

CONSERVATION IN NATAL

THE NEED FOR A MASTER REGIONAL PLAN

By T. C. ROBERTSON: (*General Manager of the National Veld Trust*)

The New Agriculture, conservation farming, is becoming increasingly dependent on scientific methods, and as a result the technologist is beginning to play an ever more important part in the process of production from the soil to the consumer. The work of the members of your Association is a good example of this development. But there is inevitably a high degree of specialisation. In the Department of Agriculture itself co-ordination has been brought about by the appointment of a Director of Technical Services; and the overall picture of development and planning is frequently given to the individual official when he is taken from the environment of his specialised study to attend regional conferences. To-day I will endeavour to sketch very briefly that wider conservation scene in Natal and to suggest, very tentatively, a possible future objective and method in planning.

Organised soil conservation work in Natal dates back to the commencement of operations in the Drakensberg area, which was proclaimed in terms of the old Forest and Veld Conservation Act of 1941. The planning of this emergency measure—as was also the case in the second scheme at Vlekpoort—was very much dominated by the engineering approach to the problem. The picture is one of various types of earthen, concrete and brick structures being used to halt the eroding force of water and so reclaim dongas and stabilize stream and river beds. Fortunately, the Drakensberg Scheme was in charge of an official whose earlier training had made him fully conscious of the importance of biological factors in the plan of reclamation and especially of the part played by grasses and natural vegetation in the protection of catchment areas. By 1948 about £25,000 had been spent on the Vlekpoort and Drakensberg schemes, which were at the same time serving as training grounds for technicians. But it was evident that much more than these works in two catchments were needed to cope with a growing national emergency.

A very much wider and bolder view of the problem was accordingly taken by the farmers of the Soil Conservation Act of 1946, and since then very considerable progress has been made in terms of the procedure laid down by this Act. The latest figures show that twenty-seven soil conservation districts, embracing 4,000,000 morgen, have been proclaimed in Natal. In them there are 11,075 farms, and 5,970 owners. Works to be undertaken by farmers have been approved to a value of £352,745, and of this sum almost £200,000 has already been spent. In the

Drakensberg area further State works costing £101,000 have been completed, and others to the same value have been approved. This is an impressive statistical picture and a fair statement of the case that the conservation movement is gaining momentum.

But a number of other agencies have also been active. In Zululand the Native Affairs Department has embarked on a very considerable campaign of harvester termite control. It is planned to clear 1,702,900 acres in the Nongoma, Eshowe, Mahlabatini, Hlabisa and Melmoth districts within three and a half years. The recent course in conservation methods given to Native chiefs in Natal is another indication of the Department's awareness of the urgent nature of the problem.

The more specialised task of protecting certain river catchments, because of their economic value to towns and cities, has received recognition in the formation of the Umvoti and Umgeni Catchment Associations. The Regional Planning Department of the Natal Provincial Administration has produced a most excellent survey of the Tugela basin. If the surveys undertaken by the experts of the Natural Resources Board—and I think particularly of that dealing with Northern Natal and Zululand—are added to this, it is obvious that Natal is not lacking in the basic facts which are an essential preliminary to large-scale planning.

Since the passing of the Soil Conservation Act in 1946, and its administration by a division of the Department of Agriculture, an important change in the organisational structure of that Department itself has taken place. For the first time in the history of South Africa, the older geographical and political boundaries have been ignored in favour of the wider concept of ecological regions. It is not a change which has affected Natal much because, except in the South, the borders of the province itself to a very great extent already conform to the natural boundaries of mountain and ocean, climate and soil. But administratively the effect of this change is bound to be more important. The policy has been laid down that these new regions of the Department of Agriculture should be given an ever-increasing degree of autonomy so as to achieve decentralisation and the power of dealing with particular problems "on the spot." If this policy is implemented it should enable a new approach to the conservation problem of Natal to be made.

At the time that our Soil Conservation Act of 1946 was being framed, the achievements of the Tennessee Valley Authority in the United States of America had received considerable publicity. It was regarded as the ideal pattern of large-scale regional planning, which also embraces soil conservation. In September, 1945, the National Veld Trust published a model Veld and Soil Conservation Bill, many of the clauses of which have been incorporated in the present Act except the important provision for a National Conservation Authority which the Trust wanted to see in charge of the work. The Smuts Government refused to accept this, mainly for financial reasons. Whereas the Tennessee Valley Authority earned very considerable revenue, the proposed National Soil Conservation Authority would have had to depend for its finance on the central Government. It was also argued that the work of such an authority would be a duplication of many of the functions and research programmes of the Department of Agriculture. In times of drought and food shortages, when the situation appeared to demand urgent and determined action, the National Authority idea received considerable support, but this waned, as at present, when there were good seasons, and accounts of erosion and fertility depletion were regarded merely as spectres conjured up by propaganda. The heads of the Department of Agriculture resisted and even resented the idea very strongly, maintaining that with the reorganisation of the Department on a regional basis, and if they were given adequate resources of personnel and finance, they were well equipped to deal with the problem of the conservation of our farmlands. These arguments have been strengthened by recent developments in the United States of America, where the reorganisation of the Department of Agriculture has resulted not only in the curtailing of the power of the Soil Conservation Service but in the decentralisation of many of its previous functions.

Two further arguments in favour of a central authority have been advanced: firstly, that the agro-economic regions of the Department of Agriculture are overlapped by such greater regional problems as the protection of the 800-mile long Drakensberg range, and the problem of desert encroachment, which cuts through three provinces and four of the Department's regions. Secondly, it is argued that there is no central body to decide on the relative importance and the priorities to be given to the really big programmes of resource development, e.g. the use of the waters of the Orange River, the protection of mountain catchments, or the restoration of structure to the soils of the Highveld. The three tasks mentioned are to-day the concern of four Government departments.

Another point of view is that the supreme co-ordinating and planning authority should be the

existing Natural Resources Development Council which, in terms of the Natural Resources Development Act of 1947, has been established "to promote the better and more effectively co-ordinated exploitation, development and use of the natural resources of the Union." The existing Act already gives it the power of determining land use in "controlled" areas. Under the Soil Conservation Act, this very essential preliminary step, the determination of land use, can only be achieved through the rather involved procedure and mechanism of district and farm plans. The concept of soil conservation as an aspect of regional planning emerged only too clearly from the practical experience of the Tennessee Valley Authority. I feel that it is this idea which should also dominate soil conservation planning and organisation in the Natal region.

The brief outline of the situation which I have given already shows that there is a variety of agencies at work without sufficient centralisation of planning and action; and I think that I am justified in saying this in spite of the new organisational structure of the Department of Agriculture and the existence of an inter-departmental committee to bring together Agriculture, Irrigation, Lands and Native Affairs. The ecological nature of Natal itself very clearly determines the pattern of future activity and development. The very top priority is to protect the mountains where its east-flowing rivers rise, for in the light of our industrial development and limited water resources they are an asset of the greatest national importance. The unity of the region also demands the greatest unity of planning and action.

The National Veld Trust initiated the idea of catchment associations where all the agencies having a stake in the welfare of a river would be co-ordinated. I feel that such co-ordination is also needed for much bigger regions. The three-fold task of the regional planner has been defined as the restoration of the balance between man and nature (and that is soil and water conservation), securing a dynamic equilibrium in industry and agriculture and a balancing off of rural and urban environments. There have already been extensive surveys to determine the facts on which regional plans could be based. I have no doubt that in the minds of many of the individual technologists there are clear concepts of the future development of Natal from the Indian Ocean to the Drakensberg. But these pictures need to be given clearer form so that they will receive the active support of the leaders and the people of the province. To achieve that the first task is to bring the technologists together so that they can submit their views, discuss them and produce their blueprint for a Greater Natal—greater not only in the more effective use which it makes of its already rich agriculture, but also in the opportunities which it provides for industry. Many eminent authorities—economists, engineers,

geographers and the present Minister of Lands—have expressed this opinion. But there has always been lacking a vivid and easily understood central plan which would inspire enthusiasm and lead to action. I feel convinced that if the many technologists, including especially the representatives of your own Association, who have been active in their specialised fields, are brought together and given the opportunity, they will evolve such a blueprint. A great deal of knowledge has already been gathered by workers in the sphere of their different sciences. What we need now is the ecological approach to the problem of the future—and that is merely the technical way of saying “we must see all these things together as a unity”—see their inter-relationship in a greater plan. The 35,000 square miles between the Berg and the sea, beginning with your sugar plantations and ending with the clovers in the mists of the mountains, can become a jewel of fertility and industry in Africa. Conservation and planning in Natal has gone through a long period of preliminary preparation, of organisation, surveys and documentation. The emergence of such a plan as I have suggested will be the stimulus for the application of existing knowledge, for co-ordinated planning and resource development. If you have the plan, the people will demand that it should be applied. When General Smuts asked Parliament to approve of the establishment of The Social and Economic Planning Council, he expressed the hope that it would “put an end to South Africa developing just anyhow”. As one whose constant preoccupation and concern has been the development of our natural resources, I echo that wish to-day. And I appeal to your Association, with its highly-trained specialists, to take an active part in making the drawings for the blueprint of that Greater Natal.

The President said that the picture given by Mr. Robertson was a lead to enable all to help in the advancement of South Africa's economy.

Mr. Carter asked what personnel would be required and what their qualifications would have to be to help in this work.

Mr. Robertson replied that he thought that was going into too great detail as yet. He had not mentioned any definite organisational details such as this in his paper because he did not know what would be required, but he knew that Dr. Malherbe had invited a number of experts, some from overseas, to work on the subject and he asked if Dr. Malherbe would tell what his team of experts were doing, and especially if it were intended to establish a permanent personnel. Setting up a small permanent organisation would have to follow the general conference.

Dr. Malherbe said that, connected with the University of Natal there was the *Agriculture Research Institute*, which had as its field the whole region east of the Drakensberg from Mozambique to Pondoland. This Institute was established in 1948 and worked under the direction of Dr. A. R. Saunders, who was one of the best agriculture scientists in South Africa. Associated with this research institute was the Agriculture Faculty which trained young men in a four-year degree course to deal with the country's agricultural problems, including soil conservation, by means of sound farming methods. Between thirty and forty such trained men are turned out every year.

Most of the country's agricultural and industrial problems are at bottom *human* problems. In the last resort we have to do with *people* and their relationships—white people, black people, coloured people and, here in Natal, also with Indian people.

These problems of human relationship between these groups are amongst our most difficult problems and they, just as our problems in the physical or material field, need scientific study.

To help meet this need the University of Natal has recently established an *Institute for Social Research*. The specific purpose of this Institute is to train men, who have each become experts in their own respective specialities, to work together as a team. Thus they will be made to see the problem holistically—i.e. as an inter-connected *whole*—rather than merely through the rather narrow aperture of each man's speciality.

This is the only realistic way of tackling a complex problem (such as the one discussed to-day) in which physical and social factors are all inextricably mixed up.

This was the method used by the Carnegie Commission, of which he was a member, which published its five-volume report on the Poor White Question more than twenty years ago—a report which had a most far-reaching effect in South Africa and largely helped to reduce this phenomenon to almost negligible proportions.

Now we are again faced by another phenomenon—the Poor Black problem—which is closely-linked with the use or rather the abuse of our country's soil.

The University of Natal is therefore doing its share in training people, both on the agricultural side and on the human side, who would, he hoped, be able to do the planning—the scientific planning—on the broad lines suggested by Mr. Robertson.

For, in the last resort, the Sugar Industry, like so many other primary industries of South Africa, is dependent upon scientists and the co-operation of scientists.

Mr. Barnes said that the subject was of importance throughout eastern Africa, as well as in South Africa. It had arisen largely from the absence of co-ordinated planning of land use including agriculture, forestry and livestock rearing. The desire for rapid development with profit has led to the misuse of tracts of land which are to-day contributing to the need for action. He quoted an example of the monoculture of sisal in a fertile valley in East Africa, well suited for irrigated crops where water use was restricted by an arrangement which guaranteed a minimum supply for a hydro-electric scheme, and said that the absence of vision in such an economy was remarkable. The position was further complicated by native reserves, where the destruction of soil fertility by over-grazing and wasteful agricultural practices had caused immense damage, which was still continuing. Effective publicity designed to secure the understanding and support of all engaged in the use of the land was of high importance.

Mr. Robertson replied that he had found great value in contacting people and putting forward ideas which are necessary in soil conservation in popular language. When he visited the Tennessee Valley Authority, it was especially to study their publicity campaign. David Lillienthal's book on the Tennessee Valley, *Democracy on the March*, contributed tremendously to furthering the work. He considered that a meeting such as this conference

could help tremendously, especially if devoted towards a publicity campaign. He had listened in the past to many different schemes for the planning of conservation in Natal; and also to many talks on how the Drakensberg could be conserved. The Drakensberg was actually still in a deplorable state. The National Veld Trust was proud of its efforts in assisting in the establishment of the Umgeni Catchment Association and also in the Umvoti Catchment Association. He threw out to this meeting these ideas in the hope that it would assist in the regional planning of the whole of Natal and he hoped that this Association, in conjunction with the University, would contribute towards the establishment of a major plan. He threw out the suggestion that this Association might well form a small sub-committee to represent it. He thought that such a committee would be of great importance to Natal.

The President said that he was very grateful to the speaker, Mr. Robertson, and those who had contributed to the discussions, for bringing this matter so much to the fore and he thought that this matter should be brought to the attention of the Council, whom he thought would help, if only in a small way.

Mr. Murray made a plea for financial help, without which no special effort could be of value. This financial aid would have to come from the Government.