

**CANDLELIGHT FOR
HEALTH, EDUCATION AND
ENVIRONMENT**

**IMPACT ASSESSMENT
DULCAD COMMUNAL
RANGE RESERVE
RESTORATION**

**TOGDHEER REGION
SOMALILAND**

By: Mohamed Eggeh Killeh
&
Ahmed Ibrahim Awale

Mailing Address:
Hargeisa Mail Service
P.O. Box: 4630, Abu Dhabi, UAE

Phone: 00 252 225 5219
Phone: 00 252 2 523146
Mobile: 00 252 2 426069
E-mail: candasli@yahoo.com

April, 2003

Table of contents

No.	Activity	Page
1	Acknowledgement	3
2	Preface	4-5
3	Introduction	8
4	Executive summary	8-9
5	Objectives of the assessment	10
6	Introduction to the project area	10
7	Flora	10
	Fauna	11
	Community profile	11
	Traditional institutions	12
	Condition of the plain before intervention	12
	Activities carried out to improve range condition	13
8	Project planning	13
	Community training and awareness raising	14
	Rehabilitation activities	14
	Pound fees and penalties of contraventions against reserve users	15
	Observable impact	15
9	Encouraging signs of vegetation recovery	15
	Benefits of the reserve	16
	Food security situation improved	17
	Positive attitudinal change towards environmental conservation	17
	Constraints	20
10	Recommendations	20
11	Annex I Village range committees	21
12	Annex II Minutes of the meeting with community	22
13	Annex III Evaluation schedule	25
14	Annex IV References	25

Acknowledgement

Our thanks goes to the natural resource management (NRM) team of Candlelight, for their valuable briefing on the project and assisting us in the collection of information and analyzing the findings. We would particularly mention Ahmed Dirie Elmi, Khadra Omer Hassan, Abdul-qani Suleiman and Isse Heri Adam.

Also, we would like to register a word of thanks to the community of Eik, Boodhley and Gorayo-ood village for their good reception and providing information, in particular those who spent the whole three days of the assessment with us in the camp or in the field and in the discussions: Mohamed Jama Fidhin, Saeed Hayd, Mohamed Gulaid, Sh. Ismail Elmi Wacays, Yusuf Mohamed Ali, Mohamed Aw Jama Mohamoud, Ahmed Ibrahim, Dahir Adan Egal and Mohamoud Mohamed Adan.

Mohamed Eggeh Killeh
Ahmed Ibrahim Awale

I. PREFACE

A large proportion of Somaliland is covered by rangelands suitable for livestock grazing. Rain is unpredictable and low with 50 to 100 mm in most areas. The main production system is therefore, pastoral nomadism. Families keep and systematically move with their animals for their livelihood, making maximum use of what their environment offers.

As a result, the country's economy is largely dependent on this mode of production.

Approximately 55 per cent of the country's population are pastoralists and depend on livestock for their livelihood needs. A significant proportion of urban people also derive their income from livestock related activities. This makes Somaliland among the countries where pastoralism is a major mode of production. This does not mean however that the traditional pastoral system exists today as it used to be. On the contrary, complex interrelated political and economic processes are constantly changing the century's-old production system. Issues such as wars, environmental pressures, new consumer habits, privatization of common rangelands, migration of productive labor from rural to towns and greater dependence on urban markets are factors influencing the traditional pastoral mode of production.

Environmental degradation is the most serious of these influencing factors. The land available to pastoralists is considerably shrinking in favor of other competing forms of land use. Unmistakable process of major land degradation is vividly taking its toll at an unprecedented speed. In the absence of effective law and order, considerable batches of the productive environment are becoming bare.

Candlelight for Health, Education and Environment (CLHE), a national NGO, have become aware of the state of degradation of pasturelands; had dialogue with pastoralist community of Dul-ad plain, a traditionally rich and productive pastureland which has deteriorated into a bare and unproductive area. The purpose of the dialogue was how to rejuvenate Dulcad plain rangeland. The outcome of the dialogue between CLHE and pastoral communities around Dulcad, was agreement reached through consensus among communities of the three villages around Dulcad namely Eik, Boodhley and Goroyo-ood, to revive the communal pastureland.

Some of the main reasons for selecting Dulcad plain as an intervention point and a demonstration site were as follows:

- Serious overgrazing and range depletion was observed in the area.
- The community's preparedness to cooperate with the NGO in reviving the said pastureland for their own benefit and their readiness to contribute to the activities of the project.
- The suitability of site ecologically for regeneration of pasture.

This report highlights on the multi-faceted impact of this pilot project, be it on the condition of environment, or the re-awakening of the community on the importance of the range reserves, which ceased to exist for almost two decades. The project could be a model for any organization or institution interested in working in community-based soil conservation and community training on range management activities.

One final note:

My gratitude goes to Novib (Oxfam Netherlands) and World Food Program (WFP) – Hargeisa Sub-office, for providing financial assistance and in-kind food for work support (FFW) and for their environmental stewardship. I would also like to thank the Ministry of Pastoral Development and Environment (MoPDE) for their guidance and technical assistance, and the Pastoral and Environmental Network in the Horn of Africa (PENHA), Hargeisa office for tirelessly championing for the cause of the pastoral communities in the greater Horn in general and in Somaliland in particular. My appreciation also goes to the communities of Dulcad plain for their contribution and cooperation.

Lastly but not the least, I would like to thank the natural resource management (NRM) team of Candlelight for implementing the project.

Ahmed Ibrahim Awale

Deputy Director,

Candlelight for Health, Education and Environment



Photo 1&2: Batches of Dulcad Plain before the intervention



Photo 3 & 4: and after the intervention

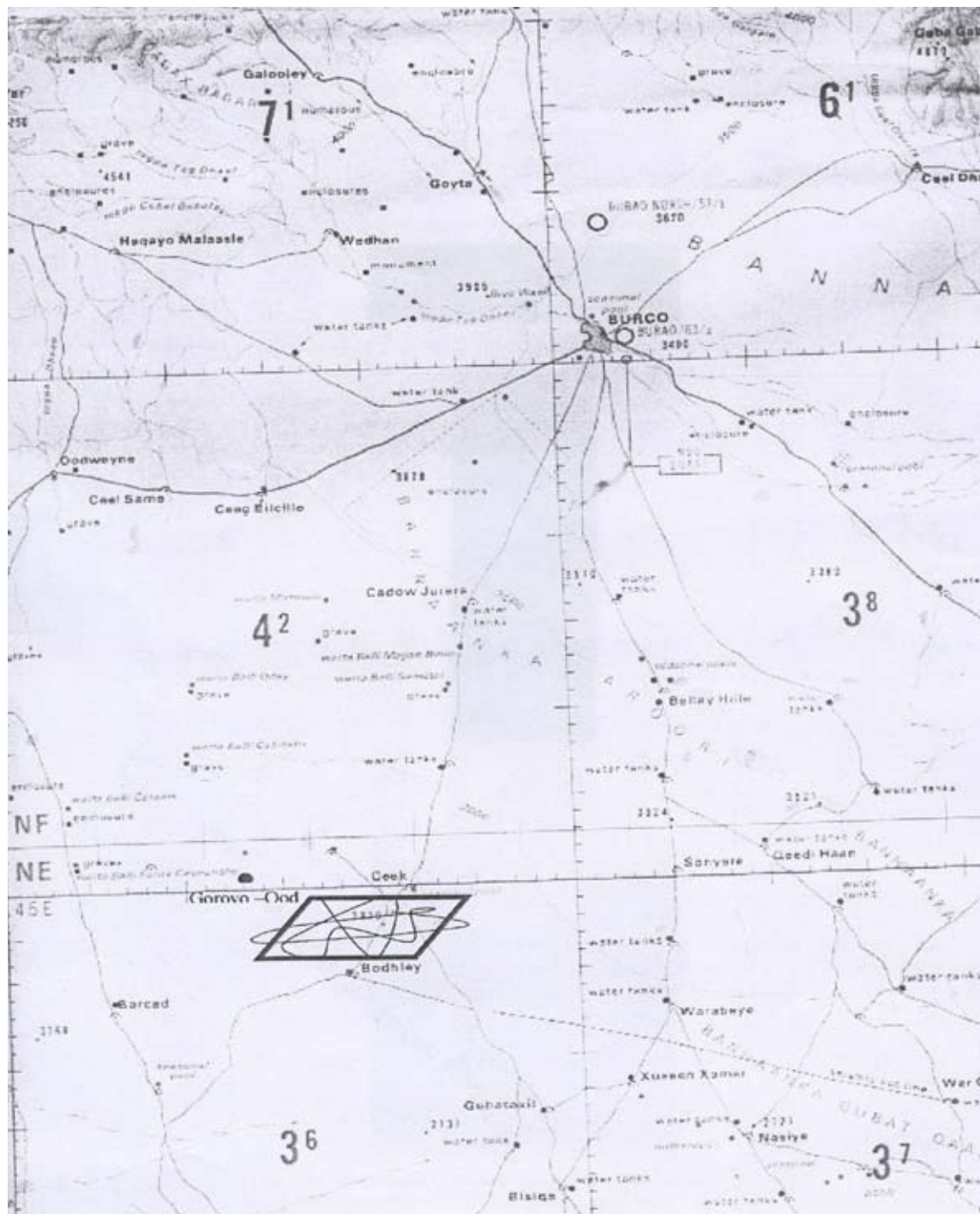


Fig 1. Location of Project Site (Dulcad area, in Togdheer Region, Somaliland)

II. INTRODUCTION

Candlelight's interventions in the environment sector

Candlelight has been active in the area natural resource management programmes since the beginning of the year 2000. It has made a gentle start with a greater emphasis on human capacity development in the form of community training and awareness raising. There were also physical inputs particularly in the area of soil conservation and reforestation. The Organization has sought the support of some of the INGOs and UN agencies in running these interventions - and most importantly, the participation and involvement of beneficiary communities. The Ga'an Libah soil conservation project implemented by Candlelight has become a good model born from the linkages and collaboration of different stake-holders. While the WFP provided food for work (FFW) for the pastoral communities in order to carryout stone terracing and construction of soil bunds, other funds received from NOVIB (Oxfam Netherlands) and Heinrich Boll Foundation (HBF) were utilized in covering non-food expenses of these interventions such as transportation, tools, water, camping materials etc. In addition, the ministry of Pastoral Development and Environment has provided technical assistance through the provision of some of its experienced staff throughout the project duration. The community as the repository of local knowledge and experience was also very responsive and was itself a benefit to the project.

Other environmental interventions included general awareness raising, both in the rural and urban areas, distribution of shade and fruit trees, issuance and distribution of a bi-monthly environmental newsletter and formation of environmental clubs in some schools in Hargeisa, Burao and Berbera.

Candlelight has good working relationship with the Ministry of Pastoral Development and Environment and the NGOs that are active in environmental sector. It is also a member of the Resource Management Somali Network (RMSN) which brings together thirteen organizations and teams, from Somalia and Somaliland, all working in the area of environment.

III. EXECUTIVE SUMMARY

The livelihood of the vast majority of the Somali people is clearly intertwined and mainly dependent on the access to, and use of the terrestrial resources, livestock being the dominant production system upon which the Somali economy and culture are based. Ecological degradation and land misuse or/and overuse leads to decreased productivity, which will, in turn, have a negative socio-economic impact on the communities, directly affecting the rural people.

The most far reaching change on the Haud ecozone part of the country, which used to be the best grazing areas of the country, was made by the introduction of Berkads (underground cemented water catchments) and increase of human and livestock populations. People

adopted the concept of water harvesting and adapted it to their own needs and according to their financial and technological capabilities. As a result, permanent rural settlements sprang near these new water points to serve the communal needs of the pastoral population.

The transformation of the Haud was not all positive. The Haud zone has now become a permanent settlement area and is characterized by depletion of pastures and the general deterioration of its environment. Proliferation of Berkads, Ballis and village settlements further exacerbated the situation by decimating trees through its use of building materials for huts, fences for Berkads and for firewood.

This report provides details of activities undertaken by CANDLELIGHT in its attempt to revive the rangeland condition of one of the plains in Togdheer through demonstrations, training on rangeland management and physical activities as well.

The project objective was to assist local communities in natural resources management, soil conservation and water spreading techniques and empowering them to manage their range resources in a sustained manner.

The project activities were started in July 2002 with training of the community on range resources management, and then physical activities, namely, construction of bunds and water spreading carried out by the community.

The report records the positive change in range condition of the plain resulting from a short resting period not more than five months and successful recovery from the degradation, which threatened to make the plain a complete desert.

One important observation noted after the re-opening of the plain for grazing was that the pastoralists who were staying at the vicinity of the plain as well others coming from areas as far as 40-50 kilometers, on all directions converged on the plain. This was because, it was at the middle of the dry season (Jilaal) when nearly all pasture in most areas was exhausted, and thus the condition of the pasture in the plain was reduced to the pre-intervention condition within a very short period of time. Therefore, one of the most important recommendations of the project is the need for the replication of similar activities in other plains, as a means of reducing grazing burden on one location.

IV. OBJECTIVES OF THE ASSESSMENT

The objectives of the consultancy were to undertake an impact assessment on the intervention of Candlelight, which focused on the restoration of Dulcad plain communal grazing area.

The nature of the intervention was to train the community, mobilize and organize them to rehabilitate their degraded land through relevant and low cost range management techniques such as construction of bunds and water spreading techniques. Then a period of resting which coincided with the Deyr (small rainy season) rains was introduced during which the pastoralists were prohibited from staying in the plain throughout the Deyr period, then opening it in the middle of the dry (Jilaal) season (Refer to Fig. 1 taken on July 2002 and Fig. 2 taken on December 2002, on page 3).

The consultancy also aims at documenting project activities, methodologies used, achievements realized, constraints encountered and recommendations for improvement.

V. INTRODUCTION TO THE PROJECT AREA

Dulcad Plain is situated approximately 65km southwest of Burao, Togdheer region. See (map Fig. 3) on page 4. 'Dulcad Plain' as implied by its name literally means 'treeless plain' covering an area of 15km x12km. In the past Dulcad plain used to be one of the best grazing lands in the region and was well known for the concentration of livestock during the dry season because of its many hand dug wells that are located in the villages bordering the plain namely: Eik, Goroyo Ood and Boodhlay. However, with the proliferation of Berkads (underground cemented reservoirs) which encouraged pastoralists to settle or stay for longer periods of time in one location, the traditional grazing cycle and movement from one place to another was affected. Again this was exacerbated by the increase in human and livestock populations, with the consequence of the degradation of pasture in the plain, like elsewhere in the country.

Flora

The plain was famous for its abundance of palatable grasses and shrubs of different types. The area is surrounded by open woodland dominantly occupied by Galool (*acacia bussei*). Other species such as Qudhac (*acacia spirocarpa*), Lebi (*delonix elata*) and Reydab (*albizzia anthelmintica*) are also found in the area.

The common vegetation of the plains is mainly of the *gramineae* family and include Dixi (*chrysopogon aucheri*), Saddexo (*dactyloctenium scindicum*), Baldus (*Cenchrus ciliaris*), *sporobolus variegatus* (dixi) and *cynodon dactylon*, Tima-haweenle (*sporobolus marginatus*), sifaar (*sporobolus ruspolianus*), Foodcadde, in the depressions.

Also the following herbs and shrubs which are well established in the plain include: *Jillab (indigofera ruspolii)*, *Euphorbia cuneata*, *Midb-caayo (Grewia erytherea)*; and *Blepharis spp.*, Dhafaruur (*Grewia Tenax*), Hiil (*Vernonia Cinerascens*), Wan-cad (*Sericocomopsis Pallida*), Lug-keliyaale (*Clitoria Ternatea*), Yub-luuluc (*Chascanum Africana*). In addition to this, degraded and scattered knots of *Andropogon kelleri* (duur) can be found in the plain.

According to Aw Jama Mohamoud, a community member, many of the species indicated above, which have now regenerated through resting, were not seen in the plain for decades.

Fauna

During the assessment, meetings and discussions with the Dulcad community members revealed that some game animals have returned to the area after grazing restoration and protection. They also reported that there is an increase in the natality of some of the game animals such as Speke's gazelle (Deero), Soemmering's gazelle (Cawl), dik-dik (Sakaaro). But also carnivorous animals such foxes and hyenas, which are somewhat nuisance to domestic animals which get astray, are in the increase.

Some game birds observed in the Dulcad Plain include Secretary bird (Salalmadhle), Kori Bustard (Juglay) and Black-Bellied Bustard (Galow). Among non game birds or rather birds seen in and around the camp were different species of larks, crowned plover, ring-necked dove (qoolley) sand-grouse (humbadh), birds of prey such as (falcons), pale chanting gosh hawk, martial eagle (baqaye). The larks were gregarious and sedentary in the seeding tall grass where their combined chanting song could be easily heard.

Community profile

The people of the area are pastoralists, with clan based political culture who survived recurrent droughts and man-made calamities relatively for long period of time. Like almost all other pastoral or nomadic communities in Somaliland, they follow pastoralism as their primary production system and mode of living, directly or indirectly deriving their livelihood from animal herding. The ban on livestock importation imposed by the Arabian countries, which has been standing since 1997, had its negative and serious consequences on the socio-economy of the communities.

The three villages at the peripheries of the plain (Eik, Boodhlay and Goryo-ood), serve as re-stocking centers where the nomads get credit from the petty-traders.

The current situation in Somaliland pastoral environment, however, must be understood in terms of the changes that have taken place in their production system over the last one hundred years or so. In the past, free ranging foraging livestock production was the dominant land use system and Somali pastoralism was characterized by high degree of mobility of herds and households. In the words of a Burao elder: 'camels owned in the hinterland of Somaliland, would go grazing as far as *Danot*, in Region V of Ethiopia, unhindered by man-made boundaries'; also 'we used to sing to the camels when browsing (*gashi ma qabtide, gar walba u gudub*) which means 'to satisfy your appetite move to wherever there is pasture'.

Traditional Institutions

The resource users of the area are pastoralists from the traditional local inhabitants who are engaged and derive their livelihoods from livestock production, both for direct sustenance and cash income. Local pastoralists, are therefore the principle stakeholders in the sustainable management of the range and water.

Traditional institutions do exist in the project area like any other Somali community settlement, and are:

- The overall seat of moral authority is the sub-clan or sub-sub-clan elder for the different sub-clans.
- Religious leaders or “Imams”
- ‘Nabadoons’, the *Aqils* and village elders (haydh tuulo)
- Development committees (DCs) are newly introduced phenomenon in the rural areas. Their existence and functionality is becoming a pre-condition required by development agencies in delivering their services to the communities.

The area comes under the jurisdiction of Odweine district, but government authorities presence is not there. This is because, as one moves from the seat of the government and major urban centers, the governmental influence diminishes while, on the other hand, the traditional governance prevails.

Condition of the plain before intervention

Dulcad plain is situated approximately sixty five kilometers south-west of Burao, Togdheer region. It falls between the three villages of Eik, Boodhley and Goroyo – Ood, in the Haud ecological zone. The population consists of about 1000 households of pastoral background. Dulcad Plain grazing range reserve is within close distance of Bokh Valley which makes it a very important pastoral settlement area. Macfadyen, in 1952, describes Bokh valley as an important grazing land. During the selection of the site Candlelight NRM team surveyed many other places in the area for the positioning of the reserve and ultimately Dulcad Plain has been selected for the following characteristics:

Soil of Dulcad plain is almost homogenous, being mainly loamy with high proportion of sand and/or silt contents. The availability of moisture for growth of natural vegetation and agricultural crops is dependent on rainfall, moisture capacity of the soil, eventual salinity and more importantly effective soil depth.

Range condition of the plain before the intervention took place were observed and assessed. The result of the assessment has revealed that range condition is characterized by heavily over-used vegetation, low in both vigor and cover, and accelerated sheet erosion processes. This is mainly due to the establishment (in the early 1970s and 80’) of several closely spaced water sources and development of villages. Since that time the original vegetation has largely

been removed and there has been a strong invasion of undesirable (*Jathropa*) plant species. Erosion processes have reached the point where sheet erosion started and most probably will be transformed into rills. Unfortunately, this has lowered the potential productivity of the soil and vegetal cover of Dulcad.

- The rangeland in Dulcad was almost barren. Only few small shrubs like jillab (*indigofera ruspolii*), Hiil (*Vernonia Cinerascens*), Maxaan sugaa and Caws Qudhun (*cymbopogon schoenanthus*) remained in Dulcad plain, once known for the abundance of different types of vegetation;
- Dulcad plain showed tremendous amount of soil erosion caused by wind and water erosion. This was clearly demonstrated by the amount of soil deposited on top of the thinly grown *Hiil* and *Jillab* shrubs. The thinning vegetation cover contributed to the increase of surface water run-off on one hand and decrease in water infiltration into the ground on the other;
- Any rainwater, which falls on the plain, was drained by the roads created by trucks and livestock trails;
- The birds for which the plain was famous have migrated after they could not find any feed;
- Blinding clouds of dust storms and whirlwinds were common sights in the plain;
- Signs of misuse, over-grazing and degradation could be seen on every plant in the plain.

VI. ACTIVITIES CARRIED TO IMPROVE RANGE CONDITION OF DULCAD PLAIN

Project planning

Candlelight which is a national NGO that has gained considerable experience in environmental programmes for the past several years, decided to address the degradation problem of Dulcad plain. The involvement of Candlelight in Dulcad plain began in July 2002 by mobilizing the pastoral communities in the area, who showed willingness to take full participation in planning, implementation and sustainability of the project. The communities of the three villages organized themselves and selected a committee of 18 elders representing them and cooperating with Candlelight in the management of Dulcad reserve project. The tasks and responsibilities of the committee representing the communities are as follows:

- Mobilization and raising the awareness of the pastoral community;
- Convince pastoralists vacate the plain during the wet season in order to provide sufficient forage and grass for the livestock during the dry season;
- Raising funds and mobilization of local resources;
- Solving any problems that arise during the project lifetime;
- Ensuring conformity with project rules, regulations and code of conduct;
- Preventing the creation of illegal private enclosures around the project area.
- Demarcation of the plain area by marking a line round the perimeter of the reserve.

The community is deeply and consciously involved in the programme. Forty six (46) men from the three villages were hired as labor force to carryout environmental rehabilitation activities and serving as range guards as well. In addition, five (5) women were hired for preparing food for the workers and maintaining the environmental sanitation of the camp as well.

Community training and awareness raising

A seven-day natural resource management training workshop was conducted by Candlelight during July 2002 and was attended by over forty community members, including the eighteen (18) elders from the three villages, some women were also invited to participate in the training which covered the following topics:

- Overview of the principles of resource management.
- Importance of community involvement in environmental management and decision-making processes in order to inculcate in them a sense of ownership.
- Protection of fauna and flora in their area, with greater emphasis on endangered species.
- Soil and water conservation skills and techniques and use of different tools and implements.

During the training, some of the elderly persons who narrated nostalgic and scenic environmental scenarios from their past experiences, have helped the participants to concentrate on the causes of these changes as well as stimulating analytical thinking on the causes and effects, and how their resource base has arrived in this state in which they were found now.

The training had made a good impact on the community in creating positive attitudes in the management process of the reserve and encouraged their involvement in project activities.

Rehabilitation activities

Forty-six range workers (46) have been involved in the soil conservation activities carried out in the plain on daily basis since July 2002. They are divided into three groups, which are designated as: Groups A, B and C – each consisting of 15 persons.

These groups are given re–enforcement on daily basis by the local elders from the three villages and two policemen from Burao who are stationed there for maintaining law and order. Elders may number 2 to 3 working with every group on rotational basis. There is a headquarter camp and another mobile one, which is shifted with the progress of the work. Routine work goes on in daytime (construction of soil bunds and water diversions) and at nighttime as well, to give no chance to intruders bringing livestock to the reserve. Trespassers are not many, but smaller problems do exist, for example, minor resisting and grumbling about fines imposed on the animals caught illegally grazing in the reserve, and some bluffing to fight and threatening the guards etc. With the start of *Deyr* rains in October 2002, the plain was closed from herders to be reopened during the 1st week of February.

Other than the trainings and awareness raising activities, here is a breakdown of the physical activities carried out from the beginning of the project (June 2002) till end of December 2002 are as follows:

- 29,435 meters long (when combined) bunds were done in the reserve. The structures are intended to help the water infiltrate into the ground, and reduce the effects of water run-off.
- 1,436 meters long (when combined) water-diversion earth bunds were constructed as a means of diverting water from roads created by motor vehicles which generally drain rain water from the pastureland.

The work output per day per person was 20 meters long earth bund, with an average height of 50cms.

VII. POUND FEES AND PENALTIES OF CONTRAVENTIONS AGAINST RESERVE USERS

The elders of the three villages together with the range association have levied pound fees rates for animals found grazing in the reserve without permission and imposed fines for persons who contravene the established rules and regulations for the management of the reserve, as shown below:

1. Camels: SL. shs. 4500.00 per animal
2. Cows: SL. shs. 3500.00 “ “
3. Sheep & Goats: SL. shs 1500.00 “ “
4. Anybody who changes or obliterates the boundary of the reserve shall be fined a sum of 200,000-400,000 SL. Shs.
5. Anybody who is caught burning charcoal in and around the reserve shall be fined a sum of 70,000-100,000 So. Shs.
6. Anybody who hunts game animals inside or outside the reserve shall be liable to a fine amounting 80,000 - 100,000 So. Shs.
7. Anybody who habitually commits contraventions against the smooth running of reserve shall be liable to be taken to a social court for his illegal acts.

The above-mentioned regulations were set by the community and it was the role of the elders to ensure their application.

VIII. OBSERVABLE IMPACT

a) Encouraging signs of vegetation recovery

Within a few months after the closure of the plain, it showed great recovery from the degradation, which threatened to make the it a desert. The improvement in the vegetation cover, after it has been rested starting from October Deyr rains, was encouraging. The team carrying out the assessment mission stopped over several plots of the reserve and studied

their characteristic habitat types. One site near Boodhley village at the edge of the plain (GPS – N8 56' 42.6", E45 13'32.7") has the following vegetation types which have shown good recovery after the period of resting:

- Dixi *Sporobolus variegatus*
- Daremo *Chrysopogon aucheri*
- Unuun *Citrullus vulgaris*
- Seddexo *Dactyloctenium scindicum*
- Kadho *Unidentified sp*
- Jillab *Indigofera sparteola*
- Caws-baldhoole *panicum maximum*
- Caws-qudhun *cymbopogon schoenanthus*
- Geed-xamar *Lantana microphylla*
- Foodcadde *Heliotropium undulatifolium*
- Gucundho *Cyperus sp.*
- Qodaxtool *Unidentified sp.*
- Soonah *Aerva tomentosa*
- Geedxajiin *Indigofera phillipseae*
- Hiil *Vernonia cinerascens.*

Dulcad plain covers a land area of 65 km² of homogenous vegetation cover. In an attempt to carry out estimation of forage production yield of such area, a simple method of representative sample was made. The method under this technique is to conduct a systematic and base sampling in which quadrant will be placed randomly.

Based on the above, the following data has been gathered for one year bio-model rainfall pattern and thus revealed as below stated:

Medium Rainfall (mm)	1 st rains	2 nd rains
	150mm	120mm
Forage biomass production, dry matter (DM), kg/ha	480 kg/ha	210 kg/ha

b) benefits of the reserve

Eighty percent (80%) of the community have realized the benefits of establishing grazing reserves and proper management of their main resource base which made them adopt positive attitudes towards the management of the reserve. It was obvious from the discussions with the community that many annual and perennial grasses and many varieties of other small shrub vegetation, which disappeared many years ago, have reappeared and covered the land that was barren only three months ago. Different types of birds and animals such as Gazelle have returned to Dulcad plain.

c) Food security situation improved

One quick impact of the project on the community is the improvement of food security situation. The provision of food for work (FFW) furnished by WFP and Candlelight to the labor force has greatly supplemented the traditional source of livelihood whose benefits have been diminishing with the deteriorated condition of the range and effects of livestock ban.

A longer term impact will be the positive implication of vegetation recovery on the livelihood of the communities of Dulcad plain grazing resource users as there will be better pasture available for their animals.

d) Positive attitudinal change towards environmental conservation

During the preliminary phase of the project, the community was skeptic about the success of the project bearing in mind the serious land degradation prevailing in the area. However, the positive results gained within such a short period of time have created some hope for the community, making them believe that “the golden past could be revived” when Dulcad plain was, according to one elder, “like a park, rich with different kinds of vegetation, grass as tall as a ten year old boy, and teeming with wild life”.



Photo 5: Dareemo (Chrysopogon aucheri) one of the most palatable species also used for traditional home making



Fig.4. Ban (plain) habitat vegetation type dominated by Hiil (vernonia cenerascens)



Photo 6. Trees and shrubs/recovering from overgrazing



Photo 7. In the words of Mohamed Gulaid, a villager, the plain was as barren as Sinai Desert



*Fig. 8 Ban (plain) habitat vegetation type dominated by Hiil (*vernonia cenerascens*)*



Fig. 9. Vegetation types which regenerated after resting the reserve

IX. CONSTRAINTS

- Maintenance of grazing reserves ended with the collapse of Siad Barre's regime. Thus, the long period of interruption and absence of range management programmes made the community less receptive to the idea of re-establishing communal grazing reserves;
- The illegal parceling and fencing of communal grazing land for private use caused much pressure on the open land (like Dulcad), limiting the movement of nomads to smaller areas than before. That is why any initiative to establish grazing reserves may backfire. The community suggested that the pressure on their reclaimed reserve could be reduced by establishing other reserves at plains nearby i.e. Aroori, Ban Cawl and Banka Tuuyo.
- One minor constraint observed during the closure of the plain for resting was the problem of astray animals that escape from their owners to browse the abundant pasture in the reserve. They are impounded and kept in animal enclosure (*Xero*). Sometimes, no body comes for them for weeks. You cannot chase them, because if they are eaten by hyenas you will be responsible to the owner for it. The camp was at the center of the plain and animals caught in reserve are moved to and fro through the reserve which results in trampling and grazing impact on soil and vegetation takes place.

X. RECOMMENDATIONS

Dulcad Plain communal range reserve has proved to become an unprecedented step forward toward the restoration of range reserves, not seen since the collapse of Siyad Barre's regime in 1991. That was the time when environmental management in the whole country also faded away with his regime. It is proven that the initiative of re-establishing grazing reserves could work, but unless such interventions are executed in different areas simultaneously, according to the lessons learned from this project, it will create resource-based conflicts and competition, over-grazing caused by the heavy grazing pressure on one site. Discussions and meetings with the pastoral community in and around the reserve support the creation of similar range closure schemes in Aroori Plain, Banka Tuuyo, Ban-Cawl and others. Creation of other reserves will ease the eminent grazing pressure on Dula'd Plain. When Dulcad Plain is open for grazing during the dry season, all pastoral people in the neighborhood of the reserve will come in a rush from all directions resulting in the exhaustion of pasture within a short span of time, where it otherwise would have sufficed the 3 Villages for several months of grazing benefits, if there were other reserves around.

- Since the plain is wide and scouting for trespassers is difficult due to the long distance one could travel, the use of horses by the range reserve guards to chase and/or catch

intruders is recommended. This could also create interest in breeding horses, which are vastly vanishing from the country.

- That watermelon be introduced into the area, as wild melons (Unuun or *citrullus vulgaris*), abundantly grow in the plain.
- The boundary of the reserves should be marked with a tractor disc plough in order to be more visible and enduring for both those tending stock and grazing guards besides visitors to the reserves.
- There is Acacia forest surrounding the reserve, but is not part of the reserve. Such forest habitat should be incorporated into the reserve. It is very necessary for the remaining wild game to shelter and seek shade during the heat at the mid-day sun.

ANNEX 1

Village range committees

A. Boodhley village:

1. Cayngal Farah Gelle
2. Saeed Abdi Gelle
3. Ali Derie Abdi
4. Cali Gamba Weyne
5. Aydid Derie Hussein
6. Saeed Hayd
7. Cali Muhumad

B. Eik village:

1. Abdi Dhala
2. Dahir Madar Yusuf
3. Ali Haseein Naley
4. Hussein Osman Hurre
5. Abdi Boos Ali
6. Ahmed Abdi Haad

C. Goroyo – ood Village:

1. Abdilahi Farah
2. Mohamed Ali Bulaale
3. Abdi Mataan Derie
4. Hassan Adan Elmi
5. Abdillah Hussein Abdille

ANNEX II

Minutes of the meeting with community

The meeting with the elders and range association of the three villages was amicable and informative. Indeed, they are actually the repositories of traditional knowledge. We gained a lot of experience from them during the project period.

The following Somali popular sayings are among things we gained from them in the discussion:

1. *Dayr La Waayaba Doollo Loo Raac*

Meaning: Whenever Deyr rains fail one is orientated to *Doollo*. (Doollo is in Zone 5 of Ethiopia)

This clearly depicts the natural movement of nomads dictated by the condition of the environment, in search of pasture and water.

2. *Allon, aanu cirku dhulka gabin,*

Dhulkuna xoolaha gabin,

Xooluhuna dadka gabin.

Meaning: Oo, God, May the sky not neglect the land,

And the land not neglect the animals,

And the animals not neglect the people.

In a meeting arranged by Candlelight NRM field management team of the project, the following local elders and range association members were seen in a discussion at the camp.

1. Mohamed Jama Fidhin: Resident of Boodhley village, who explained to the team the directions pastoralists from outside the plain come to Dulcad grazing area during the “Gu” rains: and lists: Qudhac–kudle, Abdi Farah, Beerato, Gatiitaley, Go’ada, Harada, Oodweyne.

2. Saeed Hayd, age 82 years: He emphasized that tangible improvement in the regeneration of the vegetation cover of the reserve attained within 3 months of resting only. He expressed his appreciation by saying: “We thank all who helped and assisted us in establishing the reserve and regenerating Dulcad plain plant cover for our benefit”. He told a story about the Dulcad plain and said that long time ago, it was called “*Maadh Yaal*”, because once upon a time in the past there was a drought which killed all the animals the people had. Then good rains followed. There grew different types of wild fruits and vegetables such as:

- | | |
|-------------|----------------------|
| 1. Xamakow: | Edithcolea sordida), |
| 2. Gacayro: | Caralluma sp.? |

3. Xangey:	Sarcostemma viminale
4. Sabkax:	Glossonema hispidum
5. Fara – xuunsho	Carralluma dicapuae chiov.
6. Carrab – Lo’aad	Echidnopsis spp.?
7. Cillal	Unidentified Asclepiad
8. Doonbir	Ceropegia sp.?
9. Midhcaanyo	Grewia erythraea
10. Dhafaruur	Grewia tenax
11. Hohob	Grewia sp

The people were relieved and satisfied, though some of them got some side effects (daratooday) that was why it was called (Maad–Yaal). “We hope it will continue to remain to enjoy being a reserve, and others will follow our example”, he added.

3. Mohamed Gulaid: “The plain was as barren as Sinai desert before the intervention, and now it is different and covered with vegetation”.

4. Yusuf Mohamed Ali: From Goroyo–Ood village: ‘the plain was a desert before reserving; now we have reached our desire.’ Of course there were others who spoke, and their expressions were synonymous and supportive to resource management imitative of Dulcad plain.



Photo 10 . Some community elders from Eik, and Goroyo-ood villages



Fig. 11. Camels impounded after caught grazing in the reserve



Fig. 12. Dulcad camp site. Wild melons {unuun} (citrullus vulgaris) in the foreground

Annex III

Evaluation schedule

Day	activity	No. of days
11 Jan, 2003	Briefing of project activities by Candlelight	1
12 Jan.	Travel to Dulcad plain	1
13 – 16 Jan.	Field assessment	3
17 Jan.	Return to Hargeisa	1
18 – 22 Jan.	Report writing	5
	Total	11 days

ANNEX IV

References

1. Bailly,P.R.O & R. Melville,1972. On report on the vegetation of the Somali Republic with recommendations for its restoration and conservation.
2. Hemming C.F. 1966. The vegetation of the northern region of the Somali Republic
3. Academy for peace and development, Somaliland, 2002. Regulating the livestock economy of Somaliland.
4. Macfadyen, W.A 1952. Water supply of parts of British Somaliland.
5. Ash,J.S. & Miskell. J. 1983. Birds of Somalia, their habitat, status and distribution.
6. (IUCN), 1997. Renewable natural resources and production systems: issues and priorities.
7. Malte Sommerlatte and Abdi Umar.2000. An ecological assessment of the coastal plains of western Somaliland.
8. Tod.D.C.1959. Village grazing reserves (Memorandum) rules for their establishment and conduct.
9. (IUCN), 1993. Environmental synopsis – Somalia/Somaliland
10. Law no. 15 of 25 Jan. 1969. Law on Fauna (Hunting) and forest conservation.
11. Glover. P.E. 1947. A provisional checklist of British and Italian Somaliland trees, shrubs and herbs.
12. Miskell, J. 2000. An ecological and resources utilization assessment of Gacan – Libaax Mountain, Somaliland.
13. Pavan, M. 1969. SOS Planet earth.
14. National Range Agency Law No. 3 of 14 January 1979 – Water Development, Somalia.
15. Range Policy, Ministry of Pastoral Development and Environment, Republic of Somaliland, 2000