

INSTITUTE OF RESOURCE ASSESSMENT
UNIVERSITY OF DAR ES SALAAM

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RESEARCH REPORT NO. 63

DEVELOPMENT OF WATER SUPPLIES IN SINGIDA REGION, TANZANIA

THE REALITIES FOR VILLAGE WOMEN



CAROLYN HANNAN - ANDERSSON

824-3596



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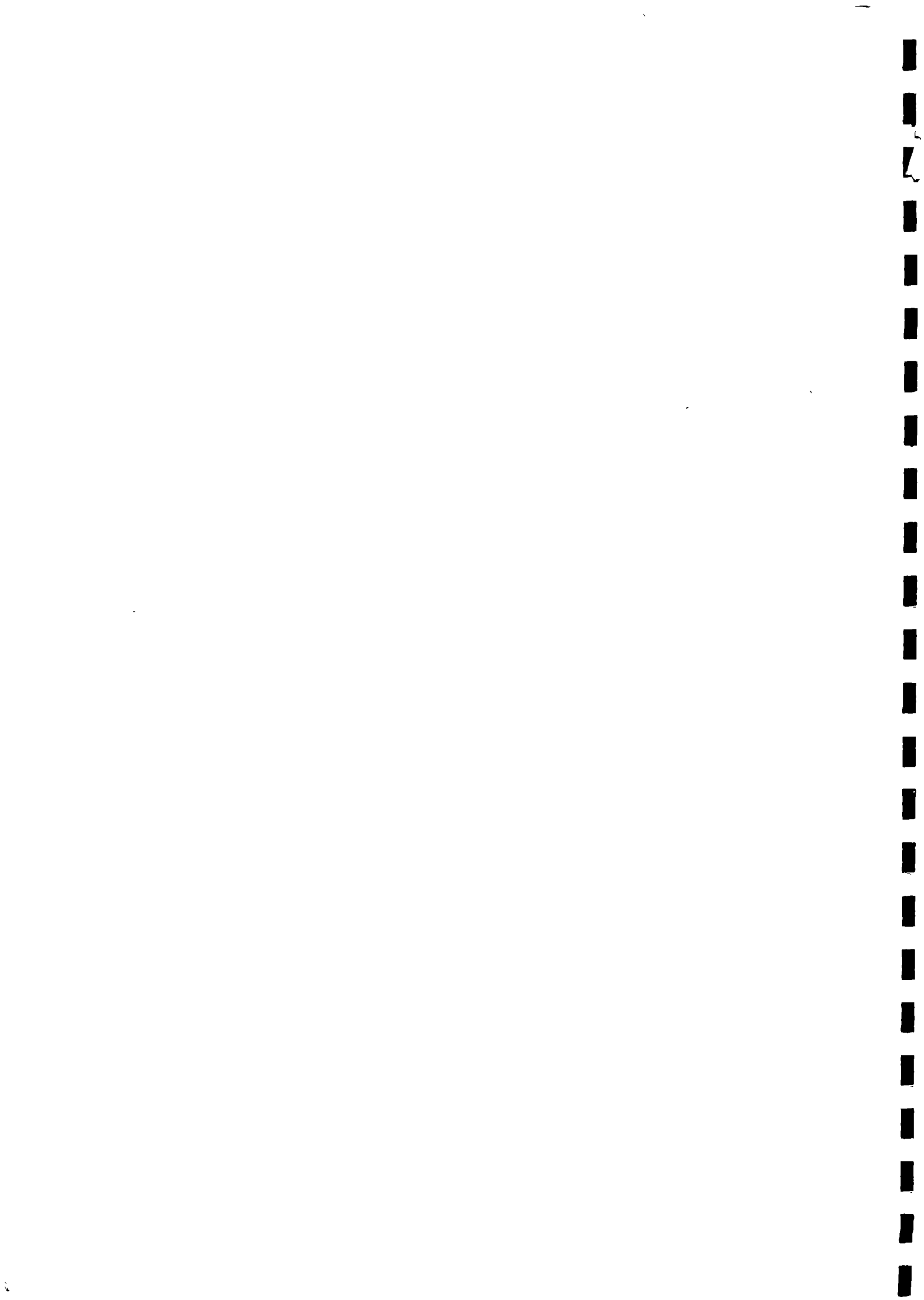
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5267
International Reference Centre
for Community Water Supply

June 1984

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ABSTRACT

This study, carried out in 3 villages, aimed to investigate the role of women in improvements to domestic water supplies, and the impact of these improvements on women. Background information on the general situation of Wanyaturu women and their role in social change - to date is presented. Previous inputs in the field of water supply, sanitation and health education are evaluated. The overall water supply, sanitation and health situation is investigated in 75 households and the impact of improvements in two of the villages is evaluated. Possible strategies for increasing the involvement of women and thereby increasing the impact are outlined.



PREFACE

This report was produced in the context of a project on the development of domestic water supplies in rural areas in Tanzania, "Domestic water supplies: a vital component in Tanzania's rural development. A consumer-orientated study of selected schemes in four regions." This project currently being carried out by Ingvar Andersson and Carolyn Hannan-Andersson (1980-1984) is financed by a research grant from SAREC, the Swedish Agency for Research Cooperation with Developing Countries (9.49 u-forsk 80/78:2) and involves research cooperation between the Institute of Resource Assessment in Dar es Salaam and the Department of Social and Economic Geography at the University of Lund, Sweden.

This report should be seen as a complement to the report "Development of water supplies in Singida Region, Tanzania. Past experience and future options" produced by Ingvar Andersson and Carolyn Hannan-Andersson (1984).

The report is based on fieldwork carried out in 3 villages in Singida Region in November/December 1982 and January 1984. Extensive use has been made of the excellent background material provided by the work of Harold K. Schneider in 1959-60 and Marguerite Jellicoe in 1959-65. Both of these works contain the kinds of socio-economic data upon which all strategies for development, including improvements to water supply and sanitation, should be based. Although much time has elapsed since their fieldwork was carried out and some important changes have occurred in Tanzania, not least villagisation, it would appear that much of the information is still applicable today. This was confirmed by Jellicoe herself on a return visit to Singida in 1975. (Jellicoe, 1979:xii)

Thanks are due to Professor Adolfo Mascarenhas, director of the Institute of Resource Assessment, Dar es Salaam, and to Olof Nordström at the Department of Social and Economic Geography in Lund, for the support given to the project. We are also grateful for the logistic support provided by the Project Manager. Glynn Roberts, and the staff of the Tanzanian Water Development Project in Singida.

Constructive criticism, especially on the aspects of traditional Nyaturu society and change, were gratefully received from Jan Lindström of the Department of Social Anthropology at the University of Gothenburg, Sweden.

The illustrations were done by G. Dias, the maps drawn by Peter Lunkombe, and the typing done by Ingrid Ekström. H. Mwansoko was responsible for the Swahili translation of the summary and conclusions.

In addition, I wish to acknowledge our excellent field assistants, Augustine J. Yonah. Antonia Everest Msoffe and Joshua Malanga, and also the hospitality and openness of the people of Unyanga. Unyangwe and Nkhoiree villages.

Dar es Salaam
June 1984



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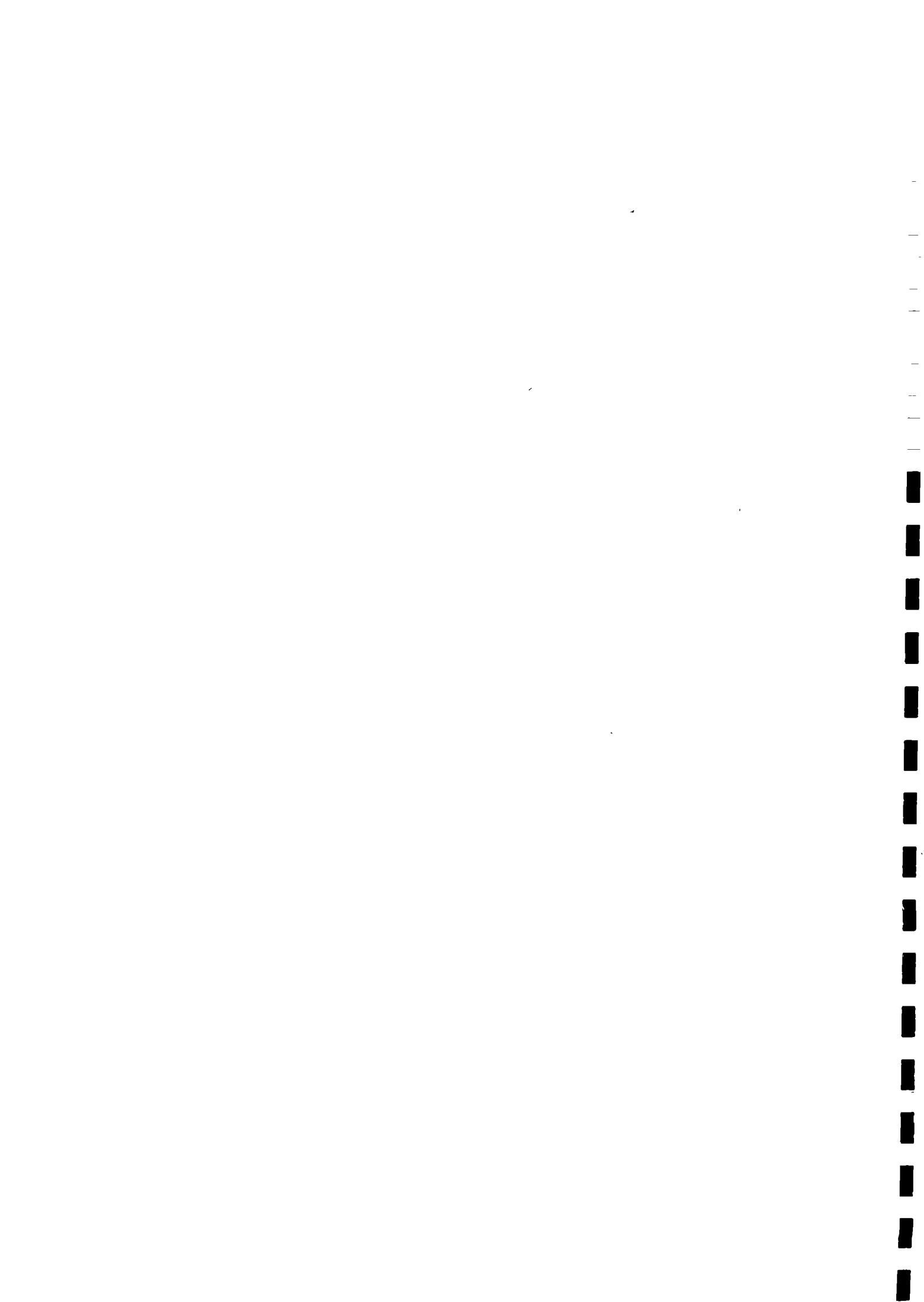
MUHTASARI NA MAHITIMISHO

Uchotaji wa maji huko mashambani kimapokeo ni kazi ya wanawake hata kama wakisaidiwa kwa kiwango kikubwa na watoto, hasa wasichana. Pamoja na yote hayo wanawake hawajashirikishwa hata mara moja katika mazungumzo yote yanayohusu aula ya ugavi ulioendelezwa, maendelezi yanayowezekana, utekelezaji na mipango ya kuendesha na kutunza mitambo ya maji. Kwa mafanikio wameshirikishwa katika shughuli nyingine za ujenzi za "kujisaidia wenyewe", lakini si mara zote wameelezwa juu ya maendelezi au mafunzo ya lazima au matumizi yanayofaa ya ugavi ulioendelezwa, wala juu ya elimu ya afya ya kutosha inayohusiana na maji. Huku kutowashirikisha kabisa wanawake katika shughuli nzima za uendelezaji wa ugavi wa maji kunawezekana kuwa sababu kuu ya kiwango kikubwa cha ushinde wa mpango huu wa ugavi ulioendelezwa. Iwapo wanawake hawatashirikishwa katika upangaji na utekelezaji wa chanzo cha maji kilichoendelezwa, kama walivyofanywa huko nyuma mintarafu vyanzo vya maji vya kimapokeo, basi motisha wao wa kukitumia na kukitunza chanzo kipya utakuwa kidogo.

Haja ya kujifunza zaidi juu ya hali ya wanawake wa mashambani pamoja na mahitaji na aula zao inazidi kuwa dhahiri. Hili ni sharti la lazima iwapo wanawake watahirikishwa na iwapo mabadiliko yaliyopangwa yatategemewa kuleta maendeleo ya hali zao za maisha na hadhi yao ya kijamii katika jumuiya za mashambani.

Nafasi ya wanawake wa Kinyaturu na athari yake kwa maendeleo

Wanawake wa Kinyaturu wana nafasi duni katika jamii ya Kinyaturu. Wako chini ya waume zao na wana ufikio mdogo kwa mambo kama vile habari, mikopo, uzuzi wa kiteknolojia. Nafasi yao ndogo sana katika mashauri ya kijumuiya na desturi za kijamii za kimapokeo zinawahitaji wawe tofauti na wanaume kwa maumbile yao ya nje na huwa hawatoi mawazo yao katika mikutano ya hadhara mbele ya wanaume. Hivi ni vizuizi vya wazi katika kuwashirikisha kwenye mabadiliko ya kijamii kama ulivyo ujuzi mdogo wa Kiswahili wa wanawake wengi wa Kinyaturu.



Mbali na kuwa kizuizi katika mabadiliko ya kijamii, wanawake wa Kinyaturu walikuwa waungamkono hodari wa kampeni ya kufuta ujinga kwenye miaka ya 50 na polepole wameshapitia mabadiliko mengi. Wanawake wana chama cha wanawake cha kimapokeo ambacho ni chanzo cha hadhi na madaraka na ambacho kingeweza kushirikishwa na kutumiwa katika mipango ya maendeleo. Kimapokeo kumekuwepo na uhasama mkubwa na magomvi baina ya wanaume na wanawake na pengine baina ya wanawake. Ni muhimu kuelewa hali ya migogoro ambayo ipo, kupa kuongeza migogoro iliyopo au kuanzisha mingine mipya.

Athari ya ugavi ulioendelezwa kwa wanawake

Kwakifupi inaweza kusemwa kwamba athari ya maendelezi ni kama haikuwepo. Kwa sababu ya uchache na utendajikazi mbaya wa ugavi uliowekwa, matumizi yalikuwa kidogo. Ni asilimia ndogo tu ya wanawake waliona kuongezeka kwa nafuu. Faida za kiafya lazima ziwe ndogo sana, hasa kwakuwa kaya nyingi zinazotumia ugavi ulioendelezwa zilikiri kuwa zilitumia vyanzo vya kimapokeo nyakati nyingine. Ingawa wanawake wachache walidai kuwa kumekuwepo na upungufu wa magonjwa ya matumbo katika familia zao.

Kwa sababu ya utendajikazi vibaya na kiwango cha chini cha utumiaji, ugavi ulioendelezwa katika vijiji hivi viwili una athari ndogo sana kwenye shughuli za uzalishaji. Kwa wanawake wachache kuna kuokoa wakati, na wakati huu (uliookolewa) unaelekea kutumiwa kwa shughuli nyingine nje ya nyumbani, ingawa wanawake wenyewe wanaitaji muda zaidi kwa ajili ya mapumziko, shughuli za nyumbani na utunzaji wa watoto.

Maendelezi ya ugavi wa maji katika vijiji vya Unyangwe na Unyangwe hayakuonekana kuwa yameleta athari yoyote ya maana kwa hali ya kijumla ya wanawake. Hii ni lazima iwe kwa sababu kiwango cha kushiriki cha wanawake (na kusema kweli kushiriki kwa ujumla) kilikuwa kidogo sana.

Mtazamo wa wanawake kuhusu ugavi wa maji

Kwa kuwauliza wanawake ni mambo gani waliyafikiria kuwa ni mzigo mkubwa kwao iliwezekana kupata kidokezo cha mtazamo wao kuhusu tatizo la



ugavi wa maji. Hakuna hata mwanamke mmoja aliyetaja utekaji wa maji kuwa ni mzigo mkubwa kuzidi yote wanayoikabili. Badala yake mizigo mikubwa ilikuwa kilimo, ukusanyaji wa kuni na usagaji wa unga. Jambo muhimu na linalotukusu ni ukweli kwamba walipoulizwa kuhusu shughuli walizozifurahia, 20% ya wanawake walijibu kuwa ni utekaji wa maji. Kwakuwa ukusanyaji wa kuni na uchumaji mboga pia zilitajwa kama shughuli zinazofurahiwa, inasadikiwa kwamba hii ni kwa sababu shughuli hizi zinatoa uwezekano wa kutoka nje ya nyumbani na kukutana na wanawake wengine.

Licha ya ukweli kwamba tatizo la ugavi wa maji halikuwa aula ya kwanza kwa wanawake, ni asilimia 17 (17%) tu hawakufikiria kwamba kulikuwa na haja ya maendelezi au hawakupendekeza maendelezi yoyote. Majibu ya idadi kubwa zaidi ya wanawake yalionyesha kwamba waliona umuhimu wa kuendeleza ugavi wa maji, hasa ili kupunguza matatizo ya kiafya. Hata hivyo, bado kulikuwa na mawazo kwamba serikali lazima ilete huduma zilizoahidiwa, ingawa kama ilivyosemwa mapema, ni asilimia ndogo tu bado ilitegemea ugavi wa mabomba. Visima vifupi vyenye pampu za mkono au mguu zilikubaliwa vema na wengi wa wanawake.

Mahitimisho machache kutokana na data

- Hamasisha wanawake kushiriki

Kinadharia haiwezi kuwa vigumu kuwashirikisha wanawake katika maendelezi ya eneo ambalo kimapokeo ni lao. Hata hivyo, ukizingatia nafasi ya kimapokeo ya wanawake wa Kinyaturu katika mashauri ya kijumuiya, kuna vipingamizi vikubwa. Uduni wa ujumla wa wanawake na mtazamo kuhusu nafasi ya wanawake (mtazamo ambao wanao wanaume na wanawake) utaleta vipingamizi na matatizo. Jambo muhimu la kufanya ni kuchukua hatua zinazotekelezeka kwa vitendo za kuwashirikisha wanawake ili kwamba hazina waliyo nayo mintarafu maarifa na ujuzi unaohusiana na maji viweze kutumika.

- Himiza utundu wa wakozi

Kwakuwa inawezekana kwa watu wenyewe kuchukua hatua ambazo zinaweza kuendeleza mifumo ya ugavi wa maji, juhudi zote lazima sifanywe kuhimiza



jambo hili. Katika Tanzania ya leo mkakati unaofaa zaidi kwa kuendeleza ugavi wa maji ungekuwa ni mpango wa kufanya maendelezi kwenye vyanzo vya kinapokeo ili kwamba wanajumuiya wote wafaidike. Katika mpango kama huo utundu wa wakazi na kushiriki kwao vitakuwa na nafasi kubwa sana.

- Leta maendeleo kwa kutumia mifumo iliyopo

Ili mabadiliko yapokelewe na kukubalika kabisa ni muhimu kuleta maendelezi kwa kutumia mifumo iliyopo badala ya kuanzisha namna mpya kabisa ya kuishi. Ili kufanikisha lengo hili, maarifa ya kutosha ya mifumo ya maisha kimapokeo ni lazima yawepo. Hii ni pamoja na kuelewa mambo yaliyowamotisha wananchi kufuata mifumo iliyopo.

- Sisitiza masuala ya afya na usafi

Data kutoka kwenye vijiji vitatu itaelekea kuonyesha kwamba suala la elimu ya afya ni muhimu. Kukosekana kwa uelewo wa uhusiano baina ya maji na magonjwa na wa chanzo cha matatizo makuu ya kiafya katika vijiji kulikuwa kuna kera kidogo. Inaonekana kuwa kumekuwepo na ukosekano wa ujumla wa msisitizo juu ya habari na motisha, na hususa wanawake hawakutiliwa maanani kabisa.

- Wekea msisitizo shughuli za kimatendo

Iwapo ugavi wa maji ulioendelezwa unategemea kuinua hali ya wanawake, basi msisitizo mkubwa lazima yawekewe mambo kama vile kuwepo mahali pa kufulia kwenye vyanzo vipya ili wanawake wasilazimike kupeleka maji mengi zaidi nyumbani kwao. Uwezekano wa kutengeneza mahali pa kuogea vilevile ingefaa uangaliwe.

- Fikiria uwezekano wa kuendeleza ugavi wa maji kwa matumizi yasiyo ya nyumbani

Ni dhahiri kwamba maji kwa ajili ya matumizi yasiyo ya nyumbani, hasa kwa ajili ya mifugo, yana umuhimu mkubwa sana kwa wanaume na wanawake.



Kwahiyo mipango ya maendelezi ya ugavi wa maji mkoani Singida lazima ujishughulishe vilevile na maendelezi ya vyanzo kwa ajili ya mifugo. Mpango mzuri zaidi ni ule ambao utaendeleza vyanzo vyote vinavyotumiwa katika jumuiya.

Jinsi gani wanawake washirikishwe?

- Mkakati wa ujumla unaofaa!

Mojawapo ya mambo muhimu sana ili kuhakikisha wanawake wanashirikishwa lazima liwe kwamba mkakati unaopendekezwa wa kuendeleza ugavi wa maji uwe unafaa kwa eneo linalohusika. Mabadiliko ambayo hawezekani kutekelezeka kimatendo ama hayakubaliani na mfumo wa maisha uliopo yatakataliwa mara moja. Juu ya yote maendelezi yaliyopendekezwa lazima yawe na faida kwa wanawake, hasa mintarafu nafuu iliyoongezeka. Mkakati wa kuendeleza vyanzo vya kimapokeo utakuwa ni mzuri zaidi tukitilia maanani umuhimu wa kuwashirikisha wanawake. Uzuzi wa kiteknolojia aghalabu utakuwa wa kiwango cha chini na wa gharama ndogo - ambao unafaa sana kwa wanawake kwani uzuzi wa kiteknolojia wa kiwango cha juu zaidi kwa kawaida hufanywa na wanaume. Vyanzo vya maji tayari vinatumia na wanawake na matatizo ya kujaribu kuwafanya wanawake wavikubali na kuvipokea vyanzo vilivyoendelezwa hayana msingi. Ufungamano wa wanawake na vyanzo hivi tayari upo na wana hazina kubwa ya habari juu ya vyanzo vya kimapokeo ambayo inaweza kutumiwa. Kushiriki kwao katika kupanga, kutekeleza, kuendesha na kutunza kunaweza kufanyika. Wanawake, katika hali ya kiasili kabisa, wanaweza kushirikishwa kueleza mahitaji yao na kuonyesha kasoro za vyanzo vilivyopo na maendelezi yanayowezekana. Msingi wa mkakati huu ni "chaguo la mtumiaji" la kimapokeo lililopo na nafasi inaweza kutolewa kwa wanawake watoe uchaguzi na mapendekezo yao yanayofaa. Wanawake hawaombwi wabadili kabisa mazoea ya sasa - k.m. kuacha vyanzo vya kimapokeo na kwenda mbali kwenye kituo cha ugavi ambako huenda kuna mlolongo mrefu kwa sababu ya uchache wa vituo vya ugavi. Wanachoombwa



ni kuendeleza vyanzo na mazoea yalipo. Mara nyingi mabadiliko yatakuwa madogo na yanayoeleweka. Mengi ya mabadiliko yanaweza kutekelezwa na kudhibitiwa na wanawake wenyewe. Wanaume hawawezi kupinga kushiriki kwa wanawake kwani maendelezi ni kwa ajili ya vyombo ambavyo tayari vipo na vinatumwa na wanawake. Na kutokana na kushiriki kwa juhudi kwa wanawake katika harakati za maendeleo ya jumuiya kutakuwepo kujiamini zaidi na pengine ukubalifu mzuri zaidi kwa upande wa wanaume wa kuwashirikisha zaidi wanawake katika maisha ya jumuiya.

- "Miradi maalum ya wanawake"?

Ni muhimu kwamba juhudi za kuwashirikisha wanawake zisijihusishe tu na "miradi maalum ya wanawake" ambayo badala ya kuendeleza nafasi ya ujumla ya wanawake katika jamii za mashambani, inaweza ikazidi kuwatenga wanawake hao. Wanawake ni lazima wapewe nafasi ya kushiriki katika maendeleo ilio sawa na ile ya wanaume. Hata kama miradi ya "wanawake tu" ilifaulu katika kuendeleza hali ya ugavi wa maji, athari zake kwenye shughuli nyingine pengine zingekuwa ndogo. Mintarafu kuwajumuisha wanawake katika maendeleo ya ujumla huko mashambani na kuhakikisha kushiriki kwao katika miradi mingine, mkakati kama huo ungeweza hata kuwa na athari hasi. Miradi maalum iliyotengana inaweza kutumiwa kama kisingizio cha kushindwa kuiunganisha miradi yote ya maendeleo. Hata hivyo ni muhimu wanawake watazama kama kikundi cha lazima kinacholengwa na hatua maalum itabidi zichukuliwe kuhakikisha wanashirikishwa, kwakuwa tu wao ni kundi duni na taratibu za kawaida hazihitaji au hazihimizi kushiriki kwao.

- Utekelezaji wa kimatendo wa kushiriki kwa wanawake

Iwapo kushiriki kwa kikweli kwa wanawake katika kuendeleza ugavi wa maji kutatakiwa kufaulu, basi ni lazima yawepo mabadiliko katika sera na usimamizi wa miradi. Mambo yanayowazua wanawake kushiriki k.m. desturi za kijamii, uhaba wa muda, elimu ndogo na kutokukijua Kiswahili, ni lazima yaangaliwe vya kutosha.



Baadhi ya hatua zinazofaa kuhakikisha wanawake wanashirikishwa zingekuwa:

- a) ajiri wanawake katika miradi inayowahusu
- b) shirikisha wanawake wa vijijini katika
 - mikutano ya mipango ya vijiji
 - mikutano ya wanawake tu
 - kamati za maji za vijiji
 - vikundi vya maendeleo vya wanawake
 - vikundi vya dansi/ngoma na michezo ya kuigiza
 - mipango ya waangalizi wa visima.

Kuwajumuisha wanawake vijijini kila kundi lililopo lazima litumiwe, kwa mfano

vikundi vya kimapokeo vya wanawake
 vikundi vya U.W.T.
 vikundi vya elimu ya watu wazima na vya maendeleo
 vikundi vya kidini
 shule za msingi
 vituo vya afya.

Umuhimu wa vipengee vya elimu ya afya na usafi

Kupatikana kwa faida kwa ajili ya wanawake kutokana na ugavi wa maji ulioendelezwa kwa kiwango kikubwa kunategemea mpango unaofaa wa pembejeo za ziada mintarafu maendelezi ya elimu ya afya na usafi. Haya lazima yatekelezwe pamoja na maendelezi halisi ya ugavi wa maji. Hadi leo masuala ya usafi karibu yamesahaulika na pembejeo za elimu ya afya hazionyeshi kuwa zimeleta athari iliyotegenewa. Hii imeonyeshwa na hali ya usafi, viwango vya usafi wa binafsi na matukio ya maradhi na vifo katika jumuiya zilizofanyiwa utafiti mkoani Singida. Hii yaelekea kuonyesha kuwepo kwa "pengo la mawasiliano" na inalazimisha kufikiria upya juu ya malengo na metodolojia ya elimu ya afya. Hususa yaelekea wanawake hawakuwa na ufikio wa kutosha wa hazina ya habari kuhusu



uhusiano wa maji na afya na vyanzo vya magonjwa pamoja na kinga zake.

Hususa kipengee cha motisha cha pembejeo za elimu ya afya kinekuwa kikikosekana. Kurekuwepo kutegemea sana maguvu badala ya motisha. Mabadiliko halisi hayawezi kuletwa kwa kuanzisha sheria na amri, k.m. kwa kuwalazimisha wananchi wabadili namna ya kuishi kinyume na desturi zao. Ili yafanikiwe mabadiliko lazima yapokelewe na kukubaliwa na wananchi wenyewe. Motisha ni kitu muhimu sana katika jitihada za kuleta polepole mabadiliko ya kijamii, kama vile mabadiliko katika namna za usafi, mazoea ya utunzi wa maji na namna za usafi wa binafsi. Msingi wa jitihada zote za kubadili namna ya kuishi lazima siwe juhudi za kuwashawishi watu juu ya umuhimu na faida za mabadiliko hayo yanayokusudiwa. Chanzo cha mjadala lazima yawe maarifa, maadili na mtazamo wa dunia wa watu wanaohusika. La sivyo mabadiliko yatapingwa tu kama uzoefu wa Singida unavyoonyesha wazi.

Mambo yenye umuhimu katika kuleta mafanikio ya elimu ya afya/pembejeo za usafi ni haya yafuatayo:

- kujumuisha pembejeo zote.
- msingiduni wa maarifa juu ya mifumo ya kimapokeo ya maisha.
- msisitizo juu ya kipi kinachowezekana na kinafaa, kulingona na mazingira ya mahali panapohusika.
- msisitizo sahihi juu ya usafi wa binafsi.
- kujumuisha mali zote zilizopo, kama vile vituo vya afya na zahanati.



1. INTRODUCTION

1.1 An overview: Women and domestic water supplies

a) Women in development

Because of the existing inequalities, for example political, social, economic, between men and women in many societies, women have been consistently excluded from development processes and have benefitted little from them. In some cases women's situation has been adversely affected by technological and socio-economic changes. Little attention has been given by researchers/planners/administrators to women's roles in rural societies and their potential for development and social change. Their dual role as producers and reproducers is generally overlooked. Women are viewed, if they are considered at all, as passive or neutral factors in the socio-economic and technological changes being implemented in developing countries. At worst women are even regarded as negative factors in the development process. The changing attitude towards peasants in general - i.e. from regarding them as "backward" and hindering factors in rural development, to accepting their role as suppliers of indigenous technologies of their own, has unfortunately not yet been extended to include rural women. (Rogers: 1982)

As a result of the lack of attention given to women in development planning, it is not surprising that in some cases women have had their situation worsened through misguided development efforts, for example with introduction of oxenisation. In few cases have they actually benefitted from the education and training programmes which have brought new skills and opportunities to men. Technological development has either largely ignored the areas of life which are women's work (for example water collection, food processing, food storage etc) or has usurped important women's roles such as craft production, without providing them with any alternative productive functions. (Nelson: 1979)

Rogers (1980) rightly points to the "widespread embarrassment and plain ignorance about women". Planners and administrators claim that women are difficult (if not impossible) to reach. Certainly it is more difficult for male personnel to have close contact with women, but the utilization of female staff at the village level would help to eliminate many of the problems. One of the main reasons for the neglect of women has simply been that women have been considered as nothing more than dependents. The absence of women on village councils and committees, or the very passive roles of the few women involved in the political sphere at the village level reinforces this notion. This perception of women as largely peripheral to the development process, has led planners, when they have at all considered the female half of their target populations to "*assume that it is enough to consider the male head of the household*". (Nelson: 1979) It has been assumed far too often that women will be reached through their husbands, while experience is proving that this is seldom the case.

In addition, the assumption that the head of the household is always a male is false, as there is increasing evidence that as many as one third of the world's households may be headed by women (Tinker: 1976). In modern times more and more women are left to take care of the household while their husbands find income work elsewhere. Experience from East Africa has shown that such "female-headed" households were among the more receptive to incentives and proposed changes in progressive farmer schemes. (de Wilde: 1967)

It is becoming increasingly obvious that more attention has to be paid to improving women's situation and to providing adequate incentives for women



to participate in planned change. Because women have the main responsibility for the subsistence economy in rural areas, and more and more households are run by women, women must become the focus of rural development efforts. Their involvement can perhaps give the impetus to change and development that has been lacking to date. On the other hand continued failure to include women in development processes will have negative effects. Women will not tolerate an increase in their exploitation, especially the over-utilization of their scarce resources of time and energy for male gains. Under these conditions women will oppose changes.

For example, in the agricultural sector it is increasingly obvious that the failure of agriculture productivity inputs has to be related to the total neglect of women's role in production. In spite of the fact that the main responsibility for subsistence food production rests with the women, women have not been given the information or resources necessary for them to participate fully. Women's sole involvement is usually to provide a labour force. In many cases women's work burden has been increased. For example with the introduction of ox-ploughs the increased acreage has resulted in an increase in the burden of weeding for the women. While the men willingly take over the ploughing, they are not usually so willing to share the extra burden of weeding. The result is that women have rejected many of the proposed changes, actively or passively. One of the most strategic methods being the simple withdrawal of their labour.

The need to learn more about the situation of rural women, and their felt needs and priorities is increasingly evident. This is an essential prerequisite if women are to be involved and the planned change is to bring about an improvement of their living conditions and their social status in the rural communities. The goal of improving the overall position of women must always be kept in mind. It is therefore important that attempts to involve women in rural development do not only take the form of "special projects" which, rather than improving the overall position of women in rural societies, can instead increase their segregation. Women must be given the opportunity to participate as equal partners in development processes, with equal access to information and resources, and not as a minority group requiring special attention.

"What is needed is not a series of special projects for women which perpetuate their segregation: it is vitally important that development planners who are concerned about Third World women should seek to eliminate discrimination against them in all development planning." (Rogers: 1980)

b) Women and the improvement of domestic water supplies

Water collection in rural areas is traditionally women's work, even if they are assisted to a great extent by children, especially girls. In spite of this women have been consistently excluded from all dialogue about the priority of improved supply, the possible improvements, the implementation and arrangements for operation and maintenance. Unfailingly they have been involved in any "self-help" construction activities, but they have not always been reached with the necessary promotion or instructions on the proper use of the improved supply, nor with adequate water-related health education. The situation is well summarized below.

"The prime target of the whole exercise is in the worst of cases characterised as excluded from adequate information, frustrated and lacking possibilities of participation and influencing decisions concerning the water supply to be built and is later on a victim of unreliable provision of water." (Ålman and Rosenhall: 1978)



The almost total exclusion of women from the whole process of improving water supplies may well be the most significant factor in the disastrous failure rate for improved supplies. It has been estimated that at any given point in time as many as 50% of all improved schemes are not working - either because of breakdowns or because of shortage of fuel for diesel pumps. In many cases even where the improved supply is working it is not utilized by the women. In some cases this is because the improved supply does not involve any improvement or benefits for them, and especially if there is no increase in convenience, i.e. lessening of time or energy spent on water collection. The fact that the women have been totally uninvolved in initiation, planning and implementation must also be significant. If women are not included in the planning and implementation of the modern water source, as they have been in the past for traditional water sources, their motivation to use and maintain the new source will be limited. (Roark: 1980)

Given the increasingly serious situation where the improved supplies are not working or are not utilized by the women in rural areas, it is not surprising that there has been little evidence of the attainment of the expected benefits of improved water supplies. For maximum impact of improvements to water supply, concerted efforts must be made to reach women as the key target group in the rural communities. This does not mean that water projects should become "all-women projects" but rather that women should be given an opportunity to participate in all aspects of planning, implementation, operation and maintenance, on an equal footing with men.

The improvement of domestic water supplies is of vital concern to women, not only because of the daily drudgery of water collection, with resultant lack of time to spend on other important areas such as child care and food preparation, but also because of health implications. Rural women as mothers and caretakers of families have the main responsibility for the health of the members of their families. They are also the ones who must *"use and be in constant contact with contaminated water for various household purposes, including washing, preparing food and bathing children."* (UN: 1977). Contaminated water is a major factor in the unacceptably high rates of infant mortality in third world countries. Contaminated sources may, however, be the only water supply available within a reasonable distance. Because of the scarce resources of time and energy (which is also a seasonal factor, depending on the agricultural season) women may have to choose water of a quality which they would otherwise consider unacceptable, with resulting implications for the health of their families. Women must also be considered as possible "agents" of contamination since a lot of the contamination of the water consumed can occur after collection - on the way to or in the homes, through improper handling of water. In this respect the role of women in preparing and serving local beer in their homes must also be considered. In addition, women are the major agents of socialisation and are responsible for inculcating good habits of water-use as well as hygiene and sanitation.

Since the women are already involved with water collection they have a wealth of information on sources, quality, etc. Their collection of water is not simply a "thoughtless" routine. Women make choices concerning water, in as far as possible given the constraints of time, energy and other duties. This is evident in the use of different sources for different purposes - basic water management carried out daily by the women. Bypassing women and in conjunction with the men, who are not at all involved with domestic water, reorganizing the system of water collection can cause hostility from the women - especially if the so-called "improvements" do not in fact entail any special advantages for the women.



The normal procedure to date has been to only approach the men in the communities which are to receive improved supply. In some cases only the village committees have been involved. As a result the participation of the villagers has been generally limited and there has been overall non-participation of women. Even if women have been present at village meetings, social forms require that they are not verbal and thus their felt needs and priorities are never learnt. Ways of involving village women will have to be worked out, according to the social conditions prevailing in different areas. The "know-how" of the women and their existing involvement with water issues must be utilized if improvements to water supplies are to have any impact.

c) Improvements to water supply: what benefits for women?

The anticipated benefits of improved water supply warrant closer investigation. It used to be presumed that these benefits would occur automatically water supply was installed in a community. Today there is a more realistic approach to what can be expected. Of utmost importance is the increasing awareness of the limitations of improving water supply alone. The improvements to the water supply must be set in the context of the total development situation in the communities to be reached. As far as possible the improvements must be integrated with other developmental inputs, especially in the field of health education and sanitation. Initiation of projects should, ideally, be based on felt need. Where the realities of a larger regional programme for improved water supplies do not allow for selection of only those communities with expressed felt need, real efforts must be made to motivate the communities, especially the women, to accept and utilize the improved supplies.

The benefits that are usually cited all have implications for women:

- to improve convenience, with lessening of time and effort for women,
- to improve public health,
- to increase production.

For the attainment of these benefits there are certain necessary conditions which must be fulfilled. For example, in order to increase convenience and relieve the burden of water collection, the supply must guarantee ease of access and reliability in all seasons. All too often, even with appropriate technologies such as shallow wells with handpumps or windmills, this is not the case. There is not sufficient density of supply points and the location is not always more convenient than the traditional supplies. This, in combination with the frequent breakdowns and delays in maintenance, means that the improved supplies are not utilized and there is no improvement in convenience for the women. (Andersson: 1982)

As far as increasing productivity, the possibilities for engaging in "productive" activities is governed by factors of seasonality, the existence of opportunities for such activities and other personal and cultural factors which determine the inclination of individuals to engage in such work. (Saunders/Warford: 1976) Women may simply want to utilize any time saved for leisure and much needed rest. There must be a recognition of the over-burdening of women and the real need for time to rest and recover strength and energy - especially given the fact that rural women are over-worked, underfed and frequently in poor health due to too frequent pregnancies and little chance to recuperate adequately.

With regard to the utilization of any saved time, it is clear that we know far too little about what women themselves think and want. Women may well want to make as many trips to the well (though preferably to a more conveniently



located well) in order to have the chance to meet and talk with the other women gathered there. Any time saved may be used for more leisurely trips to collect the daily water needs. It is obvious that socialisation with other women (and especially where women are in a subordinate position in the society) is an important basic need which development inputs should not make more difficult.

The health benefits of improved water supply are the most difficult to assess. The most that can be said with certainty about the linkage between improved water supply and health is that "*while improved drinking water is probably a necessary condition for the improvement of people's health, it is not a sufficient one...*" (Saunders and Warford: 1976) There are many factors at work in determining the impact of improved water supply on health, including the water quality and the reliability and convenience aspects which have implications for the actual usage of the improved supplies. As well there are many environmental, social and cultural factors which have to be taken into consideration. For water supply improvements to have any impact on health conditions it is necessary for the inputs to reach all members of the community. Unfortunately, given the economic constraints in Tanzania today this is seldom, if ever, achieved. (Andersson: 1982) Only a small percentage of the population has access to improved supplies in any one community. When the improved supplies break down all the members of the community are forced to use the traditional, polluted sources and any health benefits are completely negated.

A lot of the responsibility for ensuring that their families obtain health benefits from improved supplies is placed on the women. They are expected to utilize the improved source at all times, and to maintain it in the manner intended; they are expected to boil drinking water and store it in a hygienic manner; they should increase the quantity of water used, especially for personal hygiene; and they should accept and utilize supplementary inputs such as health education and sanitation advice. When these conditions are not fulfilled and the benefits are not forthcoming, the blame is placed on the communities themselves, and especially on the women. However the fulfillment of these conditions is not only dependent on the women alone. In fact the fault often lies with inadequate planning and implementation of projects. If the improved supplies cannot compete with the traditional supplies in terms of accessibility and reliability they will not be utilized. (Andersson: 1982) Improved handling of water in the homes, boiling of drinking water and increased consumption will not result automatically. There is a need for adequate information to be given to the women on these aspects. Health education and sanitation inputs have been seriously neglected. Where attempts have been made the aims and methodology have left a lot to be desired. Inputs must be based on a sound knowledge of the realities of rural living and must aim at providing adequate information and motivation for the changes advocated. Enforcement through rules and regulations does not bring about real change.

To increase women's participation in improving water supplies and bring about a corresponding increase in impact, objective appraisal of women's situation in rural societies, evaluation of the impact of completed projects on women, and feasibility studies of the possible impact, will be necessary. Strategies for involving women will have to be worked out.



1.2 The study outlined

Objectives and methodology of this study

The objective of this study is to investigate the role of women in improvements to domestic water supplies in three villages in Singida region - Unyanga, Unyangwe and Nkhoiree.¹ The impact of improved supply on women is studied and related to the level of participation of women. Information about water supply is related to the general situation of Wanyaturu women and their role in social change in Nyaturu society to date. Possible strategies for involving women more fully in improving water supply are investigated.

A total of 75 households were visited (25 in each village). Fieldwork was carried out on two occasions - November/December 1982 and January 1984. However it would have been beneficial to visit the area during the dry season as well, especially to observe the seasonal aspects of women's work burdens and the impact of seasonality on water collection. Apart from general information on household composition and information relating to water, health and sanitation, attempts were made to acquire relevant information on women's productive and reproductive roles. Women's own perceptions of their roles and problems were investigated.

Interviews and discussions were carried out in the individual homes. It was not always possible to meet the women by themselves. In most cases the husbands were normally present for all or most of the discussion. This hindered the participation of the women in many cases. Efforts were made to ensure that the women were given a chance to express themselves, especially in aspects directly related to their work loads and perceptions of their own problems. The problems experienced in actively involving the women gave evidence of their subordinate position in relation to their husbands, and of one serious practical constraint to their full participation in community life, their lack of adequate knowledge of Swahili.

The same households will be visited in future fieldwork periods and it is hoped that the women will be allowed to talk alone, since the men now have the information they require on what the project is about and the types of information sought.

Presentation of the material

This report concentrates on the realities of improved water supplies for the women in the three villages. More general information on the overall water development programme, and choice of technology is to be found in a complementary report.²

The introductory section provides an overview of women and water. Since there is still a tendency to generalize about women in Tanzania, it was considered necessary to provide some specific information on Wanyaturu women - their social status, marital situation, work burden, ritual activities, control over herself and resources, etc. This information, which is an essential backdrop for any discussion of women and development, is presented in section 2. This section draws heavily on the work of Schneider (1970) and Jellicoe (1978) whose prolonged field experience in Singida region provides an excellent data base. Section 3 relying to a great extent on the work of Schneider in 1959-60 (1970) and Jellicoe between 1959-65 (1978), provides an overview of the changes in Nyaturu society and the role and potential of women in social change. In section 4 the impact of the improvement of water supplies is assessed. The health situation is presented. Possible strategies for increasing the involvement of women, and thereby increasing the possible impact, are outlined in section 5. Finally a summary of conclusions is presented in Section 6.

1. More detailed information on these villages can be found in Andersson and Hannan-Andersson (1984)

2. See Andersson and Hannan-Andersson (1984)



2. WANYATURU WOMEN¹

"The hen does not crow" Nyaturu proverb (Schneider, 1970)

The Wanyaturu are a bantu-speaking agro-pastoralist group. Data from the 1978 census indicates that the general standard of living in this area is low. The climate and landscape are harsh, soils being generally poor and rainfall low and erratic. Food production is dependent on sufficient quantities of cattle manure being available for the fields. The staple crops are bullrush, sorghum and maize. The education standard is generally low, but particularly so among the rural women. In 1978 it was estimated that 75% of rural women over the age of 15 in Singida Region were illiterate. Housing standards are among the poorest in the country.

2.1 The position of women in Nyaturu society

In Nyaturu society Schneider defines three general classes of people distinguished by age and social condition.

- a) Precircumcision youths
- b) adult men and women (the women always being subordinate to the men)
- c) important men and important women, usually elderly

Among the women themselves there is also different status.

Although women are, socially speaking, quasipersons and without authority in relations with men (except in the status of mother), among adult women there is a subsystem of authority based on status. (Schneider, p 55)

A woman's position in the hierarchy is based on a variety of factors. These include the position of her husband or her own widowhood; her position as a junior or senior wife; the number, age and sex of her children; and perhaps most important of all, *"her ritual position in imaa² ceremonies and her knowledge of the esoteric secrets."* (Jellicoe, p 72)

Within the family the wife is ideally thoroughly subject to the authority of her husband (Schneider). The woman is an outsider in the husband's lineage and is usually subject to hostility from his relatives and other co-wives in the homestead, specially during the initial period of her marriage. Wives are characterised by husbands as generally hostile and non-cooperative. (Schneider) The reasons for this attitude are taken up in the following sections.

The highest position a woman can hope to attain is that of a widow with young sons, who also has a house with ample land and cattle. Such a woman need not be inherited by her husband's brother as would be the case if she had no sons and an uncertain inheritance unit but rather becomes her husband's representative as head of the homestead.

"As such she is considered as in many ways equivalent to a man; she has the right to dispose of and acquire property on behalf of her sons, and in the pursuit of this can go where and when she likes, though if she prefers she can call on her husband's brother to assist her." (Jellicoe, p 90)

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1. In this section much of the information is based on the work of Schneider (1970) and Jellicoe (1978). (To be referred to in the text by author's name only.) Both researchers carried out their fieldwork in Wahi (in what is today Singida Rural District, Schneider in 1959-60, Jellicoe from 1959 to 1965.
 2. Imaa refers to the ritual activities of Wanyaturu women (see section 2.6)



Such widowed women also have high standing in the women's association, being as Jellicoe expressed it "*ritually bisexual*". The inheritance of such widows of high standing is not formally divided until they die. They are thus assured of a house and a piece of land until they die, and they are respected in the community. It is little wonder that husbands are said to fear the sorcery of wives, who may benefit so much from their own death. (Jellicoe)

Women's ambiguous status: lineage vs residence

Women's weak position in the society can be attributed largely to the dual allegiance which results from the patrilineal/patrilocal system whereby married women are expected to remain primarily responsible to their fathers (whose residence may be some miles away) while residing within the husband's lineage. The lineage groupings as opposed to residential groupings are illustrated on the following page in figure 1. Over the years the ties and duties to the residential group in which she is placed increase as she increases the size of her family, and as she must build up the wealth of her household for her sons' inheritance. (Jellicoe) However it is the strong emphasis on descent in the father's line which makes life difficult for women since "*even in her married life a woman remains in theory responsible first of all to her father or to her elder brother.*" (Jellicoe p 15)

Men may have rights in themselves and others, but women may not. Jellicoe describes the father as the "*guardian*" of the woman. However, Schneider talks of the father as the "*owner*"¹ of the woman and the husband as her "*holder*". The brother also has a share in the rights to the women. According to Schneider rights in a woman's body are assigned to a brother. Each brother is entitled to one sister for himself. "*The manifest reason for such assignments is to provide bridewealth for the brother; he expects to accomplish his marriage using the livestock provided from her marriage.*" (Schneider p 105)

Since women have no rights in themselves, any compensation due if a woman is injured is paid to the man who "owns" rights in her. Thus compensation for violation of her corporeal wholeness goes to the man who "owns" her - her father. Violation of her productive talents (for example in adultery) brings compensation to her holder - her husband. (Schneider)

The ambiguity of women's position in Nyaturu society accounts for much of the hostility and conflicts between husband and wives and leads to the general fear of women by men as sorcerers.

A marriage contract: the exchange of services between men

The corporeal rights in a woman, as we have seen, remain vested in the father in the house from which she came at marriage. By contrast the rights in the services a woman may perform can be transferred. However only men can hold these rights. Schneider describes the marriage contract as a mutual loan of productive property - cattle for women.

"In short, the relationship established by marriage is normatively a mutual loan of the service of cattle for a woman. In fact, it is a more complete alienation of rights than is admitted." (Schneider p 114)

The "owner" or "guardian" of the woman, her father, receives bridewealth cows to use but not to own. Part of his profit is the calves and milk obtained. However the most important function of the bridewealth is to enable his son to acquire the reproductive services of a new woman, in order to ensure the continuity of the lineage. The bridewealth paid for one woman is used by her brother for the right to exploit the reproductive capacity of another woman.

1. Although "owner" does seem too strong a term, it may be used for lack of a better term.



Figure 1: Lineage groupings and residence units

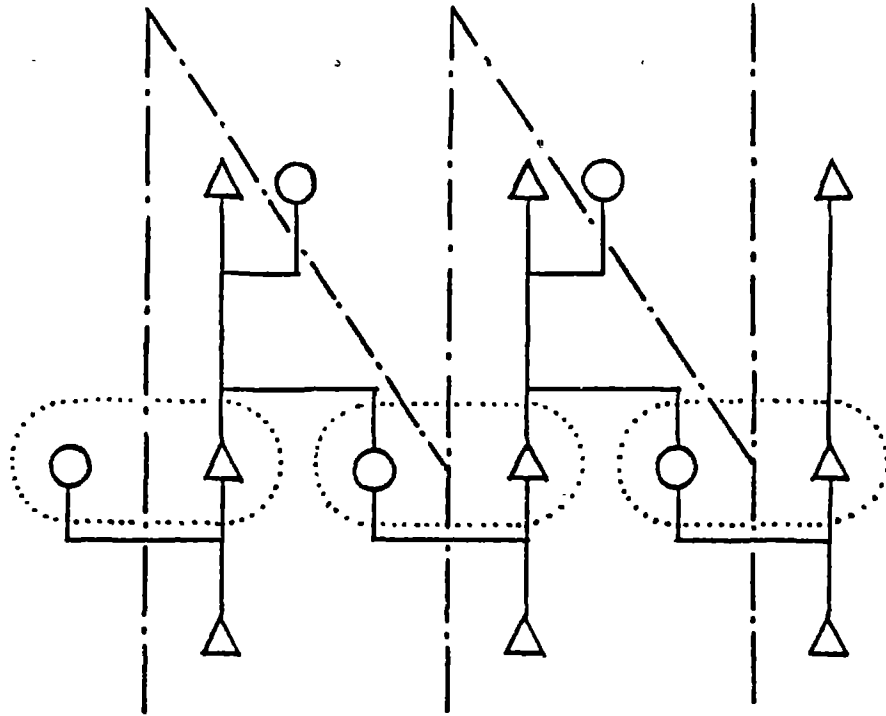
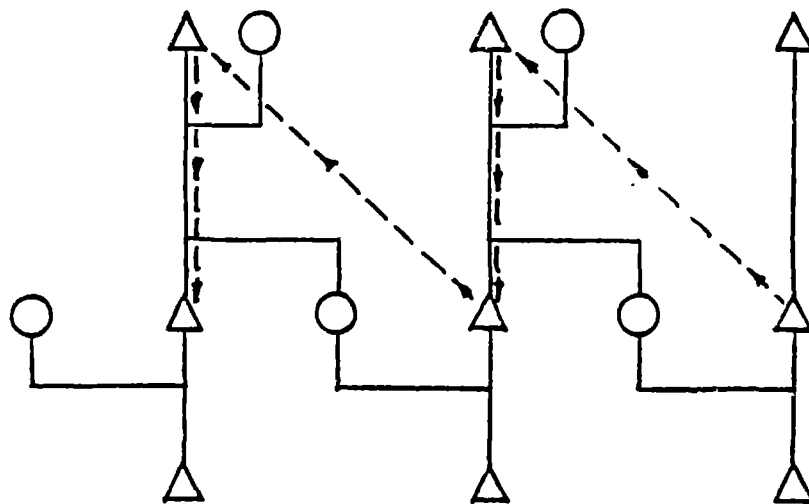


Figure 2: Brideprice system



- women
- △ men
- ⋯ residence unit
- · — · — lineage group
- ← - - - → flow of cattle



Children born of the union are thereafter identified with the father's lineage and the continued existence of the lineage is guaranteed. The brideprice system is illustrated in figure 2 on page 9.

Marriage is a highly tenuous arrangement, particularly in the early years. Divorce is common (Schneider). A married woman is in a much weaker position when compared with that of her husband. She owns no property in her own right, and the other women in the homestead are her rivals. The co-wives are in constant competition over the resources of the husband, in order to build up wealth for their sons. Her own lineal relations, to whom she could look for support, usually live far away. At the husband's home she is often met with hostility. The other women are hard on her so that she will quickly learn her place. Traditionally the wife expressed her lack of true integration by returning home immediately after the marriage. After alternating between her own home and her husband's home for quite a long period, she finally settled down but continued to make frequent visits to her natal home, for example to participate in *imaa* rites and to give birth to the first child. (Schneider)

2.2. The realities of married life for women

The head of the homestead is the husband. Each wife has a separate household, as illustrated in figure 3. These households are regarded as separate units for the production of goods, subsistence for its members and for the holding of all wealth produced - livestock, grain, manure, children, etc.

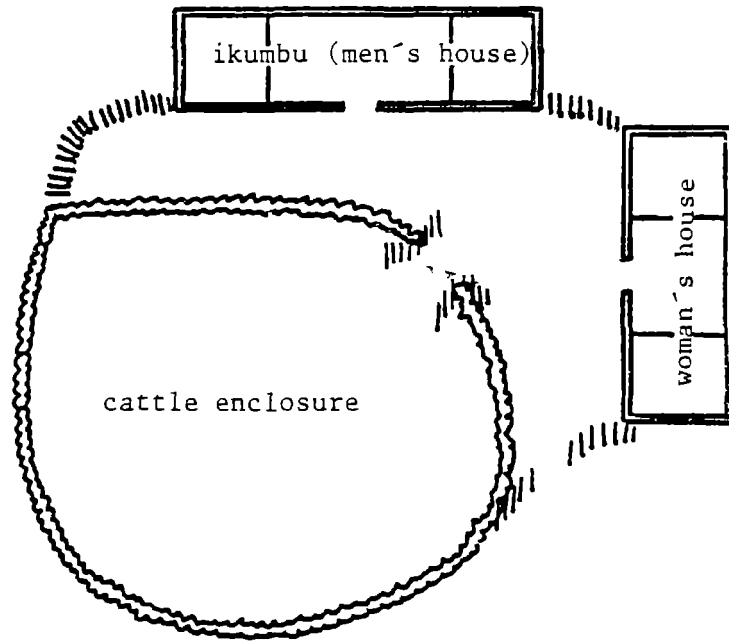
"This independence is physically displayed by their separation, the storage of grain within its confines, and the separation of the farm lands of each house from those of others by boundaries."
(Schneider, p 62)

The woman brings to her husband's home clothes, utensils and other personal belongings. These are her property. Agricultural tools are, on the other hand, usually the property of the husband. Each wife is assigned cattle and land, and from then on these are under her control. As Schneider points out, the husbands are the technical owners but the women are the channels of descent. The woman owns the livestock, grain and other goods in the sense that they are assigned to her, partly because her labour has produced them or nourished them but mainly because she has the responsibility to build up an inheritance for her sons - for their sake but also for her own security in old age. She may in theory veto the use of these resources in the market if she disagrees with her husband's plans for their disposal. However, Schneider adds that, in fact, the woman's rights to such property are at best described as "*usufructuary*". The wife cannot dispose of any of her property without first obtaining his permission, and if she is divorced all property returns to her husband.

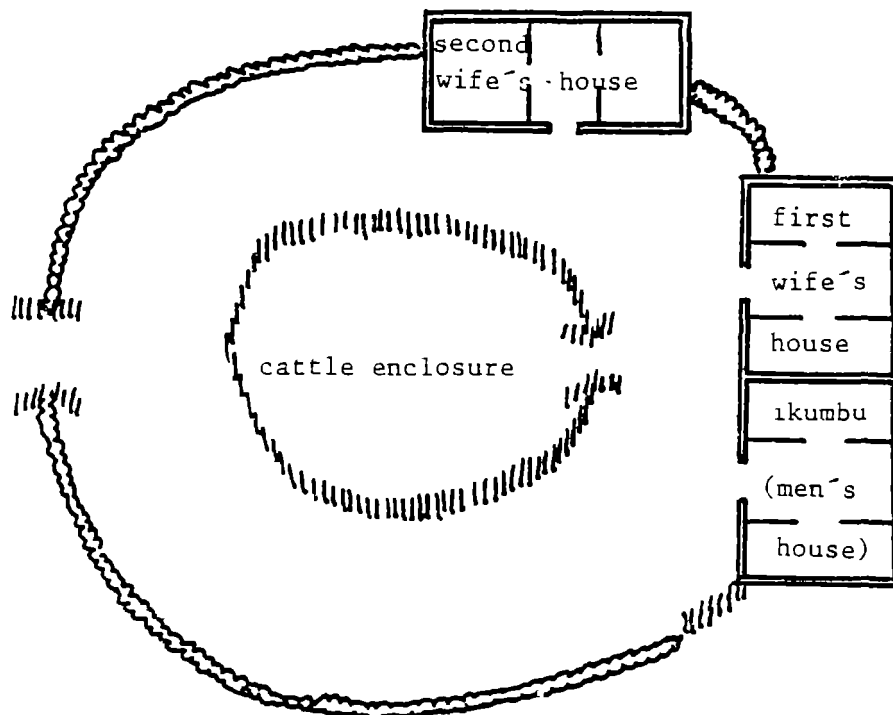
A woman is usually young when she marries. She moves from her natal home to an often hostile residential group. The senior wife has prestige and other advantages over junior wives. A young wife is likely to be subject to aggression from the other wives. She is able to operate her household independently but she must always defer and be servile to the senior wife. There is constant competition between the households for land, livestock and the managerial aid of the husband, as well as for his actual help in cultivation and productive work. (Schneider) Naturally a junior wife is disadvantaged in this process. She receives less help than the senior wives as well as less manure for her fields. On the other hand she may have an advantage in the greater amorous feelings the husband has for her. (Schneider)



Figure 3: Examples of Nyaturu homesteads



a) Homestead head with one wife



b) Homestead head with two wives



Once the wife has produced sons she is in a strong position because she has established her household as an inheritance unit. As well she has consolidated her control over the food and drink which is not only essential for everyday subsistence, but for the hospitality which her husband must display in order to gain respect and support in the community. (Jellicoe) The main objective of each wife is to build up inheritance for her sons and at the same time to ensure status and security for herself, especially when she is old and widowed. The ambitions of one woman have been recorded:

"She desired children so they could honor her father, help with the work, inherit her estate, and give her a goal to work for. She said she also valued them for the honor she acquired through having them. If she had no sons, she said, her husband would be unhappy and she would suffer for that." (Schneider, p 65)

The ritual ceremonies of women identify four main burdens in the life of married women - loneliness; the need to be courageous in the face of difficulties child bearing; and the labour of cultivation and house-keeping. (Schneider)

If a wife is unhappy with the situation in the homestead she can return to her natal home, for shorter or longer periods. She may also find some other forms of antagonism and non-cooperation with her husband and his lineage. This will be treated in more detail in the following section.

Tensions in a Nyaturu homestead

The Nyaturu ideal of a good wife has been described as *"modest, gentle, with a soft and pleasing appearance, kind to all the children in the homestead, sufficiently hard-working to grind grain at cockcrow, and completely obedient to her husband. She should also be the very font of generosity to her husband's visitors as far as food and drink are concerned."* (Jellicoe, p 82)

However the ideal is far from the reality in many cases. There is a great deal of tension and hostility between husbands and wives. (Jellicoe) This is revealed by the frequency of divorce. According to Schneider divorce was very common, especially if the woman had no sons. He maintains that most household heads had been divorced at least once.

Both Jellicoe and Schneider emphasize that the Nyaturu society in general is fraught with tensions and strains. Within the individual homesteads there is usually jealousy among the women; centred around the distribution of cattle, land, manure and the allocation of the proceeds of the sale of any surplus food crops.

"The basis of the problem is the same: the struggle for inheritance, each co-wife keeping an alert eye for unfair property re-allocation and remaining ever ready to complain to her father or brother." (Schneider, p 85)

While the goal of the husband may be to have his wife completely under his control, in reality a husband's control is far from complete. The wife may utilize hostility and non-cooperation against her husband. The most extreme form of non-cooperation is, of course, complete or partial withdrawal from the husband's homestead.



"She may return to her father or brothers, leaving her husband with a broken unit containing wealth but no further productive potential, since that rests mainly upon her labours." (Schneider, p 63)

A wife may also demand a separate homestead for herself and her family because of disputes between co-wives. According to Schneider this was not uncommon, but was also sometimes a result of the desire of the homestead head to exploit land in two different places.

Jellicoe maintains that another way for wives to react against their husbands was to use sorcery against their own children. The children belong to the husband's lineage and not that of the wife. Therefore to injure the children was to do injury to the husband and his lineage. This was considered to be a form of revenge for some unfair treatment, or as an expression of resentment for their alienation from their own lineages.

The tensions and hostilities within homesteads are often so great that Jellicoe reported fear of sorcery was more from within the homestead than without. For example, when the Wanyaturu could be persuaded to put windows in their houses, they preferred to put the windows facing outside rather than facing onto the compound, in spite of the fact that they were then more exposed to the cold winds. The reason for this appeared to be simply the belief that the greatest dangers to the household come from within the homestead, that is,

"... the fear among many of the tense relations between the women of the homestead and of undesirable consequences, intended or unintended, if a jealous woman should be able to look directly into one's house and see there the things that she herself lacked - grain, clothes or children." (Jellicoe, p 294)

In reality the means of control a husband has over his wives is limited. He can beat his wife but he may not overdo it or her family can demand compensation for damage to her productive capacity. The wife can always appeal to her father or brothers to help her. However, the ultimate weapon the husband has against an unreasonable wife is also to appeal to her father or brothers to discipline her. (Schneider)

Schneider talks further of the "managerial problems" faced by household heads. The head desires success for his whole homestead - to bring honor to his lineage and respect to himself. The wives however, as we have seen, desire it mostly for their own individual households and their sons, even at the expense of other households in the homestead. Herein the resulting tension and conflict which must be resolved in some way by the homestead head if the homestead as a whole is to be prosperous.

"If a homestead persists, some modus operandi will be reached and there will be some degree of synchronization of the activities of the houses. The husband will attempt to weld the units into a whole rather than allow them to proceed without any reference to each other. In the nature of the productive system, however, there is no attempt to submerge houses, and co-ordination is never complete." (Schneider, p 65)

2.3 Women's power and ritual activities

There are different spheres in which women may or may not exercise some power, i.e. in the household, in the homestead, or at the village level. Women have most control at the level of their own household. In general women appear to be very much a subordinate group in Nyaturu society. Especially since inheritance and final control pass through the male line and women can take very little



part in public life. However women are vital factors in Nyaturu life and economy and are not without some means of control, even at the homestead and village level.

"As heads of inheritance groups of sons and as the main agriculturalists, married women occupy the key economic position in Wahi (Turu) society, just as they monopolise much of its ritual life and are the base of the value system." (Jellicoe, p 71)

There is a level of cooperation among women of which men are in awe. This cooperation, forced on women by their ambiguous social position *"overrides lineal boundaries which men may be unable to surmount."* (Jellicoe, p 72) Married women in a village are often living outside their own lineage countries and thus cannot form lineage groups.¹ Instead they form a residential group of married women whose ties are non-lineal. This women's association keeps discipline among themselves and represent women's rights against men. In addition they organize the ritual *imaa* ceremonies which are their means of control over men. Men greatly fear the power of the women's group. In particular *"the coordination of their activities is envied and feared by the men, who feel inferior in the face of such unanimity of purpose."* (Schneider, p 143)

One of the most notable examples of women's activities and cooperation which are in opposition to the men is the system of extra-marital relationships. Men object to their wives being the mistresses of others, while women uniformly wish to have such relationships. The women therefore protect each other, coordinating and controlling their relationships in order to avoid antagonising the men too much.

The very ambiguity of women's social position can, in fact, give rise to a certain type of power. Women, in theory at least, can play off both interested parties, her husband and her father.

According to men a great deal of women's power is related to sorcery. The Wanyaturu in general are very much afraid of sorcery, or what can be described as *"the deliberate use of some medium in order to attack personal being."* (Jellicoe, p 43) Women are the most accused of all people and it is especially believed that they direct their powers against the lineages of their husbands - in particular against the husband himself, co-wives or mother-in-laws, or even against the women's own children. Women are also thought to help each other bewitch. Women are also suspected of being responsible parties for the so-called "lion-men" murders for which Singida region is infamous.

Women's ritual activities

Because of their subordinate position in society women are not given the chance to express themselves fully and their ideas and opinions are not considered of value, sometimes even by themselves. Since there is a conflict of interests between men and women there is a great deal of antagonism. This is evident in the various forms of non-cooperation and even hostility by women in their efforts to resist complete control by men. The special female rituals, *imaa*, are designed to control this conflict (Schneider) though it would appear that the chief beneficiaries of such a control mechanism are the men.

Schneider identified rites of passage for women which are intricate and more complicated than those for males.

1. The extent or type of impact of villagization on this area of Nyaturu life is not known.



Clitoridectomy takes place at about age 10 and menstruation seclusion at the onset of the first menstruation. Cleaning rites immediately follow menstruation. An important rite, "house imaa", occurs as soon as possible after cleansing and before a child is born. The "lion imaa" occurs after the first child is born, or when it is obvious that the woman will not have children.

The manifest function of these rites is to induct women into the role of motherhood. The word *imaa* has the meaning "courageous, uprightness, stolidity". However these rites also have purposes secret from the men, which have to do with the relations of women to men as well as the relations of women to women. (Schneider)

Girls going through clitoridectomy and menstruation rites are separated from the men. Women are considered unclean and relations between them and most other people are therefore taboo. (Schneider) During menstruation rites the woman is physically removed to be hidden away, usually in her mother's house. Traditionally the period of seclusion was from 6 months to a year. According to Jellicoe the length of seclusions for those who still actually undergo it has been considerably reduced.

Through the *imaa* rites the women is admitted to the female association. The initiates are warned that they must not overtly resist the men as that would bring shame on their families and disrupt the peace.

"The lesson she learns is to conform to the husband's demands and to depend on the organization of women to keep the power of the men in check ... Women correctly insist that imaa rites are not anti-male; they merely control male dominance for the sake of peace. To the men, however, the secrecy of women's activities shows their hostility and resistance to men." (Schneider, p 137)

The most important rite for the women is the house *imaa*. It lasts for 2 days and the men of the household where it is held are excluded. House *imaa* has the purpose of teaching the initiate, who is married but has no children "to obey her husband and parents, to be stalwart in the face of adversity in order to maintain good relations with her husband and not to shame her parents." (Schneider, p 139)

Lion *imaa* is held after the initiate has had one child or after it is clear that she will have no children. (Schneider) The manifest reason for holding it is to purify the homestead of a woman who has had twins. It is also "the medium for initiating women who have had children into full female adult status." (Schneider, p 141) It is thus related to the significance alteration in status of a woman after she has had her first child. When a child is born, particularly a male child, her estate is more firmly attached to her. However, it is also very clear that the lion *imaa* has to do with the separation of male and female and the need for women to have some means of control over men. For as Schneider aptly points out, a wife cannot be expected to conform to all her husband's expectations without being de-humanized. Thus these rites display the power of the women, while at the same time showing attempts to control this power for the sake of peace.

"Lion imaa thus seems to signify the achievement of control of men by women as a group, both in their villages and in general. They have in effect, conquered the men, who are the lions; but they use their power for good by allowing themselves to be conquered by men ... in order to keep the peace because peace is valuable to them." (Schneider, p 142)



2.4 Women's role in production/reproduction

The principal source of labour is women. Schneider points out that the main way to increase the labour force is therefore through polygamy. *"Whatever the case behind all multiple marriages is the expectation that production will be increased."* (Schneider, p 77)

Women's role in production

As in many other parts of Tanzania, the sustaining force in the production of agricultural crops is women. Men assist to a greater or lesser degree. Women have the main responsibility and the men give some help in cultivating, harvesting and threshing. Traditionally this help from the men was usually in the form of cooperative work parties made up principally of men, who as pointed out by Schneider, were the only ones with the time to engage in them. Women were required to prepare beer for these work parties. Even when men assist in agricultural activities it is common that they only work until midday, while women normally work for the whole day. (Schneider)

However the fact that the women have the main responsibility for food crop production should not be seen as completely negative. Admittedly they have a very heavy work burden as a result of the unequal division of labour, but on the other hand it does give them an element of control in their lives.

"... women view the production of this food as their prerogative; while they may grumble about the amount of energy they expend in comparison with men, they also know that their control of crops gives them their chief power." (Schneider, p 26)

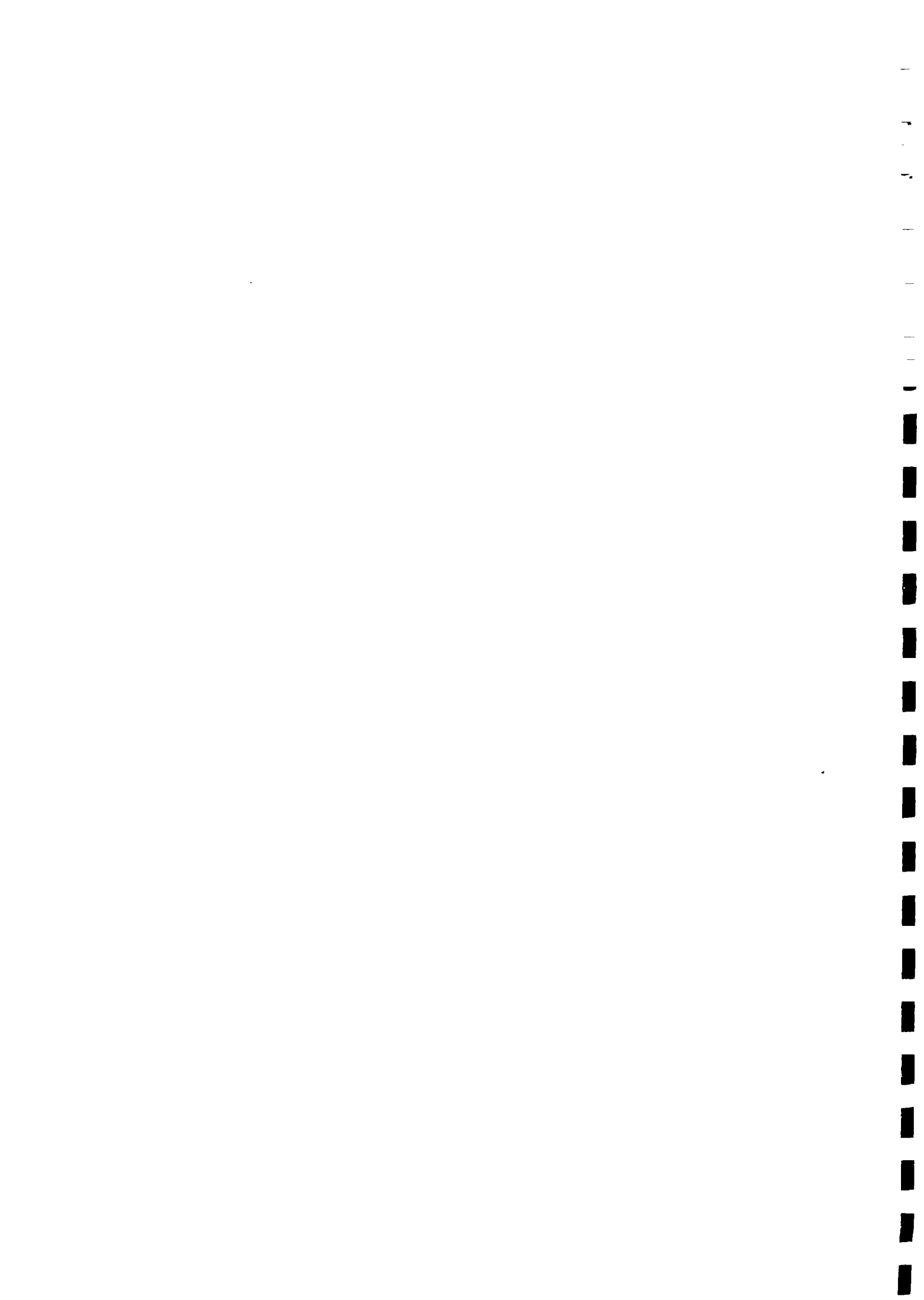
Apart from the wives of the homestead head there are other women engaged in the production in a homestead. These may include the mother of the head, married daughters who have returned home, brother's wives, sisters etc. According to Schneider the wives are the best producers as they have more incentive to work to ensure the success of their households.

"The senior wife (or mother, if she is present) usually has the highest productivity. The reason for this is that she normally receives the largest share of assets, such as manure, and is favoured by the head of the homestead." (Schneider, p 77)

Women's reproductive roles

Domestic activities are carried out almost exclusively by the women, with some assistance from children. The most important and most time-consuming task is that of food preparation. In particular the grinding of the millet flour for the staple food, stiff millet porridge, is a labourious task. Each woman has a grinding platform with a depression in the middle made by the pressure of the grinding stone. The women have to rise early in the morning (sometimes as early as 3 am) to grind sufficient flour for the next day's use.

Porridge is cooked twice a day, in the morning at 10 am and in the evening after the day's work is finished. The porridge is served with a relish whenever possible. The wives serve the husbands and older sons and any male guests first. The husband must eat some of the food of all the wives. When the men have eaten each wife takes her food to her own house and eats with her daughters, small sons and any women guests.



Cleaning the house and surroundings is another task which should be done daily. As well the woman must find time to collect the leaves for the vegetable relish, collect water several times and milk the cows twice daily. The care of children is also part of her daily burden. In the dry season the woman spends a great deal of her time collecting firewood and building up a store for the rainy season when she is too busy with agricultural work to collect fuel.

Another duty of the women is the preparation of beer. The frequency of this task varies according to the agricultural season. There are also regulations concerning the frequency of brewing. In theory beer should only be prepared on holidays or at weekends and permission must be obtained from the village council. The process of brewing takes several days and involves the collection of large amounts of water in addition to that required for normal domestic uses. The process is described below.

"The grain must be soaked and allowed to sprout before it is dried to make the mash. It is then roughly ground. After this, dried porridge (maxoxo) is cooked, sometimes mixed with honey to make the most favoured beer, and then allowed to sour. Next the mash is placed in hot water, stirred and put aside to cool. Finally the maxoxo is added, and the mixture is allowed to ferment overnight. The process may take ten to twelve days. Women who make good beer and do so frequently are exceptional and highly desired as wives." (Schneider, p 27)

2.5. The changing position of Wanyaturu women

Of course it would be incorrect to say that the situation of Wanyaturu women is not changing. Over the last 25 years there have been many changes, occurring slowly. These changes have occurred in many areas. Some of these changes are illustrated below.

Female circumcision appears to have decreased somewhat. And the age at which it is performed has been lowered, which may mean that it may gradually lose some of its social significance. Menstrual seclusion, when practised, is shorter. Girls are marrying at a later age, largely because of the increased educational opportunities for girls. Jellicoe pointed out that in 1965 the age of marriage for boys had risen from 17 years to 20 and for girls from 13 or 14 years to 18. There was evidence even then that boys were marrying as late as at 25 years. Today it would appear that girls may also wait longer before marrying. According to Jellicoe parents were not enthusiastic about increased educational opportunities for girls as it was considered that their chances of marriage were diminished rather than increased by their education. This was given as a reason for the desire of primary school leavers to move from the rural areas - i.e. the incongruity between a girl's school education and the subsequent married life that she was likely to lead. This was especially so if she had been educated at a mission boarding school.

"At school she had learnt standards of cleanliness, home care and dress which were often impossible of realisation in her mother's house or in the houses of most of those young men who were willing to marry her." (Jellicoe, p 216)

The incidence of polygamous marriages appears to have diminished. In which case women's general situation in the homesteads has also changed. If she is the only wife the aspect of conflicts and competition over the husband's resources is no longer relevant. However, there may still be conflict with the husband's mother and the wife may be totally under her control, at least in the early years of the marriage. As the only wife women may have more control over their



husbands when they do not have to share him with other women. However this may in turn have led to a decrease in the importance of women's ritual activities and a subsequent decrease in women's powers in this area.

There appears to have been some decrease in the incidence of separate houses for men, at least among younger Wanyaturu. This may be due to contact with other tribes where separate houses is not a custom. It may have occurred with villagisation when the families were forced to build new homesteads. The sharing of houses by men and women would seem to imply an increase in women's status.

The impact of villagisation on women's over-all position in rural areas in Singida is difficult to assess. It has, in all probability, had an effect on relations with the village from which the women came. In some cases the villages have merged to become one which means that the women now live in the same village as their parents.

Oxenisation has also had implications for women in production. Greater areas can be ploughed and more manure can be transported to the fields, but women do not appreciate the increase in the work of putting out the manure and weeding.

The educational changes for girls have already been touched upon. More girls are receiving educational opportunities, though these are still less than those of boys. In theory girls have the opportunity to continue with secondary and even tertiary education if they have high enough results. In practice there are still many more boys continuing their education after standard 7 than girls. However, the number of girls completing standard 7 has certainly increased.

Women's economic position has also changed. It does not appear as common that men leave to work in other areas as previously. This may be related to the collapse in the sisal industry, since many Wanyaturu men worked on estates. As a result of this more women are engaged in activities to obtain cash income. It is also related to the increase in needs - cash is needed for clothing, food, school fees, medicine etc. The introduction of the practice of brewing beer for sale in individual homes led to a significant change in women's economic position. The great majority of families in the villages appear to brew beer to obtain cash income. The increasing involvement of women in income generating activities should, in the long run, mean an increase in women's status in the society.

Villagisation has certainly had an impact on women's productive activities since the fields are now further from home and women have to walk much longer distances every day to carry out their work in the fields. A decrease in production as a result has also worsened women's situation. It is more difficult to produce enough food to cover the needs of the family from one season to the next.

2.6. Some implications for improving water supplies

Background information on socio-economic conditions in rural areas, and in particular on the role and status of women, is of vital importance for planning development efforts. The implications which can be drawn from the data on Wanyaturu women are presented below.



Women's position in rural society and its relationship to their participation in development efforts

Women have an obviously subordinate position in Nyaturu society. An understanding of this is essential when attempting to involve them more fully in development efforts, including improvements to water supplies. It is essential to understand their role and status at all levels, the village level, the homestead level and at the household level. In Nyaturu society women have some means of power and control, i.e. through the strong non-lineal relationships between women. These may be utilized to stimulate women's involvement in programmes to improve water and health. Their contacts outside the village, because of their attachment to their father's lineage, may also be positive in stimulating diffusion of change and innovations.

Conflict in Nyaturu society and its implications

The conflicts between women in the homesteads must be understood when attempting to involve women. In particular the subordinate position of the junior wife and the general immobility and lack of independence of young married women is a hinder to their involvement. Ways of combating such problems must be worked out if these women are to be involved in development efforts.

The conflicts between men and women (husbands and wives) must also be taken into account. It may be difficult to try to involve women if men's consent is not obtained first. On the other hand simply giving the necessary information and motivation to the men is not sufficient. Since women are considered subordinate, it is possible that no information will ever be passed on to the women, the ones who have the most need for it.

The inter-lineal conflicts must also be kept in mind. Efforts must be made to avoid increasing existing conflicts or creating new ones. A certain amount of competition and/or rivalry between the groups may be stimulating, but it can be difficult to ensure that the end results are constructive and not destructive.

Water in the context of women's total work burden

Water is obviously just one of the many work burdens carried out daily by women in rural areas of Singida region. Water may or may not be the most important problem in the villages, but it must always be placed in the context of other burdens such as agriculture, firewood collection, grinding flour, etc.



3. WOMEN AND CHANGE IN NYATURU SOCIETY

*"The past is brother to the present." Nyaturu proverb
(Schneider, 1970)*

Schneider considered that in the 1960s the most striking aspect of Nyaturu society was not what had changed but rather what had not changed. It appeared that the continued existence of traditional forms argued the insignificance of many, apparently radical changes (including changes in the forms of government both at the national and local level) in the face of determination to preserve the integrity of the traditional system.

The continuity of the way of life of the Wanyaturu was emphasized by Schneider. He noted that the work of Von Sick in 1916 gave a similar description of the modes of production and associated activities as he himself had observed in 1960. Jellicoe's study, carried out after that of Schneider, indicated that change was occurring in Singida Region at a very slow pace. Even the changes in the 70s, the decentralization, dissolution of the cooperatives, and villagisation, would appear to have had little obvious impact on the mode of production or way of life of the Wanyaturu.¹

It is interesting to note that the basic technology recorded by Von Sick in 1916 and Schneider in 1960 is still basically unchanged today. Grain is still often ground on the indigenous grindstones though when possible women prefer to use a machine; food is cooked in clay pots produced by female potters; solids are still often carried in troughs made of wood (though ox-carts have been introduced); and grain is kept in bark bins; liquids are mostly carried and stored in gourds and clay pots. Most innovations are to be found in the agricultural sector, with the use of hoes and in more recent the spread of oxenisation. However, while Schneider noted widespread use of aluminium pots (sufurias), today most households had at most one small sufuria and clay pots were the most widely used for cooking, storage and cleaning purposes. (This must be related to inadequate production and/or distribution of sufurias in Tanzania today.)

The stasis in Wanyaturu society was described by Schneider as *partly a function of the lack of new goals and partly a function of the lack of understanding of how economically to pursue new goals.*" (p 6) He maintains that the traditional Nyaturu society had an integrated method of production and appropriate goals combined with a social structure which was suited to these, and neither the Wanyaturu themselves nor outsiders have been able to find an adequate replacement.

Many developmental efforts have been attempted in Singida Region. The impact has been limited. This is not to say there has been no change at all. However the lack of response to developmental inputs is important to note in the context of attempts to improve water supplies today. The Wanyaturu have succeeded in retaining much of their traditional way of life, in spite of all attempts from outside to change them.

In order to understand the changes which have taken place within the society, a sound knowledge of the traditional way of life is necessary. Even when traditional practices such as circumcision, bridewealth, polygamy, etc., are in the process of disappearing (and perhaps even when they have disappeared completely) their impact can still be retained in the value system and way of

1. There is an obvious need for more in-depth anthropological studies to provide more accurate up-to-date information on the way of life of the Wanyaturu and the impact of changes that have occurred. Changes have occurred in production, in particular because of lowered production and this has led to change in women's work situation - as will be pointed out later.



thinking. The extent and types of changes which occur in rural societies are difficult to assess. Changes of a practical nature such as changes in dress, housing, etc. are easily observable. Changes at the level of value systems are not so easily identified and investigated.

This section presents some of the early attempts at change made among the Wanyaturu and the impact of such inputs. The implications for attempts to improve water supplies are investigated.

3.1 Early change in Nyaturu society up to 1958

Jellicoe rightly points out that the foundations for the changes of today had already been laid down by 1914 on a background of pre-existing contact with the outsideworld through the Wanyamwezi and the Wagogo and many of the changes advocated today were already being initiated by the German administration. The need for pasture improvement and better cattle-breeding as well as reduction of erosion and destruction of trees was recognized by the Germans. Efforts were made to improve the water supply, both for domestic and non-domestic uses, and attempts to improve health were undertaken.

Following the 2nd World War, Rehabilitation Plans in Singida stressed increased agricultural production, setting up of cooperative creameries for the marketing of surplus milk, the building of latrines and modern houses, the encouragement of attendance at schools and health clinics, and the substitution of cloth for skins as clothing for women. Jellicoe reported from her study of 4 settlements¹ that these measures met with limited success. The only completely successful project was the introduction of cotton cloth as clothing for women - probably because efforts were made to first obtain the consent of the male elders. Jellicoe also presumes that jealousy and competition among the women also played a part.

Another important change was the introduction of the practice of brewing beer for sale in individual houses. Other changes noted by Schneider included the disappearance of use of cattle urine for washing; the disappearance of the custom of drinking cattle blood, after the penetration of Islamic and Christian ideas; the disappearance of the custom of extracting the lower front incisors of children; better attendance of children at school; the shortening of the menstrual seclusion for girls; the holding of circumcision later in the year and earlier in life, so as not to interfere with the school year.

Among the measures which were resisted more actively were the agricultural improvements. They were only implemented, in the face of popular opposition, through the enforcement of agricultural rules. Many of the effects of the improvements initiated gradually disappeared as pressure was relaxed. The building of latrines and the attendance of pregnant women at clinics were also enforced through fines. The District Creamery organization never ran as a true cooperative. Since it proved uneconomic it was finally abandoned. Modern type houses proved economically and socially impractical. Efforts to increase destocking had also resulted in active opposition. Jellicoe reported that by 1958 all that remained of the inputs were some anti-erosion works, patches of maize grown on ridges, some vegetable gardens in the swamps, and a few latrines.

3.2 The literacy campaign

In the 1950s, literacy in Swahili became a popular activity of rural local governments. Chiefdoms in Wahi in Singida had already been involved in starting women's clubs, mainly for sewing and knitting. Jellicoe points out that these mainly attracted women who were married into the chiefly lineages. Most of these women had a higher standard of living to start with and these clubs aroused jealousy and resentment in those living further away. The

1. In Wahi area of Singida among the Wanyaturu.



literacy groups which were established along the same lines resulted in the same pattern. Members of the groups were inevitably close relatives of the Chief, together with their wives, simply because these were the people who lived in the chief's katumbi.

As interest in literacy spread the Social Development Department became involved and more loosely organized, decentralized groups, each with a committee to organize practical matters were suggested. Jellicoe (p 153) claims that the emphasis on self-governing groups was a pattern "*almost tailor made for the competitive lineage settlements of Singida*". Literacy groups spread until by 1960 the entire District was covered. This was the peak of popularity. Gradually enthusiasms began to wane, especially as practical matters such as payments and fines began to dominate.

According to Jellicoe the economics and organization of the Literacy Campaign were incompatible with those of the society which it had to serve. The annual cash incomes of the Nyaturu were too low to allow the payment of the literacy kits and the monthly payment for the teacher, which was made in cash or kind. The introduction of a fine for non-attendance was also resented. The decline of enthusiasm also coincided with a famine year when cash and grain and poultry had more important uses. Disputes arose between learners and teachers so that by 1965 the reasons given by the Community Development staff, elders and other officials for the decline of interest included the unwillingness of the literate young men to teach and of the learners to attend.

Organizationally the literacy group was purely a family affair because the literacy banda was built on family land. Membership was formed of varying numbers of family groups in an unstable state of cooperation or competition with each other. The organizers tried to encourage democratic organization by requiring the formation of a committee to guide the teachers. This should be formed of 5 prominent citizens including both men and women. However few committee members really grasped the duties they were supposed to carry out. The women members of the groups took no part in public since "*social expectations made it necessary for them to work with other women as a separate group with a formal outward deference to men.*" (Jellicoe, p 235)

The final result of these financial and organizational problems was that internal competition with the literacy groups became more and more extreme. "*In a segmentary society, the literacy groups themselves segmented.*" (Jellicoe, p 233) Competitive singing and dancing was often used by the literacy groups to express rivalry and assert predominance. With the constant development of rival factions within groups, replacement of teachers and withdrawals of whole lineage groups from the classes the work in the groups ceased altogether.

Impact on the various social groups

The interest in the literacy campaign can be attributed to the fact that there was "*a tradition which gave literacy high prestige as a source of new power from outside which assisted increase, especially through money.*" (Jellicoe, p 219) However the impact of the campaign was not spread evenly among all the social groups in the communities.

Men: All the men who learnt to read in the settlements studied by Jellicoe were over the age of 36 and were already established heads of homesteads. They were often already well respected persons for traditional reasons. Most found that reading and writing would be useful to them in their positions or in the future. They formed what Jellicoe called "*an internal elite*" among household heads. Most learnt privately since they felt embarrassed to attend the larger groups where they would be forced to learn in company with large



groups of women. It was not felt to be humiliating to be taught by one's son or grandson since *"unlike homestead management, literacy was seen by the older men as primarily a useful skill outside the traditional order."* (Jellicoe, p 223)

There was a very noticeable absence of young men under 36. There was not the same social status attached to attending literacy classes as attending primary school. As well, for a young man to attend literacy classes would be to publicly demonstrate his inferiority position among his age mates, before a group of illiterate women. If his mother-in-law were present he would not be able to attend at all, because of the strong avoidance relationship between them.

Women: Many more women than men attended the literacy sessions but fewer learnt to read and write. No woman over 45 became literate. Women in this age-group could rarely speak Swahili and the ability to read and write was probably felt to be of minimal value to them.

"Entirely immersed in tradition, with responsibilities whose proper performance was still probably felt by the majority of both sexes to be essential to the stability of society and to which literacy was entirely irrelevant, the only possible motivation for the older woman to make what for her was a tremendous effort was to display her solidarity with the rest of the sisterhood." (Jellicoe, p 225)

The women who received their certificates were nearly all between the ages of 36 and 45, first or only wives with at least some circumcised children (except for 2 who were childless). About half of their husbands had also learnt to read and write. All the women learnt in the literacy groups and not privately. Propriety made it difficult for a woman to be taught to read and write, outside the public formality of the literacy classes, by any man other than her husband or own brothers. It was even more difficult for a woman to teach a man. The restrained relationship between a father and his adult daughter, or a father-in-law and his daughter-in-law make any pupil-teacher relationship impossible. In addition, the women expressed a preference for learning in groups.

The interesting fact, recorded by Jellicoe, is that the women, unlike the men, showed interest in literacy for its own sake rather than for financial gain or increase in power/status. Among the strongest motives for becoming literate were to gain the approval of a husband who desired his wife to read, and in order to gain respect in women's church groups.

In general it appeared easier for women to learn from each other than for men to do so. Sisters, mothers, daughters are not usually in a position of competition with each other and thus can help each other. However there were serious constraints which hindered some women from attending the classes or taking their certificates which are related to social relationships. For instance, among a group of co-wives living in one homestead, it was considered highly improper for a junior wife to take her examination before a senior wife, just as a wife should not take hers before her husband. No young married women under 25 and no single women obtained a certificate although they attended the literacy classes. These women were very much immersed in family life and under the close supervision of parents, husbands and mother-in-laws. Apart from having less spare time than older women who can expect assistance from daughters or other women in the households, the younger women could only attend if they had the specific consent of husbands and mother-in-laws. These younger women have a generally less assured position both in the homesteads and in the sisterhood of women.



Another serious constraint to women's success in gaining literacy certificates is related to their lack of knowledge of Swahili. 62% of the illiterate women in the 4 settlements studied by Jellicoe could not speak Swahili. These were especially women over 45 and young married women under 30. The secure married group between 30-40 were those who knew most Swahili. This was because, according to Jellicoe, many women seem finally to acquire the language from their husbands.

Because of the scattered nature of the Nyaturu homesteads and the general dislike of going out at night, the literacy classes were held in the daytime when they conflicted with the daytime activities which appeared more important to the people. In the peak agricultural periods women would certainly not have time to attend literacy classes.

The general effects of the literacy campaign

As a means of making large numbers of people literate the literacy campaign was not altogether very successful. According to Jellicoe, in the settlements she studied, it taught those leaders who were still illiterate at that point of time. The group who learnt to read and write consisted of those who since 1958 had consistently improved their positions, both socially and economically, and who were now adding new roles to a foundation laid many years ago.

"It was not a youth group, but a group of homestead heads and their wives who were at the peak of their influence in the homestead cycle, parents of growing families. In the case of the men, literacy was of immediate relevance to their everyday lives, while in the case of the women it had helped to give them confidence as fit partners for already literate husbands who were solid citizens, progressive but not revolutionary." (Jellicoe, p 244)

The literacy campaign helped equip members of the Village Development Committees and leaders of the ten cells for their positions. In fact their recently acquired literacy was probably one of the deciding factors in their choice. (Jellicoe)

3.3 Introduction of community development methods

Following on the somewhat surprising success of the literacy campaign (at least in terms of the numbers of groups established), a "Combined Operations Team" of field staff was organized to spread new ideas and knowledge using the literacy groups as a platform. According to Jellicoe it was based on the belief that literacy campaigns might provide an opportunity for creating the beginnings of village development organizations. The specialist departments concerned were agriculture, veterinary science and health. In preparation for this work in village development a team was sent to carry out a survey which would provide relevant background material and make suggestions as to the content of the work and how best it might be organized. One of the most important aims of the study was "to isolate the most important explicit wants of the people and to reconcile those to their needs as seen by Government departments." (Jellicoe, p 163) Apart from a general desire for more cash the team had difficulties in ascertaining the explicit wants of the people. The main requests made, i.e. to grow cotton and learn sewing and knitting, proved impossible. In the former case cotton growing in this area was not permitted, and in the latter case it proved too expensive and impracticable.

The follow-up programme recommended was not based on the expressed problems of the people themselves but rather on problems brought up by government



departments in the field of agriculture and livestock management, health and education. The final recommendation was for a "mass education" approach and UNICEF was approached to provide support. The literacy groups were to be the first centres of instruction, though instruction could be extended to other groups as demanded. There would be a team of men and a team of women. The ability to speak the local language was stressed as vital, though in practice such team members would prove difficult to find. The programme when finally drawn up had four main headings: nutrition, child care, health and stock-keeping.

a) Nutrition:

The growing of a greater variety of crops, both near the homestead (to be under the supervision of the women) and in the swamps (to be controlled by the men) was encouraged. The aim was both a diversification of the daily diet and the provision of more cash. The women were to be shown how to prepare these foods, and how to prepare supplementary food for children being weaned.

b) Child care:

Better cleaning of children (especially washing of face and eyes because of eye infections); instruction in feeding of unweaned children with a spoon; necessity to seek skilled help in difficult childbirths; greater general acceptance of health services; and attendance of children at school, were all aspects which were to be encouraged.

c) Health:

Three main measures were to be promoted to improve health. Firstly the building of better houses was promoted. Improvements included construction with sun-dried bricks with smoother finish both inside and outside; a door between the women's sleeping quarters and the young animals; frequent sweeping of the houses and surroundings; construction and use of latrines; building of "vichanja" or low racks for storage of cooking utensils and vessels outside the kitchens. These measures were to eliminate the health hazards caused by the presence of flies, rats and ticks and also to improve ventilation in the houses as it was suspected that lack of air and light in the houses led to the spread of tuberculosis.

The second measure concerned the handling of water, milk and food. The boiling of drinking water and milk, especially for children, was recommended; the use of individual drinking vessels: covering of storage vessels; the covering of food and use of mats when drying foodstuffs to avoid contact with the ground. The third measure entailed the construction of permanent wells for household water supplies and adjacent wash-places.

d) Agriculture:

This programme encouraged anti-erosion measures; increased use of manure on fields; vegetable gardens in swamps.

e) Stock-raising:

The aspects covered included supplementary feeding of cattle when kept in the enclosures; longer daily grazing; and attempts to improve poultry and egg production.



f) Social or status-raising activities:

According to Jellicoe these included activities which, at that time, were considered evidence of progress, i.e. making tea and cakes and entertaining visitors; sewing; literacy; running of organizations. Later on instruction in cooking of "maandazi" (fried cakes), pottery and basketry were included.

The impact of the community development programme

The programme commenced in 1960. Despite the distractions of the famine in 1961-62, the political revolution underway prior to independence, the abolition of direct rule through the chiefs and their replacement by a bureaucracy, and the loss of continuity caused by too frequent movement of staff, some progress had been made by 1965. Imputus had been given to development efforts after independence by the Village Development Committees and the Mobile Field Units set up by the Ministry of Community Development. By December 1964, 12,370 women in Singida District had attended village-level courses, or about 24% of the adult female population (65,000) between the ages of 16 and 45. (Jellicoe)

Jellicoe when re-visiting the area of her fieldwork in 1965 noted some changes. The literacy campaign had collapsed but the growing of ground nuts, castor beans and vegetables, as well as the sale of cattle for meat had increased. It was felt that people were cleaner and better dressed than previously and that more Swahili was spoken. In general trade had increased considerably. Fresh fruits and vegetables were sold by men who grew them in swamp gardens - tomatoes, lemons, pawpaw, sweet bananas, sugar cane, cabbage, onions and hot peppers. Women sold chickens, eggs, pumpkins, millet flour as well as pots and prepared gourds. However basketry and mat-making had not caught on. The shops had a larger and more varied stock which now included toilet soap, dried and tinned milk and tinned vegetable fats. The demands of the communities had increased and diversified. The greatest demands were now for cotton goods, soap, household utensils, agricultural tools, tobacco and cigarettes, local beer, meat and vegetables and all services, but especially the medical ones.

The impact of the community development programmes is worth studying more closely. Jellicoe made an in-depth study of the implications of the programme in four settlements. The result of her survey are summarized below.

a) Nutrition:

The most obvious change in 1965 was the increased number of swamp gardens and the change in emphasis from sugar cane and sweet potatoes as main crops to vegetables encouraged by the combined operations team. The motivation for the increase in vegetable growing was that the gardens provided them with both a small cash income and with extra food for the home. There was also some status involved since dietary changes could increase one's prestige in the community. Success in this new activity was becoming a recognized sign of prosperity. However Jellicoe reported that men complained that irrigation was hard work and in one area had tried, unsuccessfully, to make the gardens the responsibility of the women. The cookery classes had been popular and an increase in the use of vegetables in the homes was reported. The demonstration lessons, the increase in the supply of the necessary ingredients and the approval of the husbands led to an increase in the preparation of vegetable dishes advocated by the team. However there was no evidence of an increase in intake of protein foods - meat, fish or eggs.

b) Child-care and health:

In spite of efforts made to encourage the use of cup and spoon for supplementary feeding of infants, bottle-feeding was practised widely since it was considered more practical and less wasteful. Health-care facilities were not well attended. While the new wells were increasingly used, drinking water was still not boiled and separate drinking vessels were not used. (Improvements to water supply and sanitation will be treated in more detail in section 3.4.)

c) Improvements to housing:

Very few homesteads had made changes which involved cash inputs. Where cash had been spent, for example on iron roofs, it was usually on the men's house or *ikumbu*. However the improvements made were usually of the type requiring no cash inputs. Most improvements at this level were directed towards the houses of the women, *"here there were clear if modest changes correlated with the generation of the occupant, mothers occupying the most traditional buildings while sons' wives had the more modern types."* (Jellicoe) However if cash was involved then the relative seniority of the head's wives became a deciding factor. According to Jellicoe there was a continuous movement upwards from the "no improvement" level.

It was reported that homestead heads were *"quite ready to absorb new suggestions which seemed to them to be improvements provided they did not do violence to any particular cherished beliefs or attitudes which made their lives meaningful, were not too impractical, and did not compete too strongly with other claims on scarce cash."* (Jellicoe) Another important point made was the necessity to see the homestead as perceived by the homestead head, and not as seen by the separate departments involved in the community development efforts.

"He (the homestead head) did not look at his homestead with the eyes of a health inspector, an agricultural officer or a community development assistant, but with the eyes of someone building up a unit bequeathed to him by his father and which would be carried on by his son. This included an aesthetic element, obvious in the pleasure with which any successful head would point out his handiwork - the roundness of the enclosure, the even height of the houses, the smooth plastering of the outside walls - of small consequence to a health inspector - and the large quantities of manure near the senior wife's houses - which would worry the health inspector a great deal." (Jellicoe)

Some of the problems experienced in promoting improvements to housing were related to traditional patterns of living. Many of the improvements recommended, e.g. framed windows, wooden doors, sundried bricks, etc, required the assistance of "fundis" or specialists. It was not the expense alone which prohibited the use of fundis but the fact that it was incompatible with the traditional cooperative work-party. A woman's house (and especially that of a first wife) was a symbol of a new lineage issuing from a man and one particular woman, and its construction still required the cooperation of all the lineages involved. *"If any of these groups were omitted, a man's day-to-day personal relationships, as well as his chances of obtaining future cooperation in agriculture, the loan of cattle or food in time of shortage, might be seriously affected."* (Jellicoe)

This explains why almost all pitched roofs had been built on men's houses as the *ikumbu* is not the ritual and emotional centre of the homestead. It also explains why windows or ventilation holes received more widespread acceptance than any other improvements, in spite of their obvious practical disadvantage



of climate and the fear of their misuse by the malignant. Ventilation holes did not interfere with traditional building practices as they could be put in after the house was built.

Many of the innovations suggested were opposed to traditional values. For example, pitched roofs were opposed by older people and especially women. The flat roof with the horizontal beam and supporting posts had an appeal that went beyond the practical use, such as its superior powers of wind resistance, or the fact that it was considered less easily burnt down. The flatness of the roof had some symbolic meaning for the Wanyaturu. This is *"supported linguistically by the large numbers of separate terms for the various layers of twigs, sticks and earth used in its construction."* (Jellicoe)

Windows or ventilation holes were initially opposed, especially by the women. In some cases where the husbands had windows knocked out, the wives immediately stuffed them up with rags. Where windows were accepted they were always placed at the back of the house instead of on the internal side. This in spite of the fact that they were then exposed to the cold winds. However if the windows were to be placed in the internal walls there was a real fear of tense relationships between the women of the homestead and of undesirable consequences, intended or unintended, if a jealous woman should be able to look directly into one's house and see there the things that she herself lacked - grain, clothes, children. Jellicoe emphasizes that for the majority *"the greatest dangers were considered to come from within the homestead, not from without."*

One of the slowest changes with regard to home improvements was the use of outside kitchens. There were a number of practical reasons for wanting to keep the fire inside, such as the cold (which was exaggerated in houses which had windows or ventilation holes); the need to discourage mosquitoes, white ants and weevils; the need to be able to see at night when there is no oil; the expense and trouble of building a kitchen. In addition there was the important cultural reason in the attitude towards fire as a living force, capable of transmitting good or evil, fertility or misfortune. (Jellicoe) It was therefore very important that each wife guard her own fire and keep it from contamination, and this could not be done in an outside kitchen used by all the women in the homestead.

The most difficult innovation was the removal of the young animals - sheep, goats and calves - from the left-hand end of the woman's house to another outside building. There were practical reasons for not wanting to keep the young stock in the cattle enclosure at night - they could easily be crushed or stolen or even taken by lions. However there were also important cultural reasons as well. As a mother, a woman was considered the most suitable person to look after these animals, and their close association with her was seen as both a protection for them and an assurance that they would thrive. (Jellicoe)

The latrine campaign had had some success as about 50% of the homesteads in the four settlements had latrines. However there was still some doubt as to what extent they were actually used, and by whom. (This aspect will be treated in more detail in section 3.4.)

One of the advocated changes which had been rejected for very good practical reasons was the wattle drying racks for cooking utensils. Although widely used in other parts of Tanzania it was impractical in Singida because there was nowhere in the enclosure to put the rack where the utensils would not be



dirtied by the dust raised by the cattle. Some families found it more practical to place upturned utensils on the roof of the house. (Jellicoe)

d) Agriculture and livestock-raising:

The anti-erosion measures were not popular. Initially the men were interested in growing elephant grass for supplementary fodder. However the project finally failed because of drought, and partly because the grass was used more to arrest erosion and as hedges, than as feed for the cattle which was what the cattle-owners were most interested in. Planting of cassava and sweet potatoes as emergency crops in time of famine was not successful. Destocking continued to be unpopular in the area as a result of the resistance in the 50s.

The agricultural staff had struggled for years before independence to introduce ploughs and ox-carts into Singida district, with little success. The main obstacle to the introduction of ploughs and ox-carts appeared to have been a reluctance to use for such menial work animals that were associated with ancestors and which symbolised persons. (Jellicoe) Oxenisation was not always regarded as positive by the women as the labour saved was that of the men. Women's work was, on the contrary, increased. With the use of ploughs a greater area could be cultivated which meant a greater area to weed. Similarly with ox-carts more manure could be carried out, which meant more work with spreading. Women did not always welcome this increase in their work burden.

By 1965 there was some interest in oxenisation. Ox-ploughs, ox-carts and oxen were bought by individuals for transporting crops, firewood and manure for the fields. However their use was economic only if they were also hired out. The pattern was for ownership to be vested in an individual but that groups of brothers and dependent sister's sons who might sometimes have shared in the cost, were assumed to have a right to free usage. Outside this group other people had to pay for the use of the oxen and implements. *"Therefore ploughs and ox-carts were used cooperatively to raise the production of a group of close kin, but cooperation did not extend outside this group, and the crops so produced were used or marketed individually."* (Jellicoe) All other attempts to introduce formal cooperative production on a wider non-kinship basis met with little success.

3.4 Improvements to water supply/sanitation/health

It is interesting and somewhat disturbing, to note the attempts which have been made to improve water supply, sanitation and health in Singida Region without much noticeable effect.

Improvements to water supply

As far back as the time of German occupation efforts were made to improve water supply. Both Schneider and Jellicoe mention wells which were constructed during the German period. (In fact one such well, still functioning, was visited during the fieldwork in 1984.) Von Sick (1916) had 50 stone-lined wells, and watering-places for cattle (which were lined with sheets of corrugated iron) dug in the villages, through mobilization of the village headmen. Thus the idea of making improved wells using local labour was not new when encouraged by the British Administration in 1920, when stressed by the Rehabilitation Plans of 1948, nor when re-introduced by the Community Development Teams in the 1960s. (And it can hardly be called a "fresh initiative" when promoted in the developmental efforts today.) What was new in 1960 was the first determined attempt to persuade villagers to make changes without external compulsion. (Jellicoe)



Jellicoe further noted that in her areas of fieldwork both men and women showed interest in modern type wells. Some had seen such wells in other places. In general the idea of clean water appeared to have both a practical and emotional appeal, although suggestions that drinking water supplies should be cleaner sometimes did provoke a hostile response. The proposal that the men should dig the wells and the Social Development Department provide the cement for lining was a very acceptable one to the communities. By 1965 75 wells, 6 of them with pumps, had been dug and the villagers trained to maintain and repair them. It appeared that the wells were used by many in the communities, though some problems with vandalism had been reported.

Health

As early as directly after the 2nd World War latrine campaigns were in progress in Singida. The building of latrines was enforced through fines. However Jellicoe's observations revealed that "*there remained in 1958 a few tottering latrines*". Schneider also observed that latrines had indeed been built but that they were not used. The construction and use of latrines was again in the community development programme in 1959. Assistance with the building of latrines and the attempts to encourage people to use them met with some success. However problems developed because of the costs of the slabs and the difficulties in raising the necessary finance. By 1965 Jellicoe reported that about 30% of the homesteads now had latrines outside the enclosures. Most appeared to be used by someone. However, it was obvious that a good many women and children still did not use them because of avoidance rules.

To understand the limited impact of sanitation inputs it is necessary to have an awareness of the traditional attitude to human excreta. According to Jellicoe faeces is one of the chief materials for sorcery. Thus the safe disposal of faeces is very important. Jellicoe even claims that one of the reasons for constructing circular enclosures in the homesteads was that it provided more room for the private disposal of human faeces, which was deposited there and covered with the foot, if the bush was too distant and the household had no latrine. In how far this is still a common practice is difficult to assess. However it is presumed that with the building of latrines, the latrine is preferred to the enclosure when the bush or fields are too inconvenient.

Because of the symbolic significance of faecal matter in Nyaturu society, there is a strong emphasis on avoidance both between the sexes and between adults and children, when disposing of excreta. (Jellicoe) It is therefore probable that an important motive for the erection of latrines and their use by the men was based on increasing difficulties of such avoidance in heavily populated settlements some way from the forest. In which case, villagisation should have provided an impetus for the building of latrines since the population concentration increased. Other motivations given by Jellicoe for the building of latrines include the notion that, in some unspecified way, latrines prevented ill-health, and the fact that latrines became a kind of social symbol of commitment to progress.

Health education

The health education component of the community development programme undertaken in the early 60s emphasized the necessity to boil both drinking water and milk, and to cover storage vessels. In addition it was recommended that the practice of drinking from the same gourd was stopped. Other recommendations were given on nutrition for small children and weaning



practices. However when the villages were revisited in 1965 Jellicoe found that most of the recommendations were not followed. Other measures advocated to promote better health, i.e. improvements to houses - better ventilation, removal of animals from women's sleeping quarters, greater cleanliness, etc. - had not been adopted.

The recommendation to boil drinking water was not heeded, probably because of the work load of the women, but also because, as pointed out by Jellicoe, there was no real understanding of bacteria and contamination. It is tied up with the traditional idea that some diseases are caused by sorcery. Many people complained that the water in the wells was polluted by hyenas, an animal usually associated with sorcery by the Wanyaturu. Boiling of water was thus considered inadequate to combat the effects of sorcery. The difficulty in imparting an understanding of bacteria is well illustrated by Jellicoe's description of the comments of some men when exhorted to use separate drinking gourds for local beer.

"If this beer is so powerful that it makes even a big man completely helpless, how can those little animals you talk about as swimming inside possibly get the strenght to do us any harm?"

3.5 The impact of developmental inputs: actual and potential

As pointed out earlier one of the most interesting aspects of attempts at social change among the Wanyaturu is the successful resistance to inputs impetus to change from outside. However the notion of inevitable resistance by indigenous societies to influence from outside is dismissed by Schneider as "romantic notion". He believed that the Wanyaturu *"would be quite willing to become westernized if the change could be accomplished with appropriate and dependable future rewards."* Both Schneider and Jellicoe record some enthusiasm for change, especially among younger Wanyaturu. The question then is why has there been so much resistance to change and so little impact of efforts made?

The programme initiated in Singida by the Combined Operation Team was described by Jellicoe as a *"promising pioneer experiment"* and yet it had so little impact. The aims of the programme and the methods of implementation are remarkably similar to community development efforts of today, 25 years later. The programme was based on a study of the local society and an attempt was made to ascertain the felt needs of the communities. (Even if in reality the perceptions of the people themselves were not in fact the basis of the planning process, as pointed out earlier.) The programme stressed the interdependence of the agencies involved and their interdependence with local communities. Problems were tackled on a number of fronts simultaneously. It was what today would be called an integrated holistic approach.

The teams were composed of both men and women and the ability to speak the local language was stressed (though it was difficult then, as now, to recruit suitable qualified people who knew the local language). A real attempt was made to reach the women, more than in many projects today. Much more impact could have been expected.

Jellicoe herself maintains that, in the end, the weakness of the programme lay in the failure to sustain the two-way process between the agencies above the field level, and in its negative approach to the problem of communication with the people.



*"Emphasis was on the avoidance of any direct conflicts with the already existing society, rather than on a positive approach requiring the confrontation of the agents of change with the people themselves as two groups of equals who saw the world from different viewpoints and therefore had something to learn from each other."
(Jellicoe)*

There was resistance of varying degrees to many of the innovations recommended by the community development team. The reasons for rejecting some innovations and accepting others can be related to the traditional patterns of living and the general aims of the Nyaturu society. As seen in the previous section, at times the suggested innovations were simply seen as incompatible with the traditional life style. At times they came into conflict with the main aim of the Wanyaturu which has been described by Schneider as the preserving of the integrity of the system. If changes proposed are seen to pose a threat to this system they are rejected, actively or passively.

Schneider further concludes that in attempting to understand the reasons for the rejection of what seem to outsiders to be reasonable and desirable changes, costs must be calculated not only in terms of money but also in terms of time and energy. Wanyaturu will refuse to be involved in activities which divert too much of their time and energy from more productive activities. The aspect of seasonality thus plays an important role since at certain periods of the year it will be more difficult to engage people in activities other than agricultural.

Another reason given for the non-acceptance of innovations given by Jellicoe was that very often the needs as seen by the outsiders tended to be too long-term to arouse the people's interest and their satisfaction demanded specialized knowledge which the people did not possess. Similarly it is claimed that a lack of understanding of the strains and stresses within Nyaturu society - the particular patterns of social relations and social hierarchy - led to conflicts and the failure of certain programmes. (Jellicoe)

Lack of impact of inputs in fields of water/sanitation/health education

One of the most important reasons for the limited impact of attempts to improve water supply, health and sanitation must be the lack of attention given to traditional practices and the motivations between them. Another important aspect, especially for health education and sanitation inputs is the tendency to rely on enforcement measures. Real change cannot be brought about by establishing rules and regulations, e.g. by forcing people to build latrines and imposing fines if they refuse. (Hannan-Andersson, 1983)

Development will not be achieved by forcing people to change the pattern of living against their wills. To be effective the changes must be accepted and internalized by the people themselves. This can only be brought about through a process of conscientization. (Hannan-Andersson, 1983 and 1984) Especially with regard to educative aspects of improvements to water supply and sanitation there is a need for qualitative changes, a rethinking of the aims and methodology of health education programmes. (This will be treated in more detail in section 5.4.)

An important aspect is the fact that real development is not only to be measured in terms of the individual changes achieved but in the consequent willingness of those concerned to consider further changes. (Jellicoe)



In the attempts made in Singida it is obvious that the diffusion effect of the improvements was slight. The assistance received with constructing wells did not result in spontaneous improvements to traditional wells. The majority of the population in Singida still rely on unimproved traditional wells for their domestic water supplies. Sanitation has not improved greatly. There are a great number of latrines, but continual effort is needed to ensure that they are replaced when they fall down, and there is no evidence that they are used at all times by all household members. The health and hygiene situation in the households indicate the ineffectivity of the health education inputs.

Implications of community development experiences for improvements to water supply

There are many lessons to be learnt from the past experiences in social change.

Levels at which inputs should be concentrated:

In recording the changes which did take place during the 50s and 60s using community development methods, Jellicoe noted that changes at the homestead level were the most accepted and apparently most stable. Inputs at the homestead level are appreciated since the homestead is both the active centre of work aimed at the supreme value of increase, and also proof of its achievement. Development efforts must give adequate attention to the homestead level - especially in terms of motivating and involving individual households and special efforts must be made to involve women.

Attempts to involve women:

The attempts to involve women were thwarted by several factors. Firstly the general lack of swahili and secondly by the social expectations as to women's role. Both men and women did not expect women to participate actively in groups where men were present, in fact it was considered improper for a woman to do so.

On the other hand women cooperated en masse when they felt motivated to do so, for example in the literacy campaign. There was evidence of a solidarity among women which could, hopefully, be mobilized again, if they can be convinced of the importance of the proposed changes. It appeared that women actually enjoyed learning in large groups and there were no obstacles to their learning from men or women. The risks of only involving the elite in a rural community, even among the women, were well illustrated in these early attempts at social change. Efforts must be made to ensure that all levels of the social hierarchy are approached.

Constraints imposed by social relationships:

The differences in the mobility and availability for participation in activities outside the home between younger women and older women must be understood. Young women are often tied down with family responsibilities and may be very much under the control of mother in law and/or senior wives. In order to mobilize the young women it is necessary to first mobilize the older women. The nature of avoidance relationships and implications for planning programmes of social change should be known, and especially if consideration is to be given to trying to involve women as pump attendants or members of water committees.

Seasonality aspect:

It is obvious that women are very much occupied in agriculture at certain



times of the year and attempts to involve them failed because production activities, of necessity, come first. Future programmes must take this aspect into account if women are to participate actively.

Criteria for acceptance of innovations in the field of water/health/sanitation

Based on the study of efforts so far, the criteria for achieving acceptance of innovations would appear to be:

- special efforts should be made to involve women, young and old, wealthy and poorer,
- the innovation should not upset the existing traditional structure too much,
- it must involve advantages for the communities (as understood by the communities themselves),
- it should not involve too many costs for the communities - in terms of money, time or energy,
- it should be comprehensible to the communities,
- efforts should be directed particularly at the homestead/household level.

The implications of the above criteria for planning would be that there must be an understanding of the traditional structures and patterns of living of the Wanyaturu before any changes are attempted. Especially the needs and priorities of the communities must be known. Appropriate technologies are essential to reduce costs and to allow for participation of the communities in planning and implementation. Adequate information must be given to the communities to ensure that they understand the advantages and implications (including future responsibilities and costs for the communities). Where possible opportunities to increase income should be incorporated in planned changes.

3.6 The role of women in social change

Are women a hindrance to development?

Women have often been considered conservative factors in rural development. Planners and administrators have been quick to presume that women are neutral and passive and that they are not interested in playing an active role. *"Women are objectified, or seen as passive objects which are acted upon by men; they do not act in on their own environment or behave as agents of change in their relationships with men or with society in general, either as individuals or as a group or groups."* (Rogers, 1982) In recent years there has been a change in attitudes of planners to peasants in rural areas in that they are no longer simply seen as *"dumb backward peasants"* but (at least in theory) are seen rather as suppliers of an indigenous technology of their own and partners in the development process. (Rogers, 1982) Unfortunately this change of attitude has not always been extended to include rural women.

One of the main reasons why women have not played an active role in developmental efforts has been because little attempt has been made to involve them. They have not been given a chance to present their opinions or suggestions. Whenever projects are rejected by women (as they are in some cases)



this is taken as evidence of their conservatism rather than as an indication that there could be something basically wrong with the planning or implementation of the projects themselves. In fact if women's resistance to change is analysed more closely there are often very good reasons for the women's attitudes to the proposed changes. This can be well illustrated by the experience from Singida.

At times women's resistance could be related to incompatibility with cultural or social patterns. For example, as pointed out earlier, flat roofs were rejected by many women because of the symbolic significance of the flatness and the central beam. There was opposition to the removal of the fires outside the houses because of attitudes towards fire as a living force, and fear of sorcery. Similarly fear of sorcery led to opposition to windows in houses. However it should be noted that in some cases men were just as much opposed to changes on traditional grounds, for example the resistance to the replacement of goat skin with cotton cloth for the women and the attempts to remove the young animals from the houses of the women.

It is however, probably true that women are more inclined to cling to the traditional practices than men. If so this is not surprising given the very different situation of women. Women receive less impulses from outside the local community. They are not actively involved in the political sphere and they travel to places outside the ward and district much less than men. When women do travel it is for such activities as visiting relatives, attending clinics, dispensaries, markets or for grinding grain at the nearest machine. They are much less exposed to outside influences than the men who travel for "business" or to attend political or religious meetings, etc. Women do not usually hold positions of influence. They have much less formal education, and in many cases their knowledge of swahili is not as good. In addition women are generally subordinate to men. If they do attend public meetings they are not expected to express themselves. That women then in some cases prefer to stick to the known, rather than to accept innovations which they have no experience of (especially when they receive very little information or motivation) would seem a very natural reaction.

There were often very good practical reasons for the non-acceptance of changes in the communities involved in the community development efforts. The attempts to introduce windows in houses, drying racks for utensils and outside kitchens were all thwarted, in particular by the women. While there were traditional reasons for not wanting to change, there were also very practical aspects which were taken into consideration. The houses need the fires inside for warmth, light and to ward off mosquitoes; windows can make the houses unbearably cold at night; and the dust raised by the cattle made drying racks very unhygienic. All this points to the fact that the women know the conditions of their lives very well. They evaluate proposed changes in terms of the advantages to themselves. A lot of ingenuity in meeting the needs of their families with very few resources.

If consideration is given to their needs and problems, and most importantly to their own perception of these, it is possible to involve women more fully in social change. Women are largely an untapped resource in rural societies today. They are overworked but underutilized. The goal must be to relieve them of much of their burden in order to release their potential for change and development, in order to improve the living conditions for themselves and their families and especially to have more time for rest and better child care. There are many instances where women have accepted innovations and worked hard to ensure the success of projects. It was the women who accepted the literacy campaign for literacy's sake and it was probably the women who put the final pressure on the men to allow the replacement of goat skins with



cotton cloth. (Jellicoe) Experience from agricultural projects in Kenya and Tanzania has shown that women *"were often more receptive to advice and instruction than men, but that women in most cases lacked the opportunity or authority to apply advice."* (de Wilde, 1967) The women who were in the class "progressive farmers" were all women whose husbands were absent and who were thus free to apply improved practices.

It would appear in Singida that relationships between women (at least outside the own homesteads) are often better than relationships between men. This is because they are outside the types of lineage conflicts which men may be involved in. Women have also links with other villages, especially their home village. It may be possible that involving women would be a way of raising the level of diffusion of innovations because of these informal communications channels.

What incentives for women?

As Rogers (1980) points out *"women are motivated by much the same interests as men: tangible benefits from the project in question."* According to a UN report on women in Botswana the benefits are not seen as purely economic. Women also expressed a need to learn how to operate in the context of a new social structure, new legislation and to understand their own civil rights, etc. (UN, 1975) There was also a desire to develop greater independence.

Economic benefits:

There seems to be much evidence that financial gain may be the highest priority for women. This is probably related to both an increasing need for cash income for survival of the family and to a desire for an increase in status. According to Rogers (1980) a new acceptance of the legitimacy of this incentive for women is starting to emerge *"a more sympathetic approach towards rural women, showing an understanding of their need to earn money for themselves and their dependents."* Thus if water supply projects can offer women the possibility of increasing their income, through, for example, small-scale irrigated gardens, women's support for the project could be assured.

Reduction of work load:

Another obvious priority for women is for projects which will reduce their enormous work load. Such changes as improved water supply, improved tools for domestic and non-domestic uses, better fuel supplies, etc. which would help reduce their expenditure of time would, in theory at least, be appreciated by women. Following on from this, it is obvious too that women will bitterly resist projects or innovations which lead to an increase in their work load, especially if there are no real benefits for themselves. For example, oxenisation projects have been unpopular with women because of the increased tasks of weeding and spreading manure. (Jellicoe) Lele (1977) claims that agricultural extension programmes which are aimed exclusively at men and their activities tend to have the effect of increasing women's work load. The implications for improved water supply are that they must involve real benefits for women. The improved sources must be able to compete with traditional sources in terms of convenience and reliability if there is to be a reduction of work burden.

Increase in general welfare of the family:

Since women have the main responsibility for the well-being of the family, they are interested in innovations or programmes which will lead to increased production, better health or a better standard of living. However the planned



changes should be comprehensible to the women and they should not involve too many costs in terms of cash, time or energy. The promotional and educational aspects of improved water supply are crucial to women's understanding of the value of such projects for their family's welfare.

Need to direct efforts to women

There have been many developmental project implemented which have had as their goal the improvement of living conditions in rural areas, and in some cases even the specific goal of reducing women's work burden (as in the case of all the improved water supply projects). If women, in theory, are willing to participate in such programmes, why then has there been so little success in implementation, and so little impact? Probably the most crucial aspect has been the almost complete failure to attempt to involve women. Inputs have been directed solely at the men, even in areas where women have traditionally had the main responsibility, such as food production and domestic water. Women are denied access to information and resources and thus their involvement is negligible. If they have participated it has usually been to provide labour or "women-power", the benefits of which have usually been directed to the men. In many cases it has been assumed that to involve the men is the correct way to involve the women. This is definitely not the case, if there is to be real involvement of women. They must be approached as independent individuals and not as unequal partners with men.

Women's role in social change - the goal

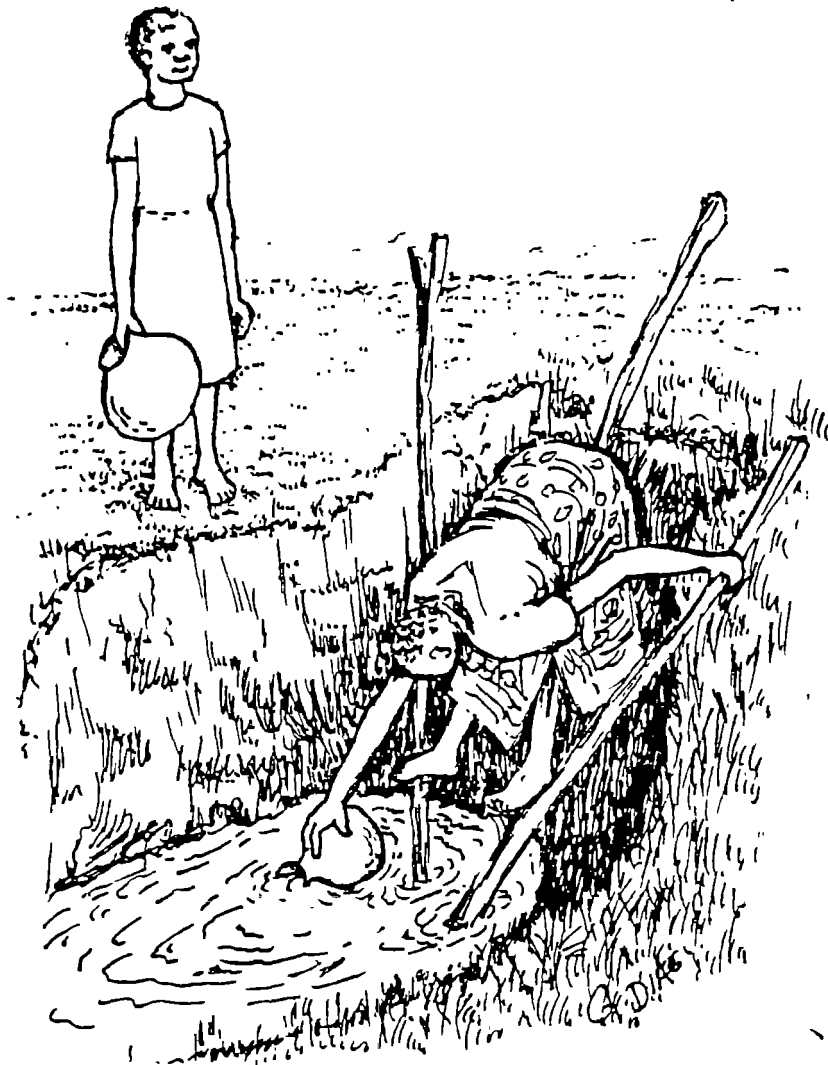
Obviously one of the goals in ensuring women's participation is the success of the project being implemented. However an equally important goal is the integration of women in development general to improve their overall position in rural societies. This will only be attained when rural development projects are truly integrated, open to men and women alike, on equal terms. This must be the long-term goal of all developmental projects. The attention given to women and their needs, if this goal is to be achieved, should not be segregated from the major development programmes because a direct result of such a strategy is that *"large numbers of women may be excluded from broader development programs which could adversely affect women's interests."* (Germaine, 1978) (This aspect will be taken up in more detail in section 5.)



4. WOMEN - WATER - HEALTH IN THREE VILLAGES

"... Bring us coolness and sweet water
that we may rest, O you Pleiades."

Nyaturu proverb (Schneider, 1970)





4.1 The women in the sample group: their overall situation

The women in the three villages in Singida are, as in many other parts of Tanzania, the mainstay of the food crop production. The work is heavy and time consuming and they receive little help from the men.¹ The women are responsible for preparing the fields, planting, putting out manure, weeding, harvesting, carrying the crops home and winnowing. The tasks which the men will assist with appear to be mainly preparing of the fields, carrying of manure and harvesting. While some men did help their wives weed the fields, weeding was still largely a woman's task.

In addition women have the main responsibility for the practical day-to-day running of their households and for child-care. They must also milk the cows twice daily. Grinding the millet flour on the grindstones is a laborious and time-consuming job, many women have to wake at 3 a.m. in order to be able to grind enough flour for the day's use. The usual domestic chores include collecting water, firewood and wild vegetables for relish. Food preparation is also time-consuming. The house and surroundings should be swept daily. In the role of "caretaker" of the household the woman has the responsibility for caring for the aged, the sick and small children. All too often these latter responsibilities are neglected because of lack of time. Children especially would benefit if their mothers could be relieved of some of their work burden.

In addition to all the tasks mentioned above, and the agricultural activities which dominate for approximately half of the year, the women also must endeavour to raise some cash income for the basic necessities of the household. Women in Singida appeared to be very active and enterprising. Many different sources of cash income were recorded, as will be illustrated further on. Cash is needed for buying basic food stuffs when available (such as sugar, cooking fat,) soap, kerosene, school clothes, shoes . As well women sometimes want money to be able to grind flour at the machine and to buy medicine or use non-governmental health services.

The women in the three villages had generally less education than the men, though there were cases where younger women had more education than their husbands. The women are much less involved in the running of village affairs. No women held any position in the village (though at one point the village secretary in Unyangwe was a woman. This woman was not from the village but appointed from outside. At the time of the second field work visit she had been transferred). No woman had regular wage employment, but the number of males with regular wage employment was also low (5%). Some women did work as day labourers in peak agricultural periods.

Additional information is given below on age structure, marital status, family size, economic and social position of the homesteads, education, involvement in village affairs, sources of income, women's perception of village problems etc.

a) Age structure

The average age of the women included in this study was 36.8 with a range of 19 - 55. This should be compared with the average age of their husbands which was 43.6, with a range of 22 - 65.

1. It did appear, however, that men in this area help in agriculture to a greater extent than in other areas, for example in Pare area. This may be related to the general poverty of the area, as well as to the necessity to apply cow manure which entails a greater work burden.



b) Marital status

All of the women in the case study were (or had been) married women. 16 women (21%) were presently not living with their husbands because they were divorced or their husbands had died. One woman had been taken over by her husband's brother when she was widowed. 21% of marriages were polygamous. This was 29% of all non-christian households.

c) Family size

In the 75 households a total of 398 children had been born. 27% of the children had died while still young. The average birth-rate (number of children born per woman in the sample) is 5.3 children. However it should be noted that many of the women in the sample were still young and had not completed their child-bearing which means that the actual average birth-rate in the area must be higher. 58% of children were still living at home at the time of the study. 32% of these were under the age of 5 years, and of these 11% were infants (under 12 months of age). The average household size was 5.7 persons. 41% of households had others than immediate family members living with them.

d) General economic and social position of the households

Agriculture

The principal feature upon which the Nyaturu production system depends is the systematic manuring of the areable land each year. It is for this reason that the cattle are kept penned for such long periods and are grazed close to home as much as possible - in order to be able to easily collect the manure. Without the application of manure the whole existence of the agricultural system would be jeopardised. Sufficient production of foodcrops is only ensured by the application of sufficient amounts of manure.

The Wanyaturu have a calendar founded on the alternation of the wet and dry seasons. In the first half of the cycle, the wet season, it is the women's work on the good crops which is the most important, while in the second half, the dry season, it is the men's herding activities and the annual rites which become the most meaningful activities. (Jellicoe)

All households in the sample had between 1-4 shambas (fields), not counting the small gardens for vegetables. The average acreage was 4.3, with a range of 2-12 acres. 57% of the households had shambas which were more than 30 minutes walking distance from the homestead. Some were up to 2 hours away. The crops grown were bulrush, sorghum, maize, cotton, pumpkins and beans. In Nkhoiree groundnuts and sunflowers were also grown.

33% of households used ox-ploughs. The impact of oxenisation was more noticeable in Unyangwe where 52% of households ploughed with oxen. 21% of all households in the three villages owned ploughs themselves and 7% owned carts. (Corresponding figures for Unyangwe were 32% owning ploughs and 12% owning carts. The village also owned 1 ox-cart and 10 oxploughs which were hired out.) There was no use of tractors for ploughing. 67% of households still rely wholly on hand-hoe for cultivation in their fields.

The raika¹ system of cooperation in agriculture seemed to be utilized. 59% of

1. The "host" household prepares beer and/or food and friends and neighbours are invited to come and help with agricultural tasks, such as weeding or preparing the fields.



households said they organized raika work-parties, though not when there was a shortage of grain as in January 1984. It appeared that it was still more often men than women who attended such work-parties and that it was often close neighbours or relatives who participated. The use of paid labour appeared to be common (though it is not known what impact the bad season had on the figures obtained, since many families were dependent on such work for survival in January 1984). 53% of households reported that they usually employed labourers at least once per season for agricultural work. The labourers were paid in cash or kind. 41% of households reported that one or more members worked for others as day-labourers. (Again this figure may be high because of the food shortage situation during one of the fieldwork visits.)

35% of households claimed that they usually had some food crops over to sell, either as food or as grain for beer brewing.¹ This figure was noticeably higher in Nkhoiree, 48%. In January 1984 only 13% of households had sufficient food to last them until the next harvest. (The figure for Nkhoiree was 26%.) Of the 87% with insufficient food crops, 76% had already finished their supplies (some as early as August 1983).² In comparison, during the 1981/82 season only 20% had experienced food shortages.

Cash crops were grown in 52% of all households. Cotton was grown in all villages and sunflowers and groundnuts in Nkhoiree. Vegetables and fruits were grown in gardens in the swampy areas by 49% of households. This was more common in Unyangwe (71%) which was a more swampy area. The gardens appeared to be mainly tended by the men. The crops included tomatoes, onions, cabbage, pepper, pawpaw, sweet potatoes, sugarcane. These crops were a source of income for the families, though it was claimed that a lot was eaten by the families themselves.

It is important to note the extent of beer-brewing for sale in the three villages, since this has obvious implications on the food supply for the families. Only 25% of households did not brew. More than half of the families who did not brew gave religion as the reason, while others said it was too hard work. The frequency of beer-brewing varied from family to family but it was obvious that there is a general seasonal trend. Most beer-brewing is done in the dry season, after the harvest when there is plenty of grain and the women are not engaged in other agricultural activities. In some families women claimed to brew once a week in the wet season, but it was extremely difficult to determine how often a year. On the basis of the information gained in these villages, it does not seem feasible that women can make large sums of money on an annual basis. They perhaps make a few thousand in a couple of weeks, which spread over a 12 month period is not such a large amount of money, given all the needs for cash income. In addition it is not known how much of the money earned is spent on buying beer from other families. In January 1984 there was no beer-brewing at all because of the acute shortage of food. Unfortunately it was not possible to determine how much of the scarce grain reserves from the 82/83 season were used for beer-

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1. This figure does not take into account the exchange of good crops for other commodities, e.g. livestock, in the internal village economy.
 2. This would seem to be confirmed by the report "Makiungu Hospital Singida Tanzania" (1984) in which it is stated "In March 1983 the wet season was exceptionally short, consequently reserves of food were low, or in many districts, completely used up before the first harvest of 1984. Thus an acute food shortage was observed between mid February to mid March". In addition a nutrition survey carried out in Mother + child clinics of children aged 1-5 in 8 locations in Singida Region from 14th January to 15th March 1984 gave the following results:
malnourished 26.5%, poorly nourished 12.8%, well nourished 60.7%.



brewing, though some families admitted that there had been beer-brewing, in spite of the fact that people were aware of the coming food shortage. It cannot be claimed that the families brewed in order to have cash to buy more grains later in the year as the price of grain rose astronomically when the supplies became scarce. One debe (tin containing 18 lit.) of maize cost 300/-¹ (official price was 107/- debe) and at the market in Singida a sack of maize was selling for 2.500/- (January 1984).

The problem of recurring famine was stressed by most of the households visited. The 82/83 season was extreme because of failures of rain, but there was a general complaint about reduced production following villagisation. As pointed out earlier households cannot exist on less than 1 acre surrounding the homestead. A lot of valuable time and energy is wasted getting to and from the former shambas, which often lie more than 30 mins walk away from the homestead. This is a special problem since it is the women who have the main responsibility for food crop production, as they also have the responsibility for preparing food and taking care of small children and other domestic duties. In addition the problem of manuring the fields has already been pointed out. The only solution seen by the people is to move back to their former fields. Following the current bad season (and especially if the coming season is also poor) there will probably be a move back to the old areas. Such a trend was already evident in January 1984.

Villagisation

Only 8% of all households had not been affected by villagisation. 71% had moved from 1-2 kms away from the centre. It appeared that there was an attempt by people from the same area to keep together. All households were supposed to have been given 1 acre of land, which included the land on which their homestead and cattle enclosure were to be built, though in many cases it was probably less than 1 acre. Even those who had been close to the centre often lost some of their land. Some homesteads had had to move 50 metres in order to keep the roads straight, and others had to turn their homesteads to face the other direction, in order that all cattle enclosures faced away from the roads. This showed a total disregard for traditional Nyaturu customs of having the entrance of the homestead facing west, and the importance of having the house of the senior wife, the emotional and ritual centre of the homestead (Jellicoe) backing on to the east, with one central door facing west.

It was claimed that there was some use of force when people protested, that houses were knocked down if people resisted. Generally people were opposed to the whole operation. In 23% of households it was claimed that the water supply had improved. Few households could name any other advantages, such as proximity to neighbours in case of need; proximity to the school and shops was also considered positive. Among the disadvantages mentioned were distance from the main shamba and the resulting reduction in production; quarrels with neighbours, sometimes because conflicting groups were mixed, or, more often, because of land disputes; and increased distance to firewood and grazing in the forests.

By far the most serious negative impact of villagisation was the effect on production. 72% of households claimed that production had been decreased markedly over the 10 years since villagisation. The bad season of 82/83 probably marks a crisis point in these villages since 27% of households admitted that they planned to move back to their old areas after the next harvest. Combined with the 19% who had already moved back, this means that

1. At harvest time maize sells for 40/- to 50/- debe in the villages.



almost 50% of households will be back in the old areas by the end of the coming year. The implications of this for development planning and, for example, improvements to water supplies is something which has to be come to terms with.

Livestock

While the basis of the subsistence of the Wanyaturu is the production of food crops, the livestock are indispensable elements in maintaining the agricultural system, as well as being a source of income. Without sufficient manure, agricultural production is not adequate. As a result livestock are of utmost importance in the Wanyaturu economy. However it is important to note the social significance of livestock. Livestock have immense value as a source of prestige and power, especially when livestock can be loaned out to others. In this respect livestock also have significance for women since women have an interest in ensuring that their sons have many cattle, as a sort of security for themselves in old age. It is therefore not surprising that water for livestock is top priority for Wanyaturu, even for the women. Thus cattle are important for Wanyaturu both economically and socially. Without cattle a Nyaturu family has lessened prestige and status, and without manure their production of food crops is affected. In addition surplus grain is exchanged for livestock, which are then a security for the household. In all probability families which have no cattle are not in a position to purchase manure from others so that it is difficult for them to improve their situation through increased production of food crops for sale or beer-brewing. The only way they can have access to cattle is through borrowing from friends or relatives. This system is quite widespread among the Wanyaturu. 49% of households had borrowed cattle. However not all of these families were poor, since the loaning of cattle between friends is a way of creating bonds and obligations. For poorer families it is an important economic asset to be able to obtain manure and milk. However 21% of households in the three villages did not have cattle at all. Some of these households were women-headed households.

The total number of cattle in the 75 households was 941. 25% of these cattle were on loan to others than their owners (Unyianga: 37%; Unyangwe: 26%; Nkhoiree: 25%). The range of cattle owned was between 3 and 58. Further information is contained in the following table. The man/animal ratio is relatively high, 1:2.8.

Table 1 Livestock in the sample households

Type	Unyianga	Unyangwe	Nkhoiree ¹	All 3 villages combined
Cattle	378	289	274	941
Goats	380	351	172	903
Sheep	184	148	55	387

Cash income

The households received their main cash income from varying sources. Table 2 below indicates the main sources according to frequency of the number of households mentioning them, not according to the relative amounts of cash loaned. Since there were rather great differences between the three villages

1. There would appear to be some discrepancy between the figures given for number of goats and sheep by the sample households and the figures given by the village leaders for the village as a whole.



information is given on each village separately. The villagers in Unyianga, being closer to Singida town, have more opportunities for earning cash income than those of Unyangwe and Nkhoiree. For example 48% of households sold salt in Singida; 32% sold firewood; and 28% sold charcoal. In addition the sale of milk was greater in Unyianga than in the other villages. In Unyangwe where oxenisation had had more impact there were more opportunities for earning money through hiring out ox-ploughs and ox-carts. Because of the location close to swampy areas 48% in Unyangwe sold vegetables at neighbouring markets. Cash-crops were more prevalent in Nkhoiree and 36% sold sunflower seeds and 4% sold groundnuts.

Table 2 Main sources of income¹

	% of households			All 3 villages combined
	Unyianga	Unyangwe	Nkhoiree	
Beer brewing	60	84	80	75
Livestock	48	48	28	41
Food crops	16	28	20	21
Day-labour	28	20	8	19
Vegetables	4	48	0	17
Salt	48	0	0	16
Sunflowers	0	0	36	12
Firewood	32	0	0	11
Charcoal	28	0	0	9
Chickens	0	4	20	8
Milk	12	4	4	7
Hiring ploughs/carts	8	12	0	7
Regular waged labour	4	8	4	5
Cotton	4	4	4	4

Other means of obtaining cash income, which were mentioned by individual households were making ropes and baskets, bee-keeping, carpentry and training of oxen. The ways in which women contributed to cash income will be discussed later on.

The main needs for cash incomes mentioned by the households (not according to priority) included the following:

clothes and shoes
 foodstuffs such as sugar, salt, cooking oil
 kerosene
 soap
 school uniforms and fees
 household equipment and utensils
 food crops for food and for beer brewing
 meat
 beer
 milling fees
 hospital fees and medicine
 CCM fees

1. Note that most households mentioned several sources of income so that the total is more than 100%.



Social status

The housing standards can be a good indication of the status of the households. Only 14% of houses were made of mud bricks. One house had an iron roof. The remaining houses were of traditional tembe style. In general the houses were in very poor condition.¹ Walls and roofs were in need of repair. The surroundings were often unhealthy, particularly because of the wet muddy cattle enclosures, ideal places for mosquito breeding, and because of the piles of manure left lying around, sometimes even inside the women's houses.

Only 15% of households owned a radio and 8% owned a bicycle. In Unyanga, probably because of the proximity to Singida, the figures were 20% owning radio and 20% owning a bicycle.

e) Education

64% of women had no formal education at all. The educational standard of both women and men is given in table 3.

Table 3 Educational standard in sample households

	<u>% Women</u>	<u>% Men</u>
No primary schooling at all	64	42
Up to standard 4 or more	28	40
Completed standard 7	9	10

15% of women had more education than their husbands, these all being younger women. All women, as all men, are obliged to participate in adult education classes for part of the year. Literacy is one of the main programmes. However, only 21% of the sample group was literate. Women in these villages are obviously disadvantaged when it comes to being equipped for taking part in the village politics and community affairs. Apart from the lack of formal education and literacy, women are disadvantaged by the fact that their knowledge of swahili is very limited. Only 23% of the women were able to participate in the discussions in swahili. This must be taken into account before attempts can be made to try to involve women more fully in community affairs.

f) Involvement in village affairs

There were no women who were in any way actively involved in village affairs. By contrast 37% of their husbands were active in some manner, as members of the village council, as balozis (leaders of the ten-house cell groups), members of church committees, etc. While women should also attend general village meetings, and all claimed to do so, their involvement at these meetings is passive. Women are not expected to express themselves, and in fact it was pointed out on several occasions that if women are verbal in a large gathering (especially when men are present) it is considered very unsuitable behaviour. Women themselves act as a control on other women, to ensure that their behaviour is in line with expectations.

g) Women's sources of income

Women in the three villages were active and enterprising with regard to finding sources of income. The main source of income for 75% of the women

1. It needs to be remembered here that many households were contemplating moving back to their old sites and therefore were not interested in improving the existing house.



was beer-brewing for sale in their homes. However this was a very seasonal activity and although women could make a lot of money in a short period, as pointed out earlier this income when spread over a 12 months period, is not so great. Salt making and firewood selling was also popular in Unyanga as there was a good market in nearby Singida town. Most of the activities women engaged in can only be undertaken when their energies are not needed in agriculture, that is in the dry season. In the poorer families women also had to work as day-labourers to obtain cash for food for their families. Food shortages are usually most acute during the peak agricultural period. Labour in the poorer families then has to be diverted to the fields of other richer families who can afford to pay for it, when it is most needed on their own fields in order to ensure sufficient food in the next harvest.

The main sources of income (on a regular basis) in which women are engaged are listed below according to the number of households using them.

Table 4 Main sources of income for women

Source of income	% of households utilizing (not always only women)			
	<u>Unyanga</u>	<u>Unyangwe</u>	<u>Nkhoiree</u>	<u>All 3 villages</u>
Beer-brewing	60 ¹	84	80	75
Food crops	16	28	20	21
Day labour	28	20	8	19
Sale of vegetables	4	48	0	17
Salt making	48	0	0	16
Sale of firewood	32	0	0	11
Sale of chickens	0	4	20	8
Sale of milk	12	4	4	7
Cotton				4

h) Women's perceptions

Women were asked what they considered the main problems or needs in the village were. However, as pointed out before, 90% of husbands were present at the interviews. In many cases this meant that the women were inhibited and were reluctant to answer such questions. Many times the husbands answered, even when the questions were specifically directed at the women. As a result it is not clear what women generally consider are the greatest problems. In the instances where the men did allow the women to express themselves on this issue it appeared that the grinding of flour on the grind-stones in the homes was considered one of the main burdens, and thus the lack of a machine in the vicinity was a problem for women.

Women were then asked about the tasks which they considered most burdensome. Men were more prepared to let the women answer these questions. The women's perceptions are given in the following table.

1. The lower percentage in Unyiyanga was due to the numbers of members of the Pentecostal Church, which forbids beer-brewing



Table 5 Women's greatest work burdens

Work burden	<u>% of women mentioning</u>
Agriculture	42
Milling	41
Firewood	13
Salt making	1
Housework	1
Collecting vegetables	1
Grazing animals	1

Interestingly enough water collection was not mentioned as a major burden by any of the women in the sample. On the other hand when asked about the activities that the women enjoyed most, 20% of the women mentioned water collection. This may be because of the possibility to get away from the house and meet other women.

Women were also asked what they would do if they had one free hour every day. Women in 59 households were asked about this and the results were quite revealing. The number of women who considered that they need more time for resting was surprisingly high. It was expected that more women would have felt compelled to list some more productive activity. Two women couldn't say what they would like to do. The response from the other women is given in the following table.

Table 6 Utilization of free time

Activity	<u>% of women mentioning it</u>
Resting	71
Housework	9
Visiting	8
Firewood	3
Child care	3
Sewing	3
Don't know	3

4.2 Water collection and water use patterns

Sources:

Two of the villages, Unyanga and Unyangwe had received improved water supplies, according to the programme of improvements presently being carried out in Singida region. The third village, Nkhoiree, had been surveyed in 1982 and in January 1984 was still waiting for the improvements to be carried out. Unyanga village, with a population of 2158, had received a windmill which supplied one domestic point with 4 taps. At the time of both fieldwork periods the windmill was out of order. A second supply system had been planned, a tank built and domestic points installed around the village but this supply had never been completed and it appeared unlikely that it would



ever be completed. In Unyangwe, population 1671, two foot-pumps had been installed. At both fieldwork periods one of these was out of order and had been so since shortly after installation.¹

At the time of the fieldwork only 9% of 75 households were actually using improved supplies.² The majority of households, even in the two villages which had received improved supplies, were still using traditional sources. In Unyanga and Unyangwe these sources are hand-dug, unlined wells. While the supply is plentiful in the wet season, the source sometimes dries out completely in the dry period, or the water seeps out very slowly, resulting in long queues at the wells. Separate wells are dug for the cattle. The water in these traditional wells is of questionable quality.³ Most domestic wells visited had no hedge or barrier to keep out animals so that contamination from cattle, dogs and hyenas was possible. In Nkhoiree households used the river bed for water for domestic use and for cattle. During the wet season the water level is high so that it suffices to dig a small hole in the sand to be able to fill a calabash. Each time water is collected a new hole is made. However as the dry season progresses it becomes more and more difficult to obtain sufficient water. Several families then cooperate to dig a deeper well in the river bed, which usually has to be lined in some way to prevent it from caving in. There may be queues during this period as the water seeps into the bottom of the well slowly.

The households used the most convenient sources for domestic uses making, of course, some choices concerning quality when the water is for drinking or cooking. As the dry season progresses many of these sources dry up and the women and children are forced to walk further from the homes to find suitable water. At the peak of the dry season some households had to walk more than one hour to the nearest suitable source for cooking and drinking purposes. Often during this period there is also a long queue because of slow recharge at the wells. Water collection is thus much more of a problem during the dry season.

Water collection and consumption

As in most other parts of the third world women and children have the total responsibility for collection of water for domestic uses. This water is for cooking, drinking, cleaning, washing children and themselves, in some cases drinking water for small animals, and in many cases water for husbands to bathe in. 27% of families had girls between the ages of 8-15 who helped regularly to collect water.

The average daily consumption per capita (PCC) was very low, being only 8.7 litres. The range was 2.6 - 20 litres. It was felt that the higher figures, i.e. those above 16 litres per person, were not accurate. The real figures were probably lower in these households. It must also be noted that most of the washing of clothes was done at the wells and the amount of water used for this activity is thus not included in the PCC calculations above. Given the shortage of clothing and the lack of washing soap, washing of clothes is probably not a frequent activity in most households. In addition some personal washing is done at the sources. However, even allowing for these additional litres the PCC is still a far cry from the recommended 20 litres per person per day.

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1. For more information on the improved supplies and the water supply situation in general see Andersson and Hannan-Andersson, 1984
 2. This does not include the households in Unyangwe, who were using the well with the broken pump. If only households in Unyanga and Unyangwe are taken into account the figure is 14% of 50 households.
 3. Attempts to have water samples from these sources tested at the regional laboratory in Singida failed.



63% of households used calabashes for collecting water. 23% used iron buckets or tins, and the remaining 14% used plastic buckets. Water was normally collected 2-3 times a day, usually early or mid morning and again in the late afternoon. The fact that most families seem to have the same pattern of collection may indicate that women like to collect when they will meet other women. Though most women claimed they collected water when they needed it, usually when they were about to prepare a meal. Those who collected in calabashes usually went with two or three calabashes since most calabashes only hold between 6-8 litres. At the well a little water was scooped up in a calabash and all vessels washed carefully with sand and water before water was collected. The calabash was completely submerged in the water for filling, to prevent the obviously polluted surface water from entering. In Nkhoiree, where water was collected in small hand-dug depressions in the river bed, a scoop was used and the water poured into the calabash. (See cover illustration.)

Handling of water in the homes

Storage of drinking water:

Only 40% of households claimed to keep drinking water in special clay pots. One of the main advantages of storing drinking water in these vessels is that it is said to keep the water cooler. The remaining households kept drinking water in the containers in which they collected it, along with water for all other purposes. Thus, of those using plastic buckets for collecting water, 70% used the same bucket for storing drinking water, and, similarly, 29% of those using iron buckets or tins reported they stored drinking water in these vessels. Obviously water for all purposes is thus stored in one container and there must be doubts as to the accuracy of any claims to boil drinking water. (This will be discussed further in the following section.)

63% of households claimed to cover the storage vessels for drinking water. However observation in the households led to the impression that this practice was probably less common. Of those storing water in calabashes 39% drank directly from the calabash. Only 47% of those storing water in vessels other than calabashes used cups with handles for taking drinking water.

Thus the handling of drinking water in the homes leaves much to be desired. There are many opportunities for contamination. Infectious diseases can easily be transmitted from one household member to another through the practice of drinking from the same calabash or by using containers without handles to take water from the storage vessel. This is especially so if small children are allowed to take drinking water themselves. The risk that they will completely submerge their hands in the water is great.

The subject of boiling of drinking water is a controversial one. It is obvious that people in the villages are aware of the desirability of boiling drinking water. The campaigns advocating this practice, especially after cholera outbreaks, have left their mark. The people are aware of what they are expected to do, and therefore some households feel obliged to claim that they boil water even when they have probably never done it. It is difficult in such a short survey to ascertain how many (if any at all) households actually do boil water. 24% claimed to do so, though in all cases where attempts were made to take samples of drinking water in the houses these failed - either because the drinking water was reportedly finished or because the women refused or qualified their original statement by indicating that they did not boil the water all the time. It appeared therefore unlikely that these households boiled water, though they may have done so for a short time



at the height of the cholera scare. The fact that so many households stored water for all purposes in the container it was collected in (as pointed out earlier) added to this impression.

Of those households not boiling drinking water 21% could not say why they didn't do it. 31% considered it was because of tradition, i.e. that it was something they and their parents had never done. Only 14% considered there was no need, i.e. that the water quality was good enough. These and other reasons given for not boiling drinking water are listed in the table below.

Table 7 Reasons for not boiling drinking water

Reasons given	<u>% of households</u>
Tradition "never done it"	31
Don't know why	21
No time/too tired	18
No need	14
Not enough containers	8
Bad taste	5
Too lazy	3

The reason "not enough containers" is an interesting one, given the general poverty of the families in the villages. Compared with households in Pare (Hanman-Andersson, 1982) the households in these three villages appeared to have much less in the way of household equipment and utensils. For example plastic buckets which were very common in Pare were only found in 14% of households. Iron buckets and tins (debes) were also less common. Most families appeared to only have one sufuria, whereas in Pare it was common to have several per household. Sufurias would appear to be most suitable for boiling water since the boiling would take less time and thus less fuel would be used. The lack of household goods in Tanzania today must be taken into account if the real situation for the women is to be understood.

The fact that boiled water is considered to have a bad taste is worth more attention. Some women felt that water acquired a smoked taste, probably because when they have attempted to boil it they did not cover the container and smoke entered the water. However by far the most interesting comments were obtained in one household where this aspect was discussed in more detail. When pressed for more details about the "bad taste" of boiled water it was explained that boiled water "did not taste as if it was living". Such water had a "dead" taste in comparison with water which was taken straight from the well. If this opinion is held by most women then it is no wonder that all the campaigns so far have had no effect. Persuading people to boil their drinking water thus entails asking people to begin drinking water which does not taste good to them because it is tasteless - "without life". What sorts of symbolic meanings are involved here is uncertain but change will probably require more motivation than simply telling them that it is healthier.

Another factor which has also to be taken into account is the work burden of the women. All women have already far too much work to do and many of the tasks they should do get left undone, for example daily sweeping of houses appeared to be neglected in some homes and certainly care of children cannot be carried out as well as desirable. Asking women to boil water is creating



an extra burden, both in the actual time this task takes and the collection of the extra firewood required. It would appear that women do not consider the problems caused by drinking unboiled water, i.e. the recurring stomach problems in the families, as severe enough to warrant the extra work required if water is to be boiled on a regular basis.

The division into "hot" and "cold" or "dangerous" and "good" in Nyaturu culture is also of interest in the context of boiling drinking water. This is particularly stressed by Jellicoe. It is possible that boiling of drinking water is not desirable because of the aspect of danger inherent in "hot" things.

In the context of the water collection and consumption patterns in the three villages today, it is interesting to recall the efforts made earlier on, as reported in section 3 of this report. The same patterns of non-boiling of drinking water, use of common drinking vessels were reported back in the 50s and efforts made to bring about change in these areas failed. The reason for failures experienced so far are thus highly relevant, in order to be able to bring about necessary changes in present efforts.

4.3 Personal hygiene and sanitation

Standards of personal hygiene in the homes were very poor. 59% of households claimed to wash hands after excretion but this figure is, in all probability, inaccurate. The fact that there is so little water available at the house, and that water for all uses is stored in the same vessel, would appear to indicate that the % of households claiming to wash hands after using latrines is too high. (It must also be related to the aspect of actual use of latrines - if households are using the bush or fields instead of the latrines, the incidence of washing hands is probably very low.)

While all households washed hands before eating, only 5% of households used running water (i.e. poured water from a jug). All other households used one bowl with all persons eating together, using the same water. This facilitates the passing on of infectious diseases. Only 44% of women wash their hands before preparing food. In some cases women indicated that they only washed hands when they were obviously dirty, i.e. muddy after having worked in the fields. Others stated that they washed their hands when they washed the equipment they were going to use.

- Another important aspect to be considered is that of the hygienic standards when preparing and serving beer in the homes. The general standards of hygiene in the individual homes have implications here since it is possible that many diseases, especially diarrhoea, could be passed on through the beer sales.

Bathing

85% of women usually bathed at home (in comparison with 49% of the men). There was not enough privacy at the water sources for women to bathe there. Men and youths frequently used the cattle pools for bathing, especially in the hotter period. When men bathed at home, the women were expected to collect the water for them. Small children were always bathed at home. It appeared to be quite common for the water to be warmed, especially in the cooler period.

In Unyangwe the villagers had been given some instructions that they should not wash themselves or clothes close to the foot pumps. However it was claimed that some women continued to wash clothes there and that they even washed their legs and feet on the apron itself.



The frequency of personal bathing was difficult to ascertain. Many women claimed to bathe completely every day. However this did not seem to be possible. Children often appeared rather dirty, especially their hair, and it seemed unlikely that even they were bathed daily. Men and youths probably bathed most frequently of all, since they did not have to carry the water home, and swimming in the pools was, at least for the boys, a very enjoyable pastime.

It was difficult to say if the frequency of personal bathing was influenced by seasonality, or if individual factors played a greater role. Some women claimed that they bathed more frequently in the peak agricultural season (the wet period) because there was more water close by and they were usually more dirty after working in the fields. However others claimed that they washed less in the same period as they were too tired in the evenings.

The shortage of bathing soap must also have implications for the frequency of bathing. At the time of the second fieldwork period (January 1984) only 15% of the households had soap, and many households had been without for months.

Washing of clothes

More than half of the households, 52%, washed clothes at the source; 12% always at home; and the remaining 46% alternated between the source and the home. It was not always the women who did the washing for all the members of the household. In some households the men did their own washing (or some of it) and it seemed quite common for older children to take care of their own clothes. There seem to be "rules" governing who can wash for whom, which must be related to the avoidance relationships. For example it was pointed out in one family that the granddaughter could not wash her grandfather's clothes. Similarly in some families it was claimed that a man's underclothes could not be washed by his wife. However in general it appeared to be women or girls who did most of the washing.

The frequency of washing varied from household to household and seasonality played a role. Women are less available for such tasks during the peak agricultural season. Two other factors also play a role. One is the fact that people in the villages have very little clothing. There is very little cloth available for making clothes and ready-made clothes are both scarce and expensive. Even the traditional cloth, khanga, which women need so very much, is usually not available. It appeared that the clothing situation in the villages had worsened in the 13 months between the two fieldwork periods, as people (especially children) appeared to be more poorly dressed. However there is pressure on families to have their school children properly dressed. As a result most school children had clean, if tattered, school uniforms.

The second factor of importance is the shortage of washing soap. 31% of households had some soap for washing of clothes in January 1984. Not only is such soap scarce but it is also very expensive. Many households claimed that they washed their clothes a lot less when they had no soap. A few tried to get their clothes clean by using hot water. 48% said they had begun to use traditional methods for getting clothes clean on a regular basis. Bark and berries from special trees, as well as some types of leaves, were used. Sisal roots were also said to be good and salty sand was another method which was said to be effective.¹ While these traditional methods help to get the clothes clean, there were complaints that they also were "harder" on clothing than washing soap, and thus the few clothes they have may not last as long as a result.

1. It was also claimed that there were special water weeds which could be used for washing hair if soap was not available.



In the situation where soap for both washing clothes and personal bathing is scarce, it is difficult to maintain a good standard of personal hygiene. It may be said that traditionally these were not available and people managed without. However it must be remembered that traditionally people used skin clothing. As pointed out earlier it was only in 1945 that women completely abandoned skin clothing in favour of cloth. Schneider (1970) commented that in the early years many women treated their cloth dress as they had their skin dress, i.e. they didn't wash it at all. For personal hygiene's sake clothes should be washed as often as possible and soap is certainly a help in keeping clothing clean. Since people in the villages are constantly exposed to mud and contaminated substances, soap for personal washing is also necessary. One can, in theory, become clean without soap, but in a situation where only a little more than 8 litres of water is used per person and day, use of soap is an effective way of ensuring that people keep themselves as clean as possible.

Waste water

In most households waste water, from washing hands, bathing, washing clothes or utensils, etc, appeared to be thrown anywhere in the compound. Some households used the cattle enclosure only. The muddy pools in the compound, and in particular in the cattle enclosures, constitute a health hazard for the families, especially because of the risk of mosquitoes. When water was taken to the latrine for cleansing and/or washing hands it was said to be thrown in the pit.

Sanitation

On the surface the sanitation situation in the villages appeared good. 63% of households had their own latrine. If one takes into account the households who had moved within the last 12 months and which had not had opportunity to construct a latrine, the figure is increased to 71%. Two households were also in the process of constructing a latrine. Those households which were without latrines were either using latrines belonging to neighbours or relatives or else were using the bush. However it appeared that the general standard of latrines, as well as the percentage of families having a latrine, had decreased in the 13 months which had elapsed between the two fieldwork periods. Prior to the first visit to the villages there had been cholera in Singida Region and there had been campaigns to force people to construct latrines and boil drinking water. It appeared that when these campaigns were over people were less motivated to repair latrines or construct new ones when the old ones were unusable.¹

In general the condition of the latrines was very poor. They were often without roofs, doors or covers for the pit hole. The walls were mainly of mud and wattle. In very many cases the walls were falling down, reducing the privacy, and the slab structures were caving in, making the use of the latrines rather dangerous. The depth of the pits varied from 5 ft to 16 ft. In this area people cannot be highly motivated to spend a great deal of time and energy on construction of this type of unimproved latrine, since the life-length is short. After heavy rains both the super structure and the pit may begin to collapse. The latrine may be allowed to stand as it is for years, or until the household is forced to build another. But the incidence

1. It must be remembered that many households indicated that they were planning to move away from the village centre (or hoped to do so) in the near future. This may explain why they have not bothered to repair their latrines.



of use must, because of lack of privacy and security, be successively reduced.

In many cases it could be said the latrines were not usable at all, at least not for women and children. From the point of view of the women they must be ensured privacy. Women cannot use them if they can be seen from outside. This was the case in many latrines as the walls were collapsing. Safety is an important aspect from the point of view of the children. Small children cannot use the latrines if the slab is full of holes, which again was the case in many instances.

An attempt was made to ascertain the actual useage of the latrines through observation of the state of the latrines. The aspects which were taken into consideration included the presence of a path, flies, dampness inside the latrine, smell, maggots in the pit, cover of the pit hole, door. In addition the privacy and safety aspects were taken into consideration. It could be said that at least 50% of the latrines were not used regularly by all household members, simply because of the bad state of the units. Certainly not more than 25% were definitely used, indicated by the presence of the factors listed above, flies, smell, etc. It is likely that there is a seasonal aspect to the use of latrines as well. When the maize/millet in the shambas (fields) around the houses is high it is possible that the incidence of use drops as great privacy is afforded in the shamba.

It is still unclear in the households where the latrines are actually used, whether all household members use the latrine. Both Schneider and Jellicoe emphasize the avoidance rules in Nyaturu society, and Jellicoe specifically mentions these in relation to the use of latrines. However in discussions of these aspects in the two fieldwork periods no households would admit to the existence of such rules today, nor would they admit to their existence previously. However if avoidance rules operate in other areas (for example in the washing of clothes) it is very likely that they exist in relation to the disposal of faeces. This is especially so, given the symbolic meaning of human faeces for the Wanyaturu and their fear of its use for sorcery, as pointed out in an earlier section. More knowledge on such avoidance rules in relation to the use of latrines has real relevance for efforts to encourage the use of latrines for all family members. The construction of latrines in it self is not the goal, but the actual utilization of them. Households will construct latrines if they are forced to do so, as has been seen in Singida, but they cannot be forced to use them unless, for example, some form of double-chambered latrine could overcome the problems caused by the avoidance rules.

4.4 Water and health

The health situation in the three villages was not good, as witnessed by the incidence of disease in the sample households. There were a lot of stomach problems experienced as well as bilharzia, malaria and some skin and eye diseases.¹

Most common diseases of small children

The women were questioned as to the most common diseases of small children. Table 8 below lists the main health problems experienced by mothers with small children,² according to the number of women mentioning the diseases.

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1. This picture of the pattern of disease would seem to be confirmed by experience in Makiungu Hospital (through personal communication with Dr Jim Murray.)
 2. The validity of these perceptions of the main problems of children would seem to be confirmed by comparison with the statistics from Makiungu Hospital in Singida, which are presented in the report "Makiungu Hospital Singida Tanzania", 1984, and information received through personal communication with Dr Jim Murray at Makiungu Hospital (January 1984)



Table 8 Most common diseases of children¹

Disease	% of households			All 3 villages combined
	Unyanga	Unyangwe	Nkhoiree	
Diarrhoea	23	38	47	23
Bilharzia	9	58	21	31
Malaria	36	21	37	31
Stomach problems	36	21	26	28
Fever	23	29	16	23
Measles	23	25	21	23
Eye problems	41	17	5	22
Coughs/colds	50	8	5	22
Chickenpox	9	4	16	9
Skin problems	9	4	0	5

Diarrhoea

When diarrhoea was not mentioned spontaneously by the women themselves, it was taken up for discussion as a special point. Not all households (only 53%) considered it was a special problem. This must be related to the varying standards of personal hygiene in individual households, since diarrhoea is probably very often passed from one household member to another through poor hygiene - for example in the preparation and serving of food, in the practice of washing hands in the one bowl before eating, in drinking from the same calabash or submerging fingers in the drinking water, especially when washing of hands after excretion is not practised.

Most women took their children to the dispensary for treatment of diarrhoea. Though some women admitted to using traditional cures at least in the first instance. These included boiling roots, and in one household it was claimed that chicken blood was a traditional cure for diarrhoea. At the hospital the mothers were usually given medicine and told how to treat the diarrhoea. There appeared to be relatively good understanding of the need for plenty of fluids and sugar and salt in most families with small children. Sugar and salt may not always be available just when needed, but the information about their importance in relation to diarrhoea seems to have reached many women. Whether or not they actually attempt this method of treatment is not certain.

Information on the prevention of diarrhoea does not seem to have been so easily obtained at dispensaries and hospitals visited by the women. In a sample of 38 households who were questioned in more detail about causes of diarrhoea, 63% could not say what caused diarrhoea. Those households who did know some of the causes mentioned dirty water, bad food, flies, dirt and lack of latrines.

Since diarrhoea is a problem in this area (and an especially serious one for small children) much more effort will have to be concentrated on information to the mothers on the cause of diarrhoea in their children.

It is certainly important to stress the importance of sugar and salt in oral rehydration treatment in the homes. However, given the chronic shortages of both items in many homes, it is vital to, above all, emphasize the giving of fluids as the most essential action. Otherwise if the mothers do not have

1. Note that many households mentioned more than one disease so the total is more than 100%.



salt or sugar they may easily feel they can do nothing. It does not appear that the giving of fluids was a traditional cure for fevers and thus the risk that children die of dehydration following diarrhoea is great.

While diarrhoea may be caused by the water supply in many cases, it may very well be caused by many other environmental factors, given the poor standard of hygiene in the homes. In this case without adequate health education inputs, improvements to water supply cannot be expected to have any marked impact on the incidence of diarrhoea.

Malaria

68% of households felt that malaria was a problem. In many cases it was considered that malaria was on the increase in the area. In the smaller sample of 38 households only 34% could say with certainty what the causes were. Other households considered it was due to eating unripe maize or wild berries, and some households considered it was caused by the winds. There were traditional cures for malaria which were used by a few households. Most households preferred to attend the dispensary although many complained that often chloroquine was not available.

Bilharzia

Bilharzia was a serious problem in Unyangwe where 56% of the households visited had one or more members suffering with bilharzia, giving a total of 20 persons in 14 households. The percentage for the 3 villages together was 27% with a total of 28 persons in 20 households. Many of them were young boys who had presumably contracted the disease while swimming in the cattle pools. Not one of the women in the 38 households questioned as to the causes of diseases could explain the causes of bilharzia, even when there were household members with bilharzia. Some women guessed that one might get it by drinking dirty water, but there did not appear to be any understanding that the disease could be contracted by walking barefoot in water. Though there is always a risk that people may have been told the causes but may not want to accept them as true (which is perhaps psychologically the same as not knowing). For as one woman explained when she learnt the cause through our discussion, her children can never be free from bilharzia since she has no possibility of preventing them from swimming in the cattle pools.

Diseases known to be related to water

29% of all households could not name any diseases they knew to be related to water. This figure was quite a lot higher in Unyanga, 40%, in spite of the fact that they are closer to the dispensary and the regional hospital at Singida. The diseases known are listed in the following table, according to the percent of households mentioning each particular disease.

Table 9 Diseases known to be related to water¹

Disease	% of households			All 3 villages combined
	Unyanga	Unyangwe	Nkhoiree	
Bilharzia	28	60	44	44
Diarrhoea	20	32	16	23
Stomach problems	24	20	28	24
Cholera	20	0	4	8
Malaria	4	4	12	7
Dysentery	4	8	0	4
Scabies	0	4	0	1

1. Note that some households could mention more than one disease so the total is more than 100%.



Illness in the families during the last 7 day period

The women were questioned about the health of their families in the last 7 day period. Household members in 36% of households had been sick during this period. The figures for the villages are given in the following table.

Table 10 Sickness during a 7 day period

	Unyianga	Unyangwe	Nkhoiree	All 3 villages combined
5 of households with sick members	40%	28%	40%	36%
number of persons	16	12	18	46

Health education

37% of the households claimed that they had not received any health education, i.e. information on the use of latrines, personal hygiene and the need to boil drinking water, etc.¹ The remaining 63% had received information from varying sources - village leaders, CCM leaders, health officers, adult education teachers and staff at the dispensaries and hospitals. In general it did appear that the households were aware that they should ideally boil drinking water, that they should bathe frequently, and that they should build and use latrines at all times. This indicates that some form of health education has reached them. What is obvious is that the health education received is not having the intended impact, in terms of changing patterns of living. The villagers know enough to be able to give the correct answers when asked about their handling of water, use of the latrines, etc. But they are not receiving enough motivation to actually make the changes.

Traditional medicine

In a smaller sample of 30 households the use of traditional medicines was discussed. It appeared that the use of special traditional doctors had decreased. However it was still quite common for people to use traditional cures for diseases. These were most commonly prepared by themselves from roots, berries, etc. 60% of the 30 households admitted to using traditional medicine. (The figures for the three villages separately were Unyianga: 57%; Unyangwe: 58%; Nkhoiree: 64%).² The diseases which were treated with such medicine included fevers, malaria, diarrhoea, coughs and colds, back pains and headaches. If these cures failed, help was sought from the dispensaries and hospitals.

In a report published by the Makiungu Hospital in Singida Region it was stated that much harm was done by utilizing traditional medicine.

"Throughout 1983 many medical conditions were encountered which were either directly due to the harmful effects of "native medicine" or the results of "native medicine" aggravating underlying illness. Accurate figures are not available but it is fair to say it was responsible for considerable morbidity and much avoidable mortality. The use of various forms of "native medicine" is particularly prevalent among maternity and paediatric cases." (Makiungu Hospital, Singida, 1984)

1. While the leaders and health staff may claim that this is untrue, the fact that so many claim they have had no education is of interest. Either the health education has so little impact on them that they have forgotten it, or the information is reaching the wrong people and especially neglecting the women.
2. The prevalence of traditional medicine would seem to have been confirmed by information received from Makiungu Hospital in Singida Region, both through personal communication with Dr Jim Murray (January 1984) and in the report "Makiungu Hospital Singida", 1984.



The need for an increase in knowledge of traditional medicine is apparent. Research in these areas could reveal a great deal about the attitudes to disease as well as the actual methods of curing the various diseases. Such information is essential for preparing an appropriate health education programme.

Interestingly enough Jellicoe noted that in 1965 there had been an increase in traditional medicine, or rather "*the growth of commercialised traditional medicine provided by strangers*" (p 201) This may have been a response to the changes which were taking place at that time in the country as a whole, and at all levels down to the homestead level. Research into the traditional medicine in the rural areas today might reveal some interesting information. It is possible that there has been an increase in the utilization of such medicine, perhaps related to the inadequacy of other health services, the non-availability of drugs at the local dispensaries, transport problems, etc. Whatever the causes may be, information on the extent of utilization and the types of medicines used is essential, in order to combat the negative effects of some types of medicine, to capitalize on other more useful types, as well as base health services on an understanding of the indigenous attitudes to disease.

4.5 The impact of the improved water supplies on the women

The improvements to water supply in Unyanga and Unyangwe, as described earlier, are obviously totally inadequate. Even when the improved supplies are working only a very small percentage of the total population benefits as pointed out earlier. Only 14% of the households¹ were using improved supplies at the time of the second fieldwork period.² Given the problems experienced with breakdowns this percentage is lowered even further. It could be said that the impact of the improvements made was non-existent. It appeared that the households using the improved supplies and those using the traditional sources had similar patterns of water use, and standards of health, hygiene and sanitation.

WHO (1983) has pointed out that before impact can be achieved the functioning and utilization of improved supplies must be assured. Since the functioning of the improved supplies in both Unyanga and Unyangwe is poor and level of utilization is low, little impact can be expected.

In order to examine the impact on the women in the two villages, one must recall the expected benefits and assess to what extent these have been achieved. As described in section 1.1 these benefits include increased convenience, improved health and increased productivity. The overall impact on ~~women's~~ situation should also be examined.

Increased convenience?

It is blatantly obvious that a windmill supplying one domestic point with 4 taps in Unyanga is totally inadequate. This supply can only benefit a small percentage of the population of 2158. Many women said they would be prepared to go further to the windmill supply since the water quality was considered better. However since the windmill has been continuously out of order there are no benefits for any women in this village.

1. 14% of 50 households in Unyanga and Unyangwe

2. 44% of households in Unyanga claimed to have used the improved supplies when they were working. This would increase the percentage of households using improved supplies to 36%.



A small percentage of women in Unyangwe benefit from the improved convenience provided by the foot pump which is working. However this is a very small percentage indeed of the total population of 1671. Even if both pumps were working the impact in terms of improved convenience would be limited. Those using the improved supply admitted that they also used traditional sources which were closer in the rainy season, indicating that convenience is a crucial factor in determining the use or non-use of improved supplies.

Improved health?

Because of the inadequate coverage in the villages and the poor functioning health benefits could only be expected in a very few families. However even in those families which did use the improved supplies there did not appear to be any obvious health impact.¹ The families suffered from the same diseases and health problems and had the same poor standards of hygiene as those using traditional sources. This is, of course, related to the fact that health problems in the rural areas are caused by a variety of factors, only one of which is poor quality water, and therefore improvements to water supply, without inputs in other areas, may have no impact at all on the health situation in the villages. In addition it points to the necessity for adequate health education in connection with the improvements to water supply.

Some women claimed that they had experienced a reduction of stomach problems in their families when using the improved supplies. There appeared to be a general belief that the water in improved sources is automatically better than that of the traditional sources. It is debatable whether, in reality, there is actually a reduction of stomach problems, especially if the households do not completely abandon the traditional sources. In addition observation of the general living standards indicated that stomach problems could well be largely due to other environmental factors than poor water. Under these conditions the impact of improved quality water is doubtful. However the fact that women considered their problems lessened is in itself relevant and important. It indicates, among other things, the expectation of the women from improved water supply.

Increased production?

This benefit is difficult (if not impossible) to assess. The term "production" lends itself to all kinds of interpretations. What is usually implied is increased agricultural activities. All the women who did use the improved supplies considered there was a saving of time. This time was said to be used for work, such as agriculture, firewood collection, grinding, house work and collecting wild vegetables. One woman claimed she had had enough spare time to start a small vegetable garden in the swamps. Very few women used any spare time for resting or visiting neighbours. Not one woman mentioned taking better care of children. However when households were asked if improved supplies would entail a saving of time, 8% of those who gave a positive response indicated that the time could be used for resting. (See table 14.) In addition when women were asked (quite apart from any questions about water supply) what they would use a free hour for, as many as 71% indicated they would like to rest. 8% mentioned visiting neighbours and 3% mentioned care of children. (See table 6.) This probably gives a better indication of what free time would ideally (from the women's own point of view) be used for.

1. However this was simply based on observation and discussions held with the families. A more detailed long-term survey would be necessary to learn the impact in terms of health benefits.



Because of poor functioning and utilization the improved supplies in these two villages has very little impact on productive activities. For a few women there is a saving of time, and this time is probably used for work tasks outside the home, even if the women themselves want and need time for more rest and domestic tasks and child care.

Improvement to women's overall situation?

In assessing the impact of improved water supplies on women, one important aspect (often forgotten) is the impact on women's position in rural societies - her role and status. One of the long-term goals of improved water supply must be to improve women's overall situation. In particular this implies involving women in community affairs and thus improving their status. In improvements to water supplies this can be achieved by ensuring the involvement of women in planning, construction, operation and maintenance, and evaluation - i.e. effective participation. It can also be achieved by providing adequate supplementary inputs in terms of health education and sanitation inputs. The information provided, in particular through an effective health education programme, must have a liberating effect on women by providing them with the means to make effective choices concerning their own lives and health and that of their families. In addition the very fact that women's health is improved, both through the physical presence of better quality water and the health information provided, means that women are better equipped physically to participate in development. All too often today, women are poorly equipped for anything other than pure survival, being mostly in poor health, underfed and overworked, as well as lacking in self confidence and the skills and resources needed for active participation.

In the case of the improvements to water supplies in Unyanga and Unyangwe there does not seem to have been any impact on women's general situation. This is due to the fact that the level of participation in general was extremely low. This was especially so in Unyanga. None of the households had been involved in any way in the planning of either of the schemes. All households had, however, participated in digging trenches. It appeared that no health education had been given in connection with the installation of the supplies, nor any special instructions on the proper use of the supply. In Unyangwe only two households reported that they had received any specific information on the planned improvements before the construction began. Some instruction had been given on the correct methods of pumping with the foot pump, the necessity of keeping children from playing with the pump, and on prohibitions against washing clothes and bathing at the well sites. Unfortunately it was not always the women, the ones who utilize the pumps, who received this information directly. There did not seem to have been any special instructions on the relationship water-health-hygiene and such related issues as sanitation. Under these conditions little impact on women's situation could be expected, and indeed, there was no evidence in these 3 villages of any improvement of women's overall position and status.

4.6 Women's perceptions of the water supplies

Since the men were very often present at the discussions it was sometimes difficult to learn the opinions of the women, even when the women were questioned specifically. Therefore the opinions given on possible improvements, expected benefits etc. are given with some reservations. If women had been allowed to speak freely on these aspects, it is possible that a somewhat different picture might have emerged.



a) Improved supplies

Benefits of the improved sources:

The main benefits attributed to the improved supplies were improved health (and in particular less stomach problems) because of the better quality water as pointed out earlier. All the women using the improved supply claimed to have saved time, which they utilized for collecting firewood, irrigating vegetable gardens and agriculture, washing clothes, resting and visiting neighbours. In Unyangwe the improved convenience was appreciated as well as less queueing and the permanance of the supply. While it is difficult to determine whether or not all these benefits are in fact real, it is nevertheless important to record them since they are the perception of the users of the supplies, and as such have relevance.

Complaints and suggested improvements:

The main complaints in Unyanga were that the piped scheme had never been completed and that it was difficult to get the windmill repaired. In addition it was pointed out that the water supplied by one domestic point was not nearly enough for all the people wanting to use the improved supplies. It was suggested that more windmills or wells with handpumps should be installed, and bigger and stronger cattle troughs should be designed. It was also felt that the number of taps at the domestic point (4) was insufficient, especially as often only 2 were working at a time. With regard to the uncompleted piped supply, the suggestion was firstly to finish it, and, if it was ever brought to completion (which people doubted), to install more domestic points so that it reached more people.

In Unyangwe the villagers complained mainly about the breakdown of the foot pump and the failure to repair and return it. There were also complaints about the bad taste of the water from one foot pump. It was considered more salty than water in traditional sources. It was suggested that water should have been taken from the river-bed instead. The need for more wells with hand or foot pumps was emphasized in order to bring water closer to more people. Another practical suggestion was for the construction of hedges around the wells to keep animals out. One household complained that people did not heed the instructions given about not washing clothes or themselves at the site, and others complained about the children playing with the pump.

b) Traditional sources

Opinion of the traditional sources:

More than half the households considered that the water was of poor quality. It was blamed for the high frequency of stomach problems. Generally the taste was also considered bad. In Unyangwe particularly there were complaints about the salty taste of the water. Those who were using (or had used) improved supplies considered the quality and taste of the improved supply better than the traditional sources.¹ In only 2 cases did the households consider the taste of the improved supply to be bad.

Suggested improvements:

Only 17% of households did not consider there was any need for improvement, or could not suggest any improvement. The improvements which were suggested by the remaining households are given in the following table.

1. As mentioned earlier it appeared that people considered improved supplies automatically guarantee cleaner water, even if water was taken from the same source as the traditional supplies.



Table 11 Suggested improvements to the water supply

Improvement	% of households			The 3 villages combined
	Unyanga	Unyangwe	Nkhoiree	
Well with handpump	60	60	56	59
Diesel-powered supply	24	0	20	15
No improvement needed	16	12	24	17
Simpler improvements to traditional wells	0	16	0	5
Repair existing improved supplies	0	12	0	4
	100%	100%	100%	100%

Perceptions of expected benefits:

The households were asked what they considered the benefits would be from the improvements they suggested. 63% considered the main benefit to be improved water quality, which would result in better health, at least in terms of reduced incidence of stomach problems. The anticipated benefits are listed in the following table.

Table 12 Expected benefits from improved water supply

Benefits	<u>% of households mentioning</u>
Improved quality	65
Increased quantity	14
Saving of time	10
Increased convenience (lessening of burden)	7
More water for animals	4
	100%

The households were then asked if they would use more water when the supplies were improved. 65% of the households gave a positive response. (This can be compared with the 14% of households who saw increased quantity of water available as one of the benefits from improvements in table 12.) 50% of the households considered they would use this extra water for personal bathing. The uses mentioned are listed, according to the % of households mentioning them, in the following table.

Table 13 Activities for which more water would be used¹

Activity	<u>% of households mentioning</u>
Bathing	50
Washing clothes	45
Domestic uses (including cooking)	35
Drinking	9
Watering animals	5
Irrigating vegetable gardens	3

1. Note that some households mentioned more than one activity and as a result the total is more than 100%.



When asked directly if improved water supplies would entail a saving of time for the women, 80% gave a positive response. However this should be compared with the 10% who considered that a saving of time was one of the benefits to be anticipated from improved water supply (see table 12). The activities on which any saved time would be used are listed in the table below, according to the % of households mentioning the activities.

Table 14 Activities on which any saved time would be spent¹

Activity	<u>% of households mentioning</u>
Agriculture	39
Collecting firewood	36
Housework	27
Grinding	27
Collecting wild vegetables	19
Resting	8
Tending animals	1

c) General problem of water supplies

By asking the women what they considered their greatest burden, it was possible to obtain a more accurate impression of their perceptions of the problem of water supplies. As illustrated in table 5 water collection was not mentioned by any women as the greatest burden they experienced. The main burdens were rather agriculture, firewood collection and grinding flour. Of interest and relevance is the fact that when asked about activities which they enjoyed doing, 20% of the women mentioned water collection. Since firewood collection and collection of vegetables were also mentioned as enjoyable activities, it was presumed that this was due to the possibility to get away from the house and to meet with other women.

When the households were asked to identify the biggest problems in the village, unfailingly the problem of recurring famine and the food shortages during the 82/83 season were mentioned. This was related to the lowered production after villagisation and the inability to apply sufficient quantities of manure. The other problems listed according to the number of households mentioning them, are given in the table below. Water supply was mentioned as first priority by 27% of households.

Table 15 Priority of village problems

Problem	<u>% of households mentioning</u>			<u>All 3 villages combined</u>
	<u>Unyanga</u>	<u>Unyangwe</u>	<u>Nkhoiree</u>	
Water supply	36	12	33	27
Poor distribution of goods	24	44	5	25
No dispensary	8	4	38	20
No milling machine	4	12	0	6
Lack of agricultural inputs	8	4	0	4

1. Note that some households mentioned more than one activity so the total is more than 100%.



Other problems mentioned by individual families included shortage of grazing land, cattle thefts, too much communal work and lions coming closer to the settlements.

The fact that water supply is considered as first priority by relatively few households is probably related to the fact that it is an area in which initiatives for improvement can be taken by the people themselves. The other problems are often largely outside their control. For example the distribution of goods is controlled by factors outside the village and there is little the villagers can do to ensure better distribution of essential commodities. The establishment of a milling machine requires resources which are not always available. Similarly combating the inadequacy of the health services requires inputs from outside and skills which are not available within the village.

However if the water supply is poor, i.e. the quality is poor or the supply inadequate, there is often something which the people themselves can do to alleviate the problem. For example the wells can be deepened to improve quantity or new wells can be dug. To improve water quality wells can be lined and covered. Hedges can be built to keep animals out. If the quality is too poor, new sources can be sought. Specialist knowledge and skills from outside are not always needed. Local resources can be utilized. Therefore the problem of water supply is given lower priority.

Similarly the seasonality aspect must play a role in determining the priority given to the problem of water supplies. Water supplies are mainly a problem in the dry season, which is off-peak agriculturally. Even if the women have to walk longer distances, they have the time to do it since they are not full-time engaged in agriculture. However if the shortage of water coincided with the peak agricultural season a crisis situation would arise and water supply would probably have higher priority.

4.7 Some conclusions

Some conclusions can be drawn from the data on the sample households in the three villages which can have implications for improvements to water supplies, especially where women's aspects are given priority. These conclusions will be mentioned here and some will be taken up in more detail in section 5.

Give emphasis to practical aspects

If water supplies are to bring about improvements to women's situation a lot more attention need to be given to practical aspects.

Since women do a lot of washing of clothes at the source it is impractical to construct shallow wells with pumps and then forbid the women to wash in the vicinity of these wells. This goes against what the women have traditionally done and, as well, increases the work burden of the women. Women will object to having to carry water to the homes for this work. A more useful solution would be to construct some kind of washing area, preferably of cement, which is located so that there is no risk of contamination of the well itself. Such a practical measure would be appreciated by the women.

Another practical suggestion could be to construct bathing areas close by the wells, similarly located so that risk of pollution is eliminated. In this manner women could be encouraged to bathe more frequently since they would not have to carry water to the homes. Women must come to the wells at least once a day and there are increased possibilities for them to bathe, perhaps even



daily. However it is possible that such bathing areas might entail health risks, i.e. that transmission of certain diseases through use of a common bathing area might be increased.

Encourage local initiatives

Since it is possible that the people themselves undertake measures which can improve the water supply situation, every effort must be made to encourage this. All traditional wells can be improved in some way by simple means, such as deepening, lining, constructing aprons, covers, etc. Fences or hedges can be built and efforts made to keep children from playing in the vicinity of the wells. If traditional wells cannot be improved at all through these measures and the water quality is poor, they should be abandoned as sources for domestic use. It will be suggested in the following section that probably a more appropriate strategy for Tanzania today is to initiate a programme for improvements to all traditional sources, rather than emphasize shallow wells. In which case local initiatives will play a vital role. The involvement of the community in all aspects of planning, construction, operation and maintenance and evaluation, will be a crucial factor.

Emphasize health/hygiene/sanitation aspects

The data from the three villages would seem to indicate that the health education component is of vital importance. The lack of understanding of the relationships between water and disease, and the causes of the main health problems in the villages was somewhat disturbing. It would appear that there has been a general lack of emphasis on information and motivation, and in particular the women have been neglected.

For any impact on health conditions, programmes for improved water supply must emphasize health aspects. There must be a well-thought-out programme of health education, which is carried out in conjunction with the actual improvements to the water supplies. The relationship water-health must be stressed, and information given on all environmental factors, including general standards of living and standards of personal hygiene, which contribute to sickness and death in rural communities. This should be complemented by a programme for the improvement of sanitation facilities in the villages.

Stimulate the involvement of women

The women in the villages had been completely excluded from all participation in the improvements to water supplies carried out in these villages, except for involvement in self-help construction activities. This is a rather typical pattern. It should not be necessary to point out how ludicrous such a situation is, given the fact it is well known that women are those who collect and use water in the homes and the ones who have the main responsibility for the health and general welfare of the families. It must be possible to involve women to a greater extent in an area which is traditionally theirs. What is necessary is to make the involvement of women a real goal in programmes for improvement of water supplies (and in all rural development efforts). That there will be problems and obstacles to such involvement is obvious, especially given the subordinate position of women and the attitudes towards women's role in rural societies (attitudes held by both men and women). What must be worked out are practical steps towards involving women.

Build on traditional and existing practices

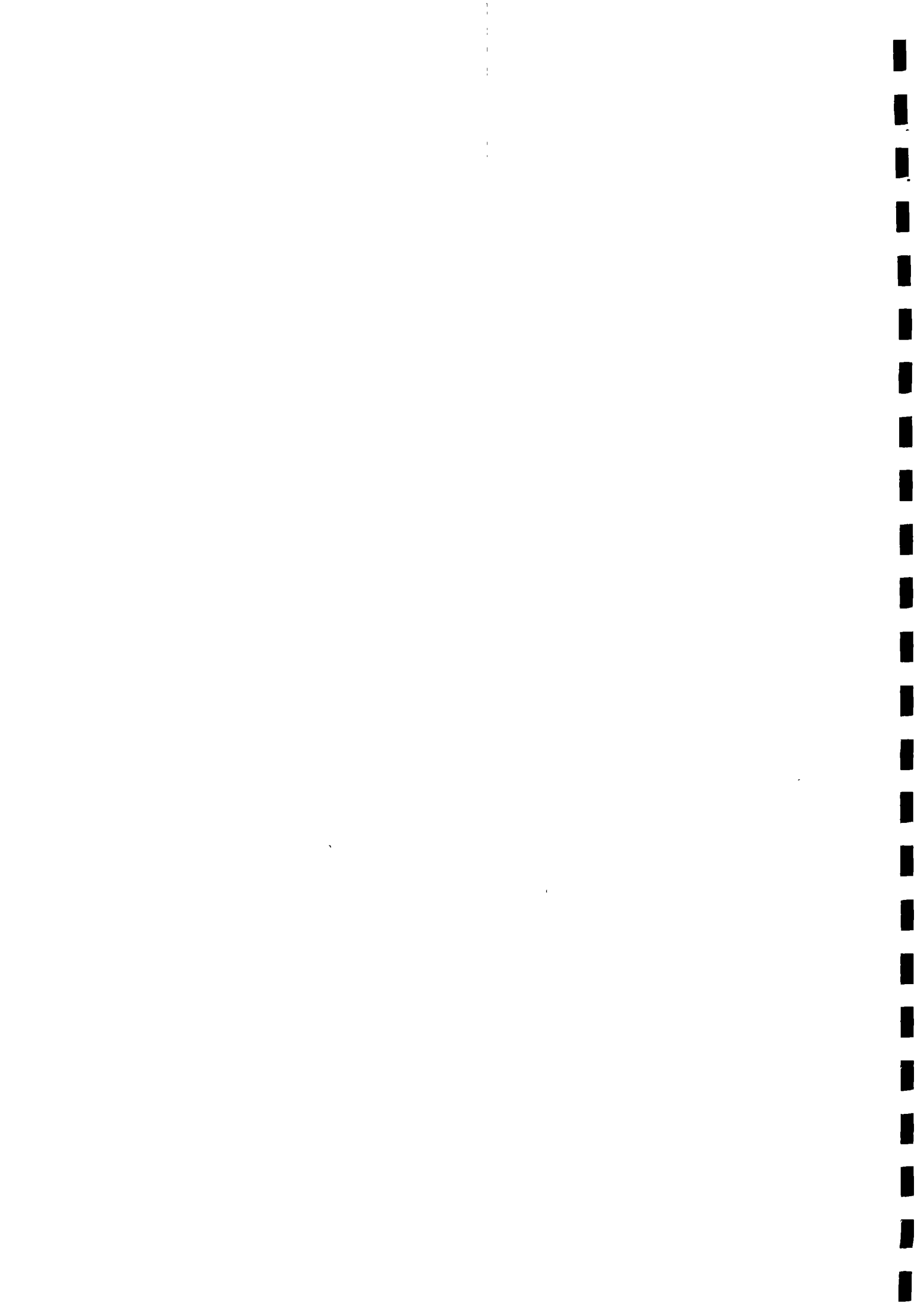
For changes to be accepted and internalised it is necessary that they build



on existing practices instead of trying to do away with the old order and introduce a completely new pattern of living. In order to achieve this, a sound knowledge of traditional patterns of living is necessary. This includes an understanding of the motivations behind the existing patterns. In efforts to improve women's position in rural areas, the starting point must naturally be an understanding of women's present situation. However understanding of the reasons behind the position and status of women in the society is also essential.

Consider possibilities for improving water supplies for non-domestic use

It was obvious in the three villages that water for non-domestic uses, in particular for livestock, is of great importance to both men and women. Therefore programmes for improvement to water supplies in Singida should attempt, whenever possible, to make improvement to sources for non-domestic use.



5. STRATEGIES FOR INVOLVING WOMEN

"A cow can split a boulder" Nyaturu proverb (Schneider, 1970)

5.1. A more appropriate overall strategy for improving water supplies

One of the most essential aspects for ensuring the involvement of women must be that the proposed strategy for improving water supplies is an appropriate one for the area in question. Women are involved with water on a daily basis from a very early age. They have a wealth of expertise on water sources, water availability and water quality which should be utilized. Changes which are impractical or incompatible with existing patterns of living will be immediately rejected. Above all, the proposed improvements must offer advantages to the women, in particular in terms of improved convenience. Health benefits are very much dependant on adequate accessibility and reliability. If the improved supply is too far away and is unreliable it will not be used and the impact will be non-existent.

A very obvious trend in third world countries today is that high-level technology is always related to men. In some cases men even go over into traditionally women's spheres once machines are introduced. The classic example is the increased involvement of men in production (especially cash crops) with the advent of ox-ploughs and tractors. Milling, which is also traditionally a women's task, is taken over by men if machines are introduced. Men are also known to collect firewood if ox-carts can be used, though the firewood so collected is usually not for domestic use but for sale.

In the area of water collection in rural towns and urban areas men are increasingly involved in collection of water for sale, using wheelbarrows, yokes or bicycles. When no technological innovations can be utilized or no profit can be made, men are noticeably absent. If windmills or diesel-powered supply systems have been introduced men are the ones who have been given access to information and training. Similarly with hand and foot pumps. The ones chosen for pump attendants and maintenance officers have, until now, always been men. Women have again been excluded from developments in an area traditionally their responsibility.

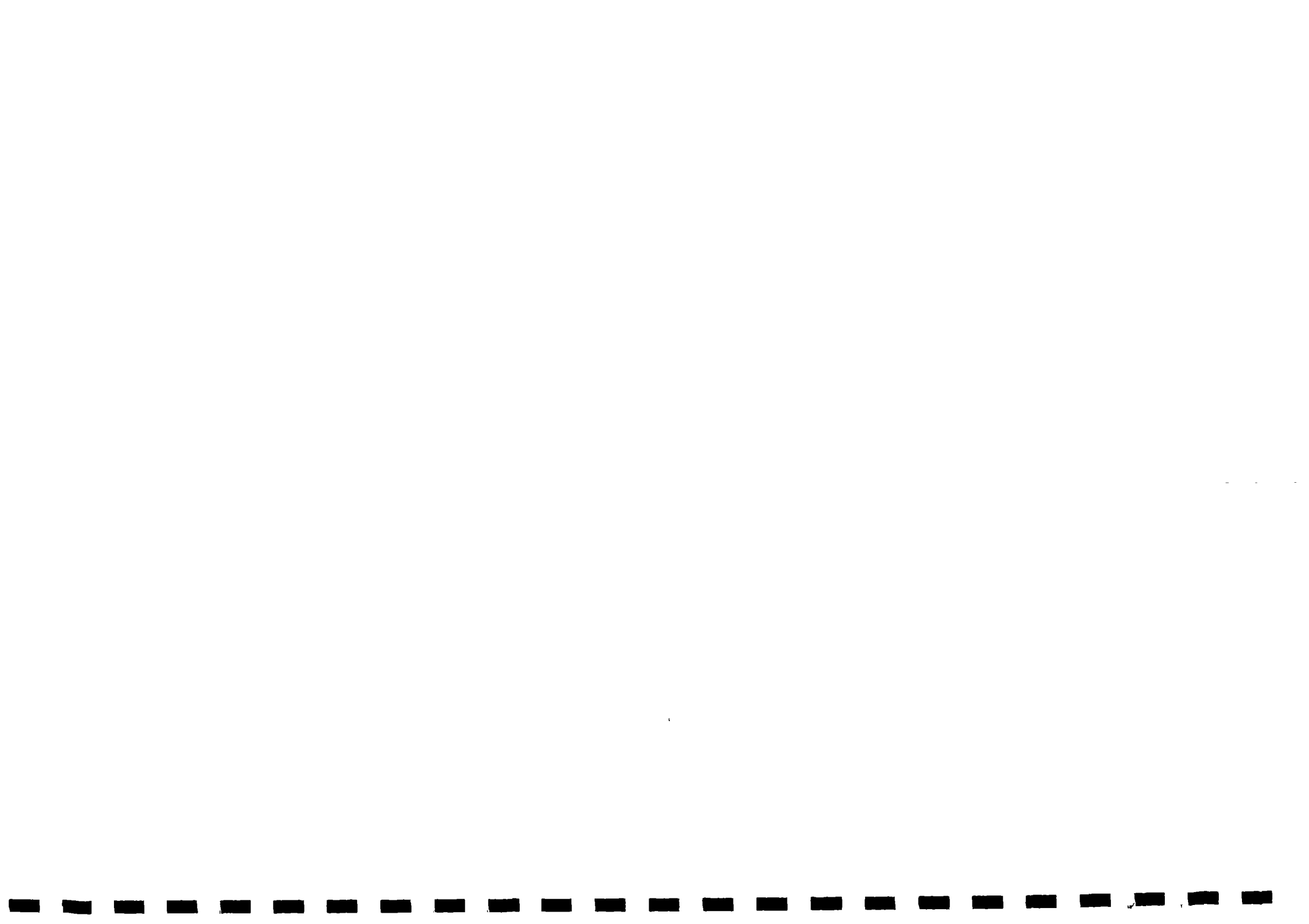
In Tanzania today, because of both the political ideology and the financial constraints, there is an increasingly reduced capacity for high-level technology. There has been a very obvious trend over the past 10-15 years from diesel-powered systems to windmills and handpumps, which are considered more appropriate, for varying reasons. It has been argued in Andersson and Hannan-Andersson (1984) that the most appropriate technology has not yet been reached. Even the shallow wells with handpumps strategy as implemented in Singida and many other parts of Tanzania today cannot provide the levels of convenience and reliability necessary to attain the benefits of improved water supply. Optimum benefits are only achieved if the density and location



of supply points is such that all members of the community are reached, and traditional unimproved supplies are abandoned completely. The political and economic realities in Tanzania today make such a goal impossible with the present strategy. Scarce financial resources must, for political reasons, be equally divided between district, ward and villages. As a result very few, if any, villages receive adequate coverage. While improved water supply inputs are distributed equally, each village receives so little that the impact can often be said to be non-existent.

It would appear that a more appropriate strategy for improving water supplies for the whole community must be the improvement of the existing traditional sources (Andersson, 1983). The starting point for water supply improvements should be an inventory of the traditional sources already in use. Implementation would be concerned with how many of these could be improved to give water supplies of better quality, quantity and reliability. Improvements may be of many types - deepening, lining, installing aprons, building fences, and if need be, installing hand or foot pumps. Such an approach is low-cost and it allows for improvements to many sources so that all households can be reached. It is in keeping with the traditional patterns of water collection. Villages in Singida Region have multisource practices to eliminate the risk of water sources drying up completely. This strategy also allows for improvements of sources for non-domestic uses, including water for livestock and for small vegetable gardens. Operation and maintenance problems could be kept to a minimum. Such a strategy is feasible, though, since it requires basic changes in attitude and approach, it would certainly be opposed initially, probably by both planners and consumers. However it may well be the only feasible solution for Tanzania at this point in time - the only way a reasonably acceptable level of service can be provided and maintained.

It is suggested here that such a strategy may well prove to be a very positive one from the point of view of the women. The technological innovations in most cases would be low-level and low-cost - very appropriate for women in the sense that high level technological innovations are usually taken over by the men. The water sources are already in use by the women and the problems of trying to make the women accept and identify with the improved sources are not relevant. Women's links with these sources are already established and they have a wealth of information on traditional sources which can be utilized. Their participation in planning, implementation, operation and maintenance can be facilitated. The women can, in a very natural manner, be involved in expressing their felt needs and in indicating the limitations of the existing sources and possible improvements. The strategy is based on existing traditional "user-choices" and opportunity can be given to women to make meaningful choices and suggestions. The women are not being asked to radically change existing practices - e.g. to abandon traditional sources and walk further to a supply point where there is probably a long queue because of inadequacy of supply points. They are asked to improve on existing practices. In most cases the changes would be small and comprehensible. Many of the changes can be implemented and maintained by the women themselves. The men can hardly be opposed to women's participation since the improvements are to resources already existing and utilized by the women. And through women actively participating in a developmental effort in the community there should be some development of self-confidence, and perhaps a better acceptance by men of women's increasing involvement in community life.



5.2 Special projects for women?

The need for more attention to be given to improving women's situation and to providing adequate incentives for women to participate in social change and development is becoming increasingly obvious. However it is important that attempts to involve women do not simply take the form of "special women's projects" which, rather than improve the overall position of women in rural societies, may increase their segregation. Women must be given the opportunity to participate as equal partners in developmental processes. Some researchers believe that such a "special projects" approach would, in any case, prove ineffective. *"Greater concern about women in development planning ought not to be reflected primarily in projects specifically targeted at them. The complexity of their situation would render such an approach rather ineffective."* (Tobisson, 1980) This is because women lack the authority to influence the decision-making process and the allocation of resources. Excluding men from projects would also lead to further alienation of women. An understanding of the nature of the relationships of power between men and women, (as outlined in section 3) both at the household level and within the community, is essential before any projects are planned. Men may feel threatened by the promotion of women in community life, especially so if they are excluded from dialogue and involvement. Men have the ability to prevent any activity they might suspect will undermine their authority. *"Women's lives cannot be changed in a vacuum and men must be brought along with the processes of transformation."* (Nelson, 1981)

There are other researchers who feel that "special women's projects" should be tried in the domestic water sector. However, if special projects are to be targeted at women there is still a need for consultation with both men and women. For such a project to have any chance of success, Nelson (1981) points out that the men *"must first be convinced of its importance"* (and) *"it must respect the local ideals of women's proper place in society."* Given the image of women's proper place and role in many rural societies, including the Nyaturu society, these would appear to be serious constraints to the success of "special women's water projects".

An equally important consideration is the impact of "all-women" projects on the overall development of women. Even if such a strategy did prove successful in terms of actually improving the water supply situation, the impact on other areas would probably be limited. In terms of integrating women into the overall development in rural areas and ensuring their participation in other projects, such a strategy could even have a negative effect. Special segregated projects can provide an excuse for failure to integrate all development projects and, in fact, contribute to a further marginalisation of women. *"As long as a few marginal "women's" projects are being put forward as a token expression of commitment to the integration of women in development, any movement towards actual integration is likely to meet with strong opposition from the men in control."* (Rogers, 1980)

The short-term goal of improving water supplies, with resultant benefits for women, is an important goal. However the long-term goal of improving women's situation in rural societies should not be forgotten. With that objective in mind it would appear that the most effective strategy would be ensuring the



full participation of women in all aspects of improving water supply for the whole community, in cooperation with the men. This would be a step in the right direction towards ensuring women's participation in all community affairs as normal procedure. Thus the spin-off effects would be positive in terms of the overall development of women in rural areas.

However, it is important to remember that women must be seen as an essential target group, and special steps will have to be taken to ensure their participation, just because they are a subordinate group in rural societies and normal procedure do not require or encourage their involvement. Whatever means available to ensure their participation should be utilized.

5.3 Practical implementation of women's participation

If effective involvement of women in improving water supplies is to be achieved, changes will be necessary at both the policy level and at the practical level of organizing and managing projects. This section will look at the latter aspect in more detail. Obviously as an adequate background for discussing participation of women it is necessary to understand local mores on women's public roles as well as social constraints which hinder women's full participation, such as limited time available, limited education, etc. Aspects which are crucial to any attempts to design strategies to encourage women's active participation, include the delicate balance of cooperation and conflict between men and women generally, and the inequality existing between households, between individuals, both men and women, and the overall inequality between men and women, and finally between women themselves.

For reasons pointed out in the section above, it is presumed that the water projects will be integrated projects, directed at both men and women with special efforts made to integrate women more fully.

a) Female project staff

All male project staff would probably have difficulties in effectively involving women in water development projects. Therefore the appointment of female project staff should be a first step. This would ensure that women feel at ease in public discussions, etc. Hopefully women staff members would identify more easily with village women and thus make a greater effort to involve them. However this may not always be the case. The negative attitudes which have prevailed towards peasants in general and women in particular may also be held by better educated "town" women. (Nelson, 1981) Training of staff members, both male and female, should involve training in community development methods, and in the overall aims of the project, in particular the aim of reaching and involving women. The acceptance of female staff members should not be difficult for men in the villages since water is traditionally a women's sphere.

The main problems involved with recruiting women staff members would be finding suitable candidates. It has been suggested that where it was difficult to find women with the same educational standard as the male counterparts, this could be counteracted by on-the-job training. Such training may well have *"to go beyond the transmission of technical information or methods of community organization. It may be necessary to help women, even women of a high educational standard, to assert themselves in a group where men are present."* (Nelson 1981) For the same reason it may be necessary to appoint more than one woman so that the women can support each other to ensure their active participation.



The most suitable type of women for such work is debatable. Other criteria than purely academic training have to be taken into account. For example it may be necessary to choose between young, well educated qualified unmarried women and older married women with a lower educational standard. Preference may be given to married women because it is presumed that they are more stable and likely to remain in the area, and also because as married women they have more status and their advice is more likely to be respected. However, there are practical difficulties involved with married women related to their family responsibilities. They may be less able to travel in the field or go for further training, etc. This "*trade-off of security/maturity and education/mobility*" (Nelson, 1981) is something which has to be worked out for each particular case, depending on the socio-cultural background of each area. What is important is that the women staff are employed on the same conditions as the male members.

The project staff would be involved in an advance team which would prepare the villagers for the improvement of water supplies. Their work would thus involve basic data collection and consultation with the villagers at the planning stage. Their training in the aspect of promotion and motivation is therefore important. These staff members would also have an important role to play in health education aspects and follow-up activities.

b) Village women's participation

The usual strategy envisioned when discussing village women's participation is the placing of at least one woman on the village water committee, and possibly the appointment and training of one woman pump attendant. While these measures are useful, it is uncertain that they alone will ensure the participation of all village women. Efforts must be made to encourage the participation of all village women in village meetings, and to ensure that women are reached with adequate information and motivation through utilizing existing traditional associations and political groups. Religious bodies and existing health structures should also be mobilized.

Village planning meetings

It is not always normal procedure for all village women to attend public meetings to discuss community development or problems. Men very often represent the households and it is assumed that women will be informed and influenced by their husbands. Efforts must be made to ensure that women attend these meetings in order to gain first-hand information on planned changes to the water supply. Presumably it is too much to expect that women will actually express themselves in such a big group, in the presence of so many men. However this measure will at least ensure that they are well informed, and that the planning of something so vital to them does not occur "over their heads". It would also be an important first step in ensuring the participation of women alongside men in community affairs. A very practical aspect to be considered is the necessity to arrange the meetings at times which are suitable for women, i.e. when they are not involved in agricultural activities or domestic duties, and when they can most easily arrange for child-minding by other older children.

All-women meetings

To allow for the women to express themselves fully on the planned improvements, meetings should be arranged with the women alone. Ideally all women should be met in the privacy of their homes, but this is probably impractical. The convening of meetings for the women alone should not cause objections from the men since water collection is women's work. In this matter the felt needs and



suggestions for improvements of the women can be learnt. It would certainly be important for women's self-esteem to discover that their opinions and suggestions were valued by the project team. Traditional women's associations or groups could be used to initiate dialogue between the women and staff of the project team. However the risk of approaching only the upper levels of the local hierarchy among the women must always be kept in mind.

Village water committee

Most villages will probably opt for a Water Committee with elected members, to assist the project staff in planning and implementation, to liaise with District and Regional authorities and to supervise maintenance and operation. In recent times it has become standard procedure to recommend, or insist, that one - or more - members should be women. As has been pointed out earlier women on committees may be completely passive and their appointment may be mere tokenism. Efforts must be made to ensure that women are given a chance to express themselves. However, in the foreseeable future in Tanzania, women's roles in such committees will probably continue to be very low-key. It is nevertheless important that they are represented as it does mean an increase in status for women, as well as providing a means for women to keep informed on what men are doing and deciding.

In recruiting peasant women to sit on committees the problems of lower educational standards and status are more pronounced than with recruiting of project staff. Local tradition may prohibit the utilization of young unmarried women who probably have a higher educational standard. Young married women with small children are more under the control of husbands, mother-in-laws and in some cases senior wives, and in addition are usually more tied down with household duties. The older women will probably be more mobile than the younger women. On the other hand, in some areas (such as Singida) there is a serious constraint to the involvement of older women in that their knowledge of Swahili is often poor.

Another factor which is of extreme importance is the necessity to avoid recruiting only from the higher levels of the village hierarchy. In all probability the older women who are most eligible for such positions (in terms of status, education, economic position, etc) will be the wives of the elite among the men - either the traditional elite or those holding political positions, e.g. members of the village council, village committees or balozis (ten-house cell leaders). This may lead to hostility and jealousy among the less well-off women since such women cannot be expected to represent the poorer women. On the other hand, the poorer, less articulate women may have no possibility to assert themselves in a group. Women with higher social status, although also subordinate to men, have had access to other resources, more stimulus from outside, and are often experienced in directing the labour of other men and women. (Nelson, 1981) As Nelson further points out poor rural women *"may find it more difficult than poor rural men to assume group leadership and initiative in an organization which includes women of a higher status."* What is important is that it is not naively assumed that there is a natural solidarity among all women in village communities. There is inequality and conflict, even among the women.

Women's promotion group

As a means of counteracting some of the problems which will be experienced in involving women in village meetings and water committees, it is proposed that a small group of women, with about 5-10 members (one from each "area" within the village) chosen democratically by the women, should be established from



the start of the project. These women would be observers at all the discussions, including the water committee discussions, and would have the responsibility to report back to the women in the areas they come from. They would be involved in all aspects of the planned improvements and would endeavour to ensure that "their women's" voices were heard, i.e. that the suggestions of the women are actually raised and given adequate attention. Following the completion of the improvement to the water supply, this group (together with the dance and drama group, if one was formed) could be mobilized to visit neighbouring villages to promote water development by describing the experiences of their villages, since promotion among peasants is probably best done by other peasants.

Dance and drama groups

The use of traditional dance and drama, especially using the women, should be investigated. In such activities women from all categories can be included, and poorer women, if encouraged sufficiently, could perhaps be able to assert themselves, since talents in these fields have no relation to status and educational standard. Presentation of information and motivation using this media might have a widespread appeal among all village members including children. Drama groups from the schools could also be encouraged to perform for adults.

Women pump attendants

The appointment of women pump attendants is a commonly recommended strategy for involving village women. However it is sometimes apparent that the strategy has become a goal in itself. By appointing women pump attendants it is presumed that the business of women's involvement has been attended to. This implies a serious misconception of the goal of such a strategy. Token attention to women is not enough. The aim is to try to involve all village women in the improvement of water supplies to facilitate acceptance and utilization. Women pump attendants could facilitate this overall involvement, firstly since a woman pump attendant may be more motivated to keep the pump in good working condition, and secondly because women water collectors will relate better to a woman attendant. If the pump attendant does not carry out the duties adequately there is more likelihood that the women will exercise their right to complain if the attendant is a woman. Hence there is a better chance of the problems being rectified quickly.

The appointment of women attendants, in theory, appears to be an easy solution. However there are many practical problems involved. The pump attendant must receive adequate training, related to the complexity of the improvement. In many areas the normal procedure is to send the chosen person to a training course in the regional centre, sometimes for a period of several weeks. This is obviously very difficult for women because of family responsibilities. Women with young children would find it impossible. The training period could not be in the peak agricultural period since women have the main responsibility for the production of food crops. In some cases the husbands might not allow their wives to go alone. While a long stay away from the village may not be practical nor acceptable, it might well be important for a woman's status if she attended a course in the regional centre, even if only for a few days. It might facilitate her acceptance in the village, both by men and other women. A practical compromise would be to have most of the training in the village (perhaps combining women from several villages) with a short period at the regional headquarters.

There should be one such pump attendant for each village. The duties include preventative maintenance, minor repairs, and reporting of breakdowns to headquarters. If the involvement of women is to have the intended effect, women



must be given the necessary resources, in terms of information and training, equipment, spare parts and back-up support when needed. Otherwise if women fail (even though through no fault of their own) it will be taken as an indication of the unsuitability of women for such work.

Well caretakers

Another possibility for involving women is to appoint "well caretakers" for each well. These might be appointed or elected. It might also be possible to involve all women by having a rotation system whereby all women using a particular well are caretakers for a month at a time. These caretakers could have the responsibility to ensure that all women have received adequate information on the proper use of the wells, and that these instructions are followed. They would also have to ensure that a hedge or fence is placed around the well and maintained. Their duties would involve instructing children not to misuse the well, and preventing them from playing inside the enclosure. The cleanliness of the well site and adequate drainage is also their responsibility, as is reporting of problems to the pump attendant.

It is not recommended (and in some areas strictly prohibited) that women wash clothes close to the well site. However in many areas, especially where water sources are far away, the well has always been the traditional site for washing clothes. It will not be easy to change this habit, especially since requiring that women carry home all water for washing clothes results in an unacceptable increase in women's work burdens. Attempts must be made to make provision for washing reasonably close to the well site. If sited correctly a washing area (preferably of cement) could be constructed close by without risk of polluting the water supply. Such an innovation would be greatly appreciated by the women and would make the caretaker's task much easier.

Utilize all existing groups and bodies

In order to reach women from all categories many different types of groups and bodies should be mobilized.

Traditional women's groups:

In areas where these exist they must be the ideal platform for reaching and involving women in development projects such as improvements to water supplies. A sound knowledge and understanding of the society is a basic prerequisite. And access to the traditional group may not always be easy.

UWT (Umoja wa Wanawake wa Tanzania):

Use should be made of the political organization UWT for mobilizing women. However, not all areas have functioning groups. In addition, even when UWT groups are active it must be remembered that there is probably a certain elitism in this organization. Efforts would still have to be made to reach and mobilize the women not actively involved in UWT, who are probably the poorer, less articulate women. Involvement in such a programme as improvement of water supplies could probably provide UWT with a useful grass-roots level involvement which could initiate more active involvement in women's issues at the village level.

Adult education and "Maendeleo" (development groups):

Any existing bodies promoting development, such as adult education groups or women's development groups (apart from UWT groups) should be involved. In literacy programmes the possibility of including material on water, health



sanitation should be investigated. Ideally simple readers on these aspects could be prepared, with the material presented in a light, readable way, perhaps in the form of short stories. If this is not possible all efforts should be made to utilize as many audio-visual aids as possible. Discussion techniques should also be encouraged. While existing resources in terms of groups and teachers should be utilized, care must be taken to supplement and support as needed. In many cases it has been noted that the teachers at adult education groups know little more than those they are to teach. In such cases the educational and promotional aspects cannot be left to these groups, but guidance and assistance must be given by the project team.

Religious bodies:

Where ever possible the support of the religious bodies should be enlisted. The aspects of personal hygiene and sanitation should be appealing to the followers of Islam, and Christian groups could also be motivated to propagate for changes in patterns of living which lead to improved health and well-being. However, care should be taken not to become too closely associated with any one group for fear of antagonising other groups.

Primary schools:

Efforts should be made to design special programmes for schools to motivate school children to accept changes, especially in terms of water-use patterns. An important objective of such a programme is to encourage children to promote the changes in their homes, and in particular to influence their mothers. It has also been suggested that school children could be advantageously used to collect base-line data from their mothers. (WHO, 1983) The methodology used in programmes involving school children is crucial to the level of success. School children have been used in the past on school fields and in reforestation programmes, and other self-help activities. In some cases the methods used, e.g. "forced labour" with little or no attempt at motivation/information, leads to the questioning of the effectiveness of this method. Though no thorough study has been made, it is doubtful that there is any spin-off effect in terms of changing of patterns of living of children when leaving school.

For these reasons, resources outside the village - project staff and/or other qualified people - should supplement the efforts of the local teachers. The programme should be well designed to emphasize motivation. Where possible programmes should also involve the parents in some way. Above all, the programmes must be realistic, given the prevailing living conditions in the area. Small changes which are possible to implement, are far better than wide-spread changes which are impractical and cause people to lose enthusiasm. As mentioned earlier Jellicoe (1978) noted the discouragement experienced by school girls in Singida in the 60s when they learnt standards of cleanliness, home-care and dress that were impossible of realization.

Health-care facilities:

The health-care facilities in the area should be investigated and mobilized for supporting information/motivation programmes. This will be treated in more detail in the following section

5.4 A realistic programme of supplementary inputs

The achievement of benefits for women from an improved water supply is dependent to a large extent on a realistic programme of supplementary inputs. Those which have a most immediate connection with the programme of improvements to water supplies are health education and sanitation. These inputs should be carried out in conjunction with the improvements to water

supply and should involve water supply staff as well as specialists in these fields.

To date health education inputs which have been received from various sources do not seem to have had the intended impact. This is exemplified by the sanitary conditions, standards of personal hygiene and incidence of disease and death in the communities studied in Singida. This would appear to indicate some kind of "communication gap" and calls for a rethinking of the aims and methodology of health education. In particular the women seem to have had inadequate access to the resource of information on such aspects as the relationship water-health and causes plus prevention of diseases.

The information imparted to the consumers about water-sanitation-health has mainly resulted in people knowing what is expected of them by the leaders and experts, without any real understanding of the motivation behind it. This has led to a problem of reliability in research being carried out on these issues. It is evident all too often that the answers received are what the villagers consider are the "correct" answers. Only by further discussion and personal observation can the real situation be determined, i.e. that little real change has been brought about. Behavioural change will only be brought about when people, and especially women, have access to adequate information.

Coercion vs voluntarism

Perhaps the failure of health education efforts to date can be related to too much reliance on the concept of "statutory voluntarism". (Althorpe, 1970) As pointed out by Rigby (1978) it is always difficult to draw the dividing line between coercion and voluntarism, and the failure of such methods must be related to the basic contradictions which lie at the heart of such a policy. Real change, as pointed out earlier, cannot be brought about by establishing rules and regulations, e.g. by forcing people to build latrines or imposing fines on those washing at the well sites. Development will not be achieved by forcing people to change the patterns of living against their wills. To be effective the changes must be accepted and internalised by the people themselves. This can only be achieved through a process of conscientization. As Jellicoe (1978) clearly points out, real development is not only to be measured in terms of the individual changes achieved, but in the consequent willingness of those concerned to consider further changes. Such willingness *"suggests that not only have the first changes been brought about by a two-way process, but they have been accepted because they are both immediately useful and can be seen as furthering some social value, whether indigenous or, more probably, new and useful."* (Jellicoe) This illustrates the need for knowledge of local conditions before processes of social change can be undertaken.

For deliberately induced social change, such as changes in sanitation patterns, water-use behaviour and personal hygiene patterns, not only to social systems have to be taken into consideration, but social values as well. In addition it must be affected by a two-way communication process, what has been described by Jellicoe (p 358) as *"persuasion involving the maximum participation of the people concerned."* Not only is it necessary for the "change agents" to know and respect the values held by the people, but they must also learn to understand what they mean to the people. Only then can new values, ideas and the associated practical changes be presented in such a way that *"the people can best grasp their import and make a meaningful synthesis for themselves"*. (Jellicoe, p 361)

At the basis of all attempts to change patterns of living must be the efforts to convince people of the necessity and worth of the changes to be introduced. The starting point for discussion must be the knowledge, values and world views of the people involved. The changes advocated must be compatible with



people's conceptualisation of their place in a changing world. *"Human beings have the right to live in a meaningful world. Respect for this right is a moral imperative for policy."* (Berger, 1976, p 193)

Lack of integration of inputs

The health education received came from various sources and most often had no connection at all with improvements to water supplies. Thus the most fruitful opportunity for promoting an understanding of the linkage water-health is wasted. The most that villagers had received in conjunction with improvements to water supplies was instruction on how to use the pump correctly and the restrictions against washing at the well site. There can be no set strategy for integrating the improvement of water supply with these other developmental inputs. Naturally wherever possible existing bodies and personnel should be utilized but the ultimate responsibility for ensuring adequate promotion and education must rest with the project staff. And such measures should be taken in connection with the actual installation of the improvement to ensure greatest possible impact.

An adequate knowledge base

At the basis of many failures in developmental efforts including health education, is the lack of knowledge of the details of everyday life in rural societies, knowledge which should be the starting point for planning improvements to living standards. Attitudes and beliefs concerning health and disease certainly belong to those. An adequate knowledge base on such areas as traditional beliefs and practices concerning health, nutrition, child-rearing, personal hygiene, etc is absolutely essential if meaningful inputs are to be made in rural societies, and if there is to be any possibility of these inputs being accepted and assimilated.

A basic requirement for health education programmes related to improved water supplies is intimate knowledge of the actual habits and patterns of water use, both at the source and in the home. In addition there is a need for detailed information on local attitudes to health/disease and the preventative and curative measures undertaken in the homes. Information on sanitary habits and toilet training procedures is also relevant. With such information as a starting point it would be possible to prepare a flexible health education programme adapted to the conditions of Singida.

A realistic programme

The constraints operating in Tanzania, which are hindering the achievement of health benefits can only be identified and counteracted if local conditions are investigated. For example, the shortage of all types of soap and its implication for personal hygiene; the implications of shortages of salt and sugar for oral rehydration programmes; the shortages of suitable containers (e.g. plastic buckets, sufurias, etc.) for water collection, boiling of drinking water and removal of drinking water from storage vessels. Only when these constraints are taken into account can a more appropriate, more effective health education programme be worked out.

All measures which are advocated to improve health must be assessed in the light of local realities. Measures which are promoted in other parts of the Third World, such as special rooms for bathing, the use of enamel basins and mirrors for personal hygiene and promotion of the aesthetic aspects of improving sanitary facilities are theoretically sound and highly commendable in many situations. However, in the Tanzanian context they appear almost irrelevant and certainly not feasible, when the standard of housing, the basic



household equipment, the economic standards of the households and even the goods which are available in the country.

It is far better to advocate small changes which are possible to carry out even in the poorest of households than to insist on more wide-sweeping changes which are practicably impossible. It is easy to dis-hearten even those women who are willing to attempt to improve health. Another constraint which has to be considered is the shortage of time for women to carry out the normal daily activities. Promotion of measures which will add to the women's work burdens will not be appreciated and implementation will be difficult.

One measure which has been advocated, as pointed out earlier, from the German times, is the boiling of drinking water. It would appear that very few households boil their drinking water, in spite of all the education they have received on the necessity to do so. As pointed out earlier, it is difficult for the women to understand the concepts of contamination and bacteria and thus they are not sufficiently motivated to spend extra time on both firewood collection and the boiling of water. Boiling of drinking water entails more organization from the part of the woman managing the household. It would appear unlikely in the near future that households will begin to boil drinking water, even if increased efforts are made in this area. An overall increase in living standard may be necessary before this measure will be undertaken. Instead of concentrating efforts on this, it might be more beneficial to place emphasis on other aspects which may be accepted and have some impact, for example simple improvements to sources such as hedges, better handling in terms of storage, removal from containers, etc. A great deal of the contamination which boiling water is to counteract probably occurs in the homes. Thus the risk can be reduced by appropriate measures here. Efforts should instead be made to recommend boiling of drinking water for children, especially infants.

More emphasis on personal hygiene

It is suggested in this study that a lot of diseases associated with water, e.g. diarrhoea and other stomach problems, are spread not so much by poor quality water but by poor hygiene. Given the standards of hygiene in many households it is surprising that the people are as healthy as they are. As pointed out in earlier section, hands are not washed after using the latrine or before preparing food. The women who prepare the food are also usually those who attend to the toilet needs of small children. Although hands are washed before meals, all household members use the same bowl of water with the result that contamination can be passed on from one to another. The same drinking vessel is used by all household members or water is drunk directly from the calabash. Overall personal cleanliness leaves a lot to be desired and probably the seasonal variation is great here. More attention to personal hygiene in health education programmes might bring results in the area of reducing diarrhoeal disease and general stomach problems, especially among small children.

Utilize all existing facilities

In attempting to promote the improvement to the water supply and health education and sanitation inputs, all possible sources of influence should be utilized, i.e. those mentioned in section 5.3 and in particular MCH and dispensaries.

Maternal and child health clinics

This particular health service is relatively well developed in Tanzania. Since small children in particular are at risk from water-related diseases



such as diarrhoea, eye and skin ailments, the MCH clinics would be ideal points of dissemination of information. Programmes to discuss the relation of water/disease and possible precautionary methods, as well as such aspects as oral rehydration should be designed, and carried out in cooperation with the MCH clinic staff. In particular emphasis should be placed on the need for preventative health care - the giving of adequate information to the women. When children are sick, the parents should be informed about the disease - causes, treatment and possible prevention for the future. Only in this manner can mothers be better equipped to keep their families, and especially small babies, in good health.

Dispensaries

Health assistants and dispensary staff should be enlisted to cooperate with health education inputs, not just at the time of the actual implementation of the improved supply but on a long-term basis. It may be necessary to arrange some seminars and training courses for these staff members (who are often poorly trained) in water-related diseases and sanitation and personal hygiene aspects. Of particular importance is the information aspect. All patients have a right to know what disease they are suffering from. Every opportunity should be taken to give information of the nature described above. Unfortunately today the situation often is that women are not even told what their children are suffering from, let alone possible causes and preventative measures. As a result their children are often sick with the same diseases, time after time having to return to the dispensaries for the same treatment. Information on simple home treatment could also reduce the number of cases where children become so sick that they must be taken to health care service or when their lives are at risk.



6. SUMMARY AND CONCLUSIONS

Water collection in rural areas is traditionally women's work, even if they are assisted to a great extent by children, especially girls. In spite of this, women have been consistently excluded from all dialogue about the priority of improved supply, the possible improvements, the implementation and arrangements for operation and maintenance. Unfailingly they have been involved in any "self-help" construction activities, but they have not always been reached with the necessary promotion or instructions or the proper use of the improved supply, nor with adequate water-related health education. The almost total exclusion of women from the whole process of improving water supplies may well be the most significant factor in the disastrous failure rate for improved supplies. If women are not included in the planning and implementation of the improved water source, as they have been in the past for traditional water sources, their motivation to use and maintain the new source will be limited.

The need to learn more about the situation of rural women and their felt needs and priorities is increasingly evident. This is an essential prerequisite if women are to be involved, if the planned change is to bring about an improvement of their living conditions and their social status in the rural communities.

The position of Wanyaturu women and its implications for development

Wanyaturu women have a relatively weak position in Nyaturu society. They are subordinate to their husbands and have limited access to resources such as information, credit, technological innovations. They play a very passive role in community affairs and traditional social norms require that they are outwardly deferential to men and do not express themselves at public meetings in the presence of men. These are obvious hindrances to involving them in social change as is the poor knowledge of Swahili of many Wanyaturu women.

Far from being a hindering factor in social change, Wanyaturu women were keen supporters of the literacy campaign in the 50s and have slowly undergone many changes. The women have a traditional women's association, which is a source of status and power and which could hopefully be mobilized in development programmes. Traditionally there has been a great deal of hostility and conflicts between men and women and at times between women. It is essential to understand the conflict situations, which do exist, to avoid increasing existing conflicts or creating new ones.

Improvements to water supply to date

Attempts have been made to improve water supplies, health standards and sanitation among the Wanyaturu since the early 1900s. Little effect has been achieved. While the Wanyaturu cannot be said to be opposed to change as such, they are unwilling to accept innovations which upset the traditional system too much, or which cost too much in terms of money, time and effort. If changes are to be made the advantages must be clear and the means of attaining the changes comprehensible. Communication at the level of individual households is crucial. So too is an adequate knowledge base on traditional conditions under which the communities live.

In addition, in planning improvements to water supplies, it is important to understand the great economic and emotional significance of livestock for the Wanyaturu. While the basis of their subsistence is the production of millet



and maize, the principal feature upon which the Wanyaturu agriculture depends is the systematic manuring of the arable land each year. Thus the cattle are an indispensable element in maintaining the agricultural system, as well as being a source of prestige, income and security, for both men and women. As a result water for livestock is of top priority for the Wanyaturu, sometimes even considered more important than water for domestic uses.

The water supply situation in the 3 villages

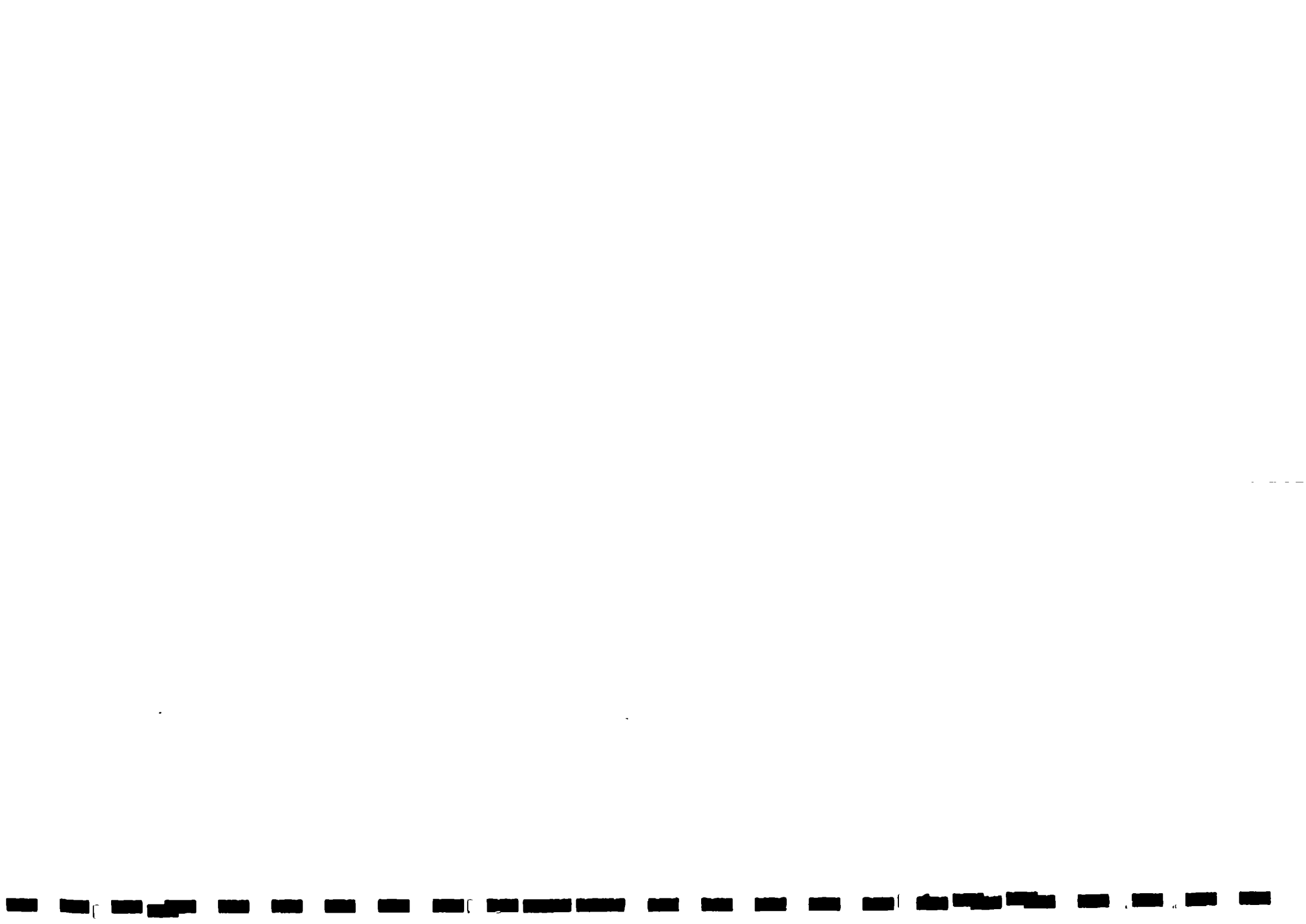
In all three villages the majority of households rely on traditional sources for their supply of water for domestic uses. This is in spite of the fact that two of the villages have already received improved supplies, according to the programme for improving water supplies in Singida. The traditional sources used are hand-dug unlined wells. The water is of questionable quality. While the supply is plentiful in the wet season, the sources sometimes dry out completely in the dry period, or the water seeps out very slowly, resulting in long queues at the wells. Separate wells are dug for cattle. Most domestic wells visited had no hedge or barrier to keep animals out, so that contamination from cattle, dogs and hyenas was possible.

One of the villages, Unyangwe, had an improved supply which was actually functioning at the time of the fieldwork. This village had received two foot pumps. One of these has been out of order since shortly after installation. The second pump has continued to function without problems. Unyanga village has a windmill which has a long history of breakdowns and slow maintenance. The second supply system planned for this village has never been finished and is unlikely to be completed due to inadequate supply of water. Nkhoiree village has not yet received any improved supply but a survey has been carried out.

The improvements which had been made in the two villages, Unyanga and Unyangwe, were totally inadequate. Two foot pumps in a village with a population of 1671 and one windmill supplying one domestic point and cattle trough for a village with a population of 2158, cannot possibly meet the needs of the communities. Even when the improved supplies are working, only a small percentage of the population benefits. Given the problems experienced with break-downs this percentage is lowered even further. It could be said that the impact of the improvements made was non-existent. Households using the improved supply and those using the traditional sources had similar water-use patterns and standards of health, hygiene and sanitation. The involvement of the communities had been minimal and almost no information at all (on planned improvements, use of improved supplies or health aspects) had been received. There was no integration at all with health education or sanitation inputs. Given these conditions it is not surprising that there is little impact.

The percentage of households actually using the improved supplies (when they are working) expressed satisfaction with the quality of the water. They claimed that stomach problems had decreased while the supplies were working. The main complaints about the improved systems were that they were inadequate for the needs of the community. There were also many complaints about the slow maintenance when the pumps or windmills broke down. The suggested improvements were to build more wells with handpumps so that they are closer to all households. Only a small percentage of households in Nkhoiree (which had not yet received any improved supplies) expected the government to deliver a piped supply.

The households in all 3 villages carried home very small amounts of water for domestic use. The average PCC was as low as 8.7 litres per person per day (with a range of 2.6 - 20 litres). However, it must be noted that most washing



of clothes was done at the wells and the amount of water used for this activity is thus not included in the PCC calculations above. In addition some bathing was also done at the sources. However, even allowing for those additional litres the PCC is still a far cry from the recommended 20 litres.

In addition to very low consumption, which did not appear to change noticeably when households were using improved supplies, the handling of water in the homes left a great deal to be desired. Standards of personal hygiene were very poor. Sanitation aspects are still unclear, as it is difficult to accurately estimate the actual usage of latrines in a short survey such as this one. However it is presumed that household members use the bush as much as they use the latrines, especially since many latrines were neither private nor safe enough for regular use. The standard of the latrines is very poor, in keeping with the general standard of housing. It was obvious that inputs in health education on relation of health to water, personal hygiene and sanitation are urgently required. Such inputs must be in conjunction with the improvement of the water supplies.

The health situation as revealed through the interviews with the 75 households is not good. There were lots of stomach problems experienced in the area, as well as bilharzia, malaria and some skin and eye diseases. Diarrhoea is also a problem though not all households considered it an important one. This must be related to the varying standard of personal hygiene in individual households, since diarrhoea is probably very often passed from one household member to another through poor hygiene - for example in preparation and serving of food, in the practice of all washing hands in one bowl of water before eating, in drinking from the same calabash or submerging hands in drinking water, and not washing hands after excretion.

The impact of the improved supplies on the women

In short it can be said that the impact of the improvements was almost non-existent. Because of inadequate coverage and poor functioning of those supplies installed, utilization was low. Only a small percentage of the women experienced increased convenience. Health benefits must be almost negligible, especially since many households using the improved supplies admitted to using traditional sources at times. Though some women did claim to have experienced a reduction of stomach problems in their families.

Because of the poor functioning and low level of utilization, the improved supplies in these two villages has very little impact on productive activities. For a few women there is a saving of time, and this time seems to be used for work tasks outside the home, even though the women themselves want and need more time for rest, domestic tasks and child care.

The improvements to water supplies in Unyanga and Unyangwe did not seem to have had any noticeable impact on women's general situation. This must be due to the fact that the level of participation of women (and indeed participation in general) was extremely low.

Women's perceptions concerning water supplies

By asking women what they considered their greatest burdens, it was possible to obtain an impression of their perception of the problem of water supplies. Not one of the women mentioned water collection as the greatest burden they experienced. The main burdens were rather agriculture, firewood collection and grinding flour. Of interest and relevance is the fact that when asked about the activities which they enjoyed, 20% of the women



mentioned water collection. Since firewood collection and gathering of wild vegetables were also mentioned as enjoyable activities, it is presumed that this is due to the possibility to get away from the house and meet with other women.

In spite of the fact that the problem of water supply was not first priority for the women, only 17% did not consider there was any need for improvement or could not suggest any improvement. The response of most women indicated that they saw the need for improvement to water supplies, namely in order to reduce health problems. However, there was still the attitude that the government should deliver the services promised, though as mentioned earlier only a small percentage still expected a piped supply. Shallow wells with hand or foot pump were quite acceptable to the majority of the women.

Some conclusions from the data

- Stimulate the involvement of women.

Theoretically it should not be difficult to involve women in the development of an area, which is traditionally theirs. However, given the traditional role of Wanyaturu women in community affairs, there are some serious hindrances. The overall subordination of women and the attitudes towards women's role (attitudes held by both men and women) will create obstacles and problems. What must be worked out are practical steps towards involving women, so that the resources women have in terms of knowledge and skills relating to water can be utilized.

- Encourage local initiatives.

Since it is possible for the people themselves to undertake measures, which can improve the water supply systems, every effort must be made to encourage this. In Tanzania today a more appropriate strategy for improving water supplies would appear to be a programme of improvements to traditional sources in order that all members of the community may benefit. In such a programme local initiatives and involvement would play a vital role.

- Build on existing traditional patterns.

For changes to be accepted and internalized, it is necessary to build on existing practices instead of trying to introduce a completely new pattern of living. In order to achieve this, a sound knowledge of traditional patterns of living is necessary. This includes an understanding of the motivations behind the existing patterns.

- Emphasize health/hygiene/sanitation aspects.

The data from the 3 villages would seem to indicate that the health education component is of vital importance. The lack of understanding of the relationship between water and disease and of the causes of the main health problems in the villages was somewhat disturbing. It would appear that there has been a general lack of emphasis on information and motivation, and in particular the women have been neglected.

- Give emphasis to practical aspects.

If improved water supplies are to bring about improvements to women's situation, a lot more attention needs to be given to aspects such as providing washing areas at the new sources so that women are not forced to carry a lot more water to their homes. The possibility of providing bathing areas would also be looked in to.



- Consider possibilities for improving water supplies for non-domestic uses. It is obvious that water for non-domestic use, in particular for livestock, is of great importance to both men and women. Therefore programmes for improvements to water supplies in Singida should attempt improvements of sources for livestock. The ideal situation would be a programme which improved all sources used within the community.

How to involve women?

- A more appropriate over-all strategy.

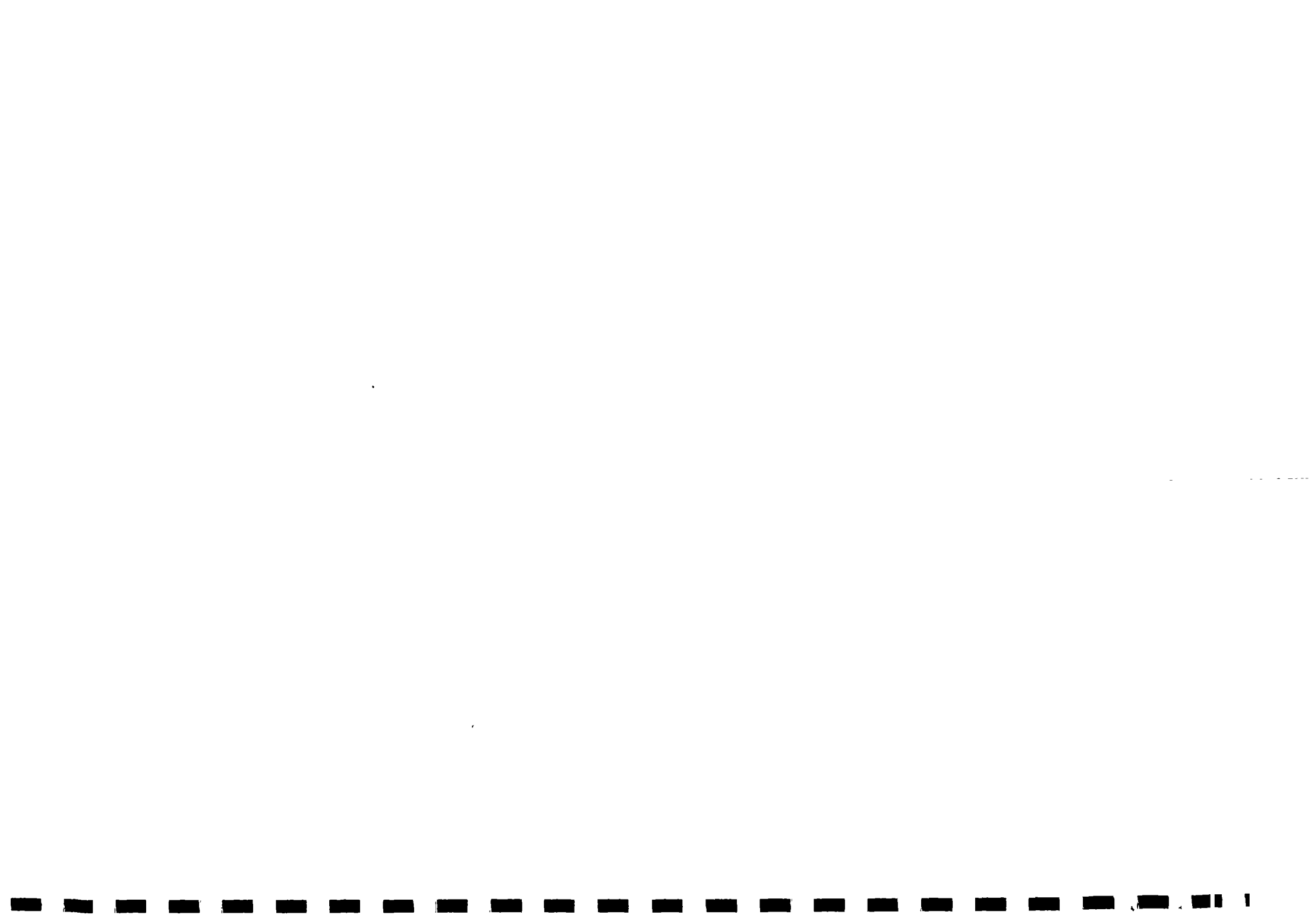
One of the most essential aspects for ensuring the involvement of women must be that the proposed strategy for improving water supplies is an appropriate one for the area in question. Changes which are impractical or incompatible with existing patterns of living will be immediately rejected. Above all the proposed improvement must offer advantages to the women, in particular in terms of improved convenience. The improvement of traditional sources strategy would appear to be a very positive one from the point of view of involvement of women. The technological innovations in most cases would be low-level and low-cost - very appropriate for women in the sense that high level technological innovations are usually taken over by the men. The water sources are already in use by the women and the problems of trying to make the women accept and identify with the improved sources are not relevant. Women's links with these sources are already established and they have a wealth of information on traditional sources which can be utilized. Their participation in planning, implementation, operation and maintenance can be facilitated. The women can, in a very natural manner, be involved in expressing their felt needs and in indicating the limitations of the existing sources and possible improvements. The strategy is based on existing traditional "user-choice" and opportunity can be given to women to make meaningful choices and suggestions. The women are not being asked to radically change existing practices - e.g. to abandon traditional sources and walk further to a supply point where there is probably a long queue because of inadequacy of supply points. They are asked to improve on existing practices. In most cases the changes would be small and comprehensible. Many of the changes can be implemented and maintained by the women themselves. The men can hardly be opposed to women's participation since the improvements are to resources already existing and utilized by the women. And through women actively participating in a developmental effort in the community there should be some development of self-confidence and perhaps a better acceptance by men of women's increasing involvement in community life.

- Special "women's projects"?

It is important that attempts to involve women do not only take the form of special "women's project" which, rather than improve the over-all position of women in rural societies, may increase their segregation. Women must be given the opportunity to participate as equal partners in development. Even if "all-women" projects did prove successful in terms of improving the water supply situation, the impact on other areas would probably be limited. In terms of integrating women into over-all development in rural areas and ensuring their participation in other projects, such a strategy could even have a negative effect. Special segregated projects can provide an excuse for failure to integrate all development projects. However, it is important that women must be seen as an essential target group and special steps will have to be taken to ensure their participation, just because they are a subordinate group and normal procedures do not require or encourage their participation.

- Practical implementation of women's participation.

If effective involvement of women in improving water supplies is to be achieved,



changes will be necessary at both the policy level and at the practical level of organizing and managing projects. The hinders to women's participation, e.g. social norms, limited time available, limited education and lack of knowledge of swahili, must be given adequate attention.

Some practical steps to ensure women's participation could include:

- a) employ female project staff
- b) involve village women in
 - village planning meetings
 - all-women meetings
 - village water committees
 - women's promotion groups
 - dance and drama groups
 - pump attendant and well caretaker programmes

To mobilize village women, every existing group should be utilized for example

- traditional women's groups
- UWT groups
- adult education and development groups
- religious bodies
- primary schools
- health-care facilities.

Importance of health education/sanitation components

The achievement of benefits for women from an improved water supply is dependent to a large extent on a realistic and adequate programme of supplementary inputs in terms of health education and sanitation improvements. These should be carried out in conjunction with the actual improvements to the water supplies. To date sanitation aspects have been almost totally neglected and health education inputs do not seem to have had the intended impact. This is exemplified by the sanitary conditions, standards of personal hygiene and incidence of disease and death in the communities studied in Singida. This would appear to indicate some kind of "communication gap" and calls for a rethinking of the aims and methodology of health education. In particular the women seem to have had inadequate access to the resource of information about the relationship water-health and the causes and prevention of disease.

In particular the motivational aspect of health education inputs has been lacking. There has been too much reliance on coercion as opposed to motivation. Real change cannot be brought about by establishing rules and regulations, e.g. by forcing people to change the pattern of living against their rules. To be effective the changes must be accepted and internalized by the people themselves. Motivation is extremely important in attempts at deliberately induce social changes, such as changes in sanitation patterns, water use behaviour and personal hygiene patterns. At the basis of all attempts to change patterns of living must be the efforts to convince people of the necessity and worth of the changes advocated. The starting point for discussion must be the knowledge, values and world views of the people involved. Otherwise change will be successfully resisted as experience in Singida illustrates so well.



Of importance in ensuring the success of health education/sanitation inputs are the following factors:

- integration of all inputs
- adequate knowledge base on traditional patterns of living
- emphasis on what is realistic and appropriate, given local conditions
- more emphasis on personal hygiene aspects
- mobilization of all existing resources, such as health clinics and dispensaries



BIBLIOGRAPHY

Åhman, Ingvar and Rosenhall, Leif 1978
The impact of rural water supplies in eastern and southern Africa
Stockholm: SIDA, 1978, 8 p.

Althorpe, R.J. 1970
People, planning and development studies
London: Frank Cass.

Andersson, Ingvar. 1982
Wells and handpumps in Shinyanga Region Tanzania, Dar es Salaam: BRALUP
University of Dar es Salaam, 65 p. (Research Paper No 77)

Andersson, Ingvar. 1983a
Wells and handpumps - the Shinyanga experience, 12 p.
(Paper presented at the Seminar on Water Master Planning in Developing Countries. Study Case Water Supply and Sanitation in Tanzania, 17-21 July, 1982, Telemark, Norway.)

Andersson, Ingvar. 1983b
Improvement of traditional sources: a realistic alternative, 13 p.
(Paper presented at a seminar held in Linköping, Sweden, May 29 - June 4, 1983
"Water for all. Coordination - Education - Participation.")

Andersson, Ingvar and Hannan-Andersson, Carolyn. 1984
Development of Domestic Water Supplies in Singida Region, Tanzania,
Past experience and future options, Dar es Salaam: Institute of
Resource Assessment, University of Dar es Salaam, 56 p.
(Research Report No 62)

Berger, Peter. 1976
Pyramids of sacrifice: Political ethics and social changes.
London: Penguin Books

Croll, Elisabeth I. 1979
Socialist Development Experience: Women in Rural Production and
Reproduction in the Soviet Union, China, Cuba and Tanzania
Brighton: Institute of Development Studies at the University of Sussex, 1979
(Discussion paper 143)

Germain. Adrienne. 1977
Women in development: Final consultancy report, March 8 - April 20, 1977.
Ford Foundation Internal Communication 25 March 1977

Germaine, Adrienne. 1978
Considerations of women in the two year plan 1978-80
Ford Foundation Internal Communication, 20 June 1978

Hannan-Andersson, Carolyn. 1982
Women, water and development in a Pare settlement, Tanzania
Dar es Salaam: BRALUP, 119 p. (Research Report No 52)

Hannan-Andersson, Carolyn. 1983
The ideal vs the reality: health benefits of improved water supply. How to
bridge the gap? 18 p.
(Paper presented at a seminar held in Linköping, Sweden, May 29 - June 4, 1983
"Water for All. Coordination - Education - Participation")



- Hannan-Andersson, Carolyn. 1984a
Development of domestic water supplies in rural areas: women the targets, 12 p.
(Paper presented at a Water Supply and Low-cost Sanitation Course held in Dar es Salaam, 9th January - 3rd March, 1984)
- Hannan-Andersson, Carolyn, 1984b
Development of domestic water supplies in rural areas: How to involve village women, 10 p.
(Paper presented at a Water supply and Low-cost Sanitation Course held in Dar es Salaam, 9th January - 3rd March, 1984)
- Jellicoe, Marguerite. 1978
The long path, a case study of social change in Wahi, Singida District, Tanzania. Nairobi: EAPH, 364 p.
- Lele, Uma. 1975
The design of rural development: lessons from Africa
Baltimore: John Hopkins University Press for World Bank.
- Makiungu Hospital, Singida, Tanzania. 1984
(General Report of services and activities)
Singida, 1984. 19 p + appendix
- Mbilinyi, Marjorie. 1976
Women as labour in underdevelopment
(Paper presented at conference on women and development at Wellesley College, USA)
- Nelson. Nici ed 1981
African women in the development process
London: Frank Cass, 136 p.
- Nelson. Nici. 1979
Why has development neglected rural women? A review of the south Asian literature. London: Pergamon Press, 1979. 108 p.
- Omari, C.K. 1973
Less developed interior area. Singida District.
In: Tanzania National Scientific Research Council, The young child in Tanzania. Report on a study of the young child in Tanzania from conception to seven years. Dar es Salaam, pp 315-367.
- Omari, C.K. 1977
Youth in less developed interior area. Singida District.
In: The Tanzanian National Scientific Research Council, The young child in Tanzania age 7-15, Dar es Salaam, 1977, pp 343-361.
- Omari, C.K. and Kitilia, L. 1976
Traditional childcare practices: The Wanyaturu
Tanzania notes - Records No 77 and 78, 1976, pp 65-72.
- Palmer, Ingrid. 1975
Women in rural development, unpublished paper.
- Rigby, Peter. 1978
Introduction, Jellicoe, Marguerite, q.v.

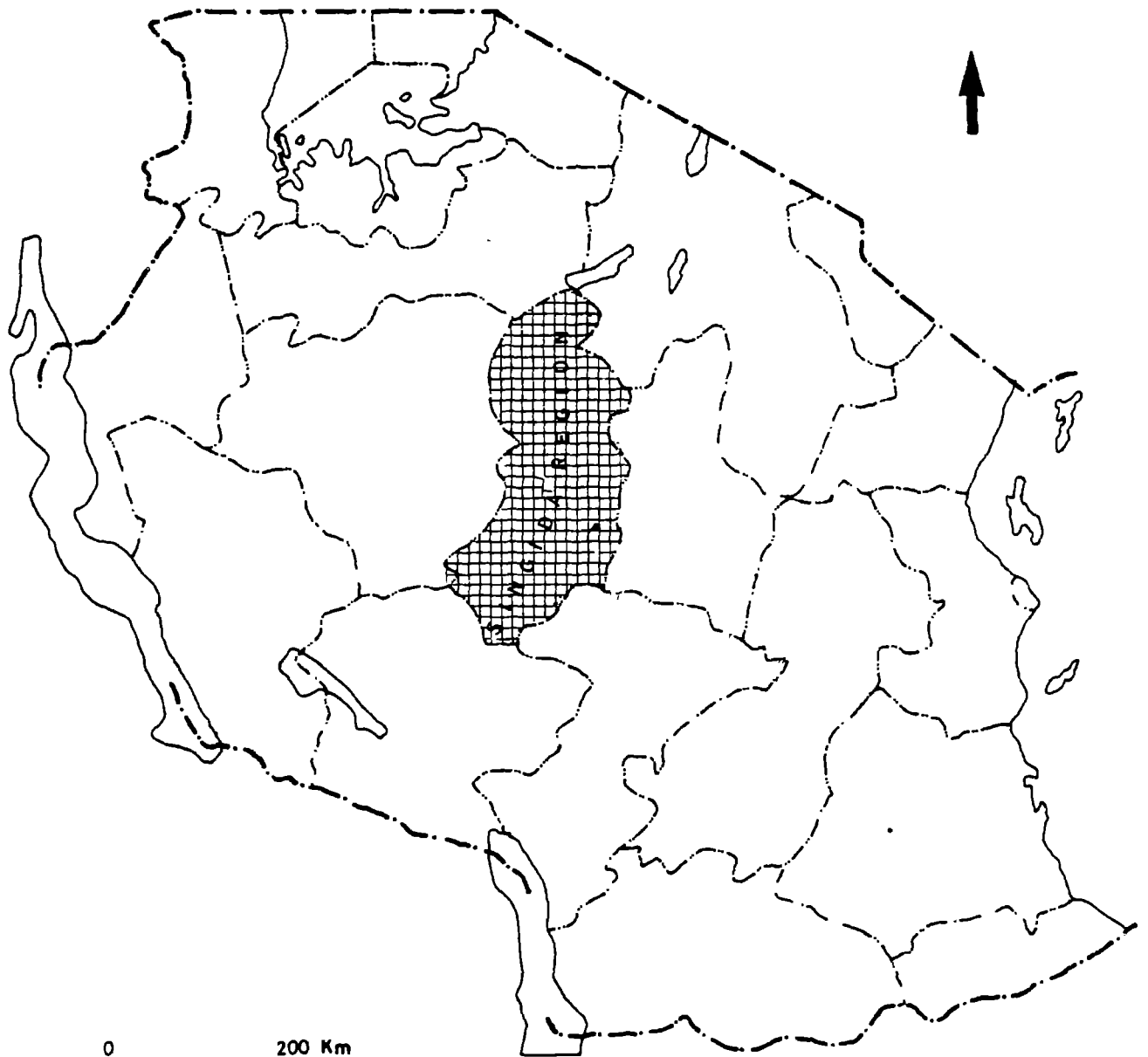


- Roark, Paula. 1980
Successful rural water supply projects and the concerns of women
Washington DC: AID/WID, 64 p.
(Office of Women in Development, Agency for International Development)
- Rogers, Barbara. 1980
The domestication of women. Discrimination in developing societies.
London. Tavistock Publications, 200 p.
- Saunders, Robert and Warford, J. 1976
Village water supply: Economics and policy in the developing world
Baltimore: John Hopkins University Press, for the World Bank, 279 p.
- Schneider, Harold K. 1970
The Wahi Wanyaturu. Economics in an African society
New York: Wenner-Gren Foundation for Anthropological Research, 180 p.
- von Sick, E. 1916
Die Waniaturu (Walimi), Berlin: Baessler-Archiv. (Vol. V)
- Tinker, Irene. 1976
Development and the disintegration of the family
Assignment Children. No 36 Oct-Dec 1976:29-37
- Tobisson. Eva. 1980
Women, work food and nutrition in Nyamwigura Village, Mara Region, Tanzania, Dar es Salaam: Tanzania Food and Nutrition Centre, 127 p.
- UN Office of Technical Cooperation. 1975
United Nations assistance in women's activities, Botswana: Based on the work of Karan Poulsen, New York.
- WHO (1983)
Minimum evaluation procedure (MEP) for water supply and sanitation projects, Geneva, 1983, 51 p.

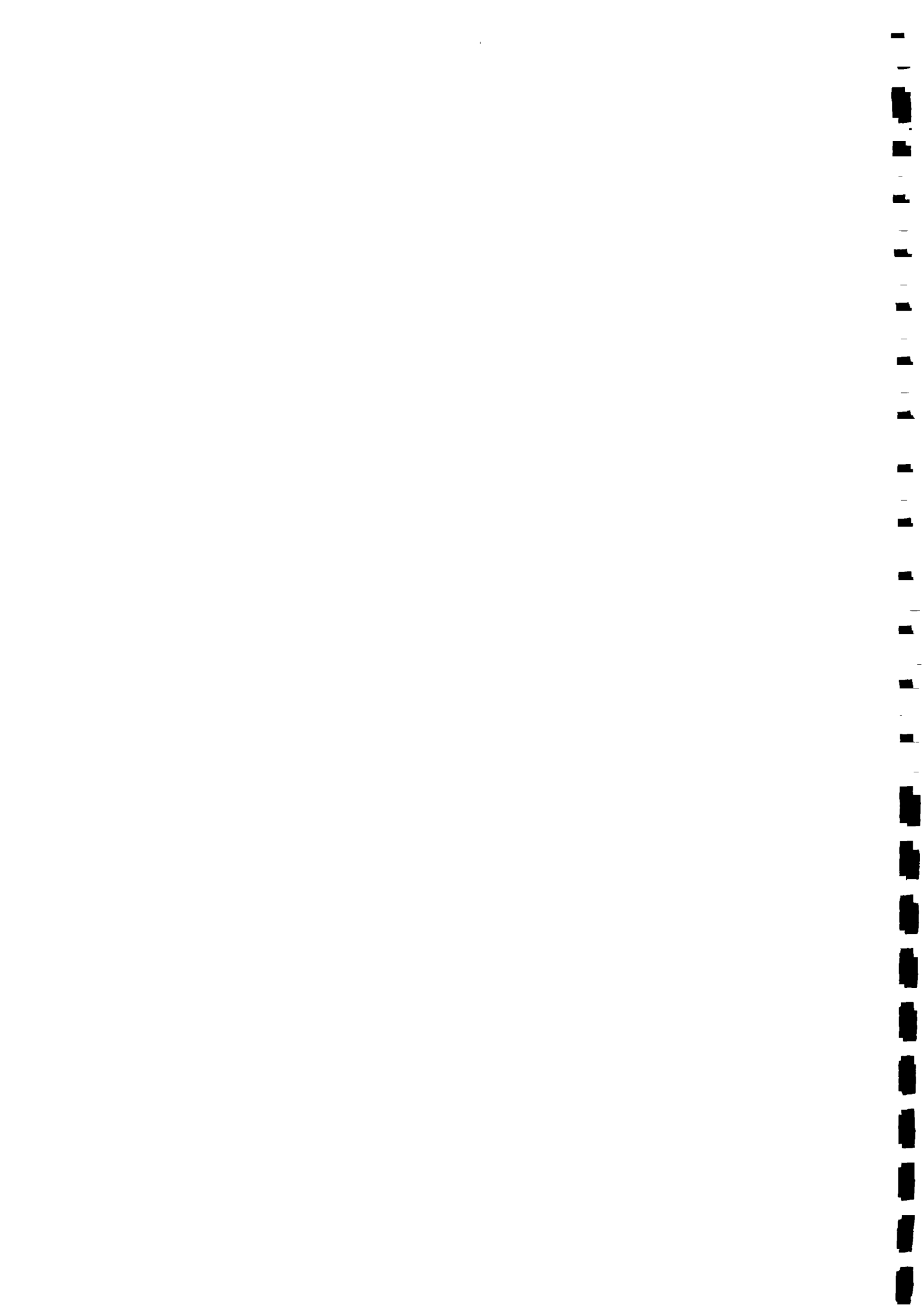


Map 1

TANZANIA ADMINISTRATIVE AREAS 1982

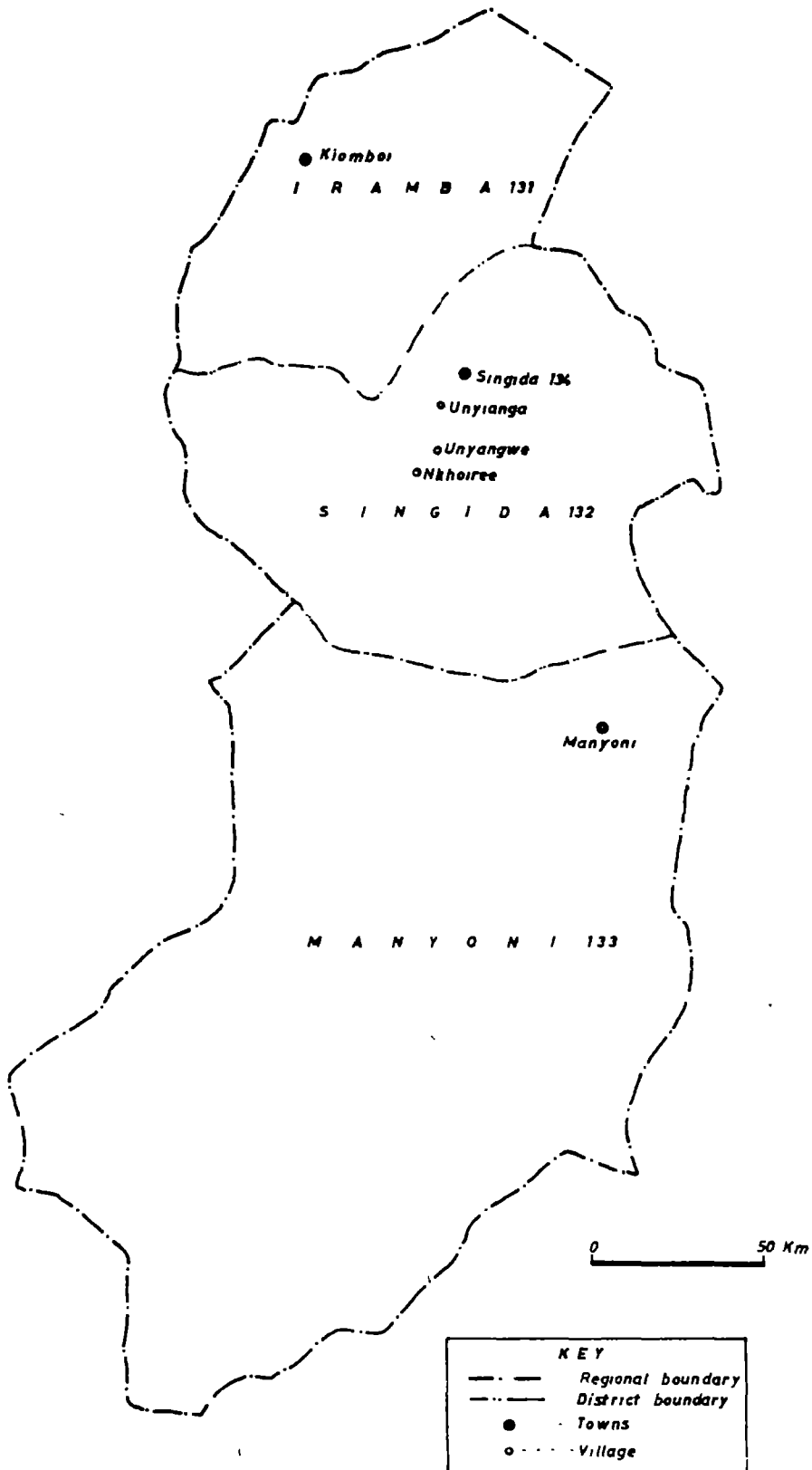


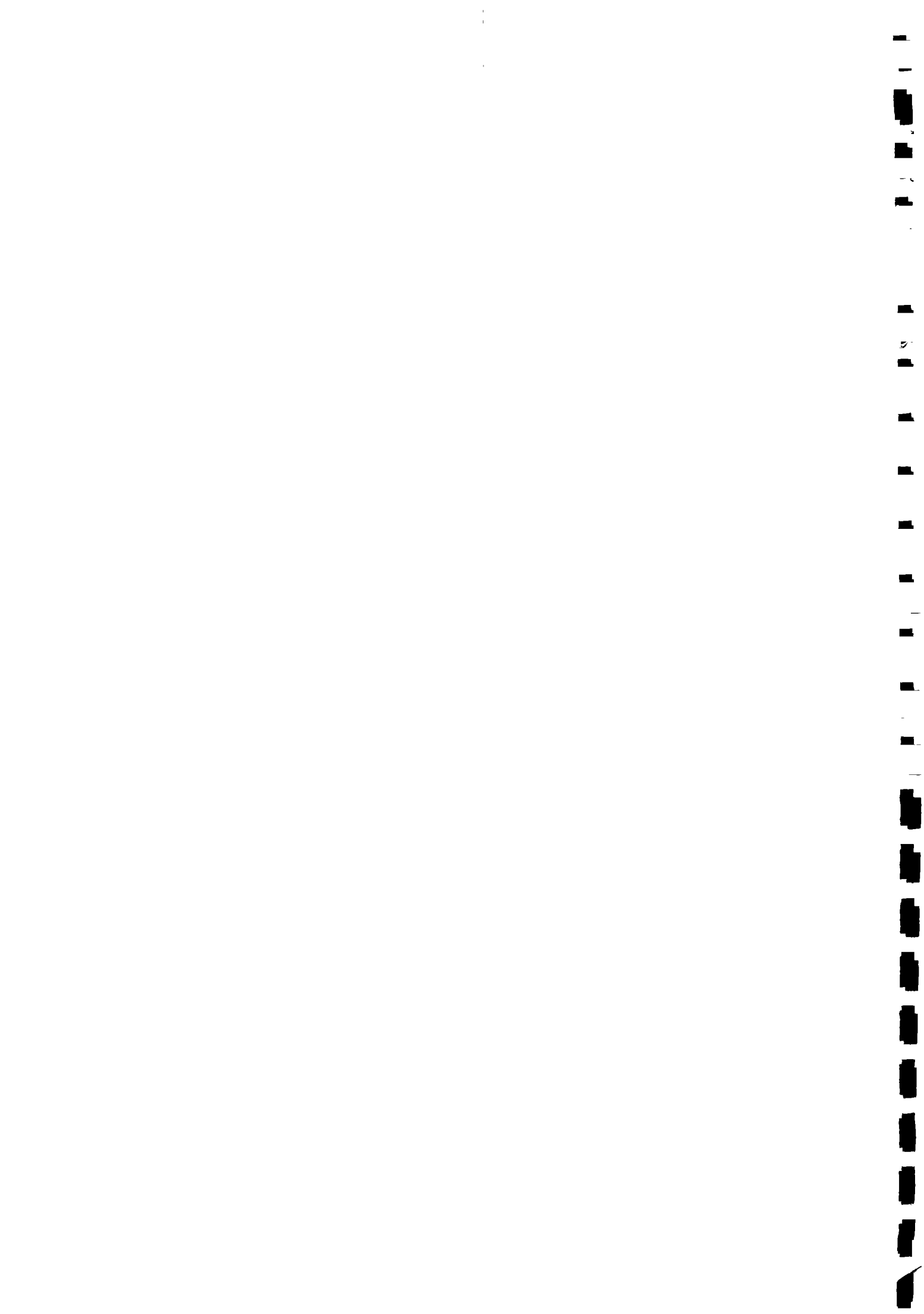
--- International Boundaries
- - - Regional Boundaries



Map 2

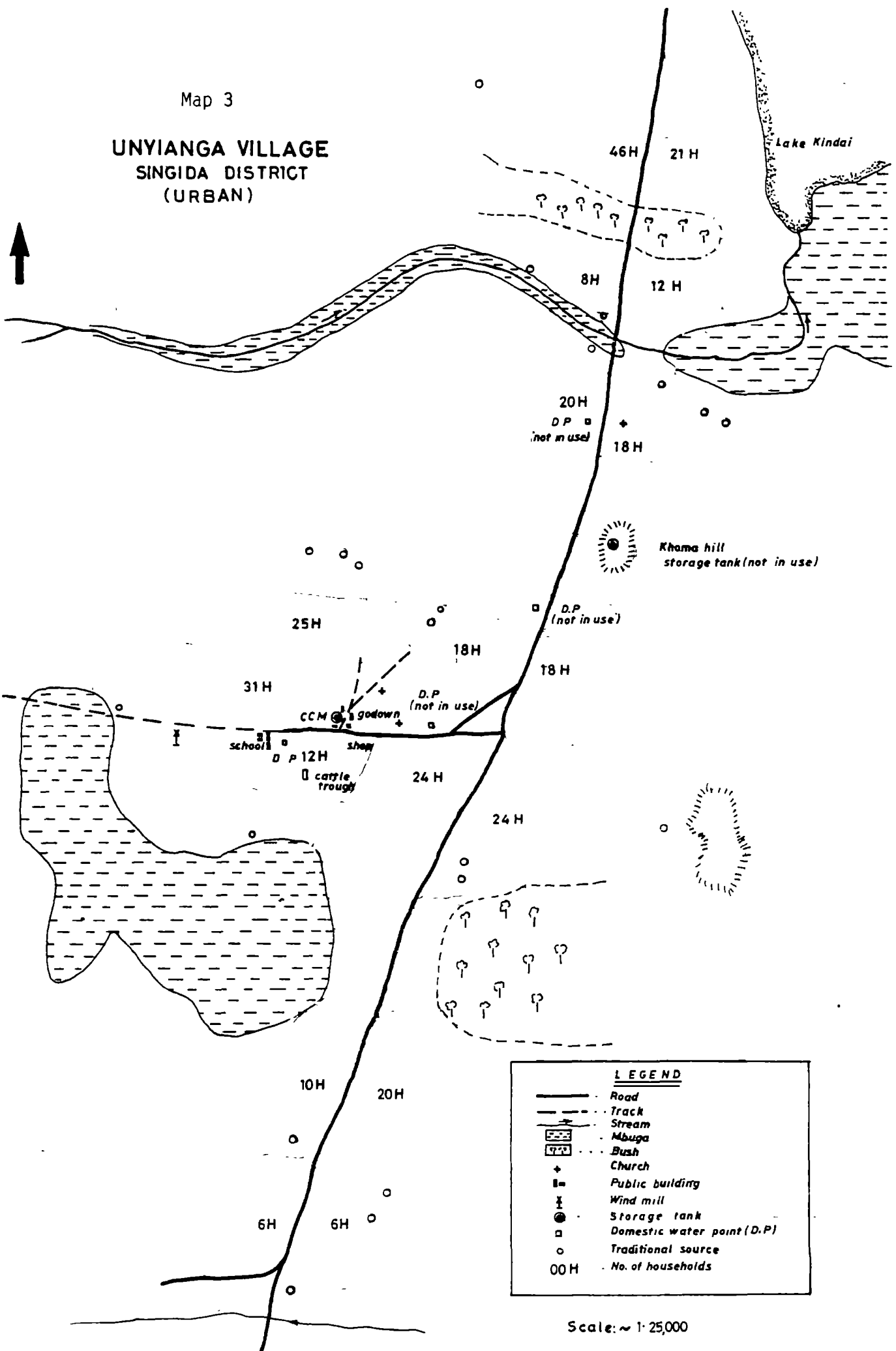
SINGIDA REGION





Map 3

**UNYIANGA VILLAGE
SINGIDA DISTRICT
(URBAN)**

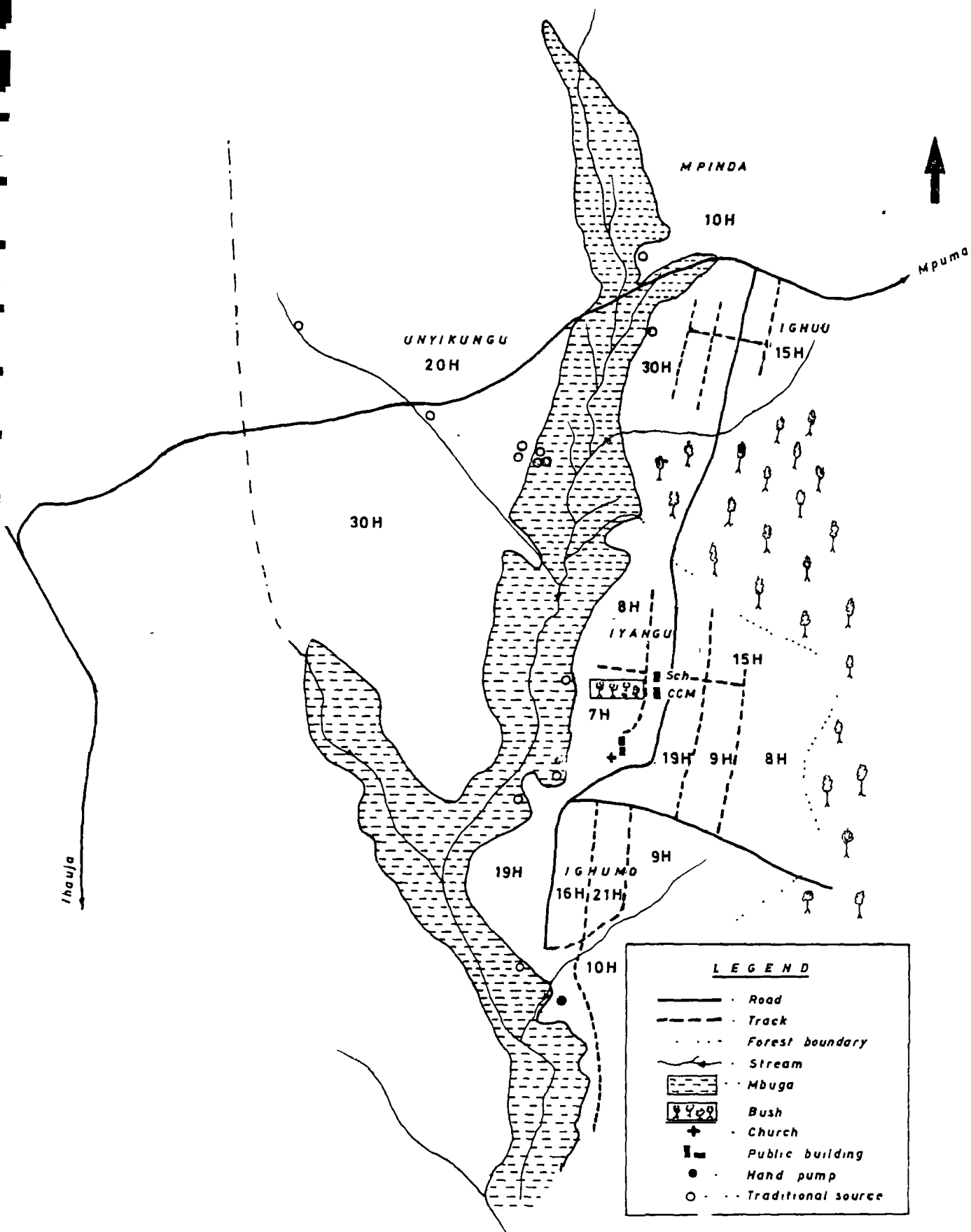


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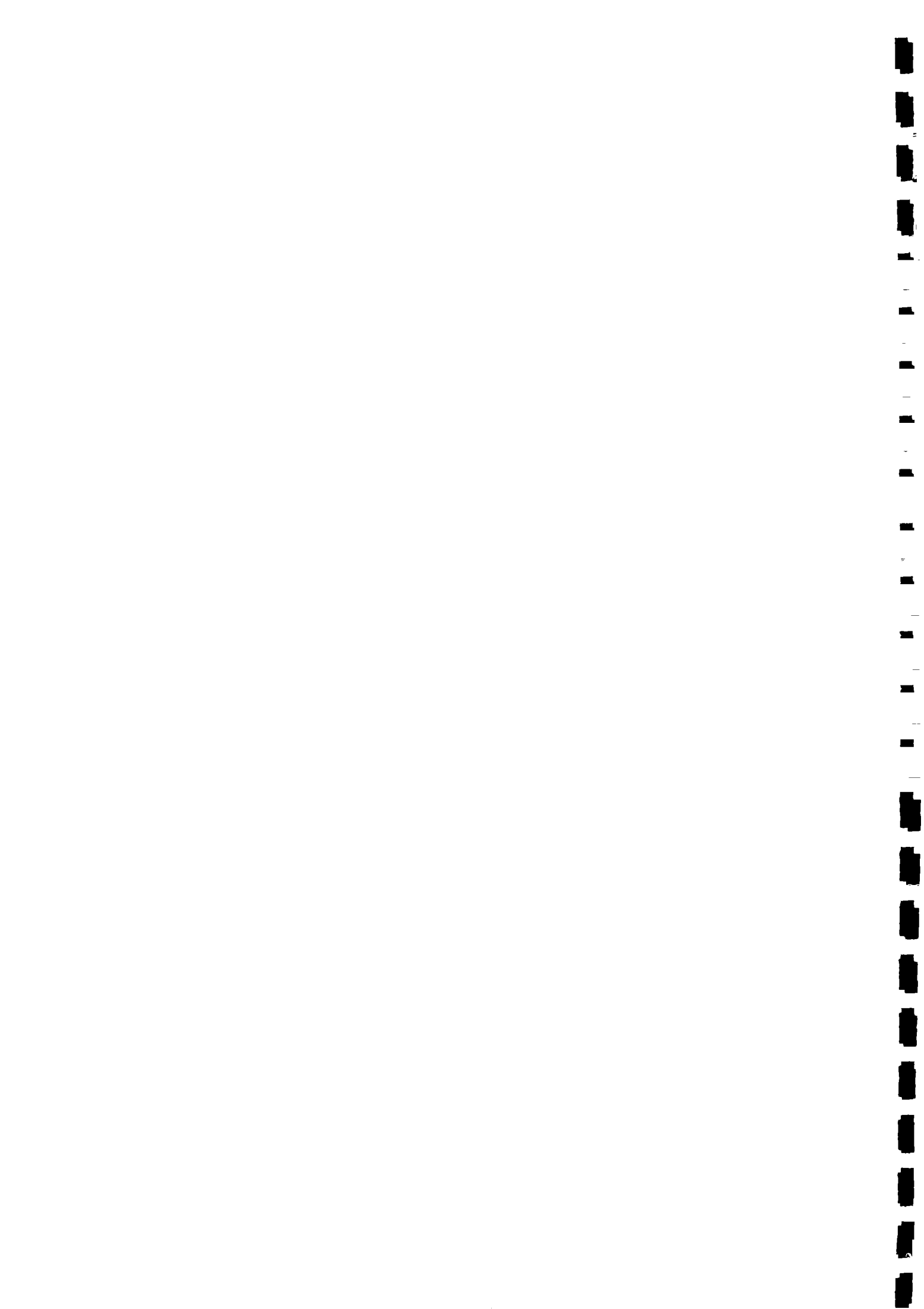


UNYANGWE VILLAGE
SINGIDA DISTRICT

Map 4

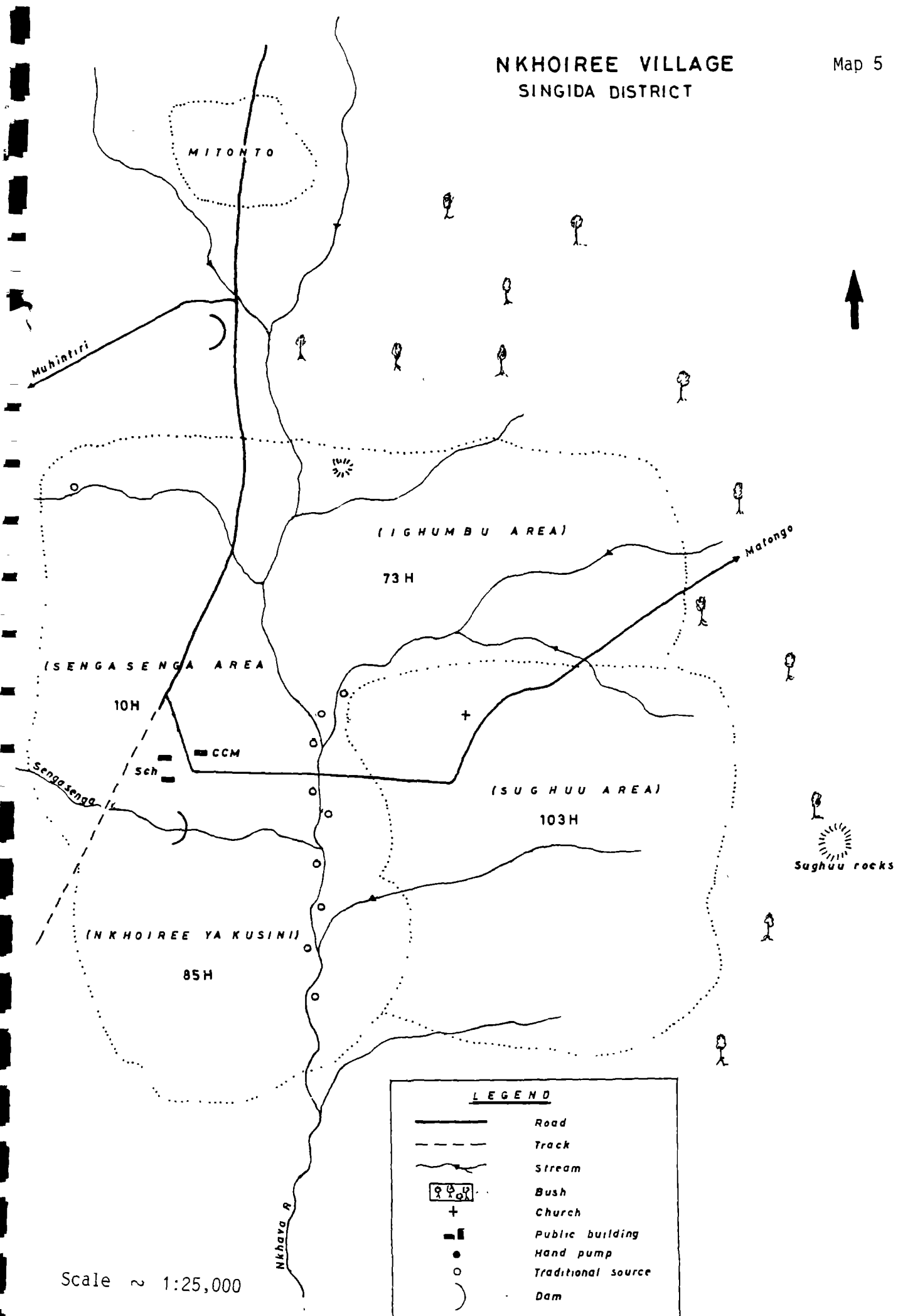


Scale ~ 1:25,000



NKHOIREE VILLAGE
SINGIDA DISTRICT

Map 5



Scale ~ 1:25,000

LEGEND	
	Road
	Track
	Stream
	Bush
	Church
	Public building
	Hand pump
	Traditional source
	Dam



