

Acacia Operation

Support to Food Security, Poverty Alleviation and Soil Degradation Control in the Gums and Resins Producer Countries

Burkina Faso, Chad, Kenya, Niger, Senegal, Sudan



GTFS/RAF/387/ITA **Terminal Report**

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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ACRONYMS

AIDGUM	Association for International Promotion of Natural Gums
AfDB	African Development Bank
AFWC	African Forestry and Wildlife Commission
AGNS	Food Quality and Standards Service
AGRFOR	Agronomes et Forestiers sans frontières
AU	African Union
AUC	African Union Commission
CCD	→ UNCCD
CEN-SAD	Community of Sahelo-Saharan States
CILSS	Comité permanent Inter-Etats de Lutte contre la Sécheresse dans le Sahel
CSE	Centre de Suivi Ecologique
CTA	Chief Technical Adviser
EC	European Commission
ECOWAS	Economic Community Of West African States
ESNS	→ AGNS
FAO	Food and Agriculture Organizations of the United Nations
FLU	Funding Liaison Unit
FOM	Forest Assessment, Management and Conservation Division
FOR	→ FOM
FOMC	Forest Conservation Team
FORC	→ FOMC
GARA	Gum Arabic and Resins Association
GEF	Global Environment Facility
GGWSSI	Great Green Wall for the Sahara and the Sahel Initiative
ICEF	International Court for the Environment Foundation
IDWG	Inter-Departmental Working Group
IGAD	Intergovernmental Authority on Development
KEFRI	Kenya Forestry Research Institute
LTU	Lead Technical Unit
MTU	Mechanical Technical Units
NAGAPPEN	National Association of Gum Arabic Producers, Processors and Exporters of Nigeria
NGARA	Network of Natural Gums and Resins in Africa
NGO	Non-governmental organization
NPC	National Project Coordinator
NTE	Not to exceed
OSS	Observatoire du Sahara et du Sahel
PMC	Project Management Committees
PRA	Participatory Rural Appraisal
RAFR	Operations Branch for the Regional Office for Africa
RCMRD	Regional Centre for Mapping of Resources for Development
SFE	Subregional Office for Eastern Africa
TCAP	→ TCSR
TCP	Technical Cooperation Programme
TCSR	→ Field Programme Development Service
UEMOA	Union Economique et Monétaire Ouest Africaine
UMA	Union du Maghreb Arabe
UNCCD	United Nations Convention to Combat Desertification

1. INTRODUCTION

1.1. Project background

Sahelian countries have been severely affected by drought and desertification with a significant shift southward of isohyets in the area of production of gum Arabic. Since the 70's all countries involved in the Acacia Operation project have experienced significant worsening of climatic conditions, which adversely impacted on important production systems such as cattle-breeding, agriculture and woodlands. A coordinated strategy among gum Arabic producer countries and partners was therefore needed to capitalize on the existing opportunities and address the constraints. In an effort to address these issues, various initiatives were undertaken. These include:

- A FAO commissioned study (TCP/RAF/4557) in 1995 on production, markets and quality control of gum Arabic, which came up with specific recommendations on improving the gum Arabic sector.
- A regional conference for Africa held in 1997 in Nairobi, Kenya, looked at aspects of conservation, management and utilization of plant gums, resins and essential oils. A key recommendation concerned the creation of a regional network to enable producing countries develop their systems of sustainable production, marketing and improvement of their products to international standards.
- A FAO commissioned study for Sudan (TCP/SUD/7821) in 1997 looked at the production and marketing of gum Arabic with specific relationship to international trade.
- National associations on gum Arabic and/or gums and resins were established and strengthened between 1997 and 1999 with a view to improving national capacities in the production and marketing of these commodities. Examples are the Gum Arabic and Resins Association (GARA) in Kenya and the National Association of Gum Arabic Producers, Processors and Exporters of Nigeria (NAGAPPEN). More recently an initiative to establish a world network of gum Arabic researchers aimed at developing and promoting the product in a variety of end uses.
- In May 2000 a follow-up conference for establishing an African Network on Natural Gums and Resins was organized by KEFRI in Nairobi, with the cooperation of FAO and AIDGUM. The workshop established the Network among the participating countries (Chad, Ethiopia, Kenya, Mali, Nigeria, Sudan, Tanzania and Uganda). The Network is known by the acronym NGARA, i.e. the Network of Natural Gums and Resins in Africa.

The "Permanent Forum for the Science and Technology" of the International Court for the Environment Foundation (ICEF) elaborated the Acacia Operation project proposal in collaboration with FAO's technical services (ESNS and FORC) and in contact with several NGARA member countries of the region.

1.2. Outline of official arrangements

Upon request from the Governments of Burkina Faso, Chad, Kenya, Niger, Senegal and Sudan, and within the framework of their agreement with the Government of Italy (the Donor Government), FAO supplied assistance for the execution of the project "Acacia Operation:

Support to Food Security, Poverty Alleviation and Soil Degradation Control in the Gums and Resins Producer Countries (GTFS/RAF/387/ITA)". Acacia Operation supported food security and rural development in the arid lands of involved gums and resins producer countries of sub-Saharan Africa. It was the preparatory phase of a ten-year programme of assistance to countries within the framework of NGARA.

It was possible, through the preparatory joint mission FAO/Italy/ICEF/NGARA, conducted in December 2002 and January 2003 to identify in each of the beneficiary countries the Government implementing agency and to establish a National Coordinating Committee.

A Service or Division of the Ministry of Environment or Agriculture generally represented the implementing agency in each country. For each beneficiary country the implementing agency was:

- Kenya - The Kenya Forestry Research Institute (KEFRI), which operates under both the Science and Technology Act (CAP 250) and the State Corporation Act (CAP 446). It was established in 1986.
- Sudan - The Forest National Corporation under the Ministry of Agriculture and Forests.
- Chad - Direction de la Protection des Forêts et de la Lutte contre la Désertification, under the "Ministère de l'Environnement et de l'Eau".
- Senegal - Direction des Eaux, Forêts, Chasse et de la Conservation des Sols, under the "Ministère de l'Environnement et de la Protection de la Nature".
- Burkina Faso - Direction de la Foresterie Rurale under the "Ministère de l'Environnement et du Cadre de Vie".
- Niger - Direction de l'Environnement under the "Ministère de l'Environnement et de la Lutte contre la Désertification".

The project document was signed by FAO, the executing agency, and the six beneficiary countries on 5 November 2003. The project became operationally active on 13 November 2003 and was officially launched in Nairobi in January 2004. The original approved budget amounted to US\$ 3,407,208; however, through nine budget revisions, it was increased up to US\$ 5,389,400 (Revision J, 13 May 2010). The Government of Italy financed the project for the entire amount above through the Trust Fund for Food Security and Food Safety.

The Governments of the six recipient countries supported the project implementation providing inputs and necessary facilities. In particular, Kenya provided office space for the project Headquarters in Nairobi and relevant utilities and furniture (water, electricity, telephone, desks, etc.). The concerned Ministries of each country nominated the national technical staff and the general service staff (secretaries, guards, drivers), covering their salaries.

The proposed termination date was 04 May 2006, with a total duration of 30 months, and it was extended seven times in order to either finalize on-going activities or allow the implementation of new tasks unforeseen by the initial project document (see 2.3.). The final project NTE was fixed on 30 June 2010. Budget revisions and project duration extensions occurred during its implementation are listed in the following table.

	Date	Purpose	Budget US\$	Increase US\$	Proposed NTE
Initial budget			3.407.208		04 May 2006
Revision B	March 2004	To re-phase unspent 2003 funds to 2004 and adjust budgetary allocation between project components	3.407.208	0	04 May 2006
Revision C	May 2004	To re-distribute funds to purchase non expendable equipment and adjust 2004 budget	3.407.208	0	04 May 2006
Revision D	October 2004	To increase overall project budget and extend project duration	4.190.058	782.850	04 November 2006
Revision E	April 2006	To reflect actual expenditures for 2005, increase overall budget and extend project duration	4.690.058	500.000	31 December 2006
Revision F	August 2007	To reflect actual expenditures for 2006, increase overall budget and extend project duration for completion of activities during the consolidated pilot phase	5.389.400	699.343	30 June 2008
Revision G	October 2008	To extend project NTE and amend budget accordingly in order to implement a final regional meeting to share lessons learnt and outcomes of the project and identify follow-up actions	5.389.400	0	30 March 2009
Revision H	March 2009	To extend project NTE in order to prepare a large integrated programme for submission to	5.389.400	0	31 December 2009

		donors			
Revision I	December 2009	To extend project NTE in order to finalize the follow-up programme document and share it with potential donors for resource mobilization	5.389.400	0	31 March 2010
Revision J	May 2010	To re-phase unspent funds and release the publication "Guidelines on sustainable forest management in drylands of sub-Saharan Africa"	5.389.400	0	30 June 2010

1.3. Project objectives

The project represented the preparatory phase of a ten-year assistance programme to African countries producing gums and resins and to the regional networks established for the development of the sectors.

The **development objective** of the project was to contribute to sustainable development, food security and the fight against desertification through the promotion and integration of gum and resin production into rural economic activities in Africa.

Within this long-term goal, the project had the following **immediate objective**: Strengthen the analytical and operational capacity of six pilot countries to address food security and desertification problems through the improvement of agro-silvo-pastoral systems and the sustainable development of gum and resin sectors.

For the achievement of the immediate objective, the following outputs were identified:

Output 1: Agro-silvo-pastoral systems in arid and semi-arid lands established and gum and resin production improved through a sound methodological approach and innovative technology – Pilot phase.

Output 2: A ten-year long-term programme for gums and resins producer countries elaborated.

Output 3: Information exchange, training, technology transfer and quality control of gums and resins improved through strengthening the organization and management of NGARA regional network.

By strengthening local resources, the project aimed at improving and sustaining agricultural and pastoral systems, as well as diversifying and increasing household income sources, in this way contributing to the socio-economic development of concerned populations. The project focused particularly on the poorest and most vulnerable groups of rural society: women and children, most often assigned to harvest and process gums and resins.

Tree species producing gums generally belong to Acacia genus, which is largely spread on the continent and particularly in arid and semi-arid areas. In addition to producing gums,

fodder and firewood, Acacia species ensure the maintenance of agriculture favorable conditions by protecting crops against heavy rain and wind erosion, by buffering extreme climatic conditions and especially, by restoring soil fertility.

A mechanized water harvesting technology (Vallerani system), by which micro basins can be dug while ploughing degraded soils, was adopted to develop Acacia-based agro-silvo-pastoral systems and reverse land degradation in the six pilot countries.

2. RESULTS AND CONCLUSIONS

2.1. Project implementation and activities

2.1.1. Project implementation

The CTA was based at the regional office of NGARA at KEFRI Headquarters in Nairobi, Kenya, and coordinated the implementation and monitoring of project activities at the national and regional levels under the supervision of FOR and the Inter-Departmental Working Group (IDWG) on the Convention to Combat Desertification (CCD).

He collaborated with the National Project Coordinators (NPC) and the implementing agency in the different countries, and worked closely with the NGARA Coordinator and the consultants and experts appointed to the project.

The NGARA Coordinator worked under the supervision of the CTA and the technical guidance of FOR. He collaborated with consultants, the Focal Point of each member country of NGARA and the national technical staff. In particular, he worked closely with the project consultants for the formulation of the 10-year programme.

The Budget Holder was located in Accra, Ghana, operations being coordinated from Operations Branch for the Regional Office for Africa (RAFR). FORC acted as Lead

	Name	Function
International	Enrico Casadei	CTA (from January 2004 to December 2005)
	Fabio D'Onofrio	CTA (from April to December 2006)
	Fabio D'Onofrio	Consultant Coordinator (from September 2007 to June 2008) ¹
	Ben Chikamai	NGARA Coordinator
	Sheila Mbiru (Ms)	NGARA Communication & Information Officer
	National	Attina Lankoande
Alrari Dijimramadji		NPC Chad
Meshack Muga		NPC Kenya
Abdou Maisharou		NPC Niger
Condeye Sylla Gaye (Ms)		NPC Senegal
Abdalla Gafaar		NPC Sudan

¹ Mr. Fabio D'Onofrio was also engaged for the organization of the regional meeting in Addis Ababa, 3-4 March 2009

Technical Unit (LTU) and TCAP as Funding Liaison Unit (FLU).

In September 2007, during the consolidated pilot phase (August 2007 – June 2008), the previous CTA was re-engaged as Consultant Coordinator based in the Subregional Office for Eastern Africa (SFE), Addis Ababa, Ethiopia.

The core project staff is listed in the table above, a complete list of project staff and consultants is presented in Annex 3.

2.1.2. Training

National Project Coordinators, national staff, consultants and senior field specialists in the 6 participating countries were trained in the implementation of Acacia Operation with support from FAO and the NGO AGRFOR as well as from experts of partner institutions and projects, particularly in the following:

- Biophysical characterization and selection of pilot sites;
- Participatory Rural Appraisal (PRA);
- Organization of socio-economic surveys;
- Land preparation and mechanized water harvesting technology (Vallerani system);
- Monitoring the implementation and evaluation of the results;
- Applied research concept and supervision;
- Natural resource inventory & mapping;
- Project formulation.

Field technicians and extension workers were trained in:

- Community sensitization and running of socio-economic surveys;
- Establishment of small-scale nurseries;
- Collection of information and follow-up on pilot site implementation;
- Water harvesting technologies and natural resources management;
- Appropriate fencing.

Farmers and producers were trained in:

- Establishment of Project Management Committees (PMC);
- Creation of farmer groups and relevant modalities;
- Agricultural and food production besides pastoral activities;
- Nursery and tree plantation;
- Creation of income-generating activities and development initiatives.

Supervisors and mechanics of the Mechanical Technical Units (MTU) were trained in the following:

- Organization of mechanized units and running of operations;
- Establishment of half-moon micro basins;

- Tractor and ploughs (Treno and Delfino) maintenance and repair;
- Spare parts appropriate storage and book-keeping.

2.1.3. Project activities and achievements

The pilot phase project Acacia Operation was initially scheduled over 30 months, with NTE in May 2006. However, because of delays at the early stages of project implementation, participating countries requested an extension of the pilot phase. The Italian Cooperation approved this extension with additional funds up to the end of December 2006.

During a regional workshop organized in Dakar in November 2006 and attended by all parties involved in the project, it was concluded that in order to continue supporting communities and producers involved in the project and to avoid gaps or interruptions in its positive impacts, there was need to seek additional donor funds for a consolidated pilot phase.

Therefore FAO requested the Italian Cooperation to increase the budget and the duration of the project beyond the scheduled completion date of end-December 2006. Additional funds were granted in August 2007, but in the interim period the project was *de facto* frozen with no international staff, nor budgetary allocations for undertaking any new activities.

After termination of the consolidated pilot phase (30 June 2008) the project duration was extended four more times with no budget increase, up to 30 June 2010, in order to properly address consistent follow-up action (see 2.3.).

Field activities in pilot sites concentrated in the first part of the project, from early 2004 to late 2006. Each country received one tractor and two specialized ploughs (Treno and Delfino, i.e. Vallerani system), globally around 13 000 hectares of land were worked with this technology. Relevant main achievements by country are presented below, followed by results attained under project's outputs 2 and 3.

In addition, it is worth mentioning that participatory rural appraisals, baseline socio-economic surveys using questionnaires, and biophysical characterizations of sites were conducted in participating countries. Applied research aimed at assessing socio-economic and bio-physical impacts of the mechanized water harvesting technology as compared to local traditional techniques and, therefore, the long-term sustainability of the approach adopted.

OUTPUT 1: Agro-silvo-pastoral systems in arid and semi-arid lands established, with production of gums and resins improved through pilot-scale activities

Burkina Faso

Project activities were developed over 10 provinces having as objective 27 sites largely identified as degraded glaxis; 1 640 out of the total 2 105 hectares of land worked during the project were rehabilitated to agro-forestry systems thanks to Delfino plough. The associated nurseries supplied more than 644 000 seedlings of *Acacia senegal*, which were used also for replanting activities where the survival rate was initially low.

In some cases direct sowing of *Acacia senegal* seeds was adopted. Planted plots were located near villages and extended over variable surfaces going from 5 to 100 hectares. Each intervention area was managed by a local committee that received technical input from a

focal point appointed by the Ministry of Environment and based in the same district. The long distances between plots placed some restraints to the execution of the pilot phase.

At the beginning of the Acacia Operation Project an information and sensitization campaign was launched in all concerned villages, reaching by the end of its implementation 2 990 producers and gatherers of gum Arabic.

Chad

More than 3 000 persons were involved in the intervention areas, which covered a total surface of 432 hectares of degraded land with low shrub and tree cover. 9 out of the total 13 sites implemented during the project were used as agro-forestry lands, the remainder 4 being managed under forestry practices.

9 nurseries were established with 58 000 plants produced and distributed to all involved villages, with an additional 10 000 plants delivered by “Inspection Forestière”. In a few cases direct sowing was performed instead.

As a locally-designed strategy, in each intervention area plots were divided into smaller parcels and assigned to households according to their needs and management capacity. In some places households used to manage communal plots.

Kenya

The project opened nine pilot sites in Marsabit and Samburu Districts, in Northern Kenya. The first four sites in Sereolipi (Samburu District), Merille, Laisamis and Log-logo (Marsabit District) were planted in October-November 2004. New sites were identified in North Horr and adjacent areas in 2005, where planting activities took place in March-April 2005. Replanting was carried out in all sites in October-November 2005, in order to replace trees affected by drought. In some cases direct sowing was adopted, in other cases seedlings were used instead. In 2006, maintenance works on micro basins and replanting took place in some sites. The surface worked during the project was 285.6 hectares. Among the distributed herbaceous plants, it is worth mentioning cowpeas, green grams, pearl millet and sorghum. The most promising sites were Merille, Logologo and Laisamis.

Given the erratic rain pattern and drought spells in the Northern part of the country, it was decided to open new sites also in Kibwezi and Kiboko. The total worked area in Southern rangelands covered 53 hectares, where agro-forestry systems were implemented by planting *Jatropha curcas*, *Melia volkensii*, Mango and a hybrid maize variety. Good results were achieved in all Southern plots.

The project supported community tree nurseries through provision of materials such as polythene tubing, watering cans, wheelbarrows and seeds and bought seedlings from the nurseries for planting in some of the sites.

Niger

The total land surface treated in Niger amounted to 2 175 hectares, distributed over the following Departments: Mirriah (400 ha), Aguié (410 ha), Madaoua (250 ha), Say (185 ha), Kollo (80 ha), Plateau de Kouré (850 ha). Rehabilitation of degraded lands through sowing of *Acacia Senegal* seeds was carried out in communal sites as well as in individual parcels, in order to support the efforts of gum Arabic producers.

Seeds of *Acacia senegal* and other tree species were bought to increase the rate of afforestation in treated sites, which were also recovered by sowing herbaceous plants. In order to replant existing sites and sow new ones, 100 kg of *Acacia senegal* seeds (provenance

Kordofan) were distributed, for a target of 500 000 planted trees.

A campaign for direct sowing of tree species (*Acacia senegal*, *Acacia seyal*, *Acacia nilotica*, *Bauhinia rufescens*, *Ziziphus mauritiana*) and herbaceous plants (*Cassia tora*, *Andropogon gayanus* and *Cymbopogon sp.*, etc.) was launched throughout the country in July 2006 under the patronage of administrative authorities. As a result of this campaign, the project sowed 300 kg of tree seeds.

Senegal

The Senegalese Coordination showed a strong commitment to the implementation of the project, whereas the large extensions of worked land required many efforts from both the logistical and organizational point of view. The main administrative regions touched by the interventions were Louga, S.Louis, Matam, Tambacounda and Diourbel. 44 sites and 3 390 hectares of land were treated as agro-forestry plots. Planted plots had very variable surfaces going from 2 to 500 hectares.

The technique adopted consisted in working plots with the water harvesting plough (Vallerani system), leaving a distance of about 6/8 meters between the rows. Trees were planted along the rows in the excavated half-moon-shaped basins. The space between the rows was normally used for sowing other herbaceous plants such as cotton, millet, peanut and watermelon. 600 hectares were replanted with *Acacia* trees at a later stage.

Nurseries were established and producers trained to relevant techniques, the nurseries produced more than 700 000 seedlings. Additionally, the project purchased and provided seeds. For instance, 250 kg of *Acacia senegal* seeds and 50 kg of *Acacia mellifera* seeds were bought and 3 200 kg of vegetable seeds were distributed to different communities along with tools to fight bush fires.

Sudan

Since the beginning, pilot activities concentrated on the States of North Kordofan and Sennar, at a later stage they were extended to sites in Blue Nile State. Site selection followed preliminary surveys, and baseline information was collected to help identify target groups. Sites, which sometimes extended on forest reverses, were worked alternating agro-forestry to silvo-pastoral systems.

In Kordofan sites were scattered and characterized by heavy clay soils with one-meter-deep cracks during the dry season. In Sennar the worked plots were more uniform with large extensions of natural and planted stands of *Acacia senegal*.

Some worked plots were sown directly, others were planted with seedlings. Seeds of *Acacia senegal* were collected in Kordofan, while seeds of *Acacia seyal* and other species (*A. mellifera*, *A. nilotica*, *Albizia spp*, *Azadirachta indica*) came from El Gedaref State. A total surface of 4 773 hectares was ploughed and planted with *Acacia* trees using Vallerani equipment as well as traditional methods and involving 601 households. High tree survival rates were observed in all the locations. The National Coordination was active in providing services and extension in opened-up sites.

OUTPUT 2: Preparation of a ten-year long-term programme for gums and resins producer countries

It was based on a consultative process involving AGRFOR consultants in charge of the long-term plan, CTA, NGARA Coordinator and NPCs of the beneficiary countries. It built on

experiences and lessons learnt from the pilot phase as well as from project TCP/RAF/2914 “Strengthening the Production and Quality Control of Gums and Resins in Africa”.

In August 2005, AGRFOR consultants started visiting member countries and collecting relevant data for drafting national projects and a regional programme. A framework for the long-term programme was developed in consultation with the project’s core staff and strategies to develop consistent project documents were fine-tuned during a technical backstopping mission in Kenya in April 2006.

Draft proposals for the regional programme and national projects were presented during the workshop held in Dakar in November 2006. After that, National Project Coordinators continued developing and improving the draft documents for the country components of the long-term programme, while the FAO Consultant Coordinator in collaboration with the NGARA Coordinator worked on the proposed regional component. Finally, a total of 8 documents were submitted to FAO and concerned parties:

- A 10–year regional programme: Burkina Faso, Chad, Kenya, Niger, Senegal and Sudan
- Burkina Faso 5–year project document
- Chad 5–year project document
- Kenya 5–year project document
- NGARA 5–year project document
- Niger 5–year project document
- Senegal 5–year project document
- Sudan 5–year project document

OUTPUT 3: Assistance to NGARA and associated networks

This component was implemented in synergy with project TCP/RAF/2914 “Strengthening the Production and Quality Control of Gums and Resins in Africa”. The following were the main activities carried out and key accomplishments:

- Strengthening the Network structure:
 - Executive board was formalized, members from three regions and two experts were appointed besides the Executive Secretary;
 - Constitution was drafted and elaborated in two workshops (Nairobi, Kenya, and Portudal, Senegal) and approved in the third workshop in Nairobi in 2005. Additionally, FAO assisted NGARA through a legal consultant (in consultation with the Legal Office in Rome) in revising the constitution to meet the legal requirements for registration in one of the member countries as well as establishing the most appropriate mode of registration;
 - Focal points established in 13 member countries and equipment purchased to facilitate communication including computer hardware, software and office furniture;
 - National associations established in 4 countries (Chad, Kenya, Nigeria and Sudan) and guidelines provided for establishment in other 7 countries (Burkina

- Faso, Ethiopia, Mali, Niger, Senegal, Tanzania and Uganda).
- More than 40 new associations of gum Arabic producers established and officially recognized in the six countries participating in GTFS/RAF/387/ITA.
 - Promotion of information dissemination:
 - Focal points supported in internet connection and communication enhanced among member countries;
 - NGARA website operational since July 2004. It was redesigned in May 2006 with additional features: more information content and easier navigation, separate country pages, section on publications, available in English and French;
 - Publications produced in English and French in the NGARA Publication Series and regionally distributed to stakeholders:
 - ✓ Field manual on gum trees and gum Arabic – May 2004;
 - ✓ Production and marketing of gum Arabic – December 2004;
 - ✓ Report on international symposium on Acacia gum – September 2005;
 - ✓ Regional master plan for training – November 2005,
 - ✓ Production and marketing of gum resins (frankincense, myrrh and opopanax) – December 2005.
 - Other information products (Brochures, Posters, CD-Rom, etc.) developed and widely disseminated.
 - Resource assessment and database development (component developed in synergy with project TCP/RAF/2914):
 - Regional resource map for East Africa and country resource maps prepared in collaboration with the Regional Centre for Mapping of Resources for Development (RCMRD) based in Nairobi;
 - Regional resource map for West Africa prepared by the Centre de Suivi Ecologique (CSE) based in Dakar;
 - National consultants recruited to prepare country reports on the status of resources, areas of production, marketing and quality control of gums and resins, and to develop national databases in 13 member countries;
 - Reports sent to NPCs and copies available at NGARA coordination office;
 - Two resource assessment and database experts (one English speaking and one French speaking) recruited to harmonize the national databases and establish a regional database structure.
 - Capacity building:
 - Development of training material and master plan;
 - A total of 240 persons from 12 countries trained in nursery management and gum production and quality control.

2.1.4. Workshops

Several workshops were organized and held during the project implementation. In particular, three regional workshops attended by all actors involved are worth of a mention in light of the decisions made for future course of action. They are listed in the following table.

Title/Purpose	Place	Dates
To review activities of projects TCP/RAF/2914 and GTFS/RAF/387/ITA and discuss work plan for 2005 and future strategies.	Hotel Bougainvilliers Dakar Senegal	22 - 24 November 2004
GTFS/RAF/387/ITA final workshop to present results of the pilot phase and discuss the project extension into a transitional phase	Ocean Hotel Dakar Senegal	15 - 18 November 2006
Regional meeting “Achievements, Gaps and Future Perspectives within the Framework of Project GTFS/RAF/387/ITA” followed by the regional workshop “Expert Consultation Meeting on Forest Best Practices in Arid and Semi-Arid Zones in Africa” (see 2.3.)	African Union Office Addis Ababa Ethiopia	3 - 4 March 2009 and 5 - 6 March 2009

2.2. Tripartite evaluation

A tripartite evaluation mission was fielded from 06 October to 03 November 2007 in Burkina Faso, Senegal, Kenya and Sudan. The evaluation team was made up of a representative of FAO/team leader (Amadou Maiga), a representative of the Donor Government (Giuliano Soncini), a representative of NGARA (Chidume Okoro) and a representative of each Government of the countries visited during the mission (Nebié Zoubi – Burkina Faso, Robinson Ng’ethe – Kenya, Oumar Diaw/Modou Khoule – Senegal, Abdalla Gaafar Mohamed – Sudan).

The mission spent around one week in each county that included meetings with Governments and national and international institutions, field visits and discussions with local stakeholders. The mission took note of the efforts made by project teams in each country to implement and consolidate the activities under the project objectives. The mission noted that these objectives were globally achieved through organizing local populations in intervention areas, sensitizing and educating people and local administration authorities, establishing plantations for gum production and organizing training sessions benefiting all stakeholders (both local people and technicians). Drafting and validation of the ten-year programme were also conducted in each country.

Acknowledging the efforts of the Italian Government, the tripartite evaluation team recommended the Governments of participating countries and FAO to take necessary action to:

- Prepare a programme document proposal based on the ten-year long-term programme developed and validated by countries (framework programme for the development of gum Arabic production and marketing and the rehabilitation of degraded soils);
- Organize a round table of donors and explore co-funding opportunities for the follow-up programme from partners such as the European Union, AfDB, the World Bank, GEF, etc.

2.3. Additional activities under the project

In order to build on the momentum gained by the pilot project GTFS/RAF/387/ITA, to promote information dissemination on relevant outcomes and grant them international visibility, and to ensure timely and adequate follow-up action, several activities not foreseen by the original project document were undertaken, which ultimately determined four project’s duration extensions with essentially no budget increase. In particular:

- FAO and AUC convened the regional meeting in Addis Ababa (3-4 March 2009) to take stock of the outcomes of the project and discuss the required follow up action, especially given the great potential for implementation in the framework of the AU’s Great Green Wall for the Sahara and the Sahel Initiative (GGWSSI). Representatives from concerned countries played an important role in the meeting’s outcomes. It was decided to prepare a full fledged programme document in close collaboration with AU, NGARA and countries involved. The document would be based on the 10-year programme developed within project’s output 2.
- The regional experts’ workshop in Addis Ababa (5-6 March 2009) was organized for the preparation of “Guidelines on sustainable forest management in drylands of sub-Saharan Africa”.

- A planning meeting was organized and held at SFE Office in Addis Ababa on 8-10 July 2009 to discuss and review the framework of the follow-up programme proposal drafted by the international consultant, and to plan the follow-up steps for the programme proposal development and submission.
- A side event entitled “Arid zone forests' contributions to biodiversity conservation, combating desertification and sustainable livelihoods: the global challenge in a changing world” was held on 22 October 2009 at the XIII World Forestry Congress, Buenos Aires, Argentina. The side event was co-organized by FAO, AUC, NGARA and other key partner institutions. The NGARA Communication Officer contributed to the event with a presentation; additionally Government representatives of 5 counties involved in Acacia Operation participated and discussed their experiences in the implementation of the project.
- The follow-up programme document was prepared and submitted to countries and AUC for relevant comments and official endorsement (December 2009). The proposal, which is meant to contribute to the GWSSI implementation, is entitled “Rehabilitation of degraded forest lands for food security, desertification control, environmental conservation, mitigation and adaptation to climate change”. It involves AUC and eight sub-Saharan countries (Burkina Faso, Chad, Ethiopia, Kenya, Niger, Nigeria, Senegal and Sudan) and is laid out for a duration of ten years. The required budget for the first five years of implementation amounts to US\$ 30,986,182. All recipient Governments expressed great appreciation and enthusiasm for the programme proposal, which was refined taking into account comments received. The document was forwarded to TCSR and is ready for submission to other interested/potential donors including the EC. It was also translated into French.
- Guidelines on sustainable forest management in drylands of sub-Saharan Africa were prepared and a technical validation workshop² was organized in Dakar (20-22 January 2010) by FAO in collaboration with the Agence Nationale de la Grande Muraille Verte (Senegal). Government representatives of counties involved in GTFS/RAF/387/ITA participated in the workshop. The document was refined based on the outcomes of the workshop and a revised draft was presented at the 17th Session of the African Forestry and Wildlife Commission (AFWC) held in Brazzaville, Republic of Congo, on 22-26 February 2010. Project outcomes were also promoted and got visibility at the 17th AFWC Session. By the project closure, the guidelines were edited, translated into French, published in both English and French, and widely disseminated among concerned governments and FAO offices.

2.4. Project outcomes

The main outcomes of the project can be summarized as follows:

- Land degradation and desertification control is possible on large scale through rain water harvesting;
- Participatory approach proved to be an important asset;
- Forest, range and agricultural productivities were enhanced which improved food security and reduced poverty of beneficiary populations;

² Workshop-related costs were not charged against the budget of Acacia Operation, the event being organized in the framework of a Letter of Agreement between FAO and the Agence Nationale de la Grande Muraille Verte

- Stakeholders` skills at various levels were improved;
- Innovative technologies and appropriate approaches and methodologies were generated and disseminated;
- Collaboration, synergies and complementarities with on-going initiatives in the region and participating countries were strengthened;
- Local populations and authorities as well as Governments are enthusiastic regarding the outcomes of the project and would like that it is prolonged and up scaled.

3. LESSONS LEARNT AND FOLLOW UP

3.1. Sustainability of the approach

The participatory approach adopted in the pilot phase revealed to be fruitful, given the high interest and ownership shown by people. In these conditions, project achievements are likely to be maintained and replicated by the beneficiaries, who are aware of the benefits that can be drawn from the activities demonstrated, ultimately contributing to the sustainability of the project design.

Techniques of soil and water conservation and soil rehabilitation used by the project along with Acacia plantations are a factor of sustainability especially in light of the strategic importance of gum Arabic in Sahelian economies. In addition, the multiple use of Acacia trees, i.e. for gum production, fuel wood, fodder and soil fertilization, is a strong incentive for people for the future.

In order to further enhance the sustainability of the approach, simple methods of cost-effective and participatory management of natural formations of *gommerrais* and natural resources in general should be developed along with a coherent institutional framework enabling community empowerment.

3.2. Lessons learnt

Given the importance of the objectives pursued, the project raised high expectations from political authorities, technicians, grassroots, private sector and different partners in participating countries. Countries appreciated very much the experience of rehabilitating degraded lands and rationalizing the production of gums and resins. Notwithstanding, the strategy and in particular the lack of financial resources proportioned to the ambitions did not allow to take into account a number of concerns for the efficient implementation of field activities. Overlooked aspects which undermined a better project performance are listed below:

- Lack of national teams for autonomous coordination;
- Absence of a project's own network of trainers, instead of seconded state services' staff;
- Lack of tractors' spare parts and equipment on regional market and lack of skilled workers for tractors' maintenance;

- Over-ambitious objectives as compared to pilot phase duration and financial resources;
- Inadequate and irregular financial resources and delayed disbursements from RAFR;
- Lack of village infrastructure for gum collection and marketing;
- Absence of micro-credit opportunities tailored to stakeholders' needs;
- Insufficient resources to provide the required technical assistance from FAO and AGRFOR, i.e. the NGO in charge of technical advice, in particular as regards site selection (sandy soils or scattered sites were sometimes chosen), cattle-breeding and transhumance encroachment and proper fencing of plots, and appropriate ploughing for water harvesting purpose;
- Lack of timely and effective communication and information exchange between country components, FAO Regional Office for Africa in Accra and FAO Headquarters in Rome.

3.3. Follow up

Follow-up approach and actions to Acacia Operation were discussed at the regional meeting held in Addis Ababa on 3-4 March 2009. A simple continuation of the activities with a slight up scaling would not be very effective in terms of reducing poverty and improving livelihoods. The future strategy must promote the outcomes of the pilot project into a programme large enough to address the magnitude of food insecurity, poverty, land degradation and desertification, as well as mitigation and adaptation to climate change in the target region.

Thus, the future programme must address first the improvement of livelihoods through widening the sources of income for local populations, while restoring degraded lands and improving agriculture, range and forest productivities. These are cross-sector activities and the programme must adopt an integrated approach. The scale of the programme has to be significant and needs to be considered as a major actor in regional initiatives, such as the Great Green Wall for the Sahara and the Sahel Initiative.

According to concerned country representatives the implementation of such a programme would be an important tool to combat desertification, contribute to GGWSSI and, above all, to the well-being of the whole population in the region. It is therefore highly recommended that funding for the follow-up programme be timely sought and granted.

3.4. Complementary initiatives

In addition to the programme proposal "Rehabilitation of degraded forest lands for food security, desertification control, environmental conservation, mitigation and adaptation to climate change", FAO is working on two other regional initiatives that consistently suit the programme above.

FAO is supporting AUC through a TCP project for five countries (Chad, Djibouti, Ethiopia, Mali and Niger), which is US\$ 456 000 worth. The project aims at enhancing the capacity of the African Union Commission to provide assistance to the five selected countries in developing sound strategies, plans and project proposals for the successful implementation of

the Great Green Wall for the Sahara and Sahel initiative. The project document is finalized and the initiative is about to be officially launched.

FAO was also requested by the African Union to prepare a concept to be submitted to the European Commission for funding. The proposal already went through the first two stages of approval by EC. The project proposal concerns the support to AUC and eight participating countries in the effective and successful implementation of GGWSSI, as a tool for poverty alleviation, combating desertification and adapting to climate change. The specific objective is to enhance technical and resource mobilization capacity of AUC, CEN-SAD Secretariat, the eight beneficiary countries, regional and sub-regional organizations and economic communities, i.e. OSS, CILSS, ECOWAS, UEMOA, IGAD, and UMA. The Global Mechanism of the UNCCD would partner the initiative. This project is EUR 1 400 000 worth and would complement the TCP project above. The full fledged project description is being finalized.

Annex 1

DOCUMENTS PREPARED DURING THE PROJECT³

General Items

- FAO. Regional and Country Projects. Secretariat note to the 17th AFWC Session (FO:AFWC/2010/6.5). November 2009.
- FAO. Summary Report of the Regional Technical and Validation Workshop on the Guidelines for Sustainable Forest Management Practices in Drylands of Sub-Saharan Africa, 20-22 January 2010, Dakar, Senegal. Secretariat note to the 17th AFWC Session (FO:AFWC/2010/Inf.5). February 2010.
- FAO. 2010. Guidelines on sustainable forest management in drylands of sub-Saharan Africa (English and French). FAO, Rome.
- FAO. 2010. Rehabilitation of degraded forest lands for food security, desertification control, environmental conservation, mitigation and adaptation to climate change (English and French). Programme document, FAO, Rome.
- FAO. Agenda (English and French) and list of participants to the Regional Technical and Validation Workshop on the Guidelines for Sustainable Forest Management Practices in Drylands of Sub-Saharan Africa, 20-22 January 2010, Dakar, Senegal. January 2010.
- FAO. Radio production on Acacia Operation – Investing in Agriculture for Food Security. CD–Rom, September 2006.
- Orientation Seminar Report, 28 – 30 January 2004, Nairobi, Kenya (Available in French and English) 25 February 2004.
- Project Progress Report by CTA (November 2003–February 2004).
- Project Progress Report by CTA (February 2004 – August 2004).
- Project Progress Report by CTA (August 2004 – February 2005).
- Project Progress Report by CTA (February 2005 – August 2005).
- Data sheet of the Network and Focal Points for 14 member countries
- Data sheet of the Pilot Phase activities
- Data sheet on monitoring
- Report on Gum Arabic Market, Didier Muller and Chidume Okoro
- Master Plan for Training, Mohamed Ballal and Mamadou LO
- Backstopping reports in Senegal, Burkina and Niger (July) and Chad, Sudan (August) by E. Casadei and B. Chikamai
- Backstopping reports on Senegal, Burkina, Niger by CTA
- Backstopping reports on Chad and Senegal by CTA
- Backstopping reports Kenya, Senegal, Sudan, Chad, Burkina Faso and Niger by the CTA

³ This Annex was put together by merging pre-existing document lists from several reports and information sources, therefore some items might be repeated under different headings

- AGRFOR Interim report (September 2004)
- NGARA Brochures on mandate and activities (French and English) July 2004
- Production and Marketing of gum Arabic, published in December 2004 in English and French and distributed to all African NGARA member countries and relevant institutions
- Sheets for monitoring sites of the pilot phases in English and French have been elaborated and distributed to all NPCs
- Report of the regional workshop held in November 2004 in Saly, Senegal has been published and distributed to all NPCs and participants in English and French.
- Monitoring report from Kenya, Senegal, Sudan and Burkina Faso
- Project proposals presented for funding to World Bank, ICRAF and EU
- Protocol to conduct a survey on the characteristic of soils (KARI)
- Different reports on workshops organized for Project Management committees, resources mapping, steering and Coordinating Committees, National Associations for Gums and Resins etc.
- Brochure for the project presentation
- Project proposal to NEPAD
- Monitoring report from Kenya, Senegal, Sudan, Niger and Burkina Faso
- A protocol to conduct a survey on the characteristic of soils has been presented and approved for Senegal, Chad, Kenya and Niger
- National reports on database have been finalized
- Report on synergies have been presented by Senegal, Kenya and Niger
- Rapport d'activités semestriel (Senegal, Niger)
- Le secteur gommier au Niger, situation actuelle et perspective d'avenir. Premier rapport d'étape du consultant national en base de données. Octobre 2004
- Collecte des données et l'élaboration d'un programme de développement à long terme : Etat de lieu des projets et programmes et perspectives de collaboration
- Premier rapport d'étape du consultant national « synergie d'intervention et élaboration du programme à long terme ». Janvier 2005
- Rapport d'activités 2004 des projets TCP/RAF/2914 et GTFS/RAF/387/ITA. Novembre 2004
- Rapport final de l'atelier de Saly Portudal, Dakar – Sénégal. 22 au 24 novembre 2004
- Rapport d'activités 2004 des projets TCP/RAF/2914 et GTFS/RAF/387/ITA et programmation 2005. Février 2005
- Rapport final de l'expert en évaluation des ressources et de base des données. Mai 2005
- Rapport de mission de sensibilisation, d'information et de collecte des données sur les producteurs privés de la gomme arabique. Avril 2004
- Rapport de mission de choix des sites d'intervention et de définition de leurs vocations. Septembre 2004
- Rapport de mission de sensibilisation et de mise en place des comités de monitoring des sites récupérés. Mars 2005

- Rapport de mission de suivi des stagiaires et définition du dispositif expérimental permanent du suivi de la dynamique des sites récupérés. octobre 2004
- Rapport d'activités sur la collecte et l'intégration des données dans la base. Deuxième rapport d'étape du consultant national en base de données. Février 2004
- Programme national de formation des acteurs dans la conduite des activités des projets TCP/NER/2914 et GTFS/RAF/387/ITA. Octobre 2004
- Compte rendu de la première réunion du comité de pilotage du Projet GTFS/RAF/387/ITA. Août 2004

FAO–NGARA series reports:

- Field manual on gum trees and gum Arabic (FAO–NGARA–AIDGUM) May 2004 (French and English)
- Production and marketing of gum Arabic – December 2004
- Report on international symposium on Acacia gum – September 2005
- Regional master plan for training – November 2005
- Production and marketing of gum resins (frankincense, myrrh and opoponax) – December 2005

FPMIS Acacia Documents

- FAO. 2003. Project Document, Acacia Operation – Support to Food Security, Poverty Alleviation and Soil Degradation Control in the Gums and Resins Producer Countries (signed on 05 November 2005)
- FAO. 2003. Document de Project, Opération acacia – Appui à la sécurité alimentaire, à l'atténuation de la pauvreté et à la lutte contre la dégradation des sols dans les pays producteurs de gommages et de résines
- Progress Report (November 2003– February 2004)
- Progress Report (September 2004 – February 2005)
- Project Review sheet – Final Document
- Senegal, République du. Plan de travail 2005
- Senegal, République du. Plan de travail 2007, phase transitoire
- Technical Report – End of Assignment Report by Enrico Casadei, Chief Technical Adviser, (Jan 2004 – Dec 2005)
- Technical Report – Final report on the Dakar Workshop (22 – 24 Nov 2004)
- Technical Report – Regional Workshop – Pilot Phase Of Acacia Operation Project – Workshop Report, Dakar, 15 – 18 Nov 2006
- Progress Report (Mar – Aug 2004)
- Progress Report (March – August 2005)
- Six Month Progress Report – for GTFS/RAF/387/ITA (Aug – Dec 2006)
- Six Month Progress Report (Jan – Jul 2006)
- Six Month Progress Report (Aug – Dec 2006)
- Progress Report (Jan – Dec 2007)
- Progress Report (Jan – Dec 2008)
- Progress Report (Jan – Dec 2009)

- Back to Office Report by Samanez, Chiarissi Joint Mission – Ethiopia (02–05 March 2009)
- Budget Revision B (11 March 2004)
- Budget Revision C (17 May 2004)
- Budget Revision D (07 October 2004)
- Budget Revision E (20 April 2006)
- Budget Revision F (09 August 2007)
- Budget Revision G (03 November 2008)
- Budget Revision H (26 March 2009)
- Budget Revision I (21 December 2009)
- Budget Revision J (13 May 2010)
- Work Plan: January – December 2009
- Work Plan: 2010

Mission Reports

- Mission Report – Casadei Mission – Chad and Sudan – English version (July 2004)
- Mission Report – Casadei Mission – Chad and Sudan – French Version (July 2004)
- Mission Report – Casadei Mission – Kenya (14 – 21 Sept 2003)
- Mission Report – Walter Mission – Mali (19 – 27 May 2005)
- Mission Report – Casadei Mission (13 May – 17 June 2005)

Other Reports

- Consolidation Phase document (16 Nov 2007)
- Final Evaluation Report of the Tripartite Evaluation Mission (Oct – Nov 2007)
 - Kenya 5–year project document
 - Burkina Faso 5–year project document (French)
 - Chad 5–year project document (French)
 - NGARA 5–year project document
 - Niger 5–year project document (French)
 - Senegal 5–year project document (French)
 - Sudan 5–year project document
 - 10–year regional programme: Burkina Faso, Chad, Kenya, Niger, Senegal and Sudan
 - Rapport final évaluation de mission (French)
- Aide Mémoire Addis Ababa, 3 – 4 March 2009

By Country:

Burkina Faso

- AGRFOR. 2006. Rapport de mission d'appui
- Casadei, E. 2004. Rapport de mission au Tchad et Soudan
- Casadei, E. 2005. Rapport d'atelier de bilan 2005 et programme 2006 du TCP et GTFS

- Casadei, E. 2005. Rapport de conférence sur le stock de sécurité de la gomme Arabique
- Casadei, E. 2005. Rapport de mission de suivi évaluation
- Coordination du projet. 2004. Arrêté conjoint 2004– 013 sur comité de pilotage projet GTFS
- Coordination du projet. 2004. Arrêté conjoint 2004– 014 sur comité national de coordination pour le développement de la filière des gommages et résine
- Coordination du projet. 2004. Plan de travail annuel (French)
- Coordination du projet. 2005. Avant projet de règlement intérieur de l'association Burkinabé des Acteurs des Gommages et Résines (ABAGOR)
- Coordination du projet. 2005. Plan de travail annuel 2005
- Coordination du projet. 2005. Interim Report on gums and resins database (Burkina Faso)
- Coordination du projet. 2005. Avant projet de statut de l'Association Burkinabé des Acteurs des Gommages et Résines (ABAGOR)
- Coordination du projet. 2005. Rapports annuels 2005 d'activités des 5 régions / zone d'intervention du projet
- Coordination du projet. 2006. Plan d'opération 2006
- Coordination du projet. 2006. Plan de travail annuel 2006
- Coordination du projet. 2006. Rapport d'activités de l'année 2006 du projet
- Coordination du projet. 2006. Rapport d'avancement du premier semestre 2006
- Coordination du projet. 2006. Rapport de l'atelier de formation de 12 agents forestiers et de 25 paysans formateurs en technique de production de gomme
- Coordination du projet. 2006. Rapport de suivi des campagnes 2004 et 2005 du projet
- Coordination du projet. 2006. Rapport provisoire du plan décennal de développement de la filière gomme arabique
- Coordination du projet. 2007. Manuel de pratique et de production durable de la gomme arabique au Burkina Faso
- Coordination du projet. 2007. Rapport de l'atelier national de validation du plan décennal de développement de la filière gomme arabique
- Coordination du projet. 2007. Rapport définitif du plan décennal de développement de la filière gomme arabique
- Coordination du projet. 2007. Rapport final du projet

- DIALLO Ousmane. 2005. Rapport de mission sur les produits cartographiques relatifs à la distribution des gommiers du consultant TCDC
- FAO. 2001. Rapport sur le symposium international sur la gomme d'acacia
- FAO. 2003. Project progress report
- FAO. 2003. Document de projet « Opération Acacia »
- FAO. 2003. Document du projet TCP/ RAF/ 2914 (T)
- FAO. 2004. Rapport d'atelier de bilan 2004 et programme 2005 du TCP et GTFS
- FAO. 2004. Séminaire d'orientation du TCP et du GTFS
- Foglino Franco. .Etude de préparation pour un projet pluriannuel de développement suite du présent projet pilote« Opération Acacia au Burkina Faso »
- Giovannino Lop. 2004. Rapport de mission d'identification de projet en cours
- Kambone Tilado. 2003. Rapport provisoire de la mission exploratoire sur la gomme arabique au Burkina Faso
- Nikiema Albert et autres. 1997. Inventaire et cartographie des peuplements naturels d'Acacia senegal (L) Wild. Au Burkina Faso
- Sina Sibidou. 2004. Rapport d'études : Les gommiers, les gommés et les résines au Burkina Faso : état des connaissances et perspectives d'avenir (deuxième rapport d'étape)
- Sina Sibidou. 2004. Rapport d'études : Les gommiers, les gommés et les résines au Burkina Faso : état des connaissances et perspectives d'avenir (rapport final)
- Sina Sibidou. 2004. Rapport d'études : Les gommiers, les gommés et les résines au Burkina Faso : état des connaissances et perspectives d'avenir (premier rapport d'étape)

Chad

- Projet Pilote Acacia (Tchad) (French)

Kenya

Monitoring and evaluation reports

- Action points from field visit by CTA, NPC and NGARA Coordinator
- Back to office report (BTO) from Kibwezi on implementation of Mechanised water harvesting technology October 2006 by NPC and National Consultant
- Back to office report for mission to Samburu and Marsabit 2005 by Muga and Chikamai (May 2005)
- Back to office report for mission to Samburu and Marsabit by Muga and Enrico (May 2005)

- Back to office report from North Horr by Muga and Enrico (March 2005)
- Back to office report from North Horr by Muga and Obonyo (March 2005)
- Outline of AOP activities NPC 2005
- Program meeting to review the status of on-going FAO and TCP projects and propose a suitable strategy
- Crop performance report Dec. 2004
- Monitoring report for December 2004
- Monitoring report for February 2005 AOP
- Back to office report (BTO) from North Horr by Muga (April 2005)
- Back to office report from North Horr by Muga (April 2005)
- Monitoring report, May 2005 by Cheto
- Back to office report (BTO) by Enrico and Muga (July 2005).
- Back to office report (BTO), NPC Sept. 2005.

Training reports

- AOP crop and tree production and management training Nov. 2004.
- Community mobilization on gums and resins and formation of local gums and resins producer associations by Ekiru and Elimlim (July 2005)
- Integrating Drought Tolerant Crops In Natural Resource Management In Northern Kenyan Asal By ADONGO A.O,G.A KEYA AND AMINA GUYO
- Marketing Information On Livestock And Sensitization On Non Wood Forest Products By Epodo etal (June 2005)
- North Horr Project Management Committee training Report
- Proceedings for Trainers of Trainers Workshop on Production and Quality control of gums and resins by Ngethe, Chiteva, Chikamai and Muga (March 2005).
- Proceedings of the AOP stakeholders Workshop held on 12th October 2005 at KEFRI by Collins Obonyo and Sheila Mbiru
- Proceedings of the AOP stakeholders Workshop September 2006 by Meshack Muga and Collins Obonyo.
- Propagation techniques of Doum palm
- ToT Isiolo 1 – proceedings
- Training of mechanics at CMC
- Utilization of drought tolerant foods June 2005

PRA reports

- Key issues – North Horr – PRA 1
- PRA Laisamis
- PRA Logo–logo
- PRA Loiyangalani
- PRA Sereolipi – 3 – Opening remarks
- PRA Merille June 2004
- PRA Sereolipi June 2004
- PRA North Horr March 2005

Socio–economic survey reports

- Garissa baseline report to gather data on the level of community awareness in their basic rights and conflict coping
- Socio–economic baseline survey for Merille and Sereolipi by Obonyo, Leruk and Muga (2005)
- Socio–economic baseline survey in AOP pilot phase in North Horr and adjacent sites

Biophysical soil characterization reports

- AOP BTO Biophysical characterization – Muya/Lelon Dec. 2005
- Final report on Biophysical characterization of AOP sites– Muya/Lelon (August 2006)

Tractor documents

- Inventory of spare parts for tractors TM 155 NH
- Manual for MWAT – Guidelines for tractor maintenance

Consultancy Reports

- Establishment of Producer Associations in Marsabit and Samburu District by Robinson Ng’ethe and Abdi Somo (January 2005)
- Production and marketing of gums in Kenya by Chikamai and Ngethe (June 2005)
- Production, processing and marketing of gum resins in Kenya
- Synergy and formulation of the long term programme of the Acacia operation project in Kenya by Ngethe (June 2005)

Field reports

- AOP APPL monthly report February 2005
- AOP APPL report for January 2005
- AOP end of June report by Choya

- AOP end of May report by Choya
- AOP Field monthly reports by APPL (August–December. 2004)
- AOP Field monthly reports by APPL (Jan.–Dec 2005)
- AOP monthly report for June 2005 by Dr. Keya
- AOP monthly report for May 2005 by Dr. Keya
- AOP monthly reports for January–December 2006 by Dr. Keya
- AOP work plan 5, 2005
- April 2005 final field report
- BTO report, July 2005
- Community mobilization in Illeret by APPL (March 2005)
- Crop performance report
- Diet assessment report April 2005.
- GPS survey on pilot sites (April 29th –May 2nd 2005)
- Interim report for North Horr Field activities by Cheto (March 2005)
- Inventory of seeds at Merille as at 2nd April 2005, Merille
- Kargi seed report: – trip report Merille, Sereolipi, Laisamis, Logologo and Kargi
- March 2005, Merille zone report by Choya
- Merille – Foresters report AOP
- Meso Karura – planting of trees and crops in Sereolipi, Merille, Laisamis and Logologo during March rains, 2005
- Monthly report for March 2005– Dr. Keya, APPL, AOP activities report for June 2004
- North Horr back to office report by Dr. Keya
- Planting activities – report March, April 2005 Meso and Charfi.
- Planting activities North Horr Meso Nov. 2005
- Planting of trees and crops in Sereolipi, Merille, Laisamis and Logologo by Meso and Charfi. (March 2005)
- Recommendations by Dr. Enrico Casadei
- Report on initiation and identification of planting materials for live fencing at intervention areas of Logologo
- Reports and minutes on visit to Illeret
- Seed collection report, Kargi, by Meso (March 2005).

- Synergy in the AOP
- Work plan for November 2004 – December 2005
- Zero draft planting activities – report March, April 2005 Meso and Charfi

Selection and collection of germplasm

- Acacia Senegal draft: Survey of A. senegal provenances in Isiolo, Samburu, Marsabit and Moyale districts.
- Kargi seed report: – trip report Merille, Sereolipi, Laisamis, Logologo and Kargi by Meso and J. Choya.
- Meso, M. and Mutunga, C.N. 2006. Seed collection and community mobilization report
- Reconnaissance survey of Acacia senegal (L.) Willd provenances for gum production in Isiolo, Samburu and Marsabit districts
- Report on some commercial resins producing species (*Commiphora holtziana* and *Boswellia neglecta*) populations sampling for DNA analysis by F. N. Gachathi and John M. Gicheru (2005)
- Seed collection and community mobilization report September 2006 by Meso and Christopher Mutunga.
- Seed collection at Ngare Ndare: Identification and marking of Acacia senegal seed sources in Isiolo, Samburu and Marsabit
- Seed collection at Ngare Ndare: Identification and marking of Acacia senegal seed sources in Isiolo, Samburu and Marsabit.
- Seed collection at Ngare Ndare: Identification and marking of Acacia senegal seed sources in Isiolo, Samburu and Marsabit
- Seed collection Meso/Mutunga Sept. 2005
- Seed survey in Marigat and Marsabit by Meso.

Progress reports/presentations

- AOP Country Report for Kenya by Muga (November 2004)
- AOP country report for 2005/2006 by Meshack Muga
- AOP presentation to Karura – final: major activities undertaken and achievements under AOP
- Kenyan report for January to August 2006 by Meshack Muga
- Progress report of FAO supported AOP & technical cooperation projects by Muga (November 2004)

Other Reports for Kenyan component

- Gachathi, N. and Gicheru, J. DNA analysis report for Commiphora and Boswellia spp
- Keya, G, A. Stakeholder Participation In Rural Development: Experiences From The Acacia Operation Project In Kenya
- Keya, G, and Muga, M.O. 2006. Acacia Operation Project Field Reports January–December 2006.
- Keya, G, and Muga, M.O. 2006. Achievements, lessons, learnt and challenges from the pilot phase.
- Keya, G, and Ngutu, M Challenges and opportunities for development in Northern Kenya: Synthesis of PRA reports for AOP sites.
- Lelon, J. and, Muya, E. 2006. Back–To–Office Report on duty travel Acacia Operation Project sites in Marsabit and Samburu Districts
- Muga, M.O. 2006. Achievements, constraints, lessons learnt and Way forward for Acacia Operation Project in Kenya. A presentation during the AOP Regional Workshop, November 14–16, 2005. Nairobi, Kenya
- Muga, M.O and Mutunga, C.,. 2006. BTO report Back–To–Office Report on duty travel to Kibwezi BTO report for ploughing and planting of sites at Southern rangelands in Kibwezi in October – November 2006.
- Muga, M.O and Ngethe, R.,. 2006. BTO report Back–To–Office Report on duty travel to Kibwezi on implementation of Mechanised water harvesting technology in October 2006
- Muga, M.O, Sheila, S, Chikamai, B.N. 2006. Report on strengthening the production and quality control of gums and resins in Africa (Kenyan component): A project sponsored by Technical Co–operation programme of FAO.
- Muga, M.O. 2006. Acacia Operation Project Country Report for Kenya (2004/5 financial year)
- Muga, M.O. 2006. Acacia Operation Project Country Report for Kenya (2005/6 financial year)
- Muga, M.O. 2006. Acacia Operation Project Six months Country Report for Kenya (January–June 2006).
- Muga, M.O. 2006. Acacia Operation Project Six months Country Report for Kenya (July–December 2006).
- Muya, E, Lelon, J , Obonyo and Muga, M.O 2006. Characterization of AOP project sites for gum and resin production – integrating socio–economic issues with biophysical issues for the rehabilitation of degraded lands

- Ngethe, R, Muga, M.O and Chikamai, B.N. 2006. The establishment of producer associations: Experiences From AOP in Kenya
- Ngethe, R., Muga, M.O, Chikamai, B.N. Back-To-Office Report on duty travel to Acacia Operation Project sites in Marsabit and Samburu Districts in July 2006.
- Ngethe, R., Muga, M.O, Chikamai, B.N., Moi, R. Ngutu, M., Obonyo. C.O, Lelon, J., Muya, E and. Keya, G.A. 2006. Long-term project draft proposal – Kenyan component.
- Obonyo, C.O and, Muga, M.O. 2006. Baseline Socio-Economic Survey For AOP in North Horr and Adjacent sites in Marsabit District
- Obonyo, C.O and, Muga, M.O. 2006. Proceedings of acacia Operation Project stakeholders' workshop held on 6th September 2006 at KEFRI- Muguga

Niger

- Compte rendu de la réunion du comité du suivi de la mise en œuvre de la stratégie nationale de relance de la production et de la commercialisation de la gomme arabique au Niger (Mai 2005)
- Le secteur gommier au Niger, situation actuelle et perspective d'avenir. Premier rapport d'étape du consultant national en base de données (Octobre 2004)
- Rapport de mission d'interview des bénéficiaires et des acteurs de la filière gomme arabique en vue de la production d'un film documentaire sur la filière gomme arabique au Niger (Mai 2005)

Senegal

- Cartes répartition gommages et résines
- Etude diagnostic filière gommages et résines
- Fiche d'information phase pilote POA
- Fiche de suivi conçu par coordination régionale
- Fiche de suivi modifiée par coordination nationale
- Futur projet Sénégal – version française
- Madiere Fall Memoire fin d'étude : ingénieur des travaux en foresterie sur impacts biophysiques de la technologie Vallerani
- Malick Ndiaye Mémoire DEA : sur biotisation en serre et au champ de deux espèces sylvicoles : Acacia senegal et Sterculia setigera
- Oumar Ndiaye : Mémoire fin d'étude ingénieur en agroéconomie : sur impacts socio-économiques de la technologie Vallerani
- Plan décennal Sénégal dernière version
- Raccourci vers centres de collecte gomme arabique

- Rapport annuel 2004
- Rapport annuel 2005
- Rapport annuel 2006
- Rapport de mission au Sénégal AGRFOR par Antinori
- Rapport de mission international Casadei – version anglaise
- Rapport de mission West African Sahel
- Rapport étude rentabilité système Vallerani
- Rapport final de synthèse
- Rapport mission Casadei Italie Sénégal
- Rapport mission consultation Lopez
- Rapport mission internationale Casadei mai 2005
- Rapport mission Nabhan aout 2006
- Rapport semestriel 2004 POA
- Rapport semestriel juillet – décembre 2005
- Rapport semestriel juillet – décembre 2006
- Rapport semestriel juin 2005 corrige
- Rapport semestriel POA janvier – juin 2006

Sudan

List of National consultancy reports

- The concept paper for the formulation of a long term strategy for gums in Sudan.
- Synergy and partnership
- Gums & resins data base
- Role of the project in food security

List of papers

- Resource assessments
- Afforestation & management of Acacia Senegal plantation
- Tapping collection and post harvest, handling of gum Arabic
- Quality control
- Gum marketing
- Gum processing

Annex 2

MAJOR ITEMS OF EQUIPMENT PROVIDED

Category description	Equipment description	Current cost (USD)	
Agricultural Machinery And Parts Thereof	Plough "Treno", Model 130-119 Mz/Rcm	26,850	
	Plough "Delfino", Model 50mi/Cm	0	
	Plough "Delfino", Model 50mi/Cm	0	
	Plough "Delfino", Model 50mi/Cm	0	
	Plough "Treno", Model 130-119 Mz/Rcm	0	
	Plough "Treno", Model 130-119 Mz/Rcm	0	
	Plough "Delfino", Model 50mi/Cm	0	
	Plough "Treno", Model 130-119 Mz/Rcm	0	
	Plough "Delfino", Model 50mi/Cm	19,375	
	Plough "Treno", Model 130-119 Mz/Rcm	0	
	Plough "Delfino", Model 50mi/Cm	0	
	Plough "Delfino", Model 50mi/Cm	0	
	Air Conditioning And Refrigerating Equip.	Air Conditioner "Lg", 18000 Btu	0
		Air Conditioner "Lg", 18000 Btu	0
Computer Printers, General	Printer "Hewlett Packard", Multifunction, Model ???	0	
Fax Machines	Fax Machine "Panasonic", Model ???	0	
	Telephone Fax "Panasonic", Model Kx-Fp342cx	0	
Furniture, Office	Office Furniture, Set Office Table With Chair	0	
	Armchair Merak Version B	0	
Personal Computers	Computer "Dell", Dimension 4600, Pentium Iv, 2.8ghz, 256mb, 80gb, 17" Monitor	0	
	Computer "Compaq", Desktop, 3.2ghz, 80gb, 17" Monitor	0	
	Computer "Hewlett Packard", Model ???, 566mhz, 128mb, 20gb, Dvd, Flat Screen	0	
	Computer "Fujitsu Siemens", Scenic, P300, 2.66ghz, 17" Monitor	0	

	Computer "Compaq", Model ???	0
	Computer "Compaq", Pentium Iv, 2.4ghz, 256mb, 80gb, Dvd, 17" Monitor	0
Photocopying Machine	Photocopier "Ricoh", Model ???, Digital	0
Photographic And Cinematographic Equip.	Camera "Hewlett Packard", Digital, Photosmart R817	0
	Camera "Sony", Digital, Model ???	0
	Camera "Sony", Digital, Model ???	0
Pick-Ups	Vehicle "Toyota", Hi-Lux, Ln166 Dc, 4x4, Air Conditioner	0
	Vehicle "Toyota", Hi-Lux, Dual Cab, Long Wheel Base Dlx, 4x4, Model Ln166l-Prmds	0
	Vehicle "Nissan", Model Avrulcfd22nwly631z, Pick Up, Single Cab, 4wd	0
	Vehicle "Toyota", Hi-Lux, Dual Cab, Model Ln166l	0
	Vehicle "Nissan", Model Avrulcfd22nwly632z, Pick Up, Single Cab, 4wd	0
	Vehicle "Mitsubishi", Model L200, Pick-Up, Dualcab, 4wd, Type K74tjensl	0
	Vehicle "Toyota", Hi-Lux, 4x4, Double Cab, Model Ln166l-Prmds	0
	Vehicle "Toyota", Hi-Lux, Dual Cab, 4x4, Model Ln166l-Prmds	0
	Vehicle "Toyota", Hi-Lux, Dual Cab, Model Ln166l	0
Portable Computers, Laptops, Notebooks	Computer "Compaq", Laptop, Pentium Iv, 2.8ghz, 512mb	0
	Computer "Dell", Latitude D800, Power Laptop P2m, Intel Pentium M Banias	2,853
	Computer "Toshiba", Laptop, Model ???	0
Satellite, Gps	Satellite Telephone "Thuraya"	0
	Global Positioning System "Garmin", Etrex Venture	0
	Global Positioning System "Garmin", Etrex Venture	0
	Satellite Telephone "Thuraya"	0
	Global Positioning System "Garmin", Etrex Venture	0

	Satellite Telephone "Thuraya"	0
	Global Positioning System "Garmin", Etrex Venture	0
	Global Positioning System "Garmin", Etrex Venture	0
Station Wagons, 4wd	Vehicle "Toyota", Land Cruiser, 4x4, Lhd, Hard Top, Model Hzj78l-Rjmrs	0
Telecommunication Equipment, Other	Vehicle Docking Adapter "Thuraya"	0
Tractors	Tractor "New Holland", Model Tm155, 4wd, 150 Hp, With Spare Parts Kit	0
	Tractor "New Holland", Model Tm155, 4wd, 150 Hp, With Spare Parts Kit	50,155
	Tractor "New Holland", Model Tm155, 4wd, 150 Hp, With Spare Parts Kit	0
	Tractor "New Holland", Model Tm155, 4wd, 150 Hp, With Spare Parts Kit	0
	Tractor "New Holland", Model Tm155, 4wd, 150 Hp, With Spare Parts Kit	0
	Tractor "New Holland", Model Tm155, 4wd, 150 Hp, With Spare Parts Kit	0
Typewriters	Typewriter "Nakajima", Electronic, Model Ae 610	0
Uninterruptable Power Supplies	Uninterruptable Power Supply Ups "Apc"	0
Video Projectors, Colour	Video Projector "Epson", Model ???	0

Annex 3 (To be completed by RAFR)

COMPLETE LIST OF PROJECT STAFF AND CONSULTANTS

Name	Function	Dates of Service
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International

Didier Muller	TCDC Expert	01/06/04 – 15/06/04
Chidume Okoro	TCDC Expert	02/06/04 – 02/07/04
Mulugeta Kassaye	TCDC Expert	01/11/04 – 15/11/04
A Vallerani	TCDC Expert	20/02/05 – 08/04/05
Qureshi H. Ahmed	TCDC Expert	01/11/04 – 15/11/04
W.O. Temnewo	TCDC Expert	10/08/05 – 29/08/05
A E. Mahmoud	TCDC Expert	15/05/05 – 29/05/05
O. Diallo	TCDC Expert	03/03/05 – 07/08/05
G. Soncini	Trip. Eval. Mission	06/10/07 – 07/11/07
Chidume Okoro	Trip. Eval. Mission	06/10/07 – 07/11/07
Amadou Maiga	Trip. Eval. Mission	06/10/07 – 07/11/07
Fabio D’Onofrio	Intl. Food Spe. Expert	01/09/07 – 30/06/08
Michael Mann	Intl. Consultant	04/02/08 – 31/03/08
A Gaaya	Intl. Consultant	12/02/08 – 01/04/08
Sene El Hadji	Intl. Consultant	24/07/08 – 31/12/08
A.A. Ibnattya	Intl. Consultant	12/10/08 – 11/12/08
H.O. Abdelnour	Intl. Consultant	09/06/09 – 07/08/09
Fe D.O. Luca	Intl. Consultant	30/06/10 – 28/11/10
Shirley Shaw	Intl. Consultant	05/05/10 – 10/05/10

National

Lankoande Attina	National Consultant	21/12/05
Jean P. Issa	National Consultant	03/05/06
Rene Ouedraogo	National Consultant	31/07/06
Etienne Kabore	National Consultant	22/08/06
Bamba Abdoulaye	National Consultant	22/08/06
Sina sibiridou	National Consultant	22/08/06
Giovanni de Gaetano	National Consultant	15/07/05
A Moussa Hassan	National Consultant	30/11/05
K. Koundja	National Consultant	30/04/06
H. Idrissou	National Consultant	24/05/06
Hidjer Souleyman	National Consultant	24/05/06
Abdoulbaki M. Hassan	National Consultant	24/05/06
Djibrilla Bouba	National Consultant	24/05/06
A Hamdi	National Consultant	25/06/06

Huda Abdel Wahab	National Consultant	25/06/06
Bealoum Marcel	National Consultant	27/07/06
Y. Brahim	National Consultant	31/10/06
Dolmia Malaché	National Consultant	25/06/06
Robinso K. Ngethe	National Consultant	25/06/06
Ben Chikamai	National Consultant	25/04/06
Philip Mwangi	National Consultant	13/09/06
Goddrick Khisa	National Consultant	09/06/06
Sheila Mude	National Consultant	31/10/06
Fred Namisi	National Consultant	31/01/07
Sheila Mbiru	National Consultant	28/04/08
Attaou Laminou	National Consultant	11/02/05
Londey Sylla	National Consultant	30/08/04
Samba Laoboé Ndao	National Consultant	30/08/04
Abdoul Aziz Diop	National Consultant	31/08/04
Cheikh Dieng	National Consultant	31/12/04
Maguette Kairé	National Consultant	31/12/04
Godeye Sylla Gaye	National Consultant	28/05/05
Momar Kandji	National Consultant	30/06/05
Azim Y. Gadir	National Consultant	25/06/06
Talaot D. Magid	National Consultant	15/12/05 – 14/01/06
Sayeda Ahmed	National Consultant	10/06/04 – 09/09/04
Abelatif Ljaimi	National Consultant	15/12/05 – 14/01/06