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OF DEVELOPMENT COOPERATION

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**Lake Turkana
Fisheries Development
Project**



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**DUH'S VURDERING AV EVALUERINGSRAPPORTEN OM
FISKERIPROSJEKTET I TURKANA, KENYA**

Siden 1971 har Norge bistått Kenya med finansiell og faglig støtte til utvikling av et fiskeriprojekt i Turkana. Turkana er den fattigste provinsen i landet, som regelmessig har vært hjemsøkt av tørke og sultkatastrofer. Det totale norske engasjement har til nå kostet 23 mill.kr. Fiskeriprojektet er et av flere utviklingstiltak som Norge støtter under en avtale om distriktsutbygging i Turkana.

Den overordnede målsettingen for fiskeriprojektet har vært å heve levestandard, inntektsnivå og velferd for befolkningen ved en langsiktig utnyttelse av fiskeressursene. Storparten av bistanden har vært kanalisert til et kooperativ, Turkana Fishermen's Co-operative Society (TFCS), som i tillegg til oppkjøp og omsetning av fisk, har hatt ansvar for en rekke aktiviteter som båtbygging, produktutvikling, opplæring, verksteder og butikkseksjon.

Kenya og Norge gjennomførte en felles evaluering av tiltaket i april-mai 1985. Målsettingen med evalueringen var dels å vurdere erfaringene med prosjektet, og dels å komme med anbefalinger til framtidig utvikling. En sentral del av evalueringen dreide seg om tiltakets virkninger i lokalsamfunnet.

Evalueringsutvalget fremhever at prosjektet har skapt viktige alternative sysselsettingsmuligheter i området. Fra et begrenset sesongbetont fiske som beskjeftiget få personer, hadde mer enn 20.000 mennesker sitt levebrød fra fiske når dette var på sitt beste. Etter at tørken satte inn med det resultat at vannstanden gikk tilbake og fisket ble redusert, er nå ca. 10.000 mennesker avhengig av fiske i sjøen.

Utvalget mener å ha påvist flere svakheter ved prosjektet. Spesielt gjelder dette et kjøle/fryseanlegg til en kostnad av 12 mill. kroner. Forutsetningene for å benytte frysing som foredlingsmetode var ikke tilstrekkelig analysert før anlegget ble bygget. I tillegg har viktige forutsetninger forandret seg, bl.a. har oljeprisen økt langt mer enn forutsatt. Kjøle/fryseanlegget er også bedømt som for kapitalkrevende, og ikke tilpasset lokale forhold.

Det var heller ikke gjort undersøkelser om hvilke endringer som kunne inntreffe i vannstanden i Turkanasjøen. Under tørkeperioden i 1980-årene skjedde det en dramatisk senkning av vannstanden som førte til en stor reduksjon i fiskefangstene for enkelte fiskeslag. For andre fiskesorter har reduksjonen i vannstanden hatt mindre effekt.

Evalueringsutvalget mener at administrasjonen av TFCS har vært for dårlig. Ifølge evalueringsrapporten har kooperativet ikke fordelt fiskebåter og garn på en rettferdig måte blant medlemmene. Medlemmenes deltakelse i beslutningsprosessen har ikke vært tilstrekkelig ivaretatt. Utvalget fant at det var satset for lite på opplæring av fiskerne og at det ikke er tatt tilstrekkelig hensyn til sosiale og kulturelle forhold i området, bl.a. er kvinnenes muligheter for videre utvikling ikke tilstrekkelig ivaretatt.

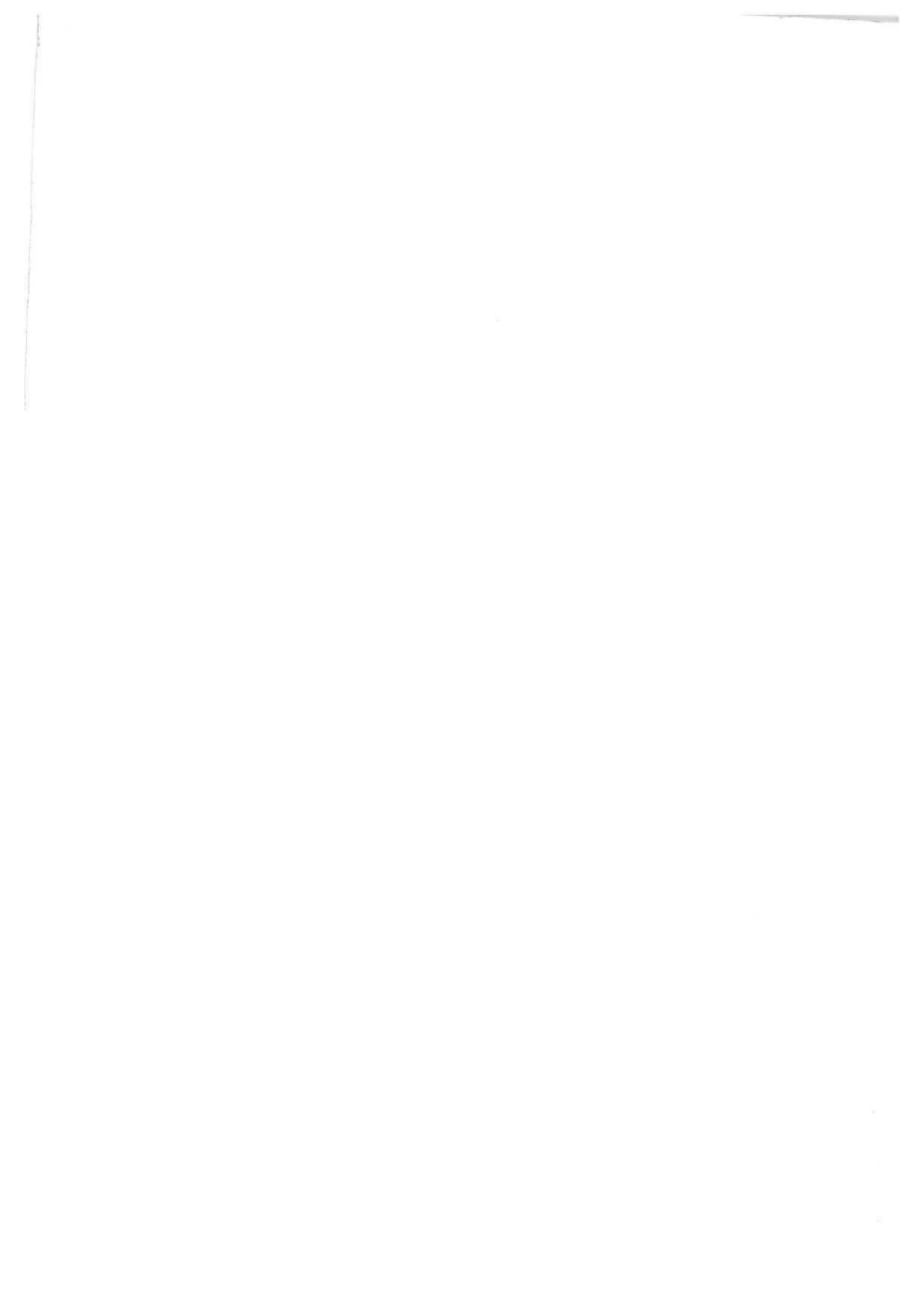
Evalueringsutvalget fremmer en rekke forslag til reorganisering i framtiden. Det anbefales at TFCS' virksomhet konsentreres omkring omsetning av fisk. Videre understrekes nødvendigheten av større muligheter for innflytelse fra medlemmenes side og bedre oppfølging av samvirke departementet. Kvinner må få flere muligheter til aktiv deltakelse i fiskeritiltakene. Det anbefales videre at Norge støtter de reguleringsoppgaver som Kenyas Fiskeridirektorat er pålagt.

DUH betrakter rapporten som et verdifullt dokument for den videre planlegging av fiskeriprojektet. DUH finner imidlertid at evalueringsutvalget ikke fullt ut har tatt hensyn til at prosjektet er drevet under spesielt vanskelige forhold, hvor

et av problemene er svært lav lese- og skrivekyndighet blant medlemmene. DUH konkluderer med at det er ønskelig med videre støtte til forbedring av prosjektet. I samarbeid med de kenyanske myndigheter vurderer DUH for tiden særlig anbefalinger som er fremlagt vedrørende:

- Effektivisering av fiskekooperativet. Her inngår en vurdering av hvilke arbeidsoppgaver som i framtiden bør ivaretas av kooperativet, og hvilke som bør ivaretas av andre organer.
- Opplegg for å øke medlemmenes innflytelse i kooperativet.
- Tilrettelegge økt kvinnelig deltakelse i fiskesamvirket.
- Bedre opplæringen av styremedlemmer og medlemmer.
- Styrke fiskerioppsynet gjennom Fiskeridirektoratet som en viktig komponent i et videreført prosjekt.

Evalueringsrapporten er tilgjengelig fra DUHs bibliotek.



EVALUATION REPORT ON THE LAKE TURKANA FISHERIES DEVELOPMENT PROJECT.

**A COMPONENT PROJECT OF
THE KENYA/NORWAY DEVELOPMENT
COOPERATION PROGRAMME.**

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The views expressed in this report are those of the authors and should not be attributed to either the Royal Norwegian Ministry of Development Cooperation or to the Government of the Republic of Kenya.

EVALUATION OF THE LAKE TURKANA FISHERIES PROJECT.

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(i) **FOREWORD AND ACKNOWLEDGMENTS.**

Since its inception in late 1961, the Lake Turkana Fisheries Development Project has been an excellent illustration of the ancient proverb, often quoted in publications of the U.N. Food & Agricultural Organization, that giving a man a fish to eat provides him with food for only one day, whereas teaching him to catch fish creates the possibility of his feeding himself and his family throughout their lives. The Turkana District has an arid and harsh environment, in which for generations the nomadic pastoralist people have lived on the verge of famine and starvation, a problem rendered more acute in recent years by advances in medical and health care which have increased longevity and expanded the Turkana population probably beyond the area's agricultural and livestock carrying capacity.

Throughout this time the lake and the fish which it contains remained largely unexploited until the start of this project. Since then, with assistance from NORAD and other sources, some 20,000 people, or about 10% of the Turkana population, including fishermen and their families, have been trained and equipped to catch fish and thereby derive a livelihood far less vulnerable to the effects of periodic drought and famine that was their traditional pastoralist way of life.

Many problems remain unresolved and a number of costly mistakes have been made during the course of project implementation. These aspects are examined in this report in an effort to highlight the lessons which can help to avert the repetition of similar errors in future.

Nonetheless, judgements about the degree of success or failure to be accorded to this project must also be taken in the light of its contribution to the reduction of human misery.

Today's pictures of starving and moribund children with their destitute and hopeless parents in Ethiopia and Sudan, were also commonplace in Turkana at one time, but are now a rarity, and the fisheries project has contributed greatly to the attainment of this result. It is hoped that this outcome will make all concerned the more determined to press on with the task of resolving the many problems that still remain.

During the course of the study, mission members interviewed many Kenya Government officials, NORAD staff in Nairobi and technical assistance staff in the field, present and former co-operative society staff, former committee members, fishermen and their families, private traders and other individuals. The frank and constructive views expressed and the active support and assistance rendered to the Evaluation Mission by practically everyone concerned are most gratefully acknowledged.

(ii) **SUMMARY OF PRINCIPAL FINDINGS AND RECOMMENDATIONS.**
PRINCIPAL FINDINGS.

- (a) Efforts by the Kenya Fisheries Dept. to develop the Lake Turkana fishery started in 1961, in support of famine relief and rehabilitation measures then in progress. NORAD's assistance to Kenya's fisheries commenced in 1967 and specific aid to Lake Turkana and to the fishermen's co-operative society (TFCS) started in 1971.

Since then NORAD has provided some 23 million NOK, of which about 12 million NOK was spent on establishing the buildings and plant for TFCS at Kalokol. Despite this level of assistance, development has not been as rapid or as sustainable as hoped. Initially most of the assistance was channelled through the Fisheries Dept., but for the past 10 years it went more directly to TFCS in consultation with the Ministry of Co-operative Development (MOCD), with the Fisheries Dept. role being relegated very much into the background.

- (b) The principal objectives of the project have been to improve living conditions amongst the poorer and most disadvantaged sections of the Turkana people of both sexes, through joint efforts in the development of the fisheries and to ensure that utilisation of the Lake's resources were kept in balance with its sustainable potential. As one result of the assistance rendered, TFCS has grown to a membership of around 5000, only about 300 of whom are women, but the society is still far from being a viable and self-sufficient enterprise. Members have little or no opportunity to participate in decision making, and there has been a great deal of adverse external interference in TFCS affairs to the detriment of member's interests. It also appears that the number of fishermen is about as many as the Lake's resources can safely support, especially at its present low level, and in all of these circumstances some redefinition of the project's objectives seems necessary for the future.
- (c) The mission has suggested that future objectives should be defined more explicitly, to include the creation of greater self sufficiency, both within TFCS and amongst its membership; more active involvement by fishermen/women in society decision making and in TFCS business affairs; increased participation by women in TFCS membership and the promotion of a re-organized TFCS as a viable commercial enterprise. Further objectives would be the promotion of more active collaboration between the Fisheries Dept., MOCD, TFCS Management and its membership in the enforcement of conservation measures to sustain fish productivity, in the improvement of data collection and analysis and to assist in the promotion of fishermen's training and in educational programmes for the fishing communities.
- (d) The mission considered that the level of provision for development inputs was fully adequate, but that the impact of this assistance hitherto has been diluted by successive managerial failures within TFCS in creating a top heavy and too highly paid staff, and in the practice of distributing such items as nets as if they were free gifts. The mission was also not convinced that the basis for allocating nets and boats was equitably aimed at those who most needed the support. NORAD was held to be as much to blame as TFCS Management, for not insisting upon a fairer and more realistic approach to inputs supply and to cost recovery. This should be based on the premise that individual members should pay - through a credit scheme if necessary - for the goods and services they actually receive and not, as at present, by flat rate deductions which mean that fishermen who have not received new nets, or who do not have access to a society boat, have to pay as much for these services as those who do benefit.
- (e) In the same context, the mission was not satisfied that the present arrangements employed by the NORAD office in Nairobi to verify expenditure of NORAD funds by TFCS on specified items such as the purchase of nets, provided sufficient assurance that the moneys were correctly used for the specified purpose. The mission recommended that a stricter system of expenditure control should be introduced.
- (f) The mission endorsed earlier recommendations that the levels of technology employed should be such as to avoid capital intensive developments in favour of labour intensive approaches, eg. non-mechanised fishing boats and simple fishing methods etc., and noted that in general this is the approach that has been followed, with the notable exception of the ice-making, freezing and cold-storage complex.
- (g) It was noted that whereas the stated project objectives comply with Norwegian principles for development co-operation, a number of contrary tendencies have recently developed. In particular, the recording of fish deliveries from individual members has been dropped; there is no scheme for supplying fishing gear to members on credit, flat rate deductions are imposed on all fishermen for nets and boat rent regardless of whether they actually benefit; excessive overheads especially for staff salaries, have resulted in too small a proportion of TFCS revenue accruing to

the membership; the present nominated "commission" is not representative of members interests, and members have little or no opportunity to participate in decision making. Attention must be directed at checking and reversing these tendencies.

- (h) The mission noted the provisional findings of the most recent socio-economic study to concentrate on the lakeside fishing communities, which was conducted by a member of Evaluation Mission. Over and above the normal seasonal fluctuations in population caused by nomadic pastoralist migrations into and out of the area, there is evidence of an overall population decline in recent years, resulting from the reduction in lake level and consequent poor fish catches inducing some people to move elsewhere in search of other work. The people mainly affected are the poorest households, who perhaps cannot afford to replace worn out or lost fishing gear, and the wealthiest, who having used their savings to purchase livestock, see greater opportunities in a return to pastoralism. Even the middle class who remain in fishing may have to supplement family income by other means, eg. basket making, charcoal burning, small stock keeping etc., which also contribute to a reduction in the time and resources available for fishing, and in turn to an overall reduction in fishing effort, lower total catch and reducing TFCS through-put and turnover.
- (i) The implication for TFCS is that it must use its resources more effectively to support members who remain and encourage others to return to fishing, by means of a more equitable system of net distribution, by minimizing overheads and thereby enabling payment of higher prices to producers. The fact that matters have gone so far indicates how badly TFCS Management has fallen out of touch with members needs and how important it is for the membership to have the means of expressing their needs and being more involved in TFCS affairs.
- (j) Whilst there appears to be no evidence of overfishing there has been a steady decline in total catch and fishing effort, concurrently with the progressive reduction in lake level since 1978. The lake is currently at about the same level as its previous all-time low of 1954/55 and Ferguson's Gulf is virtually dry. The effect of these changes on fishing has been dramatic, with the tilapia catch especially badly affected. A few hundred tons of tilapia is all that can be caught now in the vicinity of the Gulf, compared with the peak catch of about 16,000 tons in 1976. Only a major Omo river flood for several consecutive years can halt and reverse the decline in lake level and thereby restore catches and fish stocks to their former abundance. These changes also have implications for TFCS which cannot again be allowed to become as top-heavy as in the past, either in terms of employment or investment. For NORAD as well there must be a recognition of the volatile nature of such lakes in Africa and their fish stocks; planning must be flexible enough to take advantage of the temporary peaks but also to weather the troughs in availability of fish.
- (k) Attacks on Turkana fishermen, by Merille from across the Ethiopian border and by Shangilla, Boran and Rendille tribesmen along the eastern shore of the lake are perennial problems and have caused loss of boats, nets, personal injury and even death on occasion. The mission has urged action by the authorities in Nairobi to initiate discussions between representations from Marsabit and Turkana Districts to try to resolve these difficulties. Kenya Police patrols on the lake and a new police post at Moite have also been recommended.
- (l) The mission noted that prices paid to fishermen for their processed fish have not increased in real terms since 1980 and that this could encourage illegal sales to private traders. TFCS's ability to pay better prices is however, constrained by the present very low turnover caused by the depressed state of the fishery and by past suspect managerial decisions. However, TFCS is currently able to sell all the dried fish it can purchase from the fishermen, and it could buy in a lot more from the eastern shore if the society possessed a suitable vessel to operate a regular

collection service. It has been suggested that such a vessel would need to be shallow draft, capable of beaching for loading and offloading, carry at least 2 tons of dried fish under cover and be powered by a combination of sail and engine. There are no other suitable vessels for this purpose on the lake at present, and it is recommended that NORAD should examine the possibility of providing TFCS with such a facility.

- (m) Market development work has progressed well during the past year, a highlight being the joint TFCS/Fisheries Dept. "Eat-More-Fish-Campaign". A follow-up programme of re-visits is urgently needed to reinforce the initial market impact, and NORAD finance for the purpose is available, but for some reason TFCS has not been able to provide the marketing section with a vehicle for the purpose. Prompt action is required in this regard. In the meantime, production and marketing trials of smoked products should continue on an experimental basis, with especial attention to hot smoked/sun-dried chubule (*) for the Nyanza Market.
- (n) TFCS is a complex organization having 7 branches and various services covering a wide geographical area and with many communication problems. Management has rarely been of sufficient calibre and has generally been too weak to withstand interference in TFCS affairs by local politicians, corrupt committee men and others. The society is now controlled by an MOCD appointed commission, giving members no say in its management. Relations between staff and management are not happy, and the recent appointment of a young Turkana to the post of General Manager provides no feeling of confidence that matters can improve without further strong action. The new G.M. has excellent technical qualification in fish processing but lacks any training or experience in financial or business management.
- (o) The mission was requested to produce a re-organization plan, taking into account all these problems and TFCS's current financial situation. The plan was submitted to the Commissioner for Co-operative Development on the 21st May and is attached as an appendix (*) to this report. Briefly, the plan aims to minimize the impact of outside interference by strengthening members representation, especially at the branches, and by giving the branches greater autonomy. The burden of Management is eased by reducing TFCS activities to those considered essential for the societies survival, but other functions should be continued under external administrative control and NORAD funding, at least for the time being. TFCS overheads would be greatly reduced by cutting staff and if possible certain top salaries, and management should be strengthened by the temporary appointment of an experienced MOCD Management advisor to replace Technoserve until suitable people can be recruited for the two key posts of Operations Manager and Financial Manager, possibly under NORAD technical assistance (but not necessarily expatriates).

From a study of TFCS financial situation, it was also clear that an immediate cash flow shortfall would require an urgent injection of additional working capital of about KSh.500.000, probably in the form of a loan, but it was not immediately clear where this could be obtained.

- (p) The Fisheries Dept. was originally instrumental in the establishment of the Lake Turkana fishery and TFCS, but in recent years its role has been pushed into the background when MOCD took over the dominant position as TFCS sponsor. The Fisheries Dept. is still responsible for a number of key functions, eg. regulation of fishing effort by licencing and other means, collection and analysis of fisheries statistics, lake wide co-ordination of fishing activities and extension work in the fishing communities. Staffing is adequate but activities are constrained by severe recurrent budgetary limitations and by the lack of an economical but seaworthy vessel for lake wide patrolling and communication. Illegal fishing with small sized nets is still prevalent, and the

(*) Chubule is the Turkana name for *Labeo horie*, also known as Ningu in Nyanza.

(*) Appendix 8

mission proposed NORAD support for an "amnesty" in which fishermen would be able to freely exchange an illegal net for one of the proper size. It was estimated that the cost of this exercise would be around KSh.330.000.

It was also suggested that NORAD should support a resumption of Fisheries Dept. collaboration in fishermen's training in such matters as the care and maintenance of boats, fishing nets and in proper fish handling, for which Fish. Dept. staff are available but finance is not. The annual cost would be around Sh.200.000.

Provision of Norwegian volunteer, with vehicle and supporting finance was also proposed to upgrade the collection and analysis of fisheries statistics, and finally that NORAD should commission a consultant Marine Engineer or Marine Surveyor, possibly from one of the main shipyards in Mombasa, to survey the two existing vessels (Halcyon and Iji) in order to determine whether they can be restored to a seaworthy state and if so what is needed in terms of materials and costs. The same consultant should advise on the question of the provision of a slipway/dry dock for vessel maintenance on the lake, which has always been lacking and which NORAD proposed to provide around 1977 but then dropped, and on the design for a fish transport vessel.

- (q) MOCD has a powerful role as guide and mentor for developing co-operative societies, and has been of great assistance to TFCS in the past. However, in recent years the lack of a co-operative officer on the spot (the D.C.O in Lodwar does not have a vehicle for official travel) has meant that MOCD has not been regularly and authoritatively informed about TFCS problems and TFCS Management has lacked the professional and objective advice and support which MOCD should have provided. If accepted, the reorganization plan would correct this state of affairs.

It was suggested that the experienced co-operative management advisor needed by TFCS could be drawn from either present or former staff of the Kenya/Nordic Co-operative Development Programme, and that some NORAD financial support might be needed to cover travel costs and allowances.

- (r) NORAD's future role as TFCS sponsor will be as important as in the past, but should be more specifically directed at the creation of self-sufficiency within the Society and its membership.

However, NORAD should exercise stricter control on expenditure than has been the case recently which in turn will encourage better standards of control within TFCS. The mission has recommended that NORAD support for the purchase of nets, boats, replacement vehicles etc. should continue, that consideration be given to the provision of a fish collection vessel, and that the other measures involving NORAD support which are contained in the reorganization plan should be endorsed. In particular this covers the financing and administration of four former TFCS activities - Fish Processing, Market Development, Fishermen's Training and Boat Building and Repair, all of which are important to the future well-being of the fishery and TFCS but not, at this stage essential to its survival as a commercially viable entity.

- (s) The mission noted that in the past, the transfer of knowledge and experience from technical assistance experts to their local understudies was not always handled as effectively as it should. It was suggested that the Terms of Reference for the experts may need to be more explicit in this regard in future and that the time required to achieve such training may need to be reviewed more realistically.

With regard to consultants, the time allowed for the necessary studies was often very short and led to inadequate understanding of the local situation and resulted in recommendations leading to costly failures, such as the processing plant and the "Blue boat". Past socio-economic findings have similarly been based on studies of too short duration and have therefore been somewhat too broad and generalised in their outcome to make any real impact on policy. The mission was

uncertain as to how well briefed many of the TA experts were on the tropical application of their Norwegian expertise.

FAO publications contain a wealth of such knowledge and it is recommended that new appointments should spend a few days in Rome en route to their duty stations.

- (t) The Evaluation Mission considered a variety of possible alternatives to TFCS, and concluded that the disadvantages of eg. private traders or state enterprises, greatly outweighed the disadvantages of the present co-operative approach. It was therefore concluded that a re-organized TFCS still offered the best prospects for the future on Lake Turkana.
- (u) In respect of training and education, the mission considered that TFCS failed to use its opportunities in the past to full effect. Training had concentrated on TFCS staff to the virtual exclusion of the membership, year after year despite adequate annual provisions for such training by NORAD. The response to this situation by NORAD appears not to have been very satisfactory - the Nairobi Office must have been aware of the situation but does not seem to have exerted any strong pressure on TFCS Management to change the emphasis on training to greater involvement with fishermen rather than staff.

It is to be hoped that under the arrangements contained in the re-organization plan, this aspect will improve and that fishermen's training will receive greater support, in collaboration with the Fisheries Dept's. extension efforts.
- (v) As emphasised in this report, the present very depressed state of the fishery and the project, is largely a direct consequence of the very low level of Lake Turkana and its effect therefore on fish stock abundance, catch rates, reduced fishing effort and low total catches. This situation, combined with the cumulative effects of past bad management of TFCS and unwise investment and administrative decisions, for which NORAD must inevitably share the responsibility, all adds up to a rather gloomy picture. However, this is definitely not the time, in the Evaluation Mission's view to abandon the whole exercise in despair, even though, after 15 years of NORAD involvement, and expenditure of some 23 million NOK, one might have expected a rather more positive and permanent improvement in the lot of the Turkana fishermen.
- (x) The low lake level is an inevitable consequence of the past several years of below average rainfall and drought, especially in Ethiopia and the past record shows that such periods have always been succeeded, eventually, by spells of better weather. The long rains of March, April and May 1985 have been well above average, in Turkana District as well as over the rest of Kenya. This must give rise to hope that the Ethiopian rainy season, which is about to start, should also be good, and bring some much needed relief to the Ethiopian population as well as reverse the downward trend of Lake Turkana.
- (y) The recent experience has definite implications for TFCS and for NORAD, in that the society must never again be allowed to outgrow its ability to respond flexibly to the equally inevitable downward trends that will reoccur in the future. TFCS is, at the same time the only satisfactory mechanism, in the Mission's view, to provide for the needs of the fishing communities around the lake shore and therefore, whilst it is in urgent need of reorganisation, it should also continue to attract NORAD's support.
- (z) Having this in mind, the body of the Evaluation Mission's Main report contains a number of recommendations for future action by the Kenyan authorities concerned and/or by NORAD. For ease of reference, these recommendations are listed below:

RECOMMENDATIONS:

- (a) The need for a redefinition of project objectives and target groups. - see para 3.1.2 and Appendix 8.
- (b) The need for continuous monitoring of project beneficiaries by socio-economic expertise built into the future project, - see paras 3.1.3 and 4.8.9.
- (c) A more realistic approach by NORAD and TFCS management to inputs supply and cost recovery is needed, charging fishermen for the goods and services that they actually receive and not by flat-rate levies on all Society members. - see paras 3.1.5 and 3.3.2.
- (d) Notwithstanding (c) above, the illegal net problem can best be resolved by means of an "amnesty" for a period, allowing for free exchange of nets through the Fisheries Department.
- (e) The need for closer consultation with the District Development Committee over TFCS affairs, and regular submission of annual or two yearly development plans for the Lake Turkana fishing industry for consideration by the DDC, see para 3.2.5.
- (f) Additional to (v) above, a coordinated fishing programme for the whole lake should be worked out under the auspices of the D.C's from Turkana and Marsabit - see also para 3.2.5 and 5.3.3.
- (g) Deferment of the fisheries project incorporation into TRDP is advised until TFCS's problems have eased. See para 3.2.6.
- (h) Introduction of a credit or loan scheme in TFCS to enable members to repay the cost of nets on easy terms. See paras 3.3.2, 3.4.5 (II).
- (i) Trials of wooden substitutes for the 29 ft GRP canoes are endorsed providing they are no smaller than the GRP boats. - para 3.3.3.
- (j) A qualified naval architect/marine surveyor/engineer should be commissioned as a consultant, to inspect "Halcyon" and "Iji", to plan their reconditioning if practicable, to determine the design of a fish transport vessel and advise on a slipway/drydock for vessel maintenance - paras 3.3.4, 5.1.7.
- (k) Trials of smoked fish production should continue, but larger scale production should be limited to the Eliye, Turkwell and Kerio areas because of the firewood shortage elsewhere - para 3.3.5.
- (l) Boatleaders should be made responsible for the collection and payment to TFCS of monthly rental charges for use of Society boats, from the crew members of each boat. - see para 3.4.5 (I).
- (m) TFCS should re-institute recording of individual members fish deliveries to the society - para 3.4.5 (III).
- (n) Excessive salaries paid to a few top society officials should be reduced more in line with MOCD guidelines, and in line with what the Society can afford - para 3.4.5 (IV).
- (o) The present non-representative TFCS Commission should be replaced by an elected committee as soon as possible - para 3.4.5 (V).

- (p) Decentralising of decision making to, and greater autonomy for the branches of TFCS and establishment of branch committees should take place to promote more active participation by members and dilute effect of external interference: para 4.8.1.
- (q) Within normal commercial constraints, prices to fishermen for processed fish should be raised as an incentive to increased production; para 4.8.2.
- (r) Preference should be given to TFCS members who presently have to use rafts for fishing, when new boats are being allocated, - para 4.8.3.
- (s) Agencies for marketing TFCS produce in smaller centres in Turkana should be allocated preferentially to women; para 4.8.4.
- (t) As an experiment to assist female one-parent families, 2 or 3 of the next batch of new boats should be allocated to women, under the direction of a volunteer, para 4.8.5.
- (u) A function of future extension work should be to encourage an expansion of TFCS membership amongst women; para 4.8.6.
- (v) The need for scientific study into the effects of lake-level changes is urgent as part of the NORAD supported fisheries research programme now commencing. para 5.2.5.
- (w) TFCS size and staffing should be restricted to that needed to handle current production, future increases being limited to temporary/casual staff, para 5.2.6.
- (x) The assistance of FAO, IBRD or OAU should be sought to promote discussion and agreement with Ethiopia over the use of Omo River water, to minimise impact on Lake Turkana, para 5.2.7.
- (y) Cancellation of Technoserve contract, and immediate replacement by a very senior MOCD expert/advisor as an emergency stop-gap during the reorganisation phase. To minimise consequent difficulties within MOCD, this advisor should be replaced by a financial/business Manager provided under technical assistance for two years; para 7.4.4 and Appendix 8.
- (z) Reduction of TFCS activities to ease management burden and reduce overheads. Transfer of some of these activities to NORAD funded and separately administered arrangements: paras 7.2.4 and 7.4.9.

EVALUATION OF THE LAKE TURKANA FISHERIES PROJECT. PRINCIPAL FINDINGS, CONCLUSIONS AND RECOMMENDATIONS.

1. INTRODUCTION

- 1.1 The Governments of Kenya - Norway agreed to mount a joint mid-term evaluation of the Lake Turkana Fisheries Development Project during April - May 1985, with the object of assessing project performance to date, the projects Socio-economic impact and to make recommendations for future project activities. The evaluation mission, comprising four Kenyan specialists and four NORAD appointed consultants visited the Lake Turkana region between the 12th and 30th April, and conducted further investigations in Nairobi during early May.
- 1.2 The Terms of Reference for the Evaluation Mission were both wide-ranging in scope and at the same time very detailed, to the extent that the mission experienced some difficulty in fulfilling all of its fore-set tasks in the manner and to the depth that it would have wished. The numerous topics detailed in the Terms of Reference also constrained the mission from exploring other unlisted aspects that appeared to be of importance, although an effort was made to do this as well. It is considered that broad, but less explicitly detailed guidance would be of greater assistance to similiar missions in the future. The text of the Terms of Reference, as amended to the version handed to the mission on first arrival in Nairobi, is reproduced in Appendix 1.

2. THE KENYA/NORAD LAKE TURKANA FISHERIES PROJECT

Project Background

- 2.1 Fisheries development on the Lake by the Kenya Government Fisheries Department started in 1961/62 as a means of assisting drought stricken and destitute Turkana to a new and less vulnerable way of life, whilst at the same time helping to relieve some of the excessive pressure on traditional grazing grounds.
- 2.2 NORAD's assistance to Kenya's fisheries in general commenced in 1967, but assistance to the Turkana fishery in particular started in 1971, with the provision of a number of volunteers, boats and equipment.
- Initially NORAD's aid centered on support for the Fisheries Department's efforts to promote development, but changed later on to concentrate almost exclusively on support for the Turkana Fishermans Co-operative Society (TFCS) in terms of managerial and technical expertise and financial and material assistance.
- 2.3 Overall, the total value of this aid, excluding technical assistance amounts to around 23 million NOK (nearly Ksh 40 million), of which 12 million NOK was spent on establishing the Kalokol ice-making, freezing and cold storage plant, including the complex of buildings, offices and workshops.

3. PROJECT OBJECTIVES AND TARGET GROUPS

- 3.1.1 The principal objectives of the project thus far have been to develop the fisheries in order to improve the living conditions and raise the incomes and welfare of the Turkana fishing communities, and to secure a balanced utilization and conservation of the Lake's fish resources.

The main beneficiaries were to be the poorer and most disadvantaged of the local population, whilst the involvement of both sexes in the planning and implementation of project activities was to be encouraged. As from the start of FY 1985/86, the TRDP (1), (ASAL) objectives will also apply, namely the raising of Turkana living standards to those of the majority of Kenyan people, with women as a prime target group, and the training of both sexes for future service within the programme area.

3.1.2 Relevance of Objectives to Target Groups Main Problems and Needs.

Although the stated objectives have been, and to a large extent are still relevant to target group problems and needs, the definitions of both have been too generalised hitherto. The project would benefit from more precise definitions of objectives and intended project beneficiaries.

Some attempts to do this have been made by earlier writers, eg. the NORAD Advisory Group in 1980, whose report "Aid to Fisheries at Lake Turkana" in September 1980 noted certain contradictions between some of the stated or inferred project aims. Thus, the aim of utilizing fish resources to improve Turkana nutritional standards (i.e. welfare) conflicts with the further aim of ensuring that TFCS remains commercially viable. The latter objective also conflicts to some extent with the aim of increasing fishing family incomes and welfare.

It is therefore recommended that NORAD should consult with the Kenyan authorities concerned to review and redefine the project target groups and objectives. (2)

3.1.3 Extent to Which Target Groups are Benefitting from Project.

It is undeniable that many of the fishing families who constitute the main target group hitherto have benefitted from the Project, in terms of higher cash incomes and in other ways, compared with many of their fellow tribes people in other parts of Turkana District, at least until the last two years or so.

It is also clear however, that past managerial incompetence has led to the employment of excessive numbers of overpaid society staff and that these costs combined with other wasteful expenditure and some instances of outright dishonesty have effectively robbed the membership of much of the benefits to which they were entitled.

Other inequitable practices, such as the failure to maintain records of individual members productivity, unfair distribution of nets and boats and the practice of charging all members for services which benefit only a few, endanger membership loyalty and put the whole project at risk.

Unfortunately, the evaluation team was unable to assess the true value of members benefits, because of the lack of hard data. Most of the socio-economic studies to date have been of short duration, but the team is aware of a current study, not yet completed or analysed, which aims at the assessment of members benefits among other things. The need remains however, for continued monitoring of

(1) Turkana Rural Development Programme

(2) The mission also made an effort in this direction and some of the objectives to be included in the redefined text are shown in the draft TFCS Reorganisation Plan (Appendix 8) and in the foregoing summary, para (c).

beneficiaries and it is recommended that this function should be built into future project aims and activities.

- 3.1.4 During the past two years or so, a drastic lowering of lake level has caused a serious decline in most fish stocks and lower fish production for sale through TFCS. Members incomes have therefore declined sharply, to the point where numbers of fishermen are known to have abandoned their nets in favour of TRP 3) "Food-for-Work". This vicious circle can only be broken by a major Omo River flood to restore the lake to former higher levels.

In the meantime TFCS is incurring large financial and trading losses which must be minimized by urgent and drastic cost-cutting measures, and more efficient TFCS management than in the past if benefits are to be restored.

- 3.1.5 **Target Groups Participation in Planning, Financing, Operation and Decision Making of the Project.**

Currently the Society membership, only about 50% of whom are believed to be practising full-time fishermen or fisherwomen, have little or no opportunity for involvement in planning and decision - making etc.

Past bad management resulted in MOCD action to terminate the former General Manager's appointment, disbandment of the former "elected" management committee, and appointment of a nominated management commission and employment of new management agents (Technoserve). Sadly, the performance of commission and Technoserve has not been as effective as was hoped and appears to have lacked the sense of urgency which TFCS's current critical financial situation demands. In particular very little effort has been directed at informing and involving the membership since the appointment of the commission and effectively therefore the members do not currently participate in the affairs of the society.

As regards financing, the present system of deductions for boats and nets means that members are being forced to contribute financially even for services from which they do not benefit.

- 3.2 **THE KENYAN POLICIES FOR THE DEVELOPMENT OF THE TURKANA REGION IN THE CONTEXT OF FISHERIES AND CO-OPERATIVE DEVELOPMENT.**

- 3.2.1 Basically the overall Turkana District Development Policy is to mobilise local resources within the production sectors, so as to increase food production and generate income.

In other words limited local resources of the Turkana people in the production sectors should be marshalled, so as to fulfill objectives such as food production, income, earnings, employment generation, whereby alleviation of poverty and eradication of malnutrition, poverty and underdevelopment can be partly alleviated.

Some of these broad policy strategies are:

- i. Utilization of the high and medium potential agricultural areas for dryland co-operative farmed production.
- ii. Improving the livestock development thrust by provision of improved veterinary services.

(3) Turkana Rehabilitation project, supported by EEC and other donors.

- iii. Improving the fish potential in Lake Turkana such that new markets can be established with market research on the varieties of fish in the lake. Education to the rest of the Turkana people on how to use fish as a substitute for goat meat or beef.

3.2.2 Lake Turkana Fisheries sector functions under umbrella of the co-operative society. The Turkana Fishermens Co-operative Society was established in 1968 by the Kenya Government and took over the Kalokol Fishermens Co-operative.

The creation of the Co-op as an ideal organization has benefitted the fishermen members in various ways. Organized aid and support have been provided by both Kenya Government and the Government of Norway. The most obvious benefits derive from the organized purchase of products from the fishermen and whole-sale export and marketing arrangements for salt dried and sundried fish.

3.2.3 Government of Kenya plans for TFCS:

In the Kenyan 5th Development Plan 1984 - 1988: - There is no separate objective for the development of fisheries in Turkana but a general objective for the fisheries sector in Kenya i.e.

- i. To achieve an optimal production.
- ii. To give employment.
- iii. Higher incomes.
- iv. Better nutritional standards for the people.

In Turkana these objectives are to be instituted to five identified target groups. They are catered for in a special programme called ASAL (Arid and Semi Arid Lands). The objective of the programme is to increase the productivity of these areas. There is however, a District Plan for Turkana Fisheries. The objective of the Plan is to achieve higher production levels on a sustained yield basis. In implementing the programme the plan advocates: -

Enforcement of fisheries regulations so as to protect the yield potential of the fish particularly of the commercially important species; continued research on breeding patterns, and improvement of marketing structures through continued financial and technical assistance from NORAD.

In 1976 the primary objectives for the Kenyan Government's Policy for Lake Turkana Fisheries were:

- i. To produce as much fish as possible for local consumption and for marketing.
- ii. Ensure that the local population benefits from the project.
- iii. Develop a modern fish processing plant to stimulate a general development of the fisheries.

The objectives remain more or less similar today.

3.2.4 Does the Project Adhere to the Policies?

Going by what one sees at Kalokol and at various branches of the Society, there is a very clear indication that the project has not adhered to the policies entirely. The problem the project is having now could not have arisen if certain measures had been taken in time.

Pertaining to the said problems are:

- i. Inadequate and inappropriate training and education.

- ii. Lack of consistent overall development work plan for the fisheries industry in Lake Turkana as a whole.
- iii. Lack of plans for the establishment and future control of comprehensive regulations of the fisheries.
- iv. Lack of satisfactory assurance that private fishing in the southern part of the lake would not interfere with the development of the Society.
- v. Lack of sufficient and adequate exploration of local markets for fish.
- vi. Lack of adequate participation by the fishermen in decision making processes.

With the introduction of the District Focus for Rural Development Strategy, which is based on "THE PRINCIPLE OF A COMPLEMENTARY RELATIONSHIP BETWEEN THE MINISTRIES WITH THEIR SECTORAL APPROACH TO DEVELOPMENT AND THE DISTRICTS WITH THEIR INTEGRATED APPROACH TO ADDRESSING LOCAL NEEDS" the project should have adhered to the principles and objectives laid down in the strategy. If this had been done the project might not have landed into some of the problems that it is in now.

3.2.5 Suggestions

1. First and foremost the project participants, namely TFCS, Fisheries Dept. MOCD and NORAD staff should work in very close relationship with the District Development Committee (DDC).
2. Before decisions are taken by the Commissioner of Co-operatives on what action is to be taken when things go wrong, the DDC and the local leaders should all be consulted.
3. The Fisheries Dept., TFCS Management and MOCD should combine to produce an annual or two yearly development plan specifically for the fishing industry to be approved by members of the DDC and the Society's management committee.
4. There should be a co-operative fishing programme for both fishermen from Turkana and Marsabit under the auspices of the two District Commissioners from the two districts.

3.2.6 Extent of Project Integration with other Locally or Externally financed Developments in Turkana.

Hitherto the project has operated virtually independantly of other development activities in Turkana, but as from July 1985 it is intended that it should be incorporated within the framework of the Turkana Rural Development Programme. It is unclear what effect, if any, this will have on TFCS financing and administration, and given the current difficulties it might have been better to delay this change and to avoid any confusion that might otherwise arise. In the longer term, however, the inclusion in TRDP is endorsed. The only other links with other projects concern the agreements by World Food Programme to purchase quantities of dried fish from TFCS, and there are rather tenuous links with the Turkana Rehabilitation Project, funded by EEC, which has purchased a number of fishing boats for use in the lake. Unfortunately through lack of consultation these craft proved very unstable and despite modification are still not seaworthy enough for use on the open lake.

3.3 ADEQUACY OF DEVELOPMENT INPUTS

- 3.3.1 As already noted in para 2-3 above, during the period 1971 to 1985 Norway has provided TFCS

with a great deal of technical assistance in the form of managerial and technical expertise, and with considerable sums in grant aid for the purchase of boats, fishing gear, equipment, vehicles and processing plant. The level of provision was viewed by the Evaluation Mission as being fully adequate under normal circumstances and even erring possibly on the side of generosity. Unfortunately the impact of this assistance has been diluted by successive managerial failures which have frittered away the resources of the Society on excessive number of too highly paid staff instead of using those resources to create a self-sufficient enterprise capable of responding to the needs of its membership, and with adequate reserves to accommodate periods of low productivity.

- 3.3.2 Lower overheads would have yielded higher prices to members for their fish, thus made it easier for them to repay the cost of nets supplied on credit and thereby creating self-sufficiency amongst the membership as well. As things are the distribution of ostensibly “free” nets merely leads to the expectation that more free nets and other necessities will be made available later on.

In this regard it is considered that NORAD is as much to blame as TFCS management for not having insisted on a more realistic approach to inputs supply and cost recovery. This should be changed in future, by the introduction of a simple credit scheme under which individual members can repay the cost of their nets over a period, and a system whereby the rental and upkeep cost of fishing boats can be paid monthly by each boat “leader” on behalf of the members who actually use the boats.

3.3.3 **Levels of Technology in relation to Project Objectives**

Norwegian consultants and others have repeatedly stressed the need to avoid capital intensive development of the Lake Turkana fishery, in favour of more labour intensive approaches to maximize employment and spread the project benefits as widely as possible. The Evaluation Mission fully endorses this approach and notes that in most cases the levels of technology employed, in the form of unmechanised boats and simple fishing techniques are appropriate both to project objectives and to the peoples needs. The decision to proceed with the very expensive and technically complex fish freezing, cold storage and ice plant was in marked contrast to this approach, and its failure was in part a direct consequence of that contrast. The high import content and cost of GRP (fibreglass) boats and some problems with their repair and maintenance have led to a decision to test cheaper wooden alternatives for durability and suitability to local conditions. The Evaluation Mission concurs with the need for such trials in the interests of economy, but with the proviso that the wooden craft should not be smaller in length or beam than the standard 29 foot GRP canoe that has proved its seaworthiness, because of the increasing need to cross the lake to fish on the eastern (Marsabit District) shoreline near Illaret and Moite.

Some fishermen who have to use older smaller boats are thereby prevented from fishing along the east coast.

3.3.4 **Fish Transport Vessel**

In connection with Eastern shore fishing the need has become apparent for at least one and possibly two fish transport boats to convey bulk catches back to Kalokol. Notwithstanding the prohibition on mechanisation for fishing boats, the transport vessel should be designed for use with a combination of sail and power to ensure regularity of service. It should be capable of carrying at least 2 tonnes of dried fish under cover in a hold, to avoid the risk of wetting by rain or spray and consequent spoilage, and it should finally be of shallow draft and capable of being beached for loading and unloading. Unlike the so-called “Blue Boat”, it should not be designed in Norway without reference to local conditions, although heavyduty GRP would be suitable hull construction material because of its resistance to corrosion, rotting and fouling, unlike steel or wood. It is recommended that a qualified naval architect/marine surveyor be commissioned to visit the lake to determine the design features of

the proposed craft, and at the same time to survey "Halcyon" and "Iji" to see whether they can be restored to serviceable condition.

3.3.5 Fish Processing Technology

The technology for sundried and dry-salted fish production is still appropriate as the main processing objective, but current trials of cold smoked fish should continue, and trials of hot smoked/sun dried products suitable for the Nyanza Market should also be undertaken.

However, larger scale smoked fish production presents difficulties because of the shortage of firewood except in Eliye - Turkwell and Kerio delta areas.

3.4 PROJECT COMPLIANCE WITH NORWAY'S PRINCIPLES FOR DEVELOPMENT CO-OPERATION

3.4.1 The Norwegian policy of development co-operation has a strong leaning towards the poorer parts of the society. Projects to be supported should benefit the financially weaker groups and be designed in a manner as to secure such effect. They should improve the status of women and as far as possible lead to increased employment. Development of more egalitarian societies where the basic needs of every citizen should be met is an overall objective.

In 1984 the Norwegian Government presented a new policy paper to be dealt with by Parliament before the end of June 1985. Identification of weaker target groups and the importance of efforts to meet their basic needs were stressed again, possibly even stronger than before.

Norwegian policy is stated to be recipient orientated. Thus the Norwegian authorities are willing to support plans of co-operating countries which have the clear objective of meeting the basic needs of the population.

A deeper understanding of the need for active involvement of the beneficiaries of development programmes has emerged over the decade. To succeed every development project has to stimulate self reliance and thereby self development.

3.4.2 Development of fisheries in Turkana is intended to improve the standards of living of one of the poorest parts of the Kenyan population which is always near the borderline of famine, in a geographical area with very few natural resources. By using the fish resources in Lake Turkana employment and nutritional standards should be improved.

Generally the project should have a positive effect upon an underprivileged and mainly illiterate group of the population.

The project started as a pure fishery project, concentrating on simple ways of fishing and marketing of fish through an existing co-operative of fishermen. When the co-operative grew and prospered, attempts were made to meet some basic need of members by establishing small shops in all branches where member's households could buy basic necessities.

3.4.3 The objectives of co-operatives are very much in line with the idea of protecting economically weaker groups; a co-operative should ensure the individual fisherman or farmer a steady market for their products at reasonable prices; and sell the products at market prices. Employees of a cooperative society should receive reasonable salaries. The surplus left at the end of a financial year may be used for educational purposes and/or be shared between the individual members of the co-operative society

as a bonus on their deliveries/sales to the society within the actual year. Thus no single individual should make a profit from the activities of a Co-operative. The member's role in decision making is secured through their rights and obligations as regulated in the by-laws of the society. In members' annual and special meetings important decisions concerning the society are to be taken by vote. Every year democratic elections of members to a Co-operative Management Committee take place.

This elected committee must after a year present the financial results and a new annual budget to the members' meeting which decides on the use of any surplus.

- 3.4.4 While the main principles of co-operative decision making and objectives are the same all over the world, co-operative societies in many developing countries are supervised by a government officer. The main objective of this control and supervision should be to ensure that nobody tries to manipulate the decision making of a membership with little formal education or to draw personal profit from the operations of a co-operative society. The role of the Ministry of Co-operatives in this respect is dealt with separately under section 7.4.

As far as the background, objectives and design of the Lake Turkana project are concerned, they are firmly in line with Norwegian principles for development co-operation. Based on these principles, all necessary future steps to be taken should be aimed at protection of the usual fishing households and to avoid measures which would deepen the gulf between the have's and have nots.

- 3.4.5 It is realised that a co-operative society in Turkana is unlikely to perform in an ideal manner for some time to come. The way forward to a truly democratic organization is bound to be long and difficult, but it is important that every little step leads to stronger member participation and fairer distribution of benefits. Although the membership has increased from 1800 in 1975 to 5000 in 1982, the influence of the members and their share of the gross income has not increased accordingly.

The evaluation mission has noted that some tendencies in the opposite direction have developed during the 1980's:

- i. The TFCS is the instrument through which boats and fishing equipment are provided to members/fishermen.

At present around 200 boats are owned by the TFCS and are used by a group of around 3000 members of the society.

On the average 15 members are using one boat. Even if some of the members are not full-time fishermen, it is clear that quite a number of fishermen have no access to a boat and therefore have to fish from rafts or by other traditional means.

Originally it was intended that the individuals who benefitted from the use of a boat should pay, at least partly, for this service.

Apart from the capital investment, there are maintenance costs. Although the agreed rent or fee to be paid by fishermen has been too small to meet the full cost of interest on capital and for maintenance, a majority of the boat users appear to have avoided paying this fee/rent of Kshs 100,- per boat monthly. The task of collecting these payments was apparently given to local committee members. To get around this problem a committee meeting on 22.6.81 decided to replace the monthly fee from the boat users, by a deduction of 20 cents on the price of every kilogram of fish delivered by any fisherman to the society.

The validity of a decision which made fishermen with no access to boats pay as much as those with boats seems doubtful, and certainly increased the burden of fishermen who had fewer advantages. In this regard the action unquestionably contravened Norwegian development aid principles.

On traditional grounds a system has developed where there is a boat leader for each boat. This person is himself often no longer actively fishing, but has some duties of leadership and administration. So he seems to be the natural person to be responsible for collection and payment of the monthly fee to the society.

- ii. A similar development seems to have taken place as far as the distribution of nets is concerned. There are insufficient nets to give one to every fisherman, and they are quite expensive (up to 800 shillings a piece). To get a new net is therefore a great advantage. However, instead of every fisherman having to pay back slowly on the net he receives, a system has been instituted in which every fisherman is deducted 40 cents for each kilogram of fish delivered.

This is all the more unjust because the system of distribution of boats and nets seems a bit vague. The Evaluation Mission is not convinced that the important decisions regarding allocating boats and nets to individual members are based on clear and fair criteria.

According to society rules and bylaws the nets could be given under a membership loan scheme, so that a fisherman who cannot pay cash, can apply for a loan on clear conditions of repayment and interest. Turkana fishermen took part in a loan scheme in the 1970's, but seem no longer to do so.

- iii. For some time records of the fish delivered from the individual fisherman and/or the individual boat have not been made. This is not in line with the objectives and rules of the co-operative society, and clearly in conflict with section 39 (f) of its bylaws.

The Evaluation Mission was informed that over the last few months a system of recording of the productivity of each boat has been introduced. In one case this has already led to a unanimous decision of the fishermen members of the local branch, that a boat should be transferred to a good fisherman who had no access to a boat, because the previous crew were not using it properly.

This instance seems to indicate that the members will themselves take just and social decisions when they have the necessary background from proper records. However, a member's proposal to have the distribution of boats and nets approved by a local branch members' meeting has not been followed up by management.

The evaluation team strongly advises that the administration has to fulfill its duties of keeping proper records of the deliveries of fish from every individual fisherman and the debts and repayments of every individual who has had the benefit of boats and nets.

- iv. Another development not in conformity with a reasonable sharing of surplus has taken place within the salaries structure of the staff.

Even at times when the co-operative had surpluses in the 1970's, the salaries of employees remained at a normal level within the Kenyan Co-operative structure, seemingly up to 1981.

1982 was a comparatively good financial year for the society, and at that stage the salaries,

especially of some of the higher staff were raised to levels well above normal. The salaries from then on for leading positions were considerably higher than the model policy and procedures indicate and the differentiation between the lower wage scale and the higher salaries seem out of proportion for a co-operative society of this size.

The Commissioner of Co-operatives in late 1982 raised the question why the fishermen received only 3 shs. per kilogram for fish when the society was selling at 8,50 per kg. This large mark up seems to be explained partly by excessive numbers of employees and partly by the high salaries paid to some of them, besides other overhead costs.

The suggestion by the Management Agents to cut the salaries by one third to conform with the model salary structure does not seem unreasonable for the higher positions, as a few of them earn at least double the model salary.

- v. The removal of the democratically elected Co-operative Management Committee and appointment of a Management Commission is also a step which conflicts with Norwegian principles, even if it may have been a necessity for the time being.

According to Norwegian principles this period of management should be as short as possible and should be followed by election of a committee by members' meetings. Members' increased participation in decision making should be actively encouraged.

- vi. The question of the compliance of the project with Norway's principles of development may be summed up as follows:

The people intended to benefit from the project are a target group of very high priority. The development of the project clearly shows the difficulty of reaching such groups and how sensitive such poorer parts of the society are to a deteriorating general economical situation cause by drought, diminishing fish resources or other difficulties.

Poverty invariable seems to "trickle down" to the weaker groups and it seems that on the "micro" level one also has to take care that the benefits do not center around the stronger parts of such a group. The tendencies seen, such as forcing those who have not benefitted from boats and nets to pay as much for them as the more privileged ones, as well as the failure of establishing clear criteria and a loan structure in connection with deliveries of boats and nets, are all contrary to Norwegian development principles.

Early action will be required from TFCS management to correct these deviations.

4. SOCIO-ECONOMIC IMPACT OF PROJECT ACTIVITIES.

4.1 DEVELOPMENT OF LAKE TURKANA FISHERIES

Comprehensive accounts of the development of commercial fisheries have been given by previous authors such as Bailey (1978), Storås & Broch-Due (1980), and Jul-Larsen (1981). For the purpose of developing the problem fields advanced in this chapter, the general trends leading up to the present state are briefly outlined.

The fish resources in Lake Turkana have traditionally been exploited by groups inhabiting the lake shores. On the western side, smaller groups among three territorial sections of the Turkana cluster were engaged in fishing. These are: The Ngissiger section located on the northern banks, the Ngimataperi and Ngigiramuk which are sub-groups of the Ngibosheros section occupying the central area, and the Ngigorokinyang, the Ngigongakito, the Ngikawang and the Ngibonyoi - all sub-groups of the Ngisetau section which controls the southern banks. On the eastern side, the El-Molo who constitute the smallest distinct ethnic group in Kenya, have been involved in fishing over an extensive timespan.

Whereas the El-Molo have a production profile geared towards subsistence fishing on a more permanent basis, the Turkana groups were involved in fishing operations only on a seasonal and adhoc basis. Generally their mode of production was based on a mixed economy with a focus on pastoralism, but in which fishing and cultivation were included as rather marginal and sporadic activities.

However, dependence on the supply of fish and grains reduced the range of livestock migrations and the pastures to be utilized, a fact which both selected for browsers such as goats, camels, and limited the number of livestock they could possibly keep stationary given the marginal ecological conditions. On account of their smaller herds and their reliance on fish and grains, they were stigmatized by interior sections as poor people unable to live up to the established nomadic worldview and lifestyle.

As a result, they had difficulties in being accepted as marriage partners by the nomadic pastoralists.

Yet conditions internal to the dominant pastoral regime were the reason behind the policy aimed at exploiting the lake's potential for commercial fishing. Recurrent droughts in the sixties and seventies decimated herds and left thousands of inland nomads destitute. In 1962, Oxfam in co-operation with the Fisheries Department and the Catholic and Africa Inland Missions distributed nets and trained destitutes from the famine relief camps for fishing. In opposition to the traditional, mixed economy along the lake, the destitutes constituted a new category of fishermen/women, who due to a general shortage of livestock had to rely on fishing as the major component of their economy. Along with an increasing population and the corresponding rise in production, the missions initiated a number of small co-operatives on the western shore. These co-operatives were in 1968 incorporated into Turkana Fishermen Co-operative Society (TFCS), supported by the government.

The transformation from subsistence fishing to production of fish for an external market led to changes both in technology and in the internal organization of production. Spears, hooks and plunge baskets usually operated on an individual basis, gave way to nets, lines and boats which required a more

collective organization. In addition to supply of modern equipment which enabled producers to specialize upon fishing as a permanent occupation, the establishment of an external market system offered channels for distribution.

The increased fishing activity created new careers in the field of fish sales. The market was represented by free and relatively small fishmongers recruited mainly among the Luo, but with a presence of Turkana as well. The immigration of Luo fishermen and traders accelerated during the so-called "Tilapia-boom" in the early seventies. Competition within fish trading was keen and represented a "sellers market", but in which prices to producers were subject to fluctuation according to the supply situation. One way for private traders to regulate prices was to couple the provision of gear with special rights in the produce. This system operated in different ways. A fishmonger would hire a crew to run his boat and pay them on a monthly basis. Another strategy was to control the individual producer's catch by providing cheap nets on credit. A third option was to hire a person who was supplied with a net and paid a small salary conditioned by the right to buy the fish at a low price. One effect of the traders business methods, was the introduction of gear which were ecologically unsuitable.

Concomitant with expanding fishing efforts, signs of overfishing was observed. Given the combination of communal rights to resources and individually owned equipment; the lack of regulations on recruitment as well as on the amount and suitability of gear handled by producers; it follows that the resource base might easily be subject to overexploitation. In order to counteract such trends the government gazetted regulations in 1976, specifying legal minimum mesh size to 5 inches, limiting the boat numbers to 400 and prohibiting fishing less than 100 yards from the shore.

In order to ensure a minimum price to producers and help the co-operative to obtain the necessary volume of fish to cover operation costs, TFCS was granted a marketing monopoly in 1973 for all fish landed on the western shore - a legal act which was reinforced in 1977. A strengthening of the TFCS was also seen as an instrument to enhance the possibilities of resource control through provision of proper equipment. In the field of marketing, the activities were consolidated and expanded. An agreement was reached with Zaburuva Exporters who supplied the Zairean market with salted-dried products, while Samaki Industries handled the fresh fish sales. The sundried fish continued to be channelled through private fishbuyers who organized sales and transport on an individual basis. As a result of abundance of catches exceeding the level estimated by researchers, coupled with good marketing prospects, an ice-making, freezing and cold storage plant with associated office facilities was established in 1980.

After a short trial period, it turned out that frozen fish production was neither technically nor economically feasible, and the plant was put out of operation in 1981 and the emphasis directed to the more traditional product. The year 1981/82 was also the first period of selfmanagement of the Society, although a heavy presence of expatriate staff was still needed. The problems facing the organization started to accumulate. A combination of marketing constraints on salted fish, decreasing fish landings and higher operation costs led to an acute liquidity crisis. A consultancy from Technoserve Inc., was appointed to straighten up the accounting and administrative sections as means to put brakes on the many irregular transactions undertaken by the staff - often under heavy pressure from local politicians. However, the difficulties on the production side continued. Due to lack of proper control mechanisms in the field of resource conservation, illegal trade and catches of undersized fish flourished, especially within Ferguson's Gulf which is the main breeding ground for Tilapia. Neither the sundried market nor that for fresh fish would accept the small fish. The stocks piled up and TFCS had to reject more deliveries of undersized fish.

At the same time the main market for salted products in Zaire failed. Consequently, TFCS stopped buying this product from the producers for almost a year until an outlet through the domestic market

could be found. The low catch volume channeled through the Society in addition to low managerial capacity for operating a complex enterprise like TFCS, made it apparent that drastic actions were needed. In 1983, the co-operative was placed under commission, the elected management committee was removed and Technoserve installed as the management agent.

The steps taken in 1977 to reinforce the monopoly status of TFCS had secondary consequences.

Whereas this event removed the Turkana traders from the arena, it constrained local sales undertaken by the producers and was followed by a largescale movement of fishermen/women from Kalokol across the lake to Loyangalani; the Luo fishmongers were in a position to adjust their marketing strategies accordingly. They extended their trading business to the eastern side of the lake, but continued their enterprise as boatowners and producers on the western side as regular members of TFCS. On the eastern side, the Luo traders meet competition from other marketing agents.

In 1974, Lake Rudolph Processing established a plant for frozen fish production. The factory closed down in 1976 because of the increased operation costs. In 1976, a small co-operative was established in Loyangalani enrolling mainly El-Molo and Turkana fishermen/women. In 1983, they achieved a monopoly on the eastern shore which is restricted to the right of charging a commission from private traders on all fish sales. Due to shortage of resources, this co-operative has not been in a position to enforce their monopoly. Hence, the private traders can operate relatively freely especially in the northern areas. Aside from the Luo fishmongers, two other agents are at present involved in fish purchase in Illeret and Loyangalani - the owner of Mawingo bus company and a Somali trader from Marsabit.

The population involved in fishing activities is subject to great fluctuations between years - a feature which is closely related both to the state of the fisheries itself, but also to conditions within the pastoral regime.

The lakeshore experienced a steady population growth along with the expansion of commercial fishing, with one peak during the "Tilapia-boom" in mid-seventies and another following the drought in 1980 when pastoral destitutes were seeking alternative means of occupation within the fisheries. In 1982, the total population within Turkana District who based their livelihood upon fishing operations were thought to range between 30-40.000. However, the decline of fish landings and profits in recent years have currently put breaks on the income levels of those involved in this sector, and as a result the population trend has reversed. The present situation exemplifies a movement out of the fishing sector of former fishing households in search for work elsewhere. The population is now reduced to about 11.000, which implies that only half of the 5.000 membership of TFCS are engaged in fishing. In addition there are between 2-3.000 people connected to the fisheries on the eastern side of which 337 are members of the cooperation in Loyengalani. Concomitant with the decline in catches along the western shore, more of the fishing effort has moved to the eastern side of the lake. The increased reliance of the resources falling within the jurisdiction of Marsabit District, has certain implications.

Although formal monopoly restrictions governing who can participate in the whole sale of fish clearly have a regulating effect on marketing, the producers are now in a position to choose between alternative outlets, and thus give preference to those buyers who can offer the highest prices, which currently is not TFCS. In future there is a need for better co-ordination between the two districts and an ability to view the Lake Turkana fisheries as one integrated unit.

4.2 PROBLEM FIELDS

External interventions necessarily interact with the specific system of human activities which has

developed among the target population prior to the implementation of development plans. Realization of planning goals depends on the outcome of this interaction. There is a growing recognition that development activities often have a number of unintended and, quite frequently, undesirable consequences. Development involves socio-economic systems of great complexity. Hence, the effects of technological solutions in one sector might be undermined by processes in other sectors. Considerations of such impacts are of crucial importance for an understanding of the present problems within the fisheries.

Given that plans have to be implemented within a particular social context, the critical issue is how the subject population will respond to development inputs and what the sociological and ecological consequences of these reactions will be. The aim of the socio-economic study has been to discover how the factors which make up the situation within the Lake Turkana fisheries (resource base, technology, marketing system and organizational set-up) articulate at the level of the production units, which of these factors need to be changed, and how they can be changed to encourage the development of a more self reliant fish production in the area.

The following presentation, however, only deals with major trends with focus on those aspects which will be developed in subsequent chapters and, thus, are of particular interest within the framework of the evaluation report as a whole.

Hence, readers seeking a more detailed and comprehensive treatment of the problem field addressed, should refer to the forthcoming socio-economic report.

As outlined above, the situation along the lake involves a number of different production units of highly variable background and composition. These units have been inserted into a new environment made up of a complex of natural, economic, politico-administrative, social and cultural factors. Changes in production profiles tend to affect patterns of social organization such as household size and composition, kinship relations, support obligations etc. In which manner the various fishing households are constituted along such social and economic characteristics, it can be argued, provides the key to which interests and strategies they will pursue both in relation to fishing and other economic activities.

To train and accommodate pastoral nomads to modern fishing technology, market integration, fish resource control and rights and obligations involved by membership in a co-operative, all imply complex organizational tasks. Clearly, there are specific problems on the level of the project involved in these various activities. Since the economic viability of TFCS is conditioned by regular deliveries of fish, a critical issue throughout the project's history has been to ensure that stable relations with the producers are established and maintained. Given that the major dilemma facing producers is access to sufficient and adequate equipment, one strategy for marketing agents of securing constant supplies without having to increase prices is by gaining control of the critical production factor - namely technology.

By coupling the provision of boats and nets to members with special rights to fish catches - a strategy which of course is reinforced and supported by Co-operative law and monopoly regulations - TFCS has been able to create the required ties between the fishing household and the market. In recent years, the society has been capable of fixing prices to producers at a low level and thus realize a higher surplus, without risking that members will break off relations. This is no longer the case. The TFCS has got keen competition both from the local fresh fish market and the new opportunities for sales on the Marsabit side. From the point of view of the producers, the co-operative and the private traders represent similar ways of creating links to the market. Consequently, future success of TFCS hinges on their ability to increase actual benefit and membership relative to the obligations entailed by diverting incentives in terms of better prices, supply of equipment and involving the producers more directly in the decision-making process.

Moreover, the manner in which the project tackles their organizational tasks is also likely to have implications in the wider society and influence and be influenced by sectors of the local economy which were not meant to be the programme's primary target. The interaction between activities in the fishing sector and those in the pastoral and agricultural sectors may have secondary repercussions.

The low incomes presently obtained within the fisheries implies that producers can only maintain household viability by utilizing alternative income sources.

In fact, the existence of a broad spectrum of low-cost alternatives in the lake's immediate environment has indirectly secured the long-term survival of the project and has provided a basis for large groups of fishing households to shoulder the burdens incurred by periodically low incomes from fishing activities.

Many of the problems facing the fisheries stem from the fact that TFCS has been allowed to expand during periods of increased fish yields. This optimistic strategy on part of management and expatriates did not take into account that the very nature of fish production in the lake is characterized by large scale fluctuations in the resourcebase. When catches contract one is left with an enterprise saddled with a costly operation which does not match the scale of production. If the project had been designed on a more realistic and longterm basis, fishing activities would probably not have accommodated as many people as has periodically been the case. What this strategy would have accomplished, however, is to secure a more permanent livelihood for a smaller population who as a result would not have had to seek employment elsewhere in times of failing catches. One can argue that temporary recruitment to fisheries during periods of abundance is not necessarily a bad solution, since this would provide producers who have fallen below the viability level, for instance as pastoralists, with an opportunity to recoup and return. Clearly, fishing was adopted by most destitutes as a short-time solution to their current crisis. But as time passed, economic decline and erosion of rights and relations within the pastoral regime have gone so far, that the prospect of building up a sufficient herd in order to re-enter nomadism belongs to the world of fantasy rather than reality for the majority of producers.

In fact, the majority of those households who are sloughed off from fishing are enrolled within the food-for-work schemes run by TRP. In this respect one could say that there exists a kind of symbiotic relationship between fishing and food aid in that surplus population from the former are temporarily absorbed and relocated in the latter, ready to take up fishing activities again when conditions permit.

So far so good. But food-for-work programmes are both a temporary undertaking and an expensive solution to planning deficiencies within the fishing sector. Thus a more integrated strategy of dealing with the recruitment problems to the fisheries is clearly at stake.

The policy-makers are often not sufficiently aware of the paradox that by choosing expensive projects to counterbalance latent risks in local production regimes, the high capital costs involved and the host of technical and social problems that result may in fact cause the level of risks to be raised.

Once production is established on a single, high-cost enterprise it becomes extremely sensitive to such factors as fluctuations in fish catches, supply of inputs, price movements, availability of credit, marketing conditions and shortcomings in the organizational set-up.

Moreover, the fact that a substantial number of people who are still active in fishing must also obtain a large share of their incomes from other sectors, may have as secondary consequences that competition of time and labour feeds back on the fishing effort to the extent that the existing resource potential is not realized, and a promotion of environmental degradation by a heavy pressure of other resources. Such pressures on land-use are accelerated by the concentration and growth of settlements associated with fishing activities.

Whatever the effects of such interconnections, they represent necessarily the outcome of people's behavioural responses to the new measures, responses which are structured by the cultural principles maintained among the groups utilizing the same and different resources.

The key constraint on the current operations of TFCS, is the downward trend of fish catches handled through the organization. Although the decline in lake level clearly affects the level of yields, there is no evidence to suggest that the present volume channelled through the co-operative directly reflects the production potential. The associated social feature is the considerable reduction of the fishing population which has accelerated during the last year.

The main argument advocated in this chapter is that both factors internal to the fisheries itself, socio-economic factors and the functioning of TFCS, have all contributed to the exclusion process from the fisheries and low catches, far beyond what is reasonable to expect in relation to the state of the resources. Given that the number of producers actively involved in fishing operations affect the scale of production to be realized and thereby the catch volume to support TFCS, measures aimed at channelling back part of this labour are clearly needed.

In the following paragraphs, the general dynamics generating this aggregate pattern are presented.

4.3 DESCRIPTION OF THE FISHING OPERATIONS AND ORGANIZATION OF PRODUCTION.

A comprehensive account on the social organization of fishing operations has been presented in a previous socio-economic study by Jul-Larsen (1981). Moreover, a more detailed analysis of the organizational set-up and functioning of TFCS is advanced in the following chapters of this report. In this context, though, it is sufficient to provide only a brief description of the general pattern.

4.3.1 Modes of fishing

The lack of prior specializations of fishproduction before 1961 was due to lack of adequate equipment, the fact that fish was not a marketable product and to constraints in combining full-time fishing with pastoral activities. The material conditions for developing the fisheries as a full-time, commercial and specialized occupation were realized in this period through the establishment of an external market offering channels for distribution and access to modern equipment. The transformation from subsistence fishing to production of fish for an external market led to changes both in technology and in the internal organization of production. Spears, hooks and plunge baskets have given way to gill nets, seining and lines, although the traditional equipment may sometimes be used as a supplement. Fishing may be carried out from boats, from rafts or from the beach. At present there are 161 TFCS boats (4) in operation, 57 private boats and 439 rafts.

There are three modes of fishing:

1. **Gill nets** are tied together and placed stationary in the water. The nets are visited twice a day by boat, the fish taken out and marked, nets which need repair are taken ashore and replaced with others. This type of fishing takes place along the whole western shore.
2. **Seining** takes place either on the beach especially around Ferguson's Gulf, or from boats predominantly on the eastern side of the lake. 2 - 10 nets are tied together, the seine is spread

(4) According to Fisheries Department registration records there are 210 TFCS boats, but the Evaluation Mission is doubtful if this number really exists, and if so the balance do not appear to be in use.

out in the water and pulled ashore. Although seining is more labour intensive than stationary gill net fishing, the need of mending and repair is restricted to a minimum.

3. **Hooks** put on lines of varying size are either used from boats concentrating on the big species or placed stationary in the water and inspected from the beach, as in the case in the Omo river and Kerio delta areas.

Fish resources vary from place to place and from one period to another - a fact which calls for migrations on part of the producers. There are two types of migration pattern. The first involves the entire household or camp along the western shore which may occur 2 - 3 times a year. The second involves migration to the eastern side in which the crew may be away for 2 weeks while the rest of the households are left behind in the permanent camp. The latter pattern has grown in importance during the last years concomitant with the decrease in catch volume on the western shore.

4.3.2 **Processing and marketing.**

The process of processing fish starts immediately after landing. The fish are gutted and cleaned before being sundried, salted and dried or sold fresh. The entrails are used for making fish-oil. The transport and sale of the fish to the TFCS branches are the responsibility of producers. Aside from the marketing channelled through TFCS, there are local markets for fish sales. Approx. 44% of the catch is either consumed or marketed locally.

Some producers have specialized on supplying the local market with tirr (5), a fish species which has no commercial value for the TFCS. The potential users are other fishing households who did not get a catch that day, people in TRP camps, employed categories and pastoralists.

There are certain divisions of labour according to sex and age. Fishing is predominately men's work, especially when undertaken from boats. Yet women may participate in beach seining and fishing performed from rafts. Processing, transportation and marketing are considered as female tasks, but men may also take part in such activities. Children of both sexes often assist their mothers in processing.

4.3.3 **Recruitment to fisheries.**

The basic requirements for entering a career as fisherman/woman are foremost the appropriate fishing gear and then technical skills. Whereas those who were recruited from famine-relief camps in the sixties and seventies were provided with free nets, the newcomers today must rely on their own means to invest in equipment. Generally, there are three way of recruitment:

1. Directly through the Co-op. boat in which a newcomer is accepted into a netgroup and trained by the crew. This option usually requires close kinship ties or network relations.
2. Contractwork on private boats; Co-op. boats specialized in seining on the Eastern Shore; or for raft fishermen in Ferguson's Gulf.
3. Establish oneself as raft fishermen/woman. For some producers, option 2 and 3 represent only an intermediate stage before they manage to obtain a seat in the Co-op. boat; for others it turns out to be a permanent occupation due to lack of resources and relationships.

(5) *Synodontis schall*

4.3.4 Economic and Social Units in production

There are three district groups of producers within the fisheries:

The raft fishermen/woman. Given that rafts can only be operated close to the shore and require calm weather conditions; this mode of fishing takes place only within a restricted geographical area—namely between Kataboi and Eliye Spring, but with a concentration around Ferguson's Gulf.

This group of producers can be further subdivided into 3 categories; those who combine wage labour with fishing to supplement their incomes; those who are solely dependent on fishing; those with access to Co-op. boats who use rafts as a supplement.

The raft fishermen/women have been seriously effected by the drying up of the Gulf concomitant with the decline in Tilapia fishing. Due to necessary regulation on mesh size, this group had got many of their nets confiscated. The poorest among them have been sloughed off from fishing during the past year. The number of rafts has declined from 591 in 1983 to 439 in Dec. 1984. In Ferguson's Gulf alone the no. of rafts fell from 460 to 125 during the same period. The general pattern among this group is that fishing is performed on the household level. The household members work as a team. In some cases, they may recruit hired labour, or co-operate with neighbours.

The private boats are mostly owned and managed by Luo's who often combine fishing with trading. The crew are hired and paid on a monthly basis. The crew numbers are usually seven, consisting of a boat leader, a deputy (both Luo's) and 5 Turkana members.

These boats are mainly fishing on the eastern side of the Lake. The fishing tackle and the catch belongs to the boatowner who usually provides food and equipment for the trip. The turnover of crewmembers is high.

The Co-op. boats have the most distinct organizational pattern. The task organization extends beyond the households units, since fishing operations are organized collectively by the personnel attached to one boat. The average number of crew is 15, but it varies between 5 and 30.

The boat crew is organized into netgroups which work on a shift basis inspecting the nets of all members and the catch is given to the respective netowners. Personnel not present (relatives and friends) may possess nets handled by the crew. Moreover, the system of rights in the produce and the task performance is invested in conglomerations of teams which only to a limited extent are overlapping. In contrast to the stationary gill nets in which the catch from each net is kept distinct, a seine is a unity and the fish deriving from it is processed and sold in common. The money is shared in equal parts among those comprising the seining group.

The household attached to one boat constitutes a residential and social unit (Adakar) and are usually related through kinship or bondfriendship. The **boat leader** appointed by the Co-op. is the central authority figure. Decisions with regard to migrations and change of residence are in the hands of the boat leader. Decisions regarding recruitment of new members are made collectively but the boat leader has the final word.

The typical boat leader is a relatively old man who has obtained his position because of past merits (warleader, diviner, police etc.) or close relationships to politicians. The position as a boatleader provides them with a better strategical position to improve their economic standing.

4.3.5 **The Co-operative organization**

The vast majority of fishermen/women are registered as members. Only 5% of the households investigated did not possess membership.

The TFCS has, at present, close to 5000 members, of which only 350 are women.

Prior to its abolition each of the 7 branches elected a total of 9 members to the co-operative committee which formally constitutes the board. At each branch there is a store for receiving fish and a shop selling equipment and consumption goods. All decisions regarding operation were centralized to Kalokol. Meetings at all branches are arranged in order to inform the members of decisions already taken. Although established to serve as a vehicle for enhancing general social and economic development for the members, the TFCS is presently not equipped so as to full-fill this goal.

In the first place, the producers viewed the Co-op as an alien institution without any resemblance to their traditional organizations. This fact, coupled with the rather complex administrative set-up with a decision-making structure in which the members are only allowed to play a nominal role, made the Co-operative appear as an instrument of the management rather than an organization representing the producers.

Hence, because of the present state of affairs, the fishermen/women perceive the TFCS as being just another marketing agent who to their dislike has a monopoly at the expense of other traders.

4.4 **SOCIAL ORGANIZATION**

4.4.1 **Population size**

The population of the Lakeshore stratum shows great fluctuations in size, composition and distribution within and between years.

The pastoral segments with their associated herds, contracts and expands according to the advance of each season (17.355, wet season 1982 and 27.437 persons, dry season 1984). The population estimates are extracted from Ecosystem data.

In March 1984, the settled population composed of fishing, TRP and urban segments was 13.473. In December 1984 this population had declined by 27%, a reduction strongly reflected amongst settlements in connection with TFCS branches. This feature partly relates to the normal geographical movements of fishing households in connection with changing density and distribution of fish resources. However, an overall reduction of the **fishing population** had in fact taken place as evidenced by a survey of all fishing camps along the lake in December 1984. The current fishing population is estimated to be 11.000 persons as compared with an estimate of 30-40.000 in 1982. The current population permanently involved in fishing operations are distributed among 1.692 households with an average size of 6.5 members; with a sex ratio of 54,6% males and 45,3% females; and represents ca 2.000 of the approx 5.000 co-operative members.

4.4.2 **Composition of the fishing population.**

The situation within the fisheries involves a number of different production units of highly variable background and compositions. As regards prior economic adaptations, there are two groups:

1. The minority are descendants from smaller nomad groups among Ngissiger, Ngebosheros and Ngisetau - the sections with territorial rights to the lake shore.

Generally their mode of production was based on a mixed economy with a focus on pastoralism, but in which fishing and cultivation were included as rather marginal and sporadic activities.

Yet, dependence on the supply of fish and grains reduced the range of livestock migrations, limited stock numbers and promoted a more sedentary life style - all factors which set them apart from the dominant nomadic pastoral regime.

2. The majority are pastoral destitutes from inland sections - who were recruited from famine-relief camps, trained and accommodated to fishing during the sixties and seventies. These destitutes constituted a new category of fishermen/women, who due to general shortage of livestock had to rely on fishing as the major component of their economy. As a group, they represent almost all sections and clans.

They are drawn from a wide range of social categories including whole or parts of poor nomadic families; uterine units of poor and wealthy polygamous families who have been disadvantaged in livestock matters; sole survivors, of either sex, of rich and poor families alike wiped out during droughts, diseases and raids; unmarried men of all ages from both poor and wealthy families; girls, concubines, wives, widows, divorced and separated women with or without children and partners. This pattern implies that recruitment to new activities must be understood with reference to the set of restrictions and incentives within the nomadic production regime in the region.

Three major factors can be identified:

- The random effects of natural hazards, administrative constraints on movements and intertribal warfare.
- Economic differentiation characterized by accumulation of herds, labour, and critical resources in fewer hands.
- Domestic conflicts caused by unequal distribution and transmission of rights and property between family members.

Whether the sedentaries are sloughed off from pastoralism due to natural hazards, economic differentiation, or an unfortunate position in marriage or inheritance structures, they are all destitutes according to cultural standards given that what they have in common is a general shortage of livestock. And this very fact gives rise to a host of problems within their new occupation, since the quality and range of social relations are created, maintained, and vitalized through frequently circulation of large numbers of animals. So rights in property and natural resources are diminishing and alliances forgotten when stock no longer can act as medium for transactions.

4.4.3 Household characteristics.

The displaced pastoral people have been inserted into a new environment made up of a complex of natural, economic, politico-administrative, and social factors. As a result of changes new forms of domestic organization have developed.

This feature is reflected in that men and women engage in different economic activities which form the basis for separate sources of income, different support obligations within the household, and

different decision-making roles. The way in which households are constituted along such characteristic assets and responsibilities provides the key to the interests they will pursue. The projects have not been able to ensure the participants with incomes sufficient to cover their subsistence needs.

One effect of the strained economy is an erosion of family relationships. Hence spouses seek strategies that make them less dependent on their partner. Aside from fishing, it is common that household members engage in a diversity of productive activities such as food-for-work (TRP), trading, basketmaking, charcoal burning, beerbrewing and to a more limited degree smallstock keeping. A general lack of the necessary numbers of livestock implies that these people encounters problems in formalizing culturally recognized marriage ties. Only 25% had formalized their marriage. For those living in informal unions, the turnover of households are high and children are primarily the responsibility of mothers.

Households are generally smaller than among the pastoralists and monogamy is now the dominant type (65%). Concomitantly with a splitting up of larger polygamous households, there has also been a rise in female-headed households.

The implication which sedentarisation appears to have, is a shrinkage of the span of people who are mutually relying and responsive towards each other needs. Despite such changes, the distribution of rights and property has basically the same design as among the pastoralists.

The household (Awi) has an internal division in which each adult woman and her children constitute a separate budgetary and consumptional unit (EKOL). The household estate (livestock, fishing gear, money etc.) are allocated, managed and transferred to the next generation on the level of ekol. In some cases, the members of an awi may choose to pool their separate resources to the benefit of all, whereas in other cases resources are kept distinct.

Still, the household pattern which has emerged among the fishing population feed back on their productive performance. Lack of formalized marriage ties have promoted a situation of limited concern in the context of family and production. These characteristics lower the units ability to pool resources and co-ordinate their labour as to consolidate or expand their fishing efforts. Due to the changing density and distribution of fish resources, fishing requires geographical and technological diversification and mobility. However, the high frequency of concubinage makes the splitting and dispersion of the productive members of households difficult to achieve for most units, since the woman's group maintains the rights in her and her children and may claim part of her labour activities. A concubine must work for two household. Consequently, the two parties involved have to reside close to each other. This may restrict considerably the mobility of some households. In addition, such arrangements may select for monogamy because more than one wife would necessarily increase the problems. This accounts for the small sized households among the fishing populations.

Moreover, to get additional access to boats is problematic since they are already overcrowded, and require the presence of the net-owner to ensure the operation of his/her nets.

However, these problems could be overcome by co-operation between fishing households located in different areas, but such co-operation is not prevalent due to problems of control regarding disposition of catch and low amount of fishing gear. Due to lack of animals, social networks are difficult to create. Close kinship ties are thus the most convenient ties to rely upon; but these relations are often concentrated geographically.

Consequently, the best strategy is to improve the individual households' mobility. In order to do so, wealth in animals is significant also for fishing units. In the first place, bridewealth has to be paid. Secondly, one has to create alliances with boat leaders in order to get temporary access to alternative boats. Both of these strategies require transactions of livestock. Thus, raising small-stock is something

fishermen do or try to do as part of their overall economic adaption; although animal husbandry may also restrict the units' mobility since the location of pastures does not, necessarily coincide with a good fishing spot.

Yet, the present situation of diminishing returns from fishing coupled with lack of rainfall in previous years have reduced the livestock holdings of fishing households to a minimum; a fact which constrains the mentioned strategies. Hence, migrations are restricted to those which can be undertaken by own boat or raft.

4.5 SOCIAL STRATIFICATION AND MULTI-SECTOR STRATEGIES.

4.5.1 Economic Differentiation.

The fishing population does not constitute a homogenous category regarding access to economic resources, whether project facilities or off-scheme ventures. Commercialization of fishing has led to social and economic stratification between different groups of producers due to scarcity of boats, and within the TFCS boat crews, due to the form of leadership. The boat leader receives a larger share of the catch, and is in privileged position to utilize the boat occasionally for serving the most profitable form of fishing. They have been able to undertake large scale investments in livestock and their wealth largely surpasses the average among the rest of fishermen. Together with the former committee members, they are among the most influential people and cultivate close relationship to elected politicians and staff members.

After the gulf Tilapia boom in 1976, the volume of fish landings and profits has declined. This has currently put breaks on the income levels of those involved in the fisheries. The implication is that the poorest section among the fishing population has been sloughed off from fishing. The exclusion of personnel from fishing forms two different patterns. The vast majority are the poorer fishing households who progressively have been pauperized as the result of loss of fishing gear or much reduced fish catches and then fallen below the viability level as fishermen/women - among this group there is a high proportion of households fishing from rafts. Many of such households have joined TRP camps.

The minority are prosperous boat fishermen especially boat leaders who over an extensive period have been able to channel surplus from fishing into animal wealth and have returned to pastoralism as a full-time occupation. For those fishing households who still manage to keep a stake within the fishing sector, the low incomes presently obtained within the fisheries have as a secondary consequence that a high portion of producers can only maintain household viability by utilizing alternative income sources. Although the exploitation of a broad spectrum of low-cost alternatives in the immediate environment have secured viability for many households, this strategy has a negative feedback on fishing effort (competition of time and labour) and thus the economic viability of the Co-operative.

Commercial fishing was introduced as means to diversify and expand the subsistence basis for the whole fishing population. Yet, men have been the target group. It has been taken for granted that men are the providers for households. The critical role of women in the household economy especially related to processing and marketing has not received the same attention. The changes in the domestic set-up outlined previously imply that the households cannot be viewed as a homogeneous decision making unit operating to maximise benefits equally for its members. Consequently, socio-economic changes, whether in terms of gains and losses from development inputs or ecological pressures, do not affect male and female household members in the same manner.

The breakdown of traditional kinship institutions has resulted in many children being solely the

responsibility of women. Men are generally reluctant to feed those children who are not their own. Due to the fact that fission and fusion of households is an ongoing process, many women have children with different men.

The manner in which women manage to meet their obligations as providers is by combining a multiple of economic activities largely related to the informal sector and food-for-work activities.

Yet, the situation of women varies between the different groups of fishing households. Those women who are part of units with access to boats and a production profile geared towards gill net fishing are in a more favourable position regarding access to resources, given the system in which nets are distributed on the level of Ekols and the respective fish catches handled by the woman in charge of the net. However due to the changing resource base, with a greater reliance on seining along the Eastern shore, this distribution system has started to change. The catches from seine nets are divided in equal parts and given to each of the crew regardless of the net owner.

Their wives have therefore lost their immediate access to the fish caught and are dependent on provisions of money from husbands or partners. Moreover, a large group of women residing in the lake area are single parents and providers. Since women have not been ensured access to fishing equipment in their own right, these females are in a difficult economic position.

Generally, women do not react passively to the different options meted out by the fishery project.

Yet, the organization of the co-operative implies that women get insufficient access to the administrative apparatus since they are not represented among the boat crew and they form only a small fraction of TFCS membership. Hence, there are no channels throughout which women's interests can be clearly and forcefully articulated - and this problem should receive priority in the reorganization of TFCS.

4.5.2 **Environmental Consequences of sedenterization and multisector strategies.**

The fact that a substantial number of people must obtain a large share of their incomes from other sectors, may have as a secondary consequence that environmental degradation is promoted. The presence of a heavy governmental and TFCS staff and the existence of health and social facilities have turned settlements such as Kalokol and Lowarengak into attractive market sites for groups who subsist on fringe benefits provided by the fishing activities. Different categories of employed and self-employed Turkana have through salaries, trading and other income-generating means enjoyed substantial surplus which in part is invested in smallstock kept permanently in the vicinity. The previous high incomes from fishing have been converted into livestock due to lack of non-pastoral avenues. Given that the pastures along most of the lake are ecologically marginal (85% of the area has no stocking potential at all - Ecosystem) the fishermen's strategy of investing in browsing species, which are concentrated in the area, have decreased the carrying capacity of the land. In 1981 Jul-Larsen reports that half of the households investigated kept small-stock in the camps.

By December 1981 only 148 livestock enclosures were counted along the entire western shore, and there were mainly located in Todenyeng, Lowarenyak and Keriosites which usually experience a seasonally influx of pastoralists. Most of the households investigated who previously had small-stock had lost their herds since 1982 as a combination of drought and animal disease. The diminishing returns from stock have in turn lead to higher pressures on other resources, since people strive to uphold their standard of living.

In Turkana, sedenterization has proved to be a process which alone makes special demands on

environment (as shown by Ecosystem's district wide resource study). The changing consumption pattern implies an increasing amount of fuelwood consumption and new types of housing have further increased the demand for construction wood, and the impact of deforestation has been concentrated within smaller areas.

Prior to project implementation, the shores of Lake Turkana were cultivated and used as grazing grounds for herds belonging to sectional groups who combined such activities with traditional fishing. These categories of producers had developed institutional arrangements for utilizing the lake shores. The new groups of fishermen brought in from other sections have come to regard the lake-shore environment as an open range, which either can be transferred into private arable plots or used freely for grazing. The implication of such interventions has been a collapse of traditional control mechanisms. Contrary to the objective of relieving the pressure on the environment, though, the growth of settlement has brought a further intensification and competition for land use in the project area.

4.6 TRENDS AND IMPLICATIONS OF THE LAST YEARS EVENTS.

It appears that although there is a normal annual fluctuation in the lake side population due to an influx of nomadic pastoralists and their associated herds during dry seasons; there has been a considerable overall reduction in recent years caused by a more permanent move of former fishing household in search of work elsewhere. Interestingly, this exclusion process exemplifies a combined "upward" and "downward" social mobility.

The vast majority, consists of poorer households who have fallen below the viability level as fishermen/women and many have enrolled in the food-for-work projects, but there are also a number of more successful former fishermen/women who transferred their savings from fish sales to livestock and now seek to re-enter the pastoral production regime.

To finally summarize the aggregated pattern emerging, this pattern is not only generated by a simple addition of the various units strategies. The resource situation, price policy, marketing systems and the Co-operatives performance, all have a dynamic element with feedback effects on the opportunity situation of the decision-making units. This process involves the following interconnections:

As a result of reduction in the lake level followed by a decline in total catches and catches per unit paired with stagnating and low prices on fish sales; the households experience a situation in which the average profits extracted from fishing activities are contracting. One possible response to decreased catch per unit of effort could have been to expand fishing efforts by increasing the amount of fishing gear.

There are two major reasons why such a strategy is difficult to accomplish for most households. The most apparent follows from the fact that whereas the fish prices to producers have been kept at the same level since 1980, the cost of by other necessary expenditures such as food items, fishing gear, salt etc. has risen. Such imbalance in the household budget is exaggerated by the general effect of inflation taken place during the period. Hence, few households have any savings to invest in additional gear. The second constraint relates to some peculiar features of the household pattern developed among the fishing population.

Lack of formalised marriage ties have promoted a situation of increased instability and limited management of joint concern in the context of family and production. These characteristics lower the units ability to pool resources and co-ordinate their labour in such a manner as to consolidate or expand their fishing efforts.

As means to compensate for the diminishing returns, the producers have started to channel more fish sales either through the local fresh fish market or private traders who presently offer higher prices than TFCS. In addition, the producers try to maximize economic security by means of a multi-sector strategy. Yet, such a strategy often implies that decisions made in one sphere may be constrained by considerations relating to other spheres of the household economy.

The most prosperous and pauperized households leave fishing altogether, while the middle stratum remains but lower their fishing intensity.

For those households who still manage to keep a stake within the fishing sector, the low incomes mean that many producers can only maintain household viability by engaging in a diversity of economic activities (TRP, trading, basket-making, wage labour, charcoal burning, smallstock keeping etc.). This pattern has a negative feedback on fishing effort due to competition of time and labour and thus on the economic viability of TFCS.

Moreover, the economic differentiation is likely to accelerate and in turn will further increase the sloughing-off process, because of

- I differential access to off-scheme ventures;
- II differences between those with access to boats and type of boat and those without are accentuated due to the better catches on the eastern than western side of the lake
- III inequitable distribution of nets and boats by TFCS;
- IV producers who do not benefit from the service provided by the co-operative in terms of provision of boats and nets have been forced to pay the same amount of money per kilo of fish delivered to TFCS, as those who are able to expand their fishing efforts as a result of such benefits.

Point II - IV create a distorted incentive pattern promoting deliveries outside TFCS.

In fact, the manner in which TFCS presently handles its affairs both internally and in relation to producers contributes to the gloomy picture of low catches and stagnating fishing activity. The efficiency of TFCS is hampered by existing barriers between categories of staff, Technoserve and the interference by politicians. Such factors, in addition to the precarious financial situation, has led management to concentrate their attention on internal affairs at the expense of decision making and actions on the production side. As a result, the activities at the branches are suffering. They are often without cash, fishing gear and salt - which implies that fish cannot be bought and must either be stored by the producers or sold illegally.

Because of lack of communication within the TFCS hierarchy, information about new fish products to be delivered by the fishermen/women was not passed on, new nets were stored for a couple of months before distribution and when distributed preference was given to those who had influence within the co-operative. Such inadequacy on the side of TFCS management implies economic loss both for its membership and for the organization. It can be concluded that both factors and the functioning of TFCS have all contributed to an exclusion process of personnel from the fisheries and low catches.

In order to break the vicious circles involved, the programme must divert incentives to producers in terms of better prices, supply of equipment and strengthening the fishermen/women's function in the organization by involving them more directly in the decision-making process.

4.7 RECOMMENDATIONS

1. In order to promote fishermen/women participating in the project, a decentralization of decision making to the branches should take place.
2. To increase the fishing efforts and ensure that the catch is channelled through TFCS producers will need material incentives in terms of increased prices for fish products. This will also improve the strained household economy and have a positive effect on the nutritional status of children. However, the ability to do this is constrained by external market prices and also overheads.
3. When new boats are to be allocated, preference should be given to raft fishermen/women. This will break the process of economic differentiation and have positive effect on stabilizing the resource situation.
4. In order to increase direct benefits to female producers and improve local distribution of fish, women-agents should be given preference for marketing fish in smaller centres and in the areas they can reach.
5. 2 or 3 of the next batch of new boats should be allocated to women in the Ferguson's Gulf area. To train and accommodate women to fishing should be seen as a pilot project and will need to be supervised by a volunteer.
6. In order to increase the proportion of women among the TFCS membership and then ensure that women get access to nets and inputs in their own rights, extension service is needed to inform women about the benefits involved in independent membership.
7. The members should be enabled to have the rights to elect leaders who represent their interests. (To branch reviewing committees.)
8. Firm measures must be taken to ensure that future allocation of boats and nets are done in a fair and equal manner.
9. A social monitoring component which can keep track of system changes is needed. The important aspects of social development is just characterised by their emergent character.

Such changes are the aggregate outcome of the way units adopt to project inputs and the wider natural and socio-economic environment. When major improvements are implemented, the project must continuously evaluate their consequences. Monitoring can help the programme to discover out on early stage, the reinforcement or decline of existing inequalities or the emergence of new types of inequalities. Social monitoring must be reach oriented, not just standard recording.

5. FISHING

5.1 STATUS OF THE FISHERIES OF LAKE TURKANA.

5.1.2 Of the 48 known species of fish in the Lake, only about a dozen or so are of economic significance. The general pattern of exploitation and status of these stocks, as described in the 1980 Advisory Group report, appears to be much the same in 1985 and although there was a further increase in fishing effort up to 1983, this has apparently declined again during the past two years.

The stocks of *Citharinus citharus* which formed the bulk of gill net catches in the 1960's have still not recovered from that early overexploitation but with one exception, all the other species stocks remain in a fair state and show no sign of general over-fishing. The exception is tilapia and in particular *Sarotherodon niloticus* which whilst not overfished as such, has suffered a major reduction in stock size as a direct result of the lowering of the Lake level.

5.1.2 Status of fishing effort.

There are currently about 5000 registered members of TFCS and although in earlier years about 75% were regarded as active fishermen/women, currently because of poor fishing a number have left to work for TRP and it is now estimated that only about 2500 people are fishing regularly. The society has 210 registered boats which work an average of about 15 nets each. An aerial count during the mission was unable to identify more than about 120 of these boats, the whereabouts of the others is a mystery. There are also about 500 fishing rafts using 1-2 nets each.

In addition there are 20 privately owned registered boats (6) using about 10 nets each. Thus there should be about 4000 nets in use on the Lake, but it is doubtful if the number is really so high. The Fisheries Officer estimates that about 30% of the nets are likely to be undersized, and in view of the depressed state of the fish stocks, such a large proportion of illegal nets is a major cause of concern.

5.1.3 Current Status and Trends in Fish Production.

Data on Lake Turkana fish production published by the Fisheries Department cover the lake as a whole and do not distinguish between fish caught on the eastern side and marketed through Loyengelani and Illaret, and the larger quantity marketed through Kalokol. The record (see Appendix 2) shows that from a peak of 17.044 mt during the "tilapia" boom of 1976, catches have dwindled steadily to only 8448 mt in 1984, a drop of about 50%. Preliminary figures supplied by the Fisheries Officer at Kalokol for part of 1985 show a continuation of this decline, which is especially pronounced in the case of tilapia.

5.1.4 Other writers, arguing that the conversion factors used by the Fish Dept. statisticians to calculate fresh

(6) The figures of registered boats do not include other boats registered at the Fisheries Office in Loyengelani, which do not normally fish along the western shore of the lake.

(7) See Appendix 4

weights from the dry weight of various products tend to exaggerate the outcome, have produced lower figures for the total catch in each year, but these also show a very similar downward trend (7). As noted in section 5.2. below this trend must be expected to continue unless and until above average Omo River floods halt and reverse the trend of diminishing Lake levels.

The Lake level is not the sole cause of the present very low total catches, since it is known that a number of fishermen have become discouraged by their reduced earnings from lower catches rates and have moved elsewhere in search of other work, but they should return when the fishing improves.

5.1.5 Processing Storage and Transport of Fish.

As might be expected, lower catches mean that TFCS purchases of processed fish are also greatly reduced to only 2018 mt wet wt, in 1984 as against around 6000 in 1977/78 (8). Processing concentrates as before on sundried and salt dried fish. Greater effort has been exercised in recent years to improve the quality of dried products and at least for the limited quantities that are available, there should be fewer grounds for complaints from market traders and consumers than in the past. Storage presents no problems since available storage capacity was designed around the much larger throughput of past years. However transport of processed fish from the branches to Kalokol and then to Kitale is proving very difficult. Present throughput produces insufficient revenue to meet overhead costs and economies on vehicle maintenance mean more frequent breakdowns and longer repair periods. The mission observed that the Lowerengak tractor, used to collect fish from Todenyang was out of action for several weeks with a burst tyre, with no immediate indications as to when it could be repaired or replaced.

5.1.6 The fresh fish processing complex which was established by NORAD at the TFCS main depot at Kalokol, and which included ice making, freezing and cold storage facilities, has hardly ever been used since its installation and appears very unlikely to have any practical use in the future.

Only the handling space, originally intended for fresh fish cleaning, washing and filleting, is being used for weighing, handling and storing sundried fish. It is clear that the planners of this particular development were misled by the 1976 tilapia "boom" into believing that sufficient quantities of such fish would continue to be available, instead of recognizing the so called "boom" as being an essentially temporary phenomenon. In fairness to them, it must be noted that a great deal of information from the UK funded research project and other sources is now to hand, concerning the volatile nature of the Lake Turkana fishery, which was not available at the time when plans for the fish processing complex were being drawn up. The lesson for the future is however clear, that the TFCS operation must be kept as simple and flexible as possible, avoiding at all costs over sophistication with high cost and high technology components. Nevertheless if a future rise in lake level should produce a repetition of the 1976 tilapia "boom" the possibility of using some of the existing equipment could be investigated, because it is there and apparently nobody else seems willingly to buy it.

5.1.7 The only measure that can be recommended at this stage is to ensure that the maximum quantity of fish which is now landed and processed on the east shore is collected and transported to Kalokol. As already noted in para 3.3.4. above, the most convenient means of doing this will be to commission a suitable transport vessel. No such craft exists on the Lake at the present, and it would have to be designed and built elsewhere and transported to Lake Turkana. Provided that satisfactory arrangement can be made to resolve the other major problems confronting TFCS it is recommended that urgent action be taken to acquire a fish transport vessel.

(8) See Appendix 3

5.2 IMPACT ON THE FISHERIES OF FLUCTUATIONS IN LAKE LEVELS.

- 5.2.1 The climatic history of Turkana District in common with much of sub-Saharan and north eastern Africa, shows a record of periodic drought and famine alternating with spells of above average rainfall and relatively plentiful food and grazing. As might be expected in such circumstances the level of Lake Turkana also fluctuates quite widely with an annual rise and fall of about 1 - 1.5 m, and with longer term increases or decreases over several years, depending on the stage in the cycle of above or below average rainfall. However, about 90% of the Lake's water inflow discharges into the Lake via the Omo River which rises in the Ethiopian highlands, and which normally floods during the latter half of each year. The Lake has had no outlet for the past 7500 years (Hopson 1980) and water loss is therefore a result of evaporation with a consequent progressive concentration of dissolved inorganic salts, predominantly Sodium Carbonate. Lake water pH varies between 9.2 and 9.6 depending on the level of the Lake.
- 5.2.2 Lake level records have been taken only intermittantly over the years and have not always been related to the same datum height, but the British research team (Hopson 1982) produced a synthesis of data up to and including 1975 and this has been extended to the present time using Fisheries Dept. reports to provide a 100 year record of fluctuations (See Appendix 5 (a)). It can be seen that the lake has declined progressively since 1978 to approximately the same point as the previously lowest recorded level of 1954.
- 5.2.3 The shoreline along much of the western (Turkana) coast exhibits a very gentle gradient, especially inside and in the northerly vicinity of Ferguson's Gulf. Thus even quite small rises or falls in the lake level can flood or expose wide areas of land.

Since the start of fisheries development on the lake in 1961, Ferguson's Gulf has been the most important single fishing ground, especially for tilapia, and the fishermen of TFCS very much depend on its survival as a source of fish. As the water rises and floods previously exposed grassland, conditions for tilapia spawning are ideal, nutrients leach into the water causing algal blooms to feed the fish and the flooded grass provides cover in which the young fish can shelter and grow in safety. Reductions in the lake level of course produce the opposite effect.

Estimates have been made of the area of Ferguson's Gulf at various times, as follows:-

Dec. 1930	40.42 Km ²	(Worthington 1932)
Aug. 1958	25.62 Km ²	(Survey of Kenya)
Jan. 1972	39.56 Km ²	(RAF aerial photo)
Feb. 1973	36.49 Km ²	(ERTS: satellite photo)
Mar. 1975	32.41 Km ²	(ERTS: satellite photo)
Apr. 1975	31.50 Km ²	(ERTS: satellite photo)
Jun. 1975	29.61 Km ²	(ERTS: satellite photo)
Dec. 1975	35.13 Km ²	(ERTS: satellite photo)
Apr. 1985	10.00 Km ²	(Watson-visual estimate)

A graphical representation of some of these changes is also shown in Appendix 5 (b).

- 5.2.4 The effect of lake level changes on the tilapia fishery has been dramatic. A rise of approx 4 m which started in mid 1975 and extended until 1977, produced an almost immediate 10 fold increase in the catch of tilapia from the Gulf in 1976 (ca 16.000 mt) compared with 1975 production. It is possible that a similar event occurred following the 1961/62 rise in lake level, but at that time the fishery was in its infancy and the data is therefore not available.

On the other hand, it is also clear that the sharp and progressive decline in level totalling about 10 m, which has taken place between 1977/78 and the present time has also been accompanied by an initially slow but latterly very severe decline in catches of tilapia and other species. However, other factors also intervene in that there has also been a drop in fishing effort during 1984 and so far in 1985.

- 5.2.5 Level changes appear to have less dramatic effects on other species, especially the offshore demersal and pelagic stocks which are in many cases only rather lightly fished at present. It is nevertheless very probable that as the water level goes down and the concentration of dissolved salts and pH increases, the environment will become increasingly hostile especially to larval survival. At times of very low level therefore, the overall stock size will be reduced because of diminished recruitment of young fish into the population and in consequence the safe sustainable yield at such times must be lower than at times of high lake level. A great deal more scientific study is needed into these effects and interactions and it is therefore unfortunate that since the end of the British research project, so little monitoring of the stocks of fish has been undertaken.

The evaluation mission therefore noted and endorses the joint research and development programme now commencing in Turkana, between the Fisheries Dept., KMFRI and Norwegian research institutes, with NORAD financial assistance.

- 5.2.6 In the meantime it is clear that the present extremely low level of the lake and its effect upon the stocks of fish, lower catch rates and therefore reduced total catches, is one of the factors influencing the current TFCS financial crisis.

Although only nature can correct this particular problem it does have implications as to the future of TFCS. Clearly any future increase in catch resulting from a return of the lake to higher levels can, on the basis of past experience, only be regarded as temporary. Therefore TFCS size should be restricted to that which is needed to handle current levels of production, dealing with future increases on an ad hoc basis only, by recruiting temporary or casual staff on the strict understanding that their employment would be limited to such periods during which the increase in fish supply can be maintained. The same principle must apply to any proposals for investment in equipment or capital infrastructure.

- 5.2.7 The Evaluation Mission was informed that some developments may be in progress inside Ethiopia, such as the creation of irrigation projects within the Omo River Basin, which could have a progressive and damaging effect on the river flow entering Lake Turkana. In the time available it was not possible to establish either the accuracy of these reports or the extent to which Ethiopian plans may progress.

It is further understood that discussions have been held between the two countries in the past and it is strongly urged that these discussions be followed up as a matter of urgency, using the good offices of agencies such as FAO, IBRD or OAU, to help minimize the effect on the Lake Turkana fishery. The existing Nile Waters Treaty might be a useful model for a future agreement covering Omo River waters.

5.3 PROBLEMS OF A SECURITY NATURE CONFRONTING TURKANA FISHERMEN.

- 5.3.1 During the Mission's visit to Turkana several people including fishermen, a former society committee member, the District Fisheries Officer and the District Commissioner referred to problems of security. These problems fall into two categories, crossborder clashes with Merille from Ethiopia and clashes between Turkana fishing along the East coast of the Lake in the vicinity of Moite and local Boran and Rendille people, and with Shangilla around Illaret.

5.3.2 The Kenya Police posts at Todenyang (Turkana) and Illaret (Marsabit) are responsible for controlling the border on land and on the whole are reported to do this difficult task quite well, although occasional incidents still occur. However, the fishermen complained that several incidents have occurred on the lake itself near to the Omo delta, where the police cannot go, and that a number of Turkana nets and even some boats have been stolen in this way. It is suggested therefore that if the Kenya Police had a small but reasonably seaworthy launch they could patrol the whole border more effectively.

5.3.3 **East Coast Security Problems.**

There were several reports of Turkana fishermen being attacked whilst in temporary camps on the eastern shore of the lake by, it was alleged, armed Rendille home guards and other Rendille and Boran tribesmen and by Shangilla in the vicinity of Illaret. Injuries were inflicted and nets, dried fish and other possessions stolen. Several deaths have also been reported as a result of these incidents.

Several attempts have apparently been made over the past 2 years to convene meetings between representatives from two districts to discuss these matters and also ways of establishing a co-operative system between TFCS and the Fishermen's Co-operative at Loyengelani, but to date these efforts have all been in vain. On one occasion, it was reported that the meeting was arranged and the Turkana party flew to Marsabit only to find that the Marsabit DC and other participants were absent. The Evaluation Mission strongly urges action from Nairobi to bring the parties together and sort out these problems once and for all. In the meantime, since Moite is becoming a quite important centre for fishing, consideration could be given to establishing a Kenya Police post there to help keep order.

6. FISH MARKETING

6.1 EXTENT OF TFCS EFFECT ON PRICE LEVELS OF FISH PRODUCTS AND VOLUME OF SALES INSIDE AND OUTSIDE TURKANA REGION.

6.1.1 According to official prices quoted during the last 5 years by the TFCS (9) and realised prices in terms of purchase value, divided by total catches, it has been possible to comment on this subject. The mission has also looked into prices paid to fishermen and at gross profits to the society.

6.1.2 There has been a slight increase in prices of the main products, but the increase for sundried products seems mainly to have been taken as profit to the society, leaving the fishermen with only a small annual increase.

(9) Appendix 6: (Table showing development in prices paid to fishermen/gross profit to TFCS since July 1980)

For salted/dried products it has been the other way round, but the main increase in price to the fisherman did not occur until the spring of 1985. However, none of the increases have been particularly large. For sundried Nile Perch fillets most of the price-increase so far has been kept by the society.

6.1.3 If price development within TFCS between 1980 - 85 is viewed in accordance with an annual rate of inflation of 13%, it seems that the society has not been able to keep a stable price level on purchases from fishermen. In real terms prices have decreased. It is also probable that maximum possible prices have not been paid to fishermen because the ratio of prices to fishermen to gross profit to society seems to have developed in favour of TFCS.

6.1.4 Other possible marketing channels (illegal selling through private traders) might have improved the price level in certain areas. However, this does not seem generally to be the case so far, even if it might take place periodically. The impression for the time being is that the activity is low and traders are few.

6.1.5 Conclusion.

TFCS seems to have lost ground in recent years, catches are decreasing and prices to fishermen virtually frozen, especially in real terms. Alternative (illegal) marketing channels could have developed but this does not seem to be widespread. In case of better catches in future TFCS should beware of a possibility that private traders might arrive in greater numbers and legally or illegally buy fish at higher prices than those given by the society, on a much more widespread basis.

6.1.6 The idea of increasing prices to fishermen to promote higher catches is endorsed as an appropriate policy, but future price increases must be viewed carefully in accordance with:

- a) Marketing possibilities based on prevailing external market prices for equivalent products from elsewhere.

- b) Production motivation,
- c) Products calculation and cost controls, to ensure that the contribution of each product towards TFCS overheads do not become too small, and of course that overheads once reduced are not allowed to mushroom again in the manner of recent years.

6.2. **MARKETING AND TFCS PRODUCE**

6.2.1. **TFCS' Marketing Efforts**

TFCS relies mainly on the traditional products from Lake Turkana - sundried and salted/sundried fish. At times fresh and smoked fish have also been important but for the time being the quantities sold are either nil or very small (see Appendix 3). As mentioned elsewhere, the idea behind the construction of freezing/icing facilities was to open new or develop existing important markets. The return to concentration around the traditional products shows clearly the overassessment of production and marketing possibilities that existed in the late 1980's. TFCS's geographical markets can be divided into:

- a) the internal market
- b) the export market

The internal market consists of the deliveries out of the Turkana region, deliveries either directly to private traders in Kalokol (tilapia) or through the society's wholesale section in Kitale (salted dried/Nile Perch fillets). More recently another important marketing channel has emerged comprising deliveries through various relief organizations (e.g. World Food Program, Turkana Rehabilitation Program). In addition efforts have been made to develop markets within institutions such as schools, hospitals etc. in Turkana District.

- 6.2.2. The former important export markets, especially Zaire for salted/dried products still show interest in fish purchases, but because of currency- and payment-problems, TFCS has to some extent had difficulties in reestablishing this trade. (Exports total 10-20 % of total turnover). One of the most serious problems within the TFCS marketing today, is the fact that existing product structures are not fully in balance with the needs of the market.

Monthly production of sundried tilapia is now only one tenth of the quantity produced during the first months of 1984, whereas market demand is excellent. Production of salted/sundried fish in the last six months represents in average 65 - 70 % of the total, while markets seem to be rather limited.

There has also been a tendency to rely more on stable aid as for certain buyers, such as the various food relief programmes. To some extent this seems to "freeze" the product-mix because of the need for large quantities. At the same time prices are low, and therefore squeeze TFCS's Margins for profit.

6.2.3 **Prices**

It has not been possible for the team to compare TFCS's selling prices to those from other suppliers. This is partly due to the lack of information, and also because there are not many competitors in this trade in Kenya.

One comparison however, on prices from the Loiyangalani Fishermens Co-operative Society, to those of the TFCS is presented below.

Price	Loiungalani F.C.S. Sundried		Turkana F.C.S Sundried	
	Chubule Kshs per Kg	Tilapia	Chubule Kshs per Kg	Tilapia
to fishermen	2,70	9,05	3,00	5,50
to society	0,30	1,00	7,50	4,50
Society price	3,00	10,05	10,50	10,00
to wholesaler	2,80	8,85		2,50
Wholesale price	5,80	18,90		12,50

Information on prices for sundried Chubule are from TFCS, all others in a letter of information (ELIASSEN 1.3.85).

Differences in charges to the societies must be viewed from the fact that LFCS charges only a commission fee on sales carried out directly between the fishermen and the buyer. TFCS on the other hand is supposed to undertake packing, transporting and storing of the goods, and also organizing the sales.

The magnitude of difference in margins between the two societies is however open to question and could have been much less if TFCS overheads had not been allowed to grow out of proportion in recent years.

- 6.2.4 The most important activity carried out last year by the society in collaboration with the Fisheries Department, was to start up an "Eat more Fish" campaign especially aimed at expanding the internal markets for salted/sundried fish in Kenya.

Phase I (the team visiting several cities/areas all over Kenya) and phase II (the team visiting institutions in Turkana region) have been accomplished. A third phase which is intended as a follow-up of phase I has been planned but not initiated. The campaign so far has proved to be successful. It is of great importance to carry out the rest of the programme as soon as possible, otherwise the beneficial effects of efforts to date will diminish.

The Evaluation Mission fully approves the idea of this campaign, in trying to strengthen the market for an existing important product.

As mentioned earlier the current trials for developing **cold smoked** fish products should continue, as well as looking into other possible smoked products. Prices quoted in the Nairobi retail market for cold smoked sailfish amounts to 140 Ksh per Kg, which indicates possible good margins for smoked tilapia and other species from Turkana. In fact smoked fish was an important product some years ago, but disappeared when a ban on catches of undersized tilapia and private smoking was enforced in 1984.

- 6.2.5 The collection, storage and marketing of fresh fish should also be investigated thoroughly. This important product made an important contribution to the society's gross profits some years ago. It disappeared mainly because of the decrease in the local catches from Fergusons Gulf.

When assessing this possibility it is important to take into consideration that fishermen are currently paid per Kg fresh weight:

Kshs 1,37 for Tilapia (sundried)
 Kshs 0,75 for Chubule (sundried)
 Kshs 0,70 for Nile Perch fillets (sundried)

An important potential buyer in Nairobi (Samaki Industries) has indicated a possible average buying price in Kalokol of Kshs 4,- per Kg, ice included provided that supplies of the right quantity and quality can be guaranteed. Costs to be born by the society should then be local storage at the branches and regular gathering by boat to Kalokol. If such a trade can be reestablished profitably, the possibility of utilizing the existing chilling room in the Kalokol plant, and possibly installing some block-ice production equipment 1) could be investigated.

The local market in Turkana District for fresh fish should also be mentioned here because it appears capable of expansion and offer the possibility of higher prices to the fishermen than the present prices for processed from TFCS, measured in wet weight. As stated elsewhere this market also is of great importance to a population already suffering a low nutritional standard.

Uncertainties as to whether TFCS's marketing monopoly conflicts with local sales meant for local consumption should be clarified so as to avoid legal complications.

6.2.6 **Future Organization of Marketing Activities.**

The main marketing activities are today carried out by the TFCS section in Kitale headed by the Assistant Marketing manager and the office in Nairobi lead by the NORAD employed marketing manager. The evaluation team suggests that an extra marketing employee should be funded by NORAD also in the future. The present assistant marketing manager should be appointed manager with the new man as his assistant. There are still several new products and markets to be developed, and the ongoing campaign for larger salted fish consumption in Kenya should be carried on.

The location of the NORAD funded staff should however be changed to Kitale. The reason for this is mainly to save unnecessary costs but also to improve contact with and the prospects for training TFCS marketing staff. In this field as in many others contact and training between NORAD personnel and Kenya counterparts do not seem to have been taken seriously enough.

The Evaluation Mission is not convinced as to the need for an office in Nairobi, as long as the most important markets are obviously within the country and not outside.

The marketing branch should be equipped with sufficient vehicles, reported to the team to be lacking at the present time.

6.2.7 **Financial Support to the Marketing Activities**

Marketing activities are today partly paid by TFCS itself partly sponsored by NORAD. The Evaluation Mission considers it is necessary to continue NORAD support in this area.

In particular activities that must be looked upon as innovative (new products, markets, campaigns, research etc.) have been and should still be funded by NORAD. The more ordinary and continuous selling activities, viewed as core activities should as far as possible be covered by the society itself.

1) Gjerstad (1983) - has indicated possibilities of utilizing the existing 50 kwh generator for ice-production. Also earlier proposals of using solar energy should be looked into Sætersdal - report (1980).

7. ORGANISATIONAL ASPECTS AND PROJECT MANAGEMENT.

7.1. INTERNAL ORGANISATION OF TFCS AND RELATIONS WITH MEMBERS.

7.1.1. TFCS is a complex organisation having 7 branches and a number of services and other activities. It covers a large geographical area, with many communication problems and thus demands Management of a particularly high calibre. Other than for one or two brief periods TFCS Management has not been adequate and most of its problems stem from this defect. Many allegations were made to the Evaluation Mission of numerous incidents of interference in TFCS internal affairs by corrupt committeemen, staff, local politicians and public officers. The kinds of incidents referred to have included unfair appointments, promotions and dismissals of staff, misuse of TFCS vehicles and other property, theft of fish and cash, bribery, physical assault and intimidation, etc. etc.

7.1.2 The Evaluation Mission had no means of verifying any of these allegations, although some cases were said to be matters of public court record, and the mission can best bring to the attention of MOCD and other authorities concerned, what appears to have been, and still seems to be a thoroughly unsatisfactory and unhappy situation which is wholly detrimental to the interests of the Turkana fishermen, for such action as may seem appropriate.

In section 7.4. of this report the mission makes recommendations concerning the reorganisation of TFCS and its relationship with MOCD, which will, it is hoped, help alleviate some of the above excesses.

7.1.3 The relations between the Management Agent (Technoserve) and especially the General Manager and the rest of TFCS senior staff are badly strained. To a large extent this is because Technoserve has not played a neutral role with respect to the political factors that have affected the employees. In this respect the Management Commission, and especially the Chairman and two members of the commission representing fishermen have also not been neutral. Instead, the Commission appears to have become a convenient vehicle for furthering the interests of the Technoserve appointed General Manager, the Chairman of the Commission and by implication the local Member of Parliament. It is not conceivable that even with the best of goodwill these very strained relations can be improved so that the transition to take-over by a local Management committee and staff can be smoothly effected. In the circumstance it is advisable that both the Technoserve appointed manager and the Chairman of the Management Commission are replaced with immediate effect.

7.1.4. Recently the Commissioner for Cooperatives has directed that the Assistant Manager should assume the responsibilities of General Manager and that Technoserve should undertake to advise and guide him with a view to enabling him to take on these functions completely after six months. In the meantime Technoserve is expected to submit monthly reports on the performance of both the Assistant Manager and Chief Accountant. Given the very strained relations already referred to above, it is advisable that greater reliance be placed on assessments by the Ministry's own staff and other independent evaluation rather than Technoserve, whose record of performance is not very encouraging.

7.1.5. TFCS members currently have no say in Society affairs, which are controlled by an appointed Commission and Management Agents (the chairman of the Commission and the TFCS G.M. assigned by Technoserve were amongst those about whom the allegations referred to above were

made). Relations between Management and many employees are not happy, not surprisingly at a time when major redundancies cannot be avoided, but made worse by the long delay in reaching final decisions as to who should go or stay.

It is essential, in the Evaluation's view that these matters be resolved as a matter of extreme urgency in the best interest of all concerned.

7.1.6. **Relations between the Commission and Management.**

Relations between Commission and Management appear to have been too cosy hitherto, leading to a lack of sense of urgency in dealing with TFCS problems. MODC has not been kept sufficiently up to date on TFCS matters and in these circumstances, reliance upon the District Cooperative Officer (who does not have a vehicle at his disposal) in Lodwar to act as the link, has not been an adequate response by MODC so far. It is also clear that the representation of the Ministry of Co-operative Development in TFCS by the District Co-operative Officer as Secretary of the Commission has not been very effective. It is surprising that the gravity of the financial crisis in TFCS and the imminence of its collapse was not fully understood by the Ministry. Even if Technoserve sought to hide such information from the Ministry as it now evident they did, it would be expected that the District Cooperative Officer would have informed his superiors as a matter of course. Given the ineffectual nature of the present DCO it is advisable that he be replaced immediately with a more competent officer.

Additionally a Divisional Co-operative Officer should also be posted at Kalokol in order to monitor more closely the day to day activities in TFCS.

7.1.7. The posting of Cooperative Officer at Kalokol is also desirable for reasons of efficiency of administration. Currently because of lack of transport for the DCO at Lodwar, TFCS must provide transportation whenever the DCO visits Kalokol. The burden to TFCS is further compounded by lack of telephone contact between Kalokol and Lodwar and the necessity to take cheques to Lodwar to be signed by the DCO as is required by law.

7.1.8. **Administrative routines and control systems.**

The administrative routines and structure of responsibilities seemed somewhat disordered. This had to do with the present "double-staffed" situation (Technoserve undertaking jobs designated to existing staff), but there was the impression that areas of responsibility to individual staff members were not clearly defined. Some effort should be put into improving the organisation of work.

On the other hand the Evaluation Mission could also detect difficulties across the sections, important information from one section was often withheld from another. The present way of organising every section with its own managing officer seems to be unnecessary and adds greatly to overhead costs.

7.1.9. **Accounting system.**

In 1981 Technoserve developed and implemented a new accounting system in TFCS. This contains a budgetary routine and follow-up in actual figures. The activities are divided into sub-sections, each allocated resources measured against income-figures (for internal transactions internal prices are being set). In principle the system is effective but elaborate and should make tighter control in the different areas possible.

Questions to be asked however:

- Is the follow-up to these routines swift and effective?
- How thoroughly are the premises to the budget worked out?
- Can TFCS operate such an elaborate accounting system effectively?

The team has reason to believe that even if the system has been carried through according to its premises, follow-up action has not been taken when necessary. The problems concerning TFCS finances were already clear in Sept.-Oct. 1984 but were not clearly pointed out. It also seems that the accounting system is somewhat too complicated for ordinary TFCS staff to carry out properly. One clear criticism concerning the present management is a general lack of concentrated information and key-figures etc. The team has received complaints regarding this from NORAD as well as MOCD. The mission is also convinced that individual members ledgers must be re-opened for the recording of fish deliveries and receipts of boats, nets or other equipment.

- 7.1.10. The evaluation mission had also the opportunity to look into the TFCS' **system of filing** and archives. Letters, documents and statistical information were to some degree difficult to find. Files and books seemed to be stored in complete disorder and were often not to be found in the main office (infact three different storing places were mentioned). To be able to supply management with all necessary information - it is essential that all basic documents are kept in good order. It will be necessary to supply some more general office equipment (Filing-cabinets, filing-drawers etc.) to resolve this problem.
- 7.1.11. Githongo & Company has carried out audits since 1980. In one period the auditors also kept the books, a practice that should not be allowed. The auditors should give more attention to problems regarding depreciation procedures. In addition the use of funds should be more closely scrutinised, as should the records of stores receipts and deliveries.
- 7.1.12. **NORAD grants** are given every year to the Society. The team presents the following comments regarding practices apparently being carried out in Kenya.

No clear-cut budgetary routines seem to take place. Possibly these are undertaken in Oslo - but no satisfactory records were found in NORAD's Nairobi Office. In addition to a clear and understandable budgetary procedure - it should also be necessary have follow-up reports based on accounts and referring to actual budgets. Funds meant for specific purposes in support of Turkana fishermen should be thoroughly audited by physical checks.

The team remains uncertain whether all funds so far have been used according to the specified purposes or not.

(These comments should be regarded as criticism of the present NORAD system of control and not of individuals working either in Nairobi or Oslo.)

7.1.13 **Summary and Conclusions.**

Technoserve has developed and implemented an elaborate control-system within TFCS.

The weakness with such a system is whether it works in practice and whether the information it produces is used. It is questionable if TFCS staff can easily operate it or not.

NORAD-grants meant specifically for Turkana fishermen are being transferred without thorough controls regarding use in accordance with intentions. Better local budgetary routines combined with follow-up reports should be developed, and checks on deliveries of equipment should be carried out.

7.2. PERFORMANCE AND IMPACT OF THE VARIOUS TFCS-ACTIVITIES.

7.2.1. Short term development according to the cash-flow situation.

In Appendix 7.3 the cash-flow development from Nov.-84 to April -85 is presented. In addition Technoserve has presented a forecast for the months of May, June and July. Added to the presentation is also a NORAD-grant of K.sh. 863000, meant for specific purposes (nets, training, constructions, advertizing etc.). Use of grants is added to the out-flows of May, June and July.

Excluding the grants the forecasted cash-flow situation as assumed by Technoserve will be as follows: (Figs. represent 1000 K.sh.)

	May	June	July	Aug.
Opening balance	241	95	(38)	552
Inflows	203	227	887	
Outflows	<u>(349)</u>	<u>(360)</u>	<u>403</u>	
Closing balance	95	(38)	552	Cash in hand
Prepaid Customers	<u>(245)</u>	<u>(196)</u>	<u>(147)</u>	
	<u>(150)</u>	<u>(234)</u>	<u>405</u>	

According to these assumptions the society will be on the edge of cash deficit through May and June, with the situation improving by July.

The evaluation team has tried to judge some of the elements in the above presentation critically.

Assumptions:

- 1) Staff maintained + 22 on unpaid leave back in service (2 months repayment).
- 2) 15%, 20% and 30% set-backs in inflow according to problems with fish-production (An average about 26t/month, more likely than 32 t/month assumed by Technoserve).
- 3) The decrease in debt to prepaid customers not as rapid as forecasted (estimates of Tilapia catches are too high).

The teams forecast:	May	June	July	August
Opening balance	241	36	(119)	122
Inflow	175	182	691	
Outflow	(299)	(310)	(353)	
+ 22 un-paid	<u>(81)</u>	<u>(27)</u>	<u>(27)</u>	
Closing balance	36	(119)	122	
Prepaid customers	<u>(317)</u>	<u>(293)</u>	<u>(269)</u>	
Deficit	<u>(281)</u>	<u>(412)</u>	<u>(147)</u>	

The teams somewhat more pessimistic assumptions show an cash-situation fluctuating from - 120' to + 120' shs. The forecast is based on a set of premises that might turn out to be viewed too optimistically.

If the situation regarding catches continues with low figures throughout the rest of the year, the present crisis will prevail. On the other hand, if steps are taken to reduce staff as recommended, the cash position will improve by some shs. 50.000 per month.

Recommendations.

The society is strongly restricted in its operations because of the present cash-crisis. It is necessary to take the following steps to ease the situation in the next 3 - 6 months:

- 1) Reducing staff
- 2) Paying out pre-paid customers fully and put an end to that type of business agreement.
- 3) Give the society a cash injection.

2) and 3) could be given as a short-term loan. An amount of 500.000,- shs. should cover the foreseeable needs up to September, when the situation will hopefully have improved.

The analysis of Cash flow/profit and loss clearly demonstrates the critical state of the society at present and therefore the need for such an additional cash injection if TFCS is to survive.

7.2.2 Long term development according to financial structure and profitability.

In Appendix 7, tables 1, 2 and 4 the mission presents the main account and key-figures for the financial year 1984 - February 1985.

The situation up to Feb.-85 shows steadily diminishing reserves. Working Capital (Current Assets less liabilities) shows a positive figure, but it is questionable whether the ca. 1 mill. shs. shown on debtors account is possible to collect.

There is also a question regarding stocks - whether the estimates are in accordance with reality. The percentage of stored fish out of total stockvalue in Feb.-85 was 19,4%.

If on the other hand a liability of about shs. 700.000 regarding County Council Cess could be cancelled - this would ease the situation to some extent.

7.2.3. **NORAD-GRANTED SUPPORT TO TFCS THROUGHOUT 15 YEARS.**

TFCS viewed as a business firm in a remote area operates with extra overhead costs in accordance with this fact. Boats, nets, internal transportation, marketing, accounts and construction of plant have been subsidized by external sources over the years.

To get an estimate of this financial subsidy the evaluation team has tried to figure out this amount as follows:

<i>(Mill.kr. - shs.)</i>	Average Exchange rate 1,55	
	NOK	K.shs
Total grants 1970 - 1985	24,6	38,13
The Kalokol Building, Processing Plant & Freezing equipment	11,6	18,0
Net grants for NORAD staff boats, nets, vehicles, training, marketing support, consultants, travels, Technoserve contract.	13,0	20,13
Net. grant/year	0,867	1,342

In addition, NORAD funded technical assistance amounting about 1,6 mill K.sh. in the later years.

The central question is of course whether this annual subsidy is used efficiently or not. The team is of the opinion that most of the subsidies used for nets, boats, etc. and facilities of direct benefit of the fishermen, are an efficient way of utilizing the NORAD-funds.

As a counter-part contribution the fishermen in all have paid about shs. 700.000,- in rents for boat and nets during 1981-84. Also the NORAD personnel engaged on specific jobs within the society (processing advisor, marketing manager etc.) seem to be an efficient use of grants.

Questions could be asked regarding some of the vehicles and some of the consultancy-services throughout the project period. Specifically the team views the present contract with Technoserve as a costly and inefficient use of the funds.

Conclusion

When assessing the Turkana project as a development project it is important to take into consideration that about shs. 1,3 mill. year by year are being granted the project (excluding the processing plant and technical assistance). These grants seem to a large extent necessary to keep the project going on in this remote area. By more critical use of money, better controls etc. - it should be possible to reduce this amount, or use it to better effect.

Profitability of various activities within the TFCS.

The fish marketing account for salted fish and sundried fish shows the following percentage of gross surpluses to sales:

	1982	1983	1984
Salted fish section	42%	49%	46%
Sundried fish section	48,7%	43%	43%

There is no clear indication stating that one section seems to be more profitable than the other. As far

as presented accounts are concerned it is somewhat difficult to see what types of products the different sections represents.

Most of the branches show negative gross results throughout the year, mainly because sales figures from these area viewed as internal transfers (quantities multiplied by internal selling price (purch. price/kg + 1 sh.)) Thus it is difficult to extract the accurate external turnover as well as external purchases.

Other activities (Appendix 7, table 2)

The **vehicle operating account** and the **garage account** show especially great negative contributions to the total income. The income on these accounts are being calculated this way:

Garage

Selling price:

- Internal -	Cost of material + 30%
	Labour 35,- shs/hour
- External -	Cost of material + 30%
	labour 45,- shs/hour.

Transportation

Selling price: 6,55 shs/km.

In discussion with the financial manager (Technoserve), it was stated that these prices should cover necessary costs in each section if well managed.

The reasons for the deficit in the **mechanical section** can be mentioned as:

- The sales from transport have remained low while consumption of fuel has been increasing. For this activity to make surplus some measures must be taken. Work tickets must be signed by an authorized officer and speedometers must be checked when vehicles leave and when they return from the journey.
- Vehicles seem also not to be driven carefully enough.
- There is also information indicating vehicles being used for transporting people - instead of fish.
- Private unauthorized use of vehicles.

The **Duka operating account** shows a small deficit by 1981. In fact this discouraging result can be explained by several reasons:

- i) Lack of control and adherence to purchase procedures
- ii) Purchases were being made without authority from shop Manager
- iii) In some cases invoices were paid without supporting documents such as delivery note/goods received notes, purchase order etc.
- iv) Stock cards were not kept properly to enable verification of stock movement.
- v) Suspicions as to goods being taken from TFCS stocks and sold privately.
- vi) Controlled public prices not covering purchasing and transport costs, - while private traders in the area are taking higher prices.

- vii) Lack of control over selling prices and this led to some items being sold at cost price while others were sold below the cost price.
- viii) Goods are normally supplied from Kitale and high transport cost considerably affected wholesale activity.
- ix) Drop in fish activity has also affected the restocking of the shop by the society.

Recommendations

Several recommendations has been described more widely in other parts of this report briefly the following ones could be mentioned:

- i) Merger or closure of some of the societies branches.
- ii) Merge activities into more viable and economic setups.
- iii) Reduction of staff.
- iv) Improve on price structure of fish.
- v) Improving the existing budget/accounting system by closer and more qualified follow-up procedures.

Summary

The society has not managed to establish positive gross-contributions from many of the activities. Despite the elaborate budget/accounting system which has been introduced, the present and former management have failed in bringing the system fully up to date because of the following general reasons:

- i) The society in most cases has failed to meet the budgeted turnover of the activities.
- ii) The operating expenses of the activities have been higher as compared to budgets and as related to turnover.
- iii) Internal control has been generally non-existent and if any there has been poor control.
- iv) Budgetary control in various activities has been lacking.
- v) The management has been too weak to effectively control and manage the various activities efficiently.
- vi) Coupled with indiscipline among the staff, most operations of the society could not run smoothly.

7.3. THE ROLE OF THE FISHERIES DEPARTMENT ON LAKE TURKANA.

- 7.3.1. The Fisheries Department has primary responsibility for the regulated development of the Lake fisheries and was the original initiator of all the development which lead to the establishment of TFCS. From the start of Lake Turkana development in late 1961 until 1975, staff were concerned mainly with extension work and training amongst the growing fishing communities, catch recording, assisting the infant cooperative to solve its marketing problems and providing support for the fisheries research team.
- 7.3.2. Following publication of the Fish Protection (Lake Turkana) Regulations, in 1976 the role of the Fisheries Department changed. Minimum net mesh size regulation had to be enforced in the interest of conservation, and for the first time this brought Dept. staff into confrontation with some sections of the fishing industry.

Fishing boats registration and fishing licence rules also had to be implemented and given the modest staff size then available, this work tended to push the equally important training and extension role into the background.

7.3.3. The conclusion of the 1971/75 research project that fish stocks were of a much lower order of magnitude than had been supposed came as a shock, but made it all the more important to enforce regulations designed to prevent overfishing. Unfortunately the research team's further recommendation that a system for monitoring the impact of fishing effort on the stocks be instituted, could not be implemented for lack of finance and experienced staff. An added problem was the lack of maintenance and slipping facilities for the research ship "Halcyon" and MFV "Iji" which resulted in both vessels falling out of service for long periods. Currently "Iji" appears to be damaged beyond the possibility of repair and is lying derelict in Ferguson's Gulf. "Halcyon" requires new batteries but is otherwise said to be operational, however her hull shows signs of severe corrosion along the waterline and undoubtedly also under water, because of the lack of slipping and maintenance facilities. "Halcyon's" deck plates are also rusted through in several places and it seems unlikely that she can remain serviceable for much longer.

7.3.4. It remains a mystery to the Evaluation Mission why, around 1977, NORAD apparently decided to drop a request from the Fisheries Department for the provision of facilities to maintain the two vessels.

Had that request been followed through, both vessels would in all probability still be fully serviceable and capable of years of service to come.

As it is, the latest agreement to support a joint Lake resources and fish farming research project in Turkana has to include provision for yet another vessel for use on the lake but there is still no mention of any provision for hull maintenance. At this rate, in 5 years time there could be need for a fourth vessel and so on, ad infinitum?

7.3.5. A further consequence of the lack of a suitable sea-worthy vessel for lake-wide navigation is the change from the situation of some years ago, when the Fisheries Officer Kalokol was responsible for the entire lake. Now there is separate smaller station at Loiyengelani responsible for the eastern shore, with little or no possibility of coordination between the two. The Fisheries Department and NORAD are both strongly recommended to look into this situation with a view to improving the prospects for re-introducing a lake-wide and properly coordinated system of fisheries management. It is also urged that the Fisheries Officer in Kalokol should coordinate much more closely than appears to have been the case recently, with TFCS management over such matters as catch records and other statistics, and also revive the joint extension programmes that were very successful in the past.

7.3.6. As noted elsewhere there is some doubt as to the whereabouts of many of the 210 registered boats belonging to TFCS. It is assumed that each boat is physically inspected each year prior to re-registration but if not it is urged that this should be done.

There appeared to be no records in TFCS as to which "boat leader" was responsible for which boat, it would therefore be helpful if, at the time of annual inspection, the name of the boat leader could also be recorded by the Fisheries Dept - he should in any case be required to purchase a fisherman's licence, so this additional task should present no difficulty. (See also proposal for reorganising the TFCS boat repair work in section 6 (d) of Appendix 8.)

7.3.7. Finally, given the present very low state of the lake and its fish resources, it is more important than ever to eliminate the damage caused by the use of undersized nets. The mission noted quite a number of such nets in use at various points. It is recommended therefore that NORAD should support another "amnesty", by providing the Fisheries Dept., with an adequate supply of 5" nets to be freely

exchanged for illegal nets. The Fisheries Officer estimated that there could be as many as 1200 illegal nets in use, and that the cost of replacement with 5" x 9 ply nets at shs 273 each exfactory, would therefore be shs 327.600.

- 7.3.8. The mission realised that the Fisheries Department badly needs assistance to perform the various tasks for which it is responsible on Lake Turkana, especially in the areas of collection and analysis of fisheries statistics, extension work and fishermen's training, and in the general regulation of fishing activities over the whole of the lake. Staffing levels appear to be adequate but activities are severely constrained by recurrent budgetary limitations and for much of the year the staff are frustrated by, for example lack of funds for fuel and travelling expences.

It is recommended therefore that NORAD should support a resumption of Fisheries Dept./TFCS collaboration in fishermen's training in such matters as the care and maintenance of boats, fishing nets, and in proper methods of first handling and processing. The annual cost for materials, fuel and travel allowances etc. would be around K.sh. 200.000. It is also recommended that a Norwegian volunteer having a background in fisheries statistics, might be provided together with a vehicle and supporting finance, to assist in upgrading the collection and analysis of fisheries statistics, particularly of fishing effort which is totally lacking at present. Finally it is recommended that NORAD should commission a marine consultant, possibly from one of the two shipyards in Mombasa, to survey the two Lake Turkana fisheries vessels ("Halcyon" and "Iji") in order to determine whether they can be restored to a seaworthy state and if so what the requirements are in terms of materials and costs. The same consultant should also advise on the question of a slipway/drydock for vessel maintenance, and on the design for the fish transport vessel.

7.4. **THE ROLE OF THE MINISTRY OF COOPERATIVE DEVELOPMENT IN THE DEVELOPMENT OF TFCS.**

7.4.1. **The Role of the Ministry**

MOCD's primary role and responsibility is to guide and assist the Cooperative movement towards its social and economic objectives, and in this regard MOCD has a very powerful position so far as all important decisions within TFCS are concerned. Whilst MOCD can over rule or endorse almost any decision, its function is that of a protector.

Society members with little education or training in finance or business affairs need to be protected against possible manipulations from more highly educated staff or other persons or groups in stronger positions than the average member.

- 7.4.2. In a remote area like Turkana this role usually has to be delegated to the District Cooperative Officer and to a great extent both the Ministry and TFCS are dependant on this officer and the manner in which he fulfills his duties. However, in the particular situation confronting TFCS, of imminent commercial and financial collapse (see paras 7.2.1. and 7.2.2. above) caused by a variety of factors but primarily by past bad management; where the Society has had to be placed under the control of a nominated Commission and Management agents, neither of which appear to have approached their tasks with an appropriate degree of urgency as regards the actions which have to be taken; it is far from clear, and the Evaluation Mission is certainly not convinced, that reliance only upon the D.C.O. is an adequate response, because he has other duties which prevent him from concentrating full time on TFCS problems.

- 7.4.3. Under the terms of the Commissioner's latest Directive, a keen but rather young and comparatively inexperienced society official has taken over as General Manager, with the former managing agents

(Technoserve) relegated to an advisory role in which they are also expected to make periodic reports evaluating the new G.M.'s performance. As he himself admits, he needs specific training in business affairs as well as in general and financial management practice.

Despite this lack he will find himself confronted with management and financial problems of considerable complexity in the immediate future, and given the past uneasy relationship with Technoserve staff, the Evaluation Mission does not believe that he will receive the kind of objective advice and support that he will need to deal correctly with these problems as they arise.

- 7.4.4. Whilst TFCS most immediate problem is its current financial crisis, it is considered that Technoserve committed a grave error of judgement in sending a number of society staff on unpaid leave as a means of cutting costs, instead of seeking authority at a much earlier stage, for the staff concerned and others to be made redundant in strict accordance with Cooperative and Employment legislation. For this reason, and because of their apparent lack of urgency in dealing with TFCS's basic problems and the rather invidious position in which they are now placed as regards TFCS Management, we recommend that the Technoserve contract should be terminated as gracefully but as soon as possible. In their place we recommend that a very senior and experienced official from MOCD be posted to Kalokol as a matter of extreme urgency to advise and assist the GM in his tasks and at the same time to ensure that the Commissioner is kept fully informed and up to date on all essential matters concerning the society.
- 7.4.5. It is understood that members of the Kenyan - Nordic Cooperative Development Programme have experience of fisheries cooperatives elsewhere in Kenya and could perhaps fill the need at TFCS. Indeed it is tempting to wonder why KNCDP was not considered for the TFCS job in the first place instead of Technoserve, especially as NORAD is one of the contributors to KNCDP's costs.
- 7.4.6. Although better management is crucial to TFCS's future well being, the Society has reached a stage in its affairs where good management alone cannot save it from financial ruin. The good offices of MOCD are need to help negotiate an almost immediate injection of additional working capital, probably in the form of a loan, of at least K.sh. 500.000,- to restore its cash flow situation and tide it over until a rise in lake level can encourage higher catches and increased throughput of processed fish. However, it cannot be expected that any financing agency will be agreeable to making such a loan unless the re-financing is accompanied by a major reduction in excess numbers of staff and services and a radical review of the existing salary structure to effect the economies needed to at least restore TFCS to a state of financial break-even.
- 7.4.7. In the time available, during the visit to Turkana District, the Evaluation Mission was unable to acquire an intimate understanding of the service particulars and precise duties of each and every member of TFCS staff; such was in any case not an evaluation function but rather one which should have been undertaken within the first few weeks of Technoserve starting to work. In the absence of any such report it is assumed that this was not done and such a staff review should therefore be an immediate priority for the MOCD officer to be assigned to Kalokol. He will need to have the authority, integrity and support required to be wholly impartial and resistant to the inevitable political and other pressures that will be brought to bear on behalf of particular members of staff. However, even though the Evaluation was not able to undertake such a review, a quick perusal of the current staff list shows a number of areas in which savings could be made.
- (i) **Accounting Services**
Including the three who have now been reinstated, there are 12 Accountants, Accounts Assistants and Cashiers at Kalokol. A maximum of 7 should suffice, saving probably shs. 20.000,- per month.

- (ii) **Security**
There are 9 security staff at Kalokol. 2 by day and 2 night watchmen should be ample, saving about shs. 5.000,- per month.
- (iii) **Excess Artizans and Building staff**
The unpaid leave list include 3 tradesmen and there should be no further building needs once Todenyang Branch is complete (any future works to be done by contract). Saving is 6 posts, or about shs. 7.000,- per month.
- (iv) **Clerks, General Workers etc.**
The leave list contained 16 such posts and could probably be increased to at least 25 without causing undue difficulty, saving about shs. 14.500,- per month.

7.4.8. The question of very high salary levels paid to a number of TFCS staff compared with the guidelines for a Category VI society, which is considered to be the appropriate level for TFCS, is a matter of considerable concern to the Evaluation Mission but one which is seemingly rather difficult to resolve. The disparity with lower paid staff and members receipts is so great however that the matter cannot be ignored. For example; the Asst. Manager (now probationary General Manager) receives a basic salary of shs. 7.980 p.m. compared with the guideline Category VI maximum of shs. 3.613. The Chief Accountant receives a basic salary of shs. 7.938, again compared with the guideline of shs. 3.613. The Deputy Chief Accountant draws a basic salary of shs. 5.775 and Accountant I shs. 5.050, etc. Incentives to induce good staff to work in Turkana District are understandable and acceptable but inducement allowances should be shown as items separate and distinct from basic salary, and such allowances on the scale indicated above are quite unacceptable. Over and above that, the very idea of having to induce a Turkana, no matter how well qualified, to work in a senior position in his own home district is little short of outrageous. The Evaluation Mission has no suggestions as to how this matter can be resolved and can only bring the matter to the Commissioner's attention with the strong recommendation that he takes whatever action may seem appropriate to rectify this injustice to the interest of the TFCS membership.

7.4.9. In the interests of simplifying TFCS's organisation and easing the burden of management and minimising society costs, it is considered that the range of services should be limited to those which are essential to TFCS's basic purpose, namely the purchase, delivery and sale of members production. These services are:

- (i) Fish buying, and grading
- (ii) Transport to Kalokol and Kitale
- (iii) Fish wholesale selling
- (iv) General administration and accounting
- (v) Distribution and sale to members, of nets, hooks lines, floats and salt. (Delivery and sale of posho at branches where there are no private dukas should be maintained, but not otherwise).

With the exception of some NORAD provision for the purchase of nets, all the above functions and the staff needed to perform them should be affordable from TFCS revenue.

7.4.10. A detailed reorganisation plan for TFCS was produced, as a final task for the Evaluation Mission before leaving Kenya. It incorporates the preceding measures and recommends other actions, all designed to minimise TFCS overheads, reduce services to those considered essential to TFCS survival, and proposes alternative means for administering and financing other activities which it is believed should be retained in the longer term interests of the fishery. The plan is appended to this report as Appendix 8.

7.5. THE ROLE OF NORAD AS AN AGENCY FOR TFCS DEVELOPMENT.

7.5.1. NORAD's role has been crucial for TFCS development so far, and represents an injection totalling nearly shs. 40 million, excluding the cost of technical assistance, since the start of NORAD's involvement in 1967. It appears that in recent years NORAD's own accounting system has not required verification that expenditure by aid recipients was for the specified purposes for which the aid was provided. If this is so, the Evaluation Mission considers it to have been a retrograde step which contributed to the poor standards of financial control in TFCS, and recommends that some form of stricter control should be reintroduced.

7.5.2. NORAD's future role as TFCS sponsor will be as important as in the past, but it is hoped that it will be more carefully directed at the creation of self-sufficiency within the Society and its membership.

Thus, future supplies of nets should, as far as possible be on the basis of repayment, on credit terms if necessary, by the fishermen who receive the nets, and new boats should be allocated to crews who will pay regularly for the cost of upkeep. (Note: this requirement for payment should not apply in the case of nets allocated to the Fisheries Dept. for issue to fishermen in exchange for illegal nets as part of an "amnesty".)

TFCS will require a number of capital items in the near future, such as at least one fish transport vessel and possibly a new truck to replace one of the vehicles that now appear to be beyond economic repair. The Evaluation Mission recommends that any such request from TFCS be viewed sympathetically since the costs are clearly beyond the Society's present financial resources.

7.5.3. The re-organisation plan for TFCS which is appended to the report contains a number of proposals which also affect NORAD and its future role. In particular it is recommended that in the interests of reducing operating costs and minimising the administrative load on the new General Manager, NORAD should take over full responsibility for funding and organising satisfactory alternative means of administering four of the services formerly carried out by TFCS. These are:

- (i) Marketing Development
- (ii) Processing and Product Development
- (iii) Boat Building and Repair
- (iv) Training.

Details of these services, of the work and costs involved and suggestions as to how the alternative administrative arrangements could work are provided in Appendix 8 and are therefore not repeated here. The mission strongly recommends these measures and also the recommendations for NORAD support to strengthen the Fisheries Department's role.

7.6. FUNCTIONS AND ROLES OF EXPATRIATES AND CONSULTANTS IN THE DEVELOPMENT OF TFCS.

7.6.1. In the early years of the project reliance was put on expatriate management advisors. It was expected that in the meantime suitably qualified local staff would be identified and trained to take-over. But there is little evidence to show that the expatriates undertook such selection and training seriously. Thus local personnel were hastily recruited into positions, for which by their own admission, they were often inadequately qualified. There is no doubt that most of the expatriates were themselves well qualified and carried out their responsibilities satisfactorily, but the transition to local take-over appears in some cases to have been badly managed.

7.6.2. It is possible that more specific Terms of Reference are needed in this respect. There has also been the tendency for the expatriate managers to gloss over local social and political underpinnings of activities in TFCS and to uncritically label some members of staff as incompetent. This certainly appears to have been the case with respect to the former General Manager and to some extent the present one. In some cases the period of service may have been too short to enable the expatriate to fully comprehend the ramifications of the local situation.

7.6.3. In respect of technical assistance personnel whose function extends beyond a normal tour of 2 years, but who may not be able to extend and who therefore need to be replaced by another expert, the importance of an actual handover of duties, information and plans cannot be too strongly emphasised. In addition, where training of a Kenyan understudy is involved, the expert's terms of reference should also state more explicitly what is required.

It appears that in a number of cases in the past, such training was not handled as well as it should. The time needed for such training, including attendance at overseas courses where appropriate, may need to be reviewed more realistically in future. In other words, recruitment of the understudy must be undertaken early enough in the expert's tour of duty, so that initial on-the-job training and later attendance at courses can be completed with sufficient time remaining for the two to work together for some time. This ensures that the understudy/successor can gain actual experience of the job concerned, after his period of training, and that the expatriate expert can provide his successor with all the background and other information needed for an effective and comprehensive handover.

7.6.4. It was also observed that some of the experts, on arrival to take up their duties appeared to be unfamiliar with work done earlier or elsewhere, in the tropical application of their northern expertise. F.A.O. publications contain a wealth of such knowledge but are not always available at the duty station in Kenya.

It is recommended therefore that newly appointed experts, who lack prior tropical experience, should spend a few days in the F.A.O. library in Rome en route to taking up their duties, to ensure that they have access to all this invaluable experience and have the opportunity to talk to F.A.O. experts who may have done similar work in other parts of the world.

7.6.5. With respect to consultants, it would appear that the duration of their assignment has been generally too short. Consequently their recommendations, as in the case of the fish processing plant or the "Blue boat", led to very costly failures.

In the case of socio-economic consultants the findings have been somewhat too broad and generalised to make any impact on policy. It is advisable in future that consultants should be selected from among people with local experience, or for sufficient time to enable them to grasp the local socio-political nuances. Additionally, it is desirable that continuous monitoring of the project should be instituted to provide the basis for future evaluations.

7.7. **APPROPRIATENESS OF THE COOPERATIVE AS A FORM OF ORGANISATION IN TURKANA FISHERIES WITH RESPECT TO LOCAL NEEDS.**

7.7.1. The Evaluation Mission considered possible alternatives to TFCS and concluded that the disadvantages of such alternatives, such as reliance wholly upon private traders to buy and transport fish from the lakeshore for sale elsewhere, and to supply fishing gear etc., or the further alternative of some form of state enterprise or para-statal marketing board, were so great as to massively outweigh any possible advantages, especially when viewed from the standpoint of the fishermen.

- 7.7.2. Thus there is no question but that TFCS and the cooperative approach, despite its problems is still by far the best means of promoting the interest of the Turkana fishing community. However, the present organisation of TFCS can with considerable advantage be modified to make it more representative and responsive to members needs, by the idea of decentralising some power to the branches, and by having branch committees, whose approval by simple majority would be needed before central Management could impose major changes within the society. The re-organisation plan (App. 8) contains a number of detailed proposals in this regard.

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 2. $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$
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 36. $\frac{1}{2} \times \frac{1}{37} = \frac{1}{74}$
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 41. $\frac{1}{2} \times \frac{1}{42} = \frac{1}{84}$
 42. $\frac{1}{2} \times \frac{1}{43} = \frac{1}{86}$
 43. $\frac{1}{2} \times \frac{1}{44} = \frac{1}{88}$
 44. $\frac{1}{2} \times \frac{1}{45} = \frac{1}{90}$
 45. $\frac{1}{2} \times \frac{1}{46} = \frac{1}{92}$
 46. $\frac{1}{2} \times \frac{1}{47} = \frac{1}{94}$
 47. $\frac{1}{2} \times \frac{1}{48} = \frac{1}{96}$
 48. $\frac{1}{2} \times \frac{1}{49} = \frac{1}{98}$
 49. $\frac{1}{2} \times \frac{1}{50} = \frac{1}{100}$

8. EDUCATION AND TRAINING.

8.1. Training and Education of TFCS Members and Staff.

8.1.1. It has always been commonly agreed that training and education at all levels is of extreme importance in an environment like Turkana, both generally and within The Fishermen's Cooperative Society especially. The By-laws of the society, section 4.5. (v) provides for the use of surplus income for educational purposes. Several times a frame for an educational and training programme has been worked out and some training activities have been implemented. A number of reasons seem to have prevented the establishment of permanent and effective facilities for training. These constraints have included: lack of funds, lack of qualified personnel with education and training as their sole responsibility, lack of continuity in leadership and staff, and fluctuations in the number of individuals taking an active part in fishing and fishprocessing in the different parts of Turkana.

8.1.2 Relevance of Training and Education to Project Objectives.

A full and continuous education and training programme at the level needed seems to require more resources and personnel than were ever available in the past. Over the years some information and training activities for the fishermen/members have been carried out, and branch meetings and annual meetings have to some extent been used as channels of information as well as a forum for expressions of the views and needs of the fishermen.

8.1.3. Since about 1976 the Society has had an education section and since 1979 a Turkana education officer who has been able to introduce the principles of cooperative societies to the fishermen in their own language.

One day branch meetings have been held where a member of the Co-operative Committee, preferably from the branch itself, has informed members on main activities and future plans of the organisation. A representative of the Fishery Department has often been involved in some kind of extension work at these meetings. An example of the improvements achieved by such activities seems to be better treatment of the salted-dried fish, in which the high content of sand after processing used to be a great problem. Extension activities, which included the introduction of a type of rack for drying purposes have served to diminish this problem.

Elected committee members have attended seminars and courses and staff training has taken place at different levels.

8.1.4. However, the training that actually has taken place has not been sufficient to enable members, committee members and staff to cope with the problems of the cooperative society at a time of recession.

It is essential that members not only know their rights and duties but are able to use them, for example in the election of committee members to represent them.

Committee members' role is crucial, and they should be given intensive training as soon as elected. The staff should be able to develop in their field of work and to acquire a deeper understanding of the

functions of a cooperative society. Management should give priority to personnel who show real interest in their work and who have potential for future service at a more advanced level.

8.2. FUTURE TRAINING AND EDUCATIONAL NEEDS.

- 8.2.1. The appointed Commission has a deadline, of March 1986, to make a positive impact on the education of members, potential committee members and key staff.

With the grave problems facing the society, this work is of major importance.

To implement it effectively, however, a restructuring of functions and staff must first be undertaken, hopefully along the lines suggested in the Mission's Reorganisation Plan.

- 8.2.2. The preparation of this restructuring should include assessment of the qualities and needs of every staff member with regard to their actual functions. In this restructuring phase it is extremely important to be realistic as to the impact of training on a rather short term basis. For some crucial positions training must be combined with necessary background of several years of practical experience.

Every individual should be able to work to his or her full capacity, but it is unfair and dangerous to expect individuals to be successful in work for which they lack the necessary background. This happened on one occasion in the past, when a person himself stated that he was not yet qualified for the most important position of the society. Time proved him to be right and the people who wanted him for the position were wrong. This sort of situation is damaging to the institution and the individual concerned and should by all means be avoided.

- 8.2.3. Based in a revised staff structure and broad information to members on their rights to elect their own representatives at the forthcoming annual meetings, the mission recommends external support to the establishment of an efficient education and training section. A Turkana who can speak to the fishing population in their own language is needed in this section. It also needs a person able to create intensive programmes for committee members and efficient staff training. Probably 2 persons are needed to fulfill these duties, and a very experienced person from outside for some months to supervise the planning and establishment of the activities.

The remoteness of Turkana from the rest of Kenya has probably made it difficult for members, committee and staff alike to make full use of the facilities within the Co-operative and other institutions for adult education and training. An experienced person coming in for a limited period should be familiar with these facilities, be able to assess the needs of the different groups as well as of individuals and be able to plan a realistic training programme.

8.3. COST CONSIDERATIONS.

- 8.3.1. There exists a bursary fund at the Co-operative College for weaker Co-operative Societies which need training. Women are also given priority.

The Turkana Society should be able to benefit from such a fund, and other possibilities for training should be looked into and taken up.

While existing Kenya resources should be tapped for the society to the maximum extent possible, there will be need for extra funding which the society at the moment is not able to afford.

- 8.3.1. If the organisation is to be reduced to the suitable size for the present fisheries, the team would recommend that NORAD for a period of up to 3 years should cover expenses under an established training programme.

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TERMS OF REFERENCE FOR THE EVALUATION OF THE FISHERIES' DEVELOPMENT AT LAKE TURKANA, KENYA.

The team shall evaluate the present status of the project covering the following main aspects in addition to other problems found relevant by the team.

1. OBJECTIVES AND TARGET GROUPS

- a) discuss the objectives formulated for the project and their relevance to the target group's main problems and needs,
- b) assess to what extent the formulated target group actually are benefitting from the project,
- c) analyze the extent and forms of the target group's participation in the planning, financing, operation and decision making of the project,
- d) assess the adequacy of the development inputs and level of technology in relation to the objectives of the project,
- e) identify the Kenyan policies for the development of the Turkana region in the context of fisheries and cooperative development, assess how the project adheres to the policies, and make recommendations on how the adherence can be improved,
- f) review the project's compliance with Norway's principles for development cooperation,
- g) assess to what extent the fishery project is integrated with other local or externally financed development projects in Turkana,
- h) discuss to what extent the TFCS has affected price levels of fishproducts and volume of sales inside and outside Turkana region,
- i) compare fish prices and marketing in Turkana with fish prices and marketing in other places in Kenya,

2. FISHING

- a) assess the status of the fisheries, production, storage and transport of fish,

3. ORGANISATIONAL ASPECTS

- a) analyse the internal organisation of the TFCS, the relations to individual members, the relations between the management committee/commission and employees, the relations between the commission and the executive/appointed management, the administrative routines, control systems, and assess possible constraints in the operation of the project related to the organisational set-up,
- b) analyze and discuss the performance and impact of the various activities of TFCS,
- c) assess and review the role of NORAD as an agency for the development of the TFCS,
- d) assess and review the role of the Ministry of Cooperative Development and Fisheries Department, for the development of the TFCS,
- e) assess the functions and roles of expatriates and consultancies in the development of TFCS,
- f) assess the appropriateness of the cooperative as a form of organisation for Turkana fisheries with respect to local needs,

4. **SOCIO-ECONOMIC IMPACT**

(based on preliminary research by Vigdis Broch-Due)

- a) define the social and economic units (i.e. individuals, households, kinship groups, groups of production, cooperatives etc.) in the project area,
- b) analyze the process of temporary or permanent recruitment to these units,
- c) analyze the internal structures of the units with respect to allocation and management of their total resources: the sources and sizes of incomes as well as expenditures, the production patterns, and the actual as well as potential investment, consumption and saving patterns and the economic and social relationship between fishery and other productive sectors. Special attention should be paid to decision-making pertaining to incomes and distribution of resources based on gender, age groups, kinship groups and other social groups,
- d) analyze the process of social and economic differentiation between the units,
- e) analyze the unit's production strategies in various economic sectors like fishing, agriculture, livestock and trading, and the interdependence between the sectors with particular emphasis on how these strategies affect the fishery sector,
- f) analyze the relationship between the cooperative society and the fishery communities, with special regards to the effects of the marketing monopoly and the actual and perceived benefits of membership of TFCS relative to obligations entailed by it,
- g) assess the relationship between fishery and settlement patterns, with particular emphasis on the relationship between fluctuations in catch volume and geographical mobility,

5. **FUTURE DEVELOPMENT**

With reference to the conclusions drawn from the above mentioned points, the team should present its recommendations for the future self-reliant development of fisheries at Lake Turkana. Particular emphasis should be put on:

- a) giving recommendations as to future strategies for the fishing industry, including choice of gear and boats, production and processing methods,
- b) giving recommendations on incentives and services to the fishermen and women,
- c) giving recommendations on strategies for distribution and consumption of fish in Turkana,
- d) giving recommendations of the future development of the fishing community,
- e) giving recommendations regarding the most suitable organisational set-up to ensure optimal administrative and economic operation and distribution of benefits and incomes to the target group with special consideration for local needs,
- f) future programmes and activities of training and manpower development necessary for a self-reliant development of Turkana fisheries,
- g) further need for external assistance to the project and the fishing community,
- h) possible interdependence between the fishery project and various community activities,

IV **REPORTING**

The report must be drafted by the whole team and completed in Kenya. The final report in the English language is to be submitted to the Kenyan authorities and the Norwegian Ministry of Development Cooperation before 15 June 1985.

Oslo, 22 March 1985

FISH PRODUCTION IN LAKE TURKANA FROM 1967 TO 1984

The table below indicates the annual fish catch from the Lake Turkana for a period of eighteen years, calculated as a whole, fresh landed weight basis.

YEAR	WEIGHT (M.tons)	VALUE TO THE FISHERMEN IN (1000 shillings)
1967	1.727	251
1968	2.044	240
1969	3.753	586
1970	4.854	1.011
1971	3.612	1.027
1972	4.090	1.022
1973	4.927	1.435
1974	5.731	2.585
1975	4.236	2.885
1976	17.044	17.951
1977	15.473	10.848
1978	15.560	11.513
1979	13.731	11.177
1980	12.384	9.601
1981	10.529	10.849
1982	11.040	12.033
1983	10.113	13.552
1984	8.448	13.903

Source: Kenya Fisheries Department

**TFCS LANDINGS STATISTICS FOR 1972 TO 1984
(IN TONS WET FISH WEIGHT).**

	Salt sun-dried	Sun-dried	Smoked	Fresh	Total
1972	1980	246	84	46 ⁽¹⁾	2779
1973	2168	160	216	545 ⁽¹⁾	3098
1974	2150	150	741	525 ⁽¹⁾	3565
1975		(tilapia 1996)		-	3578
1976	1969	(tilapia 19232)		-	21201
1977	2125	3800	-	-	5925
1978	1877	3547	654	253	6331
1979	1760	2001	510	357	4628
1980	2230	1236	216	372	4154
1981	1607	804	156	304	2871
1982 ⁽²⁾	1221	2256	258	278	4013
1983	281	29919	-	20	3220
1984	211	1807	-	-	2018
1985(Jan-March)	173	192	-	-	365

1) Refers to local home consumption, whereas this commodity in 1978 - 1982 refers to export only.

2) Information 1972 - 1982 based on Table 5 in Gjerstad "Fish Processing in Turkana - Present and future methods" - Tromsø 1983. Information 1983 - 1985 based on TFCS statistics of purchase.

**ESTIMATES OF TOTAL PRODUCTION IN LAKE TURKANA 1977 - 84
(TONNES OF WET WEIGHT).**

		Purchased by TFCS	Other trade in the area	Local con- sumption	Total production
1977	Fish.Dep. ⁽¹⁾	6148	7705	1620	15743
	Gjerstad	5925	1200	1500	8625
1978	Fish. Dep.	9124	4816	1620	15560
	Gjerstad	6331	1200	1500	8625
1979	Fish. Dep.	6935	4816	1980	13731
	Gjerstad	4751	1200	1800	7751
1980	Fish. Dep.	6708	3681	1995	12384
	Gjerstad	4414	1200	1800	7414
1981	Fish. Dep.	3862	3681	1995	12384
	Gjerstad	2700	1200	1800	5700
1982	Fish. Dep.	7158	2470	1412	11040
	Broch-Due/ Revold W	4014 ⁽³⁾	1166 ⁽⁴⁾	1260 ⁽⁵⁾	6440
	E	100	100	670	870
	Total	4114	1266	1930	7310
1983	Fish. Dep.	3179	2025	3224	10113
	Broch- Due/ W	3220	1080	1170	5470
	Revold E	530	180	870	1580
	Total	3750	1260	2040	7050
1984	Fish. Dep.	3179	2025	3224	8448
	Broch- Due/ W	2018	682	1080	3780
	Revold E	350	300	770	1420
Total		2368	982	1850	5200

1) Estimates 1977 - 84 based on Fisheries Department statistics.

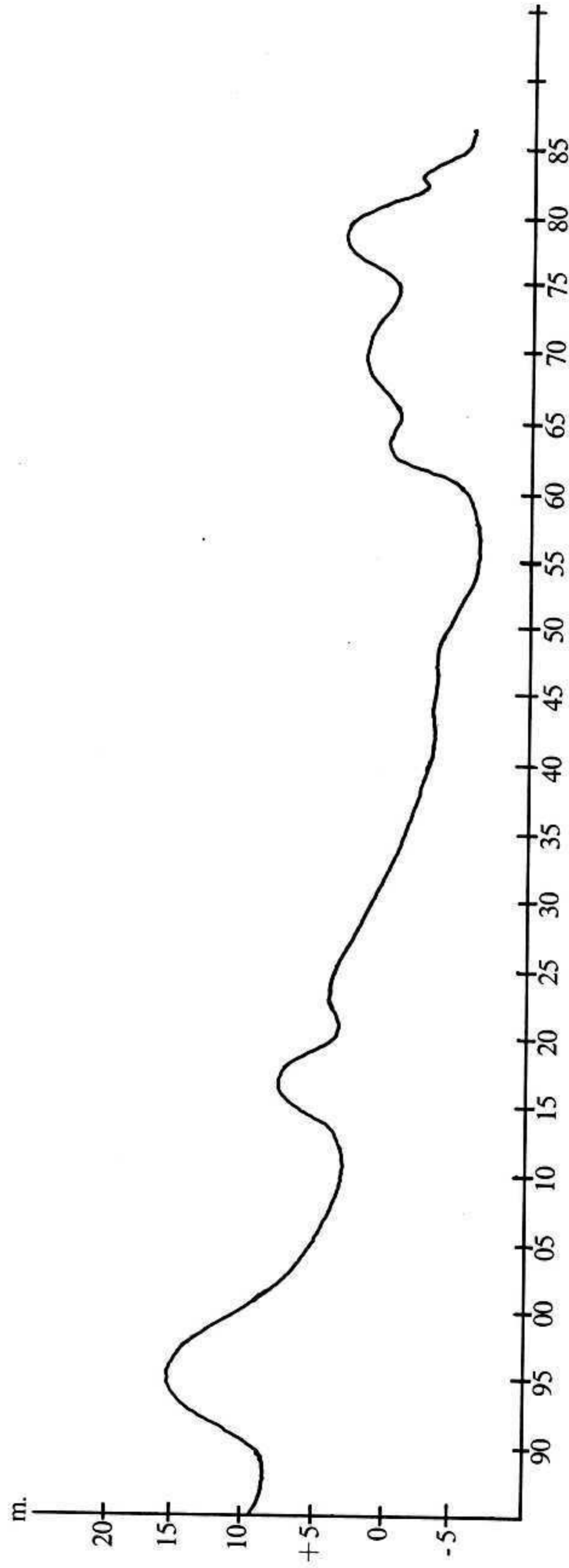
2) Estimates 1977 - 81 based on table 4 in Gjerstad (Tromsø - 1983). Low figures compared to Fisheries Department especially due to low estimates of other trade in the area (trade outside TFCS and not consumed locally). Different figures regarding TFCS's purchase due to use of different conversion rates (dry to wet weight for diff. products.)

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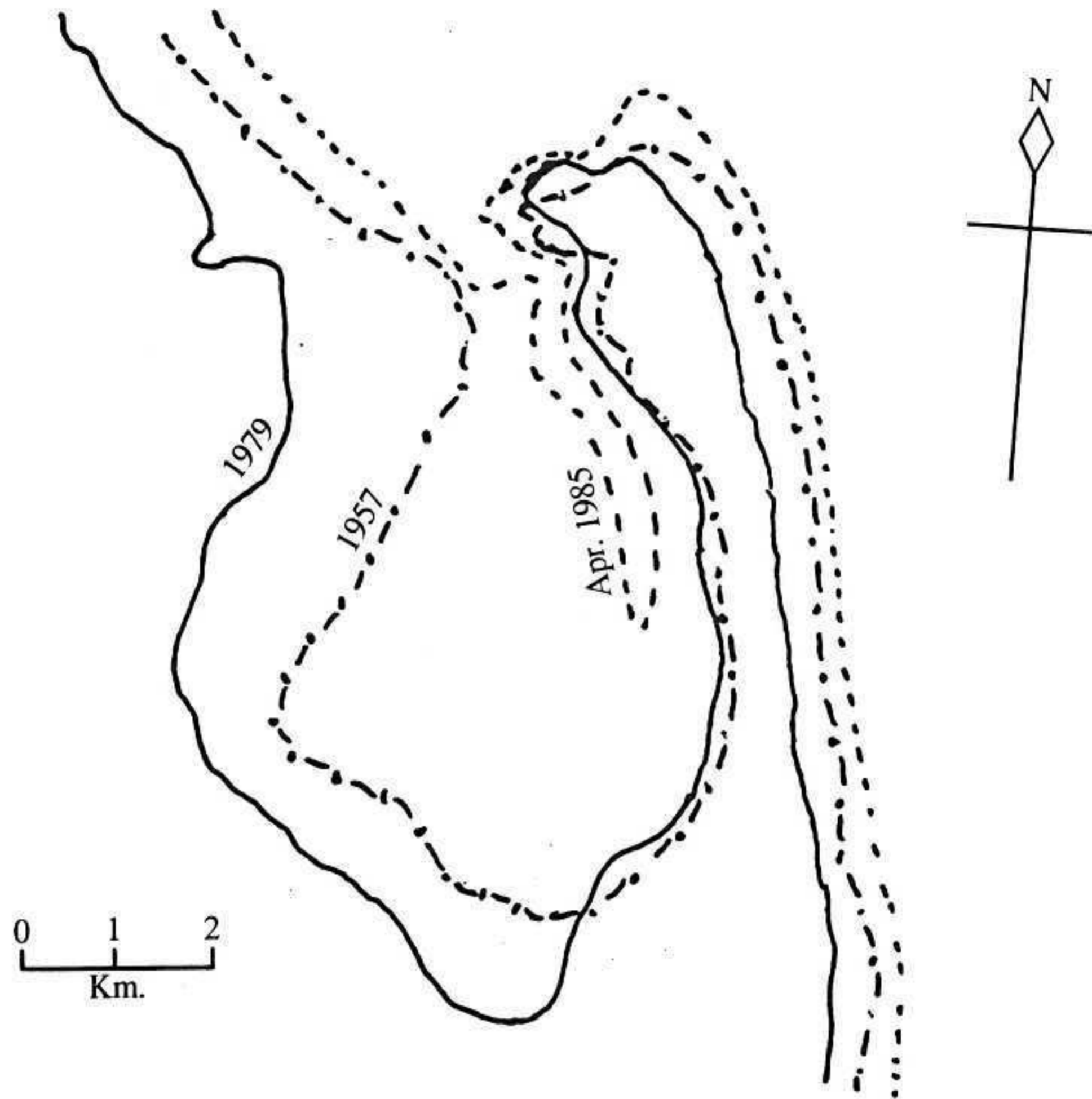
- 3) Estimates 1982-84 (Broch-Due/Revold) based on TFCS (W) and Loyangeli Fishermens Co-operative (E), purchasing statistics.
- 4) Trade on figures according to estimates of fish sold in the Turkana region - not in the near-lake area and not through the TFCS. On the eastern side estimates based partly on counts of lorries leaving Illaret in 1983 and 1984.
- 5) Based on an estimate of fresh fish eating population of: Western side - 14 - 12000 Eastern side - 8 - 7000

Daily consumption: 0.25 kg pr. capita.

Changes in the level of Lake Turkana, 1888 to 1985



Sources: A. J. Hopson — Research Report, ODA, 1982, Fisheries Department.



Changes in the size & shape of Ferguson's Gulf & Longech Spit.

Source: Norconsult/NORAD/IBM Report on use of Sattelite Data: May 1980, and personal Observation during April 1985.

**DEVELOPMENT OF PRICES TO FISHERMEN
AND GROSS PROFITS TO THE SOCIETY**

		(Kshs per Kilo)										
PRODUCTS		%Average Annual Increase	JAN	JULY	JAN	JULY	JAN	JULY	JAN	JULY	JAN	JULY
			85	84	84	83	83	82	82	81	81	80
Salted/ sundried	prices to fishermen	10.7	4	3	3	3	3	3	3	3	3	2.60
	gross profit to society	0.5- 8.5	4-7	5-8	5	5	5.50- 7	6.50- 8	6-8	4-6		3.90- 4.90
Sundried	prices to fishermen	4.4	5.50	5.50	5.50	5.50	5.50	5.50	5.50	5.50	4.50	4.50
Tilapia	gross profit to society	16 or more	4.50- 9.50	4.50- 8.50	4.50 6.50	4.50	4.50 5.50	4.50- 5.50	4.50-	2.50	3.50	2.50
Sundried	prices to fishermen	neg	3	4	4	3	3					
Chubule	gross profit to society	27	/- 8.50	5.50	5.50- 6	5.50- 8	5.50					
Sundried (fillet) Nile Perch	prices to fishermen	13	7	3.50	5.50	5.50	5.50					
	gross profit to society	16- 50	6- 13	6- 10	6.50- 8.50	2.50- 4.50	4.50- 6.50					
Fresh gutted	prices to fishermen	neg		1.20				2.30	2.30	2.30		2.30
Nile Perch	gross profit to society	neg		1.20				2.45	2.50	2.50		1.45
Fresh gutted	prices to fishermen	neg		2.30				2.30	2.30	2.30		2.30
Tilapia	gross profit	neg		1.90				2.55	2.55	2.55		1.55

Gross profit to society = Various wholesale prices less price to fisherman.

Source: TFCS official prices.

TABLE 1

Accounts 1980 - 1985 - TFCS, Ltd.
(1000 shs.)

Balance Sheet						
	79/80	80/81	81/82	82/83	83/84⁽¹⁾	84/feb-85⁽²⁾
Fixed Assets	2.006	1.997	25.166	23.742	22.640	21.260
Investments	102	104	114	114	120	120
Current Assets	1.991	4.180	4.744	3.547	3.222	3.3341
Current Liabilities	2.765	5.000	2.087	1.872	2.462	2.312
Net.Curr.Ass/(Liab.)	(774)	(820)	1.667	760	1.028	
Adjustments						(61)
	1.334	1.281	26.947	25.531	23.520	22.347
Financed by:						
Share Capital						
a) Authorized	-	-	-	-	-	-
b) Issued and paid up	33	66	74	86	84	85
Ent. Fees	8	15	18	21	20	26
Grants (NORAD, GOK, EEC)	-	-	25.535	23.040	22.150	21.2374
Reserves	2.584	2.407	1.238	1.238	1.238	1.271
Approp. Account	(1.291)	(1.208)	82	1.146	73	(405)
	1.334	1.280	26.947	25.531	23.520	22.351

1) Figures for 1983/84 in accordance with auditors draft - not confirmed by the TFCS Commission. Figures from 1980 - 1983 all audited and confirmed. Financial year begins 01.07.

2) TFCS figures - not audited.

TABLE 2

Accounts 1980 - 1985 — TFCS, Ltd.
(1000 shs)

Surplus and Loss Account						
	79/80	80/81	81/82	82/83	Auditors Draft 83/84	84/feb-85
Contributions +/-	(1.249)	1.829	4.281	2.475	1.202	397
Fishmarket Acc.	60	2.073	4.443	3.111	1.611	265
Boat-hiring Acc.	2	18	-	-	-	-
Duka operating Acc.	(697)	84	25	1	(12)	123
Petrol Station	88	(35)	146	(33)	16	23
Vehicle oper. Acc.	(702)	(311)	(354)	(464)	(418)	68
Building Acc.	-	-	(34)	(13)	(10)	(99)
Garage oper. Acc.	-	-	(5)	(143)	(96)	(50)
Boat build Acc.	-	-	59	18	112	68
Other Income	130	182	56	138	259	87
Total Income	(1.119)	2.011	4.337	2.613	1.461	484
	79/80	80/81	81/82	82/83	Auditors Draft 83/84	84/feb-85
Committee ⁽³⁾	97	71	66	64	83	52
Staff ⁽³⁾	854	787	71	982	1.185	582
Members ⁽³⁾	-	-	1.097 ⁽¹⁾	58 ⁽¹⁾	13	15
Financial/Professional	864	445	1.862	930 ⁽²⁾	464	88
Other Exp. (Maint., Print. Etc)	482	781	571	759	694	225
Total expenditure	(2.297)	(2.084)	(4.307)	(2.739)	(2.439)	(962)
(Loss)/Surplus	(3.416)	(73)	(50)	(180)	(978)	(478)

1) Bonus 1982 = 1.066' shs. or 13.6% of total sales, 1983 = 35' shs. or 0.32% of total sales.

2) Change in depreciation entries: All NORAD-granted assets depreciated towards Grants in Balance.

3) Comprises also education for committee-members, members and staff.

Education in % of total expenses:

1980: 0.26% 1982: 0.13% 1984: 0.12%

1981: 0.14% 1983: 0.32%

TABLE 3

Cash flow (1000 shs)	Realized (Staff paper presented at Commission meeting 16.04.85)							Forecast (Technoserve)			
	30.11	31.12	31.01	26.02	31.03	15.04	30.04	31.05	30.06	31.07	30.08
Opening balance		951	694	531	423	250	136	1.103	602	151	588
Inflows								203	227	887	
Outflows		(257)	(163)	(108)	(173)	(114)	105	(704)	(678)	(450)	
NORAD Grant		-	-	-	-	-	863 ⁽²⁾	-	-	-	
Closing balance (in bank and cash)	951	694	531	423	250	136	1.103	602	151	588	
Cash for Capital projects ⁽¹⁾	(481)	(481)	(468)	(448)	(359)	(359)	(359)	(359)	(359)	(359)	
Prepaid Customers ⁽¹⁾	(559)	(517)	(455)	(401)	(356)	(341)	(341)	(245)	(196)	(147)	
Cash situation	(89)	(304)	(392)	(426)	(465)	(564)	403	(2)	(404)	82	

1) Limitations on the use of cash according to the closing balance Cash for Capital projects should be used for fixed investments only. Prepaid customers should have to be satisfied with deliveries as soon as possible.

2) NORAD-donations for **specific purposes**:
Training, nets construction, advertising. Pr. 1.8. still 143.000 shs. seems to have been used.

TABLE 4**SALARIES AND FISH SALES 1978/79 - 1984/feb-85 (1000 shs.)**

	Salaries	Fish sales ⁽²⁾	Percentage of salaries to sales			
1978/79	1.770	7.543	23.4			
1979/80	2.275	9.122	24.9			
1980/81	1.770	9.758	18.1			
1981/82	1.604	13.766	11.6			
1982/83	1.934	10.797	17.9			
1983/84	2.102	8.501	24.7			
1984/feb.-85	1.048	3.083	34.0			
Forecast 1984/85	1.572	4.625	34.0			
(Account figures)						
(1000 shs.)	Key Figures					
	79/80	80/81	81/82	82/83	83/84	84/feb.-85
Membership	3.481	4.653	5.075	5.075	5.075	
Sharecapital	33	66	74	86	84	85
Reserves	2.584	2.456	1.238	1.238	1.238	1.272
Approp. Account	(1.291)	(1.280)	82	1.146 ⁽¹⁾	73	(405)
Sales of fish ⁽²⁾	9.122	9.758	13.766	10.797	8.501	3.083
Payments to ⁽²⁾ members for fish (incl. bonus).	5.603	4.276	8.935	7.099	4.706	1.944
Payments to members in % of fish sales	61	41	65	66	55	61

1) Includes adjustments according to full depreciation booked on loss and surplus acc. in 1982.

2) Sales and purchases comprises also internal transfers. An estimate of real figures can be calculated by deducting some 20-30%.

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LAKE TURKANA FISHERIES DEVELOPMENT - EVALUATION MISSION REORGANISATION OF TFCS - GUIDELINE PROPOSALS

1. INTRODUCTION

In response to the specific request by the Commissioner of Cooperative Development at a meeting on the 16th May, convened to discuss the mission findings, The Evaluation Mission gave further consideration to the manner and mechanics of TFCS reorganisation in search of a structure which would relate more effectively to the revised objectives that have been suggested in the main report.

In carrying out this additional task, and in particular in regard to the suggested revised staffing structure contained herein, the Mission must caution that it was not originally asked to undertake a detailed person by person staffing and manpower review, nor in the time available would this have been possible, given all the other components of the Mission's Terms of reference. Therefore the Mission's suggestions should be taken as offering guidance only, subject to confirmation or modification by more detailed studies which the Mission recommends should be undertaken by the experienced MOCD Cooperative Management Advisor. It has also been recommended that he should be posted immediately to Kalokol by MOCD, to support and guide the new probationary General Manager, until a more permanent replacement can be recruited.

As noted in the Mission's Summary Report, paras. 5.4.3. and 5.4.5. the Management Advisor must be a person of especially high calibre and integrity, given the gross interference in TFCS's internal affairs that has occurred during recent years and in the course of discussion it was suggested that a past or present member of the Kenya/Nordic Cooperative Development Programme might prove best suited to this task. The Evaluation Mission endorses this suggestion.

2. DRAFT REVISED DEFINITIONS OF TARGET GROUPS AND OBJECTIVES

Although these definitions must, as from the start of 1985/86 be viewed in the context of the wider aims of the Turkana Rural Development Programme - unless the Mission's recommendation that the Fisheries Projects incorporation into that programme be deferred for some time is accepted - it is clear that the project's target groups from here on should be limited to the lake side fishing communities, including but not exclusively, the membership of TFCS.

Objectives should include the creation of greater selfsufficiency within TFCS and amongst its membership; increased involvement by women in TFCS membership (at present only 300 women are members in the total of about 5000); more active involvement by fishermen/women in society decision making and in TFCS business affairs and the promotion of TFCS as a viable commercial enterprise, with the aim of maximising benefits to members of both sexes, to enhance their living standards.

Further objectives would be a rational and balanced utilisation of the Lake's resources commensurate with the need to sustain and conserve the fish stocks, and to promote more active collaboration between the Fisheries Department, MOCD, TFCS and its membership in the enforcement of conservation measures and the provision of training amongst the fishing communities.

In furtherance of the objectives of increased involvement by better educated women in membership and in the control of TFCS affairs, it would be tempting to recommend that a proportion of committee members should be women. However, such a requirement is unenforceable and possibly even contrary to law at present, but it should be a specific requirement for future members education programmes, to promote awareness amongst women as to their rights and responsibilities as members, and the need for them to become more actively involved.

3. REORGANISATION OF TFCS

TFCS currently covers a very wide geographical area which limits the possibility of direct involvement by the primary producers in centralised decision making. The range of TFCS activities hitherto has also been wide with consequential high overheads and this, combined with poor management and low or often negative profitability for many of these activities, has diminished the proportion of benefits accruing to the producers.

The following suggestions for re-organisation are therefore aimed at countering these negative tendencies.

4. THE NEW ORGANISATION

(a) Organisation of TFCS Branches

- (i) In order to promote wider and more active participation by members, the branches need to be made more representative and more autonomous within TFCS, but without changing the status of the Society as a single entity.
- (ii) Thus the By-laws may need amendment to permit the election of Branch Committees and for the holding of regular branch general and committee meetings to discuss both local problems and matters referred to the branch from the central committee.
- (iii) The Store Clerk In-Charge should function as Branch Committee Secretary and convener of branch general meetings. Minutes to be kept and copied to Kalokol and MOCD.
- (iv) Society and branch membership and eligibility for election to branch and central committees must be open to all members of either sex.
- (v) Branches should be authorised to undertake direct sales of TFCS produce within the vicinity of the branch concerned.
- (vi) Allocation of new boats and distribution of nets on credit terms should be at branch level.
- (vii) If necessary, the wording of TFCS's fish marketing monopoly should be altered to permit fresh fish sales to be undertaken directly by fishermen to nearby consumers.
- (viii) Action to establish the branch committee structure can be taken in advance of dissolution of the present Commission and its replacement by a new elected central committee.

(b) TFCS Central Committee and Management

- (i) The record indicates that TFCS Management has hitherto largely ignored discussions and recommendations emanating from past branch meetings. In future, if membership involvement is to be encouraged, management must be required to be

more responsive. It may not always be possible to accede to branch proposals, but if not it should be a requirement that explanation and reasons must be given back to the branch concerned.

- (ii) Any matters having a major impact on membership interest should be referred to branch committees for consideration before they can be approved by Central Committee.
- (iii) When the time comes, each branch at a general meeting should elect one representative to serve on the Central Committee. After such election, the Central Committee member should not be also a member of the Branch Committee, but should be entitled to attend and speak at Branch Committee and general meetings but not vote.
- (iv) The Central Committee should consist of one member from each branch-namely: Todenyang, Lowarengak, Nachakui, Kataboi, Kalokol, Eliye and Kerio, plus two independent members nominated by MOCD. The General Manager, Management Adviser, Fisheries Officer, D.C.O., D.O. and DDO should also attend as ex-officio, non-voting participants.
- (v) Arrangements for meetings, order of business, preparation and distribution of minutes etc., should be handled as in the past by the Society's management.

5. ADMINISTRATIVE AND STAFF STRUCTURE.

As regards fish products for purchase and sale, TFCS should for the time being concentrate on the production of sundried and salt-dried fish. For this purpose, the range of functions or activities currently undertaken can and should be reduced to the following:

- (i) Fish Receiving and Purchase (Mainly at branches)
- (ii) Fish Handling at Kalokol
- (iii) Transport - Branches to Kalokol
- Kalokol to Kitale
- (iv) Vehicle Maintenance/Equipment Repair
- (v) Security
- (vi) Sales (Kitale Depot only)
- (vii) Accountancy
- (viii) Operations Manager and General Managers Office

A proposed organisational chart showing the arrangement and chain of responsibility for these activities is appended as Annex 1.

- (i) **Fish Receiving.** (to be under control of Operations Manager)
Functions: Grading, weighing, purchase, dipping, redrying, and packing of sundried and salted fish.
Present Staff: For each branch, Store Clerk/i/c and 3 others on average.
Staff needed: Store Clerk and 2 permanent plus casuals.
Total for 6 branches 18 staff plus casuals.
- (ii) **Transport to Kalokol/Kitale** (under Operations Manager)
Functions: At present: 3 Lorries and 2 Tractor/trailer units:
N.Branches to Kalokol, 1 trip per week.
S.Branches to Kalokol, 1 trip per fortnight.
Kalokol to Kitale - 2 trips per week
Present Staff: Transport Officer, 3 drivers, 2 tractor drivers and 4 permanent turn-boys.

Staff Needed: 3 drivers, 1 tractor driver and casuals.
 Note: TFCS also has several small vehicles e.g. L.Rovers etc.

- (iii) **Vehicle Maintenance/Repairs etc.** (Under Operations Manager)
Functions: Maint. and repair of TFCS vehicles and other Machinery.
Present Staff: Mechanical Manager, Foreman, 2 mechanics, Clerk.
Staff Needed: Foreman/Supervisor, 2 mechanics, and casual assistants.
- (iv) **Fish Handling/Kalokol** (under Operations Manager).
Functions: Handling salted and sundried fish from branches. Receiving (grading, weighing etc.) fish from Kalokol fishermen. Despatching lorry loads of packed fish to Kitale.
Present Staff: Section Head/Supervisor and up to 10 General Workers (P&P).
Staff Needed: Supervisor (Sec.Hd), 3 Gen. workers (weighing, grading etc.) plus extra casuals as required.
- (v) **Security (at Kalokol):** (under Operations Manager)
Present Staff: Security Officer, 8 guards
Staff Needed: 2 x day guards, 2 x night watchmen.
- (vi) **Sales Staff - at Kitale:** (under Financial Manager)
Functions: Receipt and storage of bulk fish ex Kalokol. Wholesale selling to market traders and agents etc. Retail selling - on limited scale only in Kitale.
Present Staff: Asst. Marketing Manager, 3 clerks, cashier, 2 security.
Staff Needed: Asst. Marketing Manager, 1 x Stores Clerk 2 Gen Workers, watchman.
- (vii) **Accountancy Service:** (under Financial Manager)
Functions: General accounts: Fish Purchases, sales, salaries, supplies purchase etc., Management accountancy: Trial balances, Cashflow, Profit and loss, members loan credit accounts, etc.
Present Staff: Chief Acct., Deputy Ch.Acct., Account. 1 6 x Accts. Assistants, 2 x Cashiers, Internal Auditor, 2 clerks.
Staff Needed: Senior Accountant i/c, 4 x Accts. Assts/Bookeepers, Cashier, Internal Auditor, plus casual clerical assistance.
- (viii) **Operations Manager** (under General Manager)
Functions: Overall supervision and direction of Fish Receiving, Transport, Vehicle Maintenance, Kalokol Fish Handling and Security services.
Present Staff: Non-existent at present though current vacant post of Assistant Manager would disappear. Other staff include Training Officer, P.O. Clerk, 2 x typists, 2 x registry, 1 x Processing assistant, 3 x cleaners, clerk, 2 x General clerks.
Staff Needed: Ops. Manager, 2 x typists, Registry Clerk, plus casual staff as needed for cleaning and other duties.
- (ix) **General Managers Office**
Functions: General direction of all TFCS activities, contracts, staff employment/dismissal, Central Committee Secretary, budgeting and financial control, information to members etc.
Present Staff: Gen.Manager and Secretary/Typist.
Staff Needed: Gen.Manager, Management Adviser (NORAD funded), Secretary/Typist.
- (x) **Total Staffing Required:**
- | | |
|----------------|--------------|
| Fish Receiving | 18 permanent |
| Transport | 4 permanent |

Vehicle Maintenance	3 permanent plus casuals
Fish Handling, Kalokol	4 permanent
Security, Kalokol	4 permanent, as needed
Sales, Kitale	5 permanent
Accounting Service	7 permanent
Ops. Manager	5 permanent
Gen. Manager	2 permanent
	52

Based on the existing salary structure (See Annex 2) the cost, excluding casuals would be Shs. 66.470 per month, producing savings on existing total salaries of Shs. 67.500 per month, or Shs. 810.000 per year. These savings will not by themselves be sufficient to transform the enterprise from losses to profit, since production and throughput are still too low at present.

It will be necessary to await a substantial rise in lake level to revive catches and increase sales, but in the interim, the savings will go a long way towards minimising current losses.

6. OTHER SERVICES

Of the whole range of current TFCS services, it is considered that two, namely Building Construction and the Retail Duka Sections should be discontinued forthwith. With the exception of Eliye Springs, the branch rebuilding programme is now virtually complete and any further work deemed necessary can be contracted out. The retail dukas (shops) have failed to cover costs in recent years and are now virtually out of stock of all regular items, with no funds available for purchasing new stock. It follows that if these services are closed down, the staff concerned will have to be amongst those to be made redundant.

The four remaining services - Marketing, Processing Development, Education and Boat Building/Repair are all considered important to the future well being and ultimate revival of TFCS, but cannot be afforded at the present time. The Evaluation Mission considers that they should be kept in operation, but alternative funding and administrative arrangements will have to be made for their continuation. It is recommended that NORAD should accept this responsibility for such period as is necessary until TFCS has recovered sufficiently in terms of financial and management capacity, to reabsorb them once more.

With TFCS now under the control of a young and virtually untried GM every effort must be made to minimise his administrative load so that he can concentrate, under the guidance of the proposed MOCD Management Adviser, on the essential matters and decisions related to TFCS recovery. Thus in the following proposals concerning the four services, it is proposed that their administrative responsibility be placed elsewhere, but that their technical and other benefits and contributions can continue to support TFCS as before.

(a) Marketing:

Headed at a present by Mr. M. Elliassen, as Marketing Manager, a NORAD technical assistance expert. His understudy is Mr H.E. Ekirapa, presently Asst. Marketing Manager who has been recommended to take over when Elliassen leaves Kenya towards the end of 1985.

It is recommended that NORAD takes direct responsibility for Ekirapa's salary and allowances with immediate effect, provides for the necessary operating expenses including for

the time being the cost of running TFCS's Nairobi Office in Tom Mboya Street, and requires the permanent allocation of a TFCS vehicle for fulltime use by the Marketing Section in connection with follow-up work to the "Eat More Fish Campaign" and for other Marketing section duties. As far as work content is concerned the Marketing Section should continue to report, as before, directly, to the General Manager TFCS at Kalokol.

It is further recommended that Mr. Ekirapa should not be transferred to Nairobi but remain based as at present in Kitale and that following Mr. Elliassen's departure, the Nairobi Office should be closed. The Evaluation Mission is not convinced by the argument that this office is necessary to promote exports. Very little fish is exported at present and there seems no reason why this should not be handled just as well from Kitale, as it was in the past from Kalokol.

It is understood that provision exists for Marketing costs in NORAD's budget for some Shs 200.000. Over and above that there will be need for Shs. 18.375 for Ekirapa's present salary for the next 7 months and thereafter at Shs. 5.500 per month and Shs. 1.654 per month (Shs. 19.848 p.a.) for the Marketing Section's secretary/typist. NORAD should handle all these financial and related administrative matters directly - since the office is for now in Nairobi.

After Elliassen's departure there should be no further need for Marketing technical assistance in the form of a replacement; but provision should be made in 86/87 for a short term consultancy - say 4 men months - for investigation of export markets and to establish appropriate contacts.

(Note: Ekirapa's promotion to Marketing Manager will create a vacancy at Kitale for recruitment of a new Assistant Marketing Manager. Under the new proposals, this post will continue to be funded from TFCS revenue)

(b) **Processing Development**

Headed at present by Mr. Luis de Silva who has completed one year of his two year NORAD contract. His understudy is due to go on a training course in fish processing technology in Norway and should be able to take over shortly after his return. Here also, NORAD should take over responsibility for his salary and for operational costs for processing work. All administrative matters including payment of salary and reimbursement of other expenses could be channeled through the ASAL Coordinator, Mr. Bird, in Lodwar.

The Processing Section should continue to report as before on all technical matters concerning their work, to the General Manager of TFCS. Assuming all goes well with the Training course, there should be no further need for expatriate expertise after Mr. de Silva leaves.

The budgetary allocation and requirement for fish processing work during the next 2 years was not notified to the Mission whilst in Kalokol, and should therefore be ascertained from Mr. de Silva.

(c) **Education and Training**

The Education and Training Section has been without any staff since the former Cooperative Education Programme Officer (CEPO) left TFCS at the end of April.

The whole area of training and particularly members education appears to have been an especially weak part of the TFCS structure for several years, which is all the more surprising because the NORAD annual budget has usually contained a reasonable level of provision for the purpose.

The mission recommends that an experienced cooperative training specialist from the Cooperative College or the Training Section of the Ministry be engaged as a short term consultant to spend sufficient time at Kalokol to assess the needs, plan the re-establishment of the TFCS Education Section and prepare a training programme making use of all the relevant facilities available. At the same time action should be taken to recruit one, or if possible two instructors, one of whom should be, again if possible, a Turkana to concentrate on members education. The two instructors would then implement the Training/education programme under the periodic supervision of the MOCD training specialist.

All of the costs involved would have to be borne by NORAD under current circumstances, and as in (b) above, in order to minimise the administrative load on the new General Manager, to whom the two instructors should report on all practical and technical aspects, the purely administrative support and financial control should be exercised by the ASAL Coordinator in Lodwar. Requirements would be about Shs. 60.000 p.a. for salaries, a vehicle, and Shs. 250.000 p.a. for expenses.

(d) **Boat Building and Repair**

For this service TFCS currently musters a Boat (or fleet) Manager and two boat builders. Since the arrival of the Manager some 100 of the 210 TFCS boats have been overhauled, but clearly many still require attention. The problem is the cost and time involved in getting around to all the fishing villages to locate, identify and if necessary repair the boats concerned.

Given that the Fisheries Department also has to have staff travelling to all the villages to locate, identify and inspect the seaworthiness of all the boats, for the purpose of registration, it would seem sensible in this case to pool resources, and again in order to relieve the new GM, that the Fisheries Office might undertake the task of administering the boat building section, but of course, with NORAD accepting the cost of salaries and materials.

Cost of salaries for the three staff concerned is Shs. 7.915 per month or Shs. 95.000 p.a. In addition, it is considered that the cost of repair materials (glass fibre mat, resins, hardener, wood and fastenings etc.) plus fuel, use of vehicle for travelling and other expenses would amount to about Shs. 350.000 p.a. Any new wooden boat construction to be undertaken could be costed at around Shs. 20.000 per boat.

7. **ADDITIONAL TECHNICAL ASSISTANCE**

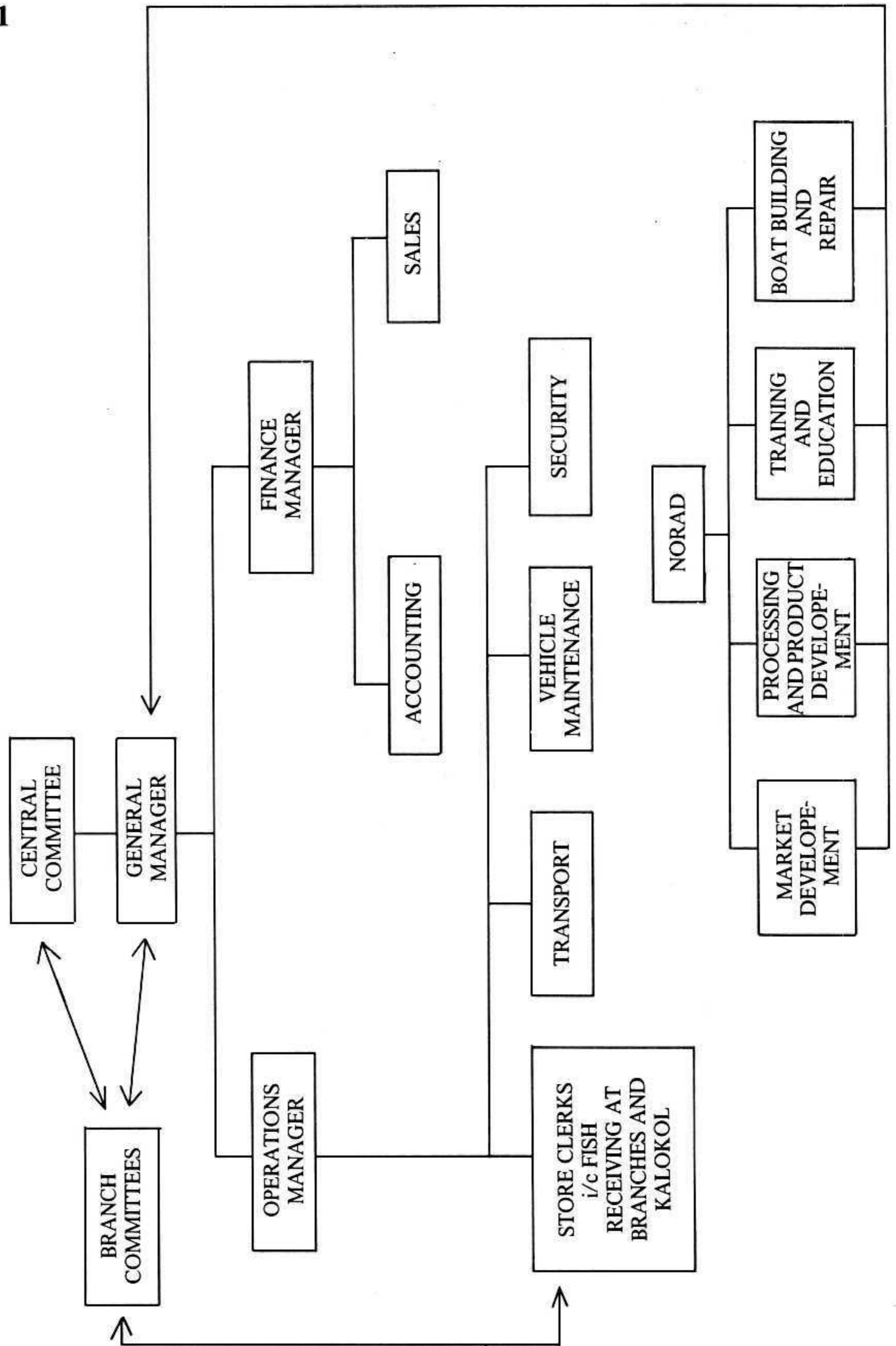
The two T.A. expatriate personnel currently serving with TFCS it appears, should not need replacement on completion of their assignments, because their local understudies should be capable of taking over and continuing their functions (i.e. The Marketing Officer and the Fish Processing Officer), but as noted in sections 6(a) and (b) their understudies would also need to continue to be salaried and supported until such a time as TFCS can afford to take them back.

Secondly, the key position as Management Advisor, for which MOCD would be expected to make a very senior and experienced person available as an emergency and interim measure, would also need some financial support from NORAD, at least to cover travel costs and any other allowances deemed appropriate. However, the officer concerned cannot be expected to be able to stay in Kalokol indefinitely, because of implications for MOCD's own work programme. As stated elsewhere, his task should be short and sharp, to assist and advise the new GM at the outset and to implement the reorganisation plan, after confirming by his own review that it is in all respects realistic and workable.

In the meantime action should be taken to recruit a suitable person - Kenyan or expatriate - who can take over on a longer term basis, say 2 years, the role of assisting the Gen. Manager and also the function of Financial Manager. The latter function is crucial since it is the area where past weakness has contributed so greatly to TFCS problems. This post clearly has to be financed under NORAD Technical Assistance.

ANNEX 1

PROPOSED T.F.C.S ORGANISATION CHART



TFCS PROPOSED STAFF AND SALARY STRUCTURE**ANNEX 2**

1. General Managers Office	General Manager at Shs.	7.980 p.m.	7.890
	Secretary/Typist	1.000	1.000
2. Operations Management	Operations Manager	5.775	5.775
	2 x Typists at Shs.	1.000	2.000
	Registry Clerk	840	840
	General Clerk	735	735
3. Accountancy Service	Senior Accountant	5.775	5.775
	4 x Accts. Assts at	1.575	6.300
	Cashier	2.100	2.100
	Internal Auditor	2.100	2.100
4. Sales (Kitale)	Asst. Marketing Manager	1.890	1.890
	Stores Clerk	997	997
	2 x General workers at	682	1.364
	Watchmen	578	578
5. Fish Handling (Kalokol)	Section Head	1.575	1.575
	3 x General Workers at	578	1.734
	4 x Security Guards at	682	2.728
6. Vehicle Maintenance	Foreman	1.785	1.785
	2 x Mechanics at	840	1.680
7. Transport	3 x Drivers at	1.155	3.465
	Tractor Driver	840	840
8. Fish Receiving	6 x Store Clerks i/c at	945	5.670
	6 x Weighing Clerks at	682	4,092
	6 x Security staff at	578	3.468
		TOTAL shs.	66,471 pm

Above based are existing staff salaries on which some further adjustment may be possible. Savings on present salaries costs are Shs. 67.500 per month approx. or Shs. 810.000 in a full year.

