

WHAT OF THE SERENGETI?

By The Secretary

The Fauna Preservation Society

Near the northern border of Tanganyika lies the Serengeti National Park—an area of 4,480 square miles and one of the most important nature reserves of the world. It may be considered in three parts: the Western Serengeti, a corridor between the Grumeti and Mbalageti rivers which approaches Lake Victoria but does not quite reach it: the Central Plains: the Crater Highlands, including Ngorongoro. (See Map 1.)

THE WESTERN SERENGETI

The Western Serengeti is bush country between 3,700 and 5,000 feet high. It is inhabited by wild animals, but very little by humanity, because it is under the domain of the tsetse fly, so cattle cannot live there. But sheep and goats are more resistant to trypanosomiasis, the disease carried by the tsetse and, looking to the future, one day man may master the tsetse fly.

THE CENTRAL PLAINS

The Central Serengeti consists of more than 2,000 square miles of open, rolling plains between 5,000 and 6,000 feet above sea-level. They are broken in the north by scattered "kopjes", rocky outcrops; in the south by Lake Lagaja and the Olduwai Gorge; in the east by low rocky hills.

Much of the soil is sandy or volcanic, subject to erosion wherever the perennial grass roots which hold it together are removed. The vegetation is generally open grassland, with bush and sometimes trees along the water-courses, hills and kopjes.

There is very little permanent water on the plains. In normal years the north-east monsoon, in November, brings the short rains which last until the end of January. Then there is a gap until the end of March. In April the south-east trade winds bring the main rains which last until the end of May. They are followed by the dry season during which the plains become increasingly waterless.

During the wet season the central plains are occupied by the most spectacular assembly of wild animals still remaining in the world. Among them are wildebeest, zebra, topi, giraffe, rhinoceros and gazelles, and with them, of course, their predators

lion, leopard, cheetah and others. More than thirty species of large mammals are recorded from the Serengeti. But it is the fantastic numbers of the animals rather than their variety which make the Serengeti unique. Reports of their numbers at the height of their wet season concentration have run into seven figures, the most numerous being wildebeest, zebra, topi and gazelle. The game migrations when seasons change are wonderful to behold.

Movement of Wild Life and Masai Tribesmen

As the rains cease the wild animals leave the plains for permanent water, though the details of their movements are not fully known. Probably most enter the tsetse bush of the Western Serengeti; some are believed to go into Ngorongoro Crater in the east; and many probably move outside the Park northwards and southwards.

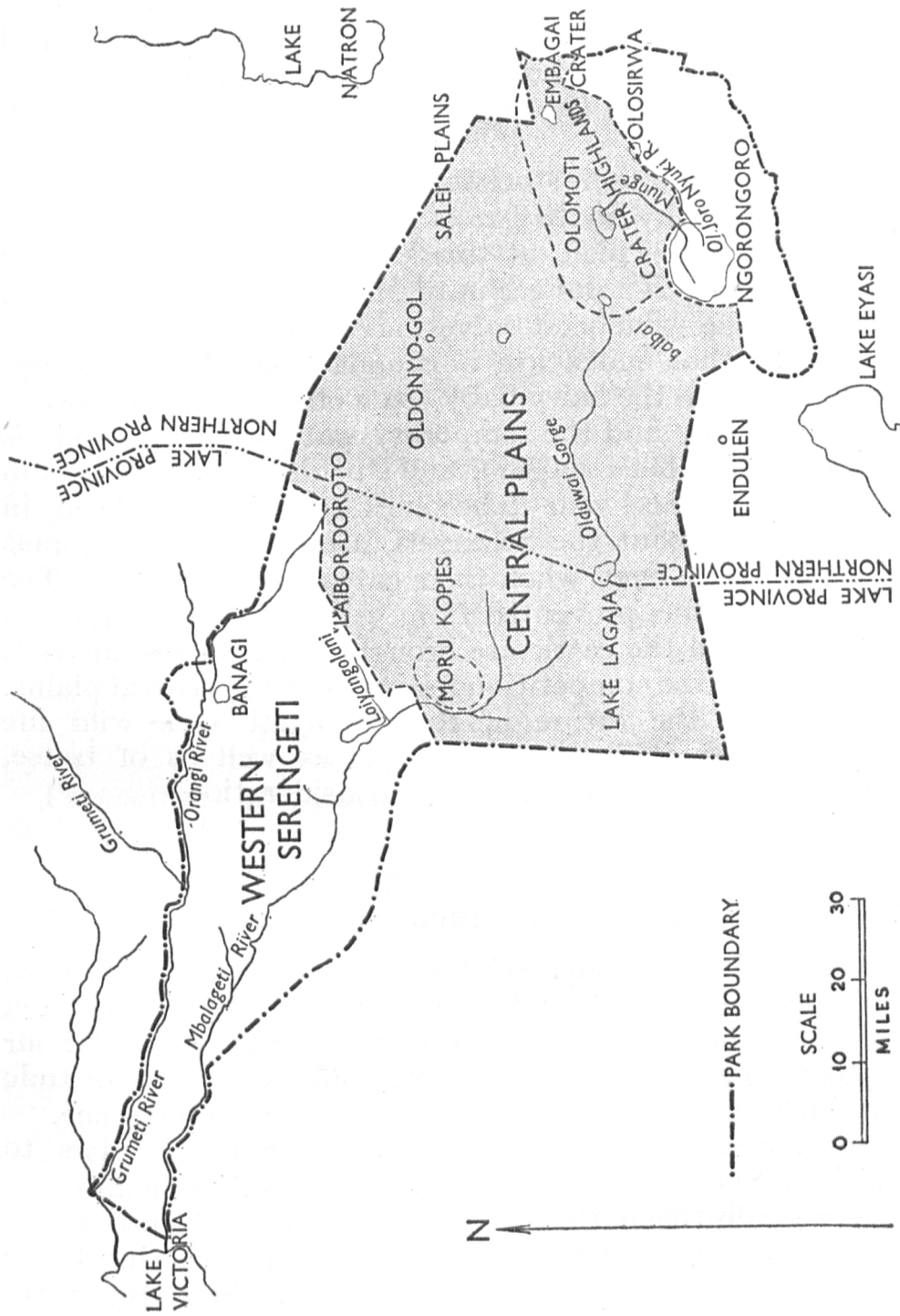
As the central plains dry up and the wild animals leave them, the Masai tribesmen with their cattle, goats and sheep move in. They settle during the dry season around such permanent water as exists and also dig waterholes. As water and grazing require, the Masai move their small, temporary settlements which are surrounded by stockades or bomas. The building of bomas requires that trees and bush be cut down. Within reach of water, grazing is uncontrolled.

One has only to visit North Africa, the Middle East or even the United States to see what uncontrolled grazing can do. Mr. L. M. Talbot,¹ an ecologist who visited the area in 1956, writes that he passed dozens of deserted bomas and saw more from the air. Around each was an area of cleared tree and bush. From the air the resulting erosion was, he says, quite vivid even during the green season.

Competition for Water on the Central Plains

During the dry season when the Masai occupy the central Serengeti, there is little competition for water between wild animals and stock except in the area Moru-Loiyangolani-Laibor-Doroto. Here there is permanent water and of course the

¹ Mr. Lee Merriam Talbot, then Staff Ecologist of the International Union for the Protection of Nature (now the International Union for the Conservation of Nature and Natural Resources) visited the Serengeti early in 1956 in charge of a wild life expedition arranged by Mr. R. M. Arundel and sponsored by the American Committee for International Wild Life Protection and the Wild-life Management Institute.



MAP I. THE SERENGETI NATIONAL PARK.

The shaded part will lose national park status if the 1956 proposals are adopted.

Masai cattle get it. The position of these places athwart the game route between its wet and dry season areas may be significant.

From the time that the rains begin, usually November, until January or February, the start of the wildebeest calving season, wild life and stock share the grazing. There seems to be enough for both.

Then the Masai and their stock leave the plains moving mostly north-eastwards. Why do they go? They go to avoid snotsiekte, a malignant catarrh which, at this season, would attack their cattle. This disease is a danger until May, the end of the rains, by which time the wildebeest calves have lost their baby coats. The Masai say that snotsiekte is caught from the wildebeest after-birth and from the hairy baby coats of wildebeest calves.

As the rains cease and the temporary water dries up, there is intense competition between game and stock for what remains in the water holes. Each year it becomes fiercer. The Masai, in their movements about the Serengeti, are now leaving bomas around water holes, even when their cattle are elsewhere. The wild animals are thus prevented from getting at the water and it is available when the cattle are brought back to that district. This is the crux of the competition for water in the central plains.

In considering the future of the Serengeti as a wild life sanctuary, the possibility of snotsiekte, as well as of tsetse, being conquered seems an important consideration.

THE CRATER HIGHLANDS, INCLUDING NGORONGORO

The third main division of the Serengeti National Park is the Crater Highlands and Ngorongoro. It includes ten mountains, the highest of which approaches 12,000 feet. Four have craters. The rim of the largest, Ngorongoro, is at an altitude of about 8,000 feet and is roughly 35 miles in circumference.

Ngorongoro is the chief attraction the Serengeti has to offer tourists. Spectacularly large numbers of wild animals come and go seasonally from the crater, chief among them—zebra, wildebeest and gazelle, with lion, leopard and cheetah. These "migratory" animals are thought to come from the main Serengeti plains. There are also elephant, rhinoceros and buffalo which do not join in these migrations and may be regarded as more or less resident.

Water for the Ngorongoro Crater comes from (1) the Munge stream which rises in Olomoti. Part of the headwaters of this stream is taken away by pipe-line, but there are springs below

the pipe intake; (2) the Oljoro Nyuki, (3) two springs in the crater floor, (4) two permanent streams in the south crater wall.

THE MASAI AND THEIR CATTLE

From November, 1953–April, 1954, Mr. H. St. J. Grant carried out a survey of all the Masai in the Serengeti and their cattle. He did not include the people normally living in the Olduwai wells and Kapenjiro areas because these areas were deserted at the time of his count; but the omission seems unlikely to have affected the issue especially as there were other Masai counted in the Park who normally lived in the Edulen area.

The total number of resident pastoralists (nearly all Masai) and their cattle in the whole National Park counted by Grant was :—

Men, women and children	7,496
(Of these 1,692 were men.)	
Cattle, adult and calves	120,565
Donkeys	6,298
Goats and Sheep	204,762
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Total domestic animals	331,625
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Proportions of human beings to domestic animals work out as follows :—

Men, women and children	1
All domestic animals	44
Cattle and calves only	16
Other domestic animals	28

or

Men only	1
All domestic animals	195
Cattle and calves only	71
Other domestic animals	124

Grant gives also figures for cultivators but all these are reported to be now out of the Park.

The number of resident pastoralists and their stock, almost all Masai, living in the Crater Highlands only, including Ngorongoro, was :—

Men, women and children	5,306
(Of whom 1,163 were men.)	
Cattle, adult and calves	72,243
Donkeys	4,061
Goats and sheep	169,447
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Total, domestic animals	245,751
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Proportions of human beings to animals work out as follows :—

Men, women and children	1
All domestic animals	46
Cattle and calves only	14
Other domestic animals	33

or

Men only	1
All domestic animals	212
Cattle and calves only	62
Other domestic animals	150

It will be seen that in the Crater Highlands there were slightly more stock to each human being than in the National Park as a whole.

HABITS OF THE MASAI

To understand the continued existence of wild animals in a region occupied by so much domestic stock, we must know something of the ways of the Masai. Traditionally the Masai do not eat game meat. The warrior male, the moran, is restricted to a diet of blood and milk. Others are not so restricted but include meal in their diet; they also eat some meat from their domestic animals. The amount of such meat is said to average one beast per family per year. But the chief use of Masai cattle is not for consumption but for prestige and currency—the more animals, the more important the owner. Quality does not matter very much. No consideration for the carrying capacity of the land seems greatly to concern the Masai. It is numbers of cattle that count. When one remembers also the severity of the terrain in which these cattle live, one cannot be surprised that they, in general, are of very low quality. Nor is it surprising that it is difficult to persuade the Masai to reduce the numbers of their stock.

But the Masai, like everything else in this world, are changing. Inter-marriage between them and other tribes is taking place. Can it be considered likely that even in, say, ten years' time the Masai will not eat game meat? Indeed, may not their whole way of life be changed?

WILD LIFE AND CATTLE SUMMARIZED

To summarize: In the Ngorongoro Crater there are both resident and migratory wild life populations, a wonderful display convenient for visitors. In the plains—during the main rains there is a huge assembly of wild animals, with snotsiekte disease an influence in their favour: during change of

season, competition for water between wild life and stock : in the dry season, stock in possession but competition for water in the Moru area. In the western corridor there is little human occupation but permanent water enables the game to live in the dry season, the tsetse fly preserving the area for wild life.

Thus in the central plains east of the Moru Kopjes a reasonably stable balance has been achieved during most of the year between mankind and game. Man occupies the area in the dry season, game in the wet. But clearly serious tensions are inherent in the situation and have perhaps been in the background ever since 1850 when this country was first conquered by the Masai.

Both in the Moru Kopje area and the Ngorongoro crater, competition between game and cattle has now become acute owing to more and more stock coming in.

Recent reports suggest that in a good year there are in the Serengeti some three-quarters of a million cattle (half a million in a year of drought), with about an equal number of sheep and goats combined.

HISTORY OF THE PARK

The Serengeti National Park was proclaimed in 1940. Its then area, 5,700 square miles, is shown in Map II, fig. 1.

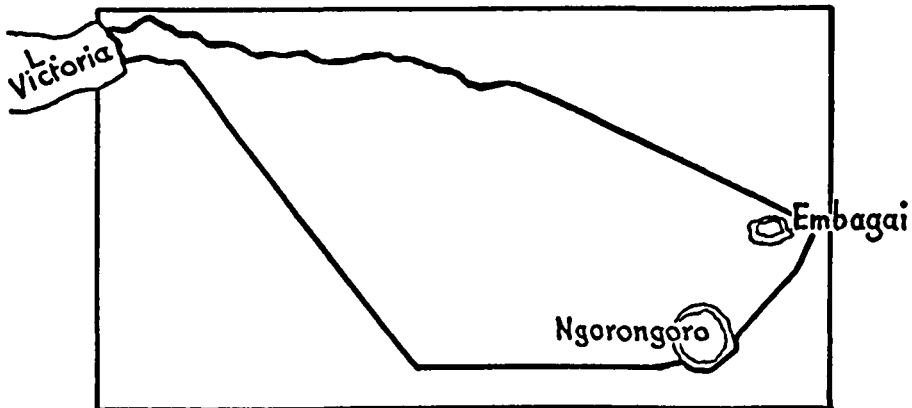
Soon after the war, changes in the Park were sought. In fact it was suggested that the whole Park, except the Ngorongoro craters should become a national reserve in which settlement would be allowed. But eventually the new boundaries were agreed and in 1951 the Park was reconstructed. (See Fig. 2.) The south-western chunk had been given up to the needs of the WaSakuma tribe ; the Endulen area had been cut out so that wells might be sunk there to attract the Masai from the Moru Kopjes ; an important triangle which brought the Park up to Lake Victoria had been excluded to provide a stock route for cattle.

On the other hand, the south-eastern end of the Park had been extended to include some important highland forest. In all, the Park was reduced from 5,670 square miles to 4,480 square miles.

Under the ordinance establishing the Park, the rights of the Masai already living there were expressly preserved but no rights were given to newcomers. The Masai were indeed clearly given to understand that no Masai other than those then living in the Park would be allowed to move into it and that no increase in stock would be allowed. If stock increased the surplus must be sent permanently out of the Park or sold. If it was found

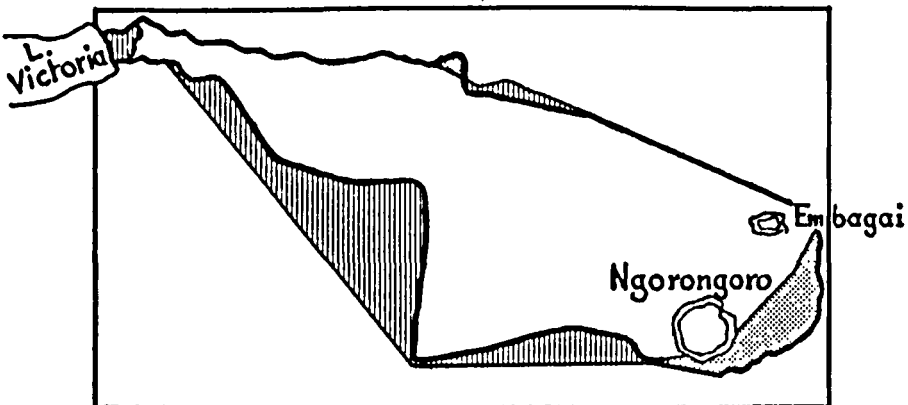
SERENGETI NATIONAL PARK, TANGANYIKA

Rough sketch maps to show past changes and those proposed in 1956.



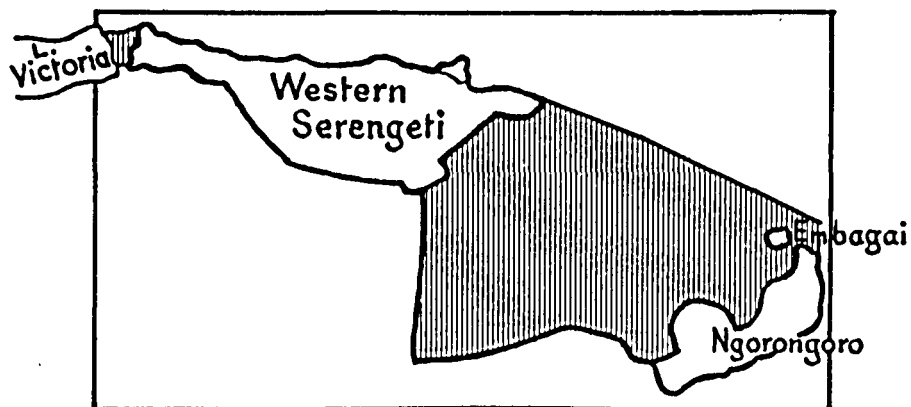
1940. The Park as it was gazetted. Area 5,670 sq. miles.

FIG. 1.



1951. The Park as it was altered. Shaded areas were cut out dotted areas were added. Area 4,480 sq. miles.

FIG. 2.



1956. The Park in three pieces, as it will be if the changes recommended in the Tanganyika Government White Paper take place. The shaded area will no longer have national park status.

Area 1,860 sq. miles.

FIG. 3.

MAP II.

With acknowledgments to COMMENTS. See references.

after close examination that even the cattle then within the Park were too many, some of them might have to go.

The intention was eventually to exclude man and his stock from the Park, but by attraction to other areas not by compulsion.

One wonders whether there would be any question now of dismemberment if this declaration had been observed.

In 1956, the alarming increase of Masai stock in Ngorongoro has caused proposals for further changes. These, given in a Tanganyika Government White Paper,¹ are as follows (see also Map I and Map II, fig. 3):—

1. Only the Western Serengeti, the Ngorongoro Crater and the Embagai Crater would remain as national parks. These the Masai would leave entirely. It will be remembered that the Western Serengeti is not populated; so the areas to be given up, though important, amount to only 460 square miles.
2. The Central Plains would become a Special Game Area in which there would be free right of access by the Masai and their livestock for seasonal grazing. No development or permanent settlement would be allowed which would be “in any way inimical to game”.

It is difficult to see how this free right of access, particularly as the Masai would be permitted to continue or modify their traditional way of life subject only to close control of hunting, could fail to be inimical to game. Is there not reason to fear that domestic stock would increase, that thorn fences would more and more enclose waterholes until finally the migratory animals could no longer exist, but would be forced into areas which would be unsuitable for them because of human population or lack of food.

3. The Moru Kopjes and the Crater Highlands would become development areas for the Masai and the interests of wild animals generally subordinate to those of man; provision of water supplies and improved pasturage would be undertaken.

The threat to wild animals by the occupation of the Moru Kopjes area has already been mentioned; it is worth repeating that it was to attract the Masai from this very area that the Endulen slice was cut from the Park in 1951.

The proposed Crater Highlands area covers the source of the Munge stream and seemingly that of the Oljoro Nyuki also.

¹ See references.

Can it be that development in the Crater Highlands will not reduce the water in the Ngorongoro Crater? And what of the Crater Highlands themselves? It is said that they are already heavily over-grazed, particularly by sheep, so that, as usual, coarse unpalatable grasses are replacing palatable species.

We are told also that the Balbal depression, south-west of the proposed Crater Highlands area, is already showing serious sheet and gully erosion.

As against all this we hear that erosion in Masai country is exaggerated, that something must be done about the teeming Masai stock in Ngorongoro, that the Masai share the central plains with the wild animals well enough, six months of the year each, and that they can continue to do so. If this is true the Tanganyika and Kenya Wild Life Societies are wrong in saying that the Masai's new habit of erecting thorn fences round important water-holes to prevent game animals getting at the limited water when the cattle herds are not in the vicinity, spells utter disaster to the game.¹

Besides proposing changes in the Park itself, the White Paper draws attention to controlled areas and game reserves which have been established in the neighbourhood. These amount to some 11,500 square miles. There is no suggestion as to how the wild animals in these large areas are to be protected—except on paper. The recent influx of Masai and their cattle into the Serengeti is blamed on years of continued low rainfall. Maybe destruction of tree, bush and perennial grass cover elsewhere has had something to do with it also.

On some factors which seems to have a bearing on the future of the Serengeti, the White Paper is silent. There is no mention of the best land-use for the area: no consideration of the numbers of domestic animals which the land can carry: no mention of present or future land erosion: no mention of the fact that the Masai animals are in numbers altogether out of proportion to Masai economic needs and are generally speaking of low quality. There is much mention of developing water supplies for the Masai, but the White Paper does not point out that, although development can do much, true conservation of water depends on the preservation of the plant cover of the watershed.

What will be the effect of water development unless it is accompanied by strict control of the numbers of grazing animals?

If these things are important from the point of view of the Masai's future and if, besides not being mentioned they have

¹ See references.

not been considered, may it not be that the White Paper shows a lack of regard for the true interests of the Masai?

Tanganyika is a Trust Territory. Does not the trust include conservation of the soil, the vegetation and the wild life of the country?

EFFECTS OF GRAZING BY WILD ANIMALS

An understandable but mistaken opinion sometimes put forth is that because herds of wild animals can live on a certain piece of country, an equal number of domestic animals can do likewise. The world abounds with deserts made by man's herds and flocks, but the writer knows of none caused by indigenous wild animals unless man has interfered by killing off the natural predators. For this there is no complete explanation known; but the fact that domestic herds are moved in concentrations, so that their feet cut away the plant cover; that they do not leave an area as soon as grazing begins to deteriorate; that their numbers are not restrained by predation, may help to explain it.

THE MODERN VIEW OF NATURE CONSERVATION

A saying once current, even among those concerned in game preservation was that when the interests of man and game conflict, game must give way. Whatever validity that once had, it has been superseded by a truer understanding of the place of man in nature. Man is a part of nature and is the only animal which can significantly modify its environment. If he destroys it, he himself has no future. Wild life is also part of man's environment and very many people, their number ever increasing, derive great inward satisfaction from the knowledge that it is being preserved and a corresponding feeling of despair when they hear of its ruthless destruction. That such feelings are abroad and becoming influential does not seem to be appreciated by the authors of the White Paper. There are a few passing references to visitors, though the possible effect on visitors of the Park's proposed disruption seems to be ignored. There is no appreciation of the reactions of the great numbers of mankind who, though they will never see the Serengeti, are deeply concerned in the preservation of its wild life.

The latent power of those who care about wild nature can be effective if it is drawn upon soon enough. In Kenya, for instance, when the Mzima pools in the Tsavo National Park were threatened with destruction, public opinion in Kenya, Great Britain and elsewhere played a great part in saving them.

A SUGGESTION

In 1954 Kenya obtained the services of Dr. G. A. Petrides to investigate wild life resources and national parks.¹ Dr. Petrides' Report includes "A Review of Masai Resources" (W. P. Keller). This suggests how the help of the Masai might be sought in preserving the wild life of their country.

Is this suggestion too visionary? Consider. The Masai are a people of some 55,000 souls, perhaps 12,000 of them men, occupying about 23,000 square miles in Kenya and Tanganyika. Traditionally they occupy it in harmony with wild animals. They are herdsmen with millions of cattle, sheep and goats, but their animals are used very largely as currency. Perhaps a quarter of them would fulfil the tribe's economic needs. Masailand may be being steadily overgrazed by domestic animals but wild animals, as far as we know, are having no adverse effect on the vegetation. Interest in the wild life of Africa and its preservation is growing rapidly throughout the world. Poaching by tribes other than the Masai, by gun, trap and poison, is increasing appallingly—in Masailand as elsewhere.

Would it not be possible to determine how many domestic animals were economically valuable to the Masai and to persuade them to reduce their stock gradually to this number? Could not the men of the Masai be appointed "Guardians of the Game" throughout Masailand and be allowed a considerable share of whatever gain came to the country through the world-wide interest in African animals?

This suggestion assumes that Masailand can stand all the grazing required to fulfil the Masai's true needs; a matter for scientific assessment. Its possible value requires the perhaps greater assumption that the Masai will willingly make some change in their way of life. Would that be surprising? Would it not be more surprising if there were to be no change in the way of life of a primitive tribe in this modern world? Is there a chance now to direct change into ways useful to the conservation of nature, for the benefit not only of the Masai but of the whole of mankind?

HOW THE PROPOSALS WERE MADE

Before the Tanganyika Government virtually decided on the breaking up of their National Park, so that all the forces of international conservation have been aroused, would it not have been better to have arranged a survey of the area, something

¹ See references.

similar perhaps to what Kenya has done? Nothing like that happened. The White Paper says that discussions took place between the Provincial Administration and a special committee of the Trustees and that, as a result of this, the Trustees put forward proposals with the object of making a true national park free from human interests. These proposals were submitted to Government. They were not approved in their entirety—in fact the “minimum requirements” of the Trustees were refused. Finally the proposals put forward in the White Paper were reluctantly accepted by the Trustees.

Of all these discussions nothing was known publicly; the first public announcement seen by our society being a statement in *The Times* of 17th February, 1956. The White Paper was received some time afterwards. No sign was given that the proposals were to be open for public discussion before implementation, indeed the inference could be made that partition had been decided upon.

ACTION BY THE FAUNA PRESERVATION SOCIETY AND OTHERS

The first news of the extent of the proposed partition of the Serengeti came to the Society from Kenya on 27th January last and at once a study group was formed. Its immediate action was to ask that before a decision adverse to the original conception of the Park was taken locally, the wider aspects of the matter should be considered, including the long-term responsibility and interest of the whole population of Tanganyika in the preservation of their great heritage of wild life.

All possible information about the Serengeti was then collected. Much was already known to the Society; more came from the Wild Life Societies of Tanganyika and Kenya, both of which had only very recently been formed and had been faced almost at birth with this very difficult problem. These societies had been notified in advance of the Trustees' original proposals to divide the Park and had reluctantly agreed to them but only subject to the Tanganyika Government accepting the Trustees' reservations and taking steps permanently to preserve the wild life in the Serengeti Plains. As these conditions were not fulfilled by the White Paper, the two societies withdrew their support and on the 8th May published their “Comments”.¹ These “Comments” ended with the request that a special committee should be set up to reconsider the whole situation.

¹ See references.

Meanwhile news of the proposals had spread to America and in January, February and March, 1956, a small party from America visited the Serengeti. It was arranged and accompanied by Mr. R. M. Arundel and sponsored by the American Wild Life Management Institute and the American Committee for International Wild Life Protection, two of America's largest conservation organizations. It was led by Mr. Lee Merriam Talbot, then Staff Ecologist of the International Union for the Conservation of Nature and Natural Resources. Mr. Talbot's reasonable and modest report on the situation has been referred to already.

After leaving Africa, Mr. Arundel came to London and presented to the Colonial Secretary a petition on behalf of the two organizations sponsoring the expedition and also the American Nature Conservancy, a private society, the Nature Association, the National Parks Association and the National Wildlife Federation, the American Planning and Civics Association and the Wilderness Society. This petition in pleading for delay in the proposed dissection of the Serengeti used many of the arguments given in this article, stressing the importance to the whole world of preserving the wild life of the Serengeti and of the African's right to keep his heritage of wild life unspoiled.

The petition mentioned the adverse repercussions to national parks throughout Africa of any breaking up of the Serengeti National Park and suggested that a permanent international Serengeti Commission should be set up. Besides recommending rules for the preservation of the flora and fauna of the Serengeti, this commission could encourage conservation education among Africans.

As evidence from many sources came to the Fauna Preservation Society it became clear that not only were the Tanganyika and Kenya Societies right in their request for a public inquiry, but that more ought to be known about the likely ecological effect of the proposed changes in the Serengeti before any change in the Park's status was made, a point already stressed by Mr. Arundel. This information would be as important for the Masai as for the wild animals. Accordingly, on the 14th June, some members of the Council of the Society, headed by our President, were received by the Minister of State for the Colonies. They asked that before any of the proposed changes were made, an ecological survey should be carried out, and an independent inquiry held. They stressed the bad effect of the proposed changes upon international opinion. They mentioned

that a General Assembly of the International Union for the Conservation of Nature and Natural Resources was about to open at Edinburgh, and asked that a notification of any action following their request could be sent to it.

About a week later we were informed at Edinburgh that the Tanganyika Government were appointing an independent Committee to consider the Serengeti. The onus of arranging an ecological survey was passed to the Union but the report of such a survey could of course be produced in evidence before the Committee.

This situation was most carefully considered at several sittings of the Survival Committee of the Union, a committee devoted to the preservation of flora and fauna. The committee had at its disposal not only scientific opinion of high international repute, but also the local knowledge of persons well acquainted with the Serengeti. The Survival Committee arrived at the following resolution, which was subsequently approved by the General Assembly itself:—

“Having in mind the immense value of the Serengeti National Park, Tanganyika, for the preservation of the finest remaining concentration of the plain's fauna of Africa, and having considered the proposal for the reduction of the Park contained in the Legislative Council of Tanganyika Sessional Paper No. 1, 1956, welcomes the decision of the Tanganyika Government to appoint a Committee to inquire further into the matter. Furthermore, having in mind the disastrous effects in many parts of the world of adopting land-use policies without sufficient consideration of ecological factors, respectfully suggests to the Tanganyika Government that a qualified ecologist should be included among the members of this Committee and that facilities and active co-operation in the field should be given to a small British scientific team, which the Assembly understands might be sent under private auspices, to make a report on the relevant aspects of the ecological situation in the Serengeti in time for its consideration by the Committee.”

Later the Council of the Fauna Preservation Society decided that the Society should accept the task offered it by the Union and has accordingly arranged that Professor W. H. Pearsall, D.Sc., F.R.S., should go to Tanganyika. Dr. P. J. Greenway, O.B.E., systematic botanist, East African Agriculture and Forest Research Organization, will accompany Professor Pearsall on the survey; we have asked that the advice of Mr. G. H. S. Swynnerton, the game warden of Tanganyika, shall be available. Professor Pearsall will make an ecological report on the Serengeti in order to throw light on the probable effect of the proposals contained in the White Paper, not only from the point of view of the Serengeti's survival as a wild life sanctuary but also of its reasonable use by mankind. The report will be given in evidence before the Tanganyika Government Committee. Professor Pearsall is not of course committed to any standpoint

in the matter he is investigating. He is Quain Professor of Botany, University of London, and Chairman of the Scientific Policy Committee of the Nature Conservancy.

The Tanganyika Government has instructed all the officials concerned to give Professor Pearsall every help in their power and has appointed Mr. H. F. I. Elliot, a senior officer of the Secretariat, to accompany him. Messrs. Ker and Downey, of Nairobi, have undertaken to provide tentage free and other services at cost price. Mr. J. M. Hunter of Tanganyika has offered the use of his private aeroplane whenever required. The Wild Life Societies of Tanganyika and Kenya are giving every possible administrative help and hospitality. In short, everything that can be thought of to make this survey fruitful is being done. Professor Pearsall leaves London by air on the 10th November. May his work usher in a new era of LIFE for the wild animals of Africa.

Readers may think that this article raises many problems and solves none of them. But to provide answers is not its purpose. The writer does not even imagine he has given any information about the Serengeti not well known to people conversant with the Park. The object of this article is to inform members of the Fauna Preservation Society of a difficult situation with which their society has been faced and of the steps which are being taken to deal with it.

The Secretary thanks the authors of the documents below, which have been used unrestrictedly, and the many people who have given information and advice, by letter and in discussions, in both London and Edinburgh.

REFERENCES

- GRANT, H. ST. J. Report on the Human Habitation of the Serengeti National Park, 1954. Board of Trustees, Tanganyika National Parks, Dar es Salaam.
- PETRIDES, G. A. Report on Kenya's Wild-Life Resource and the National Parks, 1954. The Trustees of the Royal National Parks of Kenya.
- TALBOT, L. M. Report on a brief visit to the Serengeti National Park, 1956. The International Union for the Conservation of Nature and Natural Resources, 31 Rue Vautier, Brussels, Belgium.
- THE WHITE PAPER. The Serengeti National Park. Tanganyika Government Sessional Paper No. 1, 1956. Government Printer, Dar es Salaam.
- COMMENTS. Comments on the Tanganyika Government's White Paper, "The Serengeti National Park," 1956. Issued jointly by the Tanganyika and Kenya Wild Life Societies, Arusha and Nairobi.