

(a) Roadworks

(i) Road maintenance by agreement with the Mining Companies

The task involved the running maintenance of a road network of 3,152 kilometers in the east of the country. This maintenance work was undertaken at a fixed price per kilometer by the Mining Companies, who also repair, in the same network, some 250 bridges, fords and crossings.

The agreement lasted a year. Besides the immediate benefit derived from the operation, opportunity was taken to use the work for training purposes with the teams of roadmakers, and thus in a region laid waste by the insurgency there was a transfusion of salaries into the local economy.

This project was worked out, generally speaking, in satisfactory conditions with the exception of several stretches of road which were situated in danger areas.

(ii) Road maintenance by agreement with plantation companies

The success of the foregoing project induced a good deal of emulation, and encouraged the United Nations to propose extending this system of maintenance to Farming and Forestry Companies.

Following a lengthy publicity campaign and an exchange of ideas, wherein the support of the Federation of Congolese Industries (FEC) played an influential role, a second series of financial arrangements



was agreed to by US AID for the maintenance of a road network extending to more than seven thousand kilometers and including three hundred bridges and crossings.

Nineteen contracts were examined and drafted, and this operation was under way for practical purposes in January 1966.

(iii) Repairs to bitumen roadways

The funds were allocated in two equal parts: one for the city roadways of Kinshasa, and the other for the roadways of Lubumbashi. The proportion of work already completed in Lubumbashi was about sixty per cent. As far as Kinshasa was concerned, the conclusion of work was scheduled for the end of February 1966.

The work concerns the resurfacing in a normal manner of the arterial roads of the main cities.

(iv) Mokambo-Luapula road repairs

This road which crosses the "boot" of Katanga, embedded in Zambian territory, has become of vital importance to Zambia, as it is necessary for the export of manganese.

A contract was concluded with the Swanepoel Undertaking on the 24 November 1965 for the carrying out of large-scale repairs which were beyond the scope of maintenance teams.

However, immediate steps were taken to improve traffic conditions



and by 20 December 1965, seventeen kilometers out of a total of sixty-nine became practicable.

(b) River lighters

(1) Renovation of 35 lighters

As at the 31 December 1965, payments allocated for this project amounted to the equivalent of \$243, 333 or forty per cent of the funds earmarked. The project overall came under governmental administration, that is to say that there was no private undertaking involved, with an aim of putting back into service a certain number of defective lighters.

The task of the project was to repair thirty-five floating units.

A special section was brought into being and equipped in the Navigable Waters Division for the construction of completely new river lighters. This section was under the direction of a United Nations expert in mechanics, who had under his responsibility a specialist team of Congolese workers.

During the final quarter of 1965, the construction of four lighters (25 tons) was completed satisfactorily, and provision was made for the construction in 1966 of eight other lighters.

Furthermore, the Workshop Division was able to help out with the repairing of about thirty lighters which were urgently needed.



At a later stage it is planned to hand over to private companies the control and organisation of river crossings where lighters are used, as soon as the lighters are in serviceable condition, following the system already outlined for road maintenance. This would perhaps be accompanied by the introduction of a system of tolls.

(ii) Rebuilding of Kongolo bridge

After numerous administrative steps achieved by an expert in obtaining the Government's collaboration, this project got under way, for all practical purposes, on the site in September 1965, despite conditions of insecurity still existing around the area of Kongolo.

The engineering work was handed over to the Auxeltra-Beton Co.

From the point of view of administrative planning, the project was quite complex. The progress of the works in question seemed to indicate that this important structure might be concluded towards the end of 1966, which would allow the re-establishing of the railway line Kindu-Kongolo-Kabalo-Albertville with branch lines at Kabalo to Kamina-Lubumbashi and Kamina-Port Francoqui.

It was known that Kongolo remained the last breach in the railway network of the territory which lies to the left of the Congo river.

(c) Airfield projects

(i) Repairs of Bukavu-Kamembe airfield

Subsequent to damage caused on Kamembe runway by Hercules C.130



aircraft, United Nations Public Works was asked to take protective measures.

As proposed by the experts, a contract was arranged between the Congolese Government and Ansar Co. in July 1965. Certain diplomatic difficulties with Rwandese authorities were overcome, but hitches in the delivery of bitumen finally prevented an effective start to the work.

Gravel and sand were transported to the site, and the bitumen was expected about the end of January 1966.

Thus the work got under way in February 1966 and was completed by April 1966.

(ii) Renovation of Bunia airfield

For similar reasons to those given in the above mentioned project, the Public Works Section was induced, under the auspices of the Government, to set up a project to re-establish air traffic which was interrupted by damage to the runway caused by heavy aircraft of the Hercules C. 130 type.

Situated on the north-west border, Bunia is almost completely isolated from the rest of the Republic because of the broad area of insecurity which existed to the east of Kisangani. Considerable effort was applied to organising a governmental work team whose supply bases were more than a thousand kilometers distant.



The various resources of the Section were utilised in assembling the work staff, the equipment, and the necessary materials. This project helped to determine whether it was sensible to persevere with a mobile work team maintained by the Government and competent in carriageway resurfacing.

Furthermore, the Ministry of Transport and Communications as well as ICAO, requested the help of the Public Works Ministry in the maintenance and reinforcement of airfield runways.

This collaboration of undoubted benefit was thus brought into being, and it could develop in the future in a way to allow aviation services to recuperate or to become attached to the Public Works Ministry.

(d) Navigable Waters Projects

This Division undertakes the maintenance of a network of which fifteen thousand kilometres were being utilised in 1959 but only about ten thousand kilometres in 1965 because of insecurity in various regions.

The United Nations adviser to the Director of the Division was asked on numerous occasions to use his experience and knowledge in resolving navigational difficulties. It was mostly owing to his resourcefulness, and to the professional goodwill of his collaborators, the Congolese executives, that an improvement in the maritime moorings



was achieved, a deepening from twenty-four feet in July 1965 to twenty-nine feet in December, and an improvement was effected in the navigable way on the Kasai between Port-Francqui and Kwamouth.

Upon a request from the Belgian Embassy, this expert was seconded to a temporary fact-finding mission whose aims were the improvement of inter-African surface transportation, and especially the stabilising of the surface of lake Tanganyika with resultant improvement of navigation in the Kasai and Ubangi rivers.

Mention should be made that this same expert drafted the estimates for the supply of two new dredges from the EEC and also attended on the Government's behalf various international conferences, especially at Stockholm (Navigation), and at Budapest (Surface Hydrology). Finally, this expert was able to present a memorandum at the end of 1965 dealing with the encroachment of water hyacinth on navigable waters in the interior of the Congo.

The other experts seconded to Navigable Waterways were able to contribute considerably, each in his separate field, in matters of ship-chandlery, telecommunications, hydrography, channel marking and dredging, in order to maintain in working order the internal Congolese network.

(e) Renewal of marine propellers

This operation, which aimed at re-equipping with propellers



several important units of the Middle Reaches (dredges, marine pumps, and buoy boats), was satisfactorily terminated without much delay.

It can be said that the operation was successful, since six units were put back into excellent working condition. The Navigable Waters Division expressed their gratitude for the AID loan, and for the Public Works expert's assistance.

(f) Laboratory work

Refitting the soundings section

An essential introduction to the planning of communication lines is a knowledge of the possibilities and characteristics of foundation earths.

A loan of the equivalent of \$46,666 was obtained to re-organize and equip a team specialised in matters of soundings as part of the National Laboratory for Public Works.

This governmental project is meant to develop gradually and be able eventually to draft research for planned communication lines.

The project is conducted in strict liaison with bridge-building team which has already presented several research findings for the lines of communication which are planned to cross Kwilu and Wamba rivers in the neighbourhood, respectively, of Kikwit and Kenge.



(g) Buildings projects

(i) Building of the National School of Posts and Telecommunications

Following the drafting of the technical and architectural specifications, tenders were called for by the Congolese Government, and work began on the site in September 1965.

By 31 December 1965, the foundation and ground-level paving were completed, and the structural framework was being poured and set.

(ii) Construction of police camp at Lemba

This project, which ran into about the equivalent of \$5,333,333 was worked out by the Building team who made all the preliminary researches, drafted the contract specifications, and conducted the calling for tenders for the completion of the initial stage.

Work began on 20 December 1965; general earthworks and builders installations were erected.

(iii) Building a meteorological radar tower

Following a request from the Meteorological Division, the Building Administration undertook with the help of United Nations experts, the planning and building of this tower which was intended to house the meteorological radar.

The engineering work was already concluded in 1965.



(iv) Building of training centre (Bridges and Highways)

The technical and administrative details were worked out, and contracts allotted after tenders were called for.

The work was to get under way during January 1966, and was to last about six months so that buildings were in use by the beginning of the academic year in October 1966.

(v) Office building for Minister of Public Works

Following a request from the Minister of Public Works, plans were drawn up by the experts, then tenders were called for. The contract was given to the Sefricas Co, and commenced on the site early in 1966.

(vi) Installation of air conditioning in School of Posts and Telecommunications

The expert drew up details covering the technical and administrative steps, and the Government was able to place an order as soon as the necessary funds were transferred.

Building of five accommodation units at the Broadcasting Centre, N'Djili

This project, which was undertaken in the course of the year, is now completed, although there was still an order to be placed for the supply of furnishings at the end of 1965.



The plans were drawn up by the United Nations expert, who subsequently supervised the work in cooperation with the Congolese supervisory executive.

(h) Extension of Kinshasa's water service

The 1964 annual report emphasised the extremely critical situation of the national organisation responsible for the production and distribution of drinking water in the various urban centres and especially in the capital.

Thanks to the efforts of United Nations experts, a plan to extend the production of drinking water for Kinshasa by forty per cent was set in action. An initial instalment of the equivalent of \$333,333 was obtained from the AID for the accomplishment of this project.

A considerable proportion of these funds was absorbed in the purchases of imports. Since deliveries were much delayed, and there were difficulties in obtaining import quotas, work on the site for this project did not begin before July 1966.

Moreover, as in the past, the experts continued to face up to the serious problems which occur daily in the supplying of water, and they frequently stressed the importance of renewing stocks of purifying chemicals.

Their appeals always came up against financial and administrative difficulties. After a period of help from the German Federal Republic



which began in August 1965, which permitted the supply for six months of chemicals, the end of year saw the depletion of stocks and the consequent deterioration of drinking water in the capital.

Because of the serious situation, governmental authorities dismissed certain administrative executives in a determined effort to clean up quickly this national organisation.

This re-organisation required a certain length of time during which it was possible to improve gradually the efficiency of the public services which distributes drinking water.

An improvement in the quality of drinking water in Kinshasa was hoped for early in February 1966.

(i) ~~(ix)~~ Projects in category I of US AID

Projects financed in 1964 whose work was carried out in 1965. A certain number of projects financed with counterpart funds from US AID, category I and II, as well as with funds from the German Federal Republic, were worked on during 1965.

Also several such projects situated in areas of insecurity were impossible to work on.

(i) Bena-Dibele-Lodja fact finding mission

The inspection of this axial route was handed over to the Cadie Bureau at the end of December 1964.

This project was worked out in a normal way despite difficulties



met on the site, and the conditions which were sometimes dangerous. It was foreseen that the inspection would be completed in February 1966, although a technical assessment of the standard of the inspection was not available.

(ii) Plans for a new Kinshasa Hospital

This project, which was also given over to the Cadic Bureau, was completed in June 1965.

The plan specifications were drafted by the Belgian "Ibelco" mission, and the EHC examined the possibility of financing the work from the Common Market funds.

(iii) Mbandaka port: Bolenge

Preparatory works in setting up the scheme were carried out in the year.

The withdrawal of the equivalent of \$200,000 from the total funds allocated, which were originally the equivalent of \$400,000 as an initial instalment, prevented the development of this project.

Continuation of work depends upon the obtaining of new funds worth about the equivalent of \$1,000,000.

This sum figured as an item in the extraordinary budget worked out for 1966 by the Public Works Ministry.

(iv) Ituri Road

This area in 1965 was under rebel control, and thus no new



setting up of roadworks could be envisaged. It can be reported, nevertheless that the Mamabasa-Bunia leg of this road, about 165 kilometres long, was inspected at the end of December by an expert and still seemed to be in satisfactory condition and in a fair state of repair.

(j) Research

In research, the Building team was called upon to supply important information, especially on the following projects:

Accommodation for United Nations experts

Three consecutive plans were drawn up setting out various solutions and estimates for the building of the first stage of a hundred apartments. The details were despatched to United Nations headquarters for inspection.

Architects collaborated in the drafting of research on the building of an administrative block for the United Nations in Kinshasa; the project was outlined by a UNESCO architect.

Nigerian Police Camp

Following the request of the Resident Representative, plans for a police camp were examined by United Nations experts. The departure of the Nigerian police eliminated this project.



Industrial Research Centre, Lubumbashi

Following a request from Lubumbashi University, an expert drew up plans for the construction of this centre. The University is now taking steps to obtain funds from the European Economic Community (EEC). The technical complexity of the problem calls for the help of a research team of European specialists whose work will be supervised by United Nations architects.

A transfer of three million Belgian francs was effected from European sources to allow the furthering of research.

Bukavu TPM Training Centre

Work is in progress, on technical details. Economic aid from the German Federal Republic was counted upon to allow the setting up of the centre, and work on the site was expected to get under way during 1966 if the funds arrive in time.

Furthermore, a certain amount of research into new projects was accomplished. The United Nations architectural team especially was requested to undertake the fact-finding needed for the following projects:

- Central African institute for photo-relief cartography
- Office block for Head of State in Kinshasa
- American School in Kinshasa
- Centre for the physically handicapped



- Parliamentary hostel
- Telephone exchange at Kinshasa-Kalina
- Building for the Financial Court

In contrast with previous years, the work of Public Works experts in 1965, UNTA has taken on a more itinerant nature. This favoured the development of contacts, and the establishing of liaison between local communities and the Central Government.

Since the 1964 events dealt a hard blow to the economy of the country, a slowing down of general activities took place during the first quarter of 1965.

This period was utilized for the working out, with the help of experts, of a considerable number of projects which were ready to be set up at the beginning of 1966.


The second half of the 1965 contained a certain recovery of activity which was concentrated mainly on the maintenance of road installations, and the construction of buildings.

In December 1965, the Public Works Ministry functioned with a complement of about 115 foreign experts, of whom 43 (37 per cent) made up the Public Works Section of UNTA in the Congo.

An encouraging feature of 1965 was the genuine interest shown by directors and their subordinates in the progress and the setting up of new projects, the mechanics of administration, it would seem,



were admirably assimilated. There was a certain impatience noticed regarding the advice given by experts, and this may express a development in the right direction, and an increase in a sense of responsibility.





1966

At the end of 1966, the equivalent of approximately \$66.7 million had been allocated to works under construction, or planned for the near future, and which provided employment for about thirty thousand workers and thereby nourishment for their families whose population can be estimated at about 120,000 persons.

The following are the main activities carried out by United Nations experts during the year.

(I) BRIDGES AND ROADWAYS

(a) Regular maintenance of roadways.

The preparation of texts on financial requirements, the setting up of administrative facilities, together with the supervision of work in progress, gave rise to regular maintenance being developed over a network of dirt roads of about twenty thousand kilometres, including about a thousand bridges and twenty river lighters.

This work involved an annual expenditure of the equivalent of \$6.7 million charged against United States counterpart funds, and carried out by about eighty contractors including mining, forestry, and plantation companies, as well as several religious bodies.

This work exemplified an "economic means of maintaining less used roadways whose traffic might be less than thirty vehicles a day. It seems that this means of maintenance ought to be in use for some years to come, after which the Ministry of Public Works department of roadways and bridges may take over responsibility for the good condition of the network.

The Ministers of Public Works that succeeded one another during 1965-66 supported strongly this scheme of road maintenance.



The results obtained were considerable, and economical movement of traffic became possible in the vast majority of cases. It can be said that on the roads, traffic can now move more freely than since 1960. Any sections of the network that were not up to standard, were being attended to by the Ministry.

Frequently, United Nations experts inspected sections of the network in the company of a Congolese official, when they wrote up, for each section, a record sheet on the condition of the roadway, the cost of work done, the number of workers on the site, and the volume of traffic.

It ought to be pointed out that a network of unsealed roadways can continue to function only by means of a constant scheme of maintenance, and also that the present system of maintenance by contract ought to be kept in force by the Government until such time as a national organisation is available to maintain the roadways.

United Nations experts endeavoured to give the Congolese administration an increasing part in the management of roadway maintenance by contract. Several technical and administrative circulars were drawn up by the experts concerning the construction and maintenance of roadways on a contract basis.

(b) Roadway maintenance by public works teams.

United Nations experts gave advice and supervision on two schemes to renovate non-sealed roadway networks between Luluabourg and Mbuji-Mai on one hand and Mokabo and Luapula on the other.

Luluabourg - Mbuji-Mai :

This operation, brought into being by political pressure, did not prove satisfactory, mainly because of the sandy nature of the soil. Also, the public works team responsible for the work was equipped neither with adequate tools nor with adequate training to bring the work to a satisfactory conclusion.



Mokambo - Luapula :

The work of improvement along this roadway across Katanga proved much more satisfactory, the clay soil in the area providing a solid road bed. However, in view of the fact that traffic in this area is rated at over a hundred vehicles daily, including heavy trucks, trailers, and tractors, it is essential that the roadway be sealed immediately. Since traffic on the roadway is mostly from Zambia, the Congolese government was advised to leave to Zambia the cost of sealing the road.

Partial reconstruction of road along lake Bukavu.

An order for materials, worth the equivalent of \$200,000 financed by US AID, was submitted in August 1966. In view of the delays encountered in the delivery of bitumen, the work was to commence at the end of November. The interim period was put to good use for the production of stone crushings.

Heavy repairs on Boma-Tshela, Kinshasa-Matadi, and Bukavu-Kalundu roads.

The three roads have a total length of 613 kilometres and are among the most important routes in the Congo. Because of lack of finance, the maintenance of these roadways was not satisfactory since 1960. To remedy the situation, a campaign of heavy repairs was brought into being towards the end of 1966.

The combination of contribution from US AID and the Congolese Government permitted the planning of substantial repair works, and the beginning of operations was fixed for the end of 1966.

In several sectors of Kinshasa, United Nations experts assisted in anti-erosion measures. Some of it was concluded with a satisfactory stability attained in the soils, but in one instance, along the Makala roadway, illegal squatters spoiled the

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anti-erosion operation. Rains have brought on new ruptures in the roadway, the choking of drainage channels, and necessitated the resiting of overhead high-tension lines in October.

(c) Maintenance of township streets.

In the middle of 1966, maintenance work on Kinshasa and Lubumbashi streets, was completed satisfactorily. Furthermore, urgent repairs to Kinshasa's streets, in preparation for the anniversary of independence, were completed.

United Nations experts also tendered advice to the Government in the drawing up of a contract with a Congolese firm for the application of a protective layer on the roadway leading to N'Djili airport.

(d) Bridge works.

United Nations experts noted in an advisory and supervisory capacity in the following operations :-  
Kongolo railway bridge (across the Lualaba, final gap of 128 metres in the C.F.L. Company's railway network.)

The work is financed by Federal German aid to the equivalent of \$730,000. The civil-engineering work on the supports, begun in October 1965, was almost completed by the end of 1966. The decking metals were delivered to the site by the Krupp Company and Federal German technicians were occupied in assembling. Completion of the assembled decking, followed by recommencement of railway traffic, was expected to be about March 1967.

Kabeya-Maji bridge, across the Lukuga (spanning about 112 metres, financed by the Federal German Republic to the equivalent of \$670,000).

In June, 1966, the work was handed over to the Soadeco firm. Since then great difficulties were experienced, mainly with regard to personnel and construction supplies. United Nations experts advised the Government, and the question of abrogating the Soadeco contract and giving the work to a better qualified



firm is being studied.

Niamba bridge over the Lukuga (spanning about 103 metres, financed by the Federal German Republic to the equivalent of about \$570,000).

Following technical research carried out with the assistance of United Nations experts, tenders were called for but the responses were discouraging. There was a lack of qualified companies available for such work in North Katanga. The technical research was then modified somewhat by the experts, and new proposals were to be made.

Bridge over the Wamba (spanning 70 metres).

Technical details were worked out and tenders were called for. It was reckoned that the work would be underway in February 1967.

Kwango bridge.

With the assistance of the United Nations adviser attached to the Central Laboratory, work was being done on soundings and earth analysis. The departure of the specialist in such research, during December, will necessarily delay the drawing up of technical specifications prior to a call for tenders.

Kamaniola bridge (spanning 140 feet).

The destruction by insurgents of Kamaniola bridge on the Bukavu-Uvira route prevented any possibility of restarting heavy export-import traffic for Kivu. An US AID contribution allowed United Nations experts to go abroad with the technical details involved in the contract taken up in September 1966 by the Assar company. Despite particularly unfavourable local conditions it was possible to assemble a Bailey bridge, 140 feet long, so that traffic recommenced as from the beginning of November 1966. The arrangements for delivery of about fifty tons of metal parts from Kindu to Bukavu by road convoy were carried out by a United Nations expert, despite a good deal of political insecurity in the area.



Project experts were concerned with research into the repairing of the original structure, which was dynamited so that it collapsed into the bed of the stream. Also, they were occupied with organisation of future repairs to two other structures, forming part of the same route, which suffered damage at the hands of the insurgents.

#### Destroyed bridges in Kisangani

In October 1966, United Nations experts took part in a mission to Kisangani, organised by the Government with the purpose of obtaining details of roadworks destroyed in the course of recent insurgent activity. To replace the destroyed Bailey bridgeworks, about 318 tons of Bailey metal components would have to be brought to the sites. It was feared that other bridges in the region, still inaccessible to project experts, had also been destroyed. The experts advised, and the Government approved, that an order be placed for more than a thousand tons of Bailey metal components. To the extent that the necessary foreign exchange could be obtained, these supplies would permit a quick repairing of the road network. The government approached US AID with a view to getting the components supplied as a dollar loan, in order to get around the difficult problem of foreign currency.

#### Bridges on the Loto - Lomala road.

Project experts advised the Government on the construction of five highway superstructures using Bailey components on the Loto - Lomala road. The five structures were to have an aggregate length of about 126 metres. US AID agreed to finance this project to the equivalent of \$127,000 francs, and supplies were being delivered to the site: girders cement, gravel, wood, and so on. The Bailey decking, which has been in place since 1960, was to be reassembled. Savings were made due to the fact that the work was given to a large plantation group in the area that needed the bridges for transport of produce, and did not seek to make a profit on the work.



### Bridges in Equator province.

The rather large ~~number~~ of metal highway bridges, 46 units, whose aggregate deck length reached 888 metres, was put in place before Independence in Equator province on the left bank of the Congo river. These structures never received any maintenance, and some suffered damage at the hands of insurgents. United Nations experts advised the Government to put into operation an overall scheme of repairs, including repainting of the metal components of these constructions. A contract was given to Bocks, a local firm, and work began ~~at~~ satisfactorily. It was estimated that about half the operation would be completed by the end of 1966.

### Roadway bridges between Kapema and Kilwa.

United Nations experts worked out the technical details pertaining to the construction of eight roadway bridges in Bailey components, with an overall span of more than 100 metres along the Kapema - Kilwa road. Tenders were to be called for during December 1966.

Kapanga bridge on the Sandoe - Kapanga - Luluabourg road (spanning about 80 m.).

Work was begun before Independence, and its completion will now be sustained by US AID finance. Project experts were instrumental in drawing up the technical details necessary for obtaining US AID approval. A contract was prepared, and the question of giving the work to a local firm was being considered. The work will be supervised by the local department of Public Works.

### (2) WATER AND ELECTRICITY SUPPLY.

By ordinance 66/461 of the 25 August 1966, a management committee for the Regideso ("Régie-des-eaux") was set up, composed of a chairman, a deputy and five administrators. The most senior of the project's experts, was selected as advisor to the chairman and thus his field of potential influence became considerably enlarged.



During the year, United Nations experts attached to the Regideso have been employed, as in the past, in supervising the water and power systems in main townships in the Congo. The task involved a continual effort to get the best performance out of dilapidated installations.

Furthermore, the experts took part in the supervision of works involving reinforcement and extension of existing facilities. These works were financed by US AID, or by special allotments from the Central Government. US AID funds were allocated to bring to completion the new pumping and purification station at Matadi at a cost of the equivalent of \$210,000, the commencement of reinforcement works in the pumping and purification station at Kinshasa-Galiema (equivalent of \$600,000), and the extension of pumps and reservoirs at Lisala (equivalent of \$170,000). Import quotas necessary for obtaining the supplies for these various operations were granted. At the end of the year work at Matadi and Kinshasa was proceeding satisfactorily.

Work at the new station at Matadi was expected to be ready for determination about June 1967, while the other operations mentioned would continue into 1968. Delays were being experienced in supplies and in delivery of importations.

As far as Lisala is concerned, the import quotas were granted towards the end of 1966 ; the civil engineering works were to begin during 1967.

The providing of water and electricity to Inongo township, put into operation at the orders of the President of the Republic, was in an advanced state of progress. Import quotas had been granted and orders for supplies were placed.

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United Nations also made research into the provision of water mains at Bandundu and Soko-Banza, and prepared a report on the utilisation of local chalks for purification of the water. The presence of 28 % of insoluble matter in Kiasi limestone, together with an inadequate production of water in most of the stations would call for the utilisation of imported limestone.

At the same time, the raising of rates as proposed by project experts resulted in an improvement in Regideso finances, and also in the possibility of ordering large supplies of material for purification.

United Nations also cooperated in the extending of water system in Kinshasa. This task has been given to a research mission provided by French Bilateral Assistance.

Recommendations made by project experts on using the N'Djili river as a watershed were adopted by the French Mission. N'Djili water is purer and cheaper to purify than River Congo water, and also it is better placed geographically in respect of the sectors of Kinshasa which are at the moment less favoured. The proposed scheme to utilise N'Djili water would provide a more equitable distribution through the Kinshasa system. Furthermore, the water gradient is more and the annual variation of supply is less for N'Djili than for the River Congo, and these factors should give rise to a substantial saving in expense.

### (3) MECHANISATION

During the year, the project progressively withdrew its operational work in mechanisation, in agreement with the Congolese Government. On the other hand, the International Labour Organisation maintained a training unit where Congolese mechanics would be trained. Two experts were retained until January 1967 with a view to their helping in the turning out of spare parts and the maintenance of light vehicles, such as



jeeps and lorries in close cooperation with the ILO team.

Moreover, the project still maintained in the department dealing with navigable waters, a unit for assembling river lighters. During the past year, this unit constructed ten lighters of twenty tons using a sum equivalent to \$600,000, granted by US AID. Another ten lighters of ten tons were to be assembled with the remainder of the finance. Also it was estimated that three lighters of thirty tons would be constructed in 1967, completely turned out by the unit working with the Navigable Waters Department under the direction of a U.N. Expert. This was quite apart from a programme of caring for other lighters together with complete overhaul of their engines, as well as the frequent trips to repair breakdowns made by the experts in collaboration with the administration of the Navigable Waters Department.

#### (4) PUBLIC BUILDINGS

The project's two architects attached to the Department of Public Buildings worked on the operations listed below. The overall task of researching, arranging finance, and setting up administrative machinery, called for a willingness on the part of the experts to play a fundamental role, for, there was not yet in existence a body of counterparts capable of functioning at this level. Among buildings in course of construction were the following :

##### (a) Lemba Police Camp.

The work on the first stage, was at the end of the year almost completed. Construction was put in the hands of the Parisi-Dumon and Vander Vin companies who gave satisfaction as regards quality of building and speed of execution during the first stage.



The work done presents an example of a cheap functional building embodying an especially graceful design.

The camp will be used as a national training centre for Congolese police.

(b) School of Posts and Telecommunications.

This project benefited from counterpart funds supplied by the Federal German Republic. The first stage, was almost finished. Finances for the second stage to the equivalent of \$ 830,000 was approved in November 1966, and the firm, Safricas, which did the first stage will ~~later~~ ~~also~~ do the second.

(c) CONSULTATION BUILDING FOR MINISTRY OF PUBLIC WORKS.

Construction of ~~that~~ this building started in the first half of 1966 and was pushed forward during the second half. Finance for the second stage was obtained by means of an extra-budgetary allocation, bringing the total financing to the equivalent of \$ 530,000. Completion of the building was foreseen for March or April of 1967.

(d) Kingabwa Roads-and-Bridges Training Centre.

The German Federal Republic, made an offer of finance to the Congolese Government for the setting up of a local centre for the training of qualified road repairers. On the basis of information supplied by project experts, the German Federal Republic was providing funds to the equivalent of \$ 200,000. By the end of the year, the site was in the final stages of construction and it was hoped that the centre would be able to open its doors during 1967.

(e) Telestar Building.

Upon request by the Congolese Government, United Nations experts worked up architectural details pertaining to the setting up of a building to house a national television centre.



US AID financed the venture to the equivalent of \$ 470,000, research was being completed, and it was expected that work would begin on the site in the early part of 1967.

(f) Agricultural Mechanisation Centre at Mikondo.

The United Kingdom offered finance up to the equivalent of \$ 530,000 in Congolese francs for the establishment of a training centre for agricultural machinery. Project experts investigated the proposal, by the end of the year tenders were being called for, and work was to begin early in 1967. There was a certain delay caused by transfer of administrative facilities from the former Bureau of Economic Coordination to the High Commission for Planning and National Reconstruction.

(g) Other research into proposed buildings was been carried out by project experts, especially that pertaining to an office block intended for the High Commission for Planning and National Reconstruction as well as a building for the National Development Bank.



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Project experts did research on a building intended for the Lands Department and another for the Geographical Service. Furthermore, the experts made several trips in the course of advising the Government about constructing, or purchasing buildings overseas, to be used for embassies. A trip was made in October 1966 to examine the possibilities of rebuilding the Ruidi Hotel, Park Albert, which had been partially damaged by fire. The Congolese managers of the hotel displayed enthusiasm and initiative in carrying out the suggestions of the experts, and the hotel was soon opened.

(5) NAVIGABLE WATERS

At the Directorate of Navigable Waters, which is part of the Ministry of Public Works, the Director of the Department was advised by the Senior Expert in matters of organisation and the operation of river and sea ports across the Congo, in buoyage, hydrography, dredging, waterfront works, and the operation of the naval shipyards at Boma, Kinshasa, and Albertville. The heads of various departments benefited from the advice of seven other United Nations experts in the following fields : ship-chandlery, telecommunications, dredging, port installations, buoys, and naval shipyards. Project experts cooperated satisfactorily with Belgian technical assistance, as well as with representatives from the European Common Market and French technical assistance.

An expert, who departed in September, ~~was~~ concerned with the dredging of the River Congo's navigable channel. The recommendations made by this expert, as well as the seconding of a United Nations engineer for the maintenance of dredges and buoys, resulted in the maintaining of a channel depth of 27 foot ~~at~~ low tide, and 30 foot at high tide. This situation was considered as highly satisfactory.

Steps were taken concerning the repair and maintenance of small units along the channel. It became possible to improve the transport facilities for pilots between the river-mouth and Boma, and between Boma and Matadi.



As for as the inland waterways were concerned, particular attention was given to the maintenance of channels in Kasai. Following advice from project experts, Satisfactory system of buoys was maintained, and minimum channel clearances were assured during the dry season. Contrary to the situation in previous years, no accident along the river was recorded during 1966, even though the traffic on the river was greater than at any time since 1960. Dredging operations through the Port-Francqui basin, under the direction of a United Nations expert, allowed quays to be accessible to navigation all through the critical period.

In the latter part of the year another expert in engineering was made available to the naval shipyard inland with a view to improving the maintenance of units used in buoyage and dredging.

The project expert on port installations affected detailed research on the port of Kinshasa, where a lengthening of water-front quays (250 metres in the first stage) was planned. Preparations were made for calling for tenders, and details were drawn up to assist the Central Government in its search for finance.

The same expert examined the possibilities of establishing a fishing port on the Luapula river at Kasenga. This river supplies most of the fish for the industrialised population of Lubumbashi. The purpose of the exercise was to alleviate the protein deficiency which threatened public health in the south-east part of the Congo.

Events in 1960 stopped building of new port installations in Bukavu. Following advice from United Nations experts, AID agreed to defray the costs of completing the work to the equivalent of \$ 200,000. Call for tenders was made in November 1966. Lake traffic was expected to be considerably facilitated by the installations which, it was hoped, would be completed in 1968.

Cooperating with the project's hydrographic expert, a fact-finding mission examined the possibilities of repairing heavy storm damage which



occurred in 1964 along the protective wall of Albertville quayside.

At Albertville, the flow the Lukuga, measured on 12 and 19 October 1966, was shown to be about 650 cubic metres. This was an increase in flow of 286 cubic metres in comparison with measurements made on 6 November 1963 when dredging of the river-bed had just begun, following recommendations from project experts and using finance provided by US AID.

It was reckoned that the lake level was <sup>in</sup> fact about sixty centimetres lower than what it would have been if the dredging had not been carried out.

The range of fluctuation for the lake seemed clearly to have attenuated. It was expected that for another four or five years feeble river flow, capable of impeding exploitation of river ports, would be experienced.

It would be advisable to undertake a general study of the problem of regularising the lake level for Tanganyika, in conformity with recommendations made in 1963 by the Economic Commission for Africa mission.

The situation regarding supplies for the maintenance of navigation units, as well as the carrying out of buoyage operations, dredging works, and maintenance of port installations, improved considerably.

The expert on dredging inland channels conducted a series of training courses for Congolese personnel in charge of dredges and buoys.

Discussions took place with Belgian technical assistance in the way of hydrographic research, and with French technical assistance with a view to using a model to further research into improvement of navigation on the channel to the sea.

A certain improvement was noticeable among the personnel in matters of discipline and work output accomplished within the Directorate of Navigable Waters.



(6) NATIONAL LABORATORY FOR PUBLIC WORKS.

During the last six months, the laboratory carried out two important operations with the help of a project expert.

- (a) An examination was made of damage observed on the Lubumbashi - Kasenga road, of which a 25 km section had been made in 1963-64, using US AID counterpart funds. A diagnosis of the quality of the construction work was favourably received both by the local public works authorities and by the contractors, who agreed to make certain repairs for which they were responsible.
- (b) The Laboratory made soundings along the Rivers Wamba and Kwango, using on allocation of the equivalent of \$ 47,000 made by USAID. The geological profiles of the rivers were obtained and will be used in the study of the foundations required for bridges over these rivers.

The project expert attached to the Laboratory assisted with several training courses for students of the UNDP Special Fund at the National Institute of Building and Public Works.

(7) ROADS IN KINSHASA

Under the guidance of the United Nations expert placed in the Department of Roads of the City of Kinshasa, anti-erosion works were carried out on the road to Lovanium University and along a Water Department channel in the Ozone district. The expert's topographical knowledge also enabled him to collect altimetric and planimetric data to be used by a French Mission is planning the construction of an additional water supply for Kinshasa.

The same expert put back into service the City's "Plant" for making bituminous materials which had not functioned since 1960. This resulted in a considerable saving in construction work using this material.

(8) AIRFIELD

In the early part of the year Bukavu-Kabemba Airfield was successfully repaired, and Bunia airfield was provisionally re-opened to DC 4 and DC 6 traffic.



### EVALUATION

From the increased list of activities for each year it can be clearly seen that the initial priorities given by the Congolese Government for expenditure to Public Works have been modified. With the Expert's increased knowledge and experience reconstruction projects have assumed a more or less normal pattern. Work and Wages for the unemployed is no longer required, rather an effort to ~~improving~~ efficiency and growth to Public Services.

While ideas and administrative ability were existant, the two great lacks <sup>R</sup> are foreign exchange and capable <sup>N</sup> counterpart engineers.

The Ministry of Public Works was still unable <sup>in</sup> 1966 to ensure complete coverage of the whole country, and there were still many structures which had received no truly ~~continuous~~ maintenance since 1960. The situation of these structures was ~~much~~ more serious than in 1960 or 1961, and in many cases tolerances had been reached ~~or~~ exceeded.

~~Achievements~~ which promise good for the future ~~are~~. The system of road repair agreements with private companies, particularly in agricultural and mining ~~and~~ areas, which was introduced ~~about~~ a year ago, proved effective and was extended to about ten per cent of the highway ~~network~~.

The Under Secretary of the Ministry of Public Works, assisted by the United Nations Principal Adviser, participated in the drafting of the extraordinary budget.

A United Nations expert produced a major study dealing with the need of setting up a factory for assembling light vehicles in the Congo.



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### 3.084 The National Institute for Buildings and Public Works

The Government has given first priority to the training of Congolese to enable them to replace foreign experts in the field of Public Works, and the Ministry of Public Works played an active part in establishing a technical college, the National Institute for Building and Public Works, which, with UNESCO assistance, was opened in February 1962. The Institute, which gives a four-year course, specializes in training technicians at the assistant engineer, supervisor and qualified foreman levels. One hundred and seven students took the four-year course in 1963 and the staff provided under the U.N. technical assistance programme included the Director of the Institute, the chief of works and seven teachers.

The Institute has been under UNESCO direction since December 1962<sup>1</sup> and, in October 1963, the financing of the Institute was assured by the Special Fund.<sup>2</sup>

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<sup>1</sup>see Chapter 4.03 p.

<sup>2</sup>see Chapter 1.00 Sources of Financing and Coordination of Programmes, p.

At the end of 1964 there were 151 students enrolled at the Institute. During 1964 and the first half of 1965 two major problems were encountered:

- (1) The scarcity of teachers. The Plan of Operation called for 10 teachers for duty station in 1965; however, only 7 were there.
- (2) The considerable delay in completing the new building of the Institute. It was estimated that the classrooms would only be ready late in 1965. Thus there is no adequate room to store equipment and the respective orders could only be placed with delay.

On 12 January 1965, the students at the Institute went on strike against the Director. They claimed that he was not of the calibre needed



for the successful operation of the Institute. In addition, they requested that, at the end of their studies, they be given a diploma of Civil Engineers. The Government fully supports the Project Manager, and the Minister of Education closed the Institute until 22 January 1965. The Institute is now operating again smoothly.

2. The demands put forward by the students had, however, the effect that the Project Manager prepared for submission to the "Commission d'Equivalences" (Academic Accrediting Committee) the details of the Institute's schedule. This includes some modification in the sequence of studies. The curriculum, which had provided, up to 1965, a four-year course including a preparatory year, has been altered by adding a fourth year to the three already existing years of technical studies. This fourth year is intended to give the students the opportunity of further specialization, on-the-job training in their respective sector of specialization, and enough time to elaborate the project they have to submit for the final examination. The programme of studies is outlined in the tables below:



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**I. PLAN OF STUDY FOR THE FOUR REGULAR YEARS**

Weeks of teaching	32				36				
Subjects	Years of studies								Total hours
	I	II	III	IV					
Descriptive Geometry	128	-	-	-				128	
Physics	96	-	-	-				96	
Chemistry	64	-	-	-				64	
Drawing	128	-	-	-				128	
French	64	-	-	-				64	
English	64	64	-	-				128	
Scientific Methods	32	32	-	-				64	
General Philosophy	-	-	32	-				32	
Problems of Enterprise	-	-	64	-				64	
Civil Law	-	-	64	-				64	
Mathematical Analysis	128	64	-	-				192	
Analytical Geometry	96	-	-	-				96	
Applied Mathematics	64	-	-	-				64	
Mechanics	96	-	-	-				96	
Nature of Building Grounds	-	96	-	-				96	
Experimental Resistance of Metals	16	-	-	-				16	
Applied Statistics and ) Resistance of Metals )	144	160	224	-				528	
Industrial Hydraulics	-	64	-	-				64	
Topography	64	128	-	-				192	
Materials of Construction	96	-	-	-				96	
Architecture	-	128	128	-				256	
Technology of Constructions	-	96	-	-				96	
Wooden Constructions	-	32	-	-				32	
Industr. and Metal Construc- tions	-	96	128	-				224	
Concrete Building	-	96	192	-				288	
Electrotechnics	-	96	-	-				96	
Urban Sanitary Improvements.	-	-	96	-				96	
<u>Civil Engineering</u>									
I Roads	-	128	-	-					
II Bridges	-	-	160					384	
III Waterways	-	-	96	-					
<u>Specialisation</u>									
I Bridges and Streets, or				180					
II Waterways, or				180				180	
III Buildings				180					
Project at the End of Studies				(224)				(224)	
On-the-job Training				1040				1040	
TOTAL	1280	1280	1184	1220				4,964	



D. II. PLAN OF STUDY FOR THE PREPARATORY YEAR

Subject	Hours
Arithmetics	64
Algebra	160
Geometry	96
Descriptive Geometry	96
Trigonometry	96
Physics	192
Chemistry	128
Drawing	128
Morals	32
Geography	32
Biology	32
French	128
English	96
TOTAL:	1,280

In the academic year 1966/67 the preparatory year is to be cancelled for it is expected that by this time there will be enough students who will have completed their secondary education.

In June 1965 the 150 students of the Institute were distributed among the different years of study as shown in the following table:

Year of Study	Number of Students					Total
	Preparatory	I	II	III	IV	
Preparatory	53	-	-	-	-	53
1st Year	-	40	-	-	-	40
2nd Year	-	-	35	-	-	35
3rd Year	-	-	-	22	-	22
4th Year	-	-	-	-	-	-
Total	53	40	35	22	-	150

After the examinations at the end of June 71 out of 150 were promoted, 70 have to repeat their respective year of study, and 9 were eliminated. For the academic year 1965/1966 there were on the teaching staff: 8 U.N. experts, 2 members of the Belgium Assistance, 10 in the French bilateral



scheme, 6 with Government contracts (one of whom was a graduate of the school), and 5 taking lessons part-time.

There were a total of 187 students, 20 of whom graduated in September as engineers. It had been planned that these young engineers would enter the service of the Ministry of Public Works, where they would work with United Nations experts. Instead, however, they were drafted in to the newly-created "Service civil", where they will perform two years of compulsory service as teachers. This will of course postpone their usefulness as public works engineers, and the matter was being given serious consideration by UNESCO, which is the agency responsible for UNDP assistance to the National Institute of Building and Public Works (See 4.034).

### 3.085 Other Training Facilities

The in-service programme and training courses undertaken by the U.N. in conjunction with that being carried out by ILO<sup>1</sup> will, it is hoped, make it possible to reduce gradually the number of foreign master-mechanic experts and other technicians. The National Institute for Vocational Training<sup>1</sup>, now in operation, is expected to produce effects in the same direction.

As regards the other experts provided for, most of them call for specialized diplomas and degrees in the engineering profession and can only be replaced as the University of Lovanium and University of Lubumbashi produce graduate engineers to work as counterparts of experts and acquire sufficient practical experience to replace them.

Counterparts for the United Nations experts attached to the Ministry of Public Works were still insufficient in number during 1966. Furthermore, while experts engaged in operational tasks frequently had counterparts, no counterpart training was taking place at the level of planning and organisation.

### 3.086 Relation to Other Programmes

A fair number of Belgian, French and German experts are working with the Central Government and in the Provinces whose work is co-ordinated with the work of the U.N. experts.

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<sup>1</sup> See Chapter 401 ILO, p.



LIST OF EXPERTS IN PUBLIC WORKS - 1966

Name	Nationality	Function	Station
ANHOURY, R.	Lebanon	Civil Engineer	
BADO, A.	Uruguay	Architect	Kinshasa
BARDIN, A.	France	Naval Mechanic	Boma
BIGOT, P.	France	Adviser to the Ministry	Kinshasa
BODIN, C.	France	Master Mechanic	Kinshasa
BONHIVER, J.	Belgium	Public Works Technician	
BOUTON, J.	Belgium	Fitting out expert (ships)	Kinshasa
BOYER, L.	France	Engineering Technician	Albertville
BRAISSANT, G.	Switzerland	Public Works Technician	Kinshasa
CONSTANTINIDIS, C.	Greece	Administrative Civil Servant	Kinshasa
COSTOGLU, S. *	Greece	Draughtsman	Kinshasa
DALECHAMPS, S.	France	Master Mechanic	Kinshasa
DE VOS, S.	Belgium	Hydrographer	Kinshasa
DIJKERMAN, H.	Netherlands	Engineering Technician	Kinshasa
DOZIN, N.	Belgium	Public Works Technician	Kisangani
FERNANDEZ-DIEGO, M.	Spain	Technical Engineer Electro-mechanic	Kinshasa
GALEOTTI, G.	Italy	Adviser to the Ministry	Kinshasa
GHYOOT, P.	Belgium	Technical Engineer	Lubumbashi
GUILLEMOT, L.	France	Public Works Laboratory Expert	Kinshasa

\* Non-Congolese local staff member.



Name	Nationality	Function	Station
HARTMAN, M.	USA	Civil Engineer - Bridges, viaducs, tunnels	Kinshasa
HUYSMANS, B.	Netherlands	Technician	Kisangani
IMBERT, M.	France	Technician	Kinshasa
LARCHER, M.	France	Senior Consultant	Kinshasa
LEMOIS, A.	Portugal	Master Mechanic	Kinshasa
MAGNIN, L.	Switzerland	Engineering Technician	
MARTIN, M.	Haiti	Technician	Luluabourg
MOENS, P.	Belgium	Naval Master Mechanic	Kinshasa
NAZON, R.	Haiti	Adviser to the Ministry	Kinshasa
OU, T. T.	Rep. of China	Engineer-Mechanic	Kinshasa
PERIVOLAROPOULOS, A.	Greece	Electro-mechanical Engineer	
ROCHAT, R.	Switzerland	Public Works technician	
ROSSIER, J.	Switzerland	Technical Engineer	Kinshasa
SALLIER, J.	France	Engineering Technician	Kinshasa
SCYEUR, E.	Belgium	Master Mechanic	
SOHY, L.	Belgium	Master Mechanic	
STEINMETZ, J.	Belgium	Hydrographer	Kinshasa
SZAWERNOWSKI, P.	Poland	Adviser, Navigable Waterways	Boma
TSENG, M. T.	Rep. of China	Civil Engineer - Roads and bridges	
VERBRUGGEN, R.	Belgium	Draughtsman	Kinshasa
VISART DE BOCARME, D.	Belgium	Architect - Public Buildings	Kinshasa
WALTER, E.	Austria	Hydraulic Engineer	Kinshasa
WARNIMONT, F.	Belgium	Technical Adviser - Navigable waterways	Kinshasa



Name	Nationality	Function	Station
WARNOTTE, P.	Belgium	Engineer - Roads and Bridges	Kinshasa
WEIGL, E.	Fed. Rep. Germany	Civil Engineer	Kinshasa
WELLIQUET, F.	Belgium	Public Works Technician	Bukavu
XANTHOPOULOS, E.	Greece	Accountant	Kinshasa



TRANSPORT AND COMMUNICATIONS3.09 Transport

As in many other sectors, the assistance of the UN experts was initially directed towards preventing the entire collapse of the transport system of the Democratic Republic of the Congo. Such a breakdown would have meant a further threat to the economic recovery of the country.

The situation during the first few years after Independence could be summarized as follows:

Many overland routes and waterways were blocked as a result of political developments, thus isolating regions in the interior. Heavy floods in late 1961 and early 1962 added to the breakdown in transport by cutting off river ports and railway lines. Transport equipment, roads and railways, and ferry-boats had in the meantime fallen into disrepair, and there were not enough spare parts or technicians available to maintain them.

These conditions not only made it extremely difficult to carry out health services and public works programmes in the hinterland, but obstructed normal economic activity to such an extent that the former steady flow of merchandise and particularly of agricultural products to distribution and marketing centres dwindled almost to a trickle. By 1961, traffic being moved by various means of transport was down to 50% of its 1959 volume, a fact illustrated by the decline in the amount of goods carried over railway and river networks by the Congo's four largest transport organizations: only



6,160,173 tons in 1961 as compared to 10,329,650 tons in 1959.

In 1961 the capacity of rail and waterway transport still exceeded the demands of this diminished volume of traffic. During 1962, however, the maintenance and replacement of equipment for all the principal arteries of transport became a major problem. In this situation United Nations assistance was granted to the transport services of the Congo in three ways:

- a) by advising on the operations of the Ministry of Transport and Communications;
- b) by assisting in the operation of the "Office d'Exploitation des Transports du Congo" (OTRACO);
- c) by training the Company's labour force.

3.091 The Ministry of Transport and Communications

3.0911 Description

In broad outline, the sphere of competence of the Ministry of Transport and Communications, as an administrative organ of the Central Government, consists of the following;

- Regulations in the field of transport and supervision of the implementation of laws, decrees and other legislative instruments relative to transport, particularly concerning marine, river, lake and air navigation; the operation of marine, river and lake shipping lines and air lines, and harbour regulations;
- Government bills and other legal texts (maritime code, law on river navigation, etc.) and the adaption of legal texts to conform with international agreements;

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- The regulation of administrative, economic and financial regulations between the State and the transport companies (parastatal and private - the latter with or without State participation) as well as the implementation of agreements;
- The study and approval of alterations and revisions in the system of tariffs or in the tariffs themselves;
- The coordination of transport systems;
- The operation and maintenance of aerodromes and the infrastructure of aviation (through the Department of Civil Aviation)<sup>1/</sup>;
- Meteorological research and observations and the operation of a meteorological service (through the Meteorology Division)<sup>2/</sup>.

The Ministry of Transport consists of two departments: Marine and Transport, and two divisions: Civil Aviation and Meteorology. The assistance rendered by the United Nations to the two departments is part of the subject of this chapter.

3.0912 United Nations Assistance rendered to the Ministry of Transport and Communications

Until April 1963, UN experts only worked in close association with government officials concerned with transport. Towards the end of April 1963 however, the UN Transport and Communications Section was integrated into the Ministry of Transport and Communications of the Central Government. Until that time, the efficiency of the experts, separated as they were from the Ministry, had suffered from some lack of coordination between the experts' activities and those of the department.

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1/ See Chapter , p.  
2/ See Chapter , p.



Thus, the obstacles for complete coordination were removed after this date.

In 1962, the assistance of the UN expert (Senior Consultant) was directed, together with the various ministries of the Central Government with whom he collaborated, towards the study of certain problems of basic importance to transport. This concerned in particular the maintenance of equipment and the operation of transport services, by rail river and road; road transport in the Congo; municipal transport in Kinshasa; and the construction of an assembly line for diesel trucks. Moreover, the expert participated in working out a programme for the transport organizations for 1963.

The expert's work also included the establishment and implementation of a technical assistance programme for the operation of OTRACO as well as a technical assistance programme for the Navigable Waterways Service, later transferred to the Ministry of Public Works.

In 1962 the UN technical assistance programme had a personnel strength of one Senior Consultant and, towards the end of the year, one expert (assistant to the senior consultant). The number of experts limited the possibilities of assistance and prevented its expansion to cover the solution of other questions relative to transport. The implementation of the 1963 programme benefited from the assignment of three further experts (two legal advisers and one expert in coordination of transport and tariffs). This made it possible to expand assistance in the field of legislation and the coordination



of transport. Moreover, the principal adviser and his assistant dealt with the preparation and presentation of a programme of capital investments for 1964 for the various transport divisions with the analysis of various operational problems confronting OTRACO and recommendations concerning them, and with any other matter requested by the Secretary-General or by the Minister of Transport and Communications. Subjects such as the creation and formation of merchant marine companies were studied and the implications of international conventions.

In 1964, delays were encountered in the recruitment of a legal adviser for marine and river traffic law. He finally arrived in September and, based on his comments and findings, a review of the navy code was completed by a commission and the proposed amendments were adopted. Revision of the proposed code was completed by the end of 1964.

In 1965 there were four experts attached to the Ministry of Transport and Communications in advisory capacities. They assisted the Congolese Government on the following matters:

Contracts and concessions

- hiring of railway experts (OTRACO/OFEROM);
- formation of a transport company by the Ethiopia Corporation and the Ethiopian Cerbi-Dragone Company;
- statutes for the CFL railway company, two-thirds of which had just been taken over by the Government (La Compagnie du chemin de fer du Congo Supérieur aux Grands Lacs Africains - CFL - operates the Albertville railway);



- a request that the Vicicongo Railway company should cease to operate the Lake Albert ports of Mahagi and Kasenyi;
- amendments to the TCL company's concession (the TCL company, now the TCC, operates the Kinshasa public transport system).

Analysis of financial situation of carriers and a rate fixing

- amendment of Articles 44 and 47 of the tariffs and general regulations of the BCK railway company, a privately owned company which operates in Katanga;
- general analysis of OTRACO tariffs, based on a review of average receipts for each kind of merchandise;
- examination of a request for rate increases made by all carriers in September;
- study of OTRACO's financial position from 1960-1964 with recommendations on how the deficit should be eliminated;
- study of the Vicicongo Railway Company's technical and financial problems and of its request for a subsidy to help it resume operations after a year and a half of enforced inactivity.

Research and Planning

- feasibility study of transit traffic through the Congo, to and from Zambia;
- compilation of air traffic statistics at the Civil Aviation Directorate;
- briefing of the Congolese delegation to the Fourth



Assembly of the International Maritime Consultive Organization in Paris, in September;

- establishment of a transport policy and a Government investment programme.

Technical and Economic Questions

- drawing up a repair programme for OTRACO's locomotives;
- examination of the report of the Congolese Delegation to the seventh session of the Economic Commission for Africa;
- assistance to the Ministry for meetings with the team of UN Special Fund experts, who visited the Congo to make a preliminary study of the Inga Hydroelectric Project.

In addition, the United Nations experts took part in numerous departmental meetings at which the carriers and users were represented.

In 1966 the activities of the experts (who are fully integrated into the offices of the Ministry and thus experience the day-to-day running of the Ministry) continued along the already established pattern. As the internal organization of the Ministry was more satisfactory, it was possible to give more emphasis to purely transport matters. These fell into two sections: a) River Lake and Sea Transport, and b) Rail and Road Transport.

In the first section studies were made for three international conferences dealing with shipping on Lake Tanganyika and on the position of the "Belbases". These are warehouse bases and landing stages, situated and built by the Belgians in



Dar-Es-Salaam and Kigoma by former British Colonial agreements with the Belgians for a nominal annual rent for an indefinite period of time. It provided another import/export route for the Congo. The question now is to whom the fee is payable, for how long and what amount?

A study dealing with social security for sailors was made which led to a decree dealing with modifications in the Maritime Code, which resulted in an agreement between the Congo and Belgium concerning the welfare of Congolese sailors. Another similar study involved the regulation of ships' documents, registration of ships and sea-fishing rights, which was submitted to the Head of State for signature.

The foundations were laid for a national mercantile marine. With its future operations in mind, a number of maritime agreements with other countries were completed.

Draft laws were drawn up dealing with the enacting of the Maritime Code (prepared by a UN expert); these contained the statutes for the maritime police and safety measures for ships.

In the Rail and Road Transport section, a preliminary study was made of the Government's plan to set up a national railway company, including the draft statutes of such a company. Studies were made of the situation of Air Congo, and a number of new statutes were drawn up, including a draft law dealing with the nationality of shareholders. This last item was the result of a dispute between the Government and the Sabena Airline.

Preparatory work was made for international conferences to discuss navigation on Lake Tanganyika, and in particular the



application of the Treaty of Berlin of 1885. After the conferences, the position of the parties was analysed.

Studies, draft regulations and opinions were produced dealing with the questions of road transport, viz.: compulsory automobile insurance, inspection of vehicles for roadworthiness, carriage of persons for remuneration, carriage of mail, requisitioning of vehicles, requests presented by OTRACO (a semi-state-owned organization), the CFL Railway Company, the OMNACO Company, and others.

A number of draft laws and decrees were submitted to the Minister of Transport and Communications for trans<sup>M</sup>mission to the Head of State.

The Principal Adviser drew up a project for the transportation of products to and from Zambia, particularly copper and zinc. The project would result in considerable foreign currency earnings for the Congo, and increase the efficiency of the country's extensive rail network, which is not now fully utilized.

There were five experts attached to the Ministry during 1966.

In 1967 a visiting adviser (for the period of two months) is scheduled to arrive to assess the feasibility and costing of the plan to create a railway link between Kinshasa or Matadi and Port Francqui. This would not only open up the Kasai, but also provide a route from Lubumbashi to the country's main port.

a) The Operation of the Ministry

The activities of the UN experts in 1965 have been devoted

.../.



to all problems of importance related to transport which demanded action from the Ministry. They were particularly concerned with the preparation of the conference of the provincial Ministers of Transport which took place at Kinshasa in February 1965. Later on they studied the resolutions reached at the conference as well as the problems discussed in relation to the operation of OTRACO in the provinces.

As the working hours of employees involved in the transport system were very much on an ad hoc basis, recommendations were made by the experts on the introduction of a new schedule.

The state of all automobiles, which had not received regular and efficient maintenance since before Independence, was becoming steadily worse. Some vehicles were in such a bad state of repair that they were a danger to the general public and other road-users. Therefore an inspection was carried out to eliminate the least roadworthy.

The Transport Directorate was operating in a marginally functional manner and so a proposal was made for its reorganization. Another proposal was proffered to reorganize the Mercantile Marine Directorate.

b) The Legal Programme

The UN legal adviser on maritime law undertook profound studies relating to a modified maritime code and the respective ordinances of the Central Government to promulgate the code. The final draft was handed over to the President of the Republic; his final approval was given in 1966. Moreover, the instructions for the implementation of the code were worked



out. The legal adviser also particularized a number of comments and regulations concerning maritime harbours and river navigation, international maritime conferences and the creation of a national mercantile fleet.

His work continued throughout 1965 and 1966 as has been seen above. He was particularly concerned with the following, the results of which were delayed considerably because of lack of (a) legal knowledge on the part of the Congolese and b) statistical information and the fact that many Government files are incomplete:

- drafting of a decree establishing the rights and obligations of navigators on the Congo River;
- completion of a National Maritime Code draft;
- recommendation on request by the provinces to manage the public airports within their territory;
- study on possible intervention by the Central Government to operate services for which a provincial government is responsible in cases where the provincial government carries out work negligently;
- authority of provincial governments over the Central Government civil servants;
- study and opinion on the constitutionality of laws and regulations compelling non-residents to pay customs duties and certain charges in foreign currency;
- study of international treaties which require ratification in the Congo;
- study of a bill which would make insurance of automobiles compulsory.



3.093 OTRACO

3.0931 Description

The "Office de l'exploitation des transports au Congo" (OTRACO), a parastatal transport organization, was set up in 1935.

OTRACO owns the buildings, equipment and supplies pertaining to the services that it operates. It is not the owner of the land on which the port installations and the railway permanent way stand. By law, OTRACO was given financial autonomy, making it financially independent of the budget of the Republic. The position is that the State guarantees the annual deficit - this results from a decision imposed by the Government - but OTRACO must pay to the Treasury an annual 4% interest on the capital invested by the State. The Government's control and role in the operations of OTRACO consists, in broad outlines, of the nomination of the members of the board of directors and the Government commissioners; the right to veto against any decision contrary to the law, the articles, or the public interest; approval of the advance estimates of receipts and expenditure, both regular and extraordinary, as well as the balance sheet and the profit and loss account for the past year; and authorization of loans.

OTRACO is the largest transport organization in the Republic of the Congo. Its networks comprise two railways - Kinshasa/Matadi and Boma/Tshela; the river transport services on the Congo, the Kasai and their tributaries, i.e. 11,939 kms. out of a total of 14,600 kms. of navigable waterways in the Congo; the boat service on Lake Kivu and road transport between this lake .../.



and Lake Tanganyika (the two latter systems are still of minor importance). In addition, OTRACO operates the most important ports, in particular Matadi, Kinshasa, Boma, Mbandaka, Kisan-gani and Kalundu.

### 3.0932 OTRACO and the UN Technical Assistance

The extent and importance of the activities of OTRACO for the Congolese economy can best be seen from the following figures:

At the end of 1959 the value of OTRACO's fixed assets was over 12 million Belgian francs. Receipts from operations in 1959 were in the order of 2,116 million francs. However, the operation's profit and loss accounts showed a deficit of 86 million. The losses increased in 1961 and reached 706 million francs. Matadi is the main port for handling exports and imports, with an annual traffic volume of 1,300,000 - 1,500,000 tons before Independence. The port of Kinshasa handled 7 - 800,000 tons per year. The Matadi/Kinshasa railway carried about 2,500,000 tons.

Before the accession of the Congo to Independence, OTRACO was administered from Brussels by a board of directors and a central administration. The personnel of these bodies consisted of eleven European directors and 134 European employees.

The day-to-day management was exercised by the Kinshasa administration. The staff in the Congo was 969 European employees and 22,460 Congolese employees.

After Independence, basic alterations were made in the structure of OTRACO. The seat of the board of directors was transferred to Kinshasa, the central administration in Brussels

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ceased to exist, and all positions of authority, command and control were transferred to Congolese personnel. At present the OTRACO administration is headed by a Congolese director-general and 22 Congolese directors. The number of European employees, reduced almost to zero in 1960, was 165 at the end of 1963. They are distributed as advisers to the Congolese officials in the director-general's office and the various departments.

When these basic alterations were made, the Congolese were in no way prepared to assume the tasks and responsibilities that devolved on them. They had no preparation or adequate training, no practical experience of management and authority, from the director down to the lower levels.

In spite of the efforts of the Congolese senior personnel and employees, the consequences were serious. Lapses and difficulties of operation occurred in certain sections, in particular in the accounts, the maintenance of rolling stock and vessels, maintenance of the permanent way, and port operations. This situation was aggravated on the other hand by a failure in the supply of the necessary material, by breakdowns in transport and by financial problems.

An estimate made in April 1962 revealed that, due to depreciation, destruction and lack of spare parts, 590 service vehicles employed by the Government authorities and more than one thousand privately owned vehicles were not functioning. In the meantime, over 250 diesel and steam locomotives and more than 5,000 railway wagons were deteriorating or inoperative



through insufficient upkeep, as were the 220 river craft and the thousand-odd barges which had been in service.

The UN assisted the Congolese authorities in preparing a programme of reconstruction work on bridges important to the country's economic life - such as the bridge on the Lubilash River which had been destroyed in 1961- Acting as an intermediary between the Central Government and the Katangese authorities in discussions relating to the rebuilding of this key bridge, connecting Katanga with the rest of the Congo. The United Nations also saw to the transport of the necessary equipment and material, and provided a ferry for use of the engineers. In October 1962 construction was completed and railroad service began again between Port Francqui and Lubumbashi. An average of three trains a week operated in both directions carrying, among other items, much needed equipment to strengthen the railway system in Kasai. With five new locomotives replacing worn-out engines and 44 closed goods wagons making up part of the deficiency in this type of rolling-stock, transport conditions on this line had already shown a marked improvement when the Lubilash bridge, this time along with almost fifty other bridges, mainly in South Katanga, was again destroyed during the events of December 1962.

In 1962 the UN experts set up a detailed programme envisaging a) importation, on a regular monthly basis, of spare parts necessary to keep the vehicles already in service in good mechanical condition; b) putting into operation a large number of immobilized vehicles which could be made roadworthy; c) importa-



tion of new trucks, and d) restoration of ferry services throughout the Congo.

Using these recommendations as a basis, arrangements were made at the end of 1962 with the United States authorities for the importation of equipment worth six million dollars. Approximately 1,300 service vehicles were ordered, of which 1,008 had arrived by the end of 1962. Under this programme of import and repair, the country's vehicle strength was expected to increase from 50% to 75% of what it was in 1959.

The real UN technical assistance programme, working on a more operational basis, came into operation at the turn of the year 1962-63. UN experts helped in the accounting services of the company, the maintenance and repair of locomotives and vehicles, and the operation of the ports. In 1963, the UN experts working for OTRACO consisted of five diesel mechanics, one diesel electrician, one electro-mechanical engineer, one naval construction engineer, two port officers and five accountants.

The services of the accountants had been requested by the Government to assist in straightening out the financial situation of OTRACO, investigating arrears in the preparation of accounts, and establishing a sound system of accounting. By the end of 1963, the balance sheet for 1962 had been drawn up and the accounts brought up-to-date for the first half of 1963. UN accountants also participated in the preparation of the budget estimates for 1964; they contributed to a general analysis of the financial position of OTRACO and to a study for a revision of tariff rates.



The lack of trained personnel in the accounting department of OTRACO had, however, caused a falling-behind in the book-keeping, difficulties in checking and clearing various accounts and in the presentation of annual statements of the ordinary and extraordinary budgets. As a result of being six months behind in book-keeping, one year behind in presentation of the 1962 statement and of having an erroneously prepared budget, it was impossible to maintain any financial policy and reliable control of income and expenses. These failures prevented the establishment of economically sound investment programmes.

In 1964 the three UN accounting experts continued their work in the department, in order to improve the operation of the various financial sections, overcome the difficulties and weaknesses preventing the proper operation of the departments and to train their Congolese counterparts. The principal results achieved were as follows:

- the six months backlog in book-keeping was reduced to three, and in the case of the Kivu area, it was reduced from twelve to four months;
- the cash and bank accounts were brought up-to-date;
- the statement for the year 1963 was presented in August 1964 and the 1964 statement in June 1965;
- the budgets (ordinary and extraordinary) were submitted to the Board at the end of August (it should be noted that this was the first OTRACO budget submitted to the Ministry since June 1960);
- the preparation of monthly reports to the Treasury



- and regular control of monthly expenses, tightened up procedures, thus reducing chances of embezzlement;
- written instructions concerning the operation of the accounting system were drawn up as a guide to all employees of the section;
- hourly rates in the workshops (Matadi, Boma, Kinshasa) were established in order that invoices could be correctly calculated.

During 1965 three UN experts were working along the lines sketched above at the OTRACO Head Office in Kinshasa in order to bring the Accounts Department up to date as soon as possible.

They:

- completed the book-keeping for 1960 to the end of 1962 and "justified" many old accounts;
- drew up a timetable for the financial year, and, in this way, submitted on time the balance sheet for the financial year 1964 and the budget for 1966;
- simplified the accounting system to make it more comprehensible to the Congolese staff;
- brought the inventory up-to-date and prepared basic documents for the future re-equipment programme.

Again, in 1966 the three expert accountants were responsible for:

- elaboration and presentation of OTRACO's ordinary and extraordinary budgets for 1967;
- preparation and classification of documents from the 1965 financial year to be submitted to the Financial Court;



- study of the amalgamation of certain pay offices for professional and auxiliary staff and sailors, and introduction of complete automation of the pay system by use of IBM machines;
- study and preparation of instructions for supervision and management of the company's real estate;
- preliminary study on the introduction of a 1401 computer into the accounting department.

The efficiency of the accountants' work has been recorded in the management's expressions of entire satisfaction with the UN experts, and a request to UNDP that they be maintained until 1968.

:	:
:	Picture
:	:

(text): Maintenance workers, trained by UN experts, repair Government ferries in the Kisangani boatyards.

#### Transport Mechanics

During 1963, of the six diesel mechanics and electricians, three were working in the naval dockyards at Kinshasa, two in the repair workshop at Thysville and one in the workshops at Boma. In the Kinshasa yards, nearly 60% of the work consisted of repairing barges, tugs and river boats, only about 40% being made up of regular maintenance work. By the end of the year their efforts had resulted in a speeding-up of the time taken to put the units back into service, and in a more economic use of materials and spare parts.



The naval construction engineer was responsible for the establishment of repair and maintenance programmes for river-craft. With his Congolese counterpart he also carried out inspections of the dockyards at Kinshasa, particularly the careening and repair sections.

The work of the expert assigned to the port of Matadi was two-fold, comprising the organization of the invoice department and the training of customs clearers. A six-month course was given to OTRACO employees to enable them to handle the changed importation programme, due in part to the large quantities of commodities being imported into the Congo under the economic aid programme of the United States. By the end of the course, smooth working relations with the Customs had been considerably facilitated.

Three UN experts undertook a project to study the complex transport network in Mayumbe Territory. This study included an analysis of the state of the railway Boma/Tshela, the repair of this line and its reactivation, and an evaluation of the amount of traffic at Boma and Banana in relation to the development of the road and rail transport on one hand, and the general economic development of Mayumbe on the other. This study provided the components necessary for the investment programme envisaged for the Congo in a future long-term development plan<sup>1/</sup>.

One of the weaknesses in the management of OTRACO was the lack of coordination between the various sections and services of the company, and UN technicians have helped to find a solution to this problem. By the end of 1964, with improved cooperation,

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<sup>1/</sup> See Chapter 1.00, p.



the dockyards and repair workshops were functioning with less delay and more efficiency. It would be illusory to claim, however, that the 15 UN experts and 160 other foreign technicians and Congolese employed could replace the 1,008 professional and skilled workers, who were in the service of OTRACO before Independence.

Since 1963 responsibility for reconstruction and repair of railroads, bridges and ports has been taken over by the Ministry of Public Works<sup>1/</sup>.

In 1964 the assistance of the four UN technicians was mostly confined to the training of Congolese personnel in the workshops of Kinshasa and Thysville (see 3.0933, Training).

### 3.0933 The Training of OTRACO Personnel

In all cases UN experts, working for this programme, gave on-the-job training to their Congolese counterparts in maintenance and repair.

In 1963 the executive personnel in the technical and operational departments of the railway and river transport sections numbered 5,414 Congolese workmen and 81 team leaders, the level of qualification was low and highly diverse.

OTRACO is making efforts in the field of training, using the facilities at its disposal. Periodical courses of training for welders, foremen and linemen (permanent way), surveyors, and transport clerks are held within the organization, as well as courses of administrative training. In addition, the training of captains of self-propelled river-craft, diesel and steam mechanics, deckhands and tally clerks, is done in the school of

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<sup>1/</sup> See Chapter 3.08, p.



navigation. The programme followed in the school is based on that of Belgian navigation schools, the length of the courses depending on the type of training.

The lack of technical training of the labour force working in the OTRACO navy shops, and maintenance and repair shops for traction equipment, resulted in low-quality work, time losses, waste and deterioration of equipment. This need for training, particularly in the field of repair and maintenance of diesel locomotives and diesel marine engines, led to the organization of accelerated professional training courses. During 1964, two training centres were set up, one at the Thysville workshop, the other at the navy shop in Kinshasa. Courses of accelerated professional training were given. Of the two courses given at Thysville, the first was to train storekeepers for diesel parts. The course was from March to October 1964 and 17 students attended. The second course at Thysville was for electricians from September 1964 to the end of February 1965, and twelve trainees participated. A diesel mechanic's course was given at the Kinshasa navy shop, with twelve participants from April to December 1964. The course included theory and also practical work at the training centre's shop and at the work benches of the repair and maintenance sheds.

Examinations for the two groups attending the diesel shop training showed that they had acquired knowledge in the operation of diesel engines and all the related parts, as well as in rules for repairs and maintenance of the parts. In actual work, all students showed an increased ability in precision measurements,



particularly for adjustments. Of the 17 students at the Thysville diesel shops, only two participants had grades below the satisfactory mark. The same applied to the courses at the Kinshasa navy shop. Furthermore, a total of four students passed their examinations with honours, and the others had grades of 15 to 17 out of 20. In addition, two Congolese, one in each centre, were able to qualify as supervisors.

For 1965 a more comprehensive programme of technical assistance has been adopted which provided for the establishment of two vocational training centres at Kinshasa and Thysville. The Kinshasa workshop trains naval mechanics and the Thysville workshop will train mechanics for diesel locomotives. In both workshops, accelerated courses for OTRACO personnel are given. Since 5 April 1965 two such courses have been in progress with 15 participants each.

At the Thysville locomotive shops two UN Instructors taught the maintenance and repair of diesel electric locomotives; they were assisted by three locally recruited teachers who gave courses in French and Mathematics. Twelve semi-skilled workers attended the course from April to October, and eleven were given certificates as mechanics. At the previous course which had lasted eight months instead of six, ten students out of twelve graduated as electricians. The curriculum of the April-October course consisted of the tuning of diesel engines and their general principles; electricity; and industrial drawing.

In the Kinshasa shipyards the second course for ship re-



pairers ran from April to October and ten students out of thirteen received "Marine Diesel Engine" certificates. Two international experts gave technical instruction and two locally recruited teachers taught French and Mathematics.

For the course which began in November, the curriculum in both schools was modified to take on the form of their regular three year apprenticeship. Fourteen apprentices were accepted for training both in Thysville and in Kinshasa.

In the operational services, a UN expert worked in the Thysville locomotive shops on the repair and maintenance of diesel electric locomotives.

In 1966, the training programme in Thysville and in Kinshasa was fixed at three years. The second year courses began in September in accordance with plan. Two counterparts were under training as future instructors, one in Thysville and one in Kinshasa. At the end of the 1965/66 academic year, 24 students out of 28 entered the second year.

As it is now possible to recruit students who have graduated from state-run technical schools, OTRACO does not wish to offer any further three-year courses. The management is interested in restarting accelerated courses which gave good results in the past. The teaching programmes in Thysville and Kinshasa will be remodelled on these lines.

In the field of accounting, the main problems were the lack of experienced Congolese staff and the fact that the number of UN experts was limited in relation to the workload; this affected the volume of accounting they were able to accomplish and the training of counterparts.

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### 3.094 Evaluation

At present the principal adviser and his assistant are concerned with the following major problems;

The urgent need for more experts in order to implement the present programme.

Although the means of transport's capacity exceeds the demand, the extensive network of railroads and navigable waterways has to be maintained for in the distant future, when the economy of the country has recovered from the rebellion and <sup>has</sup> begun to develop and expand, an efficient and operative infrastructure will be essential.

In this respect two major problems have to be solved:

- 1) the lack of trained Congolese personnel has to be made up by basic training;
- 2) there is an immense need for spare parts in order to repair and maintain the railroad and naval equipment. However, the main difficulty is to procure the necessary foreign exchange from the respective authorities.

As can be seen from the Table below, 1965 and 1966 have been critical in the Congolese transport situation. The falling off in the quantity of traffic (which includes the tons of freight for import-export, and the number of passengers - in fact a comparative increase in the latter -) can be contributed to lack of political security, the consequential lack of investors, the gradual deterioration of vehicles and machinery because of non-renewal and ineffectual repair, the increased



mobility of the population towards Kinshasa (whose population has doubled since Independence), thus leaving the less initiated in the interior for employment on the upkeep of the Congo's vital but wearing infrastructure.

Table I

Quantitative Movement of Traffic in the Congo - 1959-1966

	OTRACO	C.V.C.	C.F.L.	B.C.K.	Total
1959	2,585,325,667	100,464,223	349,221,164	1,868,459,285	4,903,470,339
1960	1,875,915,569	90,720,561	255,392,541	1,631,477,000	3,853,505,671
1961	1,298,814,035	62,126,348	67,702,835	1,099,353,000	2,527,996,218
1962	1,517,062,047	75,486,680	85,999,503	1,024,532,000	2,703,080,230
1963	1,566,601,395	72,326,604	129,465,877	1,192,812,000	2,961,204,876
1964	1,368,078,034	54,700,000	87,832,468	1,657,825,400	3,168,435,902
1965	1,050,000,000	-	100,000,000	1,850,000,000	3,000,000,000
prov. 1966	1,200,000,000	50,000,000	140,000,000	2,000,000,000	3,390,000,000

C.V.C.: Compagnie des chemins de fer vicinaux du Congo

C.F.L.: Chemin de fer au grands lacs

B.C.K.: Chemins de fer du Bas-Congo au Katanga

It is estimated that approximately 45,000 Congolese are employed in the maintenance and operating of the country's infrastructure.

3.095 Relation to Other Programmes

At present there are some 200 foreign employees working

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in the various departments of OTRACO; they are, however, directly employed by the company.

There are some promising prospects that, on the grounds of newly-planned projects, bilateral assistance may be granted by several countries.

In the Ministry of Transport there were five Belgians and one Frenchman working as advisers from bilateral technical assistance programmes.



EXPERTS IN TRANSPORT AND COMMUNICATIONS - 1966

Name	Nationality	Function	Station
ANTIPPAS, G.	Greece	Assistant to Principal Adviser	Kinshasa
AWAD, A.	UAR	Legal Adviser, Maritime and River Law	Kinshasa
BAKOUNINE, A.	Belgium	Principal Adviser (as of 16.11.66)	Kinshasa
CASTELLS, J.	France	Training Coordinator	Kinshasa
DUPUY, J.	France	Instructor, diesel locomotive mechanic	Thysville
FAYAD, C.	Lebanon	Legal Adviser, Road and Rail Transport	Kinshasa
MARIGNAS, G.	Greece	Instructor, Marine diesel mechanic	Kinshasa
MONGIN, R.	France	Instructor, diesel locomotive mechanic	Thysville
TRAN LE QUANG	Vietnam Rep.	Principal Adviser (dep. 8.7.65)	Kinshasa
WIATR, F.	France	Instructor, marine diesel mechanic	Kinshasa