a specifically nutritional aim

These are established in a country or group of countries when serious food deficiencies are affecting or are likely to affect certain categories of people such as the young, the old, the sick, or refugees.

Thus, the Community has been supplying since 1972, in the framework of a programme lasting several years, to the United Nations agency for Palestine refugees (U.N.R.W.A.), annual contributions of both products (in 1974 20 000 tons of cereals, 6 000 tons of sugar, 1 600 tons of milk and 2 000 tons of butteroil) and funds (2 172 000 units of account (*)). This assistance is intended to help this organisation meet the food needs of people living in the Palestinian refugee camps in different Middle East countries.

Since this assistance goes to impoverished peoples, the Community's assistance is provided without charge.

(*) A Community unit of account is worth \$1.2.



3. Operations for development

These are the most frequent type of Community operation.

Although aimed at bridging deficits in the countries which request such aid, the aim is above all to act as an instrument of economic and social development in these countries.

E.E.C. aid in this case concerns those countries which are either incapable—for lack of funds—to import agricultural products needed by their peoples, or are obliged to reduce to a strict minimum the use of their foreign exchange to buy food, or to devote such exchange to food needs at the expense of material or equipment needed for development.

In this case, the governments must sell the products received as aid on their national markets, the counterpart funds thus obtained in local money being used for the financing of development projects.

These projects are chosen by the governments of the recipient countries, then agreed by the Community.

As a general rule, the delivery of products for these purposes are carried out f.o.b. from Community ports.

Analysis of food aid

The aid furnished by the Community must be seen from three angles:

- whether it is furnished by the Community as such or by the member states;
- which means of distribution is chosen;
- the number of countries which benefit.

1. Community aid and national aid

In the field of cereals, the commitment undertaken in the Convention on food aid is carried out on the one hand increasingly in the form of Community operations and on the other through national operations. The attached table shows this evolution:

	1968/69	1969/70	1970/71	1971/72	1972/73	1973/74	Total
Cereals in volume (tons)							
Community operations	301 000	337 000	353 000	414 000	464 000	579 150	2 448 150
National operations	734 000	698 000	682 000	621 000	696 600	707 850	4 139 450
TOTAL	1 035 000	1 035 000	1 035 000	1 035 000	1 160 600	1 287 000	6 587 600
Cereals in value US (million dollars)							
Community operations	19,6	21,9	30,7	31,7	85,7	150,4	340,0
National operations	47,7	45,4	59,3	47,6	128,6	183,4	512,0
TOTAL	67,3	67,3	90,0	79,3	214,3	333,8	852,0

— Aid in the form of other products The following are the totals for the last five years: is entirely carried out by the Community.

	1970	1971	1972	1973	1974	Total
Other products (tons)						
Milk	24 580	46 935	55 185	46 134	82 966	255 000
Butteroil	10 927	10 091	15 982	15 000	45 000	97 000
Eggs	—	—	—	500	—	500
Sugar	—	—	6 150	6 062	6 094	18 306
Other products (in value \$ million dollars)						
Milk	8,20	28,5	35,8	30,1	68,2	170,8
Butteroil	8,4	20,2	31,2	13,7	48,8	122,3
Eggs	—	—	—	1,2	—	1,2
Sugar	—	—	1,6	1,9	5,0	8,5
Financial contribution	—	—	1,6	1,6	2,2	5,4
Total	16,6	48,7	70,2	48,5	124,2	308,2

2. Direct Community aid or aid through international organisations

Food aid being the only means of financial cooperation between the Community and all developing countries, the Community—acting through the Commission—is anxious to administer its aid itself, thus meeting moreover the wishes of developing countries who are coming to the Community with an increasing number of requests for direct aid. In consequence the Community is obliged to limit the use of the specialised international agencies (W.F.P., I.R.C.C., U.N.R.W.A.), unless these—like I.C.R.C. and

U.N.R.W.A.—are particularly well-placed both in terms of operational efficiency and of providing necessary guarantees of neutrality in the distribution of the aid.

If the use of direct aid has been the general rule in the field of cereals, the same has not been the case with other products, although these are now evolving in the same direction.

3. Recipient countries

The number of countries receiving food aid has increased for cereals from 8 in 1968/69 to 36 in 1973/74. ■

SURINAM

E.D.F. finance for school building

Surinam is an autonomous part of the Kingdom of the Netherlands, but before long it will be fully independent. Since 1962 it has been associated with the European Economic Community and has had access to finance from the European Development Fund. Over the period 1962-72 the Fund commitments in Surinam amounted to 45 m units of account (1) in the form of grants, and UA 1.5 m in loans on special terms.

The aid was granted for various purposes, among which the building of schools accounted for 28% of the total.



Up-to-date classrooms for up-to-date education.

Primary education

As early as 1962 the E.E.C. recognised that contributions were needed for modernising school buildings used for primary education.

The Surinam population is young. According to the 1972 census, 45.7% of the population is 15 years of age or less. Compulsory education dates back into the last century and practically all the children go to school. The schooling is old-established and this is reflected in the fact that it is dispensed in buildings which are also old, in many cases dilapidated, and which do not come up to modern standards.

An intervention programme was accordingly drawn up, not only for replacing part of the existing buildings but also for increasing the primary education facilities to meet the high rate of population growth.

This programme was carried out in three phases.

Phase 1. From the 1st E.D.F. a sum of UA 820 000 (equivalent to 1 546 000 Surinam florins) was provided for the construction and furnishing of 148 school buildings and 16 residential buildings located on 18 sites all over Surinam. This building programme started in 1964 and was completed by the end of 1966. The building contracts were awarded to Surinam firms, 11 of which carried out the whole programme.

Phase 2. The second phase followed almost immediately and cost rather more—a total of UA 960 000. This came from the 2nd E.D.F., under a finance agreement signed on April 24, 1967.

The work was put in hand in the first quarter of 1969 and finished by the middle of 1970. This time it was concerned with putting up 115 school buildings and 25 residential buildings on 20 dispersed sites, including the cost of furnishing. Work was carried out by five Surinam contractors and one Dutch firm.

Phase 3. Now came the most imaginative phase, which had to be divided into two parts. Once more the finance came from the 2nd E.D.F., which undertook a commitment of UA 4 412 000. For the first section the contract awards were made in October 1971 and for the second in July 1973.

In this third phase the work in the first section consisted of building and furnishing 166 school buildings and 28 residential buildings on 22 separate sites. The contracts were awarded to four Surinam firms, which completed the work between 1971 and October 1972.

The second section is now nearing completion. It covers the construction of 223 school buildings and 27 residential buildings on 20 different sites and, as before, the provision of the furniture needed.

The nine Surinam contracting firms unfortunately ran into serious financial difficulties in carrying out this second section of the third phase. This was partly due to the world economic crisis

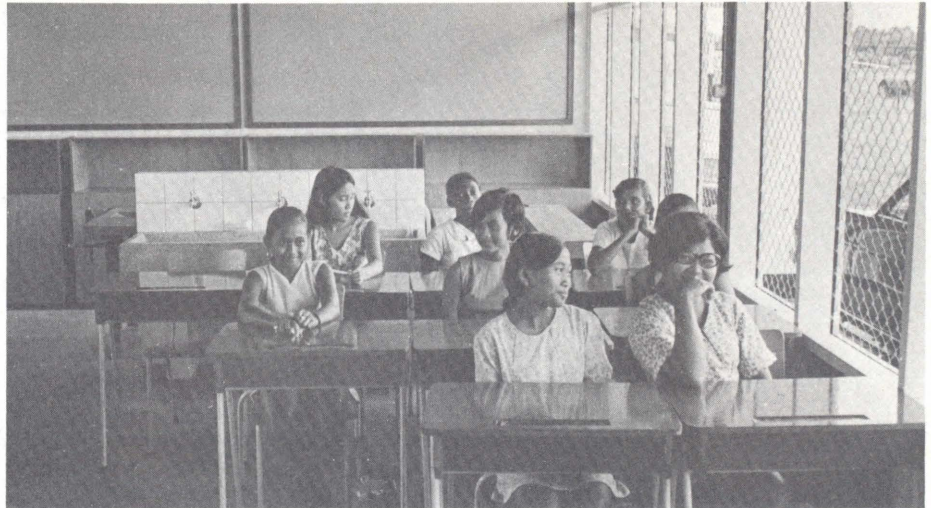
(1) The unit of account (UA) = (approx) \$1.20 US.

The material used under this heading is taken principally from the reports of E.D.F. delegates in the A.A.S.M.

and the resulting upward price spiral, and partly to two successive devaluations of the Surinam currency which is linked with the US dollar and has followed its fluctuations.

This meant that the money the Fund had undertaken to provide was not enough to complete the programme.

This description makes it clear that the E.D.F. has contributed on an important scale to modernising the primary education equipment in all its phases from the kindergarten to the school itself. New buildings have been put up for 752 primary education establishments, the furniture has been provided, and for 80 of the schools a further 96 residential buildings have been constructed.



Children happy to be in school.

Secondary education

Secondary education as such has had only a small contribution from the E.D.F. This related to a single project which covered the building of boarding facilities for children from the interior of the country taking their secondary education in the capital. The cost is estimated at UA 1 113 000, but the scheme is still only at the project stage, for the architect's plans have been sent back for amendment.

It is worth noting, nevertheless, that the E.D.F. interventions for primary education projects have an overflow effect on secondary education. This is because some of the school premises provide a level of teaching which is

officially classified as primary, and is known as "continued primary" education, but is in reality at the secondary level.

Higher education

Under a convention dated December 1, 1971, the Community has agreed to finance the building of a Technical Education Institute at the medium and semi-university level. The cost is estimated at UA 5 739 000, covering not only the cost of construction, but also the architectural surveys, works supervision and the supply of furniture and equipment.

The Institute in question will ultimately become the science faculty in the University of Surinam. It meets the urgent need for higher technicians and trained supervisory personnel. Hitherto such personnel had been sent abroad for training, and often did not return to Surinam when the studies were completed.

The primary schools built with the successive E.D.F. financings are in the northern part of the country, and it is a striking fact that the schools were at first concentrated in the coastal area and subsequently in the capital.

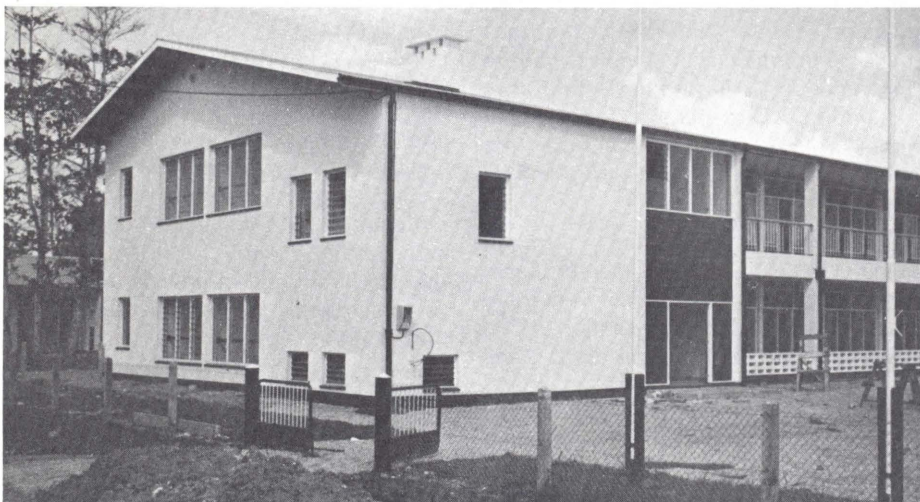
This is due to the peculiarities of the distribution of the population. There are about 400 000 inhabitants and it is estimated that nearly 80 000 of them are quasi-permanent residents in the Netherlands.

The population which really lives in Surinam is concentrated along the coast. South of the 5°30 parallel there are only very occasional population centres, and these are inhabited by Indians or Creoles. Even in the coastal strip itself, another such concentration is being formed in and around Paramaribo. This region (Paramaribo and Surinam districts) has about 250 000 inhabitants.

The population is thus very unevenly spread, and the position is complicated by an increasing scale of emigration. This raises some very thorny problems for the education authorities and solutions will have to be found quickly. ■

S. DE MAN

One of the school buildings financed by the E.D.F.



The mask in traditional African society

by Pier Giorgio CERRINI (*)

Rock carvings and paintings in Africa show that the wearing of masks and the decoration of the face date back to pre-historic times.

The significance of the mask to the Africans was one of psychological disguise. The wearer takes on the dimension of a spirit-man, and there is in the mask a power which makes him an intermediary between his social group and the forces of the universe.

The mask enables the wearer to get in touch with the errant forces of the universe or with the spirits of ancestors, which he can capture and bend to his will. The social group accompanies the mask with song and dance, inducing a kind of collective hypnosis to help the metamorphosis to occur.

Only the initiate can understand and interpret the complex symbolism of secret language which the mask transmits. It is used not only in religious observance, but also for practical ends. Its function may, for example, be to enforce respect for the law, to maintain order, to secure justice; and for entertainment. So a hierarchy of masks builds up in which they are classified by their function. It is through masks that oral traditions are perpetuated, for the miming of the dancers tells of the mythological origins of the group and its more authentic history.

The mask is sculpture in movement, intimately linked with choreography, music, song and dance, all of which are indispensable in an appreciation of its rôle. In African animism the mask is the vehicle for the vital force set at liberty by the death of a man or an animal, and various rituals make it possible for such forces to be retained and controlled in the interest of the social group.

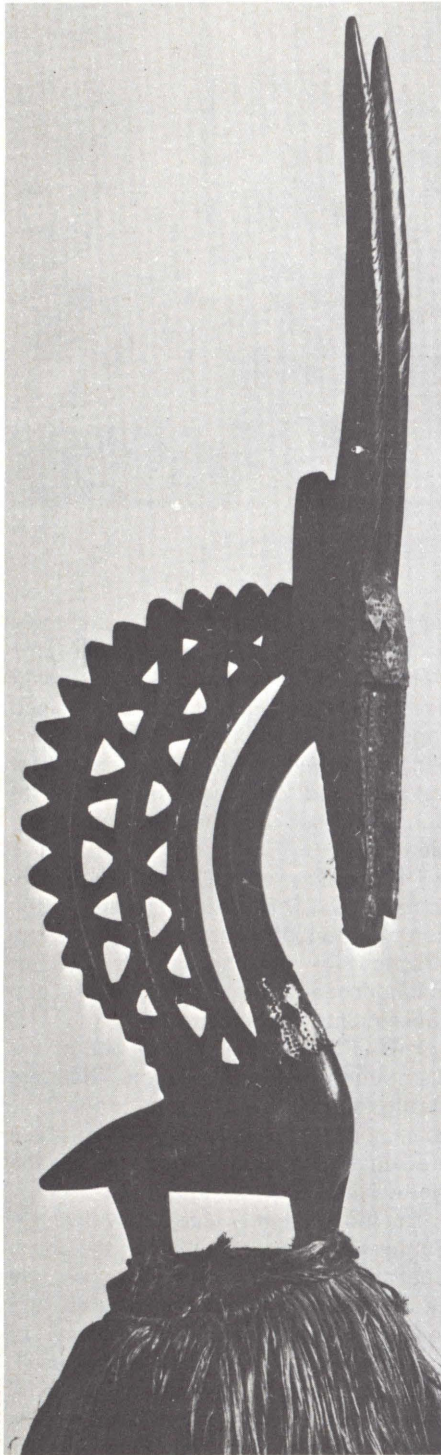
Tribal organisation determines the function and the form of masks. The arrangement of volumes, planes and geometric forms stems from very precise rules and rituals. The artist is not free to create whatever his imagination suggests, though he may indeed make modifications in the original theme to give his work a personal style. African art is in a sense repetitive, for freedom of expression is linked with the traditional styles of the group.

In order to create a mask, authorisation must be obtained from the medicine man or the tribal chief, who will take charge of the ceremony at which the mask is produced. It may be created to replace one which is no longer used, or is deemed too old or to have suffered a weakening of its powers. The fibres and the materials of the mask may also be replaced.

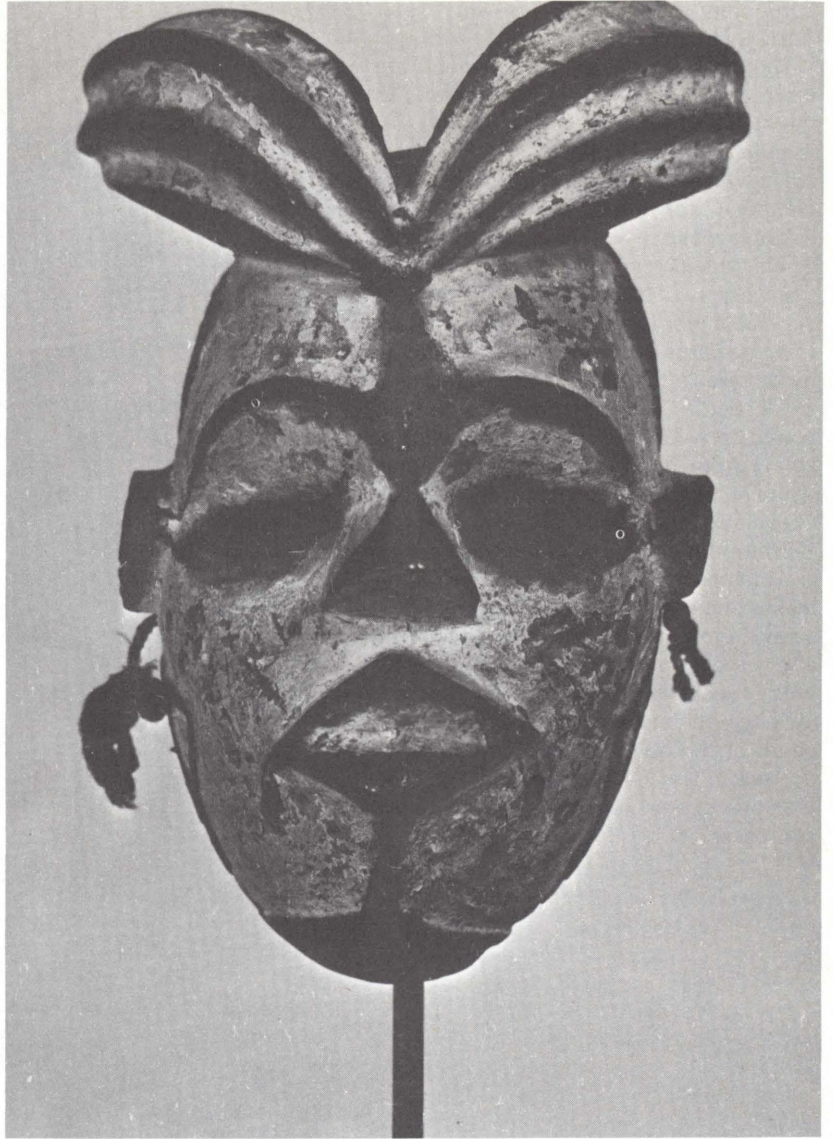
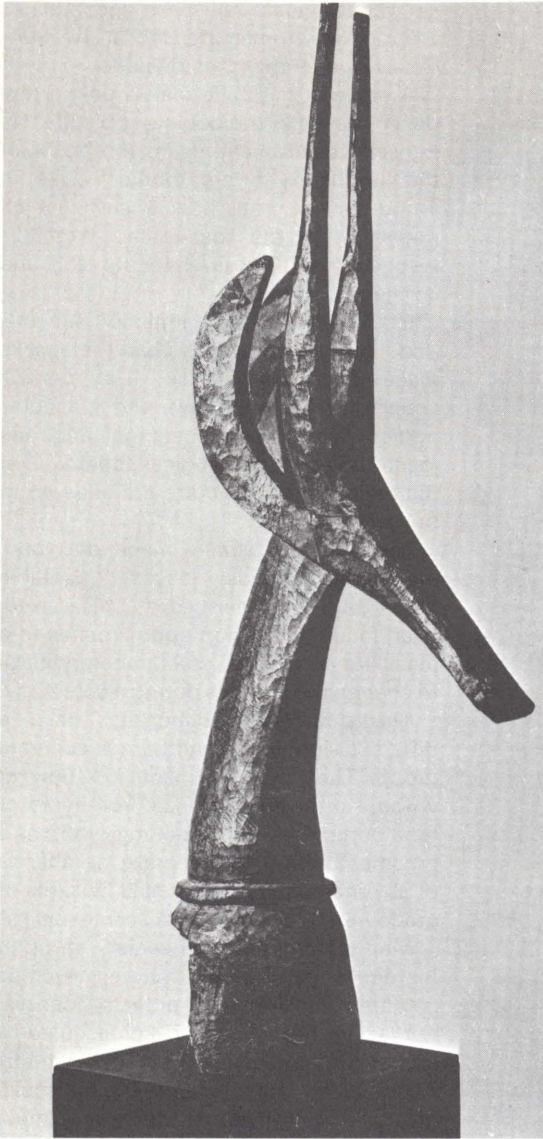
The sculptor entrusted with the task of making a new mask must submit himself to purification rites, scrupulously following the litany laid down to avoid any infringement of rules, ritual and taboo.

For all types of masks, the sculptor chooses a tree corresponding in size to the object to be created. The wood, after its cutting, is worked for several days; and every wood has a different magical power of its own, though preference is given to woods most amenable to carving, for it is a rule that the work must be all in one piece. The wood is carried to a lonely place where the sculptor performs a number of

(*) A brief, general article on the highly complicated subject of African masks can do no more than trace a few of its main lines, as the multiplicity of artistic and cultural influences involved daunts even the most scholarly ethnologists. The author is an amateur collector of African art and offers a personal view.



Headwear for the Tji wara dance of the Bambara (Mali). Tji wara is a mythical Bambara personality represented as an antelope. The legend is that she gave birth to two sons as she died, to whom she transmitted the art of tilling the earth. The masks are worn in the arid fields before the rainy season.



(Left) Emblematic mask of the Kurumba (Upper Volta). The mask represents the head of a gazelle. It is worn in ceremonies marking the end of a period of mourning, and for certain agricultural rites. It shows the great artistic sensitivity of the Kurumba, who regard themselves as descendants of the Tellem people who formerly lived in the Dogon country.

(Right) Ogoni mask (Nigeria). This mask was probably worn during acrobatic dances organised for harvest festivals.

ritual acts. It is he who will be using the adze, the various knives and the piercing tools which are regarded as sacred and to which sacrifices are offered. In the evening twilight the sculptor returns to the village, depositing his unfinished work with the warden of the masks, from whom he will take it once more just before dawn.

The completed carving is polished with vegetable oils to avoid spoiling through drying of the wood. Coloured powders

are used to throw up the relief in the structure. The polish, the colour, the design, the form and the expression of the mask are all symbolic. This multiform plastic symbolism is capable of different interpretations, and often the original significance is lost.

Another ceremony marks the transfer of powers from the old mask to the new. It is followed by a sprinkling of the mask with some liquid, or even sacrificial blood. All this must be done with great

care, so that the spirit which inhabits it may recognise it.

The first occasion on which the mask makes its debut will be marked by the unanimous admiration and approval of the group, and will be an occasion for gifts and offerings.

The wearing of the mask is usually a privilege of the men, and is part of their progress towards the higher ranks in the group hierarchy. The honour, however, is not universally sought, for it implies

conformity to a number of very strict rules, including sexual purity.

There are, however, masks which are worn only by women. An example is in the feminist Bundu society among the Mende in Sierra Leone.

The wearer of the mask has to disguise his face for protection against the risks described to him during the initiation. So that the dancer may be unrecognised, the mask is finished off with a hood of vegetable fibre rolled around the head. In some cases it is fixed to the shoulders by braces. In the bigger masks there is a small baton inside which the wearer holds between his teeth to prevent it falling from his head during the dance, when he might be recognised by his neck or even his face.

When the ceremony is over the masks are put in charge of the warden of the masks, who puts them in a safe place away from curious eyes, and some way above the ground lest they be attacked by ants. Masks which have deteriorated, even by accident, are replaced; and on the death of the owner of a private mask, it accrues to a member of his family or, if he was one of a secret society, to his direct successor.

Satimbe mask of the Dogons (Mali). Satimbe is one of the class of masks representing ancestors. The facial part of the mask can be compared with the "Sirige", but the upper part is crowned with a small statue (dege) representing the "Yasigine", a mythical female who discovered fibres. The dance is punctuated with many leaps and bounds by the wearer of the mask to the accompaniment of singing. The following song belongs to this mask:

(from "Les masques Dogons", by M. Griaule)

*Mask of wood, young damsel, hail!
Your head is a pretty one
And you have an oxtail in your right hand
All the men have their eyes upon you
All the women have their eyes upon you
All the children have their eyes upon you
All the dogs have their eyes upon you
You have a gourd in your left hand
The villages of
 the West have their eyes upon you
The villages of
 the North have their eyes upon you
The villages of
 the East have their eyes upon you
The villages of the South (with the trees of
 the bush) have their eyes upon you.
Hail!
May Amma protect your feet
May the earth protect your feet
All eyes are fixed upon you.*



Collection P.G. Cerrini

Over the years the mask accumulates the powers transmitted to it by successive generations of owners.

A sculptor normally makes only a few dozen masks in the course of his life. He himself usually belongs to the caste of the smiths, who are workers alike in wood and in iron. It is a caste which ranks low in the social scale, but it is respected and admired for its skill and its magical powers.

It is for ceremonies of initiation, funerals and farming occasions that the masks make their appearance. The festival usually lasts several days, and is accompanied with music, dancing and the recitation of mythological poetry. For the most part women are not allowed to be present.

The mask is usually made of wood, but plaited reeds, leaves, vegetable fibres and other tissues are also used. Even facial decoration approximates to a mask, for it is ranked as a temporary mask to change the features during a ceremony.

Masks of small dimension have a different significance and are a separate group. They may be made not only in wood, but in gold, bronze, iron, ivory or terra cotta. They are sometimes worn as a commemoration for funerals, as charms or as ornaments, for they may be signs of grade in the hierarchy of a secret society.

Man in early forms of society, through his direct contact with nature, develops faculties outside the ordinary senses; contact with western civilisation, customs and institutions may weaken his traditional art or, worse, extinguish his social group. The traditional artist is almost disappearing from the scene, swept up by the tide of civilisation.

The collector of masks does not penetrate beyond the material and aesthetic dimension, and the mask is no more than a work of art. The magic strength it possesses belong to quite a different dimension, and only primitive man has access to it. It is with real respect that the study of masks must be undertaken, for only so can their message be understood.

Much has been written about primitive art, and important works are rapidly disappearing from the international market into museums and private collections. To satisfy the demands of the profane, imitations and forgeries abound. ■

P.G. CERRINI

E.D.F. assessment of transport projects

(from page 30)

a peasant in a backward area? Any choice must necessarily imply standards of value which are by nature socio-political. Against this background the synthetic criteria of overall economic profitability, as we have defined above, are no more than partially valid. They are nevertheless useful, for they throw light on one important matter, which is the extent to which the projects contribute to economic growth; but they need to be supplemented by reference to socio-political objectives—welfare, economic independence, national integration and similar considerations. The art of helping in the decision is thus the art of making those concerned recognise the various aspects of enlightenment which have to be applied to the projects, so that they may make their decisions with a full knowledge of what is relevant.

V. Position of E.D.F. in the process of choosing transport projects

It is firmly laid down in the Association Conventions between the European Community and its partner States that the choice of financial interventions by the E.D.F. must result from a process of discussion between the parties. It is quite obvious that discussions of this type, if they are to have any chance of producing results, have got to be organised under rules of procedure accepted by both sides. In practice, the basis is that the partner countries determine the order of priority for the projects they submit to the E.D.F.; and provided the priority is effectively established, the Community accepts a commitment to finance them within the limits of the credits available for each country.

There has of course to be agreement in defining the priorities. In the special case of transport projects, the foregoing pages have defined a logical system of examination, giving a certain objective value to this definition. The objectivity of course is limited partly by the fact that decisions have to be based on conjectural estimates and also by the criteria of judgement underlying the economic and social policies of individual countries. This means that the Community's exercise of its power of appreciation is somewhat ambiguous, since it has to hold the balance between two obligations of equal importance, but sometimes mutually contradictory. These are:

- making sure that the aid is effective;
- conforming to the economic and social policies which the partner countries lay down for themselves under their sovereign authority.

For this purpose the E.D.F. practice divides the appreciation process into two, though these are in many ways interconnected. They consist of:

- the level of the general and sector balance based on social-political considerations;
- the choice between alternative versions of a project by which a given objective can be secured.

As regards the former, the definition of the economic and social policies in the partner countries is determined by a number of subjective factors which result in the E.D.F. having to make a very flexible approach in exercising its right of appreciation. At the most, it can request various safeguards. In matters of transport investments, for example, it endeavours to secure that its interventions:

- do not, on the one hand, accentuate any structural imbalances between different sectors, such as an excess of infrastructure investment by comparison with those directly productive of incomes; and on the other, between investment and the capacity to maintain and manage. What good would it be, for example, to build roads if the country has not the resources to maintain them?

- conform to certain definite standards of overall economic profitability which, however, are subject to flexible interpretation. There is no rate of profitability below which the financing would be automatically refused; but the need remains for deviations from the standards to be explained and justified. For example, when the profitability is low, additional care is given to the examination of other characteristics of the projects, such as the effect on employment and on integration.

At this stage, therefore, the E.D.F., as a foreign finance organisation, exercises its power of appreciation indirectly and with discretion, inviting the partner countries to give their own explanation of the projects they choose, and the priorities they formulate. The ultimate proof of the effectiveness of the foreign aid is, in the last resort, the fact that these countries carry out the procedure effectively and correctly. The aid only contributes to development insofar as it fits in with national, economic and social policies which are themselves effective. On this basis far-reaching discussions with the partners can proceed, helping towards the improvement of national development policies which thus become an important element in the effectiveness of the Community's financial aid.

Under the second heading, when it is a question of choosing the right version of the project, the standards of E.D.F. criticism are more severe. When the discussion runs on financial soundness and the technical aspect, objective considerations replace the more subjective factors of social policy, and the discussion is apt to become easier because it is more technical. If, for example, at any given level of traffic, a road surface in concrete costs more than compacted soil, the choice of the latter will prevail whatever be the political system in the country concerned.

The fundamental fact is that the E.D.F. decision in all such matters results from a discussion procedure between it and the partner country, and this is true at all stages of the project. The procedure makes it possible to understand the projects from many points of view, and to exchange the relevant arguments and work together in forming an opinion on whether the projects are justified. This of course does not necessarily produce an identity of opinion, though the concerted approach between partners of goodwill often leads in this direction. But in any case, the procedure ensures that the Community decision is reached with full knowledge of the facts and a clear statement of the different points of view. ■

A. VANHAEVERBEKE

Road Research Laboratory

(from page 54)

designed roundabouts and streambed intersections. The laboratory's traffic division has been testing traffic management techniques, notably in the Far East.

Longer-term improvements require good data, and here there is much to be done in raising the standards of traffic censuses and assessing changes in the total amount of travel over an existing road system. One of the instruments enabling roads to be quickly evaluated is the laboratory's special test car, a vehicle equipped with recording devices to provide a continuous record of road geometry and surface conditions at speeds up to 60 km/h. Another is a light-weight portable wheel-weighing unit for use in axle-load distribution surveys; a small number of heavy axle-loads can seriously reduce the condition of a road surface, and many roads in developing countries now carry heavier traffic than they can reasonably sustain. Research by the laboratory in Kenya, supported by the International Bank for Reconstruction and Development, has been aimed at coordinating these factors to define a practicable computer model of optimum road standards at given traffic levels.

Cooperation

The unit has linked its research as far as possible with the cooperation of other agencies, national and international, engaged in transport development, and training constitutes an important part of its programme. Lecture courses have been given in a dozen centres around the world, and a new residential course for postgraduate highway engineers in England was oversubscribed by a factor of ten last year. The unit participates actively in international conferences. In the words of the Head of the Overseas Unit, Dr. E. D. Tingle: "There is an urgent need for a growth of free and frequent contact between the scientists and engineers actively engaged to increase awareness of common problems and to help one another in their solution". ■

Edéa:

Hydro-electric development

(from page 57)

Three projects have been definitely classified for consideration:

— on the Sanaga river, the development at Song-Loulou of a capacity of 240 MW and of Nachtigal of a further 12 MW;

— on the Nyong, development at Njock-Mpoumé, the first section of which will provide 120 MW.

SONEL proposes to make a start on one of these projects in 1976 so that the first supplies will become available according to schedule in 1979.

* *

The energy crisis is a fundamental fact in present day world conditions. It has not spared SONEL for, though only about 5% of the total Cameroon production in 1972-1973 came from thermal power stations, this small proportion nevertheless called for the import of 15.5 m litres of gasoil and the requirements for the present year are put at 18.5 m litres. It is estimated that the higher prices of oil products will add F-CFA 500 m to the fuel expenditure.

In the developed countries steps are being taken to speed up the development of nuclear power production. For Cameroon it is a matter of replacing the present generators by hydroelectric power stations. Quick execution of the new hydroelectric schemes and the corresponding transmission lines to the distribution centres is an urgent necessity. SONEL cannot tackle these projects without borrowing money abroad, especially since its capacity to find its own finance is threatened by the high prices for oil. The situation was recently summarised by Mr. Elangwe, Minister for Mines and Energy when he said: "In a world where everything has become uncertain, we must lose no time in the execution of whatever we undertake, for it is our very survival which is now at stake". ■ **D.K.**

Dibombari:

The agro-industrial complex

(from page 59)

The offices, workshops and storage for the plant unit are included in the building of the plant itself.

When the plantation reaches its final stage, there will be five separate divisions, including a central division covering both the plant and the management. Each division will have its own village, its own infirmary, school and shops. Places of worship will be added later when the population has settled and the needs are clarified.

The scheme provides for the provision of sports grounds in each village. A considerable number of vehicles will be needed during the starting period. The present provision is for:

— 8 liaison vehicles, 13 light field-working vehicles and 2 of the jeep type;

— 9 plantation trucks, 2 collecting sets and 1 factory truck;

— 10 tractors and tow vehicles, including 1 tanker;

— 1 leveller, 1 roller-compact, 1 tractor-loader and 1 forklift truck.

There will thus be more than 100 vehicles and tenders calling for an up-to-date and well-equipped garage-workshop.

The product offtake will be mainly by railway, bringing a supplementary income to the Cameroon railway system.

The E.E.C. has granted the following aid for setting up the Dibombari project:

— Non-repayable grant of F-CFA 808.9 million (1), starting-up costs, supervision, plantation workers' housing, including water supplies and electricity.

— Loan of UA 8.85 m on special terms, of which UA 5.14 m for the agricultural and UA 3.71 m for the industrial investment. ■

P.G. MARTINEAU

(1) Equivalent to FF. 16 178 000 (one F-CFA = 0.02 FF).

BOOKS

René DUMONT. — **Agronomist of hunger (Agronome de la faim)** — Collection: Un homme et son métier — Edition Robert Laffont, 1974 (4th quarter) FF 34.

René Dumont is not unknown to readers of "The Courier". We have often reviewed his publications in recent years, and a few weeks before the French presidential election in May 1974 he gave our editor an interview, reported in number 26.

This book is a summary account of his life and experience. He talks about himself, both his profession and his ideal, which has been to combat the scourge of hunger. In him the teacher is inseparable from the man of action. From 1933 till 1974 René Dumont was teaching at "Agro" in Paris; but before this, in 1929-32, he worked around Hanoi in the ricefields of Tonkin, studying the crops in China and also in India. It was here that there came so actively into his consciousness the problem of hunger, to which he was to devote his life.

It was for this reason that, just after the war, he was asked by several governments to advise them on agricultural matters. This led him into many studies, which could only with difficulty be mastered at the same time, but which must be at the service of anybody who would apprehend reality and act upon it. Such studies were economic, agronomy, sociology, demography and others; and with these in his kitbag René Dumont has become world famous. He is keenly aware, nevertheless, that the

combat to which his existence has been given up—the struggle for development and the battle of hunger—can know no respite. In this book his style is now colloquial and kind, now impassioned and stimulating; and not the least of its merits is that it brings the reader to the awakening of conscience.

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Carlo BARBERIS. — **Agricultural improvement in the developing countries: problems, choices and methods of project establishment.** — "La valorizzazione agricola nei paesi in via di sviluppo: problemi, scelte e metodo della progettazione". Introduction and presentation in French English, Spanish and Portuguese—R.E.D.A. Edizioni di agricoltora, pag. 196, 1974.

Programming for agriculture has acquired growing importance in the framework of cooperation between industrial and developing countries. Carlo Barberis' book has a basically practical character in that it is addressed to all those who are interested, directly or indirectly, in the agricultural development of the Third World. In clear terms it outlines all the essential considerations concerning the technical and economic choice of agricultural programmes in low-income countries, in order that the proposed solutions should be valid not only from the subjective point of view, but also for the organizations who will finance the development plans.

This book is written primarily for "the young technicians who have to face the complex problems involved in drawing up projects for the agricultural improvement of enormous areas in countries where the socio-economic factors and operational possibilities are very different from those in the countries where they have studied and carried out their first professional experiences." And therefore it is written not only for these young technicians going to work in the developing countries, but equally for all those concerned with evaluating a programme or a project.

The first part of the book outlines the characteristics of under-development.

In the second part, the author emphasizes that "agricultural development can no more be conceived in isolation than the other sectors of production, because the development of a country is characterised by the interconnection of its

NOTE TO "BOOKS"

Many readers have asked us to send them the books reviewed on this page. We regret that this is a task we cannot undertake. The books can be obtained at or through the nearest bookshop.

different sectors. The result is that even agricultural improvement schemes in different areas must be seen in an overall economic perspective of parallel and balanced growth in the different productive activities".

The author also emphasises "the principal problems which must be considered during the planification phase so that they can be solved properly at the project establishment stage. These are: methods of breaking down the "latifondium" system of farming by reforming the ownership system and agricultural nomadism; transforming subsistence agriculture into market production; improving the "minifondia" allotment system; combining fragmented and dispersed farmlands; the criteria to be adopted for the dimensions of the new farms; and means of financing the necessary interventions for agricultural improvement".

The third part of the book is of more interest to experts responsible for drawing up the projects and carrying them out.

The fourth part is an examination of "the different criteria and evaluation methods for the economic validity of agricultural improvement projects, both from the private and the public point of view. The aim is not only to define methods of comparison, and so of choice, between alternative investments, as this choice is not made by the technicians responsible for drawing up a particular agricultural project, but rather to indicate to the technicians themselves, in the clearest possible way, the available methods for calculating economic viability in the projects they have been given, in order to provide the controlling and financial authorities with the necessary elements of judgment for carrying out the proposed interventions in the required way".

The author, a qualified agronomist, professor of economy and property expert, has spent 30 years studying agricultural development questions. His book has been sponsored by the Italian African Institute.

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