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UNIDO

United Nations Industrial Development Organization

**PROGRAMME INTEGRÉ POUR UNE NOUVELLE POLITIQUE INDUSTRIELLE AU
CAMEROUN: RENFORCEMENT DES CAPACITÉS PRODUCTIVES AVEC UN
ACCENT PARTICULIER SUR L'AGRO-ALIMENTAIRE**

Project No.: US/CMR/03/073

Contract No. 2005/187

Final Report

Presented by:

OSAKWE AGRO-CONSULTING

Abstract

Within the frame work of the contract (Contract No. 2005/187, UNIDO Project No. US/CMR/03/073) between the UNIDO and Osakwe Agro-consulting, the components of a hybrid dryer and other equipment for the establishment of a ginger processing center in Cameroon were assembled and packed in three wood cases for shipment to Douala, Cameroon. The consignment, shipped on board of the vessel "ARNOLD MAERSK", is scheduled to arrive in Douala, Cameroon on the 25th of January 2006.

1. Introduction

The objective of the subcontract between UNIDO (United Nations Industrial Organisation) and Osakwe Agro-Consulting, is to provide the services described hereunder:

1. Prepare and assemble the materials/equipment for the fabrication a hybrid dryer as well as for other processing equipment (vegetable slicer, portable plastic sealing machine and washing tanks), and
2. Pack the goods in special shipping cases and Organize the shipment to Douala, Cameroon

This final report covers the preparation and fabrication of the hybrid dryer and other processing equipment as well as the packaging and the organization of the shipment from Austria to Douala, Cameroon via Hamburg.

2. Preparation and Assembly of Materials/Equipment in Vienna

A. Hybrid dryer

The hybrid drying unit comprises of an indirect solar dryer and a supplementary heating system using diesel as a source of energy.

1. The solar dryer consists of:

- Solar air collector with a total collecting surface area of 15 qm;
- Two (2) drying chambers with three (3) compartments each;
- Sixty (60) drying trays which is equivalent to a total drying area of 30 qm.

2 Supplementary heating component: warm air generator with diesel fuelled burner.

Technical Characteristics

Fully proof combustion chamber: combustion exhaust gases are expelled through the proper chimney.

Heat-insulated stainless steel structure with aluminum frame.

Stainless steel combustion chamber with three convolutions for the flue gas.

Extremely silent centrifugal fan.

Fan limit thermostat to control minimum and maximum temperatures of the burner with the possibility to select functions: fan only or heating.

Operates with diesel oil, methane gas or LPG burners

Suitable for closed environments.

Solar Air Collector

The air collector consists of 10 wood boxes of 2.023m x 0.735m x 0.235m each (inner dimensions) to house the absorbers (aluminum expanded-metal and aluminum foil) as well as the glass wool insulation at the base and colorless glass at the top.

Following materials were prepared and delivered for the fabrication of the air collector at the site:

frames (side walls and bottom plate) for the 12 wood boxes,

absorber materials (aluminum expanded-metal and aluminum foil, both painted with solar black paint M40 Li),

11 colorless glass covers (200 cm x 0,75 cm x 0, 4 cm),

aluminum slats.

glass wool insulation

air ducts (250 and 315 mm in dimension) and air regulation devices.

Drying trays and drying chambers

The drying tray consists of the wooden frame and the porous aluminum sheet below.

Materials:

wooden frames (Length x width = 100 x 50 cm),
porous aluminum sheets (100 x 50 cm), and
3 rolls of plastic food net,
air ducts for the distribution of the drying air in the drying chambers.

Supplementary heating system:

The diesel-fuelled supplementary heater is a normal commercial space heater. It consists of the ventilation unit, combustion chamber, fan, diesel tank, ambient thermostat, spiralled hose for the hot air ducting and aluminum flex hose for gas exhaust.

Technical data

Power supply	1 phase, 230 V/50 Hz
Motor power	245 W
Fuel consumption at full working capacity	2.9 kg/h
Heating capacity	34 kW
Air flow rate of the centrifugal fan	2300 m ³ /h

Accessories:

- Warm air duct (diameter: 340 mm, length: 10 m)
- Thermostat and thermometers
- Flue gas exhaust hood (diameter: 150 mm, length: 3 m)

B. Ginger slicing machine

Specifications:

- Performance: 200 kg/h
- Cutting capacity: 150 kg/h
- Absorbed power: 0.5 kW
- Power supply: 1 phase, 230 V/50 Hz
- Stainless steel casing, easy to use and clean
- Cover and feed arm safety devices
- Safe braking motor
- No volt release system

Accessories:

Slicing disc with straight blades 3 & 6 mm
Grid for cubes 8 x 8 x 8 mm
Shredding disc 2 x 2 mm

C. Hand sealing machine

Specifications

Impulse sealer 200 HI

Material: PE, PP and PVC

Max. sealing length: 200 mm

Max. film thickness: 2 x 0.15 mm

Sealing width: 2mm

Absorbed power: 350 W

Advantages:

strong water and air tight seal,
fast operation,
power saving, and
long life

D. Ginger rhizome washing tank:

- Material: Stainless steel
- Capacity: 50 liters
- Mounted on a stainless steel support 50 cm high
- Provided with draining pipe with automatic closing device

3. Packaging, Shipping and Insurance

Packaging:

The Materials/equipment were carefully packed in three wooden boxes with following dimensions:

Box 1 with inner compartment and special arrangement for glass:
2.130 x 1.050 x 0.96 m

Box 2 without inner compartment: 2.130 x 1.050 x 0.96 m

Box 3 1.80 x 0.8 x 1.80 m

The boxes with the address of the Resident Representative of the United Nations Development Programme (UNDP) in Yaoundé, Cameroon, as stipulated in the contract, to the forwarding company, Cargo-partner, on the 20th of December 2005.

Shipping (Appendix 3: Ocean bill of lading):

Fischamend/ Vienna: According to the information from the forwarding company, the consignment was transported to Hamburg by truck on Friday, 23rd December 2005.

Shipment from Hamburg to Douala, Cameroon:

Name of ocean vessel: ARNOLD MAERSK

Scheduled date of Departure: 30.12.2005

Scheduled date of arrival in Douala: 25.01.2006

Insurance (Appendix 4: Certificate of Insurance)

The consignment was insured for the voyage from Fischamend, Austria to Douala, Cameroon via Hamburg.

Shipping documents:

Two (2) sets of the shipping documents consisting of the ocean bill of lading, insurance policy, certificate of origin, commercial invoice and packing list were sent with courier (EMS Express Mail Service) to the Resident Representative of United Nations Development Programme (UNDP) in Yaoundé, Cameroon.

4. Conclusions

The components of the hybrid dryer and other equipment (washing tanks, ginger slicing machine and a portable impulse sealing machine) were assembled, packed and delivered to the forwarding company. The goods were transported to Hamburg by road on the 23rd December 2005 and shipped to Douala, Cameroon on board of the vessel "ARNOLD MAERSK" on the 31st of December 2005. The consignment is scheduled to arrive in Douala, Cameroon, on the 25th of January 2006.

Appendix 1: Packing List

Packing list – Cameroon

UNIDO Project No.: US/CMR/03/073

Contract No.: 2005/187

Case 1:

1. Wooden frames for the air collector
2. Colorless glass cover (13)
3. Aluminum foil (2 rolls)
4. Drilled aluminum slides (9 short, 18 long)
5. Glass wool insulation (1 roll)
6. Wooden frames for the drying trays (60)
7. Self-adhesive aluminum foil (1/2 roll)
8. Food nets (3 rolls)
9. Alu-self-adhesive insulation

Case 2:

1. Intex UV-paint (5 l internal, 5 l external)
2. Solar black paint (12 kg)
3. Al-mesh for the drying trays (60)
4. Absorber sheets (20 pieces aluminum expanded screen)
5. Hose for flue gas exhaust
6. Spiral hose for the hot air ducting:
R 315: 3 meters
R 250: 5 meters
7. Connecting devices: Alu flex (1 packet); curvatures (1 B90/315, 2 B 90/250); Lids (1x D200, 2 x D250, 1 x D315); Nipples (2 x N200, 5 x N250; 5 x N315); Transitions (1x Ü315/250, 1 x Ü250-200); 1 x T-hose 315; Saddles (2 x PRU 315/125, 2 x PRU 250/125, 6 x PRU 250/200, 2 x PRU 315/250); Threstle-valves (1 x D250, 1 x D315); Sleeves (2 x M250, 2 x M315), spiral hose
8. Carton containing following materials: 6 tubes silicon, 60 m U-profile sealing rubber, 2 Silicon applying machines, 2 rolls PE sealing band
9. Carton containing water resistant adhesive band, screws, metal bands, etc.
10. Carton containing different screws and bolts
11. Ginger slicing machine (1)
12. Manual impulse sealing machine (1)

Case 3:

1. Warm air generator (supplementary heating system)

Appendix 2: Confirmation of shipment contract

AN : DR. AMBROSE OSAKWE, DR. AMBROSE OSAKWE
VON : Barbara Teizer
Datum : 05-12-28

Betrifft: A u f t r a g s b e s t ä t i g u n g 1
=====

Sehr geehrte(r) DR. AMBROSE OSAKWE,
herzlichen Dank für die Erteilung Ihres Speditionsauftrages.
Bitte notieren Sie die Daten wie folgt:

Containertyp	Containernummer	Menge/Art	Warenbezeichnung	Gewicht/Kubatur
		3	CAS PERSONAL EFFECTS	400,00 6,251
2005/8957, 2005/8884				

Abholung der Ware bei CARGO PARTNER AG
P.O.BOX 1, AIRPORTSTRASSE
A-2401 FISCHAMEND
am 05-12-20

Empfänger der Ware ist : EMPFÄNGER IN DOUALA

Lieferkondition : CAM- CAMEROON
Vorgesehenes Schiff : C&F
Geplantes Abfahrtsdatum : ARNOLD MAERSK
Geplantes Ankunftsdatum : 05-12-30 ex HAMBURG
Geplantes Ankunftsdatum : 06-01-25 in DOUALA

Exportabf./Verzollung bei : CARGO PARTNER
Position : 5705/512/0014/0013

Wir freuen uns, diesen Auftrag für Sie durchführen zu können und verbleiben,

Mit freundlichen Grüßen

CARGO PARTNER AG
Abt. A SammelLKW
A 2401 FISCHAMEND
Barbara Teizer - Phone +432232798221
Fax +432232798123
teizer@cargo-partner.com

Wir arbeiten auf der Grundlage der Allgemeinen österreichischen
Spediteurbedingungen (AÖSp) in der geltenden Fassung.
CARGO PARTNER AG SITZ: FISCHAMEND
DVR: 0428167, FN 80791k, LG KORNEUBURG

Appendix 3: Ocean bill of lading (copy)Confirmation of shipment contract

Consignor

DR. AMBROSE OSAKWE
UNIVERSITY FOR AGRICULTURAL
NUSSDORFER LINDE 29-31
A 1190 VIENNA

No CAM 0057/3 DE

NEGOTIABLE FIATA
COMBINED TRANSPORT
BILL OF LADING
issued subject to ICC Uniform Rules for a
Combined Transport Document (ICC publication 500)

Consigned to order of

RESIDENT REPRESENTATIVE
UNDP, NO. 1067, IMMEUBLE FOUL'ASSI
NOUVELLE ROUTE BASTOS, RUE 1775
CAM P.O. BOX 836 YAOUNDE

Notify address

RESIDENT REPRESENTATIVE
UNDP, NO. 1067, IMMEUBLE FOUL'ASSI
NOUVELLE ROUTE BASTOS, RUE 1775
CAM P.O. BOX 836 YAOUNDE

Place of receipt

Ocean vessel

Port of loading

ARNOLD MAERSK

HAMBURG

Port of discharge

Place of delivery

DOUALA



OVERSEAS-FREIGHTERS

Gesellschaft für
Überseeverkehrs mbH.

Bahnhofstrasse 17
21629 Neu Wulmstorf
P.O.B. 12 08
21625 Neu Wulmstorf
Phone: 040/700 122 80
Fax: 040/700 122 82

Marks and numbers	Number and kind of packages	Description of goods	Gross weight kgs	Measurement
RESIDENT REPRESENTATIVE CAM, CAMEROUN	3 CASES	PERSONLA EFFECTS AS PER INVOICE 012/05	400,00	

CFR DOUALA

FREIGHT PREPAID
SHIPPED ON BOARD

STUFFED IN GROUPAGE CONTAINER NO. :
GSTU 836 920-1

Copy

according to the declaration of the consignor

Shipped on Board
in apparent good order and condition
on: 30.12.2005
Overseas - Freighters
Ges.f.Überseeverkehrs mbH, Neu Wulmstorf

The goods and instructions are accepted and dealt with subject to the Standard Conditions printed overleaf.

Taken in charge in apparent good order and condition, unless otherwise noted herein, at the place of receipt for transport and delivery as mentioned above.

One of these Combined Transport Bills of Lading must be surrendered duly endorsed in exchange for the goods. In witness whereof the original Combined Transport Bills of Lading all of this tenor and date have been signed in the number stated below, one of which being accomplished the other(s) to be void.

Freight amount	Freight payable at HAMBURG	Place and date of issue HAMBURG, 30.12.2005
Cargo Insurance through the undersigned <input checked="" type="checkbox"/> not covered <input type="checkbox"/> Covered according to attached Policy	Number of Original FBL's 3 / THREE	Stamp and signature AS CARRIER OVERSEAS-FREIGHTERS Ges. für Überseeverkehrs mbH
For delivery of goods please apply to: ECULINE CAMEROUN, B.P. 15167, DOUALA / CAMEROUN TEL: 237/3 40 49 98 FAX: 237/3 40 55 79		

Appendix 4: Shipping insurance

TRANSPORT VERSICHERUNG



Versicherungs-Zertifikat / Certificate of Insurance

**Certificat d'Assurance
Certificado de Seguro**

No. 2944

General-Polizze / Open Policy / police flottante / polizza flotante: **601691001**

2 fach ausgefertigt, nur einfach gültig / copies, valid only one /
exemplaires, valide seulement un / ejemplares, siendo válido solo uno

für / for / pour / para: **HOLDER**

Versicherte Güter / Insured goods / marchandises assurées / mercancías aseguradas: **5705/512/0014/0013**
SCI / 400,00kg / PERSONAL EFFECTS

Versicherungssumme / sum insured / valeur assurée / valor asegurado: **EUR 15.420,00**
including freight

für die Reise / for the voyage / pour le voyage / para el viaje: from: **FISCHAMEND**
via: **HAMBURG**
to: **DOUALA**

Transportmittel / transported by / Lkw/Schiff/Schiff
transportées par / transportadas por

Die Versicherung gilt für Rechnung wen es angeht, zu den Bedingungen und Klauseln umseitig / The insurance is valid for account of whom it may concern under the conditions overleaf / L'assurance est valable pour le compte de qui de droit et aux conditions au verso / El seguro vale por cuenta de quien proceda, bajo las condiciones al dorso:

B1, B2

all risks coverage

Schäden über US\$ 1.000,- (EUR 1.100,-) / Claims to the equivalent of US\$ 1.000,- (EUR 1.100,-) or more:
Schadenfeststellung durch / Damage appraisal by / Constation du dommage par / Comprobacion de danos por:

Les Commissaires d'Avaries Réunis
Boulevard Leclerc, Douala
Tel. 427160, Fax 427160, B.P. 276

Versicherungsbeginn / Insurance Commences /
L'assurance commence le / Comenzo des seguro:

30.12.2005

Ort und Datum / Place and date / Lieu et date / Lugar y fecha:

Vienna, 28.12.2005

VAV Versicherungs-Aktiengesellschaft