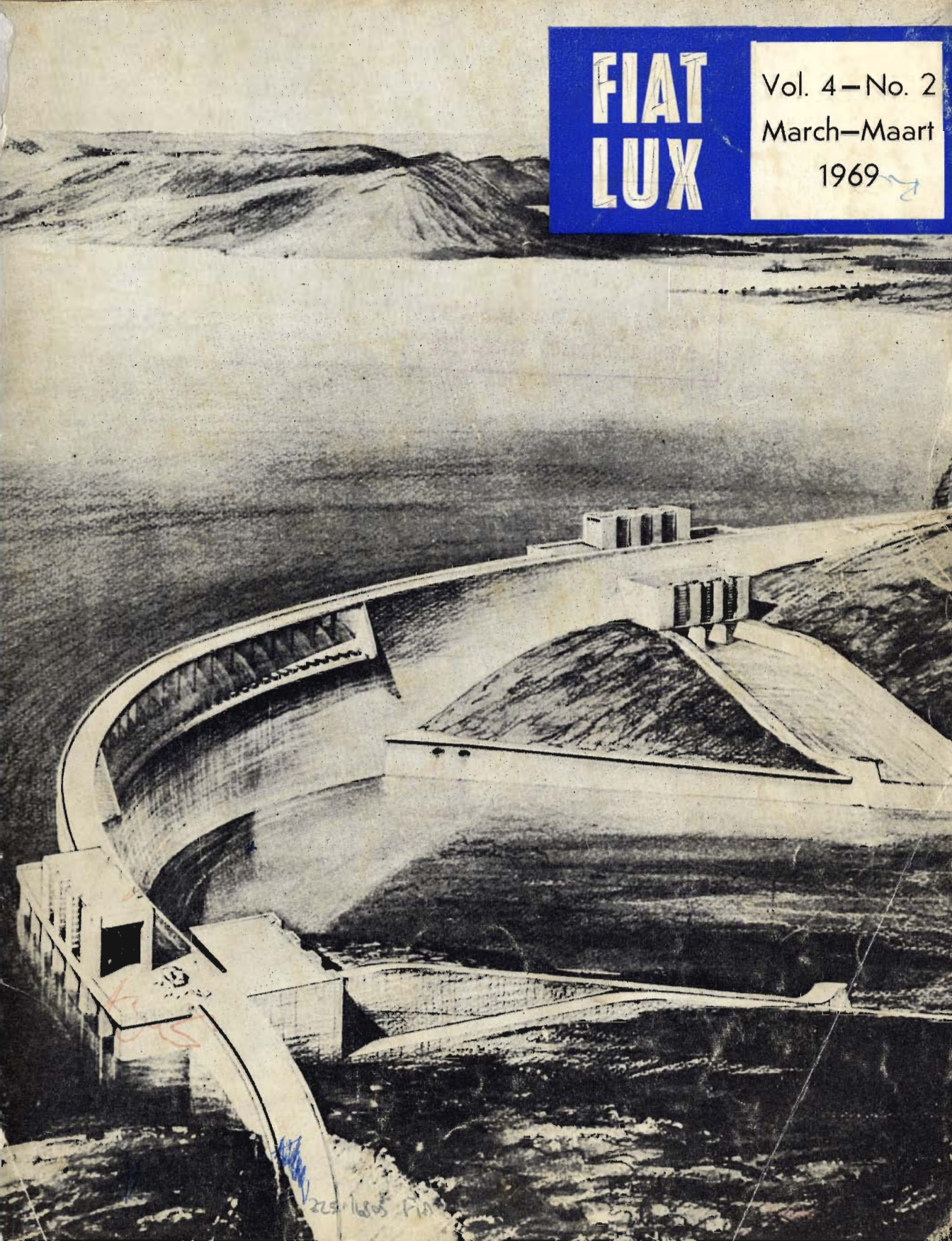


**FIAT
LUX**

Vol. 4—No. 2
March—Maart
1969



FIAT LUX

Vol. 4 — No. 2

MARCH 1969 MAART

A monthly journal published on behalf of the Department of Indian Affairs.

'n Maandblad namens die Departement van Indiërsake uitgegee.

All correspondence and requests for this journal should be directed to:

THE EDITOR,
FIAT LUX,
PRIVATE BAG 4323,
DURBAN.

Alle briefwisseling en versoeke vir hierdie blad moet gerig word aan:

DIE REDAKTEUR,
FIAT LUX,
PRIVAATSAK 4323,
DURBAN.

COVER:

An artist's sketch of the massive Hendrik Verwoerd Dam — part of the Orange River Project.

(see page 34)

CONTENTS • INHOUD

DOCUMENTATION CENTRE

University of Durban-Westville

ACCESSION NO. 537/105

Page

Water: South Africa's lifeblood	34
Road Safety	41
Indian Council Meeting	46
Course for School Clerks	48
Physiotherapy — Career of Skill	49
Department's New Offices	54
Science Orientation Course	56
Photo Flashes	58
Nutrition Education	60

The views expressed in this journal do not necessarily reflect the policy of the Department.

Die sienwyses wat in hierdie blad uitgespreek word, vertolk nie noodwendig die beleid van die Departement nie.

When you have finished reading 'Fiat Lux' why not
A u 'Fiat Lux' deurgelees het, laat 'n vriend

WATER:

South Africa's Lifeblood

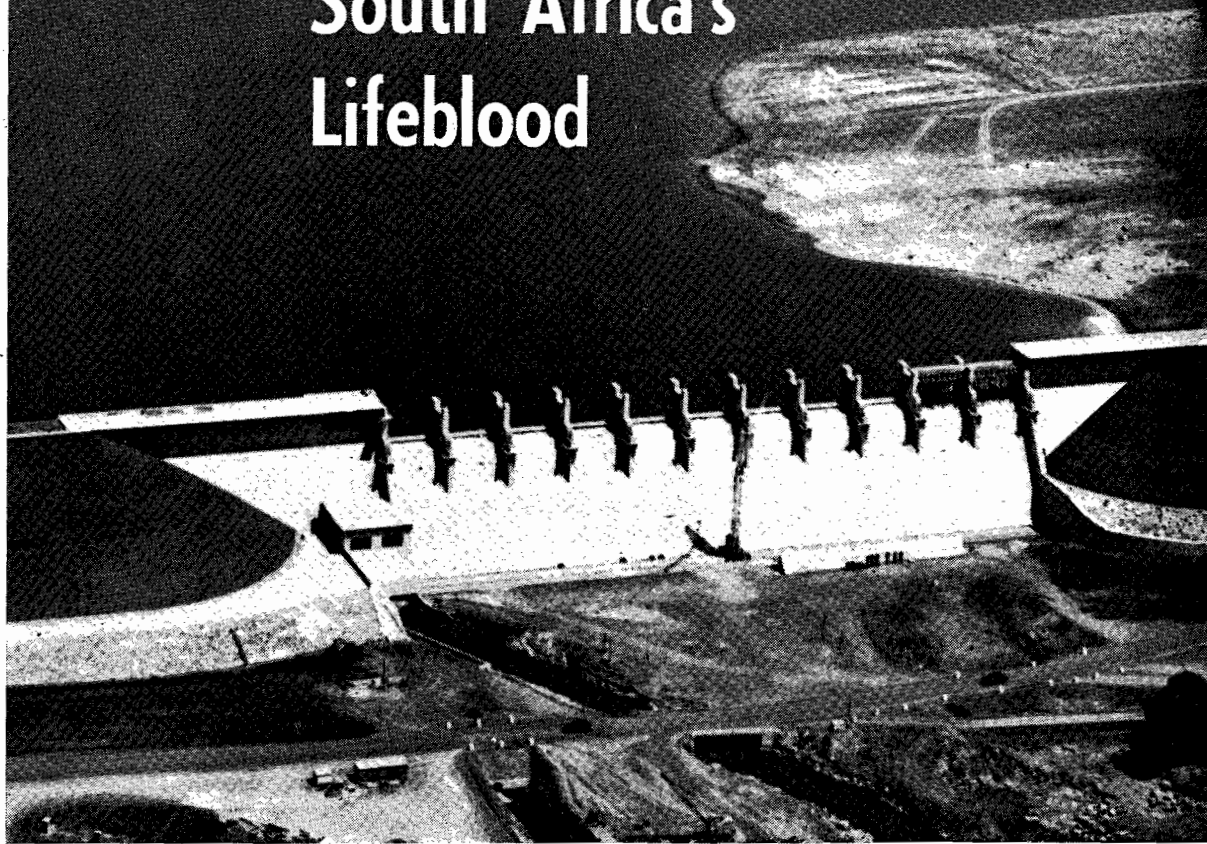


Photo: Natal Mercury.

icturesque Midmar Dam, which supplies Durban with some of its water.

*will determine the ultimate develop-
ment level of Southern Africa"*

—The State President, Mr J. J. Fouche.

SOUTH AFRICA HAS throughout its history periodically suffered under devastating droughts that have parched the countryside and left farmers in despair. At the time of writing a severe drought has again hit a large part of the Republic; stock is dying, there is a frantic need for fodder, and crop farmers are being forced to seek work in the cities. Natal, where 95 per cent of the Indian population is concentrated, has been hard hit. Usually the farmer is the first to feel the pinch, but now the town-dweller is beginning to feel the effects of water restrictions as well.

The conservation of water on a national scale is vital to the future of South Africa. Adequate water is one of the corner-stones of our economy. This was stressed by the State President, Mr J. J. Fouché, when he opened the 1969 session of Parliament.

"It is becoming more and more clear that water is going to be the factor that will determine the ultimate development level of Southern Africa," he said.

"The Government is fully aware of the position and a systematic development programme is envisaged with the object of keeping pace with South Africa's future demands for water and of seeing justice done to all sectors of the country's economy."

The final report of the Commission of Enquiry into Water Affairs was expected this year, he added. It would give a comprehensive picture of the situation and "will contain recommendations in connection with a master water plan for our country."

NATIONAL CAMPAIGN

Later during the session it was announced that the Cabinet had decided to launch a massive campaign next year to concentrate public attention on the vital need to conserve water.

The Minister of Water Affairs, Mr S. P. Botha, said in a statement that a special national committee under his chairmanship would be established to prepare a programme for country-wide participation by all race groups in a 1970 "water year."

This will be part of a Government programme aimed at the most effective conservation, storage and use of water and the elimination of water waste as much as possible.

FOCUS ATTENTION

The Water Year would focus public attention on the country's water resources and the role the public can play in eliminating water wastage. The Minister also said he would ask Parliamentary approval for legislative measures that would give him wide powers

regarding the control of water conservation, use and storage.

The third part of the programme will embrace intensified scientific research — such as has already proved successful in the re-use of sewerage water in Windhoek.

In his statement Mr Botha said the growing awareness of the increasingly important role played by water in the economy had been intensified by the current serious drought.

MANY INVOLVED

He said that various organisations and authorities — including Government departments, the provinces, local authorities, organised industry and agriculture, and others, would be involved in the planning committee for the Water Year programme.

The theme for the Water Year would be a wide one and coverage would range from the protection of water resources to sport and recreation at rivers and dams.

He added that the Government intended involving every person in South Africa in the programme because water was a vital element that affected everyone.

REACHING THE LIMITS

"We are reaching the limits of our economically conservable water resources . . . we must now tap what we believe to be our greatest water reserve — wasted water. If only we could get the public to conserve this water then we could go much further."

"What we are asking of the public in this regard is for them to help ensure our continued prosperity further into the future by saving water."

LOW RAINFALL

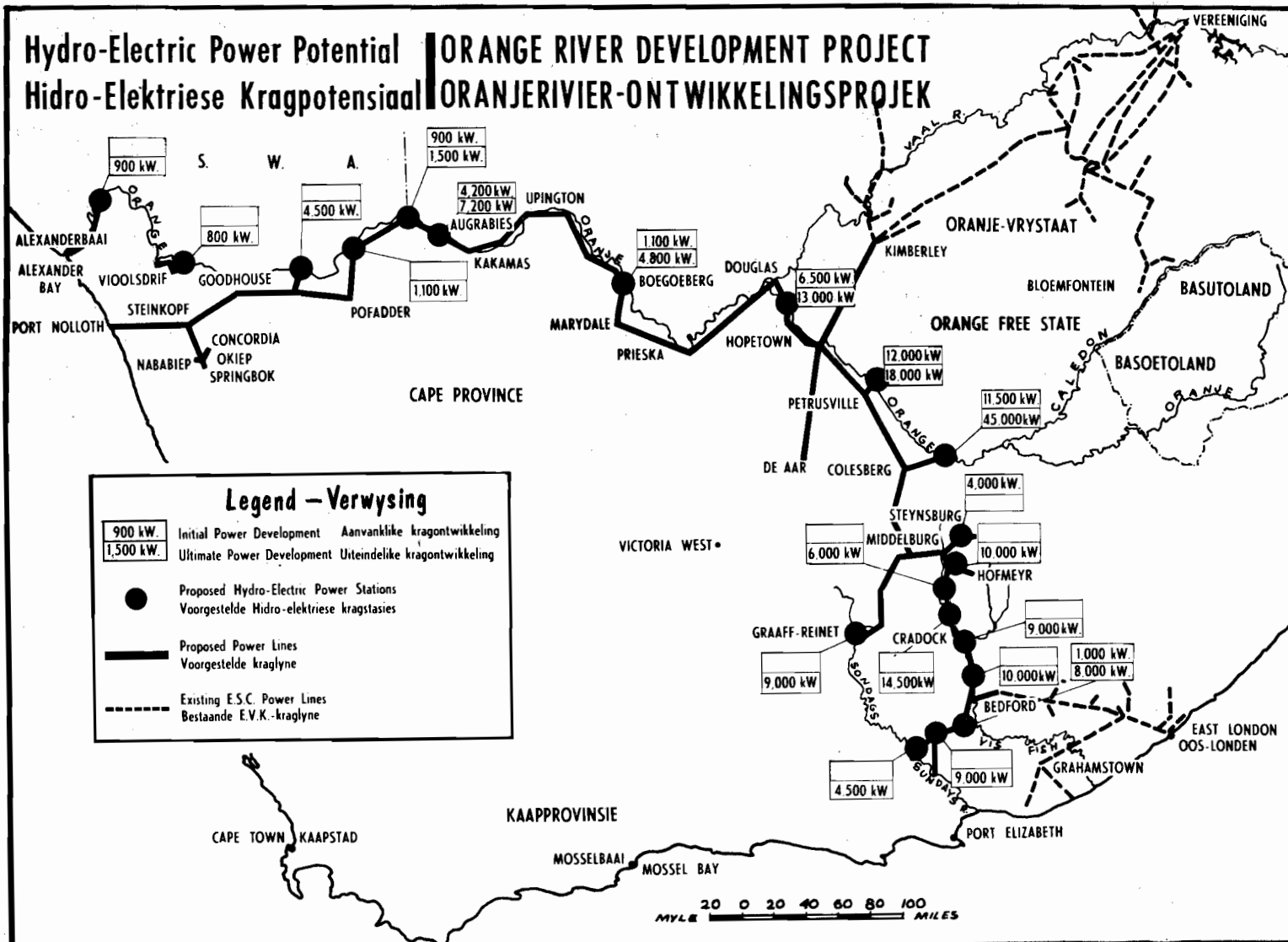
South Africa has what is internationally accepted as a fairly low rainfall. About 60 per cent of the Republic receives less than 20 inches of rain a year. The average annual rainfall for the whole country is 17 inches, of which 8 per cent reaches the rivers. Of this

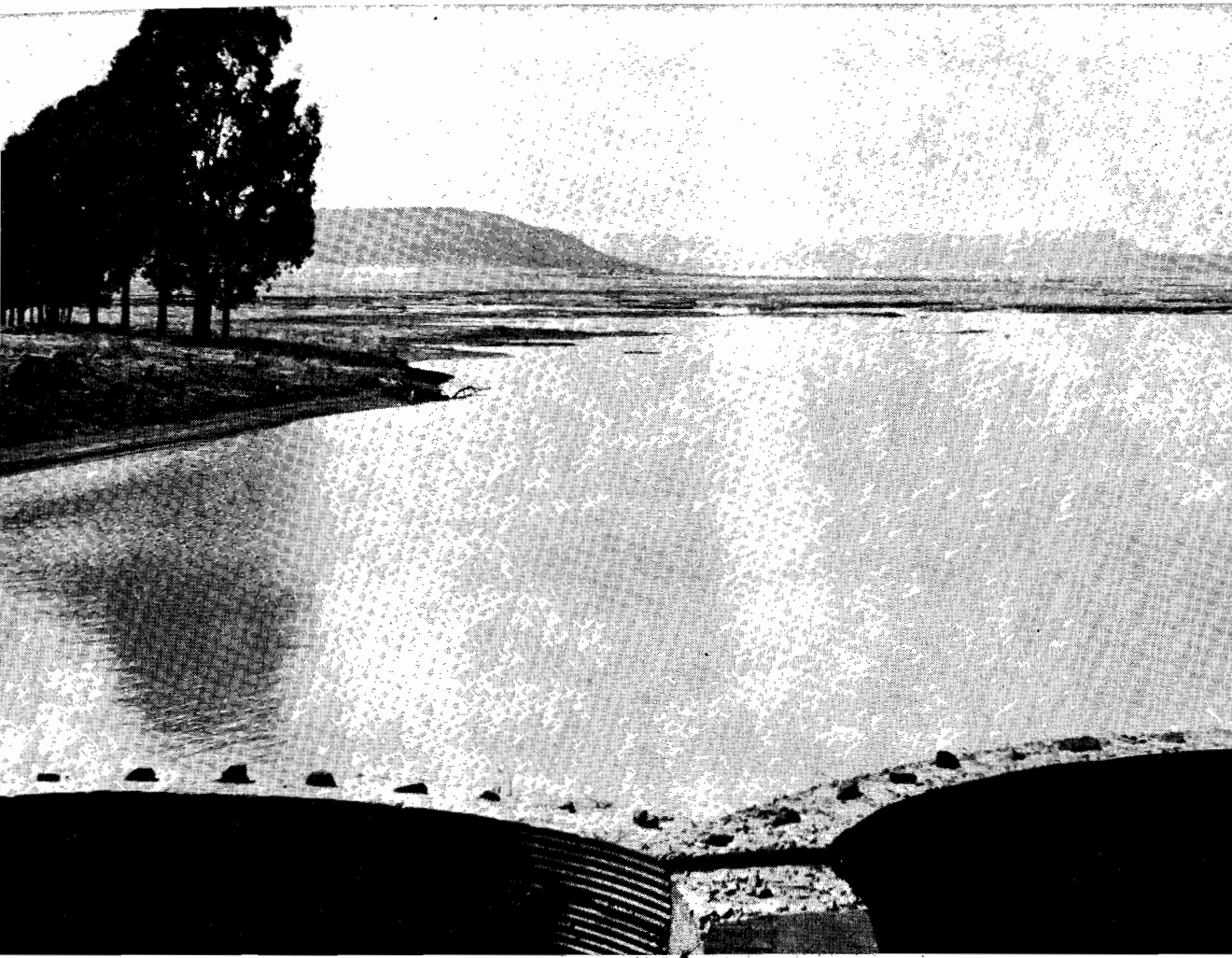
Hydro-Electric Power Potential

ORANGE RIVER DEVELOPMENT PROJECT

Hydro-Elektriese Kragpotensiaal

ORANJERIVIER-ONTWIKKELINGSPROJEK





A typical example of a farm dam. Rough but effective, and with great benefits to the farmer.

half goes to waste during floods, or is lost through evaporation.

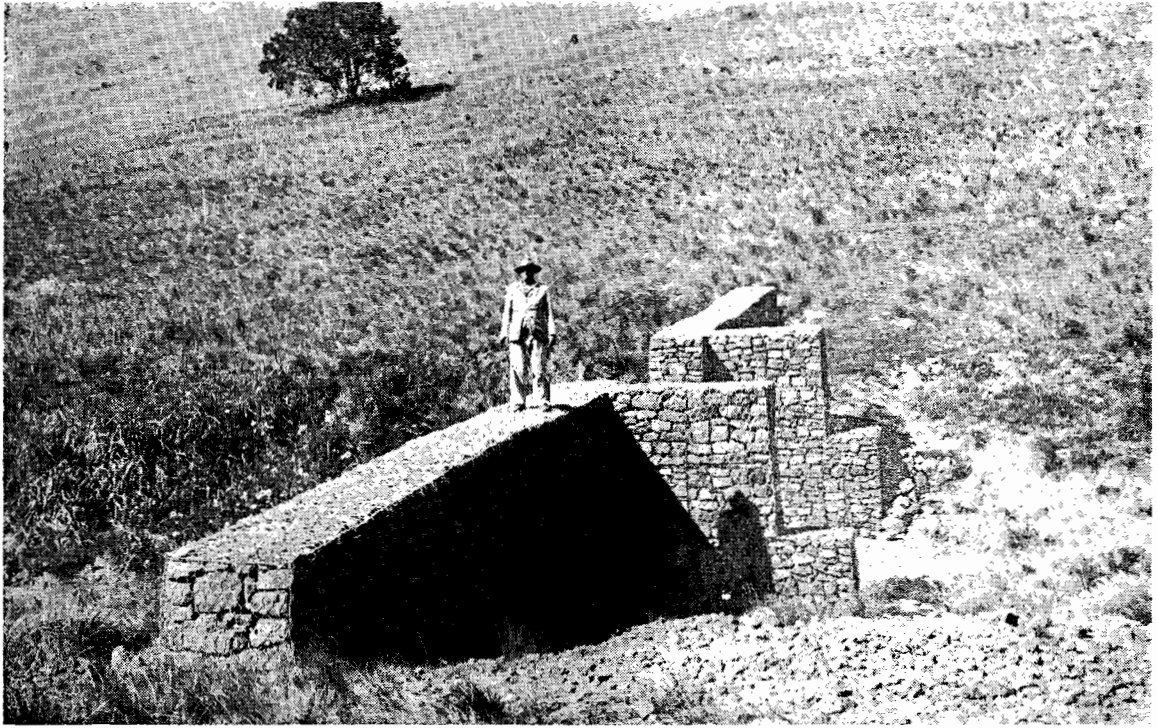
Not more than 3.5 per cent of our already low annual rainfall can be utilised from the country's rivers and streams. This gives South Africa one of the highest rainfall run-off rates in the world.

Our water position is therefore very often delicately balanced. The relatively little water we have is one of our most valuable natural resources. Some of these, like gold, will no doubt be exhausted in time to come, but water is an asset that is renewable in a greater or lesser degree each rainy season.

CONSERVATION PROBLEM

The problem is, and always has been, how best to conserve the water we do receive, and how to make the best use of it that we can.

This matter is receiving attention on a national scale. There is the mighty R450-million Orange River Project; the Cabora-Bassa project being undertaken in collaboration with Mocambique; the Oxbow scheme with Lesotho, and lesser ones such as the schemes to harness the Sundays, the Fish and Tugela rivers.



WATER GRID

These will be some of the components of a national water grid referred to by the State President in his speech at the opening of Parliament. They will of course have much more far-reaching effects than simply water conservation. They will open up tracts of farming land, enable new communities to be settled, provide hydro-electricity and create employment facilities.

ORANGE RIVER PROJECT

The Orange River Project is one of the greatest engineering and water conservation projects of our time.

It is a long-term project that will take at least 30 years to complete but it will harness South Africa's greatest river through great storage lakes in the heartland of the Republic and provide water and ensure food for millions yet unborn.

The scheme will embrace three major reservoirs, nine smaller dams or weirs, a 51½-mile long tunnel, 20 hydro-electric power stations, and a system of irrigation canals totalling many thousands of miles in length (see map).

Much can be done on a small scale to conserve water and at the same time help prevent soil erosion. The above picture shows a rough stone barrier, held in place with wire mesh, that can be erected to check donga erosion.

The right hand picture shows a concrete weir. A number of these along the course of a stream not only ensure a steadier flow but raise the underground water table.

They will irrigate, among others, a semi-desert region, supplement water supplies to existing irrigation schemes, and increase the value of agricultural production by at least R114-million a year.

MORE URGENT

With South Africa's increasing industrialisation and growing population the need for effective water planning and conservation yearly becomes more urgent, particularly as problems arise when smaller schemes, such as municipal dams, are not able to meet major industrial needs.

Large dams, on the other hand, are able to store water for much longer dry periods, particularly where modern scientific conservation steps are taken, such as spraying the surface to reduce evaporation.

RE-USE

Another method of water conservation is that of re-using the same water for different purposes.

The former director of the Department of Town and Regional Planning, Mr. E. Thorning-Smith, speaking at a conference in Durban recently, said, "Sewage effluent, for example, can be treated and used in cooling towers or for other industrial purposes.

"The general idea is that there should be 'A' and 'B' classes of water — the first for human consumption, and the second for uses where the purity is not essential.

"As a long-term policy, we must re-use," he summed up.

INDUSTRY

Industries can purify water after use and either use it again themselves or release it for re-use by others.

The Natal regional representative of the Council for Scientific and Industrial Research, Mr D. R. Masson, says that industry can make a considerable saving in its use of water.

The National Institute had conducted considerable research into this, and the Council often advised new factories and plants on the most efficient use of the water available, he recently told the Press.

Water can be a limiting factor in the establishment of industry. It can also in many areas be the most important factor limiting agriculture.

On a smaller scale householders have already in emergencies used water they have washed in to wash their clothes, and finally water their gardens with. In some drought-stricken rural areas this happens periodically.

Despite ingenious and imaginative research into "seeding" clouds with rockets and other devices to produce rain, we cannot at present effectively control the amount of rain that falls on our crops. We must therefore make the best use we can of the water available.

The Department of Agricultural Technical Services has pointed out that farmers can do this by making the best use he can of rain-water and of water used for irrigation.

DIFFERENCE

"It is important to realise the difference between annual rainfall and effective rainfall," a spokesman says.



"A region with an annual rainfall of 30 inches may have an effective rainfall of only 15 inches, for example.

"Of the 30 inches that fall, only 15 inches penetrate the ground and are available to the crop while the other 15 inches are lost through flood water or evaporation".

It has also been emphasised that areas with steep hills where water conservation measures are not applied, usually have a low effective rainfall.

STEPS TO TAKE

There are a number of steps the average farmer can take to utilise his water supply to the utmost, such as:

- **By providing a good vegetational cover to break the force of the rain. The period when the soil lies unprotected between crops should be kept to a minimum.**
- **By keeping lands free of weeds, which use water to the detriment of crops.**
- **By constructing and maintaining an efficient contour system where there are slopes. Contours lead water off the land gently — if they are not built soil erosion results and more water is lost.**
- **By planting in rows which run parallel to the hill contours so that they intercept water running downhill and retain it long enough for the water to sink into the soil.**
- **By the incorporation of organic matter such as compost, manure and vegetative matter. This not only increases the water-holding capacity but also the fertility**
- **By covering the soil with a mulch where possible and practical. A mulch is a layer of grass or similar material. It not only protects the soil from drying out but increases the organic content of the soil as it decays, and also**

increases the water-holding capacity in this way.

- **By protecting wet areas and stream banks. Swamps and vleis areas act as water reservoirs, they accumulate water during the wet periods but if drained or if the protective vegetation is removed they no longer conserve water for later use.**
- **By building dams. Dams not only provide a basin for storing water but also increase the amount of water stored in the stream bed under the surface of the soil. Often streams that normally dry out during the dry season keep flowing if dams are built along their course, as the general water table is raised.**

IRRIGATE WISELY

Where water is in short supply it is essential that efficient use is made of available water when irrigating. Over-irrigation is not only a waste of water but washes the fertiliser below the reach of crop roots.

"If a crop is worth irrigating it is worth irrigating properly," a spokesman for the Department of Agriculture Services has pointed out.

"The correct application of water costs relatively little extra and is an insurance for reaping a good crop, recovering the expenses already incurred in fertiliser and cultivation costs.

"Farmers must and do accept that seasonal water shortages will always be a problem. Every farmer, no matter how small he is, must do all he can to conserve this vital commodity."

In this way we will ensure that our precious soil will yield the good crops that we expect to reap from it.



Each year hundreds are killed on South African roads. Education of the road-user and tougher measures against offenders are part of the answer. The twisted vehicles that we see so often on the side of the roads tell only part of the tragic story.

ROAD SAFETY

EVERY DAY the newspapers carry reports of road accidents that leave victims maimed or dead and families grief-stricken. The alarming increase in South Africa's road toll is not only distressing to traffic and other authorities but is of great concern to motorists themselves, as every time they get into a car could be the last.

South Africa has a high accident rate — some $6\frac{1}{2}$ times that of the United States — and the situation is still getting worse rapidly, so much so that, according to Professor Venter, head of the faculty of Criminology at Pretoria University, South Africans are engaged in a process of national suicide on the roads.



Trapped! An offending motorist overtaking on the barrier line is caught in the act by the telephoto camera of an unmarked Provincial Administration squad car. The car's registration number has been blacked out to avoid embarrassing the driver. Under optimum conditions car registration numbers show up on the photographs at a distance of 700 feet.

THE HUMAN ELEMENT

Professor Venter told delegates to the S.A. Institute of Traffic Officers Conference this in Durban last October, and he pointed out that **the crux of the matter was the human element. Although roads and vehicles have improved enormously in recent years the same could not be said for the man behind the wheel.**

This view is shared by road traffic authorities. The consensus of opinion also appears to be that part of the answer lies in more stringent traffic law enforcement, plus the education of the public.

ATTITUDE

Main factors contributing to the worrying road accident situation appear to be an incorrect attitude on the part of many motorists towards traffic discipline, and in some areas, the critical manpower shortage which seriously restricts the effectiveness of traffic control measures.

"This is the keystone of the whole road safety structure", the chairman of the Southern Transvaal Area Committee of the Automobile Association, Mr L. B. Gerber, has said. "In fact, the whole legislative research and enforcement procedure falls down unless traffic laws are enforced on the road."

A spokesman for the Natal Provincial Traffic Department affirms that it is to a great extent the motorist himself who is to blame for the appalling slaughter on our roads.

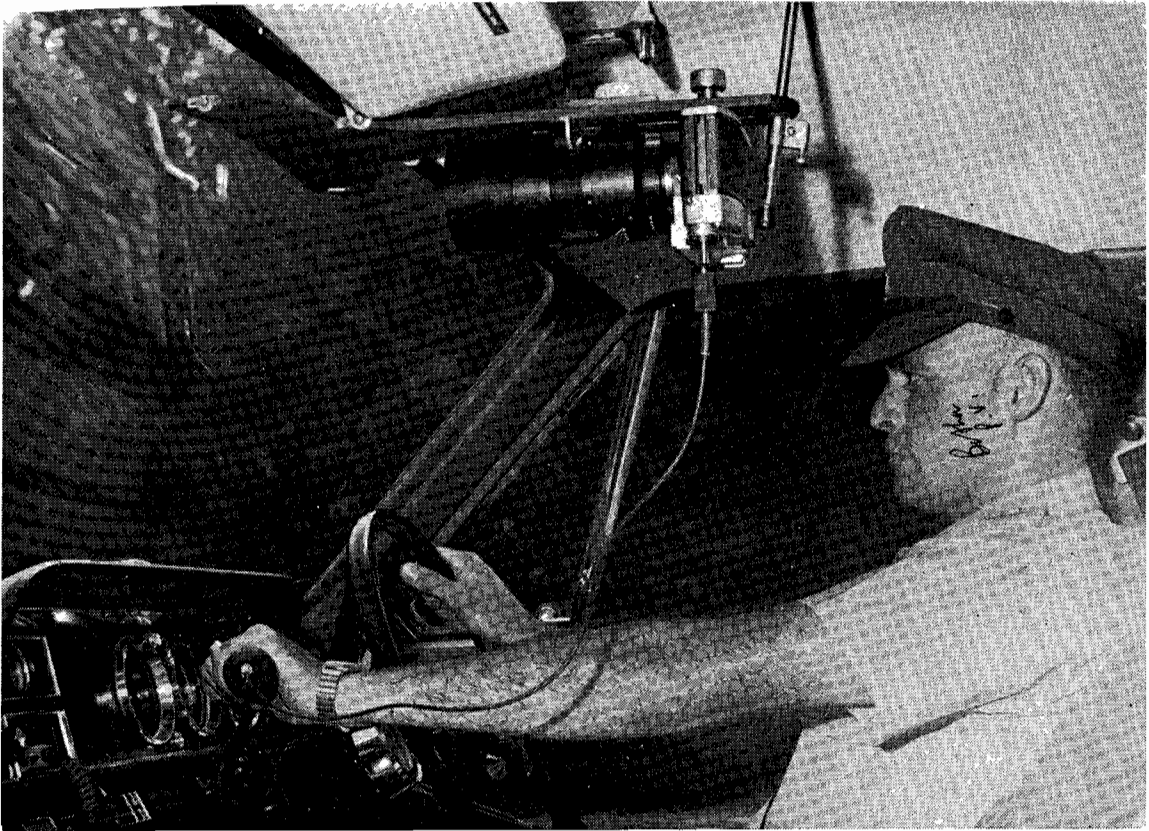
OBEY RULES

"Obedience to traffic rules would practically wipe out accidents," he told Fiat Lux.

He lists drunken drivers, inconsiderate and reckless driving, and motorists who fail to stop after accidents as the offences that his Department views as the most serious.

SPEED LIMIT

Since the introduction of the 70 m.p.h. speed limit on rural roads there have been fewer accidents and fewer deaths. Road safety



A Natal provincial traffic officer demonstrates how the Department's new precision cameras take high-speed photographs of traffic offenders. Squeezing a bulb on the end of the gear lever triggers off the camera's shutter. Some cameras are mounted on the dashboard, others are slung from the roof.

authorities agree that the reduction is largely due to the restriction on speeding.

"Doctors at certain hospitals in rural areas have told us that they have noticed a drop in the motor car casualty rate," the Provincial Administration spokesman said.

The introduction of this speed limit has evoked much public comment but has been retained despite opposition in certain quarters. It is typical of the more vigorous action being taken against road mis-users.

TOUGHER STEPS

In addition, more curbs are being introduced here and overseas to control road traffic more effectively.

"There are certainly some aspects of bad road behaviour that we feel should elicit severer punishment to the offenders", a Natal Provincial Administration spokesman told us.

"The tendency overseas is towards more stringent punishment and it appears to be effective".

"In Finland, for instance, a drunken driver can be sent to jail for a period of up to six months, without the option of a fine — and their tests for alcohol are stricter than ours.

"In Finland a man need only have .07 per cent of alcohol in his blood to be found guilty, whereas in South Africa it is .15 per cent."

"Another problem we have in South Africa on the educational side is that people don't seem to accept the idea that there is a traffic and road safety problem. Overseas they do, and this has led to much greater courtesy on the road."

DRIVERS' BUREAU

Natal has taken the step of recording all



The Durban City Corporation employs a number of Indian traffic officers. Here constables Y. Nunnun and J. Francis (left) and the person in charge of the Indian section, Sergeant J. S. Joubert (right) admire the motor-cycle of patrolman G. Perumal (centre). Indian personnel are employed in many of the Indian areas.

criminal offences by provincial road users in a "Drivers' Licence Bureau". Offences are noted and the motorist warned, and on his second conviction he is liable to have his licence suspended for a maximum period of five years.

"We feel this has a deterring effect on reckless drivers. Our notification that we have recorded his first offence, and the court's sentence, have a complementary effect."

ADVISORY BOARD

Although each province has its own Traffic Department, they all operate in accordance with the policy laid down by the Inter-Provincial Traffic Advisory Board, which co-ordinates road laws and their enforcement.

Natal traffic law enforcement has taken a step forward with the introduction of high-speed photography. The Province has acquired more than 20 precision cameras with telephoto lenses, which it is using to record offences by

motorists.

SUPPORTING EVIDENCE

The photographs are used as supporting evidence in the Courts and the results so far obtained have been highly satisfactory. A number of motorists who intended opposing charges brought against them have changed their minds and paid admission-of-guilt fines when confronted with photographs of themselves committing the offence.

The pictures show car registration numbers at up to 700 feet under optimum conditions. Using a special high-speed film, traffic officers can even trap offenders at night. The essential details, such as barrier lines, headlamps and reflectors, show clearly in these photographs.

HELICOPTERS

During peak periods on the national roads Provincial traffic officers use helicopters in controlling traffic. A two-way radio link with squad cars can, for instance, help to clear up traffic jams or assist at accident scenes.

But besides the enforcement of traffic laws the officers are also by the very nature of their work connected with the promotion of road safety.

The Indian pedestrian and motorist is of course as much affected by road laws as anyone else and it is in his own interest that he obeys them.

According to the Natal Regional Secretary of the Road Safety Association, Mr A. R. Sandwith, the Indian community (in Durban at any rate) has a relatively low road death toll per head of population compared with other race groups — 10.2 per 1,000 people annually.

NO COMPLACENCY

"This should, however, give no cause for complacency, as the development of new density areas in the cities continually aggravates the situation. The greater the density the more the congestion and traffic problems, which can give rise to more road accidents."

EDUCATION

While efforts are being made to make traffic control more effective there is also the need for educating the road user.

Road safety and traffic authorities are in

general agreement that this need is very great. As was pointed out earlier, the crux of the road accident problem lies with the road-user.

Both the Road Safety Organisation and traffic authorities have done a great deal in educating the public. However, in the words of Mr Sandwith, "Much more still needs to be done."

"The Road Safety Council has, over the last 19 years, done everything possible to inform the public of the need to use the roads safely.

SCHOOLS

"Believing too that more will be achieved by the education of the child, we have concentrated our activities on the schools. Many thousands of Indian children have also received instruction through films and lectures.

"We believe that school staffs are as a result taking a greater interest in teaching road safety to their pupils."

Mr Sandwith also expressed his gratitude for the co-operation his Association had received from school principals and Departments concerned.

SCHOLAR PATROLS

The Road Safety Association has had a hand in setting up scholar patrols at a number of Indian Schools in the Durban area and there

(Continued on page 47)

Road safety begins at school, both through lessons in road lore and through evoking a responsible attitude towards the subject among scholars. Here a scholar patrol controls a pedestrian crossing at an Indian school.



INDIAN COUNCIL MEETS

AT THE THIRD meeting of the new statutory South African Indian Council on February 18 and 19 a new member, Dr M. B. Naidoo, was sworn in by the Chief Magistrate of Durban, Mr M. E. Goodhead. Dr Naidoo, a distinguished educationist, recently retired as Principal of Sastri College, Durban.

At the meeting a report was given on discussions held by a deputation of Councillors in Cape Town with the Ministers of Indian Affairs, Labour and Community Development and the Deputy Minister of Planning. Members of the deputation expressed their appreciation of the manner in which they had been received and the cordial atmosphere in which the meeting had been held.

The Council noted with satisfaction that representation made by the deputation regarding a number of important matters affecting the welfare and progress of the Indian community would be given sympathetic consideration by the Ministers concerned.

At its meeting in Durban the Council gave attention to restrictions placed on the employment of Bantu domestic servants by Indians in the Indian Group Areas and decided to ask the Minister of Indian Affairs to make representations to the Minister of Bantu Administration and Development regarding the matter.

The Council noted with concern that large acreages of agricultural land formerly owned and cultivated by Indians had in recent years been required for urban and industrial ex-



The new member of the South African Indian Council, Dr M. B. Naidoo (right), being sworn in by the Chief Magistrate of Durban, Mr M. E. Goodhead. Dr Naidoo will fill the vacancy on the Council caused by the death of Dr B. Rambiritch last year.

pansion and other purposes, and resolved that the Department of Indian Affairs be asked to make representations to the proper authorities for other agricultural land to be made available to Indians to replace this loss.

The difficulties being experienced by Indians who wished to serve articles so as to qualify as accountants and auditors was also discussed. It was decided to appoint an ad-hoc committee to investigate means whereby these difficulties could be surmounted.

Th Council's attention was directed to the acute shortage of Indian dentists in the Republic and it was decided to make representations to the Minister of Health for the provision of additional facilities at South African universities for the training of dentists. It was also urged that until these additional facilities could be provided, the responsible authorities

should consider the possibility of recognising dental qualifications obtained by students at universities in India and Pakistan.

The shortage of industrial sites, and of homes for Indians in the middle-income group was discussed and it was decided to appoint a deputation to discuss the whole matter, including the sale of stands by public auction by local authorities, with the Department of Community Development.

It was also decided to accept a recent offer by the Department of Community Development that the Department's standard plans for houses be submitted to the Council for comment.

The Council was informed of the progress made with the R.S.A. Jubilee Savings Campaign, and indicated its willingness to assist the organisers at the various functions which are to be arranged for the Indian community.

ROAD SAFETY

(Continued from page 45)

are also a number of points controlled by school staff and the Durban City Police.

INVESTIGATIONS

"At the request of Indian welfare bodies we have also carried out many investigations into road dangers," Mr Sandwith said.

"We have pressed for the employment of Indian traffic officers for a long time and are happy to say that today we not only have them, but that an increase in their number is shortly to take place."

Mr Sandwith feels that the Indian community can play a greater role in road safety promotion.

COMMITTEES

"To this end we hope to establish Indian road safety committees in the different areas. These should be fully representative and we hope they will grow into a fully representative Indian road safety organisation, working with and affiliated to the Road Safety Council, but controlling and directing road safety activity in the Indian community.

STAFF

"For this fully trained Indian staff will be required. Negotiations are at present in progress for the creation of a post for an Indian Information Officer in the Durban region, which we hope will be the stepping stone to the creation of an Indian road safety organisation."

RADIO

Road safety measures are even being implemented over the radio. The F.M. services urge motorists to greater care and courtesy, particularly during peak driving periods. Light music on the car radio and friendly, relaxed presentation help relieve annoyance and frustration in heavy traffic.

TOUR CONTRIBUTION

From the opinions expressed by road safety authorities it is evident that every motorist owes it to himself and to others to render a more positive contribution to road safety through more scrupulous observance of the rules of the road. An appeal is made to Indian motorists to assist the authorities in the promotion of road safety measures and in keeping our roads and highways safe for people to travel on.

COURSE FOR SCHOOL CLERKS



The Director of Indian Education, Mr P. W. Prinsloo.

"AS FAR AS I KNOW this is the first time in the history of education in this country that a course has been organised to train clerical assistants in their actual duties prior to their commencing service in the schools to which they have been appointed," said Mr P. W. Prinsloo, Director of Indian Education, when at the end of January he officially opened a course for Indian clerical assistants at schools.

Thirty-five male and female students attended the three-week in-service clerical course, instituted by the Department of Indian Affairs.

The Director said this was the first time that Indian clerical assistants had been introduced

in schools.

Rapid development in education had made the introduction of the course necessary. It had become high time to relieve principals of the administrative routine work and duties in which they were becoming bogged down. Mr Prinsloo explained that it was now the task of those taking the course to shoulder some of these responsibilities.

Unless the administrative work was done promptly and efficiently the school could not function properly.

The amount of success achieved by each student would depend on his or her attitude to the work, said Mr Prinsloo. "Friendliness will smooth your way to success. Courtesy will be rewarded with courtesy."

The Director urged the students to remember that there was not only happiness in doing what one liked but also in liking what one had to do.

"In every career or job one sometimes has to do things whether one likes it or not."

A successful secretary, he maintained, did not consider his office as a mere workshop where he earned his daily bread. It became a place where he actualized himself; it became part of his daily life.

"The noblest thing in life is honest work, no matter what one's calling is," the Director commented.

The Chief Training Officer at the Department of Indian Affairs, Mr G. van Greunen, with some of the students being trained as school secretaries. They are (from left) Mr S. Seodayat, Miss S. D. Devi and Miss V. Ruthnum.



PHYSIOTHERAPY— CAREER OF SKILL

SKILLFULLY, GENTLY the fingers probe and massage. Beneath them, long-slack muscles slowly respond, inching forward over a period of months from immobility to faint movement and increasing co-ordination. Gradually the stricken arm and hand of a car accident victim learn to bend, to flex and grasp and finally attain all their normal functions.

The proper co-ordination and re-attainment of normal bodily movements after a car or other accident can be a long slow process.

Often, even when tissues have healed they have to re-attain suppleness and dexterity, and re-learn many simple movements that the patient learned when an infant.

In this the physiotherapist often plays an integral role. The cases referred for physiotherapeutic treatment are many and varied, and may include cases of burns, polio, industrial and domestic accidents, strokes, car accidents, paraplegia and other handicapped persons.

Even cases of severe pneumonia and other respiratory ailments such as asthma may require treatment.

Probably the most unusual physiotherapy case is that of world-famous heart transplant patient Dr Philip Blaiberg. After his historic operation he was as helpless as a baby, and to help his physical build-up a physiotherapist worked ceaselessly, aiding Dr Blaiberg with breathing and later with leg exercises.

The effort must have been great, but Dr. Blaiberg showed he was up to it. Physiotherapists can take pride in knowing that their branch of healing played a role in the recovery of what is probably the most famous medical case in history.

By MISS G. H. JONES,

M.C.S.P., Dip. T.C.S.P.,

Lecturer/Physiotherapist at the

King Edward VIII

School of Physiotherapy, Durban.

This little fellow has congestion of the lungs as a result of polio. Miss T. Hargovan, a third-year physiotherapy student, induces correct breathing by means of special exercises.





Mr P. Gounden, a final-year physiotherapy student, encourages a young patient to move her leg with the aid of suspension therapy. The girl's leg muscles have been considerably weakened through illness and movement is easier if the leg is suspended. As the leg muscles strengthen so the exercises are made more difficult.

BELOW: The object of physiotherapy is to make the patient independent of assistance. General exercises must be accompanied by practical application to everyday situations. Here Mr Gounden helps the patient to walk with the support of parallel bars. She watches herself in the mirror to check that her posture is correct.



Physiotherapy is a specialised branch of healing requiring a comprehensive and rigorous training.

This is available to Indians at the King Edward VIII Hospital in Durban, where a non-White School of Physiotherapy was established in 1964 under the aegis of the Natal Provincial Administration.

The School opened with 12 students, of whom 6 were Indians. Since then sixty students have been admitted in five successive years. So far 16 have qualified, while thirty-three are still in training.

Dr B. V. Schulze, the physician-in-charge, and I, are still with the school, although there have been staff changes.

The institution of the course has been a pioneer project, and inevitably, some setbacks and difficulties have been experienced. Shortage of staff has, for one, been a problem.

The course lasts 3 years and 2 months and includes instruction in anatomy, physiology, physics, electro-mechanics, kinesiology, nursing, first-aid, electro-therapy, massage, hydro-therapy and pathology, as well as the theory and practice of treatments of disease and injury of all kinds.

The skilled physiotherapist requires extensive knowledge in many different fields. A brief description of the course will give some idea of what the work entails.

Anatomy is the study of the human body, and is a basic subject. Certain parts of the body — muscles, joints, nerves, circulatory system, respiratory system, brain and neurologic system, for instance, all have to be studied in as much detail as by the medical students, with whom many of the lectures are shared.

Physiology is the study of how the body functions, and here again it is necessary that the physiotherapy student has a wide knowledge, in order to be able to assess the effect of disease, and of treatment on the patient.

Physics is also taught, with special attention to electricity, so that the students can appreciate what their medicines are doing, and why, and how.

Electro-therapy is treatment by electrical means, and the uses of a number of machines have to be learned.

Considerable instruction is given in this, and the examiners are especially strict in their requirements, since a mistake in this branch of the work could have even more serious consequences than a mistake in other fields.

Electronic muscle stimulators, short-wave

diathermy machines (which produce electrical currents to produce heat in the deeper tissues of the body), ultra-violet ray lamps (artificial sunlight) and ultrasonic machines (which soften scar tissue and aid circulation through vibration) are a few of those that must be studied, and whose construction, function and effects must be well known before a student can qualify

Kinesiology is the science of movement — perhaps accounting for the bulk of the physiotherapist's work.

MOVEMENT

Movement in some form or other comes into the treatment of every patient, and wrong movements, ineffective movements, or omission of the right ones, can mar the recovery of any patient, whether diseased, injured, or surgically treated.

Why does a physiotherapist learn to nurse as well? For several important reasons, not the least being that she will be a help and not a hindrance to the nursing staff.

The student does only two weeks work in the wards, but this, and the lectures which precede it, enable him/her to treat patients



Miss Jones instructs student physiotherapists in applied anatomy. Students need a good basic knowledge in this subject if they are to understand how and why various therapeutic treatments are administered.



A student physiotherapist massages the arm and hand of little Priscilla Chetty. Priscilla's arm was injured about six months ago when a truck drove over it. Gradually as treatment progresses, she is regaining the use of her arm. Mrs Chetty is concerned with her child's progress and is interested in the treatment being given.

in bed, to make beds, to use oxygen cylinders and other respiratory aids, and to do a hundred and one other things which are simple when you know how, but need to be taught and practised

The co-operation of the Nursing School and the ward sisters ensures that the students get both instruction and practice.

FIRST AID

A first aid course is provided by the Red Cross, who issue a certificate to successful candidates. This course is taken in the early months of the training, and is used as one means of gauging the aptitude of the student for the work which lies ahead.

Massage is a popular subject and a popular treatment when prescribed, but is not so much used now as formerly. It does have a place, however, and in addition to its use in treating patients, it is of great value in training the student in the gentle, but firm and scientific handling of the patient.

WATER TREATMENT

Hydrotherapy is of great interest to the students, who visit appropriate swimming pools during the summer to learn through experience what it is like to do exercises in water. There is preparation first to give them the scientific basis, since movement in water differs considerably from the same movement out of water. The school has a special hydrotherapy bath for treating patients.

BELOW: The special hydrotherapy bath at the King Edward VIII school of physiotherapy. Patients suffering from stiff joints, weak muscles or the effects of polio are treated here. Warm water, which is always used, encourages movement and circulation.



PATHOLOGY

Pathology is the science of disease — the knowledge of what changes take place in the anatomy and physiology of the body when

disease or injury occurs to affect any or all of the body.

Take for instance, a condition such as arthritis, so painfully familiar to so many people.

The treatment is prescribed by the doctor, after his examination of the patient, but the physiotherapist cannot carry out that treatment without knowledge as described above.

She must know the pathology in order to understand what has happened to the joint, how her treatment must be modified for this particular joint, and how it may affect the joint and the patient as a whole.

She must be familiar with the relevant anatomy and physiology, otherwise her treatment may be harmful.

She must know all the details of the treatments prescribed — there may be three or four in such a case — otherwise she cannot assess the effects of the treatments.

WIDE KNOWLEDGE

So even the treatment of one joint in one patient calls for a very wide range of knowledge and skills, because theoretical knowledge is not enough — practice is also required.

The students practice all their techniques on one another in class and are taught the easiest

and most effective ways of carrying out the treatments

They are also taught, as far as can be done by another person, to use their judgement in choosing a particular method, or how to modify a method to suit the individual patient.

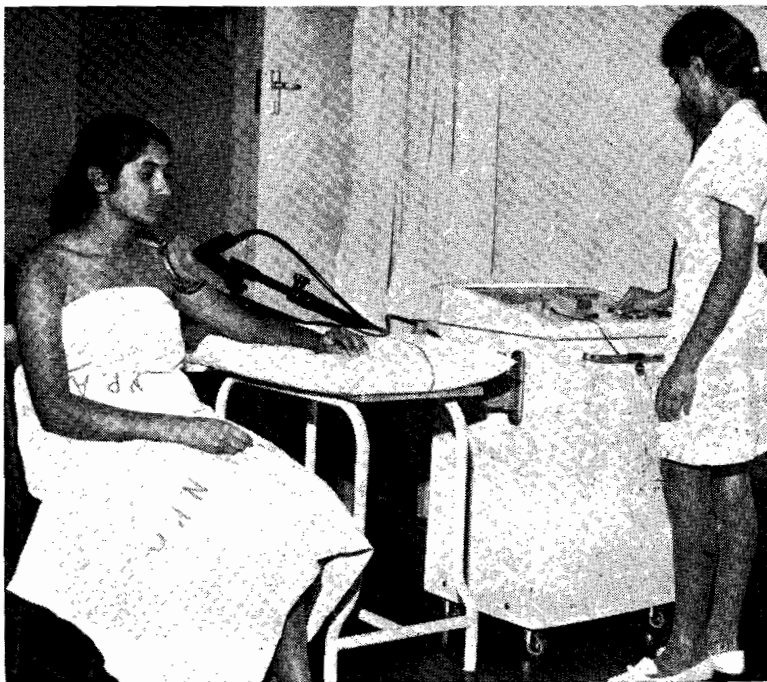
Most students have taken very well to this type of work and have attained the necessary high standards. In both theoretical and practical examinations students are assessed by the same examiners, and at the same standard as the students of such old-established places of instruction as, for example, the Witwatersrand, Cape Town and Pretoria universities.

The majority of the students who have qualified as physiotherapists are at present working in Natal.

This has been encouraged in order that the newly qualified personnel can remain within reach of their training school for post-graduate help and advice if required.

The basic fact which must be assimilated by all students is that they are working for the benefit of the patient. Any other motive, monetary or social or whatever, is totally unacceptable, and candidates are advised not to take up the career unless they mean to make it one of service.

Two second-year students learn the ins and outs of a short-wave diathermia machine. This is how a stiff shoulder (caused by, for example, a fracture or dislocation) would be treated. The heat produced improves the circulation and assists in the mobilization of the stiff joint.



NEW OFFICE FOR INDIAN AFFAIRS

MONDAY, FEBRUARY 3, saw the opening of the Department's branch office at Chatsworth, Durban. Designed to provide the same services rendered to Indians at the Durban offices, this office will fill a long-felt need and should be welcomed by members of the community residing in the southern areas of Durban. It will save them long and tedious journeys to the central office when they need one or other of the Department's services.

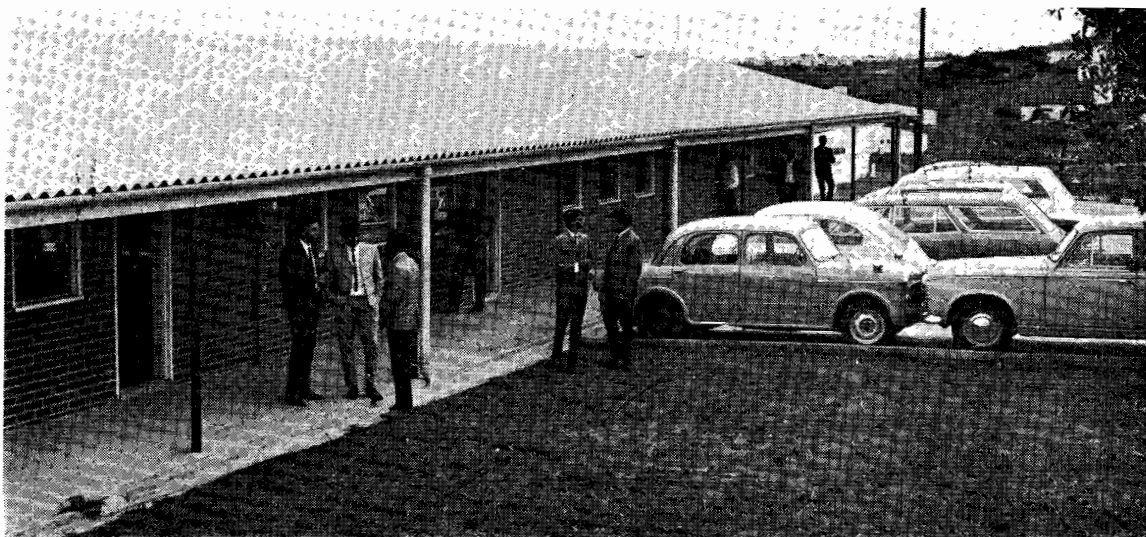
Housed in convenient school premises, the office is situated in Greenfield Road, Silverglen, adjoining neighbourhood Units Numbers 2 and 3. Except for the White official in charge, Mr J. J. D. Möller, the office is wholly

staffed by Indians.

Until such time as a permanent office building is erected at the Civic Centre, Chatsworth, the Department will continue to maintain the office at the school site, at which the following services are at present being rendered:

- Registration of births and deaths, and the issue of birth and death certificates.
- Registration of marriages contracted under religious rites and the issue of marriage certificates.
- Applications for old age and other pensions and social grants.
- Application for passports and other travel documents.

A section of the Department of Indian Affairs' new offices in Chatsworth.



The Department proposes to extend its services at the new office in the near future through the payment of pensions and social grants and the provision of other welfare services.

The Department of Justice has also established a district court to hear criminal cases from the Chatsworth area, which were formerly heard at Cato Manor. The court sits daily and is staffed by a full-time magistrate, public prosecutor and an Indian Clerk of the Court.

Negotiations are at present in progress with the postal authorities to establish a post office on the same premises.

The Department proposes opening similar offices in other Indian areas in the near future and is watching with interest the extent to which the Indian community is making use of the services provided at the Chatsworth office.



The head of the Chatsworth Office, Mr J. J. Möller, with the Senior Clerk-in-Charge, Mr C. M. Pillay (standing).

APPOINTMENT OF INDIAN INFORMATION OFFICER



Mr K. C. James.

THE DEPARTMENT of Indian Affairs has seconded Mr K. C. James from its Education Division to the Durban Office of the Department of Information.

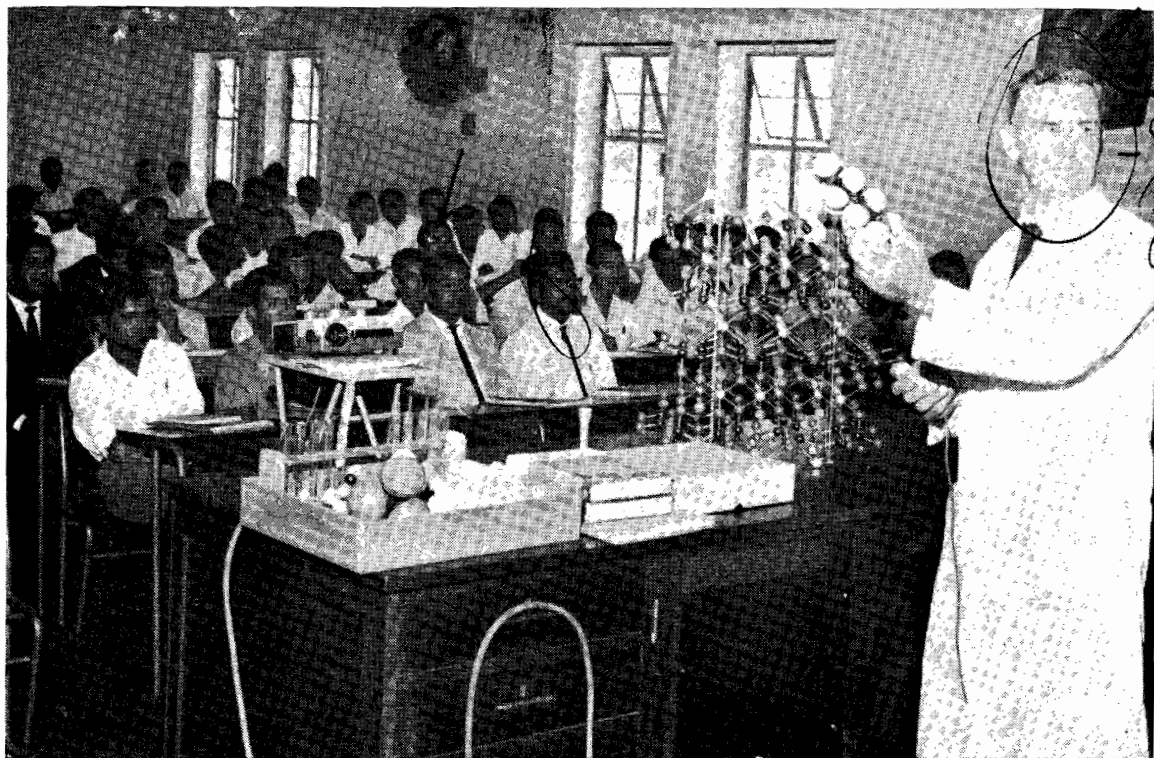
As Information Officer his tasks will include the promotion of better public relations among South Africans of all race groups and liaison between the public and the Departments of Indian Affairs and Information.

Mr James has thirty years of teaching experience, during which he was a teacher, vice-principal and principal at various schools in Durban and Pietermaritzburg.

A Bachelor of Art graduate of the University of Natal, Mr James is widely travelled, having visited the United Kingdom, Europe and the Far East.

In 1966 he became the first Indian to represent the Methodist Church of South Africa at a World Methodist Conference, held in London that year.

During his tour of the East Mr James was the guest of the Prime Minister of Mauritius and met the Director of Education in Hong Kong.



Professor H. P. Malan delivering a chemistry lecture.

ORIENTATION COURSE FOR SCIENCE TEACHERS

TEACHERS FROM MORE than ninety primary and high schools attended an orientation course in general science at the University College for Indians last month. The week-long course was arranged by the Education Division of the Department of Indian Affairs in conjunction with the University College and was aimed specially at giving biology teachers a grounding in physics and chemistry.

Opening the course, the Director of Indian Education, Mr P. W. Prinsloo, said that previously biology had been the only science course available to Indian scholars up to Std 8. Pupils wanting to study physical science in Stds 9 and 10 had found it difficult without earlier study in the subject; likewise many post-matric students

found it difficult to study subjects like chemistry without earlier study.

This had been one of the reasons for the introduction of general science.

Another was that a large percentage of pupils still left school at the end of Std 8, "and where the present education in the lower secondary classes aims at a broad

introduction to as great a variety of subjects as possible, the introduction of the four basic sciences — botany, zoology, physics and chemistry — by way of general science, seems to be the logical answer."

MODERN TREND

Mr Prinsloo added that the term "general science" was at present the most suitable term to indicate that there was no definite dividing line among the different sciences. "The modern trend in teaching this subject is also to integrate and co-ordinate the various components of the subject," he added.

PHYSICS AND CHEMISTRY

Mr Prinsloo pointed out that because many biology teachers had little or no

physics and chemistry background about two-thirds of the course had been devoted to these two subjects.

PRACTICAL CLASSES

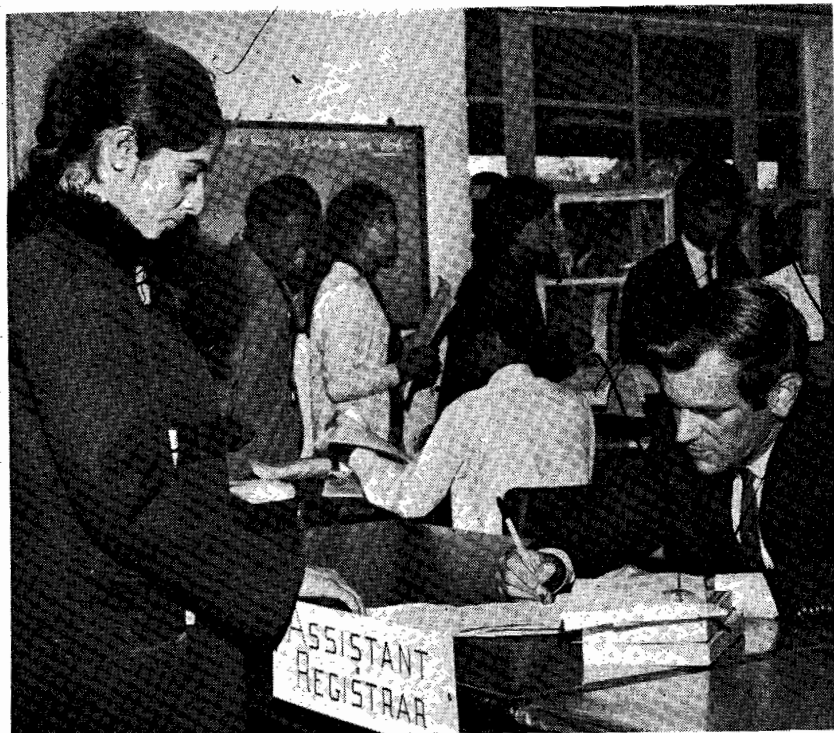
During the course teachers attended a number of lectures and demonstrations by highly-qualified educationists. There were a number of practical classes in which all participated, and there was an excursion to the "Happy Valley" nature reserve for an ecology study.

According to one of the organisers the teachers contributed actively to the discussion periods — an important part of the course.

"This is a sure sign that the lectures were thought-provoking," he said.



Some of the Transvaal teachers who attended the science orientation course, seen with Mr C. C. Marx, an Inspector of Science. They are (from left) Mr R. Bowan (Springs), Mr Y. Moola (Volksrust), Mr Marx and Messrs S. S. Pather (Heidelberg), M. R. Masher (Nelspruit) and M. Pillay (Pretoria).



Registration day at the University College, Durban was a hive of activity.

Mr M. A. van Niekerk, approves the registration forms of Miss Z. E. Chohan, who has enrolled for the Primary Teacher's Diploma.

In the background students wait to have their forms checked.

PHOTO

FLASHES

Students from the Transvaal look forward to their years of study in Natal.

Here three science students are given a bit of friendly advice by Professor A. L. Smit Dean of the Faculty of Science, as he approves their registration forms.





The Natal Chamber of Industries recently opened an Indian division, which will make the chamber's varied services available to Indian businessmen for the first time.

Mr W. N. Naran, chairman, and Mr A. R. Naidoo, vice-chairman, will represent the division of nine members on the Chamber's executive committee.

Mr Naran, seated, is seen discussing a report on the division with three of the division's members, from left, Mr K. P. Desai, of Tongaat; Mr P. H. Thomas (ex-officio member) and Mr A. R. Naidoo, the vice-chairman.

— The Natal Mercury

The Principal Matron of the R. K. Khan Hospital, Chatsworth, Mrs J. A. Naude, demonstrates the inter-communication system in the nurses' residence to interested student nurses. The Medical Superintendent, Dr N. M. Dawber, looks on.

Familiarization with the ultra-modern system is part of the student nurses' adaptation to their new surroundings as they prepare for the forthcoming opening of the hospital.



NUTRITION EDUCATION and the need for a balanced diet

*By Mrs. N. Govender,
Nutrition Advisory
Services, Durban*

FOR A COMMUNITY to prosper it must, amongst other things, be healthy. It is part of each individual's duty to see that he is healthy enough to be a working and serving member of the community. Good health depends, to a large extent, on sound nutrition and therefore nutrition education is of the utmost importance to every member of the community.

Many people play a part in the nutrition education of the community. Are *you* aware of *your* particular role?

Take for example the housewife who prepares three meals a day or the father who sets an example for his children, or educationists, nurses, the social workers who greatly influence the lives of so many — do they all know exactly what is meant by a "balanced diet"?

Does the office worker who hurriedly gulps a cake and cooldrink at lunch time realize the harm she may be doing to herself? And young

women on the point of marriage, do they appreciate that they will be assuming the responsibility of another's health and do they know what they are going to do about it?

In many cases the answer is a very emphatic NO. This situation leads inevitably to ill health. To prevent malnutrition and other deficiency diseases resulting from ignorance and indifference, nutrition education is essential amongst all age groups and sections of the community.

SURVEYS

Surveys of income and expenditure show that much money is misspent on foodstuffs.

Too much is spent on such items as sugar, jams, sweets, cold drinks and snacks, and too little on milk, eggs, dairy products, vegetables, fruit, fish and meat.

Similar surveys on dietary patterns show common faults to be scanty breakfasts, midday meals consisting usually of unsubstantial snacks, and suppers which include too much of a particular food group to the exclusion of other essential foods.

In an attempt to make nutrition education effective, a study is being made of the various factors which influence meals in the home, for example the attitudes towards certain foods, the storage and cooking of foodstuffs and the economic aspects.

CHANGE IS DIFFICULT

It is difficult to change a person's eating habits. Even the eating habits of a child are often set, since they are inseparable from those of his family — and a family's eating habits are deeply rooted in its cultural and religious customs.

These, and socio-economic factors are taken into account when a nutrition programme is being worked out.

NUTRITION-CONSCIOUSNESS

The aim of nutrition education is to make all sections of the community conscious of the necessity of sound eating habits, to emphasise the desirability of using unrefined cereals, sufficient milk, fresh fruit, vegetables, fish and eggs and other body-building foods; to point out the disadvantages of too much sweet and rich food, and to encourage economy in food buying and meal preparation.

Mrs Govender demonstrates the preparation of a tasty yet nutritious dish to a group of attentive pupils at an Indian high school. These girls are the housewives of tomorrow and the lessons will stand them in good stead.



EXAMPLE

It is important for people in authority to set the proper example. If children are urged to drink milk while their parents plump for cooldrinks the lesson will be lost on them.

Education carries less weight if it seems to apply to children and not to adults. The eating habits of school teachers are also imitated by children.

It should also be remembered that the sale of sweets and cooldrinks on the school premises counteracts lessons regarding sound nutrition.

THE BALANCED DIET

Let us take a look at the "balanced diet".

There are seven main food groups and if food is selected from these groups in the correct proportions, a healthy diet will be the result.

It is easy to ensure a balanced diet EVERY DAY, if the correct choice is made from each of the seven basic food groups.

Group 1:

This group includes meat, fish, eggs, nuts and dried legumes such as beans, peas and lentils.

Remember that the price of meat is no indication of its food value. The cheap cuts contain as much food value as the more expensive cuts.

There is, in fact, more food value in liver, heart, kidney, lungs and brains than there is in muscular meat.

Dried legumes are nutritious and economical. They can be served as a main dish three or four times a week.

Fish and eggs have high food value. Eggs provide excellent building material for the muscles and blood.

Two or more portions of the daily diet should be chosen from this group.

Group 2:

Milk — fresh, skimmed, evaporated, powdered — and all cheeses are included here.

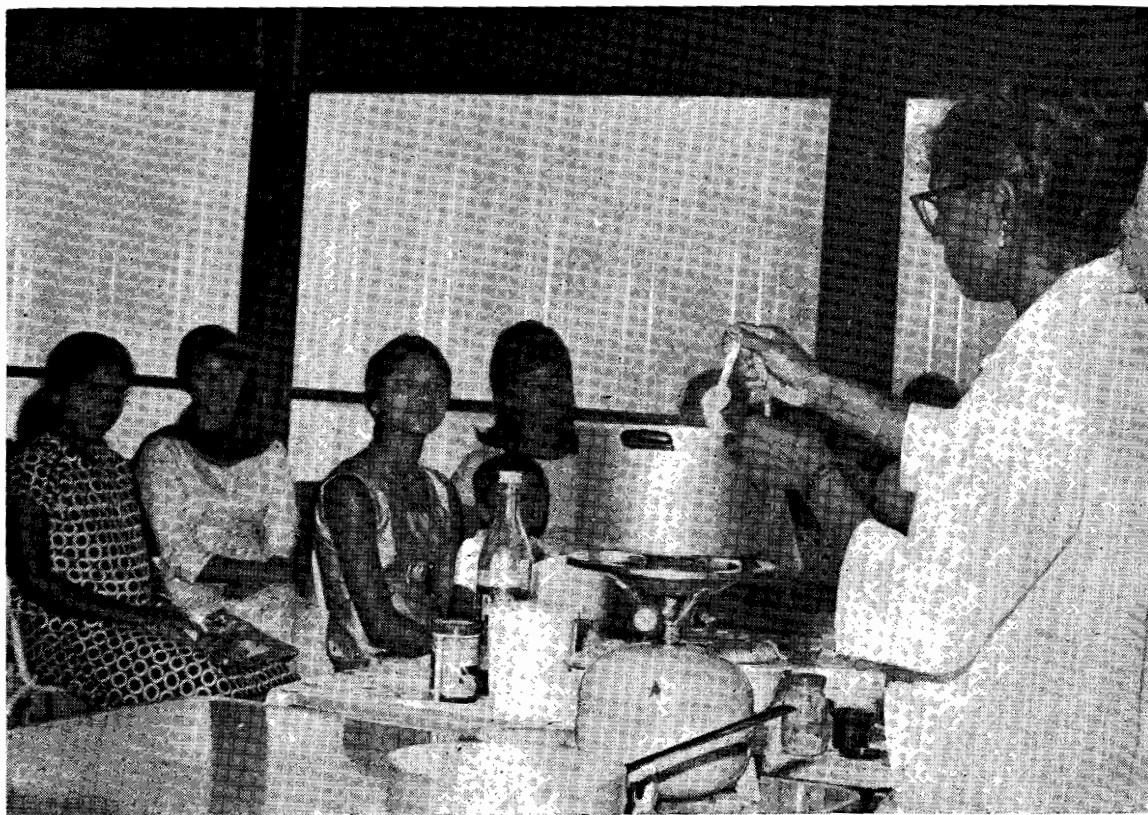
Milk and cheese are very important foods. Neither adults nor children can do without

these. Both milk and cheese are rich in calcium, which is necessary for the development and maintenance of healthy teeth and bones.

To keep healthy, adults need at least $\frac{1}{2}$ — $\frac{3}{4}$ pints of milk each day; children require at least 1 — $1\frac{1}{2}$ pints a day.

Skimmed milk is less expensive than fresh milk and contains the necessary nutrients, as only the cream has been removed. Skim milk powder is cheaper than whole milk powder and can be used in porridge, puddings, cookies and various other sweet dishes.

Cheese is an economical food and can replace meat and fish. (One ounce of cheese has roughly the same food value as a cup of milk)



Young housewives look on with interest as Mrs Govender of Nutrition Advisory Services mixes the ingredients of a nourishing, economical dish. Money does not go far these days, and learning to get the greatest food value from the most economical foods is of importance to any housewife.

Group 3:

Fresh fruits form a very important part of the balanced diet. In previous centuries sailors suffered from scurvy because they could not get enough fresh food during their voyages. Their diets lacked vitamin C.

Vitamin C forms part of the substance which "cements" the cells together and is essential for strong blood vessels and healthy gums. Wounds heal more rapidly when the body has enough of this vitamin.

Guavas, paw-paw, citrus fruit, and tomatoes, pineapples, mangoes, berry fruits and raw cabbage are good sources of vitamin C. The juices of guavas, tomatoes and citrus fruit are good sources even if tinned.

At least one portion of the above-mentioned foods should be eaten daily or alternately, two portions of other fresh fruits and vegetables.

Children have a craving for sweet things and always want "in-between" snacks. Give them fruit instead of sweets, biscuits or cakes. Fruit is as satisfying and does them a great deal more good. Fruit juices are infinitely preferable to cold drinks.

Another good idea is to use lemon juice rather than vinegar for salads — it adds a special something to the flavour and is a good source of vitamin C.

Group 4.

This group includes yellow and green vegetables, raw or cooked. Vegetables such as carrots, pumpkin, yellow sweet potatoes, green peas, green beans, the leaves of turnips, carrots, beetroot and pea-tops contain a good percentage of vitamin A.

Vitamin A keeps the eyes and skin healthy and helps the body to resist infection. The more intense the colour of the vegetable the greater the food value.

Preserved vegetables still retain a great deal of food value and can be used when fresh vegetables are scarce.

TIPS TO REMEMBER

Do not discard the outer, dark green leaves of cabbage and lettuce — use them in soups and stews. Save the water in which vegetables have been cooked for soups and sauces.

Persuade the child who doesn't enjoy cooked vegetables to eat them raw, either grated or in pieces which can be held in the hand and eaten.

Choose daily at least one, but preferably two portions of this group.

Group 5:

Foods in this group include potatoes, turnips, beetroot, green mealies, gem squashes, onions, bananas, apricots, peaches and grapes.

This food group is not an outstanding source of any one nutrient, but contributes a number of nutrients to the diet.

Potatoes are a good source of the important mineral salts. Eaten in large quantities, they contribute to the vitamin C requirements of the body. Cook potatoes in their jackets to obtain the most food value — with a little butter they taste delicious.

Salads of raw turnips and cabbage are tasty, easy to prepare and very nutritious. Always remember that there is much more food value in raw foods than there is in cooked dishes.

It would be wise to include at least one portion of this group in the family's daily diet.

Group 6:

Here we have fats and oils such as butter, fortified margarine, ghee and dripping.

Fat is very useful in the diet. Apart from providing nutrients, without which the body cannot function, it has a very high calorific value, providing heat and energy. It also slows digestion, thus preventing a feeling of hunger setting in too soon.

Butter, fortified margarine and fish oil contain vitamin A, which is either absent, or present in very small quantities in other fats.

Normally a person requires one to three tablespoons of butter or fortified margarine a day. However, people who tend to put on weight easily should avoid too much fat.

Group 7:

Our last group includes bread, flour and other cereals.



These youngsters are more interested in what Mrs Govender's dishes taste like than how much nourishment they contain. By the way they're tucking in, the sample certainly seems to meet with their approval! Good food can be tasty as well.

It is important to remember that whole-grain products such as brown bread, oats and unsifted mealie meal contain more food value than do refined products such as white bread, sifted mealie meal and cake flour, because certain parts of the kernel are removed during the refining process.

Whole grains also contain roughage which prevents constipation.

A diet which contains white bread and sifted mealie meal needs extra amounts of other more expensive foods to make up for the nutrients which have been lost.

The eating of refined cereals is therefore an uneconomical and undesirable habit.

Pre-cooked breakfast cereals are expensive

and must be regarded as a luxury not meant for everyday use.

The foods in this group should be served at two meals a day.

CORRECT PROPORTIONS

These are our seven basic food groups from which we should compose a daily diet. If all groups are present in the diet in the correct proportions we have a "balanced diet." Each group need not be represented at each meal as long as the day's menu covers each one.

We hope that mothers and particularly mothers-to-be have found this article interesting, for it is in their hands that the health and happiness of their family lies. The shortest way to man's heart may well be through his stomach but, unless tasty food is also good nutritious food, the quickest way to lose him may also be through his stomach!