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MASTER OF SCIENCE THESIS

Management of Communal Grazing Land

A case study on institutions for collective action
in Endabeg village, Tanzania

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Division of Regional Planning

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KUNGL TEKNISKA HÖGSKOLAN
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Minor Field Study
scholarship programme

This study has been carried out within the framework of the Minor Field Studies (MFS) Scholarship Programme, which is funded by the Swedish International Development Cooperation Agency, Sida.

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ABSTRACT

From a selection of literature on natural resource management, Elinor Ostrom's (1990) set of design principles, characterising long-enduring institutions governing common-pool resources, is chosen as a template for making a rapid but structured assessment of the institutional performance in one field setting – management of grazing land in Endabeg Village, Tanzania. Field data, collected through informal observations and semi-structured interviews with a non-random sample of key informants, is presented, as well as information gathered from secondary sources. Each of Ostrom's eight design principles is analysed and valuated, with regard to representation in the field setting. Summarising the analysis of grazing land management in Endabeg Village and its surroundings, the lack of a coherent system of nested enterprises turns out as an Achilles' Heel for institutional development. The overall institutional performance is on separate terms assessed a failure, by use of a small set of non-complicated indicators. A concluding judgement of the local institution in Endabeg would read: Bad performance but good prospects. Important prerequisites are fulfilled, and external factors do not pose any insurmountable hinders to institutional improvement. Eventually, the present case of Endabeg is placed in context together with a selection of case studies presented in Ostrom's book. The valuation of design principles, put together with the brief assessment of overall institutional performance, proves to coincide well with Ostrom's existing correlation pattern between representation of design principles and institutional performance. Prevalence of traditional institutions parallel to the modern administration in the chosen field setting raises a discussion about loopholes contained in the chosen template, and the way such loopholes make the field data collector vulnerable to omission of large sets of significant information. Ostrom's methodological framework is suggested to contain opportunities for further studies within the same field.

KEY WORDS

AGROPASTORAL, BABATI, COMMON-POOL, COMMONS, GOROWA, IRAQW, OPEN ACCESS, OSTROM, SUB-VILLAGE

ABBREVIATIONS

AEZ	Agro-Ecological Zonation
BDC	Babati District Council
CBFM	Community-Based Forest Management
CCM	*Chama Cha Mapinduzi* [The Revolution Party]
CGA	Communal Grazing Area
CGA-I	A relatively large grazing area in Kitangyaro subvillage, Endabeg
CGA-A	A grazing area in Ayaaben subvillage, Endabeg
CGA-E	A grazing area in Endashangwe subvillage, Endabeg
CPR	Common-pool resource
DSM	Dar-es-Salaam
LAMP	Sweden-Tanzania Local Management of Natural Resources (Sida programme)
RELMA	Regional Land Management Unit (Sida/East Africa)
SVCh	Subvillage Chairman
Sida	Swedish International Development Cooperation Agency
TSH	Tanzanian shillings (USD 1 ~ TSH 800 in September-December 1999)
VCh	Village Chairman
VEO	Village Executive Officer

ABOUT THIS PROJECT

Idea and Preparation

The original idea to this study project was born from my personal desire to gain experience of the so-called developing world in combination with a graduate thesis work. With Sida's Minor Field Study (MFS) grant in mind I first, in November 1998, contacted Mr Tommy Österberg at Swedesurvey for a discussion on the possibilities of a thesis project within the fields of land tenure and environmental protection. No suitable project was available through Swedesurvey, but Mr Åke Sinström gave the idea of contacting Mr Torbjörn Öckerman, then Home Co-ordinator for the Tanzania branch of Orgut Consulting Ltd. We agreed that Orgut's activities within rural development and local land management[1] were more in line with the preliminary study proposal than Swedesurvey's institutional development schemes on a national level. Mr Öckerman had no immediate objections to the proposal but he requested a more thorough description of the project idea. In due time for the MFS grant application deadline (December 1:st 1998), Orgut signed a Field Supervisor Contract granting support from local personnel during the course of the field study. From this point and on, I developed the project plan rather independently.

T.D. Semida Silveira at the Stockholm Environment Institute first held the task of principal supervisor. Professor Folke Snickars at the department for Regional Planning at the Royal Institute of Technology (KTH) accepted to be examiner of the thesis, and he later overtook the role of principal supervisor.

On a still early stage (January-February 1999), contacts were established on the departments of geography at Stockholm and Uppsala University. Students and researchers at these departments have in recent years conducted extensive field research on land tenure-related issues in rural Tanzania, especially in Babati District. Due to the contacts made, and to the fact that Orgut Ltd has a field office in Babati Town, the choice fell on Babati District as the location for the field study.

Through post graduate student Lowe Börjeson at the Department of Human Geography, Stockholm University, contact was established with post graduate student Louise Simonsson at the Department of Physical Geography and with Ph D Clas Lindberg at the Department of Human Geography, both at Uppsala University. Among other things, Ms Simonsson proposed one of 'her'

villages in Babati District – Endabeg – as a study object. Dr Lindberg, with research experience from Babati District, eventually accepted the role of assistant supervisor.

District Advisor Gösta Eriksson, District Agricultural Advisor Calyst Kavishe and Associate Expert Maria Nordström at LAMP Support Office/Orgut Ltd in Babati agreed to support me during the fieldwork phase of the project. Mr Eriksson also helped establish the contact with Babati District Council and the District Executive Director, Ms Lucia Ngilorit, who sent a formal invitation (a fax dated 26/08/99) to stay and conduct a field study in Babati District during the autumn of 1999.

Implementation

I arrived in Zanzibar on the 17th of September 1999 and spent the next two weeks on the island, attending Swahili classes for a private teacher as a part of the fieldwork preparations. Thereafter, in Dar-es-Salaam, one week went to searching through the reference library at Orgut's headquarters, and notifying the Swedish embassy of my study intention etceteras. On the 12th of October, after one and a half day of bus rattling through the country, I landed at Babati Coach Station and was met up by Mr Eriksson.

A former development worker residence in Babati Town, about twenty minutes' drive from Endabeg Village, became my home for the next two months, as I engaged in the fieldwork. My work during this period consisted mainly of interviews and information search in the particular village under study, but also in neighbour villages, in town, at Babati District Council, as well as in other places.

On the 10th of December, a final feed-back meeting chaired by Village Chairman Mr Ndege Qwaray was held in Endabeg Village office, with the purpose of declaring my findings on the issue of grazing land management and giving the respondents opportunity to come up with amendments. Attending the meeting were my two interpreters/co-workers Ms Mwanaidi Bakari and Mr Henry Kessy, parts of the Village Council and a few other interviewees.

Four days after the meeting, I left Babati for an interview in Arusha and a visit at the Regional Land Management Unit (RELMA) of SIDA in Nairobi. Between January 4-14, after Christmas vacations in Uganda and Kenya, I spent my most of my working hours as a guest student at the University of Dar-es-Salaam, courtesy of the Institute of Resource Assessment. I also had opportunities to meet and discuss my findings with key persons at several agencies, authorities and private offices in Dar-es-Salaam, before returning to Sweden on the 16th of January 2000. In addition to the information collected during travel a few interviews were conducted with key informants in Sweden, both before and after the journey.

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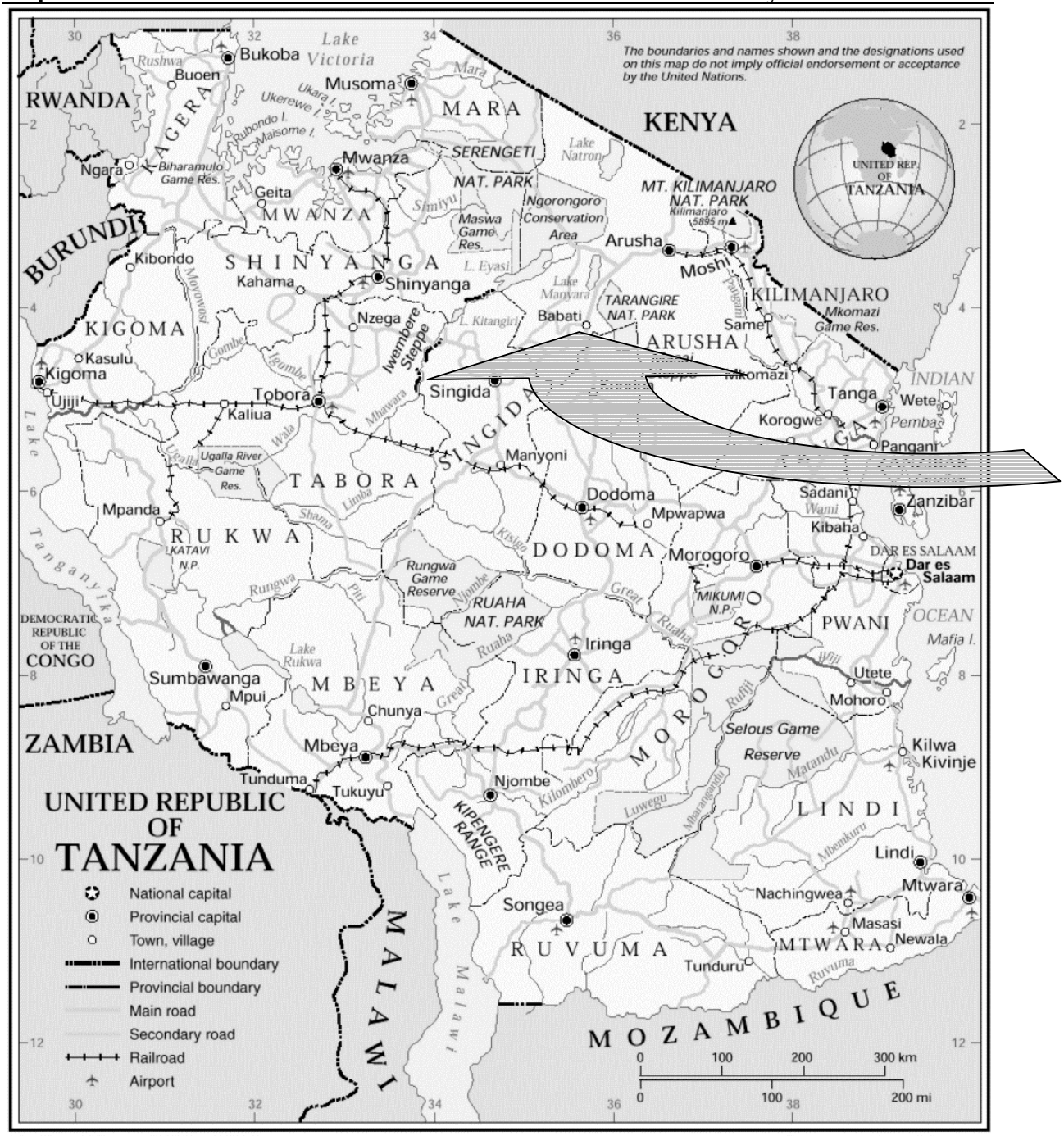
[1] Orgut were contracted for Sida's Land Management Program (LAMP) in Tanzania 1997-2000.

Map A **The field study location in Tanzania**



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ACKNOWLEDGEMENTS

During all different phases of the project, I enjoyed plenty of support and co-operation. This of course contributed a great deal to the quality of the study results, as well as it surely boosted the quality of my stay in Tanzania. I would like to send special thanks to the following persons:

In Endabeg Mr Ndege Qwaray, Mr Banga Michael, Mr Jonah Samson, Ms Pascalina Tluway, Ms Ester Hangy, Mr Sabas Amor, Mr Thomas Margwe, Mr Margwe Baqayo, Mr Baran Qamara, Mr Matayo Senyau, Ms Rahel Lawy, Mr Tluway Onna, Mr Daniel Shauri, Mr Alphonse Hali, Mr Leonard Suley, Mr Phaustin Qwaray, Mr Joseph Siima, Mr Matayo Hera and Mama Filda.

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Last but not least, I would like to thank my two supervisors Folke and Clas for their patience and for an insightful guidance through the report-writing process.

Stockholm 3.17.2001,

Tobias Nilsson

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6. DISCUSSION

UONGOZI WA MALISHO SHIRIKA - MFANO WA VIKUNDI VYA USHIRIKA KATIKA KIJIJI CHA ENDABEG, TANZANIA

Translation : Othmar Mng'ong'o

Utangulizi

Sehemu nyingi za kufugia wanyama katika nchi ya Tanzania, zinapungua. Hali hii inasababishwa na kuongezeka kwa matumizi mengine ya ardhi kama kilimo. Sehemu nyingine kama Kusini ya Kati ya Wilaya ya Babati, ambako kilimo ndiyo msingi wa kupatia chakula na fedha, sehemu za kufugia wanyama zimepungua sana. Katika maeneo haya sehemu za kufugia zilizobaki ni zile ambazo zimo katika ardhi ambayo haifai kwa kilimo.

Hata hivyo uchumi wa sehemu nyingi, hasa unaohusu jamii ya watu wanaoishi vijijini, Tanzania bara, unategemea ufugaji, na mara nyingi watu wanaliona tatizo la upungufu wa ardhi ya kufugia kama ni tatizo kubwa ambalo linahitaji kuangaliwa upya. Mpaka sasa ardhi ya kufugia inaonekana kuwa ni mali ya wote; sawa na raslimali ambayo "haina mwenyewe" (Ostrom, 1990). Kila mtu anayohaki ya kupeleka wanyama wake kwenye malisho yaliyopo katika ardhi hiyo; wakati mali asili nyingine kama misitu na mbuga za wanyama zimetungiwa sheria na zinatumika katika kulinda sehemu hizo. Hali hii inafanya tuwe na shauku kubwa ya kujua zaidi namna gani, ardhi ya kufugia iliyobakia kama inaweza ikatumika katika mfumo wa pamoja, na kuwa mali miliki ya pamoja.

Repoti hii ni matokeo ya utafiti mdogo, ambao lengo lake lilipelekea kupata tuzo ya Shahada ya Juu ya Sayansi katika fani ya Upimaji Ardhi. Kijiji cha Endabeg, kilichopo katika Wilaya ya Babati kilichaguliwa kama mfano wa mafunzo haya. Kanuni nane muhimu za Elinor Ostrom (1990), zinazohusu uendeshaji na udumishaji wa mali asili, inayotumika kwa ajili ya wote, na vikundi vya ushirika vya kudumu, zimechukuliwa kama mwongozo wa kuweza kujifunza nini kinatokea Endabeg kuhusu malisho shirika (Jedwali 5.1). Lengo kuu muhimu lilikuwa ni kutoa na kuangalia majibu ya maswali nane kuhusiana na Kanuni za Ostrom ili kupima kama kanuni hizi zinafuatwa katika kuendesha malisho shirika katika kijiji cha Endabeg.

Njia (Method) ya Mafunzo na Mipaka yake

Mafunzo yalianza mwezi wa Oktoba 1999. Siku tatu za mwanzo zilitumika katika kuzunguka pale kijijini. Hii ilikuwa na nia ya kujua eneo la mafunzo na mipaka yake, pamoja na kujijulisha mwenyewe. Katika kijiji cha Endabeg kuna vitongoji vinane na kila kitongoji kina mwenyekiti wake.

Wiki iliyofuta kila Mwenyekiti wa Kitongoji alitembelewa nyumbani kwake na kuulizwa maswali ambayo yalikuwa ni sehemu ya dodosi. Wenyeviti hawa walitoa picha halisi ya maswala yanayohusu malisho ya mifugo katika sehemu mbalimbali za kijiji. Dodosi iliyotumika ni ile ya maswali na mazungumuzo (semi-structured). Mwongozo wa maswali ulishatayarishwa kabla, ili kuruhusu ulinganishwaji wa maswali na majibu. Hata hivyo hii haikuzuia maswali yaliyokuwa yanajitokeza wakati wa mazungumzo. Dodosi kamili imeonyeshwa katika Jedwali 2.1. Kwa nyongeza tu watu wote pale kijijini tulikuwa tunazungumuza hata bila kupanga nini na ni wakati gani tuzungumuze.

Kabla ya kuondoka kurudi Uswidi, watu wote 40 ambao walishiriki katika dodosi walikaribishwa kwenye mkutano uliofanyika katika ukumbi wa CCM kwa mazungumuzo_zaidi. Hii ilikuwa ni pamoja na kuhakikisha kama habari zilizo kusanywa na mambo mengine ni sahihi.

Matokeo na Mchanganuo

Ufuatao ni muhtasari mfupi wa dodosi, mambo yalikusanywa na mchangnuo uliofanywa kutokana na matokeo haya. Kama ilivyotajwa hapo juu, lengo la utafiti huu ni kupima au kulinganisha, namna gani kanuni nane za Ostrom zimefuatwa katika uongozaji/uendeshji wa malisho shirka katika kijiji cha Endabeg.

1. Mipaka ya Kijiji imeonyeshwa vizuri, kwa kutumia alama asilia kama mito, barabara, na madaraja pamoja na mawe ya zege. Hata hivyo mipaka ya malisho shirika haijulikani vizuri. Pia mipaka ya sehemu ya utawala katika ngazi ya vitongoji, nayo haikuonyeshwa. Katika kijiji hiki matumizi ya ardhi ya malisho kwa mtu binafsi hayana mipaka. Kutokana na dodosi iliyofanywa, kila mtu ana uhuru wa kupeleka mifugo yake malishoni kwa wingi atakavyo bila kusumbuliwa. Kwa maana nyingine hakuna sheria inyomzuia mtu kupeleka wanyama wake malishoni. Kwa matokeo haya Kanuni ya kwanza ya Ostrom kuhusu uongozi wa malisho shirika katika Kijiji cha Endabeg haifuatwi.

2. Kutokana na maoni ya Ostrom (1990), ili sheria ya ardhi iwe na nguvu na iweze kufanya kazi yake sawasawa, lazima itungwe kulingana na hali halisi ya jamii ya mahali hapo. Kwa kuwa hakuna sheria zinazotumika kuendesha shughuli za ufugaji katika kijiji cha Endabeg, ni vigumu kuchunguza kanuni hii. Hata hivyo wazo la wanakijiji la kuzuia milima kwa ajili ya malisho, lililojitokeza wakati wa dodosi limewafanya mabwana mifugo na wahisani kutolifumbia macho. Wahisani ambao wanafanya shughuli zao katika kijiji cha Endabeg ni pamoja na *LAMP, Forest Trees and People (FTP),* au *Heifer Project International (HPI).* Sababu ya kutofanikiwa kwa mawazo haya ya wanakijiji ni pamoja na ushauri ambao hautilii maanani hali halisi ya kijiji.

3. Uwezekano wa kuwafanya watu walioathirika na matokeo ya mwenendo wa matumizi ya malisho holela kujiunga pamoja, katika maswala yanayohusu uboreshaji wa utumiaji wa malisho upo. Sehemu

kubwa ya matokeo ya dodosi imeonyesha kuwa Mkutano Mkuu wa Kijiji, ambapo mambo yote yanayohusu maswala ya kijiji hufanyika na miongozo kutungwa (Sheria ya Serikali za Mitaa, ya 1982), huwa unajulishwa tu sheria mpya ambazo zimeshatungwa na Serikali za Mitaa. Kwa upande mwingine, mifano mingi imeonyesha kuwa mikutano inayofanyika katika maeneo ya vitongoji mbalimbali vya kijiji inakuwa kiungo kizuri kati ya wanakijiji na serikali ya kijiji chao. Inaweza ikafikiriwa kuwa ni rahisi mara nyingi mtu wa kawaida kupeleka mawazo yake kwenye kikundi kidogo na ambacho amekizoea kama mukutano wa kitongoji na watu wake kuliko ule wa Kijiji kizima chenye wa zaidi ya 200. Mwenyekiti wa Kitongoji mara nyingi anakuwa kiungo kati ya watu na Halmashuri Kuu ya Kijiji. Hata hivyo kufuatana na dodosi, kuannzia mwezi wa Januari, 2000 wenyeviti wa vitongoji watano kati ya wanane watakuwa wanachama wa Halmashuri kuu ya Kijiji. Mabadiliko haya ni mazuri, lakini huenda yakaleta matokeo mabaya kwa wenyeviti watatu waliobakia kwa kuwa hawatakuwa na mawasiliano ya moja kwa moja kati yao na Halimashauri Kuu ya Kijiji.

4. Ostrom (1990) anapolinganisha vikundi vya ushirika vilivyofanikiwa, ufutiliaji wa pamoja katika maswala yanayohusu utumiaji wa mali shirika, huwa unakuwa ni njia muhimu pekee inayoweza kuelezea kwa nini wana ushirika wanachagua kutii sheria zozote zile zilizoanzishwa. Kutokana na dodosi iliyofanyika Endabeg, inaonekana kuwa Ufuatiliaji wa pamoja hautiliwi maanani na hakuna alama yeyote inayoonyesha kama kuna kitu kama hicho. Badala yake kijiji jirani cha Riroda, kwa mbali kinaonyesha kuwa kuna dalili za ufuatiliaji katika mambo ya uongozi na uendeshaji wa misitu, zinazofanana na kanuni ya nne ya uongozaji mali asili shirika.

5. Adhabu zinazotolewa katika kijiji cha Endabeg ni zile zinazohusu uvunjaji wa sheria ndogo ndogo za kijiji. Hakuna adhabu inayotolewa kulingana na kukiuka mwenendo wa malisho shirika, kwa sababu hakuna sheria zinahusu malisho shirika. Makosa mengine yanayohusu, kwa mfano, kulima ama kufuga katika ardhi ya mwingine yanatozwa adhabu kulingana na kosa. Adhabu inayotolewa kwa mtu ambaye ana tabia mbaya ni aina ya *doho.* Hii ni adhabu ya kimila ambayo inalingana na kiasi fulani cha pombe ya kienyeji. Hii inaonekana ni adhabu ndogo mno kulingana na makosa makubwa yanayotendeka kijijini. Wakati mwingine fedha inaweza kutolewa kama adhabu. Hii inaweza kuwa kama shilingi za Kitanzania kati ya 2000 –3000, ambayo ni sawasawa na chupa nne mpaka sita za bia. Hii inaonyesha kuwa adhabu kulingana na kosa ipo Endabeg. Matokeo haya kama yalivyoanishwa katika mkutano wa mwisho na wanakijiji yanaonyesha kuwa, kama wangeanzisha mambo ya sheria na ufuatiliji hapo Kijijini, basi mtindo wa adhabu unaotumika ungepewa nafasi katika kuboresha na kutunga sheria ndogo ndogo mpya.

6. Kama ilivyo katika kutoa adhabu zinazolingana na kosa, kanuni na namna ya kutatua migogoro inayohusu mambo ya malisho shirika katika kijiji cha Endabeg haielweki vizuri. Kwa kuwa kila

mmoja anakubali mtindo wa sasa wa malisho holela hakuna tatizo kubwa lililotokea. Kila mchungaji anafanya kama anavyotaka. Ingawa kuna uhuru wa kutumia malisho, matokeo ya dodosi yameonyesha kuwa kuna mifano mingi sana ya namna ya kutatua matatizo yanayohusu shughuli nyingine zinazotendeka katika kijiji hicho kama kilimo.

Njia ya kawaida ya kutatua migogoro inapotokea, ni kwamba mwenyekiti wa kitongoji huwa anakaa na mshtakiwa pamoja na kikundi cha wazee na kutatua tatizo hilo kwa njia ya amani. Wakati mwingine mikutano ya kimila husaidia katika utatuzi wa migogoro hiyo. Hii inaonyesha kuwa ni mara chache sana kesi hutatuliwa nje ya utaratibu huu. Inapotokea, basi ngazi za juu hufutwa. Utaratibu huu pia unaweza kufuatwa na wanakijiji katika kuongoza na kutatua migogoro inayohusu malisho shirika, pale sheiria ndogo ndogo zitakapovunjwa.

7. Umuhimu wa wazee wa kijiji kama ndiyo viongozi, na ndiyo watu wa kwanza katika uongozaji na usuluhishi mara nyingi hautambuliwi na vyombo vya sheria. Wakati wa matayarisho ya Sheria ya Ardhi na Vijiji, maswala haya yalijitokeza. Sasa hivi Baraza la Wazee litaanzishwa na kupewa madaraka ya kutatua migogoro pamaoja na mambo mengine. Kutokana na Sheria mpya ya Vijiji ya mwaka 1999, Baraza la Wazee litakuwa na haki ya kuunda au kuanzisha sheria ndogo ndogo na kuzifanyia kazi.

Jambo lingine linaloonyesha udhaifu wa viongozi ni kwamba kisheria vitongoji havitambuliwa kama ni ngazi mojawapo ya utawala nchini, Tanaznia. Kulingana na maelezo ya ndugu Loiske, swala la vitongoji lilianzishwa, na linatambuliwa kisheria katika Sheria ya Vijiji ya mwaka 1975. Siku hizi inaonekana sheria hii haitambuliwi tena, jambo ambalo linatia utatanishi katika sehemu nyingi hapa Tanzania. Kwa namna nyingine, ingawa kuna uwezekano wa Wananchi wa Endabeg kushirikiana katika kuunda na kuzitumia sheria ndogo ndogo katika shughuli zao, kitongoji au serikali ya kitongoji haitambuliwi kisheria hata katika Sheria ya Serikali za Mitaa ya Mwaka 1982. Kwa upande mwingine wataalamu wa mambo ya upangaji matumizi ya ardhi katika ngazi za Kitaifa na mikoa, wanatambua ngazi hii ya kitongoji kama ni sehemu muhimu ya Serikali za Mitaa. Ndugu J. Kami wa Tume ya Upangaji Matumizi ya Ardhi anasisitiza kwamba ngazi ya kitongoji ni sehemu muhimu ya utawala ambayo ndiyo msingi wa mfumo wa “Ushirikishwaji wa Uongozi wa Upangaji Matumizi ya Ardhi”.

8. Sehemu za malisho, zilizopo katika Kijiji cha Endabeg, zinaonekana zinatambuliwa kama sehemu kubwa za malisho shirika. Kama ilivyoelezwa wakati wa dodosi wafugaji wengi wa Endabeg wanategemea sana mailisho yaliyopo nje ya Kijiji chao (Ramani 4.2), hasa wakati wa kiangazi. Kwa hiyo uhusiano wa kijiji cha Endabeg na vjijiji vya jirani unatakiwa uwe sehemu mojawapo muhimu katika mchanganuo huu. Mlolongo wa uhusiano huu upo Babati, kuanzia ngazi ya kitongoji kupitia Halmashauri ya Kijiji, Kata mpaka Wilayani. Hata hivyo mawasiliano yaliyopo kati ya viongozi wa vijiji na vijiji vya jirani ni finyu. Mwezi wa Desemba, mwaka 1999, mwakilishi wa Halmashauri ya

Kijiji cha Endabeg alieleza kuwa mara ya mwisho kuwaona viongozi wa kijiji jirani cha Sigino, ilikuwa mwaka wa 1994.

Yafaa Tusisahau kuwa ndani ya kijiji pia kuna sheria ndogo ndogo ambazo zinatumika katika ngazi za chini. Mafunzo haya yamegundua kuwa katika kijiji kuna mikutano inayofanyika kuhusu ufugaji wa kijadi na kuhusu uongozi wa sehumu mbalimbali zilizopo katikati ya mashamba. Wenyeviti wa vitongoji wanatambua tatizo la mmomonyoko wa udongo linaloletwa na ufugaji kithiri katika malisho ya shirika. Vitongoji kadhaa vimediriki hata kufunga mipaka ya ardhi kwa ajili ya malisho bila ya mafanikio. Tatizo kubwa linaonekana ni namna ya kuwazuia wachungaji kutoka vitongoji vya jirani ili wasitumie malisho yao. Hiki ni kitendawili, hasa ukichukulia kuwa vitongoji vyote vinategemeana, kwamfano kuhusu maji na malisho ya msimu.

Yafaa kujulikana kuwa mafunzo haya yanalenga mfumo wa kisasa ambao unajulikana kisheria. Mfumo huu hueleweka kirahisi na mtu yeyote yule hata akiwa ni mgeni kuliko mfumo wa utawala na uongozi wa kijadi ambao ni wa kichini chini, ingawa kivitendo unaendeshwa sambamba na mfumo wa utawala unaotambuliwa kisheria. Matokeo ya mlolongo wa ukoo na familia, kwa mfano Wa-iraqw wana mtindo wa utawala wa kijadi unaoanzia chini ya kitongoji cha kisasa, unaojulikna kama Hhay mpaka kwenye kijiji, Aya, hayataweza kuchanganuliwa vizuri katika sehemu hii ya mafunzo. Kwa kifupi kutokana na maelezo yaliyopatikana kupitia dodosi, upungufu wa sheria zinazojulikana na kuhusiana inaweza ikaelezewa vizuri zaidi na mfano wa Kisigino cha Achille katika maendeleo ya utawala na uongozi wa malisho shirika katika kijiji cha Endabeg.

Jedwali 5.1 (Imetafsriwa kutoka Sura ya 5) Endabeg na Kanuni muhimu za Ostrom

1. Uanachama na mipaka inayojulikana	hapana
2. Uwiano kati ya matumizi, sheria zake na hali halisi ya mahali	hapana
3. Uchaguzi wa mipangilio ya Ushirikiano	dhaifu
4. Ufuatiliji	hakuna
5.Adhabu kulingana na kosa	ndiyo
6. Chombo cha kutatulia matatizo/migogoro	ndiyo
7. Utambuzi wa haki ya kujiunga na kupanga pamoja	dhaifu
8. Uhusiano na vyombo vingine vya sheria	dhaifu

—

Kwa kifupi inaweza ikaelelzwa kuwa mfumo wa uongozi wa malisho shirika katika kijiji cha Endabeg unalingana na “utendaji mbaya bali wenye nuru njema". Kanuni muhimu za uendashaji kama adhabu inayolingana na kosa na namna ya kutatua matatizo, pamoja na uchaguzi wa namna ya kushirikina zinatumika katika ngazi ya vitongoji.

Mtazamo wa Mwongozo na Mapendekezo

Kama ilivyoelezwa na Ostrom (1990), hakuna seti ya kanuni za undeshaji zinazoweza kuonyesha maendeleo ya mfumo wa kudumu wa uongozi wa mali asili. Kufanikiwa kwa mfumo wowote ule kutategemea juhudi na nia wanakijiji na viongozi wao katika kuendeleza uongozi wa kudumu. Kama wananchi wa Endabeg na viongozi wao wanaamua kuwa na mtindo wao wa uendeshaji malisho shirika na kuunda mfumo wa uendeshaji, basi watafanikiwa tu kama ngazi za juu za Wilaya na Taifa watakubakiana na uamuzi huo (Kanuni ya 7). Mifano ipo, kama vijiji vya jirani vya Riroda na Sharmo ambako tayari kuna Uongozi wa pamoja wa Misitu, au Halmashauri ya Wilaya ya Babati wakishirikiana na LAMP.

Kwa mtazamo mwingine, mafunzo haya, yamegundua kuwa uongozi wa vitingoji unaweza kuwa ni kiungo muhimu zaidi kati ya ngazi za utawala na wananchi, ukilinganisha na Uongozi wa Kijiji (Kanuni ya 3). Mambo haya ndiyo yanayofanywa na Uongozi wa Pamoja wa Misitu na Timu ya Upangaji Matumizi ya Pamoja ya Ardhi ya Halmashauri Kuu ya Wilaya ya Babati. Kuna faida nyingi sana ya kupanga na kutekeleza matumizi ya ardhi katika ngazi za vitongoji. Lakini watalamu wa upangaji matumizi ya ardhi na watekelezaji wajue kwamba wanapoelekeza nguvu zao katika vitongoji wananchi ambao ndiyo walegwa watakuwa na nguvu ndogo ya kuamua mambo yao, kwa kuwa vitongoji vyao havitambuliwi kisheria.

Ili kufanikisha uongozi wa malisho shirika katika ngazi ya kitongoji, kila kitongoji lazima kiwe na mipango madhubuti ya kuzuia wafugaji wa nje kutumia malisho yao (Kanuni ya 1). Hii inawezekana kama sheria ndogo ndogo mpya, ambazo zitakubalika na VEO na Halmashauri Kuu ya Wilaya, zitatungwa. Kama Endabeg itatunga hizi sheria na zikakubalika na wanakijiji, mawasiliano na vijiji vingine vya jirani yafanyike ili kuwajulisha kwamba sheria hizo zinawahusu hata wale ambao walikuwa wanatumia malisho ya Endabeg (Kanuni ya 8). Kama ilivyotajwa katika mchanganuo, kutokuwa na mawasiliano kati ya viongozi wa vijiji katika ngazi ya kata ni kikwazo kikubwa. Afisa wa Kata , LAMP au kiongozi yeyote yule anayehusika na utawala, ngazi ya juu ya Kata, anaweza kufanya mazungumzo ya pamoja na wanavijiji, kwa mfano, wa Endabeg na Sigino. Labda pengine sheria mpya ya “Joint village Agreement” ambayo inaanzishwa sasa itasaidia.

Mfumo nusu-halali wa sasa unaotumika katika kutatua migogoro (Kanuni ya 6) unaonekana kuwa ni mzuri, na inabidi udumishwe na ulindwe kutokana na uwezekano wa kuingiliwa na mamlaka

kisheria nje ya kijiji (Kanuni ya 7). Mamlaka kisheria ya wazee yaheshimiwe, pale mahali ambapo uamuzi wa shughuli za maendeleo unapotakiwa. Ni muhimu pia sheria mpya ya vijiji inayotungwa sasa hivi ijulikane wazi kutoka ngazi za Wilaya hadi vijiji.

Ushauri wa mwisho, kuhusiana na mtazamo wa mbali wa Ostrom, inaonekana kuwa mabadiliko ya mfumo wa uongozi wa kudumu, huwa hayaji mara moja. Kujifunza na uzoezi wao, wanakijiji watatakiwa kutazama upya na kuzifanyia marekebisho sheria zilizokubaliwa mapaka ziwe zinalingana na mazingira halisi ya kijiji. Wale wote watakao husika na urekebishaji wa sheria zitakazotumika katika kuendesha na kuongoza mali asili wanatakiwa wajue na wakubali kuwa inachukua muda sheria mpya, zinazolingana na mazingira halisi, kufanya kazi yake.

CHAPTER ONE

INTRODUCTION

Background

The United Republic of Tanzania covers some 945,000 square kilometres on the Indian Ocean side of what is commonly referred to as Sub-Saharan Africa. This tropical region encompasses some of the least industrialised and financially poorest countries in the World, including Tanzania. After a period of economic crisis in the 1970s, a very promising rate of development had come to a halt, and quickly the country became entrapped by its national debt. In 1999, at least three quarters of the nation's 30 Million inhabitants worked in agriculture, and most of them subsisted as peasants, pastoralists or a combination of the two.

Tanzania has a history of foreign governance by Germany and later by Britain. However, in 1961 it gained independence as one of the first African ex-colonies. Since then, the late President Nyerere's concept of African Socialism has put its stamp on the country's development – for better or for worse. The national language, Swahili, is now widely spoken even in remote areas, thanks to national efforts to promote so-called familyhood throughout the population. This is a likely reason to why there is relativiely little conflict between the numerous ethnic groups constituting the population, as compared to for example the somewhat less intimate situation in Kenya. On the other hand, an unsuccessful land reform that was implemented with military means in the 1970s created long-lasting insecurity in the land tenure sector. The reform attempt, "Operation Villagization", also gets blamed for having caused detoriation of many traditional institutions for land management and other social functions important to rural societies.

The socialistic idealism characterising the political climate in Tanzania during the 1960s-1970s probably attracted the Swedish State as well as many Swedish non-governmental organisations to become counterparts for the country's progressive development. During the 1990s, the Swedish International Development Co-operation Agency (Sida) has been running several projects as part of the partnership with Tanzania. Programme areas range in subject from Sanitation and Water Supply to Public Administration, Culture, Education, Energy Supply, Telecom and others. The Sweden-Tanzania Local Management of Natural Resources Programme (LAMP) aims towards increased productivity and the sustainable use of natural resources.

> A strategic goal of the [LAMP] programme is to increase the capacity of the local government (district and village) to control land allocation, support participative land use planning and management and deal with boundary conflicts. Another strategic goal is to develop the capacity of the

> district extension service so that it can facilitate integrated land management in the villages.
>
> Empowerment, interpreted as democratic development at the district, village and sub-village levels, is to be the ultimate outcome of the programme. (www.sida.se)

Pasture has in many places in Tanzania turned into a scarce resource, which is subject to competition with more intensive types of land uses such as agriculture. In some areas, where cultivation now is the main source of income and food supply, grazing areas are little more than patches of marginal land that has been found less easy to cultivate. Still, livestock plays a great role in most economic and social societies on the Tanzanian countryside, and people often perceive the shortage of grazing land as an issue of serious concern. At present, grazing land is usually regarded as "open to all" and treated as a sort of no man's land, while in many places other communal resources such as forest and woodlands have become subject to regulation and active control. This situation makes it interesting to look into the prospect of managing these remaining patches of grazing land under more or less communal forms of land tenure.

Aim and Purpose

This is the report of a localised case study. Eight design principles from Ostrom (1990) were used as indicators in an attempt to make a formalised assessment of institutional performance in Endabeg, a village in North-Central Tanzania, with respect to communal grazing land. The overall aim of the study was simply to produce a list of eight justifiable answers to whether or not Ostrom's design principles (page 38) were represented in the local institutions governing the village's grazing areas.

The project had its main purpose in producing an MSc degree thesis in the interconnected fields of land surveying/regional planning/sustainable infrastructure, but also in offering an opportunity for the student to visit a country that is involved in development co-operation with Sida.

Fieldwork objectives

Drawing mainly from Ostrom's methodological outline (page 36 f), the following seven objectives were screened in as the major guidelines for the fieldwork. The last objective is added as a personal initiative – following a desire to verify the results and to be polite:

1. To map the physical structure of the communal land used for livestock grazing in Endabeg Village.[2]
2. To describe the main flow patterns represented in local pasture ecology.
3. To investigate economic constraints and dependency on the CPR among the appropriators.
4. To identify key attributes of the individuals and the tenure system.
5. To recognise external factors that influence local incentives for pasture management
6. To examine the set of rules imposed by the appropriators in order to allocate grazing rights etc, and the way these rules affect operational incentives.
7. To discuss preliminary results together with a selection of the respondents before departure.

Report Structure

The present chapter, Introduction, has explained the background to the problem under investigation. Objectives have been declared. The remaining bulk of the chapter provides a theoretical framework, which also includes the literature review with a special focus on Ostrom's (1990) *Governing the Commons*. The last part of the theoretical outline converges into a defined scope.

Chapter Two contains the methodology used for the field study. In Case Context (Chapter 3), information and data collected mainly from secondary sources have been compiled into a general description of the study area in its geographical, historical social and cultural context. A certain focus on issues related to grazing land management is evident here, although the actual investigation on this subject is presented first in the following chapters. Some general first hand information on the village, obtained through observation and interviews, (subvillage division, number of members in the Village Council, etceteras) was also included in this chapter.

Under Fieldwork Results (Chapter 4), most of the relevant qualitative information collected during the field study is presented. A separate account of the feedback meeting is included to offer an insight of status quo when leaving the village.

In the Analysis (Chapter 5), the results from the literature study, the interviews and the feedback meeting are utilised to valuate the variables of the analytical template – Ostrom's eight design principles. The outcome of the analysis is a list showing representation of each design principle in the actual setting in Endabeg Village. It is at this point that the success criterion of the project´, defined in Chapter One, is fulfilled. Included in the analysis is also an assessment of the general institutional performance, based on a small set of non-complicated indicators. The case of Endabeg is eventually

[2] By "map", I meant only to describe a spatially confined feature in text and in sketches, not actually to perform a piece of cartographic work.

placed in a worldwide context together with a selection of case studies from Ostrom's book – to facilitate comparison.

The Discussion (Chapter 6) contains policy conclusions and recommendations derived from the analysis, and other experiences made in relation to the study. Compared with in-depth secondary information on the context in which the case study was conducted, the results of the field study are used reflexively to test the completeness of the chosen analytical template. Thus, the last chapter leads back to theoretical ground, offering some thoughts and recommendations related to methodological aspects of the study.

Theoretical Framework

The commons

Land that falls between the concepts of private property and state control is vulnerable to vague definitions of tenureship. It seems that historically in academic literature, most such land used to be grouped together and classified as "commons"[3], often regarded as every man's land – or as no man's land, depending on the theoretical viewpoint. It is questionable whether this very general designation might not be misleading under certain circumstances.

The term "open access" is widely accepted for a situation where a resource is free to anyone to enter and extract units from. However, it would be false to say that all commons provide open access. Sub-forms of tenureship to commons, such as demarcated village pasture or local road associations, do make the issue of commonly owned land more complex.[4] Theodore Panayotou (1990) draws an important division line between totally free assets and resources that exclusively belong to identifiable groups of individuals.

> Common property and open access are used here interchangeably. Communal property is distinguished from common property by exclusion of other communities and by customary rules of access and management. Unlike common or open access resources, communal resources are often well managed.

Natural resources held by an association or shared by a group of private stakeholders are nowadays often referred to as "communal", "common-pool", "joint property" etceteras. In this paper, "common-pool resource" (CPR), as used by Ostrom (1990), has been favoured as a standard term.

Of course, there is a grey-zone between pure open access situations and well-managed communal resources. Corruption, conflict, or a public perception of insecurity in tenure could always turn a communal resource into a state of open access. Hence, communal rights to land must not only exist, they must also be enforceable to attain any real value for the group of rightsholders.

Theory and policy implications

For private holdings, a strong link between secure ownership and incentives for long term management has been proved (e g Bruce et al 1994, Augustson 1994). A farmer has the exclusive right to reap what he (or she) has sown on his own field, and because he knows that, he sows and spreads

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[3] "**Commons**: In Anglo-American property law, an area of land for use by the public. The term originated in feudal England, where the "waste," or uncultivated land, of a lord's manor could be used for pasture and firewood by his tenants." (*Encyclopaedia Britannica* at http://britannica.com)

manure etceteras. This is not hard to imagine. On the other hand, the conception of the commons as no man's property has led some scholars and policy-writers to argue that nobody would ever care to put in management efforts into those resources, and that the commons inherently are doomed to overuse and destruction.[5]

Perhaps surfing the surge of Malthus'[6] prediction of a population explosion, many theorists in the mid-twentieth century suggested privatisation as an ideal solution to any problem of finite resources in an increasingly densely populated world (Demsetz 1967, Hardin 1968). Scholars who have followed this technically oriented line of argumentation can be categorised as Neo-Malthusians, belonging to the so-called "Behaviourist perspective" toward man-environment interaction. Today, advocates for more or less Marxist-flavoured "Socio-Ecological perspectives" have challenged this view (Mung'ong'o 1995, Chambers 1996).

One of the most cited[7] contributions to the debate is biologist Garrett Hardin's (1968) article *The Tragedy of the Commons*. Hardin's thesis is built on a conviction that dilemmas of a certain type, exemplified by "the population problem", belong to a class of problems that has no technical solution.[8] The particular case of overpopulation is then generalised upon to show that any dilemma involving a scarce common resource – such as human habitat or grazing land –, the use of which is not governed by enforceable rules, will logically lead to ruthless exploitation. "Freedom in a commons brings ruin to all", Hardin states, although he maintains that in traditional systems the tragedy is often held back by war or natural disturbance effects, until the point when social stability allows for the numbers of man or beast to rise beyond the carrying capacity of the land.

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A commons can be either common property in a state of open access or a communal resource that is safeguarded by a defined group of appropriators. The "tragedy of the commons" scenario is a likely

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[4] See for example Mattsson (1994) for an overview of Swedish management institutions for commons in real property settings.

[5] Ostrom (1990) traces the roots of this argumentation back to Aristotle, who wrote: "what is common to the greatest number has the least care bestowed upon it. Everyone thinks chiefly of his own, hardly at all of the common interest" (from *Politics*, Book II, ch 3). I found a more recent but similar statement - one that adds a notion of policy implication - in one of Stockholm's two big morning papers: "When property rights are missing, so is the possibility to prevent overexploitation of a resource" (Ericson 2000, free translation).

[6] "**Thomas Robert Malthus**: English economist and demographer, best known for his theory that population growth will always tend to outrun the food supply and that betterment of the lot of mankind is impossible without stern limits on reproduction." (*Encyclopaedia Britannica* at http://britannica.com)

[7] Birgegård (1993), Ostrom (1990), Mung'ong'o (1995) and Bruce (1990) all build their discussions about the commons more or less on Hardin's article.

[8] This assumption of Hardin's should perhaps be seen as an implicit indication of that commons problems are better viewed from the perspective of the social sciences than the natural sciences. True or not, most of the authors of recent literature – at least the written sources of the present study – belong to various disciplines within the social sciences, such as political economy, sociology, institutional law and human geography. They often use game theory or other analytical tools for achieving explanations to observed phenomena, but they tend to favour empirical cases as foundations for their conclusions.

prospect only for the case of a truly common, yet scarce, resource – for instance a non-endless piece of grazing land that is freely accessible to any herder. Hardin (1968) argued that any kind of resources in this situation are inherently mismanaged, not necessarily because human needs actually requires exploitation at non-sustainable rates, but because the open access situation does not give an incentive for long term management. In fact the situation even creates a potential incentive for excessive exploitation, through imposing a so-called Prisoners' Dilemma[9] on the individuals who are in position to make use of the resource. [10]

The prisoners of the game-theoretical scene can be substituted for herders, as in Hardin's paper, or rather herd managers who make valid decisions on for example the number of animals that are being sent to the pasture. Assuming that no binding agreements are made, herd managers with access to a communal pasture are, according to Prisoners' Dilemma game logic, likely to send more animals to the pasture than what they really need, which results in a too high number of animals on the pasture. The reason behind this behaviour is the classical: "If I don't, somebody else will". People fear that the land will be degraded by others, unless they grab what they can get – and in this they are right, provided everybody thinks in the same way. Even if the members of a community do possess knowledge about the carrying capacity of their communal pasture, it would in fact be irrational for the individual herd manager to adjust the size of his herd to this number before anyone else does.

Now, also if it is a question of a communal pasture held by a community that, for example by moral praxis or 'common understanding', support a moderate use of their commons, the individual can still over-use by rational choice. This probably involves a personal trade-off between the benefit of additional resource units and the potential social cost of neighbours' dislike and misappreciation. Such a CPR situation is theoretically described as a Free-Rider problem. The 'rational' temptation to put too many grazing animals on a communal pasture comes as a result of that "the benefits [in terms of additional extracted fodder units] accrues to the free rider alone, while the costs [in terms of overstocking and land degradation] are borne by the whole community" (Mung'ong'o 1995).

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[9] Two convicts, accused for having committed a crime together, usually illustrate the **Prisoner's Dilemma** game. They are locked up in separate cells, without the ability for each of knowing what the other is doing. Presented with the choice to confess or deny, each prisoner face four alternative outcomes, partly dependent on what the other prisoner chooses to do. In case one, only one of the prisoners co-operates with the court and confesses the crime. The sanctioning system – modeled after American judicial design – then allows for that prisoner to get away with, say, a one-year sentence. The other one, who is judged against his denial, will suffer capital punishment. In other scenarios, if both confess they get 10 years each, and if both deny they get 2 years. The most likely result, assuming that no agreements have been set in advance, is that both prisoners confess, in order to avoid capital punishment (Lewin 1999).

From the point of view of the prisoners, there is a pareto-optimal outcome in the deny-deny alternative. However, this solution remains 'hidden' as long as they are restricted from negotiating with each other and develop a common strategy. Seeing the two prisoners as the "collective", the moral of the PD game lies in "the paradox that individually rational strategies lead to collectively irrational outcomes" (Ostrom 1990).

[10] Hardin did not use the allegory of the Prisoners' Dilemma in his article, but the model has been referred to in the same context elsewhere (e.g. Ostrom 1990, Birgegård 1993).

However, if a too large share of the appropriators chooses to free ride, then the tragedy is a fact, and they all end up where no one wanted to be.

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All models referred to here lead logically to "the prediction that [individuals] using [CPRs] will not cooperate so as to achieve collective benefits" (Ostrom 1990). But as pointed out before, these models represent a simplification of reality. In many cases, the actors involved may change their strategies after experiencing a few turns of disadvantageous outcomes from 'confess-confess' games. Also, the assumption that no binding agreements are made between the parties might lead to crucial misunderstandings if it is used to approach real settings where the assumption is not true. Birgegård (1993) brings up this hazard in a review of written critique of the tragedy of the commons argument:

> More elaborate game theory later came to show that if players were given an opportunity to learn from repeated games, they changed strategy. Such players are less likely to follow a free rider strategy. A more down to earth but equally telling criticism questions if Hardin's herdsmen ever talked to one another.

In policymaking, it is obviously tempting to use clean, simplified models, such as the above-mentioned relation between private ownership and long-term management, to solve problems in the real world. With respect to that, the early reactions to Hardin's article led to some unintended results. In East Africa for example, land privatisation programmes were implemented that obliterated customary rights for nomadic Maasai communities to let their herds roam and find seasonal pasture, with catastrophic consequences for the Maasai. Monbiot (1994) sarcastically calls it a "tragedy of enclosure" (see also Lane 1994).

Little by little, researchers and policymakers have accepted that land ownership, especially in 'undeveloped' rural areas, is a far too complex issue to be tackled with only one general paradigm. Mainly during the 1990s, the focus among donor communities and other policymaking institutions working in Tanzania has shifted away from mere transmission of western property systems, towards authorisation of customary tenure regimes and improvement of local management schemes (Havnevik 1993, Meindertsma and Kessler 1997, The United Rep. Of Tanzania 1997, 1999b, Wily 1998).

John Bruce (1990) states that "Hardin's use of the term "commons" – with its associations of community ownership and potential for control – for an uncontrolled open access situation is unfortunate and misleading". This statement clearly shows that there are overlaps and ambiguities in the terminology related to commonly owned resources (Compare this quotation with Panyotou's definitions above!). Confusion has probably increased the difficulty of finding appropriate ways to approach situations where commons actually *are* mismanaged.

Common-pool resource management

Management of communal grazing land is the chosen subject area for the present study. The concept of "communal land" has been clarified above, but what exactly does "management" mean specifically in a CPR context? To begin with, Ostrom (1990) explains the general CPR situation as follows:

> The term "common-pool resource" refers to a natural or man-made resource system that is sufficiently large as to make it costly (but not impossible) to exclude potential beneficiaries from obtaining benefits from its use. To understand the process of organizing and governing CPRs, it is essential to distinguish between the *resource system* and the flow of *resource units* produced by the system, while still recognizing the dependence of one on the other.

And further, about the people involved in using the CPR:

> The decisions and actions of CPR appropriators to appropriate from and provide a CPR are those of broadly rational individuals who find themselves in complex and uncertain situations. An individual's choice of behavior in any particular situation will depend on how the individual learns about, views and weighs the benefits and costs of actions and their perceived linkage to outcomes that also involve a mixture of benefits and costs.

The physical components of a CPR can in other words be seen as a resource base (system) and its harvest (units). In the case of the pasture, "resource base" refers to the land itself, including groundwater and growing vegetation. The grass becomes "harvest" first at the point when it is cut or grazed. Domestic animals, finally, should here be seen as mere appropriation 'tools' managed separately with the purpose to effectively extract resource units from the system. [11]

We then have the group of individual resource users (appropriators), whose direct and indirect interactions with the CPR system result in a situation that can be described and analysed from a management perspective. An example of a management decision important for livestock-supporting systems is to choose a way to control the aggregated size of the herd, a decision that might have to involve strategies on two levels. For as Bruce (1990) observes, "there are two broad categories of strategies for community control: 1. Exclusion of non-members of the group; 2. Control over use by members". More examples of management decisions will follow in the proceeding chapters.

Studies of CPR situations may be directed towards at least three separate levels of analysis, that is to say the Constitutional level, the level of Collective Choice and the Operational level (Ostrom 1990). The higher layers each provide a framework of rules, within which choices are made concerning the institutional structure of the nearest lower level. At the operational level, choices relate directly to day-to-day interaction with the resource itself. Of course, these layers are somewhat

[11] Several anthropologists and human geographers (among them one of my supervisors) would probably argue that the role of livestock in rural societies includes a lot more than only production benefits. The claim is true, and will be dealt with further on in this paper.

interwoven, and it can therefore be difficult to perform analysis at one level without regarding the other layers in the hierarchy, at least as influencing factors.

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In a theoretical sense, management in a CPR context seems to be a matter of overcoming the Prisoners' Dilemma, controlling Free Riding tendencies and avoiding the Tragedy of the Commons. So what does it take, more precisely, for a group of appropriators to do this? What are the important features of a successful local CPR management? Of course, requirements do not look exactly the same for all resource-sharing communities worldwide, but there are certainly some common characteristics to rely on in order to facilitate analytical comparison and synthesis. These common characteristics turned out to become the methodological starting point for the present study.

The structure of the field study owes a lot to Elinor Ostrom's (1990) methodological framework for reviewing case studies on CPR management. Ostrom – as a professor of political science – approaches the subject with a focus on sustainability aspects of institutions. She argues that CPR-owning communities are not necessarily incapable of solving their local problems of control and provision. Given the right circumstances, they can do precisely that, and create functioning mechanisms for a sustainable use of the CPR. The core of her findings is expressed in a set of eight design principles characterising a number of "long enduring CPR institutions" (Table 1.1).

Behind the present study lay an idea to 'reverse the system' and apply the theory on a real situation. Ostrom's eight design principles have thus been used unmodified, as a template of qualitative indicators. Considering its influence of the present analytical framework, a short review of Ostrom's book should be in its place here.

Elinor Ostrom's Governing the Commons

Ostrom and her colleagues have collected some five thousand case studies on different types of small-scale[12] CPRs and institutional arrangements for management and regulation. The flora of cases derives from research within various scientific disciplines, such as rural sociology, anthropology, history, economics, political science, forestry, irrigation sociology and human ecology. A selected subset of the case studies has been subject to deeper analysis in an attempt to synthesise the findings. With respect to this work, Ostrom refers to the following methodological outline:

1. Understand something about the structure of the common-pool resource itself – its size, clarity of boundary and internal structure.

[12] None of the institutions involve more than 15,000 appropriators. Most of them are much smaller than so, and the CPR types present a range from meadow pasture and irrigation systems on a village level to groundwater basin management for urban water supply.

2. Discover the flow patterns involved in the resource units. Pay regard to uncertainty over time, across space and in quantity.
3. Understand the economic risks that face the appropriators, and the degree to which they rely on the particular resource.
4. Identify key attributes of the individuals. How many are involved? What are their time horizons likely to be? Do they work together with the resource? Are their interests roughly similar or heterogeneous? What norms influence their behaviour, and how do these affect the ability to solve common problems?
5. Examine the set of rules imposed by the appropriators themselves, and search for design principles underlying the present institution. How are the incentives of the participants affected by the rules?

A comparison is presented of a number of "long-enduring, self-organized and self-governing CPR institutions, in different countries and in different environmental contexts. Ostrom points at several similarities discovered among these institutions, for example the uncertainty and complexity characterising all different environments, and oppositely, the long-term stability in populations. In an effort to generalise, a set of eight design principles is provided (Table 1.1), derived from the analysis of a number of successful CPR institutions. Ostrom shows that each of these principles plays an important part in manipulating individuals' perception of benefits and costs, so as to make it rational to choose a co-operative strategy and contribute to a collective good. Finally, she performs an analysis of the overall institutional performance in each case. This last step is done separate from the analysis of design principles in order to detect a pattern of correlation between high representation of design principles and robust institutions.

Each of the design principles in Table 1.1 is described as a factor that help explaining how individuals in different settings have managed to overcome the threats involved in the Prisoners' Dilemma, The Tragedy of the Commons and other models. Ostrom's main point in emphasising graduated sanctions, for example, is that the very presence of a penalty system, together with active monitoring, is expected to influence the contingent behaviour of the individuals. This might happen in two ways: 1. If an appropriator expects to get caught and punished for transgression, the likelihood increases that he would choose to comply with the rules. 2. If an appropriator expects other appropriators to comply with the rules, according to the logic of point one, the likelihood decreases that he, as a compliant, would feel like a sucker and start to free-ride.

Table 1.1 Design Principles illustrated by long-enduring CPR institutions

1. CLEARLY DEFINED BOUNDARIES

   Individuals or households who have rights to withdraw resource units from the CPR must be clearly defined, as must the boundaries of the CPR itself.

2. CONGRUENCE BETWEEN APPROPRIATION AND PROVISION RULES AND LOCAL CONDITIONS

   Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labor, material, and/or money.

3. COLLECTIVE-CHOICE ARRANGEMENTS

   Most individuals affected by the operational rules can participate in modifying the operational rules.

4. MONITORING

   Monitors, who actively audit CPR conditions and appropriator behavior, are accountable to the appropriators or are the appropriators.

5. GRADUATED SANCTIONS

   Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offense) by other appropriators, by officials accountable to these appropriators, or by both.

6. CONFLICT-RESOLUTION MECHANISMS

   Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials.

7. MINIMAL RECOGNITION OF RIGHTS TO ORGANIZE

   The rights of appropriators to devise their own institutions are not challenged by external governmental authorities.

For CPRs that are parts of larger systems:

8. NESTED ENTERPRISES

   Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.

From Ostrom (1990)

—

While providing such a handsome set of variables, refining the theory of CPR management, Ostrom is eager to point out the speculative risk involved in producing this type of 'checklist' for institutional design.

> I am not yet willing to argue that these design principles are necessary conditions for achieving institutional robustness in CPR settings. Further theoretical and empirical work is needed before a strong assertion of necessity can be made. I am willing to speculate, however, that after further scholarly work is completed, it will be possible to identify a set of necessary design principles and that such a set will contain the core of what has been identified here.

Ostrom puts emphasis also on decision modelling and the importance of cost-benefit analysis for accurately understanding why individuals choose to, or not to, develop and follow strategies that result in collective benefits. However, these parts are a little beyond the scope here, since the present study focuses more on outspoken rules and documented decisions and less on the internal process of developing new institutions.

Scope

The CPR under study here can be defined as all land inside the boundaries of Endabeg Village, which is available for grazing to any member of a more or less defined group of individuals. Livestock (cattle, donkeys, sheep and goats) should in this context be seen as individually managed 'tools' for appropriation of CPR units (growing fodder). The institutional survey has been confined to the description and analysis of locally important rules and documented decisions at the constitutional, collective choice and operational levels. A certain focus is set on institutions for collective action in the village. Comprehensive aspects of nation-wide institutions or individuals' reasons for acting in particular ways are not investigated to any great extent, although they are considered as external factors.

Regarding the theoretical context, it is not the purpose of this study to discredit the thesis of a "Tragedy of the Commons", or any other model attempting to describe CPR settings. Others (e g Ostrom 1990, Daly & Cobb 1989) have effectively shown the hazards involved in jumping to conclusions when drawing from simplified images of a decision-making context. Rather, the idea here was to use Ostrom's particular model as a tool to achieve a manageable interview scheme, screening out lots of interesting questions that would surely have drained the time-budget. The main criterion for success has been to produce a list of eight justifiable answers to whether or not Ostrom's design principles were represented – at the time for the fieldwork – in the local institution governing communal grazing areas in Endabeg Village.

CHAPTER TWO

METHOD

From Theory to Practice

The practical goal of the study – directly related to the literature review – was to achieve a set of justifiable answers to whether or not Ostrom's eight design principles (Chapter 1) are represented in the institution governing communal grazing areas in Endabeg Village. As a convenient help, Ostrom's own methodological outline for case study reviews was directly transformed into working objectives (Chapter 1) before the data collection journey to Tanzania. These fieldwork objectives, in turn, were split into a preliminary 'work breakdown structure', identifying specific activities that were to be performed in order to fulfil the fieldwork objectives.

The information and data obtained from outside the village was collected by various means, such as literature- and document review, map reading, ocular inspection and interpretation of aerial photographs, and discussion with scholars and other specialists. Interviews were undertaken at levels ranging from neighbour village administrations, the district divisional office and the district council, up to authorities, agencies, consultants and key persons employed at national and international levels. The only methods of interest here, though, ought to be the way I achieved first hand information from the village itself and its surroundings. Accordingly, the following account concerns solely the 'bush' part of the field study.

Fieldwork

Preparation

Since the common man in the Tanzanian countryside does not speak English well, it was essential for me to develop at least basic communication skills in Swahili, the national official language. A beginner's course in Stockholm before departure and two weeks on Zanzibar with private lessons resulted in acceptable skills for everyday conversation. To spend about four weeks in the country before starting with the interviews did also smooth out the cultural shock a bit.

Transect walks

After introduction to the Village Chairman (VCh) and the Village Executive Officer (VEO), it was time to begin with the fieldwork. For the purpose of getting to know the study area and getting an idea of how clear existing boundaries are – and not least important to become a known face in the village –

three days of so-called “transect walks” (Lindberg 1996) opened the work. I crossed between the officially demarcated village boundaries together with a younger farmer who was fluent in English, chatting with people, dusting off boundary stones, observing tiny trickles of water and watching cows, mules, sheep and goats with a special interest. This was maybe the dustiest part of the fieldwork. We covered hilltops, slopes and valleys, including some grazing areas in neighbour villages, while taking notes and sketching eagerly on the map copies I had brought.

Interviews

Starting about two weeks after the arrival in Endabeg Village, and continuing side by side with other activities over the next four weeks, I interviewed a strategic sample of about twenty key persons in and around the village (Table 2.1). From an empirical point of view, these interviews together with the feedback meeting (below) were the most important part of the data collection.

Classification

The interviewing technique was a type of “semi-structured interviewing” (Mikkelsen 1995). An interview guide, or checklist of questions, had been prepared in advance, to allow for comparison between the different replies, but this guide was not allowed to restrain interviews from developing in unforeseen directions when interesting issues came up.

The whole study is of a qualitative rather than a quantitative nature. A quantitatively oriented oral questionnaire, which was supposed to involve 20 to 30 randomly distributed men and women, was included in the preliminary interview plan. However, after four interviews this activity had to be terminated due to time shortage. Because of this, the empirical quality of the results relies heavily on crosschecking and triangulation of individual statements, combined with observations and document reviews etceteras.

Interviewees

I visited each of the eight subvillage chairmen in Endabeg in their homes, and interviewed them according to a pre-processed schedule of questions (Appendix). This gave a good overview of conditions related to grazing issues in different part of the village. Table 2.1 includes all interviews that were systematically undertaken at the village level. In addition to the persons mentioned here, numerous villagers shared information under more or less informal circumstances.

Table 2.1	**Selected interviews and field visits at the village level**

30.10.1999 – **Village Chairman** of Endabeg, Mr N. Qwaray

31.10.1999 – **Grass & fodder specialist**, Ms Mwanga, BDC (Field visit in Endabeg)

01.11.1999 – **Subvillage Chairman** of Khongumo, Mr Onna

01.11.1999 – **Elders** of Khongumo: Mr Margwe, Mr Senyau, Mr Qamara and Mr Baqayo

02.11.1999 – **Subvillage Chairman** of Kitangyaro / **Village Executive Officer** of Endabeg, Mr Banga

04.11.1999 – **Subvillage Chairman** of Giroy, Mr P. Qwaray

04.11.1999 – **Elders** of Giroy: Mr Qadue, Mr Mhindi, Mr Hhindo and Mr Amor

04.11.1999 – **Subvillage Chairman** of Endashangwe, Mr Shauri

09.11.1999 – **Subvillage Chairman** of Ayahath, Mr Siima

11.11.1999 – **Subvillage Chairman** of Endabeg, Mr Suley and Mr N'gaida, new SVCh from 2000

11.11.1999 – **Subvillage Chairman** of Gayo, Mr Hali

19.11.1999 – **Former Chairman** of ***Na Nuse*** (women's group) Ms Hangy

24.11.1999 – **Subvillage Chairman** of Ayaaben, Mr Hera

24.11.1999 – **Members of *Na Nuse***: Ms Tluway, Ms Hangy, Ms Lawly, Ms Johana, Ms Gidawe, Ms Sanka

08.12.1999 – **Soil specialist** Mr Limo, BDC (Field visit in Endabeg)

09.12.1999 – **Members of the village administration in Riroda** (neighbour village): Ms Hamad, Ms Kito, Mr Abdhalla, Mr Gamara, Mr M. Datho, Mr L.T. Datho, Mr Gunti.

Checklists, interpreting and recording

The checklists used for semi-structured interviews in the village contained questions related to the general setting, village history, grazing regulation, membership and exclusion of non-members, control of members' use, provision/investment and external recognition of rights. In the drawing up of the checklists, I took advantage of the methodology described by Ostrom (1990) and of checklist examples given by Bruce (1990).

It was sometimes necessary to adjust the questions to the current setting and to local or regional conditions, as shown by the following three examples:

1. Inquiries about the fodder situation in different parts of the village had to hint at the wet season, when CGAs are actually used for grazing.
2. The national administrative systems at the village level – authoritative powers are distributed between the Village Council and the Village Assembly (Chapter 3) – was a starting point for investigations on local structures for decision-making. However, as time passed I became

increasingly aware of the importance of the subvillage as an administrative unit, so I had to adjust my checklists and let the investigation schedule adapt to the new findings.

3. When historical information was sought, the radical changes that occurred during the *Ujamaa* political regime and the implementation of the Villagisation programme (Chapter 3) were used as reference points in time. The questions did often relate to certain aspects of life "before and after the Villagisation", or "in *Ujamaa* times".

During field interviews, a trained interpreter from Babati Town[13] always assisted me in translating between English and Swahili. In a few exceptional cases, when interviewing elders, it was necessary to translate the dialogue in two steps, English-Swahili and Swahili-Iraqw. Iraqw is the main everyday ethnic tongue in and around Endabeg, while Swahili can be seen as an essential second language.

I recorded all interviews with pen and paper, referring to index numbers of questions in the checklist. This technique was partly enabled by the time lags resulting from the interpreting. A tape recorder was used only for longer statements, stories etceteras, which could then be taken uninterruptedly and be translated later. In cases when the dialogue evolved beyond the prepared set of questions, I also took record of my own questions.

Curio

I found it extremely relieving to be able at least to make the first contact with people directly in Swahili. Evidently, introducing yourself in the local language – enjoying the humour contained in your linguistic mistakes, and so on – eases up the otherwise laboured situation considerably.

Seldom, though yet in a few cases, I was confronted with the question how the villagers would profit from co-operating with me. This is not a ridiculous thing to ask, since many people spent two hours or more on answering my questions. My standard answer on these occasions was that I was a student, not a development worker, who was interested in learning about their society and culture. What I offered in exchange for their patience was an opportunity to look at pictures from my home and to ask questions about life in Europe, often for about half an hour in the beginning of the interview sessions. This was at most times accepted as a fair deal. Especially exotic to the Tanzanian farmers were the snapshots of a yellow rape field in southern Sweden and the one of *Prâi*, an Icelandic beauty yielding 20 litres a day of milk…

[13] Concerning the choice of interpreters, my supervisor, Dr Lindberg, helped me to establish contact with Mr Kessy, who in turn introduced me to Ms Bakari. On most of the field trips to Endabeg, Ms Bakari was interpreting. Mr Kessy and Ms Bakari both had prior experience from assisting Swedish researchers and students.

Feedback/crosscheck meeting

To mark the end of my time in Endabeg, to say thanks and share the essence of my results, I invited about 40 respondents to a gathering in the local CCM meeting hall. The methodological objective of holding a final meeting was to achieve an additional quality check on the information I had collected during interviews, observations and document review, in other words, to "circulate data in the field"[14].

The main agenda of the meeting was thought of as a statement-response series. After an introduction with general information on the purpose, the objectives and the current status of the study, I explained that a series of eight statements would follow, to which I needed a frank response from the meeting participants. I would not continue to the next statement until I had received the participants' support, amendments or rejection, based on consensus among them. I did not require that they would raise hands, but instead I waited until they could come up with a unanimous response.

The eight statements (Chapter 4) encompassed my understanding of the current situation concerning management of communal grazing land in Endabeg. Each of them corresponded to one of Ostrom's eight design principles, a set of variables that can be seen as the analytical starting point of this study (Chapter 1 & Chapter 5). I now wanted to get the village inhabitants' opinion on whether I was right or wrong in my preliminary interpretation of the results.

A statement such as "There is no easy way for ordinary people to influence decisions on land use" (Statement No 3) could without doubt be taken as a provocation. Provocations need not be bad, and several statements gave rise to interesting discussions where new information was revealed. I emphasised that my purpose was to learn, and that I was not in a good position to give recommendations about how they *should* manage their grazing areas. Instead, I urged the participants to correct me where they did not agree, and I suggested that they would continue to discuss matters of interest during village assemblies and Village Council meetings, with neighbour villages and with the District Council/LAMP.

The complete statement-response series, together with other details from the feedback meeting, is presented among the results in Chapter Four.

Bias, Limitations and Uncertainty

The subject, being of a qualitative nature, requires a broad understanding of the society, traditions, culture and religion, history, the physical environment, farming systems, microeconomics, legislation and politics etceteras. To head towards the field alone for two months, in one's capacity as undergraduate student of land surveying, is admittedly optimistic. As a matter of discomfort, it leads

[14] Lindberg, personal communication.

the thoughts to Robert Chamber's (1983) caricature of "rural development tourism".[15] A multidisciplinary team of trained field workers, combined with anthropological studies over one year or more would perhaps have been more appropriate, with respect to reliability of data and comprehensiveness of the investigation. I can only say that, concerning the aim and objectives of the study, I have consciously tried not to draw my conclusions too far in my analysis of the results, respecting the likely occurrence of information gaps and the uncertainty involved in the data collection.

A severe limitation is the territorial and institutional isolation in which the case village has been treated in this study. After returning from Tanzania, I learned more about traditional institutions among the Iraqw. The importance of clan land, exchange networking, traditional leadership, diversification strategies, and not least the particular village Mama Isara's role as the spatial core of the entire Iraqw community (Chapter 3), has all become clearer to me through discussions with a few senior researchers (especially Dr Lindberg and Dr Loiske). Most of the results here are confined to the official world of formal administration only, which of course leaves the institutional analysis a bit limp.

Advanced game theory plays an essential role when it comes to understanding causes and present problems from variables found in an observed situation. In this respect, I admittedly lack the skills required to fulfil the ultimate goal of a standard analysis in Ostrom's genre.

> Once one has all the needed information, one can then abstract from the richness of the empirical situation to device a playable game that will capture the essence of the problems individuals are facing." (Ostrom 1990)

This is precisely why I have chosen to develop an experimental/practical methodological approach to Ostrom's design principles, rather than performing a standard study according to a dependable method. However, I have been cautious about answering the question "Why?" or about giving recommendations for action to be taken.

Timing. It was in the middle of the dry season, and nothing was growing in the communal grazing areas (CGAs). Even the so-called "short rains" in December failed, resulting in drier conditions than normal (Chapter 3). Hence, the CGAs were not being used for grazing at the time when observations were made. A strong seasonal bias is inevitable in short-time studies of climatically sensitive issues in the tropics, and the project budget did not allow the study to extend into the wet season as well. The limited opportunities for relevant field observations made it a bit more difficult to come up with locally relevant questions for the interviews.

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[15] On the other hand, in my capacity of being a student, at least I could move freely within the village without the famous shield of village representatives, progressive farmers or development workers, which in many

The bilingual aspect is yet another source of distortion. Almost irrespective of an interpreter's professional skills he/she always has a filtering effect on the flow of information in the dialogue between the interviewer and the interviewee. The fact that the interviewer cannot be sure of the quality of the communication – either of how his questions are perceived or of the degree of distortion in the translated version of the answers – makes the reliability of the information more uncertain, exactly how uncertain is hard to say. My knowledge of Swahili did sometimes allow me to follow the answers a bit, but that was almost negligible.

professional fieldwork situations constitutes a welcoming committee through which most of the information is channeled.

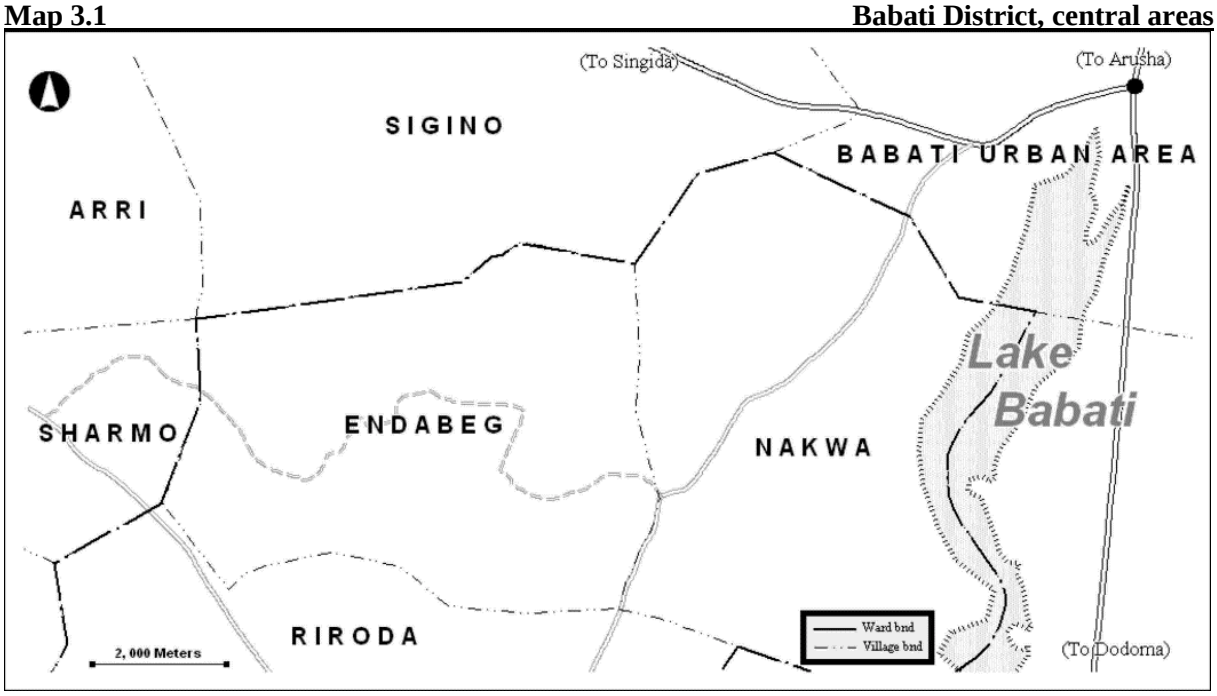
CASE CONTEXT

The forthcoming analysis is of course based on printed material as well as on the first hand information presented in Chapter Four. For that reason, the present chapter offers a compilation of secondary information relevant in the field study context.

Location and geography

The Tanzanian village forms a spatial administrative entity, conceptually similar to the Swedish *kommun*. Its geographic boundaries enclose much more than the central settlement. In fact, it is common to find almost nothing but public buildings – schools, churches, bars, a dispensary and the local CCM[16] office – in the centre of a rural village in Tanzania, while the great majority of the settlements lie scattered across the village area.

Map 3.1 **Babati District, central areas**



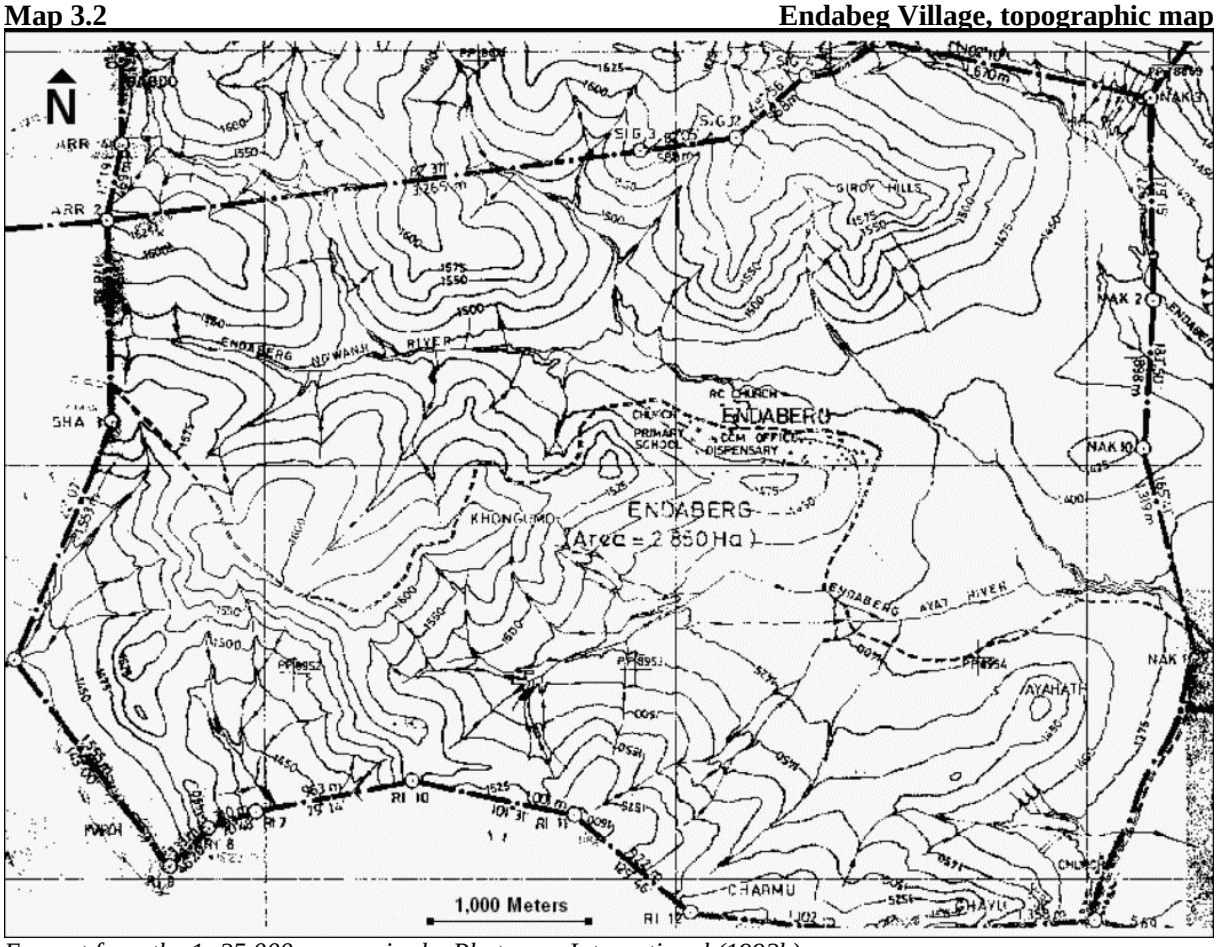
The boundaries were digitised (a bit roughly) from Photomap International 1992a and 1992b.

[16] Chama cha Mapinduzi (CCM), meaning The Revolution Party, has been the ruling party in Tanzania since independence. In Endabeg, the CCM office also serves as a meeting place and premises for the Village Council and a few other organisations.

Endabeg [~River with Water] is one of 78 villages in Babati District, belonging to Arusha Region in north-central Tanzania (Map A in Preface). According to the district's legal sub-division into administrative units, Endabeg belongs to Gorowa Division and Riroda Ward. Situated only a little more than ten kilometres west of Babati Town, the easternmost parts of the village can be reached within half an hour by car, during the dry season. No data has been obtained on travel times by foot or by bicycle, which are the only means of transport frequently used by the villagers, except for an always-crowded Land Rover pick-up transport running daily between the neighbour village Riroda and Babati Town.

The 7,040 acres making up Endabeg are mainly characterised by two riverbed valleys, *Endabeg Ng'wanji* to the north and the minor *Endabeg Ayat* to the south. The official village boundaries encompass the hills between the two valleys and the slopes lining them to the North and South (Map 3.2). The topography is undulating in most of the village, except for on the alluvial plains next to the riverbeds in the easternmost part. Elevation data ranges from 1355 to 1636 meters above the sea level, the depth of gullies excluded (Photomap International 1992a).

Map 3.2 **Endabeg Village, topographic map**



Excerpt from the 1: 25,000 map series by Photomap International (1992b).

It is clear that the borderline roughly follows natural dividing features, such as hill ranges, watercourses and roads, where suitable. It is not the simple case, however, that the village controls an entire runoff system. The watershed of river *Endabeg Ng'wanji* extends into the neighbour villages Arri and Sigino. Both the two main valleys are part of the watershed of Lake Babati – in fact this goes for the entire village area (Newman and Rönnberg 1992) –, their gullies cutting through the terrain in a gentle eastward slope towards the floodplains west of the lake in Nakwa village. Two minor watersheds discharging into the river *Endashangwe*, in the southwest corner of the village, break up the twin valley pattern. Parts of the runoff slopes and watercourses of *Endabeg*[17] and *Endashangwe* rivers also fall within the demarcated village area.

Agro-ecology and land use

Babati District is located at the border-zone of a large part of the country commonly referred to as Semi-Arid Tanzania. The relatively dry climatic conditions have implications for agricultural yields as well as the capacity for livestock production. Agro-ecological zonation (AEZ), which is the system used by Jonsson et al (1993) in "The Livestock Study"[18], is one way of modelling variations in productivity across a landscape[19]. Parameters used for this type of classification include temperature, altitude, precipitation (rainfall) and evapotranspiration (total vaporisation).

According to the zoning presented by Jonsson et al (Map 3.3, Table 3.1), all of the land in Endabeg falls into Zone IV "Semi-humid to semi-arid midlands", possibly excluding a few hilltops that would better fit into to Zone III "Sub-humid uplands".

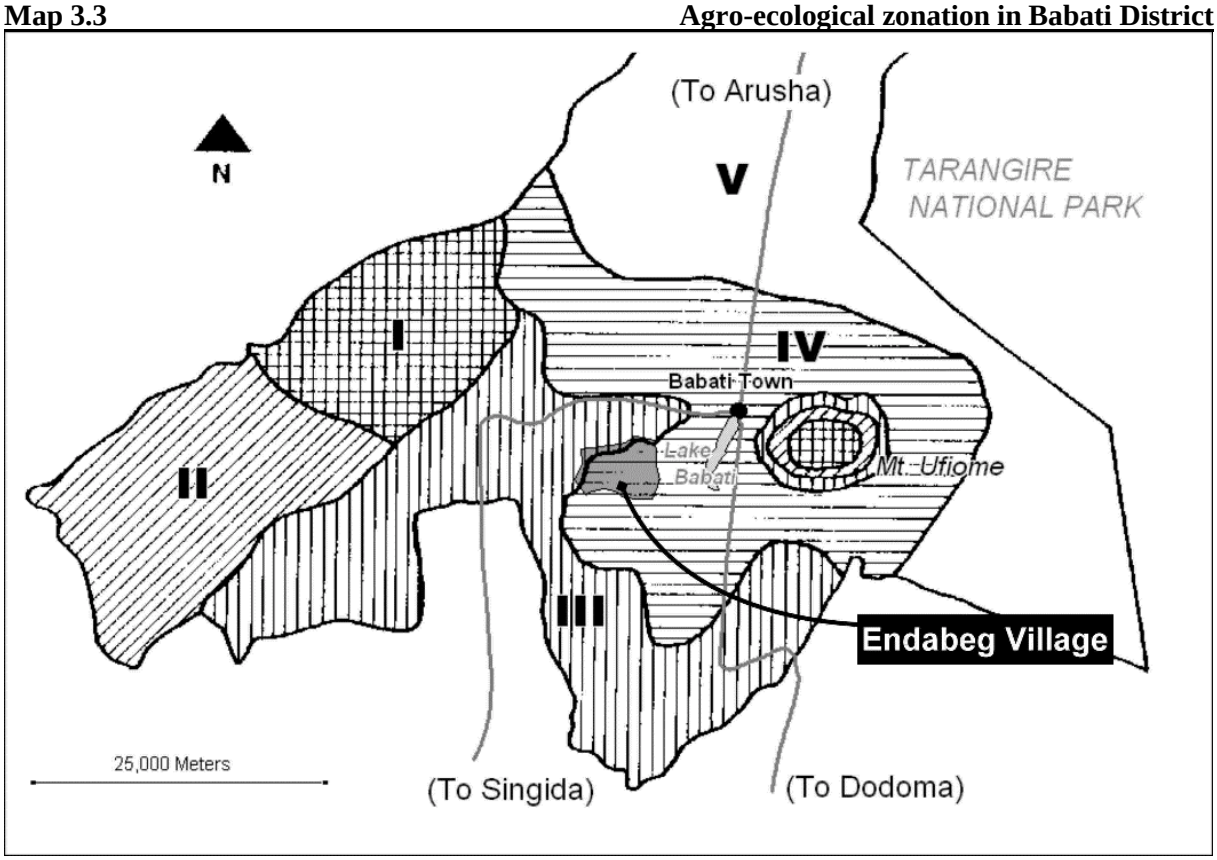
The "Semi-humid to semi-arid midlands", AEZ IV, is described as a "warm" (20-22 degrees C on average) zone with "adequate rainfall" (750-900 mm/year) and "good soil fertility", and as a "medium to high potential zone" for livestock production. Precipitation comes unevenly distributed over the year, resulting in an almost entirely dry season between June and October, "short rains" around December and a main rain season that normally falls in March and April. However, significant variations from this normal seasonal pattern should be seen as standard rather than an exception (Kahurananga 1992). People who have been living in Babati for some time know to tell stories from

[17] Ambiguities occur among the names of natural features in the area. For example, the river passing through the northeast corner of Endabeg village is here called *Endabeg*, after the map drawn in the early 1990:s (Photomap 1992). On a topographic map from the 1960:s, the same river is named *Endabec Ghwanji*, which is the name for a different watercourse on the newer map. Also, *Endashangwe* River has been referred to as *Yahoo* on another map. In this paper, the names most recently documented have been used consistently.

[18] The report by Jonsson *et al* (1993) has been referred to as "The Livestock Study of 1993" by other consultants working in Babati District (e g in Gebregziabher, Tekie, 1996).

[19] For an alternative land use zoning system building on altitudes, see Hillbur 1998.

Map 3.3 **Agro-ecological zonation in Babati District**



Southern Babati District divided into Agro-Ecological Zones (After Jonsson et al 1993).

Table 3.1 **Agro-ecological zones in Babati District**

Agro-ecological zone (AEZ)		Altitude (m)	Rainfall (mm)
AEZ I	Forest; Livestock-maize humid highlands	2 150 – 2 450	1 200
AEZ II	Livestock-maize (wheat) sub-humid highlands	1 850 – 2 150	1 100 – 1 200
AEZ III	Maize-beans-livestock (*Grevillea*-banana, coffee, wheat-barley) semi-humid uplands	1 500 – 1 850	900 – 1 100
AEZ IV	Maize-pigeon peas-beans-livestock (*Grevillea*-banana) semi-arid midlands	1 200 – 1 500	750 – 900
AEZ V	Pastoral, livestock-maize-cotton-beans-millet (rice) semi-arid lowlands	950 – 1 200	500 – 750

Source: Jonsson et al 1993.

years of draught as well as road-cutting floods lasting for several months (Mr Eriksson, personal communication).

These days, crop production is the most dominant form of land use, while in a relative sense grazing is becoming more peripheral. The most common crops cultivated in AEZ IV are maize, pigeon peas and beans and some bananas for a change. Most cash crops are marketed through cooperative organisations such as the Rift Valley Cooperative Union (RIVACU) (Lindberg 1990). Private plots

around homesteads are mainly used for cultivation and garden activities, planting of trees[20] and for cattle enclosures [Swahili: *Bomas*]. A few households have established units of stall-fed grade cattle. The technique of stall-feeding, or "zero-grazing", is common practise in heavily populated areas in Tanzania, for example in the Kilimanjaro region and in Rungwe district (Sibuga et al 1991), though stables are still a more or less sporadic sight in Babati district.

When discussing land use, it is important to note that Endabeg today is not primarily a pastoral village, unlike some of the northernmost villages in the district that are mainly inhabited by Maasai people. The grazing areas observed in this study are incommensurably smaller and less significant than the vast rangelands used by pastoral ethnic groups.[21] However, keepers of indigenous Zebu cattle still rely on the commons for grazing. In Endabeg, grazing land is found mainly on the lowland plains surrounding the riverbed gullies (Map 3.4, Photograph 4.2). The ground cover in these flat areas consists of heavy clay, or "black cotton", soils of volcanic origin, making the ground surface sensitive to erosion unless it is protected by rooted vegetation (Newman and Rönnberg 1990, Mr Limo personal communication).

Besides the areas used for crop cultivation, grazing, and settlement, certain areas of elevated land still remain uncleared (Map 3.4). These hills are covered with so-called Miombo woodland. The deciduous bean-pod tree (*Brachystegia spiciformis,* Swahili: *Miombo*) dominates the vegetation in this very common type of semi-closed canopy forest. The woodland is a multiple purpose resource, providing fuel-wood, bee hiving opportunities, medicine, fibre rope, building materials etceteras, but also land for grazing and leave browsing (Mbuya et al 1994).

Between 1960 and 1990 within the watershed of Lake Babati, the total area covered with woodland decreased from 30,000 acres to 20,000 acres, that is a decrease with approximately 33 percent. Looking only at the plains around the lake, including southeast Endabeg, the corresponding figure is 70 per cent. A calculated average for the total area of Endabeg Village shows a decrease with near 50 per cent in woodland cover between 1960 and 1990. (Newman and Rönnberg 1992)

It is not certain, however, that the woodland cover has always been denser than it nowadays is. Assessing the ecological history of Lake Babati and its surroundings, James Kahurananga (1992) notes the following:

> Oral history indicates that in ancient times the lake used to flood occasionally … The Lake was much smaller then and had only a few scattered trees on its periphery. After a period of heavy rain, a thick forest grew around the lake and incidents of flooding almost disappeared.

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[20] *Grevillea Robusta* is a common species, useful for windbreak and shade, soil conservation, timber, fodder (the leaves) and fuelwood (Mbuya et al, 1994).

[21] Pure pastoral resources seem to be more popular as objects of studies on pasture-related issues in the East African region (e.g. Lane 1994, Erikson 1999).

Woodland cover notwithstanding, it would have been valuable for the present study to have data showing the rate at which grazing land is converted into cultivated fields. Unfortunately such information has not been found.[22]

Map 3.4 **Excerpt from aerial photograph No 8954**

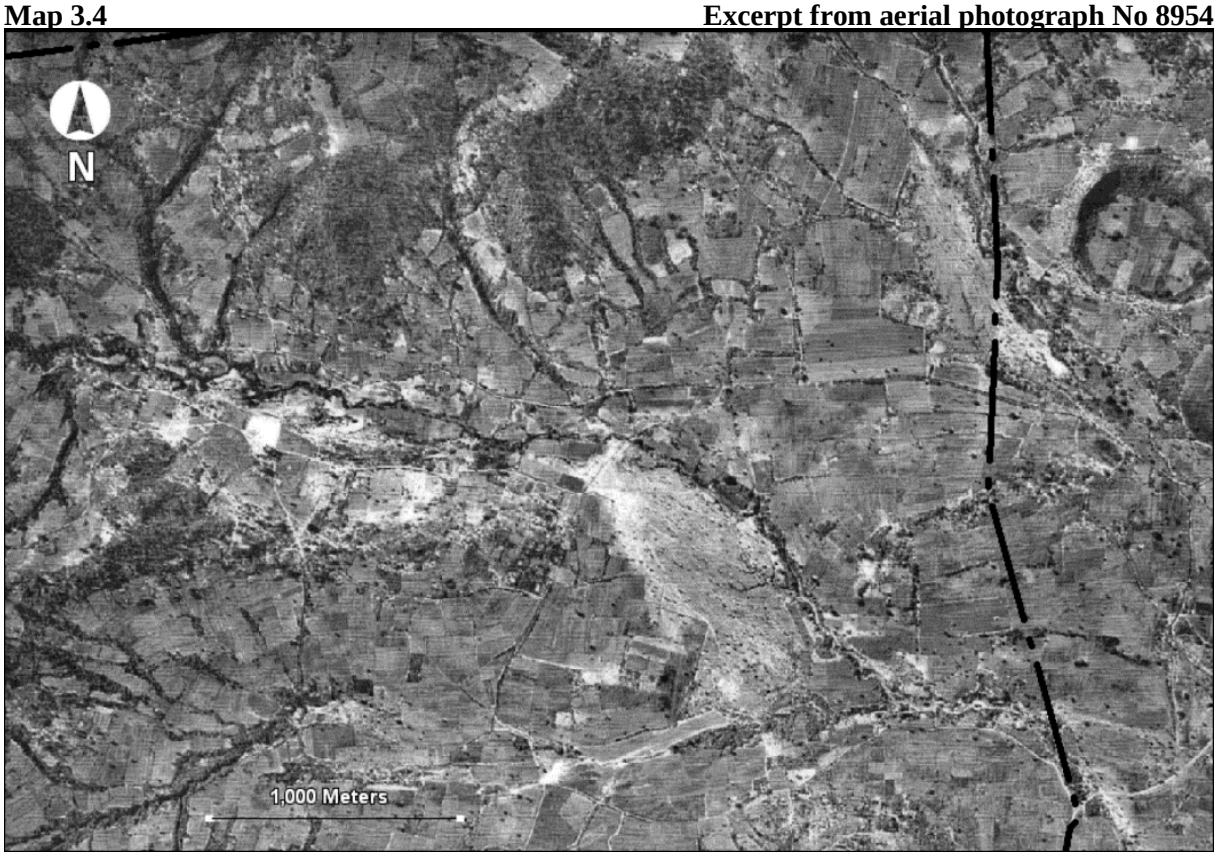


Image based on aerial photography from 1990 (Photomap International), covering a large share of eastern Endabeg. Boundaries to Nakwa and Sigino villages are indicated. The two large pale sections, in the centre and upper right of the image, are lowland grazing areas (CGA-I and CGA-A). Darker areas to the upper left are Miombo woodlands in the Giroy hills.

Land tenure

A prominent principle permeating Tanzanian land policy, old and new, is that land should belong to the people as a whole. The legal implication of this has become that ownership to all land is vested in the hands of the President, acting as a national trustee. Individuals, thus, cannot actually own land in

[22] Newman and Rönnberg (1992) merged grazing land with cultivated land in their analysis. No other dynamic data on grazing land area has been obtained. Anyhow, relying on the diverse aggregate information collected, I do not doubt that grazing areas have diminished during the last decades. See also interview results in Chapter Four.

terms of selling, renting or mortgaging it, but through certificates they can be granted rights of occupancy, which often add up to ownership in effect. (Wily 1998)

Both in customary and statutory law, the "ownership" is based on a type of usufructuary rights. This approach to land tenure security – to make land rights conditional of a productive use – has made low-yielding pastoral land vulnerable to expropriation or intrusion by cultivators. (Eriksson 1999)

Individuals and groups can receive a certificate granting right of occupancy to a piece of land for a period up to 99 years. This mainly controls land possessions in urban areas and on plantations, that is to say, in the formal minority sector of the society. For holders of customary rights to land there is an alternative legal instrument called deemed rights of occupancy, one that does not require any registration but is built on membership in a community.

A new land act together with a specific village land act have been authored during the latter part of the 1990s, in order to replace the colonial law that has been in use since 1923. However, it will still take some time before the Village Land Act enters into force, and probably a bit longer still until it starts influencing land tenure relations in rural villages.

A well-meant – but later proved illegal and not very successful – land reform was implemented on a nation-wide scale by the Nyerere administration in the 1970s.[23] Operation Villagisation[24], as it was named, significantly blurred land tenure relations (Lindberg, personal communication), and tenure insecurity has been a very common preblem in Tanzania since those days, a fact that has been thoroughly emphasised by every other author on land-related issues of the country.

Institutional framework

Collective choice

Tanzanian law provides an administrative structure down to the village level in the Local Government (District Authorities) Act of 1982 (continuous lines in Figure 3.1). This act states that every village shall have a Village Assembly and a Village Council, to whom certain power is delegated. The precise wording is as follows:

[23] *Ujamaa*: Familyhood. The political vision of the late president and father of nation, Julius K. Nyerere, mainly about self reliance and the people of rural Tanzania engaging in hard work for the sake of the common good. The vision became politically adopted through the launching of the Arusha declaration in 1967. (Nyerere 1968, see also Havnevik 1993 ch 2).

[24] Operation Villagisation [Swahili: *Vijiji*]: A policy implication following *Ujamaa*, which was implemented by the ruling TANU party (now CCM) – in fact illegally – on a large scale basis during 1967-72. Around 9,000 new villages were founded, and numerous people were forced to move their homesteads – often with little respect shown to customary landholdings or natural conditions for agriculture etc. – in the strive for increased agricultural production and a community-fostering society. (Lindberg 1996, Maganga 1999)

> A Village Council is the organ in which is vested all executive power … [while] a Village Assembly is the supreme authority on all matters of general policy-making in relation to the affairs of the village as such.

This legal structure is represented also in Endabeg Village, forming an obvious framework for formal decisions at the collective-choice level.

Above the village level, the hierarchy features wards, which typically include three to five villages. The District Council is in many matters the next higher authority directly above the Village Council, while officers at the division level are often occupied with extension services and farm training. Going back to the village level, the roles and the significance of the different local institutions and arenas may be discussed a bit further here.

The Village Council consists of 25 members, including an obligatory minimum of one-third female members and – until January 2000[25] – all the subvillage chairmen of the village. The term of office for Village Council members is three years, after which the Village Assembly elects new members.

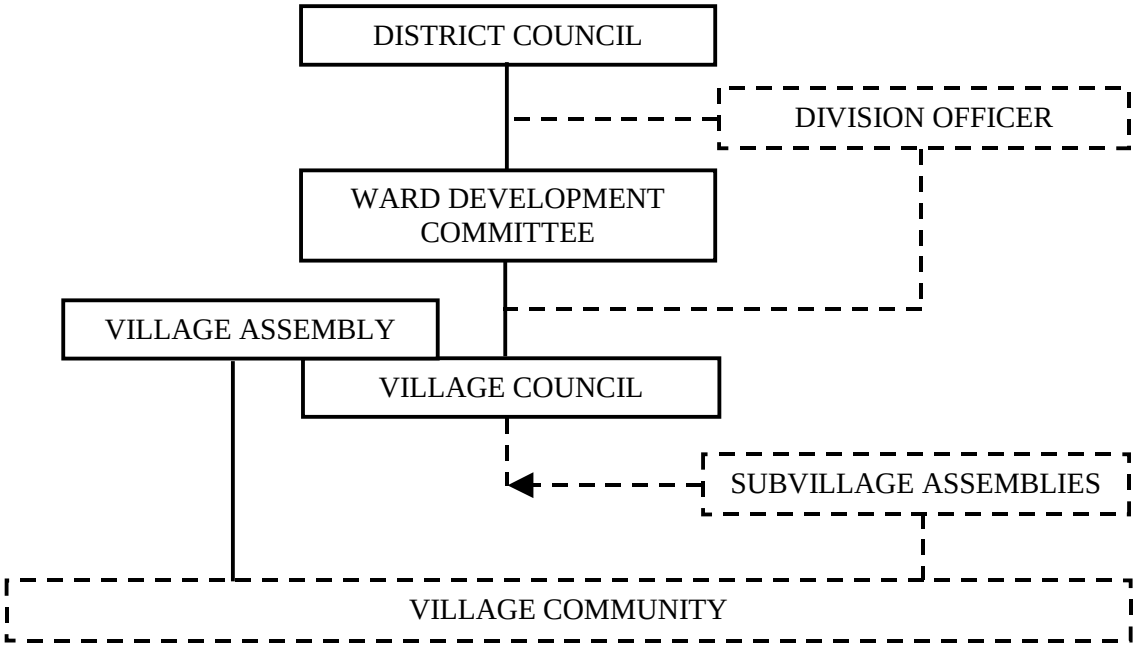
To recognise village assemblies in the legislation can be seen as a democratically oriented attempt to ascertain participation at the grassroots level, the village community. Although in effect, as Eriksson (1999) points out, the Village Assembly does not have any executive power over land matters, new by-laws and other major policy decisions must always be approved by the Village Assembly before entering into force.

The severest obstacle for effective participation through the Village Assembly is its size, combined with slow means of communication and information spread. All residents above 18 years of age in the village are members of the Village Assembly. As for Endabeg, this means that the number of Village Assembly members twelve years ago was higher than 1,300, according to the 1988 population census. It is easy to understand why, according to Eriksson (1999), "the problems of gathering the Village Assembly to discuss the proposed by-laws should not be underestimated". One could probably question the efficiency of this official institution for grassroots democracy (continuous lines in Figure 3.1). Later in this report we will return to discuss the 'Subvillage Assembly' as an alternative link between the village community and the official administration (broken lines in Figure 3.1).

[25] VCh Qwaray, personal communication. (Chapter 4)

Apart from the two village organs recognised by statutory law, other institutions exist that are important for local administration of land-related village matters. To begin with, Endabeg is subdivided into eight hamlets, or subvillages (Map 4.1, Table 3.2). Each of these smaller communities has an elected Subvillage Chairman (SVCh), who reappears as a member in the Village Council[26].

Figure 3.1 **Local governmental administrative structure**



Modified from Eriksson (1999). Continuous lines represent the legal structure defined in the Local Government (District Authorities Act of 1982).

Even beneath the subvillage level a hierarchical structure is present in the so-called ten-cell leadership, which is a remnant of the formal administrative hierarchy as implemented by the CCM (Lindberg, personal communication). However, the subvillage level is as deep as the present study reaches with its investigations in this respect.

Respected elders traditionally have a central role when it comes to conflict resolution. At present, it seems that official institutional leaders increasingly recognise their dependence on traditional authority for enforcement of their own decisions (Lindberg 2000). These circumstances

have not been recognised in Tanzanian legislation so far, but a new provision comes with the Village Land Act of 1999, defining the role of the so-called Elders' Tribunal (The United Republic of Tanzania 1999). However, at the time of the present field study, provisions of the new law had not yet entered into force, let alone been implemented at the village level.

An external actor worth mentioning in this context is the long-term development programme LAMP[27], which is founded by Sida and implemented in Babati by the District Council and Orgut Consulting Ltd. In Babati District, LAMP has been a prominent actor on the land husbandry scene during the last few years, including a support office with two or more full time advisors from Sweden. Endabeg is one of LAMP's so-called IMDA[28]-villages, as the village in 1993-1994 participated in a combined waterpipe-construction and education project involving three villages within one watershed (Skaarud 1995).

Table 3.2 **Subvillages in Endabeg**

Subvillage	Subvillage Chairman (SVCh) 1999	Families	Iraqw/Gorowa
Ayaaben	Mr Matayo Hera	71	55 %
Ayahath	Mr Joseph Siima	62	89 %
Endabeg	Mr Leonard Suley	75	99 %
Endashangwe	Mr Daniel Shauri	70	90 %
Gayo	Mr Alphonse Hali	52	96 %
Giroy	Mr Phaustin Qwaray	65	97 %
Khongumo	Mr Tluway Onna	90	79 %
Kitangyaro	Mr Banga Michael (also VEO)	106	78 %

Demographic data from the 1988 population census (Lindberg, n.p.)

Operational rules and sanctioning

Land-use related rules at the operational level are formally documented in by-laws, issued by the District Council or the Village Council. By-law clauses may restrict activities such as tree-cutting, cultivation or grazing on certain areas of communal land, for example within fifteen metres from riverbeds or on steep slopes. Rules that enter into force as written by-laws are usually enforced by a fining system. An exact amount is then specified in connection to each respective clause in the by-law

[26] From January 2000 a maximum of five subvillage chairmen are allowed to enter the Village Council as members. This means that over any given three-year period three subvillages will stay without a direct hierarchical representation in the Village Council.

[27] LAMP has been referred to both as the Sweden-Tanzania Local Management of Natural Resources and as the Land Management Programme.

document. The Village Executive Officer (VEO) has the right to collect the appropriate fine from individuals violating a by-law. (Erikson 1999)

Customary institutions

Recent and ongoing research in Babati District and its vicinities show that the impact of customary institutions and traditional beliefs on decision making is still great. Among the Iraqw, originating from the Mama Isara area in Mbulu district, Loiske (personal communication) explores a complete hierarchical system of spatial entities existing parallel to the wards, villages and hamlets of the official society. The spatial distribution explained by Loiske involves the *Aya*, which in expansion areas can encompass several modern villages and is often delimited by the water division line of a complete runoff system, the *Hhay*, which can be interpreted as clan land, and something referred to as ridge communities, consisting of four to ten households.

Such alternative institutions often have existed over long time, but they are still integral to the social and cultural functions of the society. "Thus we cannot consider these different models of decision making as either modern or traditional. Maybe not even as different models" (Lindberg 2000).

Etnography and population

> We cannot begin to think about common property management unless we have a clear sense of what precisely is the community which controls the resource. (Bruce 1990).

It can prove difficult to achieve precise information on ethnic composition and population in a Tanzanian village. Many areas in Babati District have during the last decades, especially between 1978 and 1988, experienced a period of massive population expansion due to immigration from many different areas in Tanzania. Today, there is an "extremely complex mixture of different language groups [in the district]". (Lindberg 2000)

The pastoral Barabaig previously inhabited large parts of southern Babati District, but they have now lost most of their pasture to immigrating farmers. In Endabeg Village today, about ten per cent is Barabaig, and many of them have probably more or less adapted the language and culture of the main ethnic groups.

Nearly 85 per cent of the households belong to one of the two ethnic groups Gorowa or Iraqw, according to demographic data from the population census of 1988. The Iraqw started to migrate down

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[28] LAMP has explained the IMDA concept as Integrated Multidisciplinary Development Activities (Kahurananga 199?)

from the Mbulu highlands early in the 20th century (Meindertsma and Kessler 1997, Loiske 1995), while the Gorowa have been present longer in the area. Despite the different history of the two ethnic groups, their ethnographic characteristics are almost identical (Lindström 1988).

Most livestock keepers in these groups are so-called agropastoralist, depending mainly on cultivation for food supplies and cash, but with livestock still playing a central role in the non-monetary economy and in the social life, as well as providing draught power for cultivation and transports. The Iraqw have proved to be relatively influential in terms of culture and language etceteras. Therefore, to simplify the analysis, the whole population in Endabeg will be generalised and regarded as Iraqw in the present study.

In 1988, the total number of inhabitants was 2,963, distributed on 591 households. The number of men and women fit for work, taken as the age groups between 15 and 65 years of age, was 1580. The exact number of inhabitants in the village today is not known with certainty, though indications show, contraty to common apprehension, that the rate of population growth has actually turned negative since the last population census (Lindberg, personal communication). This trend could be confirmed by summarising the household records revealed by sub-village chairmen in the present study – 515 households all in all.

Table 3.3 Population and space in Endabeg Village

Human population in 1988	2,963 (official census figure)
Population growth rate	Unknown – indicated negative in 1999
Animal population in livestock units (cattle + small stock / 2)	1,000 – 3,000 (very uncertain records)
Village area	2,850 hectares = 7,042 acres
Communal grazing areas	~500 acres (Chapter 4)

Animal husbandry and grazing practices

Livestock

Livestock is an integral part of life for most people on the Tanzanian countryside. Still today, it is common that people practise a rather extensive form of animal husbandry for a variety of purposes. According to the official livestock census of 1984 respectively the human census of 1986, the number of cattle in Babati District (221,188) exceeds the number of humans (195,175) (Lindström 1988). A generalised list of arguments for keeping livestock includes economic security, carrying- and draught power, manure, milk, meat, dowry and religion as well as prestige (Lindström and Kingamkono 1991, Mung'ong'o 1995, Lindberg 1996, Meindertsma and Kessler 1997). Non-monetary benefits are

especially important for keepers of traditional Zebu cattle, mules and small stock, while milk from zero-grazing grade cattle can be an alternative source of income for wealthier households that can afford initial and running costs involved in starting up such a business. Pure economic reasons are blended with status credit.

Among agropastoralists living in areas with heavy clay soil, Clas Lindberg (1996) observes that ploughing has actually become an important reason for keeping cattle, thus surpassing previous main objectives milk production and social prestige. Since oxen are very expensive to buy, and since it requires a high ratio of cows in a herd to continuously reproduce a full team of oxen, it is far too costly for most households to keep a sufficiently large herd of cattle for this purpose. Instead it is common practice to hire draught animals. An alternative can be to buy and raise male calves or even to hire and house a pregnant cow to aquire and keep the offspring.

As pointed out, most people in and around the study area do not keep livestock primarily for production and marketing. Nevertheless, trade-related factors are important as components in an analysis of economic constraints and households' dependency on communal grazing land. Looking at the livestock branch of the local economy, commercial outlet opportunities for meat and milk are mainly found in Babati Town, by selling directly to individual restaurants. Currently there appears to be no cooperative marketing of livestock or animal products in the study area. A significant share of animal products is still being informally marketed to neighbours and other private persons (Jonsson et al 1993).

There is a high demand for milk from grade cows or exotic goats, as well as for meat from Zebu-cattle, sheep, goat and poultry. Milk is a relatively profitable product, commanding a price of TSH 70-120 per litre in 1992 (Jonsson et al 1993), yet there is no dairy plant with a logistical reach into the study area. As regards meat, any marketing similar to that of crops would imply problems related to long transportation times and lack of storage infrastructure. Local slaughter is therefore not as good an option as selling live animals (Lindberg 1990).

In general, domestic creatures tend to be a highly mobile asset. Cattle and smallstock are moved around on a daily basis for grazing, watering and provision of minerals, but also due to more long-term factors such as local feed shortage or destocking regulations. One should bear in mind that Babati District is located in what resembles genuine wild west country, where cattle trekking is still used as a means of long distance transportation in the livestock sector (Lindberg 1996). No specific information has been obtained about any such cattle tracks passing through Endabeg Village. On the other hand original stock routes in the region have pretty much ceased to be maintained, which might lead to that trekkers choose alternative paths (Jonsson et al 1993).

It is common practice among medium-scale farmers to "lend" or transfer livestock to other areas in order to distribute risks or to adjust to varying grazing conditions. In such cases, the owner's relatives or friends often manage the animals. Actual trading of mature livestock occurs mainly at

extraordinary events like weddings, or in times of emergency, then substituting a non-existing insurance coverage. There is an ambulating cattle market/-auction, *Mnada*, featuring lots of other merchandise, which tours the district stopping regularly at selected market areas. The market most adjacent to Endabeg is the one opening outside Riroda village centre on the 18th every month.

As a remark, available accounts of the number of livestock units kept in Babati District or in Endabeg Village should not be considered fully reliable. In general, results from official census-like investigations and research are underestimations. Reasons for this are that peasants often fear that revealing a large number of cattle will lead to high taxation, or that they are aware of the role of livestock in the continuous debate on overgrazing and soil erosion (Lindberg 1990). Also, as mentioned above, owners of many heads of cattle tend to split their herds into smaller units in order to distribute risks related to diseases and feed scarcity. These factors add up to a complex reality, built on a type of cross-village networking, which has proven hard to unveil when it comes to description or analysis of any livestock-related problem in this part of East Africa (Lindberg, personal communication).

Grazing land

Looking at the land utilised to raise cattle and small stock today – the object of the present study –, Lindberg (personal communication) observes a patchy structure, including roadsides, harvested fields, multipurpose woodlands, and margins of water bodies etceteras. Privately fenced pasture is a rarity in the Babati area, and hence livestock keepers rely heavily on the leftover marginal land that could be classified as some kind of commons. In the livestock study (Jonsson et al 1993) it is mentioned that "High population density and land scarcity are serious constraints in this zone [AEZ IV]", and that "the major constraint to livestock production is the availability of grazing land".

Today it is a usual fact that grazing areas are decreasing in size and productivity at a faster rate than livestock numbers are lowered, leading to depletion of vegetative cover and to soil erosion. The limited availability of pasture has implications both for animal nutrition and for soil condition. Since the present study is concerned with land mainly, we will focus on soil condition and overgrazing rather than malnutrition. Over-grazing has become something of a buzzword in the rural development business sector, and it is used to explain symptoms of soil degradation far more often than it is explained and defined in itself. Jonsson et al (1993) make an exception in providing a quantitative measure of carrying capacity in the district – although no documentation or reference is given on how these figures have been calculated.

> The carrying capacity of the semi-arid rangelands is 15-20 acres per Livestock Unit (LSU). An LSU is equivalent to a cow weighing 250 kg. The actual stock rate in Minjingu (AEZ V) is about 7.5-10 acres per LSU, which is twice its carrying capacity. The highland pastures in Bashnet (AEZ II) are also

> seriously overstocked, with a carrying capacity of 7.5-12.5 acres per LSU but a stocking rate of two to three times over this. The situation is even worse in the intensively cultivated agro-silvi-pastoral midlands (AEZ IV), uplands (AEZ III) and highlands (AEZ I).

Consultant Tekie Gebregziabher (1996) – presenting a survey of AEZ III areas in Gorowa Division – agrees to that availability of grazing land is the main constraint to livestock production, and also states that there is a prevailing conflict between cultivation and grazing, mainly during the rainy season. In the dry season, private cultivated fields actually seem to be the main source of digestive matter. The practice of letting cattle and small stock search for edible crop residues on field plots is often referred to as post harvest grazing (LAMP 1996 a, Lindberg 1996). Through a by-law issued by Babati District Council in 1987, all grazing on cultivated fields was made illegal, in an attempt to promote soil conservation. In eastern Babati district, Lindberg (1996) observed that grazing practices are indeed changing in this respect, although slowly. Such detailed information on behavioural dynamics is not yet available for Endabeg.

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Two main strategies can be detected among professional writers dealing with the problems of overgrazing and feed shortage in communal grazing areas in Tanzania. Some are all but optimistic about prospects of improved management of communal grazing land in Tanzania.

> Pasture utilization in Tanzania is governed by land ownership. Communal land ownership is widely practised in Tanzania under both the pastoralists and agropastoralists. This system has contributed greatly to the deterioration, denudation, desertification and to the low investment towards improvement of the rangelands resource. Any attempt to institute grazing systems and range improvement activities have mostly failed. (Kusekwa and Mwilawa 1992)

The authors of “The Livestock Study” (Jonsson et al 1993) envisage that zero-grazing, combined with long-term leases of land to individual farmers, is the best solution to the problem of over-grazing and feed shortage. No time frame is given for this forecast of development in the livestock sector. Nor do the authors seem to consider improved management of remaining communal grazing areas as an option in this context.

> Generally, for the whole of Babati District (regardless of the AEZ), grade cattle will contribute to soil conservation on grazing land only after the land tenure problem has been resolved. Without individual long-term leases given to farmers, the present communal grazing areas, which are grossly overstocked, will continue to be overgrazed and eroded.
>
> Once the villages are demarcated and registered, demarcation of individual plots (where the house is) and farms (where the crops are grown) should come after, followed by a right of occupancy. Only then will the owners feel the responsibility to preserve and improve their own pieces of land by planting trees and grass/fodder. In time, they will reduce their large herds to a manageable size and

> eventually substitute more productive grade cattle for indigenous cattle. When all this is done, communal grazing lands will disappear and pure pastoralism will no longer exist in the district.

Others, for example Dr Liz Wily (1999a) who has been involved with Community-Based Forest Management (CBFM) in Babati District, maintain that all villagers are fully capable to take responsibility for and manage shared resources together provided they are given adequate training and information. Hence, according to Wily, the CBFM approach would be suitable to extend also to other types of commons, especially grazing land.

> The time has arrived in which Babati District Council might actively adopt the CBFM approach to bring resources other than forest/woodland under precise and accountable grassroots level management. The most important sphere here would be communal grazing lands. Virtually every village in the district possesses some amount of communal grazing land. Virtually no village in the district has adopted any form of accountable decision making and management as to the rational and conservatory use of that resource.

To some extent, the present study explores the analytical space between these two extreme scenarios.

CHAPTER FOUR

FIELDWORK RESULTS

The following chapter is an account of empirical interview material, observations and other relevant information derived from the field study. The fieldwork objectives (Chapter 1) aimed at describing the situation that faces livestock keepers in Endabeg Village as they share the opportunity of withdrawing resource units from communal grazing land within the village. Presented here is mere raw material deriving from interviews and observations, distributed under a number of sub-headings. Surnames noted after quotations refer to persons listed in the References section. In order to summarise the findings, the chapter continues with a run-trough of the results from the feedback meeting held on the last day in the study village. A list of interviews conducted at the village level is provided in Chapter Two. In the end of this chapter comes a review of opinions collected from a few senior academics in the field of natural resource management in East Africa.

Interviews and Observations

History

In the past all people had plenty of land, while today most people have not. A concrete change in land use patterns set off in connection to the national attempt towards land reform in 1974-76 – *Ujamaa* and Operation *Vijiji* (footnotes 23-24).

> More land was cultivated after Operation Villagisation, because before, when people did not have to compete, they cultivated less than three acres on average. (Margwe, Senyau, Qamara, Baqayo)
>
> – **Have you always had communal grazing areas, even before *Ujamaa* times?**
>
> Traditionally, there has been no ownership of grazing areas. We used to sit on the hills and just watch the cattle graze in the valleys. The only danger was leopards and hyenas.
>
> – **Was there a shortage of grazing land immediately after Operation *Vijiji*?**
>
> It was starting to become a problem. Encroachment on grazing areas was a common feature. People, and the leaders, did not follow the law. In addition to that, traditional grazing land was allocated to private farmers during *Vijiji*.
>
> – **How has the productivity of grazing land changed over the years?**

> Even in areas that are now dry during parts of the year, there was plenty of grass during the dry seasons before the 1970s. We used to burn the hills to kill ticks.

– **What are the causes for this development?**

> Before, more grazing land was available. Now farms have expanded into this land. (Margwe, Senyau, Qamara, Baqayo, Qadue)

It seems that a rapid decrease of the aggregate area available for grazing may have led to a situation of overstocking, which in turn may have had adverse effects on the productivity of the remaining patches of grazing land. The Village Chairman shares the common opinion that population increase caused the diminishing of the grazing areas formally set-aside during the *Ujamaa* period.

> During the *Ujamaa* era, the village had areas set-aside for grazing. The communal grazing areas were used for grazing even before the villagisation, but they were first demarcated in 1978-79. Every subvillage then had a communal area for grazing. However, the number of people increased every year, and therefore the village decided to "let go" with these grazing areas, and instead allocate the land to people for farming. Since 1989, the large plain in Kitangyaro [CGA-I] is the only village-communal grazing area. Ayaaben and Endashangwe subvillages have their own grazing areas [CGA-A and CGA-E]. (VCh Qwaray)

Others indicate that the real cause behind the loss of grazing land had to do with weakly enforced regulation of pioneer cultivation during the mid-1980s.

> During *Ujamaa*, people were allowed to have three acres only for cultivation. In 1985, the restrictions on the size of farms seized. The grazing areas started to decrease, and the land started to "become tired" fast back then. Not many people were moving into Endabeg and Giroy at that time, but people started to cultivate more land. They did also decrease the number of livestock heads. (Qadue)

> The only reason for the overstocking situation to become worse in recent years is cultivation on grazing land. Back in 1986-87, people could start to cultivate new land and establish farms on grazing areas. They took land themselves because they inherited it. It was not easy to talk to these persons at the time, because the leadership was not strong enough. In 1990, people stopped cultivating in grazing areas, due to new rules imposed by the Village Council. (SVCh Siima)

The 1990s featured a series of dry years, layered with periods when extreme levels of precipitation lead to unusual flood conditions. This has worsened the situation of grazing land scarcity, although the root of the problem probably lies in the competition with other types of land use, mainly cultivation. Although the land is "less" now, the same system is still being used, meaning lots of cows and free access.

The CPR today

To depict the communal areas used for livestock rearing in Endabeg was found to be a much wider task than just to copy the boundary of grazing areas in the Existing Land Use Plan[29]. The most prominent attributes of the communal grazing areas are their fragmentation and the spatial differences in ecological conditions. It is actually questionable whether or not it makes sense to regard the many small pieces of land as one collected resource. In some parts of Endabeg Village, such as Gayo, the situation today differs much from what it was like "in *Ujamaa* times", since in effect there are no longer any commons available for grazing. In other places things are more or less the same as before. As Lindberg (personal communication) points out, several categories of more or less marginal land used for various purposes are nowadays important as sources of fodder (Chapter 3). However, in order to simplify the delimitation of the study object, mainly coherent areas of relatively significant size are considered here.

Two main types of communal land within the boundaries of Endabeg Village are used for cattle grazing. 1. Hilltops and slopes covered with Miombo woodland, and 2. Lowland alluvial plains and watersides (Chapter 3). Due to the special characteristics mentioned above, it was hard to measure the exact size of the grazing areas. A very rough estimate would be that the lowland grazing areas (CGA-I, CGA-A & CGA-E) cover 170-180 acres, while the woodlands used for grazing stretch over 300-330 acres, making up about 500 acres altogether, or seven per cent of the total village area. Areas of both types provide pasture mainly during the wet season, though parts of the lowland plains become waterlogged during the rains[30], impeding grazing.

Spatial distribution and boundary

A good start, in order to get an overview of the distribution of CPR patches in the village, was to look into the communal land assets within each subvillage (Map 4.1).[31]

> The village's main grazing area [here referred to as CGA-I] is in Kitangyaro[32]. Apart from that area, there is no communal land in this subvillage. (SVCh Michael)

> One area is held in common in Khongumo subvillage. It is a steep slope covered with Miombo trees, which is "no good" for cultivation. The area is used for grazing only, all year round. (SVCh Onna)

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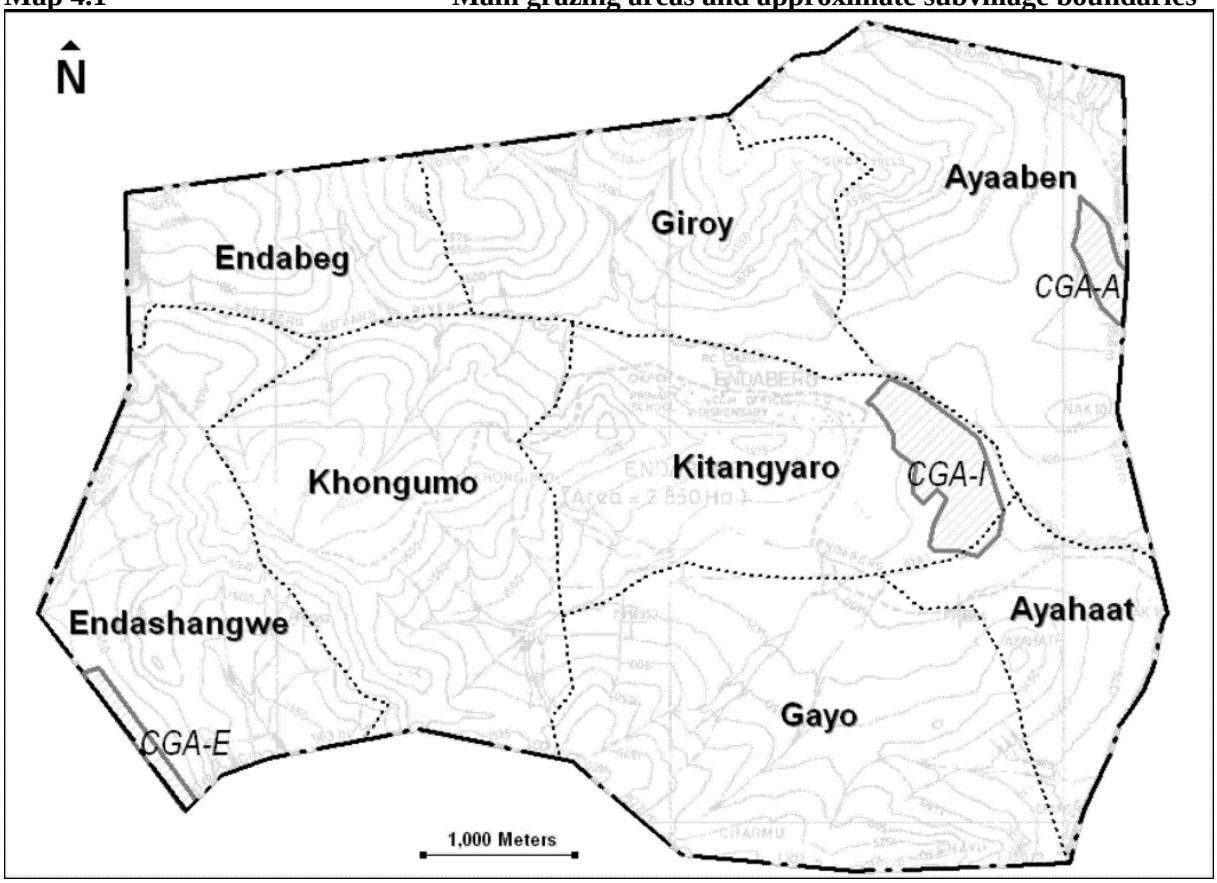
[29] Top-down planning conducted by employees from Arusha Region in 1989. Several researchers and officers at Babati District consider these official plans to be of little interest due to the lack of participation by villagers during the planning process (Mr Nagunwa and Lindberg, personal communication). A copy of the "proposed land use plan" is anyhow hanging on the wall at the CCM office in Endabeg, proposing a remarkable extension of existing grazing areas into land that is cultivated already today.
[30] Mr Limo during a field visit to Endabeg.
[31] See the interview guide in Appendix.
[32] CGA-I covers approximately 115 acres, according to aerial photographs from 1990. (Photomap International).

Map 4.1 Main grazing areas and approximate subvillage boundaries[33]



In Giroy, two hill areas of about twenty acres are commons. All other land is held in private. Only grazing is allowed on the commons, and there is grass from the first rains (November to December) to August. As there are mostly bushes around the hills, the grass does not grow well. Tree cutting is not allowed in the commons. (SVCh P. Qwaray)

The subvillage Endashangwe has one communal grazing area [CGA-E] along the boundary to Riroda village. The area includes the only water source for people in Endashangwe. CGA-E is usually flooded during parts of the year but it is used for grazing from May. Also the hills are grazed, but only during the wet season until the grass is finished. (SVCh Shauri)

Gayo subvillage does not have any grazing area of its own. Before, grazing was allowed in the hills[34]. The only boundary for the grazing area was then the village boundary to Riroda. (SVCh Hali)

Ayahath members use a grazing area of about one hundred acres at the boundary to Kitangyaro [i.e. CGA-I]. The hills within the subvillage are only used for grazing by subvillage members. In addition

[33] The accuracy of the Subvillage boundaries cannot be guaranteed with higher precision than +/- 500 meters.

to these grazing areas, two smaller uncultivated pieces of land (less than two point five acres) are spared for elders who go there for spiritual gatherings. One is near the road to Riroda and the other one lies behind Ayahath hill. Most farms are far from grazing areas, sometimes with riverbeds in between. There is grass in the grazing areas between January and April. (SVCh Siima)

Endabeg subvillage has one grazing area in the forests-clad hills, which are also used for logging and fuel-wood collection. All these activities are important. There are no special boundaries for the grazing area. Many years ago, the whole hill was used for grazing. (SVCh Suley)

The communal grazing area in Ayaaben [CGA-A] is an environment quite similar to CGA-I, only smaller. It measures about …[35] acres on the Ayaaben side (Maps 3.4 and 4.1). There are also hills in Ayaaben subvillage, which are considered as communal grazing land. These are not easy to measure. Communal land is used for nothing else than grazing, except for fuel-wood and log collection. There are no clear boundaries for the grazing areas themselves. In some places, boundaries are demarcated by trees or by riverbeds. Cultivated fields are often demarcated. If you cultivate close to grazing areas, you must plant sisal around the plot to prevent cattle from intruding. (SVCh Hera)

Photograph 4.1 Boundary stone location

Boundary stone in the corner of Endabeg, Arri and Sigino villages. During the transect walks, people living close to the village boundary were always able to locate the demarcation stones established in 1990.

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The village boundaries are demarcated and mapped as mentioned in Chapter Three. Concrete boundary marks could also be observed in the field, at 10 breakpoints along the mapped village boundary.

[34] Compare the sub-section "Extension and Development Aid" below.
[35] The area in point is thirty-six acres according to aerial photographs from 1990 (Photomap International).

– **How were the villagers involved in the demarcation process?**

> The Village Council was given the message of the new boundary demarcation. Thereafter, all residents along the old and new boundaries were involved during the physical demarcation. (VCh Qwaray)

The Kenyan consultant Photomap International Inc performed the aerial photography and mapping of the village boundaries in 1990-1992, by direction of LAMP.[36] The present subvillage boundaries were defined in 1993, by the village government. Prior to that, there were only five subvillages (Ayaaben, Giroy, Endabeg, Khongumo and Gayo). Existing landmarks were used as boundary indicators.

– **How important are the boundaries between subvillages?**

> Subvillage boundaries are used only for administrative purposes, that is to say, to facilitate the work for the subvillage chairmen. Annual records of the number of residents, livestock etceteras are taken on the subvillage level to be collected and kept at the Village Council's office, and to be reported to the ward office. (VCh Qwaray)

Within the subvillages, communal grazing areas are normally not demarcated, unless any specific situation has caused the authorities to act in this respect.

> Some people from Kitangyaro took land in CGA-I for cultivation in 1995. The village government then settled a boundary, marked with sisal fence in the corners. You can see the area on the village map [the land use plan] [37]. (SVCh Hali)

Internal structure

The resource use potentials of the Miombo woodland are described in general in Chapter Three, while little secondary information was found on the other types of land used as pasture in the study area. Fodder growing in the low-lying CGA-I consists almost exclusively of star grass and various species in the *Panacetum* family. The black cotton soil in such areas has a good potential for growing alternative fodder grass species, such as Rhodes- and Elephant Grass (O'Reilly 1975 and Mwanga, personal communication). The third large grazing area, CGA-A, looks very similar to CGA-I. Dry and cracked black cotton soil with Acacia trees sparsely distributed over the area.

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[36] After personal observations and on-site discussions with villagers living close to the boundaries (the north-west corner of Endabeg), I consider it verified that they had indeed been involved in the practical demarcation. I do suspect, however, that either the boundaries are slightly inadequately depicted on the map, or the dissemination of information to villagers, concerning boundary changes, has not completely fulfilled its purpose.
[37] See footnote 32.

Photograph 4.2 **CGA-I**

The village's main grazing area in November 1999.

CGA-E, in Endashangwe subvillage, is adjacent to the permanent wetland at the boundary between Endabeg and Riroda villages. The area is part of an evergreen belt that extends all the way from Lake Babati (5-10 km), along *Endashangwe* River, providing water and pasture. During a visit to the area in the beginning of November 1999, waterholes and tiny streams were observed. Some green grass was still found, and groups of cattle and small stock were grazing. Digestible *Synode* grass is growing in the marsh (Mwanga, personal communication). According to a group of people from Riroda village, this is not a communal grazing area, but instead parts of private plots.[38]

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There are visible signs of soil erosion both in the lowland plains, in the form of large riverbed gullies (Photograph 4.2, left), and on the hillsides where cattle tracks are eroded. People also claim that grass is growing less well today than it did before. The land has become tired [Swahili: *Ardhi imechoka*], as people often put it. According to almost every person interviewed, the grazing areas are too small in relation to the number of cows and other animals grazing in the village. Another problem is the

[38] According to existing by-laws, grazing is illegal in so called watersource areas (see below), including CGA-E (Babati District Council 1999a, SVCh Shauri personal communication).

absence of a controlled system for rotational grazing, which manifests itself in springtime by overstocking on communal land.

> A continuous problem is that people let cattle graze early, before the grass has started to sprout. CGA-I could support about 500 cows[39] during the three months that the grass lasts. The present year, the grass was finished after only two months of grazing. (SVCh/VEO Michael)

Operational rules and enforcement

> In communal grazing areas there is no rule. As a subvillage chairman, I do not care about the land for grazing. Boundaries for grazing areas are not seen as important. (SVCh/VEO Michael)

Although many of the subvillage chairmen in Endabeg would argue that there are indeed rules in communal areas, for instance with regard to cultivation expansion, SVCh Michael appears to be right in that livestock activities in these areas are not regulated at all. The only case of actually restricting grazing in the commons may have occurred in Gayo subvillage, where grazing in the hills is prohibited according to SVCh Hali.[40] The Ward Executive Officer in Riroda Ward reinforced the impression that the commons is not considered top priority in the village.

> Endabeg has no management of commons. When I asked them about this, they did not respond. (Ward Executive Officer Farayo)[41]

Other Village by-laws on general land use matters exist, which apply to grazing and putting out cattle in particular areas, such as riverbeds and roadsides:

> 4.2. The Village Council prevents all sorts of things, which might cause land related nuisance within its boundaries as follows:
>
> …
>
> d) Grazing on reserved areas.
>
> …
>
> f) Grazing in roadsides, school-, office-, dispensary-, and communal areas. (Babati District Council 1999b)

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[39] According to Mr Limo of BDC (8.12.99), the area in its present condition has a carrying capacity for only eight to fourteen full-sized cows. This statement has not been crosschecked.
[40] This piece of information proved unreliable during the feedback meeting, as the SVCh withdrew his earlier statement.
[41] This statement should probably be seen in the context of that other villages in the Ward have received extensive support for commons management through the Community Based Forest Management component of LAMP (below).

According to the District's land regulations, nobody is allowed to conduct any activity within the village boundaries without the consent of the Village Council. Concerning transport of livestock, a by-law says that nobody is allowed to take livestock over the village borders to sell or shift them permanently, without permission. This rule is "strictly" enforced, according to the Village Chairman, and villagers report if they notice any such activities. The by-law does not concern day-by-day grazing in other villages, though.

> All villagers, and people from other villagers, are allowed to graze on CGA-I. There is a common understanding. No control is exercised over grazing periods or over numbers of heads of livestock. Other activities than the grazing-related are not allowed in the area, with an exception for occasional on-site meetings of spiritual character, dealing with problems of livestock and grazing among other issues. (VCh Qwaray)

If a village government would close an area for grazing, they could issue fines on rule-breakers, related to the damage. A fining system is already attached to the existing by-laws in the village (Babati District Council 1999b, sections 5.1-5.7). It is the Village Executive Officer who collects information from subvillage chairmen on whether or not people follow the existing rules.

> For example, grazing on other peoples' private farms is forbidden, and there is a fine for that. Nowadays, our government has no plan for controlling the grazing areas. They only stop people from cultivating in grazing areas.
>
> – **How do you get information on how people follow rules?**
>
> Sometimes it is hard to get to know everything, because people know about the fines... (SVCh Hera)

Appropriation and provision

In 1999, the village's official accounts on livestock numbered 784 heads of cattle and 530 goats and sheep (data retrieved from the VEO's office). No good checking of these numbers could be obtained from the chairmen of the respective subvillages in Endabeg, while many pointed out the difficulty in gathering accurate data from the tax-conscious farmers. Hence, the figures should probably be taken with a generous margin of uncertainty.

Resource use and management ambitions

Communal grazing areas are used "all year round", but there is grass only between January/February and April/May.

> If grazing in communal areas could be controlled, there would be grass. People go there with cattle even between June and December, because there is no organisation. In the evenings, after grazing in the fields, people pass by the area [CGA-A] to look for grass. If we succeeded to stop grazing in the hills, we could also get enough fodder grass. (SVCh Hera)

Nothing has been planted or sown on communal land. Several subvillage chairmen expressed concern about depletion of woodlands and the symptoms of soil degradation in the commons. However, the difficulties seem to overshadow the ambitions when it comes to practical improvement or other conservation measures in these areas. Some people in Endashangwe, for instance, have planted grass on their private contours, but this provisional technique is not perceived as viable for communal grazing areas. The subvillage chairman of Endashangwe explains.

> It is difficult to plant such grass in the CGA-E, because it is flooded every year. On the hills, everyone could graze so it would soon be finished. Also, the bushes on the hills become lush during the wet season and hinder the grass from coming up. We have thought much about this, but if we would clear the bushes we would have soil erosion and destroy our farms downhill. (SVCh Shauri)

Even on private land, the success rate is quite low regarding maintenance of planted fodder grass, which of course makes the prospects for successful provisioning activities on the commons even worse.

> The price for legume seeds is TSH 8,000 per kilo, and for grass seeds TSH 6000 per kilo. This is very expensive for a farmer. Therefore, no individual farmers buy products from the Grass Multiplication Centre in Babati Town. To enable farmers to plant stabilising grass on their soil conservation structures [contours], LAMP supports distribution of seeds and seedlings. To grow well, planted fodder grass needs continuous weeding and pruning, as much as 5 to 6 times before harvesting. The success rate among farmers in maintaining improved grasses is 20 per cent. Planted grass is often uprooted annually, due to post harvest grazing. (Officer Mwanga)

Livestock mobility

To move is often a way out for livestock keepers facing fodder shortage or similar hardship. Policy decisions aimed at decreasing the number of heads of livestock kept in one area could thus have the effect that households with many animals either move or transfer parts of their herds to other areas (Mung'ong'o 1995, Lindberg 1996).

This strategy is gradually becoming more difficult to implement, as even peripheral areas are starting to face problems related to overstocking. However, still in recent years, people in the study area moved away large numbers of domestic animals. In Endabeg right now, there are relatively few heads of cattle (Officer Mongas). In 1998-1999, people either had to sell animals or shift them to the Kihongozi area north of Babati Town, because there are no other grazing areas available (SVCh Michael, SVCh P. Qwaray, SVCh Suley).

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It is important to note that herders, the actual actors on the operational level, are often children who due to their age have special reasons to stay in close vicinity of their home village. (Photograph 4.3)

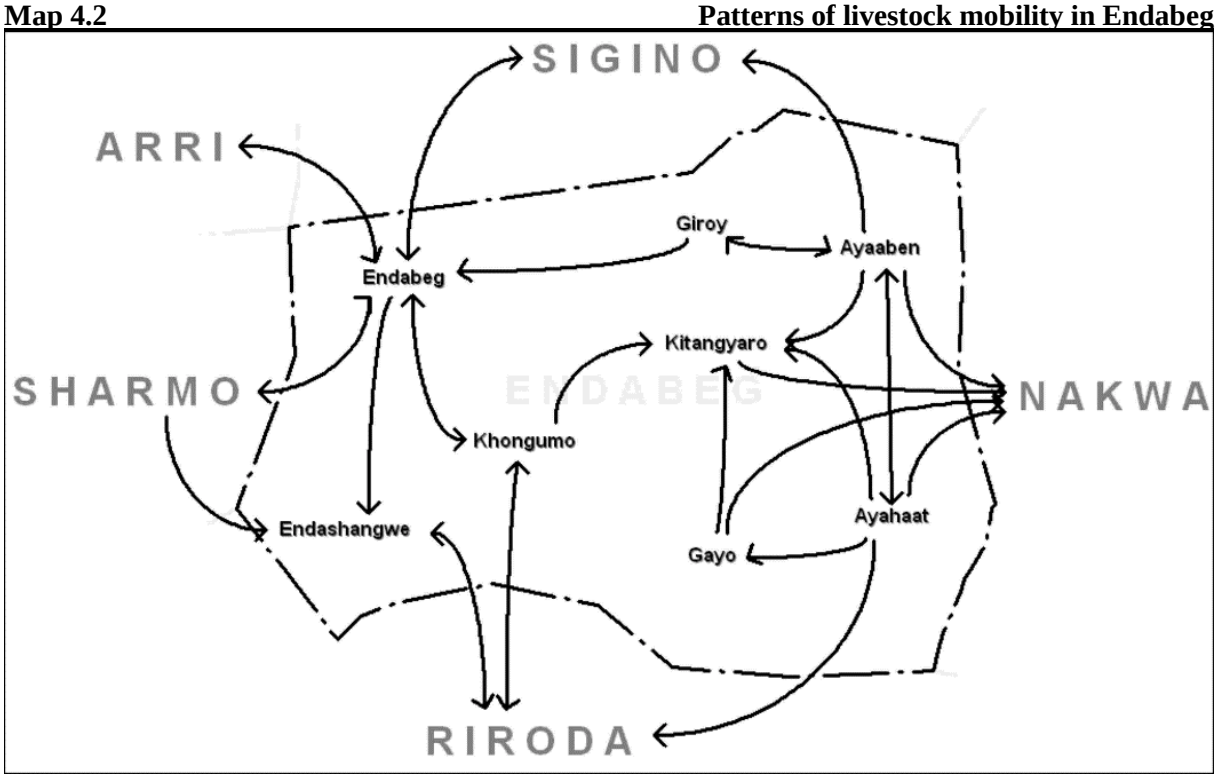
> Students need to stay around the village to complete primary school. Therefore, when there is no more grazing land set aside, they have to concentrate on the leftover land in marginal areas. That is why they always take their cows there, whether there is grass or not. (feedback meeting 10.12.99)

People go across boundaries not only for the cause of grazing, but also to look for water, as they have shortage of water in their subvillages (VCh Qwaray). Weather conditions were dry at the time of the

Photograph 4.3 **Herderboys**

Driving cattle in Kitangyaro subvillage, backdropped by Mt Ufiome. The gully in the foreground started to form during the El Niño floods in 1997, cutting off the main road through the village.

Map 4.2 **Patterns of livestock mobility in Endabeg**



Short-term mobility patterns between the subvillages in Endabeg. The information is compiled from interview material and observations in Endabeg and surrounding areas.

field study. Between the 18.10.99 and the 11.11.99, torrents in both riverbeds, *Endabeg Ng'wanji/-Ayat* and *Endabeg*, varied between tiny trickles and null, at the points where the gullies meet the eastern village boundary. Upper parts of the riverbeds did keep a steady trickle of water during the whole time of the field study, though the lower stretch close to Nakwa village ran dry.

During the two months of fieldwork, in early November, many areas referred to as grazing areas were almost deserted, as for example in CGA-I (Photograph 4.2) and CGA-A. Instead, so-called post harvest grazing in private plots was a very common sight. Many smaller herds of livestock from Endabeg could also be observed in the grazing areas of neighbour villages, especially by the shores of Lake Babati in Nakwa village. The herders met in Nakwa (21-22.10.99) did not seem reluctant to tell me, as a foreigner with local company, from which village they had brought their herds. Apart from water and pasture, supply of salt mineral is another important reason for trekking with animals to areas outside the village (SVCh Hali, SVCh Michael, SVCh Hera).

It is evident that although there are at least some grazing lands in almost every subvillage, livestock keepers depend heavily on moving around their animals, on a short-term as well as a long-term basis. The subvillage chairmen and other persons interviewed rendered valuable information,

which makes it possible to draw up a general image of the patterns of livestock mobility in Endabeg 1999 (Map 4.2). Especially important for day-to-day grazing, as well as for watering and mineral supply, are the Lake Babati plains in Nakwa and Riroda.

The village and the individuals

Contrary to the common opinion of Babati District as a typical expansion area, recent studies of demographic data (Lindberg personal communication) indicate that the population in Endabeg has actually been on the decrease during the last decennium. The information gathered from the subvillage chairmen during the interview study confirms this trend. Aggregate numbers of households estimate 500-530 in 1999, as summarised from the subvillage data given by the chairmen. According to the latest population census, the number of households in Endabeg was 591 in 1988. Of these households, 84 per cent were classified as either Iraqw or Gorowa.

There is an ancient practice of working together in Endabeg, and farmers were traditionally able to invite other persons to work on their farms when special needs calls for that. A traditional institution for concentrating and sharing the workload of herding still exists, at least in Ayahath and Endabeg subvillages. Smaller groups of households join together for agricultural activities and herding.

> Groups of 3-5 households put their livestock together in herds for grazing. The workload of herding the animals is then distributed within the group, the households taking turns in caring for the herd. Other types of collective work occur, such as road construction and maintenance, well digging, trench digging, and transporting patients to the hospital. When collective activities are necessary, the ten-cell leaders help organising the work. We have also made measurements together to educate farmers in contour making, but the farmers themselves cultivate the contours with fodder grass. (SVCh Siima)

A similar institution has been observed in the areas of origin of the Iraqw, Mama Isara, although in that case elders, instead of ten-cell leaders, were the responsible organisers (Loiske personal communication). During the *Ujamaa* reform, attempts were made by external authorities to formalise and increase the communal activity at the village level.

> During *Ujamaa*, a special area was set-aside for people to work together. It did not work well in this village, though. As long as things were rolling, people worked on the communal farm and the produce was sold. The cooperative had one tractor, one grinding machine and two shops, but these things have now disappeared. The grinding machine stopped in 1993, and so did the tractor in 1997. The village government sold the tractor and the grinding machine last year, because they saw that the machines did not benefit the people. (Mr Amor, Endabeg)

Although is seems like *Ujamaa* and other events in the societal evolution have led to detoriation of some traditional institutions for communal work, a few new initiatives can be observed in the village.

Na Nuse [The One that Fetches Vegetables] is a gardening and cultivation organisation open for women only. It was established in Endabeg in 1994.

> First I heard on the radio about such groups, and then I felt that, since many people benefited from these groups, it would be good to get together and form one here in the village. For example, if you are pregnant, you cannot do anything but to rest with your man. It is better to join together in small activities. We were ten members when we started. Then we thought of organising leadership and so on, and today we have become thirty members. This year, we grow beans on our three-acre farm to get some money into the group. The three-acre farm is a security. If we fail to harvest properly on our private fields, we could get some money from this farm. (Group interview)

Land security and the future of communal tenure

Endabeg Village has applied for, but not yet received, a title deed through the national titling programme. Some money has been paid for the titling procedure, but with no result so far (VCh Qwaray 30.10.99). All communal land belongs to the village [even without a certificate of rights], but is in practice seen as no man's land. However, this circumstance is not seen as a threshold for investment incentives, according to answers given during the feedback meeting:

> – **If the village would be given an official paper, recognising that land within the village boundaries belongs to this village and to nobody else, would this change the way you view communal areas?**
>
> To receive a title deed would not hinder us from continuing with the system of communal grazing. Implementation is the problem, because the villagers need to be educated more, how to be careful with the resources. (feedback meeting 10.12.99)

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Another open question is the importance of communal grazing in the future. Opinions among professional specialists differ significantly when it comes to the potentials and usefulness in preserving the remaining communal grazing areas as commons (Chapter 3). Representatives of Babati District and LAMP share the idea that "rapid population increase" will force people to completely substitute grade cattle on zero-grazing for the traditional grazing practices. The estimated time-span for this succession of events ranges from ten to thirty years (Dr Munuo, Mr Gabriel, Mr Mongas, Mr Somosomo, Mr Kiango). As mentioned above, though, Lindberg has found that population accounts in Endabeg actually stabilises after a peak in the mid-1980s.

With a certain consensus, the views expressed by residents in Endabeg indicate that it would indeed be too difficult to preserve and manage communal areas in the future. Privatisation is a preferred option, but also this would require the number of cattle to be substantially reduced.

I expect that if people succeed to reduce the number of cattle and to plant fodder grass etceteras, the communal grazing areas could be used for other purposes. We could privatise it and let people plant trees and make the land fertile. We want to give it to people in private, because if it is communal it is difficult to do work on it and it will not be safe.

– **How long time will it take until you can do all this?**

It depends on how education reaches the village. It will take more than five years before we can close the communal grazing areas. With improved education from the Government, it might take less time. (SVCh Hera)

– **Would there be any benefit in free grazing for grade cattle, provided that there would be a separate area for that?**

No! (laugh). If we take them outside, they will destroy everything, because the mouth of the cows spoils the grass. If such areas were free for everybody, they would be destroyed. Also, if you allow your cows to go out, it is easy for them to catch diseases from the surroundings. Maybe if everyone had a private area with fences…

– **If the present grazing areas were used for fodder grass and tree plantations, would it be best to divide it into private plots or use it as a communal area?**

It seems like the land is very small, compared to the number of people. Nowadays, our government is not *Ujamaa*. Even in *Na Nuse*, we have the principle that everybody takes care of her own land and cows. (*Na Nuse* group interview)

According to the information given by the subvillage chairmen, some 40-60 per cent of the households keep livestock today. No pastoralists, depending solely on livestock for survival and income, live in Endabeg. Either, people are combining cultivation and livestock raising, or they rely on crop cultivation only. The village government is advising people to set aside some areas on their own land for keeping their livestock or conduct zero-grazing.

Individual land holdings are registered by the holder's name and by the size of his land. A villager can decide to sell his land to anyone. He then has to inform his wife, his children and the SVCh, who writes a contract. Some neighbours have to be involved as well, as witnesses. The VEO can give a go-ahead himself, but an approval by the primary court in Babati is seen as important in order to secure the rights of the new holder. (VCh Qwaray)

A handful of households in the village have established private meadows or grazing areas on their holdings (Box 4.1). Such plots are in general fenced and used exclusively by the landholder. (SVCh Onna, Mr Samson and field observations)

Box 4.1 **A "shared" grazing area**

Mr (SVCh) Onna shares a grazing area with two partners. The "shared" grazing area is an approximate eight-acre piece of land, located in a northeast-facing slope about one kilometre, or half an hour walk, from Mr Onna's house.

Mr Onna holds the land privately as an "inherited lease" from his grandfather. The present tenure rights were decided on at a family meeting, with neighbours as witnesses. These witnesses would be used to defend the rights in case of a conflict. The area has been cleared and fenced with sisal on one side, to prevent others from entering the area. According to Mr Onna, it did not occur that anyone who was not allowed to use the land entered, because everybody knows that it is not allowed to let cattle graze there.

Some ten years ago, before he decided to make it a grazing area, Mr Onna used it as a cultivated field. He invited two friends to share the grazing because they help with the practical management, which consists exclusively of removing small trees regarded as weed. No fodder grass seeds or manure has been brought to the field. The weeding work is completed during one week in December every year. If his partners would fail to follow his instructions, he could stop the co-operation, though this does not seem likely, as they are his friends.

This year seventeen cows, nine goats, and four donkeys graze in the shared area, as a complement to grazing in communal areas and post-harvest grazing on crop fields during the dry season, June - December. Roofing grass is also collected from the area, but not fodder grass for stall-feeding. The majority of the animals (nine cows, four goats and the four donkeys) belong to Mr Onna, who also makes all decisions about the use of the area, for example when to start and stop grazing there. "When I see that the grass is finished in the communal area, then I tell them: Tomorrow we'll start grazing in our area". He stops using the area on the first of January, when grass is available in communal areas again.

Mr Onna chose his partners partly because they have few animals. If they wanted to bring more cattle, they would have to beg first – "otherwise I would be angry" – but he would probably not refuse if they begged for example to bring three more cows to the area.

He is not sure about how many grazing animals the piece of land could support, but evidently the fodder is not enough for the whole year, since the animals have to graze in other places as well. This year, maize residues would be enough until the tenth of November. After that, they would depend on the area for grazing needs. At the time for the visit there was still plenty of dry grass left on the site, as opposed to most parts of the village, but according to Mr Onna it would all be finished in December.

Field visit with Mr Onna 1.11.99

Decision making and arenas

Village government

The Village Council consists of 25 members, elected in November every third year. Apart from the Village Chairman (VCh), the Village Executive Officer (VEO) and eight Subvillage Chairmen (SVCh), there are eight male and seven female delegates, who represent schools, churches, the livestock sector, dispensaries and other institutions in the village. The Village Council gathers monthly, after all the village committees have held their respective meetings.

All villagers, or residents, are entitled to vote in the elections from the age of eighteen. There is no formal institution involving this group of people, but every third month a large meeting is held, constituting the Village Assembly. Subvillage meetings are held every month. These gatherings are open to all residents in the respective subvillages. (VCh Qwaray)

Rule-processing

The Village Council first established the village by-laws concerning grazing in 1982. They were reviewed in 1994. After approvals by Babati District Council, the Village Council invited the Village Assembly and told them about the rule. At least 200 villagers attended this meeting. Before that occasion, there had been no discussion about the content of the by-laws at the Village Assembly. Information at public meetings like the Village Assembly is the only way that leaders use to spread a message to the villagers. By-laws in themselves build on national legislation, and it has never happened that statutory law or district by-laws was used to challenge the rights of villagers in any conflict. (VCh Qwaray, SVCh Shauri)

The Village Council make village by-laws. However, even in the subvillages people can decide on valid rules. The issues handled in this way range from taking a bath at a watersource[42] to felling trees in certain protected areas. In general, people do not refuse new proposals at subvillage meetings (VEO/SVCh Michael). Some of the subvillages in Endabeg do not process any rules of their own, while other subvillages at least have attempted to do so. One such case concerned cultivation creeping into the grazing areas of Endashangwe. In 1997, cattle grazers complained to the subvillage chairman, and action was taken in the subvillage.

> Then we held a meeting attended by 45 subvillage members, where we discussed about this issue. At last we decided that we had to make permanent boundaries. Also the people with farms around the CGA-E attended the meeting. Afterwards they were fined TSH 3000 by the VEO.

[42] **Watersource:** A place where water starts – be it a spring, well, pipe, dam or river. (Babati District Council 1999b)

> The individuals who cultivate private land close to CGA-E wanted to close the area for grazing, and on a subvillage assembly it was decided to do so. The farmers referred to a by-law saying that cultivation and grazing is forbidden in water source areas. However, the decision was cancelled, because we failed to find any other land for grazing. Still today, grazing in that area is in fact illegal, according to the by-law.
>
> It is not easy to have your own by-laws in the subvillage. It has to follow instructions from the Village Council, the District Council or even the national level. We can only make boundaries ourselves. (SVCh Shauri) [43]

As subvillage members make decisions on for example a boundary, the minutes of that meeting (Photocopy 4.1) are taken brought to the village office. When the VEO has signed the document, he gives a copy of it to the subvillage chairman. If members of the Village Council dislike the decision the VEO will not sign the minutes.

To bring the minutes taken at subvillage meetings to the village office is common practice in several subvillages. The procedure follows from instructions in a book issued by "some authority at the national level", and distributed to all subvillage chairmen. It is written that a subvillage chairman can do what he likes [independent of higher authority] and decide on it at a subvillage assembly. (SVCh Siima, SVCh Hali, SVCh Hera)

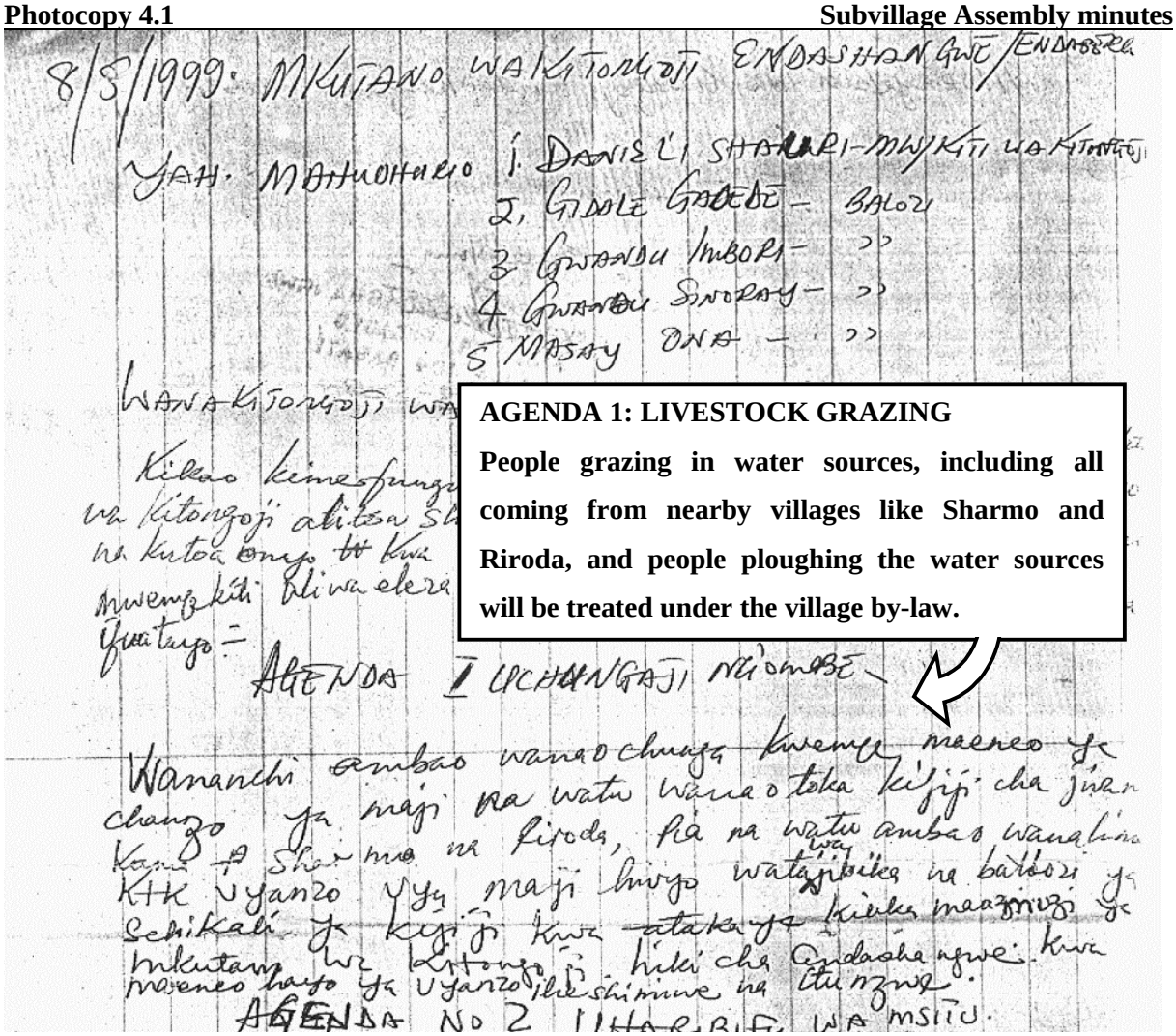
—

Another example of local decision-making, this time on introducing exclusive rights to use the communal grazing areas, comes from Endabeg subvillage.

> – **Do you, as a subvillage, have a right to write such a rule?**
>
> In 1992, we tried to introduce a rule to stop people from outside to come here for grazing, but we failed. Because when we went to another area for cattle dipping, they stopped us. It became like a war. The District had put up signboards to instruct people not to graze on the hills in Sigino village, which is a forest reserve. Then people from Sigino came to Endabeg instead, but we said no. This conflict solved itself. Some persons from Sigino took away the signboards, and now also people from Endabeg go for grazing in the forest reserve.

[43] In this particular agenda (Photocopy 4.1), no distinct boundaries were set. However, the "watersource" areas discussed are principally equal to CGA-E. Regarding the restrictions on livestock grazing in these areas, surprisingly, no corresponding section was found when examining the current village by-law document (Babati District Council 1999b).

Photocopy 4.1 **Subvillage Assembly minutes**



AGENDA 1: LIVESTOCK GRAZING

People grazing in water sources, including all coming from nearby villages like Sharmo and Riroda, and people ploughing the water sources will be treated under the village by-law.

Excerpt from the minutes of a subvillage assembly in Endashangwe subvillage in August 1999 (translation by Mr Kessy).

> If we would have a restriction, only people from Endabeg subvillage would be allowed access to the grazing area, but now there is no rule.
>
> – **If you could stop other people from coming, would you then have everything you need within the subvillage?**
>
> Water is enough, but not the grass. (SVCh Suley)

Also in Ayaaben, attempts have been made to take control over grazing in communal areas, by closing them altogether.

> On a meeting in 1996, we decided to stop all grazing in the hills of Ayaaben. On that meeting, we gave everybody time to give his or her opinion. 45 people attended the meeting. The only reason for closing the areas was soil erosion. When cattle graze during the rains, the soil disappears. As we said

on the meeting, we had to close the area for grazing, but allow for tree cutting – at least for a while. We failed to enforce the rule, though. Others could still come to the hills, we realised, because people in the village are not "together" and the leadership is not strong enough. The aim was to close the area completely. Now, there are no rules at all.

– **Would the areas have been closed forever?**

Yes, but now nothing has happened since 1996. Education can make farmers plant trees and do other things on their private land, but for improvement of grazing areas we would need a long discussion with everybody who are using the area. If we agreed on such a meeting, we could have a rule to exclude also other people. (SVCh Hera)

The Division Livestock Officer commented on the example from Ayaaben:

They made a mistake. They would have to make a by-law to be signed by the District Council, so that they could take intruders to court. Subvillages can write a by-law and take it to the VEO, who takes it to the District Executive Director. Concerned areas must first be identified.

Around the 1970:s in Nakwa, Pongai subvillage, they wrote a by-law regulating grazing by Lake Babati. After that, the District came and established some beacons to demarcate the area. In turn, it became a District issue to protect the area. Now grazing is prohibited in all hills and areas around the lake. (Officer Mongas)

As described earlier, households seem to depend on livestock mobility for risk diversification and other reasons. This observation points at a specific risk factor involved in, for instance, the matter of exclusion of non-members. The Division Livestock Officer and other officials accentuated this problem during interviews.

– **How could a community exclude outsiders from entering a communally managed grazing area?**

There are so many traditional reasons to why you cannot exclude outsiders from grazing in communal grazing areas (Mr Gabriel, BDC/LAMP).

For example, a villager in Nakwa might have relatives in Endabeg. They might then bring livestock to the village, pretending that it belongs to them. (Officer Mrutu, BDC)

For cattle grazers it is practically impossible. Imagine that you are living in Endabeg, but have cattle in Nakwa. If you restrict grazing for outsiders, you restrict yourself. (Officer Mongas, Gorowa Division)

Inter-village arenas

Evidently, there is a great need for discussions across administrative boundaries, if the grazing land issue are going to be solved through local government. Unfortunately in this respect, the official hierarchy for local government (Figure 3.1) seems to contain a bottleneck when it comes to communication between neighbour villages belonging to different wards.

Ward Development Committees are the only places where two villages can meet and discuss their common matters. There are no meetings between villages in different wards. The only way is for the ward counsellors to have a neighbour meeting. Neighbour meetings occur even between districts, but not often, and always about some conflict or other problem (Mr Mrutu, BDC). The practical effects of this structural barrier became obvious when interviewing leaders in Endabeg.

> – **How do you practically discuss common issues with the neighbour villages of Arri and Sigino[44]?**
>
> The Chairmen and the Executive Officers of the concerned villages meet and discuss the issue … If there is a problem, which has been caused by a nearby village, we will first meet the leaders from the concerned village to discuss the issue. If there is a need of having a common meeting for all, then we are the ones who invite people. If we fail to solve that problem, we go to the Division Officer, because some village conflicts come between villages in different wards. The Village Councils from the concerned villages will all be involved in solving the problem
>
> – **When did you last meet with any of these two villages?**
>
> We met last time in 1994. We were then discussing about maintaining the shared water sources.[45] Leaders from Arri, Sigino and Endabeg met at the District's headquarters to estimate the costs of maintaining the water system. (Feedback meeting)

The Division Livestock Officer is aware about the complicated procedure required for official communication across ward boundaries, and the rare occurrence of such meetings.

> – **How to discuss common matters between Endabeg, Arri and Sigino?**
>
> They would have a meeting with the two Ward Executive Officers, the Village Chairmen and the Village Executive Officers. Then they can come to an agreement, which both parties will sign.
>
> Such an agreement was made between Riroda, Duru and Endagwe, about a restriction of grazing in the Duru-Haitemba [village forest reserve] area. It was under pressure from the district level. There is a District by-law concerning soil- and water conservation, which was signed by the Prime Minister. I have no examples of village-initiated agreements stretching over ward boundaries. (Officer Mongas)

---

[44] The boundary of Riroda Ward coincides with the village boundary between Endabeg and Sigino (Map 3.2).
[45] A pipeline project was carried out in cooperation with LAMP in 1994, involving the three villages sharing one watershed (Skaarud 1995). This was when the now empty water troughs on CGA-I in Endabeg were built.

LAMP can, according to Program Coordinator Mr Gabriel, facilitate discussions with neighbours, but only on demand. "We do not impose things on the villages. When they come, we will ask what they have done and what kind of help they need." However, as Gabriel pointed out, most communal issues are discussed and solved outside the formal arena.

Conflict resolution

> In 1982-1985, there was a conflict between Endabeg and Nakwa over some agricultural land. District leaders came and settled the dispute, by dividing the land under conflict in two halves (VCh Qwaray).

Most of the village-internal conflict resolution, as opposed to inter-village matters, takes place in local traditional arenas. Customary institutions, such as meetings with respected elders, constitute a lowest level of authority under the officially recognised hierarchy. The authority levels as described by one subvillage chairman are:

1. The subvillage
2. The Village Council
3. Riroda Ward Office
4. Babati District Court

The village elders do not yet represent a formal institution or a council, but the Village Council "respect them in every word they say". The opinions of respected elders on land-use issues are important for any villager, and they might also punish people who cut protected trees or break customary rules concerning for example water. Respected elders can sometimes use their authority and "act" if people invade the grazing area with other activities. (VCh Qwaray)

One farmer, and his father before him, has for example been illegally cultivating a field within CGA-I. This year [1999], the Village Council stopped the farmer.

> We called him to the village office, where he acknowledged the harm he had caused to that area. After that, he pledged not to be taken to court. Therefore the village had to give him a punishment, called *Doho*[46]. He accepted the punishment and signed a paper. (VEO/SVCh Michael)

[46] Loiske (personal communication) recognizes the *Doho* also in the Mama Isara area, where the punishment is manifested in a 'fine' of local brew (Chapter 5).

Another common reason for conflict related to the livestock sector, is when cattle are caught grazing in someone's private plot. The elders, together with the subvillage chairman, can then tell the one who owns the cattle to plant new crops. (SVCh P. Qwaray, SVCh Shauri)

Extension and development aid

> Culture and tradition must change, if the goals should be reached that everyone are striving for. (Director Åke Barklund, RELMA)

The main information channels from policymakers and regulatory authorities to villages are through the Ward Development Committees and the Division agricultural extension service, but also through specific projects such as LAMP. Although many officers at the District speak about a "bottom-up approach", it seems like the main, overriding strategies are still implemented in a top-down manner in order to speed up the expected effects.

> The National Livestock Policy aims at destocking towards the carrying capacity of the grazing land. In Babati District, this is implemented through campaigns encouraging zero-grazing and selling of livestock. (Mr Gabriel, LAMP/BDC)
>
> We are trying to advise them to raise at most three cattle, and to spare at least one acre of grazing land for each family.
>
> – **Success?**
>
> We are going step by step. My neighbour is a minister in the President's office, and I have consulted him to promote minimisation of cattle in his campaign. He is coming next week. You know, in order to succeed we have to use these influential people, because they are acceptable to the society. (Mr Mongas, Gorowa Division)

Most of the subvillage chairmen in Endabeg said that the following steps are the most important ways to improve the livestock situation in their areas:

> 1. To decrease the number of cattle
>
> 2. To plant fodder grass
>
> 3. To begin with zero grazing

All these three points indicate that extension and strategic education has had a considerable impact on land management strategies employed in the village.

> In 1992, people from LAMP came here to educate us how to use the land and the environment. They held four seminars for subvillage chairmen in the CCM office. They also visited farmers in the subvillages. I myself and other people from the subvillage visited LAMP's tree nursery education centre in Babati, where all kinds of grasses is planted. After that, we said we would better stop grazing on the hills. If we use the hills for grazing, then when it is raining, everything is going downwards. It also creates a problem for people downstream.
>
> In 1998, we tried to close the areas for grazing, but we failed to find other grazing-land. A subvillage meeting was held. People discussed and said, "We have to get time to find other grazing areas". We are still working on this idea. (SVCh P. Qwaray)

Another telling example of external influence on collective-choice decisions comes from Gayo subvillage:

> Before LAMP, the way we followed was not strong. You could then count the trees on the hills here in Gayo. People also went grazing there, as well as in Kitangyaro and Nakwa. Then the LAMP people came to Babati. When the Village Council took notice about this program, it was decided that every subvillage chairman should have a rule about the hills in his area. So we held a subvillage assembly in 1993, when we informed people about this. We agreed with subvillagers to stop doing anything in the hill areas in Gayo. For anybody who has a problem finding fuel-wood, they would now better ask for permission to collect dry wood.
>
> – **Was there no opposition against closing the hills for grazing?**
>
> As I told you before, LAMP came with education. There was no opposition at the information meeting, because it was a decision from a higher authority. Before the subvillage meeting, there was a Village Assembly. The village leadership told the assembly that we had been given education from the LAMP project. So to succeed, we had to do this and that.
>
> – **Did the village get anything else from LAMP, apart from education?**
>
> We got the water pipes leading water from Arri village, which did cost a lot of money. The Village Council also told villagers that the LAMP people would be happy if we would follow these instructions on land management. However, the people themselves will also benefit from protecting the hills. (SVCh Hali)

According to Mr Somosomo of Babati District Council, water is in fact the main constraint in Endabeg[47], but the villagers might be particularly cautious about mentioning this problem to a Swede. A relatively large sum of money was given to the village through the water pipe project a few years ago, and now the pipe system does not work. In spite of the successful dissemination of soil

[47] Compare this statement with views expressed in the section Grazing Land Management in Chapter Three.

degradation awareness, people in the village government might now be afraid that they will not receive additional support because of the technical failure of the first project.

> Nowadays they connect soil erosion and water problems, but the problems that are pressing villagers are not the ones of concern for District employees and people from donor organisations. (Mr Somosomo, BDC)

Several interviewees reported that cultivation has been gaining ground on the expense of communal grazing land. Actions to counteract this development have been taken in some subvillages. In other parts of the village, nothing has been done. Subvillage Chairman Suley explains:

> No action has been taken to prevent farms from encroaching on grazing areas in our subvillage. We have not even discussed this, because LAMP and Farm Africa advises us to have zero-grazing. There were seminars in the village, and the subvillage chairman also held meetings here in the subvillage. The advice is to keep only oxen and two cows[48], but few people follow this yet. It will take, say, three to five years before they do. By then, the grazing area will be turned into a forest reserve.
>
> – **Where to get fodder if the forest becomes a reserve?**
>
> There must be a rule that everybody grow their own fodder grass. We have had discussions in the Village Council about having such a rule, and the issue has been brought up also at the Village- and subvillage assemblies.
>
> – **What did people say at the subvillage meeting?**
>
> In that meeting it seemed like if the youth accepted the idea of zero-grazing, but old people disagreed. The old people said that it is difficult to keep cattle inside and to collect grass.
>
> – **It is hilly around here. Could everybody carry water to his or her stall-fed cattle?**
>
> Young people from all over the subvillage say that it is possible. A number of individuals have also started to plant fodder seeds on their land. Farm Africa advised us to have areas where we would plant only fodder grasses [on private farms]. Would this be a benefit or a bad thing? A few persons have tried to do that, but they failed because of weeds. (SVCh Suley)

Some effects of the education that LAMP and other organisations provide to villagers may come unintended. In this case, education led to that people started to attach less importance to farm encroachment on grazing areas, because zero grazing now was considered the single best solution to feed shortage problems. In the context, one could mention that Endabeg is one of two subvillages in the village where not a single household had started with zero-grazing in 1999, according to the

[48] As Lindberg has noticed (see Chapter 3), it requires a certain dimension of a household's cattle herd to produce one mature draught animal at the right time.

subvillage chairmen. The sparse spread of established zero-grazing units in Endabeg made it seem relevant to re-check the strategy from the District's point of view.

– **Is it a goal to replace free-grazing Zebu cattle completely?**

> It is not a policy, just an idea and an advice to farmers, considering the situation with diminishing grazing areas. The Livestock Department does not force people. We give them training and make follow-ups. We advise them that in areas where grazing land is small it is better to keep animals indoors. In areas with abundant pasture, it is better to continue with communal grazing, but combined with artificial selection. In areas like Endabeg, Himiti, Bonga, Endanachan, Hara, Singe, Managa, Arri, Dareda and Nanagare, they will adopt to zero-grazing. (Mr Kiango, BDC)

As mentioned earlier in this chapter, estimations made by District personnel of the time needed to materialise a zero-grazing strategy in the villages ranged from ten up to thirty years. To rely on zero-grazing alone as the solution to the problem of poorly managed grazing areas, could then seem a bit narrow-minded. Management of communal land does appear to be a missing component in the LAMP approach, when looking at the village Endabeg in isolation. However, when talking to the District Forestry Officer, Mr Rwiza, it became clear that this is not the case for Babati District in general.

—

Twenty-six villages in the district contain parts of three larger Government- and Village Forest Reserves. Among those are Riroda and Sharmo villages, neighbours to Endabeg. The villagers' improved management of the reserve areas, as described by Wily (1999b), involves at least seven out of the eight design principles used as indicators in this study, to a more or less full extent. This was also confirmed in a group interview with key informants in Riroda village:

> In 1995, there were indeed some problems with outsiders grazing: 1. Loss of soil fertility; 2. Soil erosion and; 3. Forest cleared. Riroda village is small, however, and it was therefore easy to communicate smoothly and spread a message. Letters were written between the Ward Executive Officers, because Endagwe belongs to Duru Ward. The specific action taken to stop grazing was to hold a village meeting to inform and educate people about the importance of reserving the forests. Also the by-laws and the fine-system (TSH 3,000-15,000 if caught grazing) were informed on at this meeting. People who were grazing loosely by then have now stopped. (VCh Gunti)

> So far, people have only been warned. Nobody has been fined for grazing in Riroda. The same type of education was given in all the eight Duru-Haitemba villages, so grazing in the forests was greatly reduced. (VEO L. Datho)

The case village, Endabeg, had been assigned priority C in the implementation scheme of "Community-Based Forest Management (CBFM) ", scheduling activities to finish by the 31st of December 2003 (Wily 1999a).

Feedback Meeting

During a concluding meeting in Endabeg, attended by a selection of the interviewees, (Table 4.1), a series of eight statements were pronounced. Each statement corresponds to one of the eight design principles defined by Ostrom (1990) (Chapter 1). The purpose was to capture the preliminary findings as answers to whether or not Ostrom's design principles were represented – at the time for the field study – in the local institutions governing communal grazing land. A reason for this activity was to receive direct feedback from the people who to a great extent had provided the first hand information behind these statements. The statements are displayed below, together with the response given by the attendants. More descriptive information about the meeting itself can be found in Chapter Two.

Table 4.1 Setting and attendance for the feedback meeting[49]

Date: 10.12.99
Time: 1420-1730
Place: CCM premises, Endabeg

Present:

Mr Banga Mikael	Mr John Tsangwali
Mr Ndege Qwaray	Mr Paulo Margwe
Mr Joseph Siima	Ms Selina Aray
Mr Mayo N'gayda	Ms Paskalina Tluway
Mr Lukas Barwa	Ms Rahaeli Lawi
Mr Maganga Aytoo	Mr Samson T Qwendo
Mr Thomas Margwe	Mr Leonard Suley
Mr Alphonse "Doho" Hali	Mr Sabas Amor
Mr Jemsi Kokumo	

Interpreter: Mr Henry Kessy
Secretary: Ms Mwanaidi Bakari

[49] Please refer to the list of persons met (References) for details on the meeting attendants.

STATEMENT 1: There are no clear boundaries for communal grazing areas.

[SUPPORTED]

> There are no special boundaries for each subvillage's grazing areas. (SVCh Hali)

STATEMENT 2: There are no rules for grazing on communal land.

[SUPPORTED]

STATEMENT 3: The Village Assembly is only informed about new by-laws, when the rules are already formulated and approved by the District Council.

[AMENDED]

> The District Council gives us the structure, how to form by-laws. The Village Council writes the by-laws. These by-laws are then taken to the Village Assembly for approval (voting by hand). Then it is brought to the District Council for the last decision.

STATEMENT 4: There is no system of monitoring the grazing in communal areas. The knowledge of the number of animals grazing there is limited.

[SUPPORTED]

STATEMENT 5: <u>If</u> there would be new rules to control the grazing in communal areas (cattle quotas, grazing periods etceteras), there is already a functioning fining system connected to existing by-laws, which could be used also for such grazing rules.

[UNCLEAR RESPONSE]

The response to statement number five turned into a request for advise on how to control grazing with rules, as the number of domestic animals is so high – in itself a relevant response, indeed. The attendants, probably due to the complex formulation of the statement itself, did not pronounce a clear-cut support or rejection of the statement.

STATEMENT 6: Land conflicts are usually solved at the subvillage level, with the help of elders. If unsolved, the case is then taken to the Village Executive Officer and if necessary to the Primary Court in Babati.

[AMENDED]

> If it is a civil case, it goes to the Primary Court. If it is something concerning land in a statute, it is handled by the Land Tribunal (*Baraza la Ardhi*) at the Divisional Secretary's office in Babati. (VEO Michael)

STATEMENT 7: National legislation and district authorities support community-based management of natural resources.

[SUPPORTED]

STATEMENT 8: a) Subvillage meetings are held every month. b) All subvillage chairmen meet in the Village Council every month. c) Village chairmen and village executive officers meet monthly in the Ward Development Committees. d) Village leaders from different wards rarely meet for discussion.

[AMENDED]

> a) Principally it is once a month, but sometimes that can be a problem… and when there is something requiring an immediate call, then it can even be twice.
>
> b) Previously [until the end of 1999], the SVChs were the members of the Village Council. Therefore, they were supposed to attend the village meeting every month. From now on, if the number of subvillages exceeds five, only five will be allowed to enter the Village Council. (VCh Qwaray)
>
> c) Once every third month, but they can meet at anytime if there is any emergency call.
>
> d) We conduct a meeting if there is a problem or any necessary issue.

Academic Feedback

Academics' approaches to the general livestock/land situation in Tanzania give a rather heterogeneous impression. It can therefore be interesting to compare a few statements, given in response to the findings presented above, by a small sample of experts in the natural resource management sector.

> Zero-grazing works in Moshi and Arusha [near Kilimanjaro], because of land pressure, good climate and a relatively high economic status that render a good market for milk. What I think we lack [in many parts of the country] is proper rangeland management techniques for areas with very low forage qualities. We are not having the right types of land use in the right places. Maize is for example grown in very dry areas, which is not appropriate. Land use zoning [on a nation-wide basis] is a vision presently discussed at the Ministry of Agriculture and at the Institute of Resource Assessment. (Professor Idris Kikula, The University of Dar-es-Salaam)
>
> ---
>
> Babati will develop as in the Kilimanjaro region, according to the following chain of events: Population increase => Smaller holdings => No grazing areas. Women will go up to 15 km (by pick-up car) to cut grass, and cattle will be kept inside. In 20 years, the population will double, and the land will be completely taken over by agriculture. I do not think that there is a future for communal grazing areas. Wildlife management is realistic. Management of communal fisheries would be more difficult, but grazing in high-density areas would not work at all. (Dr James Kahurananga, The African Wildlife Foundation)
>
> ---
>
> Every village in the country (9,225) should be identifying and establishing management control over their grazing land. This is not a concept for pastoralists only. Indeed the smaller and more pressured the available areas for grazing; the more important it is for the community to start actively regulating it. The CBFM approach as we have developed it is hundred percent applicable. (Dr Liz Alden Wily, Nairobi)
>
> ---
>
> Every land use issue is localised. What works in one area does not necessarily work in another area. (Dr Claude Mung'ong'o, The University of Dar-es-Salaam)

ANALYSIS

Chapter Five is designed as a mirror to Ostrom's (1990) analysis, using eight predefined variables as a template describing the institution governing the use of communal grazing land in Endabeg Village.[50] The variables, which are equal to Ostrom's eight design principles, are here assigned qualitative values (yes, no or weak), based on a blend of empirical results and findings from the literature study and document search. A justifying background to the valuation, displayed in Table 5.1, is given in the subsequent sub-sections. Towards the end, the analysis converges into a judgement of the institutional performance (robust, fragile or failure). The valuation of all the eight design principles is then put into a worldwide context, to check the present study against other cases in terms of correlation with overall institutional performance.

Representation of Design Principles

Table 5.1	**Ostrom's design principles in Endabeg**
1. Clearly defined boundaries (and membership)	NO
2. Congruence between appropriation and provision rules and local conditions	NO
3. Collective-choice arrangements	WEAK
4. Monitoring	NO
5. Graduated sanctions	YES
6. Conflict-resolution mechanisms	YES
7. Minimal recognition of rights to organize	WEAK
8. Nested enterprises	WEAK

[50] See Chapter One, where the approach of the present study is discussed in relation to its role model in Ostrom's book.

Clearly defined boundaries

> *1. Individuals or households who have rights to withdraw resource units from the CPR must be clearly defined, as must the boundaries of the CPR itself.* [51]

The communal grazing areas presently found in Endabeg are remains of vast range- and woodlands, which have gradually been replaced by private farms for domestic cultivation. To cultivate in the communal grazing areas is an offence against existing by-laws, and people seem to share a general sense of which land that is considered grazing land in this respect. However, as verified during the feedback meeting, physical boundaries for grazing areas are not demarcated within the village.

The demarcated village boundaries form an outer physical delimitation of the CPR. When asked about the boundaries, people in the village often referred to natural landmarks such as standalone trees, valleys and ridges, as well as man-made buildings. Residents also helped finding a number of concrete marks at selected breakpoints along the boundary (Photograph 4.1) – spot checks that corresponded fairly well to the mapped boundary (Photomap International 1992). Subvillage boundaries are more vague, and are not very important for regulatory purposes, according to the Village Chairman.

With respect to individual rights to withdraw resource units from the grazing land, there is no boundary at all. According to every person interviewed, anybody is welcome to bring as many animals he wants to graze in the woodlands as well as in the lowland plains. Day-to-day access is simply not regulated. This is the most important argument for concluding that design principle number one is not represented in Endabeg. Although one could discuss the actual importance of physical demarcation, and the possible prevalence of boundaries preserved through oral tradition etceteras, these factors loose their relevance as long as membership and access is external to the institution.

Congruence between appropriation and provision rules and local conditions

> *2. Appropriation rules restricting time, place, technology, and/or quantity of resource units are related to local conditions and to provision rules requiring labor, material, and/or money.*

To begin with, there are hardly any rules at all for grazing on communal land in Endabeg. As mentioned above, no definition of membership in the institution exists, and hence there cannot be any exclusion of non-members. Neither are individuals' appropriation rates subject to regulation. Interviewees often reacted stunnedly when the question of cattle quotas or similar control measures

was brought up – “Nothing like that!”. Regarding seasonal grazing and other restrictions in time, the current appropriation patterns are entirely due to climatic factors and overstocking, not having to do with active regulation. According to most subvillage chairmen, the grazing areas are used all year around, though there is forage in the areas only during a few months in the wet season. Grazing is free as long as there is grass.

In some of the communal areas, especially in the lowland plains, restrictions do apply on other types of land use than grazing. Such rules may for example concern logging, unauthorised cultivation and brick processing. While nowadays the rules are formalised in written by-laws, no information has been obtained on the historical origin of this type of restrictions. It is therefore difficult to assess how well the rules adapt to locally specific conditions.

The few management initiatives that interviewees have told about have all been induced, more or less directly, by regional extension bodies or donor organisations active in the area, such as LAMP, Forest Trees and People (FTP), US Peace Corps or the Heifer Project International. A management initiative relatively common in this setting is the decision to close a woodland area for grazing due to soil erosion symptoms. All interviewees who told about such initiatives also told about some education on soil erosion that had been provided by LAMP or FTP. As a matter of fact, even the current village by-laws seem to have been imposed from above in the same manner (see Design Principle 3 below). The conclusion on the second design principle, therefore, is negative.

One limitation of the present study is that most of the collected data focus very much on modern administrative institutions, rather than on the existing set of traditional institutions on top of which the modern structures have been imposed. Some readers might argue that traditional systems are probably more tightly related to the local conditions than institutions disseminated from national legislation.

Loiske (1993, personal communication) compares finely tuned agropastoral systems and traditional institutions in Mama Isara, the tribal heartland of the Iraqw, with practices observed among Iraqw emigrants in expansion areas such as the Babati District. He finds that the emigrants seem to have lost the well-developed land management skills possessed by farmers in Mama Isara. A similar pattern of lost skills has been observed by Mung’ong’o (1995, personal communication), studying Rangi farmers emigrating from the Kondoa district south of Babati. Loiske recognises high expectations on modern extension messages among Iraqw emigrants, but he also points at the simplified character of these messages, leaving out important components like rainwater harvesting and hardpan penetration. For the extension service to be relevant, Loiske concludes, it should become more holistic and resemble closer the traditional knowledge preserved in Mama Isara.[52]

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[51] The sub-sections’ opening quotations in italics are brought from Ostrom’s own description of the design principles.

[52] Dry Land Farming (Jonsson et al 1998) is a concept tested by LAMP in Babati District, which does integrate a lot of these previously missing components into the extension messages brought to farmers.

The most striking common denominator among the institutions described as successful by Ostrom (1990) is that their respective set of rules have been revised and modified over long periods of time, and that this process has taken place in settings where the populations have remained stable. Even traditionally successful institutions of the Iraqw could prove to be imprecisely calibrated to suite the physical and social conditions in Babati District and Endabeg. If that would be the case, one should hence, according to Ostrom, expect it to take a long time, from the point when an "holistic" extension message disseminates to the villagers, until the new institution evolves into a set of rules truly related to local conditions.

Collective-choice arrangements

> *3. Most individuals affected by the operational rules can participate in modifying the operational rules.*

For an institution to evolve dynamically, through an iterative reformulation process, a frameset of collective-choice and constitutional-choice rules is needed; within which locally supported collective choice decisions can be made. What was found in Endabeg during the present field study were two main decision making bodies for so-called grassroots. Both the Village Assembly and the Subvillage Assembly are more or less a part of the modern administration hierarchy, though they are not to equal extents recognised in statutory law.

Prior to investigating collective-choice arrangements, one needs to identify the individual appropriators, including relevant actors at the operational level. In the case of grazing land management in Endabeg Village, the herders – often children or young men – must be seen as the most down-to-earth level actors. A comprehensive definition of the appropriators would also involve decision-makers in the livestock-keeping households, who control livestock mobility on a more long-term basis than the day-to-day trekking. These are the individuals directly affected by the operational rules.

It would be a too extensive task for this paper to dissect the role of child herders in the decision making process. Therefore, in order to simplify the analysis of design principle number three, the group of appropriators is simply put equal to the definition of the Village Assembly – all members of the village above eighteen years of age. Each of the individuals in the Village Assembly is also assumed to be a member of one of the eight subvillage assemblies in Endabeg. The remaining question then is to what extent the members of the Village Assembly can be considered to participate in the formulation and reformulation of rules related to land management in the village.

The most common official answer given to this question is that the Village Council writes the by-laws. The by-laws are then discussed and approved at a meeting gathering the Village Assembly, before being sent to the District Council for the last decision. The bulk of the interview material does indicate that the Village Assembly – "the supreme authority on all matters of general policy-making in relation to the affairs of the village" (Local Government Act of 1982) – is merely informed about the content of new, already formulated by-laws. As pointed out in Chapter Three and Four, the Village Assembly is probably a too large unit to be manageable as an effective decision making organ, given the methods of participation that were declared by the interviewees, that is to say voting by hand.

These results alone would give rise to the conclusion that contemporary institutions, at least within the modern administration hierarchy, contains only weak provisions for collective choice arrangements. Studying another setting in North-Central Tanzania, Erikson (1999) concludes, "The structure of Local Governments suffers from lack of public participation". However, should all informal arenas and traditional institutions be taken into account, the conclusion might turn out different (Lindberg and Loiske personal communication).

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Contrary to the information gained in some of the interviews and at the feedback meeting, the District Council did in 1999 issue a "common system of by-laws". The reason given by Babati District Council for issuing standardised by-laws is that all villages had not fulfilled their duty to write their own by-laws:

> In seminars held in all villages to boost working capacity, all villages came up with a joint decision that every village must write down by-laws. The proposed by-laws will assist the villages in management …
>
> Most of the villages did not implement this, and the ward officers did not take any action to push the implementation. With the support of the few villages that implemented, Babati District Council on its meeting that took place on the 30.7.99, agreed to have one common system of by-laws, which will be used by all villages.
>
> I therefore attach herewith a copy of by-laws for use in your villages and ward offices. When you receive this letter, make sure the following is immediately implemented. Make sure that the by-laws are read to all villagers, and make sure that they understand them. Start to use the by-laws. This copy of by-laws must be signed by the Village Chairman and the Village Executive officer, and be sent to the District Council for a signature from the leader of the District Council. Areas with blanks should be filled.
>
> This work should be implemented by the 15.11.99
>
> (Babati District Council 1999b, dated 15.10.99)

This agenda is a part of the current by-law document kept by the VEO in Endabeg – at least the one referred to when the VEO was asked about current by-laws.[53] Strictly speaking, this means that the District Council has bypassed the constitutional decision intended to regulate the processing of by-laws. Regardless of the degree of participation in the official legislative process, this action could be seen as a redirection of power away from the village level and from the Village Assembly through what could be called unauthorised centralisation.

Drawing from the results presented in Chapter Four, the subvillage seems to offer rather realistic opportunities for collective choice, compared to the Village Assembly[54]. Several examples show that the subvillage assemblies in Endabeg actually are functioning as channels between grassroots initiators in land matters and the village government. One of the most prominent attributes of these channels is the observed practice of taking subvillage assembly minutes to the Village Executive Officer for official sanctioning. One could also expect ordinary villagers to be less reluctant to bring their opinions forward in a smaller and more familiar context such as the subvillage assembly, than at the Village Assembly with its 200-300 attendants.

Last but not least, the subvillage chairmen work as human channels of influence, as they all participate as members of the Village Council. However, from January 2000 a maximum of only five out of eight subvillage chairmen in the village will be members of the Village Council, according to the Village Chairman. This change will probably have an adverse effect on collective choice arrangements in three subvillages, which will no longer have direct links into the Village Council through their leaders.

To conclude on the third design principle, arrangements do exist to enable the people affected by operational rules to influence collective-choice decisions related to land matters. In practice though, the democracy in this respect must be considered weak.

Monitoring

> *4. Monitors, who actively audit CPR conditions and appropriator behavior, are accountable to the appropriators or are the appropriators.*

When Ostrom compares successful CPR institutions, mutual monitoring turns out to be a key factor for explaining why appropriators follow contingent strategies and thereby normally choose to conform

[53] The village chairman on the other hand, referred to by-laws written by the Village Council in 1982 (Chapter 4).

[54] To be humble, I should add that I did not have the opportunity to visit either a Village Assembly or a subvillage assembly in person. My conclusions about their relative effectiveness as decision-making bodies should hence be taken with a pinch of salt.

to established rules. Looking at grazing on communal land in Endabeg today, monitoring appears to be a less critical factor, due to the fact that there are hardly any rules to enforce. Cattle keepers do enjoy genuine open access to the grazing areas (Design Principle 1). Apart from grazing, on the other hand, there are a few rules applying to the utilisation of communal grazing areas.

Due to the stationary nature of cultivation, it is relatively easy to monitor compliance to the prohibition to cultivate in areas intended for other activities. Several subvillage chairmen (for example Mr Shauri and Mr Hali) could tell about complaints from cattle owners when cultivators started to encroach on grazing areas. Also logging is forbidden in some of the grazing areas. No detailed information was collected on the monitoring of trees, but reportedly (Chapter 4), the elders sometimes "use their authority and act" when such offences occur.

Regarding livestock mobility in general, villagers do report any activities related to the "strictly enforced" control of permanent livestock transferring over the village borders, according to the Village Chairman (Chapter 3). It is also imaginable, although not verified, that the traditional grazing institution observed in Ayahath subvillage features some kind of built-in mechanism for spontaneous monitoring.

It proved to be difficult, not to say futile, to carry out an assessment of monitoring activities during the dry season, when most grazing areas are empty. Another potential source of uncertainty is of course that the key informants in the present study – the subvillage chairmen – may not have possessed or revealed the best available information on livestock monitoring, provided such activities are taking place in the village. People are reluctant to declare accurate accounts of livestock, due to fear of taxation (Chapter 3 & 4). Nevertheless, drawing only from the interview material, it seems safe to state that the monitoring of communal grazing land in Endabeg today is not very active. At least, no indications have been given of an existing monitoring system resembling the concrete activities described in relation to Ostrom's so-called long-enduring institutions.

Graduated sanctions

> *5. Appropriators who violate operational rules are likely to be assessed graduated sanctions (depending on the seriousness and context of the offence) by other appropriators, by officials accountable to these appropriators, or by both.*

The sanctioning mechanisms found in Endabeg are used in cases of violation of existing by-laws. Because grazing on communal land is not subject to regulation through by-laws, no sanctions apply to this specific activity. Other land use offences related to the study context, such as unauthorised cultivation, or grazing on others' private land, do involve graduated sanctions.

A penalty commonly used to compensate for minor misdemeanours is the *Doho*. This traditional fine consists of a defined amount of local brew. It is probably often perceived lucrative as an alternative to costly legal action. The *Doho* – which also has been recognised in the Mama Isara area by Loiske (personal communication) – resembles the payment in saké to monitor officers in the Japanese institution for mountain pasture management, referred to by Ostrom (1990). Also moderate monetary fines are often used to punish rule breakers. The most common amount of money referred to in this respect was TSH 2000-3000, approximately equal to four to six half-litre bottles of beer (commercial brew).

As far as the present study knows, it is the Village Executive Officer (VEO) who receives and distributes the *Doho* or the monetary fine. To assess the accountability of the VEO is definitely not within the scope of this study, although several scholars and fieldworkers (e g Erikson 1999, Bäckström and Tenga personal communication) pronounce that corruption is not a rare occurrence among Village Council members in Tanzania. Personal characters notwithstanding, it seems obvious that a sanctioning system exists in Endabeg, sensitive to the seriousness and context of the offence. The implication here, as declared at the feedback meeting, is that if the village would decide to found rules to control the grazing on communal land, then the existing sanctioning system would suite perfectly well to enforce also this new set of by-laws.

Conflict-resolution mechanisms

> *6. Appropriators and their officials have rapid access to low-cost local arenas to resolve conflicts among appropriators or between appropriators and officials.*

Just like graduated sanctions, the principle of conflict-resolution mechanisms is not directly applicable to grazing on communal land in Endabeg. Since everyone seems to accept the condition of open access to the communal grazing areas for cattle rearers, no serious disputes have occurred at the operational level, calling for mediation[55]. There is a "common understanding". Although grazing is free, the interviews offered many clear examples of conflict resolution concerning other activities illegally performed in the communal grazing areas. These mechanisms would also be possible to employ in a scenario where the village starts to take control over their grazing areas and impose rules also on grazing.

[55] Conflicts about grazing have occurred, indeed, on the level of collective-choice, when individual Subvillages have attempted to close their grazing areas. The key dilemma of excluding non-members is dealt with under design principle number eight, Nested enterprises.

The normal procedure when a conflict occurs, concerning for example unauthorised cultivation, is that the subvillage chairman sits down together with the accused person and a group of respected elders to solve the conflict in a composed manner. Such customary meetings definitely provide a low cost arena, which can be accessed without much effort. It appears to be relatively rare to pursue conflicts beyond this informal primary authority, but when necessary to do so, a well-defined hierarchy of formal institutions is available, as confirmed by the response to statement number six at the feedback meeting. See for example Erikson (1999), and Maganga (1999) for a description of courts and other legal institutions for conflict resolution in Tanzania.

Minimal recognition of rights to organise

> *7. The rights of appropriators to devise their own institutions are not challenged by external governmental authorities.*

The role of elders as local authorities and conflict mediators has until recently been neglected in statutory law and policy. During the processing of the Land Policy and the Village Land Bill, these matters have received substantial attention (Tenga 1997, Wily 1998). As a prominent feature, The Elders' Tribunal [Swahili: *Baraza la Wazee*] will be introduced as a conflict resolution authority in the new Village Land Act of 1999. Thus from now on, in conjunction with the enactment of the new law, the rights of village elders to organise in this sense could be considered officially recognised.

Long-time residents of Endabeg have told tales about their households being moved to other places during Operation Villagisation during the 1970s, albeit they preferred to move back once the winds of change had died down. Since that time, as many scholars and students point out, land tenure insecurity has been a major factor undermining people's incentive for long-term management of productive land in Tanzania (e.g. Lindberg 2000, Mnyanga 1992). Suggesting otherwise for the particular setting in Endabeg Village, not a single person part of the present sample did mention tenure insecurity as a problem in relation to commons management. Also in the feedback meeting, the views expressed confirmed that climatic uncertainty and lack of education in farming technology are perceived as more urgent problems than tenure insecurity.

In a quite recent study, also connected to the LAMP project, Erikson (1999) gives examples of unauthorised settlement by large-scale farmers on communal grazing land held by Maasai communities in Simanjiro district. The resistance potential against such infringement has not been tested in Endabeg, since the area has not yet become object of attention for commercial farming purposes. An explanation for this circumstance can be that, as pointed out in Chapter Three, grazing

land held by agropastoral ethnic groups, such as the Iraqw and Gorowa, are today often much smaller than the vast plains inhabited by pastoral ethnic groups such as the Maasai.

Another potential source of weak official recognition is that presently, the subvillage is not recognised as an administrative unit in Tanzanian law. According to Loiske (personal communication), the concept of subvillages [Swahili pl: *vitongoji*] was legally introduced in the Village Act of 1975. Today, however, it appears to have lost its status as a legislatively recognised entity, causing unclarity in many places.

> There is confusion [about the subvillage concept relative to the legislation]. The Local Government Act has gone through many stages. Before [the current law entered into force in] 1982, the subvillage level was recognised. After 1982, some people [in the villages] just continued as before. (Tenga personal communication)

This means that, despite its apparent importance for collective choice arrangements in the local government of Endabeg (Design Principle 3)[56], the subvillage assembly is not even mentioned in the current Local Government (District Authorities) Act of 1982.

On the other hand, several national and regional actors engaged in land use planning matters do recognise the subvillage level as an important position in the local government hierarchy. Mr J. Kami of the National Land Use Planning Commission stresses that the subvillage level is an important part of their institutional set-up, which forms the basis for implementation of the "Participatory Land Use Management" approach (The United Republic of Tanzania 1998).

> Up til now, all official land use planning has been done at a regional level. In the Land Policy of 1995, there is a will of decentralising these powers to the local level, though it does not state how. (Kami personal communication)

Certainly, the means by which to decentralise land-use planning are by no means self-evident. Others have argued that so-called participatory planning is not feasible, due to the high costs involved. "The villages would not understand the value of the planning" (Bäckström personal communication).

For the time being, many official institutions as well as donor agencies are almost dogmatically pro-community oriented.[57] This trend also distinguishes many activities presently conducted by Babati District Council and LAMP. For instance, the participatory land use planning team[58] recognises and uses the subvillage level for promoting the development of long-term strategies for land management. Reportedly, the results in the first few villages have been encouraging, although the process is highly

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[56] Perhaps the practice observed in Endashangwe, Gayo and Ayahath Subvillages, of bringing the subvillage assembly minutes to the VEO for sanctioning of important decisions (Chapter 4), should be seen as some kind of micro-level recognition of rights to organise.

[57] It could be that this came as a counterreaction to the lessons learnt from excessive misdirected privatisation schemes implemented during recent decades (Chapter 1).

[58] The team consists of Mr Limo, Mr Nagunwa and two other officers at BDC (Limo 1.12.99).

time-consuming. The District is also actively involved in pursuing the "Community-Based Forest Management (CBFM)" approach, concentrating on the subvillage level for implementation and promotion of local initiatives (Wily 1999a and 1999b, Rwiza personal communication). Local forest management, including subvillage committees, has been introduced in Endabeg's neighbour village Riroda, among other places. As a neighbour village, Riroda offers a smooth transition to the last design principle.

Nested enterprises

> *8. Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of nested enterprises.*

Grazing areas within the boundaries of Endabeg Village are probably best viewed as parts of a larger patchwork of common land used for grazing. As came to light in the interviews, livestock keepers in Endabeg rely heavily on grazing areas outside of the village boundaries (Map 4.2), especially during the dry season. Thus the village's relationships to neighbour villages ought to be one important part of this analysis. Not to forget, there is also a nested structure of smaller units within the village itself. We have noticed about subvillage assemblies, a traditional grazing institution and many small islands of grazing land in the increasingly dense-cultivated landscape.

As mentioned in Chapter Four, the internal properties of the CPR are characterised by fuzzy borders, fragmentation and competition against other types of land-use. These circumstances add an extra degree of complexity to the core problem of excluding non-members from extracting units from the CPR. The subvillage chairmen are well aware of the problems with soil erosion and overstocking in the communal grazing areas. Several subvillages have also attempted to close their woodlands for grazing, but without success. The main unsolved problem seems to be how to exclude herders from nearby subvillages from using the areas. This is a though dilemma, especially since people in neighbour areas often are interdependent on each other's land for the short-term livestock mobility, necessary to get water and minerals etceteras.

In one of the episodes reviewed in Chapter Four, the people and their leadership in Ayaaben subvillage did not know how to exclude others when they attempted to close a hill for grazing. This resulted in that the subvillage assembly's decision to close the hill came to nothing. There is an obvious risk that a management initiative of this kind fails, if new rules are introduced without careful attention to the effect on livestock mobility.

In the worst case scenario, a well-intended collective-choice decision to tighten up operational rules might worsen the existing situation, releasing previously restrained free-riding tendencies, as

well as creating harsh feelings in the neighbourhood. Without a deep-loading analysis, this might have been what happened in Endabeg subvillage, where the relationships with neighbour residents degenerated completely during a period in 1992 (Chapter 4).

A legible formal institutional hierarchy is working in the Babati area, from the subvillage level up to the district level, through Village Councils, Wards and Divisions (Figure 3.1). However, very little communication seems to take place between official leaders of neighbour villages belonging to different wards. In December 1999, representatives of the Village Council in Endabeg claimed that the last time they met the leaders of neighbour village Sigino was in 1994.

The relationship between the two villages Endabeg and Sigino – neighbours in different wards – could be regarded as a typical repeated Prisoners' Dilemma game (Footnote 8). This is a game in which each party has to learn the other party's behaviour through observing the outcome of every round of the game, that is, the reaction to any change in the operational rules that both parties depend on. Communication takes part between ordinary people living near the village boundaries, but not between leaders of the two villages. This way, co-operation will probably take place directly among the operational actors. A "common understanding"[59] might develop, making life easier for the individuals who depend on livestock mobility over administrative boundaries from day to day. But for the leaders and policy-makers, any strategy leading to an optimal outcome will remain hidden, as long as information is not shared between the two villages sharing a common dilemma. It would probably facilitate any potential management of communal grazing areas considerably if the two parties involved started to co-operate already at the collective-choice level, where strategies are developed and the operational rules are set and altered.

Again, it should be pointed out that the present study focus very much on the modern and formal institutional structures. These are of course more obvious and easy to recognise for a novice in the field than are the customary institutions, which are often a bit secret and hush-hush, although they in practice live a parallel life side by side with the official administration. The effects of family- and clan networking, or the fact that the Iraqw do have a traditional administrative hierarchy with clear spatial dimensions, its units ranging from below the modern subvillage level up to inter-village areas, cannot be assessed properly within the scope of this study.

However, counting only with the information actually retrieved, there is an analytical punch line: The lack of a coherent system of nested enterprises turns out to be an Achilles' Heel for institutional development, with respect to grazing land management in Endabeg.

[59] "There is a common understanding" was a common response among interviewees in Endabeg to the question: Who are allowed to use the communal areas for grazing?

Overall Institutional Performance

By use of a few simple indicators showing the interviewees' perception of their situation, a fairly defendable assessment of the overall institutional performance can be done, quick and dirty:

- All the subvillage chairmen claimed that the grass growing in the communal areas is less than enough to provide for all the livestock depending on it. [Overstocking]
- All the subvillage chairmen, and the elders in the sample, claimed that vegetation in the communal areas is growing less well today than in the past. "The soil has become tired". [Soil degradation]
- All persons in the sample maintained that there is no way to stop other people from entering and using the communal areas for grazing. [Open access]

The content of this super-rapid appraisal is that the institutional performance, with respect to grazing land management, is a failure in Endabeg.

A final judgement would read: Bad performance but good prospects. Important design principles, such as graduated sanctions and conflict resolution mechanisms are represented, and even to some extent healthy collective-choice arrangements are in place at the subvillage level. Not least important, the recent legislative work seems to be going in a healty direction, and external authorities do not seem to pose any insurmountable hinders for institutional change and development at the level of collective-choice.

Correlation between Design Principles and Institutional Performance

The present valuation of design principles in Endabeg, connected with the brief but comprehensive assessment of the institutional performance, fits well into Ostrom's correlation pattern, showing high representation of design principles for robust institutions and vice versa (Table 5.2). Having these eight answers to whether Ostrom's design principles are represented in the field setting – with some reservations regarding the quality of my valuation of design principle number four – I can now consider the success criteria of the project fulfilled, as defined in Chapter One.

Table 5.2 **Design Principles and Institutional Performance**

Site	Type of CPR	Clear boundaries & member-ships	Congruent rules	Collective choiche arenas	Monitoring	Graduated sanction	Conflict resolution mechanisms	Recognised rights to organise	Nested units	Institutional performance
Törbel, Switzerland	Pasture	yes	yes	yes	yes	yes	yes	yes	-	robust
Japanese mountain villages	Pasture	yes	yes	yes	yes	yes	yes	yes	-	robust
Valencia, Murcia, Oriheula, & Alicante, Spain	Irrigation	yes	yes	yes	yes	yes	yes	yes	yes	robust
Raymond, West, & Central basins, California (current)	Groundwater	yes	yes	yes	yes	yes	yes	yes	yes	robust
Bacarra-Vintar, Philippines	Irrigation	yes	yes	yes	yes	yes	yes	yes	yes	robust
Alanya, Turkey	Fishery	no	yes	weak	yes	yes	weak	weak	-	fragile
Gal Oya, Sri Lanka	Irrigation	yes	yes	yes	yes	-	weak	weak	yes	fragile
Port Lameron, Canada	Fishery	yes	yes	weak	yes	yes	yes	no	no	fragile
Bay of Izmir & Bodrum, Turkey	Fishery	no	no	no	no	no	no	weak	no	failure
Mawelle, Sri Lanka	Fishery	no	yes	no	yes	yes	no	no	no	failure
Kirindi Oya, Sri Lanka	Irrigation	yes	no	no	no	no	no	no	no	failure
Raymond, West, & Central basins, California (earlier)	Groundwater	no	no	no	no	no	yes	yes	no	failure
Mojave basins, California	Groundwater	no	no	yes	no	no	yes	yes	no	failure
Endabeg, Tanzania	**Pasture**	**no**	**no**	**weak**	**no**	**yes**	**yes**	**weak**	**weak**	**failure**

Table from Ostrom (1990), with Endabeg inserted among the original cases to enable comparison.

CHAPTER SIX

DISCUSSION

Policy Conclusions and Recommendations

If the members of Endabeg Village Assembly decide to take control over their communal grazing areas, and to devise new institutions to govern the resource, there is support for this at the district and national levels (Design Principle 7). Examples and advise is readily available, for example at the neighbour villages Riroda and Sharmo, where they have Community-Based Forest Management (CBFM), or at Babati District Council (BDC)/LAMP.

On the other hand, one conclusion of the present study is that the subvillage assemblies might prove to be a stronger connection between the administrative hierarchy and the grassroots of the village community, compared to the Village Assembly (Design Principle 3). This is something that both the organisation behind CBFM and the Participatory Land Use Planning Team of BDC have taken note of. To work at the subvillage level with planning and implementation of land use strategies does indeed seem to involve many benefits. However, planners and implementers should be aware of one thing: When focusing on the subvillage level, the appropriators' rights to organise automatically become less recognised, since the subvillage assembly is not defined as an authority in current legislation on local government.

To make management of grazing areas at the subvillage level possible, subvillages must be able to exclude outsiders from using the resource (Design Principle 1). This probably calls for new by-laws to be approved by the VEO and the District Council. If Endabeg Village Council writes and accepts such by-laws valid for the village's own members, discussions must also be held with neighbour villages in order to make the regulations effective also for non-members of the village (Design Principle 8). As mentioned in the analysis, the communication between village leaderships in different wards appears as a bottleneck in this respect. The Division Officer, LAMP or any other concerned authority/organisation at some level above the ward, could therefore have an important role in facilitating negotiations between such villages, for example between Endabeg and Sigino. Perhaps, the new legal instrument Joint Village Agreements, which is introduced in the new Village Land Act, could be useful in this respect.

The existing semi-formal institution for conflict resolution (Design Principle 6) seems to function well in Endabeg, and it should therefore be safeguarded from possible future challenges by external authorities (Design Principle 7). If institutional development activities would take place, the authority of respected elders must be taken into account accordingly. It ought to be important that the

new provisions coming with the Village Land Act[60] disseminates efficiently to the levels of district and village authorities.

As a final recommendation, with Ostrom's empirically founded conclusions in mind, it appears to be clear that sustainable institutional change is something that cannot be rapidly induced. Learning from their own experience, local actors need to revise and modify the rules initially accepted, until the set of rules reflect also conditions that may be specific to the local context. People involved, at any level, in the development of institutions for local natural resource management should therefore expect, and allow for, that it will take time before new institutions are calibrated to fit local conditions.

Methodological Remarks

The chosen method (Chapter 2) seemed to be effective to its purpose, that is to say, to make a structured collection of qualitative data on CPR management in a local setting. After approximately eight weeks in the field, enough information had been collected to carry out the set out analysis of design principles. Of course, the field data (Chapter 4) had to be combined and compared with other interview material and secondary sources (Chapters 3 & 4), for verification purposes. In this case, the crosschecking led to that a few potential shortcomings in the analytical template came to light. Important blocks of information were overlooked in the field data collection, especially information related to the customary institutional structures that prevail parallel to the modern administration.[61] Possibly, this happened due to a too narrow screening of issues in the interview guides (Appendix), which were in turn guided by the fieldwork objectives (Chapter 1).

As Ostrom (1990) herself points out when publishing her checklist of institutional variables, the design principles are not always sufficient to catch every relevant aspect of the analysed institutions.

> I do not think it is possible to elucidate necessary *and* sufficient principles for enduring institutions, as it takes a fundamental willingness of the individuals involved to make any institution work. No set of logical conditions is sufficient to ensure that all sets of individuals will be willing and able to make an institution characterized by such conditions work.

Thus there is a danger in following such a well-defined analytical framework as basis for a data collection. The risk lays in that the potential existence of hard-detected loopholes, such as the prevalence of alternative "parallel" institutions, makes the field data collector vulnerable to omission of large sets of significant information. The likelihood of foreseeing relevant information is of course greater, the more inexperienced the data collector.

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[60] The Elders' Tribunal (*Baraza la Wasee*) is referred to in Chapter Five.
[61] Mostly thanks to the supervising Dr Lindberg and Dr Loiske did I become sufficiently aware of the existing traditional institutions and their impact on the society in villages such as Endabeg.

Further studies

Although the present study does not include a thorough comparison between the chosen methodology and other similar frameworks, it seems likely that Ostrom's methodological framework contains several opportunities for further studies within the same field. Two ideas of further studies in Ostrom's spirit could be:

1. To make a comparable compilation of data on the above-mentioned alternative institutions, and to see whether the valuation of design principles turns out different than in the present study.
2. To make a closer analysis of situational variables, such as shared norms and perceived costs and benefits, which are needed for elaborate decision modelling in the context of institutional change.

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Personal Communication

Persons met in East Africa

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Mr Fabian Alexander. Student, Moshi Secondary School. (From Endabeg.)
Mr Juma Allawa. Farmer, Former Village Council member, Riroda.
Mr Sabas Amor. Village Secretary, Endabeg 1977-78; Village Accountant 1979-82; Rural Cooperative Accountant 1985-87.
Ms Mwanaidi Bakari. District Community Development Officer, Babati. Interpreter.
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Mr Alphonse Hali. SVCh, Gayo.
Ms Fatuma Hamad. Village Forest Committee Member, Riroda-Kati.
Ms Ester Hangy. Housemother, Kitangyaro. Cattle keeper. Former chairman of *Na Nuse* women's group. Endabeg.
Mr Mathayo Hera. SVCh, Ayaaben.
Mr Tlaghasi Hhindo. Respected elder, Giroy.
Mr Gwandu Imbori. Ten cell leader, Endashangwe.
Ms Flora Johana. *Na Nuse* member, Endabeg.
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[62] Except for Tanzanian citizens, abbreviations within brackets are used to indicate nationality. (SE)=Sweden

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Mr Tluway Onna. SVCh, Khongumo.
Mr Idi Orondi. Farmer, Ayaath.
Mr Terevaeli Pallangyo. Doctor/ dispensary officer, Endabeg. Cattle keeper.
Mr Tlaghasi Qadue. Gorowa respected elder. Moved to Giroy from Singe village when he was a teenager.
Mr Baran Qamara. Respected elder, Khongumo.
Mr Ndege Qwaray. VCh, Endabeg. Cattle keeper.
Mr Phaustin Qwaray. SVCh, Giroy.
Mr Anatoly Rwiza. District Forestry Officer, Babati.
Mr Jonah Samson. Farmer, walking guide, Endabeg.
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Ms Ruth Sanka. *Na Nuse* member, Endabeg.
Mr Hayle Seff. Artist, Babati. Fieldwork assistant.
Mr Matayo Senyau. Respected elder, Khongumo.
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INTERVIEW GUIDE

Semi-structured interviews with Sub-Village Chairmen

Setting

1. Are there any areas of land within your sub-village, which are not held by individual households but used by all villagers, by all sub-villagers, or by any other group of people? [Suggest observed areas]
2. If yes: how large is it, how far away?
3. Is the area used seasonally, or the year around?
4. What uses are made of this land, in order of importance?
5. How many farms/farming households are there within your sub-village?
6. How many cows/oxen/donkeys/sheep and goats do these farming households keep altogether?
7. Are there any households practising zero-grazing in the sub-village?
8. Are there any smaller groups of households within the sub-village that share some grazing areas between them?
9. Do livestock keepers in your sub-village graze their cattle and small stock in other parts of Endabeg Village?
10. ... or outside the village?
11. How many cows/oxen/donkeys/sheep and goats can the land in the grazing areas support?
12. How many cows/oxen/donkeys/sheep and goats were using the communal grazing areas (CGAs) this year?

Membership and Exclusion of Non-Members

13. Are there clear boundaries of the CGAs?
14. Who has a right to use the CGAs?
15. When and how was this group, and these rights, defined?
16. How about new memberships?
17. Do any particular households have special rights to use the communal areas?
18. Are non-members prevented from using the CGAs? How and by whom? With what authority?
19. Have you had problems with intruding cattle/people from outside the community?
20. If yes, how did you deal with the problem?

21. Have you dealt with other types of conflicts involving livestock and land for grazing or moving cattle?
22. Who is responsible for the resolution of such conflicts? What if he/she fails to solve the conflict?

Control of Members' Use

23. Do the group of members make, or influence, decisions about the communal grazing land? If so, what is the procedure for this?
24. Do all members of the group use the communal land? If no, why not?
25. Are there special rules concerning the use of the communal areas? Quotas on livestock, grazing periods etc.?
26. Is there a land use plan or any by-laws concerning grazing in your sub-village?
27. If yes, who made the rules?
28. Are there other rules?
29. Does anyone monitor that the rules are followed?
30. Are the rules followed in practise? Why/why not?
31. What happens if a member breaks the rules? Formal sanctioning system?
32. Who is responsible for the resolution of conflicts between members? What if he/she fails...?

Provision/Investment

33. Has improved fodder seed been planted in the sub-village? On communal land? As a group activity?
34. If yes: Whose initiative? Who paid?
35. Has the planting/sowing been successful? Manuring/weeding/pruning? /Who does the work?
36. Any other investments or community activities on communal land?

External Recognition of Rights

37. Is the institution supported by national legislation and/or District regulations and/or the VC?
38. Have there been conflicts in the sub-village involving resolution at the Village, Ward, District, Regional or even National level? What was the utcome?

Problems and Opportunities

39. Do your animals get enough feed and water today?
40. Do your animals get enough feed and water all the year around?

41. If no: what is the reason for that?
42. When is the most critical season?
43. Is there more or less land available for grazing today than some years ago?
44. Reasons for changes?
45. Is the quality of the available land better or worse today than some years ago?
46. Reasons for changes?
47. What could be done to improve the livestock situation?
48. Who bears the responsibility to change the situation?
49. Do you keep more or less animals now than, say, five years ago?
50. Do you think you will increase or decrease the size of your livestock herd in the future?

[Ask about traditional names of geographical features, and their meanings]

[Ask about respected elders, former sub-village chairmen, traditional doctors and other key informants]

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