

TANGANYIKA

MINISTRY OF LANDS, SURVEYS AND WATER

Annual Report

of the

Game Division 1960

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The only non-welcome increase occurred in wild dog in the Long'onya Controlled Area where a breeding ground or warren was discovered, in which breeding took place between July and October. Packs of 30 or more wild dog caused considerable damage to hartebeest whereas smaller packs appeared to concentrate on the lesser species such as impala and warthog.

Unusual occurrences of game included black rhino in the east of Mpanda Range near Nyonga and on the Rungwa River; chimpanzee well south of Kigoma near Kabogo Head; lesser kudu in the Doma-Mikumi Controlled Area; and a solitary rock hare (*Pronolagus*) in the Rungwa Reserve, the first known record of such a species occurring in Tanganyika. The population of most species in this reserve except rhino has shown a steady increase, the estimated number of elephant, for instance, being over 2,000.

LICENSED HUNTING

The flow of visitors into the hunting areas continued to increase, and with the move of the Game Division Headquarters from Tengeru to Dar es Salaam, a Game Ranger was posted to the "entrance" (Arusha) in order to deal specifically with Controlled Area Permits and other licensing matters. However, this arrangement was found, in practice, to have a number of serious weaknesses, and the duties involved have recently been transferred to Dar es Salaam. As a result, the Game Division Headquarters has again established valuable direct contact with the hunting industry. The issue of free permits to residents to hunt animals on the general licence schedule in certain controlled areas within the province in which they reside, still remains in the hands of the Game Rangers concerned.

The Minor Game Licence proved increasingly popular in certain districts; in Mpanda District for instance, 300 were issued as compared with 179 in 1959. In this district the Treasury netted a total of over Shs. 29,000/- from Controlled Area hunting permits, Local Game Licences and licences for muzzle-loaders. One hopes that such financial gain will encourage local inhabitants to take an increased interest in game conservation.

The new system of elephant licensing has had a mixed reception. In some areas it has been strongly criticized, while in others such as Mbeya District no less than £500 was paid out during the last three months of the year in fees and royalties, one hunter shooting three elephant in one day and paying £100 in royalties.

Big tuskers still appear from time to time. On the Wami River in the Eastern Province—where it is unusual to see an elephant over 50 lb. a side—a licence-holder shot an elephant having tusks of 108 and 117 lb.

The lure of sable, especially to overseas visitors, is as strong as ever, many parties going to the Ugalla Controlled Area and elsewhere in the Western Province. Further to the south, e.g. in the Southern Highlands Province, there are few visitors, possibly because of the distance from Nairobi and also because of the difficulty of hunting in "miombo" country.

In South Rukwa Controlled Area hippo have been included on a minor licence in order to reduce their numbers. The danger of allowing such a practice is, however, shown by the fact that wounded hippo killed one man and injured another.

Illegal Hunting and Traffic in Trophies.

Large scale illegal hunting of game animals for their meat will be found wherever there is a convenient market nearby, and wherever the Game Division has been unable to find sufficient staff to patrol that particular area.

The other serious form of poaching, namely of rhino, elephant and leopard for their trophies, may occur anywhere and will continue so long as good prices prevail for the horns, tusks and skins. Where forces have been concentrated, good results

have been achieved—as, for instance, in the Katavi Reserve and Mlele Controlled Area where no less than 212 cases were brought to court, and in part of the country bordering the Screngeti where 3,000 wire snares were collected by the inter-communicating scouts' posts. But in much of the territory the Game Division still fights a losing battle and will continue to do so until staff is increased sufficiently to deal with the situation.

In the northern section of the Selous Game Reserve miles of fences were discovered and several lorries loaded with dried meat were caught heading for Dar es Salaam. A combined operation with Police and K.A.R. was mounted, but it took place too late and no further results were achieved. In other parts of the Selous Game Reserve, hippo were shot; and on the Mahenge border scouts were fired upon by a gang. Patrols from Morogoro brought in 20 cases south of Kisaki in the north of the Selous Game Reserve.

The Game Ranger, Western Province, believes that the extent of poaching is controlled to some degree by the amount of honey hunting. In a wet year honey hunting decreases and so does poaching.

Mention has been made of the killing of rhino in the Ngorongoro Area. Rhino also suffered severely in Karagwe (West Lake Province) where 21 carcasses were discovered. One gang was rounded up with nine horns and an unlicensed 404 rifle. In the same range 89 hippo pits were filled in.

During the year in the Mpanda Range 95 muzzle-loaders, one '404 and five shot-guns were confiscated. In the Northern Province two Somalis from Nguruka a village long known to be the haunt of rhino and elephant poachers, were jailed for buying rhino horn. Illegal traffic in crocodile skins continued in spite of the new regulations.

That the poachers realize the value of a rhino horn is only too apparent; one horn will buy at least one good cow—which is a good deal more profitable than spearing lion. In fact it is noteworthy that only two lion were speared in the Ngorongoro area.

The value of propaganda was most noticeable. Game Assistant Mahinda visited many of the Rangers, giving lectures and spreading the gospel amongst the Chiefs and at barazas. This work was extremely useful, and its value has recently been enhanced by regular broadcasting in Swahili.

II.—GAME CONTROL

CROP PROTECTION

Damage by elephant showed little sign of abating except where the special elephant control scheme is operating, and not every demand could be met, particularly in the Southern and Northern Provinces. The reasons for this increase are several; the spread of cultivation, drought in some areas causing elephant to search elsewhere for food, widespread fires driving them from their normal habitat and finally, in spite of a greater number being shot on control and by licence holders under the new system, an overall increase in the actual elephant population.

In the Southern Province no less than 729 elephants were destroyed apart from those killed by the special staff operating in Kilwa. South of Lake Manyara Park, farmers employed an American hunter who accounted for over 80 in the Magara area.

It may be necessary to reduce the considerable number of elephants in South Usangu, if they are found to prejudice the success of the Mbarali Irrigation Scheme. However, the Mnazi Rice Scheme in Tanga Province did not suffer from any serious damage this year as rainfall was adequate in that part of the

province, and elephant had therefore no occasion to visit the paddy fields. The Game Ranger, Mpanda, reported that with the relaxation of the Sleeping Sickness Settlement Rules over much of his range, many new and isolated settlements have sprung up, making crop protection either difficult or impossible. In the same area three elephant were shot on control; before the scouts could remove the tusks they had been stolen!

Damage by other dangerous game (buffalo, hippo and rhino) was not serious.

Several Game Scouts were injured, though fortunately not seriously. One was knocked down by a buffalo and was rescued by villagers in the nick of time; another was felled by a cow elephant which stood over him but failed to put her tusks through him. Another buffalo, wounded by poachers, attacked and gored a scout on patrol.

STOCK KILLERS AND MAN-EATERS

Cases of man-eating and cattle-killing lions and leopards occurred throughout the territory, particularly in the Lake Province where eight people were killed. Of the four lions involved the Division accounted for three and wounded the fourth which thereafter disappeared.

North of Tabora and in Nzega and Kahama lions again were troublesome (an annual occurrence) and 17 had to be shot, at least one of which was a maneater. In Kibondo several leopards had to be destroyed, two people having been killed.

Not far from Morogoro a pride of lions comprising a male, a female and a full-grown cub, created a small reign of terror, killing eight people. Game Scouts were mobilized and the cub and lioness were killed—the latter being the ringleader of the pride, as is so often the case. Thereafter the male was not seen again.

Cattle belonging to the Tanganyika Agricultural Corporation suffered loss at both Kongwa and Nachingwea where 41 head were killed. Another cattle killer in the Southern Province was set upon by the whole village and eventually had its throat cut by an intrepid hunter, but not before it had wounded a number of its attackers.

Other attacks by lion occurred at Essimingor where a woman was killed, and on the Ruaha River where several people, including a crocodile hunter, were injured.

An interesting experiment took place at Mwanza, under the direction of the Game Ranger. Following a number of complaints of leopard near the township, a special trap was constructed by a Public Works Engineer, which succeeded in catching no less than five leopard. These were all transported to the Serengeti National Park and released, but not without a certain amount of excitement when two of the beasts showed their ingratitude by attacking their rescuers.

ELEPHANT CONTROL SCHEME

The staff, which consists of two officers and 30 scouts, made good progress and by the end of the year the final stage had been reached in the operation to remove elephant from the coastal belt. Herds moved into the north of Kilwa District and travelled as far as the Rufiji District; this will necessitate extending the field of operations to that part of the district lying to the south of the river.

As far as 100 miles to the west there has been a considerable increase in the elephant population evicted from the coastal belt—an indication as to how far these beasts will travel when constantly harassed.

Action has been taken to prevent infiltration back into the cleared areas, and a survey of the present numbers of elephant in North Kilwa is being carried out.

A total of 601 elephant had to be destroyed during these special operations.

With the appointment of a third officer to the staff, it is planned to carry out a similar operation on the west of the Selous Reserve in the area lying between the Ifakara-Great Ruaha Bridge road and the Western boundary of the Reserve, the object once again being to force herds out of the populated area into the reserve.

III.—RESEARCH—GENERAL

As mentioned above, a survey was carried out in the Gombe Stream Reserve to ascertain the chimpanzee population and what it lived on.

Dr. Ormerod, of the London School of Tropical Medicine, visited the Kigosi Controlled Area in Kahama District. Western Province, together with the Game Ranger to obtain blood samples from certain species of game animals. He brought with him a number of rats and proceeded to inject them with the blood so obtained. The results of his experiments are not yet known. He isolated a *Trypanosoma rhodesiense* from the blood of a lichtenstein's Hartebeest.

The Game Biologist continued to base his studies at his field station in the Tarangire Game Reserve, where further data was collected regarding population, feeding habits, migration and cropping rates, in connection with which he and his staff made over 9,000 separate observations in the field. He was assisted from time to time by the staff of the East African Agriculture and Forestry Research Organization and by Mr. Lee Talbot, an American biologist, currently working in the Screngeti/Mara area.

In order to obtain full value from the Game Biologist's Report, it is included in detail below.

IV.—GAME BIOLOGIST'S REPORT ON RESEARCH WORK

CARRIED OUT IN 1960 Introduction

The third year of the present programme of research into the ecology of the Tarangire Game Reserve and the adjacent Acacia Savanna country has been completed. As has been stated in previous annual reports, the object of the research is to accumulate the data necessary for the introduction of scientific game management and is also aimed at the very necessary task of filling in the numerous gaps in our knowledge of the game populations. The research is contributing to the growing fund of information on the potential productivity of the wild animals of the East African savanna. This work, together with complementary research being carried out by the staff of the East African Agriculture and Forestry Research Organization, and the American biologist, Mr. Lee Talbot, indicates strongly that, in the semi-arid areas which cover a great part of East Africa, the indigenous wild animals are a potentially better source of animal protein than the introduced domestic animals. There is ample evidence from research programmes in progress that the savanna lands of East Africa can carry without deterioration a greater biomass of the indigenous animal community than they can of the introduced domestic species.

A summary of the year's work is given below.

1. Population study.

The continuous census being carried out by transect sampling in the Tarangire Game Reserve was continued throughout the year. The population figures expressed as density in animals per square mile and the biomass expressed as lb. weight per square mile are shown in Table I, together with the figure for the two preceding years for comparison. The exceptionally high concentration in the transect area in November was due to the failure of the short rains and instead of being able to disperse into the wet season areas in October, as is more normal, the animals were forced to concentrate even more round the river as the last of the outside sources of water dried up. Sufficient rain fell in December to enable the dispersion to take place.

TABLE I

		19	58	1959		1960	
·- -	Per sq. mile	Maximum	Average	Maximum	Average	Maximun	Average
All ungulate species	Numbers	140 (Sept.)	96	251 (Sept.)	117	331 (Sept.)	132
	Biomass in 1b.	83,400 (Sept.)	37,400	211,100 (Sept.)	70,300	210,900 (Nov.)	73,700
Impala	Numbers	83 (Feb.)	55	(Mar.)	42	68 (Mar.)	50
	Biomass in lb.	11,640 (Feb.)	7,730	9,737 (Mar.)	6,000	9,537 (Mar.)	7,100
	Numbers	44 (Sept.)	14	(Aug.)	21	138 (Nov.)	39
Zebra	Biomass in lb.	24,414 (Sept.)	8,090	34,000 (Aug.)	11,600	75,900 (Nov.)	21,600
D. 6-1-	Numbers	(Oct.)	5	87 (Sept.)	21	84 (Nov.)	19
Buffalo	Biomass in lb.	23,030 (Oct.)	6,070	96,227 (Sept.)	23,600	92,500 (Nov.)	21,300
Wildebeest	Numbers	(Sept.)	ı	36 (Sept.)	6	(Nov.)	3
	Biomass in lb.	3,122 (Sept.)	810	18,070 (Sept.)	3,170	5,600 (Nov.)	1,400
Warthog	Numbers	(Dec.)	3	(Jan.) 5	2	(Feb.)	3
Warthog	Biomass in lb.	711 (Dec.)	340	650 (Jan.)	285	646 (Feb.)	330
i	Numbers	0·70 (Feb.)	0.30	0:50 (Nov.)	0.20	1·0 (Nov.)	0.3
Rhino	Biomass in lb.	1,580 (Feb.)	700	1,098 (Nov.)	440	2,204 (Nov.)	71
Floud	Numbers	4	1	2.5	0.7	4	1
Eland	Biomass in lb.	4,690 (Oct.)	1,320	2,994 (Oct.)	850	5,412 (Nov.)	1,540
Vaturbuck	Numbers	(Dec.)	4	(Dec.)	5	7 (Dec.)	6
Waterbuck	Biomass in lb.	5,110 (Dec.)	1,890	5,140 (Dec.)	2,320	3,323 (Dec.)	2,700
Giraffe	Numbers	(Jan.)	2	(Feb.) 6	3	(Jan.) 4	3
	Biomass in lb.	10,070 (Jan.)	3,900	10,500 (Feb.)	6,160	7,106 (Jan.)	5,000
Elephant	Numbers	(Sept.) 3	0.6	(Nov.	1.8	(Nov.)	3
	Biomass in lb.	25,300 (Sept.)	5,970	87,700 (Nov.)	16,000	114,700 (Nov.)	26,800
	Numbers	(Oct.)	0.5	1·6 (Sept.	0.4	1·7 (Nov.)	0.4

Density and biomass figures recorded in the Tarangire research area in 1958, 1959 and 1960, See text for further explanation.

During the month of September a second transect system was operated to measure the density of animals in another part of the reserve and to serve as a comparative check on the main census results. Density and biomass figures for the second area are shown in Table 2. It will be noted that the September figures are considerably higher for most species and for all species combined than those for November in the main census area. This appears to be attributed to the higher proportion of Acacia tortilis woodland in the second area, this type of woodland being a habitat which is particularly favourable to most of the species present.

TABLE 2

Species	Animals Per sq. mile Biomass lb, per sq. mile		Species	Animals Per sq. mile	Biomass lb. per sq. mile	
All Ungulate Species	429	469,400	Zebra	226	124,500	
Impala	38	5,260	Warthog	4	500	
Buffalo	111	122,600	Rhino	0.75	1,600	
Wildebeest	5	2,400	Eland	6	7,700	
Giraffe	4	7,000	Elephant	22	195,300	
Bohor Reedbuck	0.7	73	Lion	0.2		

Density and biomass figures recorded during the month of September, 1960 at the second transecture; Matete, Tarangire.

In October, an aerial count was made of the game population centred on the Tarangire transect for the purpose of making an absolute check on the ground figures and also to assess the value of aerial counting in relatively thick bush country. It was found that with the larger and more conspicuous animals such as elephant, buffalo and rhino the aerial counts agreed very closely with the ground counts while with less conspicuous species such as impala and waterbuck the ground counts were considerably higher than the aerial counts. The technique of aerial counting in bush country deserves considerable attention. We are very grateful to Captain D. Zaphiro for putting his aircraft at our disposal for this census and for giving us the benefit of his skill both in the difficult technique of aerial counting and as a pilot.

As a result of the ground and air census it has been possible to make a provisional estimate of the total game population of the Tarangire Reserve. Approximately 20,000 animals are present in the dry season and 5,000 in the wet season.

Further survey flights have made it possible to assess both the dispersion density of game in the wet season areas of the Masai Steppe and to obtain some idea of the pattern of movement of the migrating animals. The 15,000 animals which leave Tarangire at the onset of the rains in October to December spread out over approximately 8,000 square miles of the adjacent savanna country. On 22nd January, 1960, a 200-mile transect flight over Masailand was made for the purpose of estimating the dispersal density of game animals in the rainy season. In an estimated 200 square miles of country covered, 471 animals were counted, giving a density of 2:35 animals per square mile. This is very similar to the density predicted from the estimated Tarangire concentration figures and the observed area over which the Tarangire animals disperse in the rains. It is instructive to compare the game animal density of 2:35 for the Masai steppe with that of the Serengeti which is over 30 animals per square mile. Eye witness accounts and historical evidence indicate that the game population of Masailand was of the same order of size as the Serengeti between 50 and 100 years ago. It is probable that the

Death from unknown causes was reported amongst wildebeest calves on the Ugalla River, and amongst Grant's gazelle in the Kongwa Controlled Area.

Rabies was suspected again this year amongst jackals in the Southern Highlands Province, but there was no proof.

CAPTURE AND EXPORT OF WILD ANIMALS

The principal catcher, Mr. Willy de Beer, was employed by Paramount Films during the latter part of the year, in connection with the making of their picture "Hatari".

Revenue for the financial year 1959/60 fell to £1,898 compared with £4,042 for 1958/59.

GOVERNMENT TROPHY SALES

The usual bi-annual auctions of ivory, rhino horn, leopard skins and other trophies were held in February and August.

Prices for all items were extremely high, the August auction holding the record (an average of Shs. 19/58 per lb.) for ivory and also for leopard skins. Ivory prices are mainly determined by the import quota fixed by the Indian Government. Restrictions were relaxed during 1960, though recently they have again been imposed resulting in a drop in price.

The demand for rhino horn on the Hong Kong market seems to grow no less, and with the ban on the shooting of rhino in Tanganyika, supply cannot meet demand; hence the high prices prevailing.

As for leopard skins, there is without doubt a world-wide boom in handbags, shoes, coats, etc., made up from these skins.

The February auction was attended by forty buyers, including one from the

the average price of ivory was Shs. 18/25 per lb., the amount offered being nearly 42,000 lb. At the previous auction in September, 1959 the average price was Shs. 17/48.

Rhino horn fetched Shs. 95/20 and hippo teeth Shs. 7/60 per lb. compared with Shs. 89/- and Shs. 5/40 at the previous sale. But the actual Hong Kong quotation for horn was Shs. 115/- per lb.

Leopard skins averaged Shs. 563/88 per skin and the sale included seven skins at Shs. 1,055/- each. This average is Shs. 220/- per skin better than in the September sale.

The auction held in August was also attended by forty buyers, and the average price or ivory increased by nearly a shilting to Shs. 19/58. Over 40,000 lb. was offered, together with over 1,800 lb. of "rotten ivory" which fetched Shs. 13/55 per io. The price of rhino horn tell slightly to Shs. 92/92 as some of it was defective, and hippo teeth also dropped to Shs. 5/50.

Leopard skins were again in great demand, averaging Shs. 534/65 and some fetching the new record price of Shs. 1,330/- each. A number of skins were of poor quality.

Elephant tails were sold for a little more than Shs. 5/- each, whereas in Kenya they fetch twice that amount.

TOURIST TRADE

Efforts to induce more people, including visitors off ships, to pay a visit to the Doma-Mikumi Controlled Area met with little success. The East African Game Safari's Camp on the Ruhembe River near Mikumi had to close down, their plans for an hotel were shelved, and a Dar es Salaam Motor Transport bus specially fitted out for "day trips" did not make a single excursion.

It is obvious that a great deal more publicity and planning is required since the game is there—and in quantity!

Arusha fared better, becoming the venue not only of the hunting fraternity, but also of Paramount Pictures Corporation which moved in force in October to spend thousands of pounds filming the spectacular epic on game-catching entitled "Hatari". The Division gave assistance and the film itself should bring much publicity to Tanganyika. The *première* is to take place in Dar es Salaam towards the end of 1961.

The Game Warden was appointed a member of the Tourist Travel Committee.

VI.—Trout

Reasonable sport was to be had in the Southern Highlands Province though the size of fish was below average. The upper Chimala, stocked a few years ago is now producing good fishing. Fingerlings planted on the Elton Plateau have done well.

The Mufindi Trout Association was active, the total catch for the year being 335 fish, the best weighing 1\frac{1}{4} lb. The Forest Division assisted by introducing fresh water shrimps into some of the rivers in the Ukaguru Mountains, and plans are afoot to stock the waters with fingerlings.

The Northern Province rivers were mostly poisoned and very little sport was to be had at Bunduki in the Uluguru Mountains thirty miles from Morogoro. The Pare Mountain rivers are also reported to have been poisoned.

Trout fishing in the Territory has been going through a bad period. It now requires a considerable increase in statt, money and interest, plus propaganda against poisoning the waters, if it is to be restored to its former glory.

VII.—CROCODILE HUNTING

The existing laws still allow too many loop-holes for the poacher who, having obtained his skins in one of the Controlled Areas, without a permit, finds no difficulty in disposing of them ostensibly as having been obtained in another "non-permit" area.

Apart from the shores of Lake Victoria where the industry, presumably as a result of over-exploitation, has ceased to exist, there still appear to be sufficient of these reptiles left from which to make a living. One European dealer at Ifakara says he was offered more skins in 1960 than the previous year, and in the Western Province over 500 skins, obtained from the swamps north of Nguruka and in the Malagarasi, were registered.

In Mbeya most of the skins passing through the hands of registered dealers came from Nyasaland and Northern Rhodesia at the rate of 200 or so a month, with a value of at least £10,000 a year.

VIII.—ADMINISTRATION STAFF AND DISPOSITION

Staff as on 31st December, 1960.

- I Game Warden.
- 1 Deputy Game Warden.
- 1 Biologist.
- 15 Senior Game Rangers and Game Rangers.
- 1 Elephant Control Officer.
- 1 Office Superintendent.
- 24 Head and Senior Game Scouts.
- 14 Clerks.
- 409 Game Scouts.
- 10 Motor Drivers.
- 2 Watchmen.

Appendix VI SUMMARY OF GAME LICENCES ISSUED IN RESPECT OF ANIMALS AVAILABLE ONLY ON SUPPLEMENTARY GAME LICENCES, 1956-60

	1956			1959		1960	
Species		1957	1958	Residents	Visitors	Residents	Visitors
Caracal	3	2	1		_	_	2
Abbott's Duiker	1 21	= =	î	i i i	6		ī
Elephant	547	714	385	369	127	160	106
Gerenuk	32	51	43	1	37	1	3
Giant Forest Hog		- 1	-	i II	2	l i	3
Greater Kudu	128	135	187	12	166	13	27
Lesser Kudu	80	88	92	92	7	5	7
Klipspringer	29	39	30	' ï '	51	4	17
Leopard	106	142	167	28	193	13	35
Lion	148	163	174	3	125	8	25
Black and White Colobus	9	5	3	2	4	1	2
Blue Monkey	9	8	3		2		i
Oryx	96	99	108	12	103	4	9
Ostrich	21	20	18	_ :	20	7	9
Mountain Reedbuck	4 1	1 .	_	2	2	'	-
Rhinoceros	306	238	139	8	9		_
Rock Rabbit	2	4	2		6		4
Sable Antelope	96	76	129	1.3	124	12 j	17
Serval Cat	12	8	15	2	10	3	5
Sharpe's Grysbok	2	- 1	1		1		-
Sitatunga	12	9	16		17	-	2
Tree Hyrax	2	_	1	_ ,		-	2

Appendix VII

SUMMARY OF SUPPLEMENTARY LICENCES ISSUED FOR ANIMALS AVAILABLE IN ADDITION TO THOSE COVERED BY GENERAL GAME LICENCES 1959-1960

Species				195	9	1960		
				Residents	Visitors	Residents	Visitors	
Buffalo				159	211	226	66	
Bushbuck				1	3	3	-	
Dikdik			1	1	7	3	-	
Duiker (all speci	ics)			-	6	4	-	
Eland		***		5	13	3	-	
Gazelle, Grant's				-	26	2] 1	
Gazelle, Thomso	on's			3	9	6	-	
Hartebeest		4 - 1		3	18	3)	
Hippopotamus		***		4		1		
lmpala				16	38	11	9	
Oribi				-	7]		l -	
Other				-	1	1]]	
Puku					1 }	1	-	
Reedbuck all spe	cies			1	5	ļ	_	
Roan antelope				1	15	4] 3	
Steinbuck				-	7	1	-	
Горі				8	9	2	3	
Warthog				1	22	3	6	
Vaterbuck				-	9			
Wildebeest				5	26	12		
Zebra	•••			6	54	6	13	

DISTRIBUTION