

Final Report

Consultative Regional Workshop
on Shea Product Quality and Product Certification System Design



6 - 8 October 2004, Bamako, Mali

**Implemented by the World Agroforestry Centre (ICRAF),
with support from the Common Fund for Commodities (CFC)
and the Netherlands Government under Project CFC/FIGOOF/23, Improving Product
Quality and Market Access for Shea Butter Originating from sub-Saharan Africa**



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1.0 Introduction

Shea Products: Quality and Market Prospects

The Shea Butter Tree (*Vitellaria paradoxa*, syn. *Butyrospermum paradoxum*) is a nutritional and economic resource of great importance across 16 countries of sub-Saharan Africa. Unfortunately, issues of product quality, and the lack of common norms and standards within and between the producing countries and at the international level, greatly constrain the development of this important resource.

Although an estimated 70 percent of the shea kernels collected each year across Africa are consumed in the home as shea butter, a significant proportion of the annual harvest is currently under-utilised due to issues of resource management, transport constraints, and by limited profitability to the primary producers of shea kernel, and the rural processors of shea butter.

The shea butter currently processed by artisanal methods appropriate to the rural production areas remains highly variable in terms of quality. Issues of poor and inconsistent product quality control greatly limit the market options of primary producers across the shea zone, and the profitability of village-level shea processing. Though major industrial importers of shea kernel state that they would prefer, in principle, to import more shea butter directly from African producers, persistent problems of quality control have greatly constrained progress toward this objective, and have resulted in lower prices and reduced returns to the primary producers.

Beyond the choice of processing technology, quality is first and foremost a management issue, best addressed through effective rural extension training programs covering aspects of post-harvest processing, extraction and post-extraction processing.

As the quality of the final product (shea butter) is largely determined by the quality of the raw material – which, in turn, depends fundamentally on the time and attention invested by the primary producer - to improve product quality on a long-term sustainable basis, market conditions must allow for adequate remuneration to producers and processors based primarily on product quality. The profitability of shea processing to the primary producer must be reinforced and increased in order to provide an economic incentive for investment of time by the producer to address the technical aspects of production which determine product quality, to reinforce product quality control during processing, and to sustain the product certification system beginning at the local (producer) level.

Though shea products of superior quality can (and sometimes do) command higher prices at all levels of the market, there has been no consistent system by

which quality and other aspects of product (such as origin) may be *reliably and credibly* determined for the benefit of importers and other industrial end-users. Uncertainty and lack of transparency along the supply chain have tended to perpetuate a market structure based on low product quality and minimal returns to producers.

CFC-ProKarité: Certification of Improved Shea Products for Africa

The *Projet d'Appui Technique à la Filière Karité (CFC-ProKarité)*, Improving Product Quality and Market Access for Shea Butter Originating from sub-Saharan Africa (CFC/FIGOOF/23) was initiated by the Common Fund for Commodities, an inter-governmental financial institution existing within the framework of the United Nations, as a means of enhancing the socio-economic development and living standards of the primary producers of shea kernel and shea butter across Africa.

With additional support from the Netherlands Government and technical backstopping from the Inter-Governmental Group on Oilseeds, Oils and Fats of the United Nations Food and Agriculture Organization (FAO), the **CFC-ProKarité** project is currently being implemented by the World Agroforestry Centre (ICRAF).

From the pilot project area of Senegal, Mali, Burkina Faso and Niger, **CFC-ProKarité** will provide a platform from which ICRAF will engage participation and collaboration from institutions and individuals across the African shea zone, including 16 countries extending from Senegal to Ethiopia and Uganda.

A primary objective of the **CFC-ProKarité** project is to establish a regional and international consensus on issues of shea product quality, with reference both to shea kernel and shea butter, as a basis for enhanced 'trace-ability' along the supply chain.

In this regard, the project has established a dialogue with the most significant industrial buyers of shea kernel, and is working to consolidate technical partnerships of mutual interest to industry and the producers, in order to develop and elaborate common parameters, grades and standards of product quality for shea kernel and shea butter, in close consultation between regional stakeholder institutions and international industry.

Though each stakeholder of the shea *filière* carries a unique and divergent interest, **CFC-ProKarité** will build upon confluence of these interests, building more effective linkages between the producers, consumers, and all commercial and industrial intermediaries. Primary emphasis will be on common issues such as the consistency and reliability of product quality, and documentation of the specific attributes of nuts and butter from different origins or provenances. Building on simple methods of quality control at the producer level, the project

will increase the efficiency of production of optimal-quality shea products, thus increasing profitability of production for the benefit of the primary producers, rural processors, and the shea sector as a whole.

Based on applied research on post-harvest processing methods which determine product quality, the project is developing training curricula to enhance added product value through increased product quality, improved processing techniques, the use and maintenance of improved processing equipment, and 'best practices' of shea butter production from harvest through packaging. Further training programs, to be implemented in partnership with national institutions and community-based organizations, will reinforce the productive and professional capacity, technical and management skills of rural producers and rural producer marketing associations.

To serve the primary producers and rural processors of shea kernel and shea butter across the African shea zone, the project is working to establish a regional network of practitioners, from producers and producer groups to support organizations.

Through the Shea Network or Réseau Karité (online at www.thesheanetwork.net), technical and market information (including price and supply information by volume and quality) will be monitored on local and national markets through partner institutions will be collected, analysed and disseminated, in collaboration between producer groups, marketing associations, support organizations, government agencies, traders and other stakeholders of the private sector.

From 2005-2007, a series of regional technical support and exchange visits will be organized in response to narrowly-defined and specific technical requirements of project stakeholders, to support project objectives including product quality control, product development, establishment of product certification standards, marketing and other technical and management issues.

In order to add value to the shea resource, the project will document and publicise new (and potential) cutting-edge product innovations and market applications based on the nutritional and therapeutic attributes of shea butter, including scientific data drawn from the results of clinical trials.

Through the Vitellaria Database, the **CFC-ProKarité** project has assembled existing data on characterization of shea provenances based on based on oil chemistry parameters (including the chemical characteristics or 'signatures' of shea products of particular geographic origins), and is working to supplement this data, which may add value for specific end-use applications. The Vitellaria Database, a work in progress, is freely accessible at 'www.prokarite.org/vitellaria-dbase'.

1.1 Terms of Reference : Regional Consultative Workshop

From 6 – 8 October 2004, ICRAF hosted a Regional Consultative Workshop in order to build a regional consensus on key technical issues of shea product quality, and establish a basis upon which a regional product certification system may be established. The workshop provided a framework through which the concerns and requirements of the industrial end-users of shea products may be internalized, and effective and concerted action taken at the regional level for the benefit of the shea producing countries, and the shea sector as a whole.

The consultative regional workshop addressed key topics of project focus, in order that common issues, concerns and technical constraints may be identified, prioritized and targeted for resolution. Discussion and adoption of common parameters and techniques of analysis, product grades and standards was undertaken in support of the regional product certification system to be established through the project.

In summary, the consultative regional workshop was a means of:

- Inventory and consolidation of regional experience in order to more effectively (and efficiently) focus project resources on key issues which have not already been addressed by any regional / national program;
- Identifying key regional institutions to engage in collaboration, exchange of technical and commercial information on shea products;
- Identifying key issues common to the producing countries, and
- Developing a framework for establishment of a credible and effective product certification program, including harmonized and consistent parameters, analytical methods and methodologies.

The objectives of the workshop were as follows:

Objective 1: To develop a harmonized set of product quality parameters, standards and analytical methods

Objective 2: To develop a coherent and concerted regional action plan to address product quality constraints, with consistency over time

Objective 3: To establish a regional consensus on the basic principles and design of a practical, credible and durable/sustainable Product Quality Monitoring Certification System

The specific parameters of shea product quality were addressed in the course of the workshop, including both the processing methods which affect product quality as well as the analytical laboratory methods by which product quality is determined.

A set of harmonized norms and standards for product quality by specific product application will be proposed by workshop participants over the coming months, and a regional action plan developed during the workshop will be elaborated and formalized toward establishment of a formal product certification system for shea products, consistent throughout the Africa region and internationally.

1.2 Workshop Implementation, Participation and Representation

Despite immense logistical challenges, the workshop was successfully and effectively implemented, without any significant problems or interruptions.

An important indicator of participant interest is the fact that the number of participants was not reduced over the three days of plenary sessions and discussions.

Participants at the workshop included representatives of national institutions concerned with product quality and commerce, including National Applied Research Institutes (NARS Institutions), National Standards Boards, Ministries of Industry, and Chambers of Commerce.

A total of sixteen countries were represented at the workshop, including Benin, Burkina Faso, Cameroon, Chad, Cote d'Ivoire, Central African Republic, Ethiopia, Ghana, Mali, Niger, Nigeria, Senegal, Sudan, Togo and Uganda. In addition to the representatives of technical institutions and government bodies, practitioners drawn from national marketing associations (of producers), national and international industry also participated.

One of the more encouraging aspects of workshop participation was the active presence of 15 individuals from 8 countries (in addition to the 25 from Mali) whose participation and travel costs were met by themselves or their respective institutions.

This list of self-sponsored participants included: one program officer from UNIDO (Austria); two senior staff from ICRAF (Kenya); a university researcher from the USA; two government representatives from Nigeria, and one from Guinea; and eight private sector representatives, including four from Ghana, two from Nigeria, and one from Benin.

1.3 Workshop Results

The workshop consisted of a series of technical presentations on specific aspects of focus, followed by extensive and conclusive discussions during which regional consensus will be sought.

The expected outputs of the workshop included development of a harmonized set of product quality parameters, norms and standards and analytical methods, and a clear set of practical steps to be taken by each country in order to establish a regionally-consistent and internationally-credible system for the certification of shea products, *i.e.* shea kernel and shea butter.

However, this process may be said to have been **initiated** by and during the workshop; these objectives can only be developed over time and through extensive collaboration between the various national and regional stakeholders brought together through the workshop, with the active involvement of private sector and international industry.

This process, formally and effectively begun under the auspices of the Regional Consultative Workshop, is ongoing.

2.0 Summary of the Presentations and Discussions

Welcome Address: Dr. Jan Laarman, ICRAF
Deputy Director General for Programmes

Opening Remarks: Mr. Peter Thoenes
Secretary, United Nations Food and Agriculture Organization Inter-Governmental Group
on Oilseeds, Oils and Fats (FAO-IGGOOF)

Opening Address by
Hon. Minister of Agriculture, Republic of Mali

2.1 Report of the Introductory Presentations

Chair : Amadou Niang, ICRAF

Presentation of the Workshop Objectives and Expectations
Amadou Niang

Overview of Shea Product Applications and Markets
E. Masters

Introduction: Product Quality Indicators of Shea Kernel and Shea Butter
Dr Babacar N'Dir, Institut de Technologie Alimentaire (ITA), Senegal
Mr Barama Sarr, Agence Sénégalaise de Normalisation (ASN), Senegal

Introductory Presentations Discussions

It was observed that although the workshop was convened and organized by ICRAF under the auspices of the **CFC-ProKarité** project, the scope of the workshop lay well beyond the project, to include the active participation of all 16 shea producing countries.

It was further observed that the development and elaboration of product quality norms and standards is a voluntary process, based on a variety of market applications. Any certification system to be established should remain voluntary and non-coercive, providing opportunities rather presenting obstacles to trade.

2.2 Report of the First Plenary Session

SHEA PRODUCTS, PROCESSING METHODS AND PRODUCT QUALITY

Chair: Amadou Niang, ICRAF

Presentation : Quality Parameters and Production Methods
Dr. Peter Lovett, (WATH)

Influence of Processing Methods on Shea Butter Quality
Prof. César Kapseu, ENSAI (Cameroun)

Presentation: Monitoring Product Quality in Shea Production: Application of HACCP Methodology
Prof. Robert Ndjouenkeu, ENSAI (Cameroun)

Presentation: Effects of Primary Processing of Shea Fruit on Shea Butter Quality
Mr Patrick Aculey, CRIG (Ghana)

Presentation: Certification Prospects for Shea Butter based on Current Examples
Dr. Diane Russel (ICRAF)
Dr. Olivier Ahimin Adje (FSC)
Dr. Peter Lovett (WATH)

Plenary Session 1 Discussions

The principal points developed during the discussions were the following:

Though the preferred methods for obtaining high-quality products are largely known, the primary collectors and processors require technical support in order for them to optimize product quality.

Generally, the industry requires boiled and sun-dried shea kernels, which have not been composted nor smoked.

From the producers' perspective, the main difficulty lies in the challenge of drying shea kernel during the rains, while the producers (rural women) are busy with agricultural labor in their fields.

Further, those producers who do invest their time and energy in product quality may not be remunerated adequately (if at all) given the current price structure, particularly in certain countries distant from ports and/or processing industries (e.g. Mali).

2.3 Report of the Second Plenary Session

SHEA PRODUCT QUALITY PARAMETERS: METHODS OF ANALYSIS, MONITORING AND CERTIFICATION

Chair: Dr Diane Russell, ICRAF

Presentation: Defining Shea Provenances: Profiling Product Qualities by Origin
Dr Steve Maranz (ICRAF)

Presentation: Defining Standard Operating Procedures for Shea Processing
Peter Lovett (WATH)

Taking Regional Action toward Shea Certification
Mr Nimo Ahinkorah, ARSO

Presentation: Monitoring and Documenting Product Quality: Summary of Product
Quality Factors, Determinants and Constraints
Dr Hisham Moharram, Rutgers University (USA)

Discussion groups by sub-region:

Francophone West Africa
Anglophone West Africa
Central Africa (Francophone)
Eastern Africa (Anglophone)

Presentations and Discussion

Plenary Session 2 Discussions

It was recognized that three discrete areas of knowledge are currently lacking:

1. Characteristic physio-chemical attributes (innate 'qualities') of the resource by geographic origin or provenance;
2. The specific effects of particular processing methods on product quality; and
3. The needs and requirements of the end-users (by all product applications – nutritional, cosmetic, pharmaceutical, etc.)

The examples of cocoa (Nigeria) and coffee (Guinea) were mentioned as sectors in which national efforts of recent years have resulted in a better-quality product for the benefit of the sector as a whole.

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The concept of 'relationship coffee' was introduced as an example of a type of fair trade certification process which engages the international consumer as directly linked to (and in support of) the producer, based on a better understanding of producer living standards and production systems: A marketing approach of 'telling the story'.

2.4 Presentations of the Sub-regional Working Groups

Objectives :

1. Inventory and synthesis of experiences and ongoing activities on product quality, standards and certification; and
2. Identification of areas of synergy and modalities of collaboration (October 2004 – March 2007), based on existing resources.

2.4.1 Francophone West Africa

Bénin
Burkina Faso
Côte d'Ivoire
Guinée

Mali
Niger
Sénégal
Togo

Discussion Group Members:

Mr Gilles R. Adamon
NATURA sarl, Bénin

Mr Olivier Adje Ahimin
Forest Stewardship Council (FSC), Côte d'Ivoire

Dr Abdourahamane Balla
Université Abdou Moumouni, Niger

Mr Jocelyn Balley
Direction de la Promotion de la Qualité et du Conditionnement des Produits Agricoles (DPQC),
Bénin

Mr Abdoulaye Ballo
Comité AGOA, Mali

Mme Fanta Guindo Boré
Institut d'Economie Rurale (IER), Mali

Mr Siaka Camara
Helvetas, Mali

Mme Salimata Sidibé Coulibaly
Institut d'Economie Rurale (IER), Mali

Mr Antoine Devulder
Loders Croklaan, Netherlands and Burkina Faso

Mme Aminata Diarra
Fédération Nationale des Femmes Rurales (FENAFER), Mali

Mr Mohamed Diarra
Institut d'Economie Rurale (IER), Mali

Mr Moussa Diarra

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Institut de Recherche en Sciences Appliqués et Technologiques (IRSAT), Burkina Faso

Mme Manou Gervaise Etien
CODINORM, Côte d'Ivoire

Mme Élise Guiro / Soulama
Centre Canadien d'Étude et de Coopération Internationale (CECI), Burkina Faso

Mme Mariame Fofana Haidara
Ministère de la Promotion de la Femme, de l'Enfant et de la Famille, Mali

Mr Boubacar Issa
Ministère de l'Industrie, du Commerce et de la Promotion du Secteur Privé (Niger)

Mr Léon Soumana Kassoura
Centre Canadien d'Étude et de Coopération Internationale (CECI), Niger

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Agence pour la Commercialisation Agricole, Guinée

Mme Souadou Diabaté Koné
Association Malienne pour la Promotion de la Jeune Fille et la Femme (AMPJ), Mali

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Centre Canadien d'Étude et de Coopération Internationale (CECI), Mali

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Mr Jean-Baptiste Zoma
Projet d'Appui aux Filières Bio-Alimentaires (PAF), Burkina Faso

Results and Recommendations

1. There are significant disparities between countries in terms of sectoral development: Certain countries are advanced whereas the others are in phase of starting up.
2. There are two current drafts of product standards which have been elaborated and are still currently under development: Burkina Faso and Côte d'Ivoire [*Editor's Note: these have not as yet been seen.*].
3. To facilitate the adoption of good practices, radio may be used to diffuse technical advice for the proper treatment of the kernels.
3. Prior to development and adoption of product quality standards, countries use statutory specifications promulgated during the colonial era or updated over the past two decades. These specifications refer to the quality of the kernels and butter commercialised.
4. Most of the countries had to begin activities from the point of view of the quality. Training programs have been more or less elaborated, are still in

progress or have been discontinued (Benin for example) and are undertaken by governmental institutions and/or other support organizations (NGOs, projects).

5. All the member countries of the Economic and Monetary Union of West Africa (UEMOA) are involved in the product quality program of the UEMOA: As such, except for Guinea, all the countries have structures of normalization. These structures have included shea products in the process of normalization.

6. Different studies have been undertaken on the genetic resources of shea and on methods of shea processing. The results of these studies exist in certain countries, which should undertake to make them more widely available through the ProKarité project. Samples have been collected in certain countries and wait to be analyzed by the project; the results will enhance current knowledge on the resource.

7. In Togo, there is a functional factory [Nyoto] which transform shea kernels into butter by a service based on criteria of the customers.

The axes of synergy

1. To use the framework established through the UEMOA quality program for the harmonisation of product standards (to share the two existing drafts with the other countries in order to accelerate the elaboration in all the countries);

2. Implementation of research networks (scientific committee) for exchange of information and experience following the example of what has been done for other sectors such as millet, sorghum and fonio (and diffusion of the results of this research to the producers).

3. Implementation of a framework of sub-regional dialogue on the development and the defence of the public interests of all the stakeholders of the shea sector (example: revitalize the shea 'bourse' of Burkina Faso and extend it throughout the sub-region);

4. Implementation of a scientific committee (made up of national consultants) to exchange information on the methods of processing and storage, work and analyses.

5. Establishment of a regional network of shea processors.

6. Organization of study tours and exchanges of experience for mutual enrichment of shea processors

Final motion:

The working groups constituted in the course of this workshop should be extended and continued as a platform of exchange, in order to facilitate, in the course of future meetings, the sharing of experiences and realizing the potentials for future collaboration between the various stakeholders of the shea sector represented here.

2.4.2 Anglophone West Africa

Ghana
Nigeria

Discussion Group Members:

Mr P.C. Aculey, Biochemist
Cocoa Research Institute of Ghana (CRIG), Ghana

Alhaji Waziri H. Ahmadu
Department of Agriculture and Rural Development (Abuja State), Nigeria

Mrs Felicia Ibrahim Adam
Ghana Standards Board (GSB), Ghana

Mr Nimo Ahinkorah
Africa Regional Organization for Standardisation (ARSO)

Dr Franklin Manu Amoah
Cocoa Research Institute (CRIG), Ghana

Mr Christopher Dalisah
Naasakle Ltd., Ghana

Mrs Chinyere V. Egwuonwu
Standards Organization of Nigeria (SON), Nigeria

Godwin Igili
Broadacres Ltd., Nigeria

Mr Seth Phillips Ika'a
Commodities & Export Trade Department, Nigeria

Ms Helen Kassardjian
Kassardjian Industries Ltd., Ghana

Mr Ayodele Kola-Mustapha
Ayo Mustapha Ltd., Nigeria

Dr Peter Lovett
West Africa Trade Hub (WATH), Ghana

Engr. Chidume Okoro
National Shea kernel Association of Nigeria (NSAN), Nigeria

Mrs I. C. Ojei
Standards Organization of Nigeria (SON), Nigeria

Mrs Mojisola O. Oresanya
Federal Institute of Industrial Research, (FIIRO), Nigeria

Ms Emilie Vicart
AGRO ECO, Ghana

Dr Joshua Yidana
University of Development Studies (UDS) Tamale, Ghana

Results and Recommendations

The group discussion was based on the given objectives and based on the objectives each country (Nigeria and Ghana) recounted their experiences/ on-going activities on product processing and quality standards, looked at areas of collaboration and made some recommendations.

Ghana's experience

1. Bush burning-which reduces yields, still being erroneously done in Ghana because people believe it helps the fruits
2. Now working on the propagation of the seeding.
3. Plans to go into grafting
4. Fertilizers also help growth
5. Water/moist environment make the flowers to drop – wonders if irrigation can be used.
6. Plantation possible -People started shea kernel plantation by removal of other tree crops. This has given rise to about twenty (20) plantations in Ghana
7. Processing of shea in Ghana mainly traditional processing (description of this was given by Aculey). Machines for processing include kneader, crusader, and roaster.
8. SOP/quality
 - Collect the nut as fresh as possible
 - Clean to remove foreign matters
 - Boil as soon as possible
 - Grinding plates/wheels and kneaders changed from cast iron to stainless steel to ensure absence of iron.
 - Fine-filters were introduced

Nigeria's experience

1. Shea butter development in Nigeria did not come into light until 2000 when an inter-ministerial committee was inaugurated. The committee has been able to map out strategies for the development of shea products in the country.
2. Few universities and research institutes have done work on shea
3. No NGOs are involved in shea-related activities which could have assisted the industry to grow nationally and to service external markets.

Summary of experience

The Nigerian and Ghanaian delegates agreed to:

1. Harmonise policy on advocacy
2. Create a permanent forum for technical/research cooperation.

On the shea situation in Nigeria, the meeting noted the huge internal market for shea butter in Nigeria which needed to be properly organised and developed.

- Identified that Ghana has done work on agronomy, mechanization of processing and in sustaining quality.
- Ghana also has developed standards for shea products
- On trade issues, Ghana has penetrated the international market.
- Nigeria has not done much in the shea development and processing but is in the process of establishing a shea association.

Identification of area of synergy/collaborations and recommendation

It is important for Ghana to form a shea association/Network.

Important for both network to meet occasionally to exchange notes and see area of synergy in research, Agronomy, Production, standardization and resource assessment.

Ghana and Nigeria to collaborate in area of business (both national and international markets).

2.4.3 Central Africa (member countries of CEMAC).

Cameroun
Central African Republic
Chad

Discussion Group Members:

Prof. César Kapseu
Ecole Nationale Supérieure des Sciences Agro Industrielles (ENSAI), Cameroun

Dr Mbayhoudel Koumaro
Institut Tchadien de Recherche Agronomique pour le Développement (ITRAD), Tchad

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Mr Bernard Ndonazi
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Mr Michel Vamane
Service du Conditionnement du Contrôle de Qualité, Centrafrique

Results and Recommendations

The shea resource covers northern Cameroon, the northwest of the Central African Republic, and southern Chad. There are an estimated 82 million shea trees in Chad [*quite a high estimate! –Ed.*], of which about 30 to 40 % are productive [on any given year], yielding up to 15 to 30 kg of shea kernel a year per tree [*also a very high estimate. –Ed.*]. There is also a policy of planting, which was organized since 1950 in Chad. This same policy of multiplication of the species extends as well to the Central African Republic, particularly in the areas of Bossangoua, Bouca and Batangafo. This policy was organized by the Forest Service of the GTZ, the rural producer groups of Batangafo which has planted 170 hectares of shea trees since 1995.

On the technological level, there is an implementation of the development of press in the sub-region, and of a system of technical training on the use of this innovation by the NGO APICA, based in the 3 countries. The popularization of the production has also been stimulated by the Centre DONAVAL of the Central African Republic, and the most been worth in the commercial circuit.

At the university level, the University of Ngaoundéré (Cameroon) is interested in the study and the development of the shea resource, including technology development (presses, driers and analytical methods for all the chemical indices) and ethnobotanical studies with extension, based on work done on other oleaginous plants.

Standards: as regards shea product standards within the Central African sub-region, there has as yet been no reflection within the Communauté Economique et Monétaire de l'Afrique Centrale (CEMAC) concerning this issue, despite the popularization of the shea press by APICA, the existing scientific data, and the improvement of product quality by the Centre DONAVAL.

Sub-regional collaboration for certification

1. Implementation of a CEMAC working group covering the Central African Republic, Cameroon and Chad with a focal point. The group should focus on:
 - Knowledge of the tree: identification of varieties or provenances, ethnobotanical aspects, territorial distribution;
 - All products of the tree: leaves, fruits, kernels, butter: Collection, sampling, analysis.
 - Local knowledge: identification of needs and training of the members of the rural producer groups of the sub-region.

Conclusion: After the [March 2002] workshop at Dakar, there is enormous interest in Central Africa in the domain of the shea tree (establishment of plantations, improvement of processing technologies, quality improvement in production of butter in a commercial context: an increase of the demand and renaissance of awareness of the shea resource.

Each member country of the CEMAC zone has its own contribution to make:

- A prototype of press in the Chad;
- A prototype of production of quality butter and set up by a technique of sun dryer in the Central African Republic; and
- A prototype of laboratory of characterization of the quality in Cameroun.

The existing structures

1. Research and development: University of Ngaoundéré and the Institute de Recherche Agricole pour le Développement (IRAD) of Cameroun; the University of N'Djaména and the l'Institut Tchadien de Recherche Agronomique pour le Développement (ITRAD) of Chad; the Institut Supérieur de Développement Rural (ISDR) at Bonkoko, and the Forest Project of Bangui, Central African Republic.
2. NGOs / CBOs: APICA, ULTRASA, Women's groups of Balama, Bangangte, and Kazobe.
3. Private sector: Association DONAVAL of the Central African Republic.

2.4.4 Eastern Africa

Ethiopia
Sudan
Uganda

Discussion Group Members:

Dr Stella Apolot
Uganda National Bureau of Standards (UNBS), Uganda

Mr Deressa Fuffa
Quality Standards Authority of Ethiopia (QSAE), Ethiopia

Dr Emilio Jaden
Secretariat of Agriculture and Animal Resources (SAAR), Sudan

Dr. Gordon Wagner
New Sudan Lulu Network, Sudan

Results and Recommendations

The products of the shea tree have been used for many centuries at the traditional level in north and Uganda, southern Sudan, and the Gambella region of southwestern Ethiopia. However, organized development of the shea resource began only in 1990, with the conception of the Shea Project for Local Conservation and Development (The Shea Project) by the Cooperative Office for Voluntary Organizations of Uganda (COVOL), an NGO based in Lira, northern Uganda.

During the pilot phase of the Shea Project from 1995-97, a technology package was developed for the extraction of shea butter, consisting of a diesel-powered grinding machine and a hand press based on a design then being tested in northern Ghana. Though the press was not well suited to Ghana, given the solid nature of West African shea butter, it proved very well suited to the more liquid product of eastern Africa, and two Ghanaian technical consultants were recruited in order to adapt the press design to Ugandan conditions and technical facilities.

From 1996, COVOL began production of the hand press in northern Uganda for purchase by the producer groups of rural communities living with the shea tree. The press was sold on a 50% credit basis, which was subsequently repaid in a series of deductions to the amount paid for shea butter produced and sold to the project by the organization of rural producers known as NUSPA – the Northern Uganda Shea Producers Association.

Given the very high quality of shea butter produced by NUSPA under the Shea Project, COVOL was able to interest a small natural products cosmetic company in the United States in the product, thus sustaining fair trade premium prices of two to three times the value of traditional shea butter.

From 1997, COVOL undertook the training of rural shea butter producers from southern Sudan in the improved shea processing technology and methodology it had developed in northern Uganda. Since that time, the shea resource of southern Sudan has received the attention of several NGOs, which have since come together to form an umbrella organization known as the New Sudan Lulu Network, based on the Arabic word for the shea tree in Sudan.

In June 2000, a regional workshop on the shea resource was convened at Lira, Northern Uganda, which included representation from Uganda, Sudan, Ethiopia, with representatives from Burkina Faso, Ghana, Mali, and Nigeria. This event served to galvanize the nascent awareness of the shea resource within the eastern African subregion.

Since then, the producer groups of southern Sudan have greatly increased their abilities - and their production of a very high quality shea butter, which is now marketed locally as a food oil and sub-regionally as a skin and body lotion, particularly in Nairobi, the commercial capital of eastern Africa.

However, insecurity and war have since proven to be an obstacle to the sub-regional development of the shea resource across the national boundaries of our three countries. It is hoped that this workshop may serve as a catalyst for concerted development of the shea resource between the three countries of eastern Africa, particularly as regards the development of product quality standards, and a common approach to product certification.

Finally, it should be noted that there is considerable variation in the physical and chemical properties of shea butter from the three eastern African countries, from a near-liquid in northern Uganda to something approaching West African solidity in the Bahr el Ghazal region of southern Sudan.

While some basic resource studies of the shea tree have begun (and continue) in the Gambella region of Ethiopia, insecurity there, too, has prevented the organized development of the shea resource, and so we are not sure how the Ethiopian product may compare with those of Uganda and Sudan when extracted by improved methods. We do know that given the dietary requirements of the Ethiopian Church, whereby animal fats must regularly be abstained from during fast days, there may be great scope for the marketing of shea butter at the national level as a vegetable ghee.

During our discussions today, we resolve to work together to the fullest extent possible in order to develop new commercial opportunities for the producers of our three countries, and a common approach to product certification.

In particular, the Uganda National Bureau of Standards (UNBS) and the Quality Standards Authority of Ethiopia (QSAE) should work together to the fullest extent

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possible to harmonize their approaches to shea product quality analysis, which may further be extended to southern Sudan, where such analytical facilities as ours are lacking. In turn, the producer groups and support organizations of Uganda and Sudan stand ready to assist in the technical and training requirements of the Ethiopian producers.

In conclusion, we hope that this workshop will prove the beginning of a new regional awareness, which will make our three countries with those across the African continent which, like us, are concerned with the development and conservation of the shea resource for the benefit of our rural populations, our national economies, and of future generations.

2.5 Report of the Third Plenary Session

REGIONAL ACTION PLAN TOWARD ESTABLISHMENT OF A PRODUCT CERTIFICATION SYSTEM FOR SHEA PRODUCTS

Chair: Mr. Nimo Ahinkorah, ARSO

Presentation: Meeting the Requirements of International Markets: Building Capacity in Standards and Conformity Assessment
Mr. Steffen Kaeser (UNIDO)

Discussions according to working groups:

Working Group 1: Production Methods and Product Quality

Working Group 2: Laboratory and Field Analytical Methods

Working Group 3: Policy and Regulatory Requirements, Regional Linkages, Collaboration and Coordination

Working Group 4: Private Sector: Industry and Trade

Working Group Objectives:

- to develop a harmonized set of product quality parameters, standards and analytical methods
- to develop a coherent and concerted regional action plan to address product quality constraints, with consistency over time
- to establish a regional consensus on the basic principles and design of a practical, credible and durable/sustainable Product Quality Monitoring Certification System

Results Expected:

- Identification of areas of synergy and modalities of collaboration 2004-07 (based on existing and potential resources)
- Identification of responsible institutions and specific individuals within these institutions
- Definition of specific technical and requirements, objectives and milestones according to timeline

3.0 Working Group Conclusions and Recommendations

3.1 Working Group 1: Production Methods and Product Quality

Chair: Dr. Peter Lovett

Secretaries: Prof. César Kapseu and Dr. Joshua Yidana

Membership:

Mr P.C. Aculey
Cocoa Research Institute (CRIG), Ghana

Mr Nimo Ahinkorah
Africa Regional Organization for Standardisation (ARSO)

Dr Franklin Manu Amoah
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Dr Abdourahamane Balla
Université Abdou Moumouni, Niger

Mr Jocelyn Balley
Direction de la Promotion de la Qualité et du Conditionnement des Produits Agricoles (DPQC), Bénin

Mr Abdoulaye Ballo
Comité AGOA, Mali

Mr Siaka Camara
Helvetas, Mali

Mme Salimata Sidibé Coulibaly
Institut d'Economie Rurale (IER), Mali

Mr Christopher Dalisah
Naasakle Ltd., Ghana

Mme Aminata Diarra
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Mrs Chinyere V. Egwuonwu
Standards Organization of Nigeria (SON), Nigeria

Mme Manou Gervaise Etien
CODINORM, Côte d'Ivoire

Mme Élise Guiro / Soulama
Centre Canadien d'Étude et de Coopération Internationale (CECI), Burkina Faso

Mme Mariame Fofana Haidara
Ministère de la Promotion de la Femme, de l'Enfant et de la Famille, Mali

Prof. César Kapseu
Ecole Nationale Supérieure des Sciences Agro Industrielles (ENSAI), Cameroun

Working Group 1 Membership (continued)

Mme Souadou Diabaté Koné
Association Malienne pour la Promotion de la Jeune Fille et la Femme (AMPJ), Mali

Mme Sabine Hirsiger Koné
Centre Canadien d'Étude et de Coopération Internationale (CECI), Mali

Mme Diallo Mah Koné
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Dr Peter Lovett
West Africa Trade Hub (WATH), Ghana

Mr Abdoulaye Farka Maïga
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Mr Mamadou Ndour
Projet de Promotion des Micro-Entreprises Rurales (PROMER), Sénégal

Mrs Mojisola O. Oresanya
Federal Institute of Industrial Research, (FIIRO), Nigeria

Mr Amidou Ouattara
Centre Ecologique Albert Schweitzer (CEAS), Burkina Faso

Mr Aly Sylla
Institut National de Normalisation et de Métrologie, Guinée

Mr Amadou Sylla
Action for Enterprise (AFE), Mali

Dr Joshua Yidana
University of Development Studies (UDS) Tamale, Ghana

Results and Recommendations

About points 1 and 2, the participants identified needs and following domains of synergy:

- Lack of organization of the shea sector in certain countries;
- Insufficient knowledge regarding the determinants of kernel quality;
- Lack of improved processing methods;
- Climatic maladministration of the chance on the quality;
- Lack of standard products;
- Lack of appropriate equipment;
- Lack of packaging; and
- Lack of awareness on quality control techniques.

At the conclusion of the discussions, the following objectives were proposed:

Organize the shea sector (*filière*) in the countries in which this has not yet been done;
Establish systems of quality management;
Establish product quality standards;
Exchange the information about the existing equipments; and
Assess current processing techniques.

The anticipated results are as follows:

Implementation of the national then regional associations of the producers (in a 1 year)
Mastery of techniques (in 2 years)
Stake of the standards (in 2 years)
Diffusion of 'best practices' of production (in 3 years)
Popularization of appropriate processing technologies (in 3 years)

Concerning institutions and persons to give responsibilities in these institutions, the focal points by country were identified:

Benin: Direction of the promotion of quality and the packaging of agricultural products, Mr Jocelyn Balley

Burkina Faso: DTA / IRSAT, Dr. Brehima Diawara

Cameroon: Direction of Normalization, Industrial and commercial Ministere du Developpement, Yaounde, Mr Etoundi [not present at the workshop. –Ed.]

Cote d'Ivoire: CODINORM, Mrs Etien Manou Gervaise

Ghana: Ghana Board of Standards, Mrs Felicia Ibrahim

Mali: MPFEF Shea project, Mme Haidara Mariane Fofona

Niger: CECI, INRAN, Mr Soumana Kassaoura, Mr Mahamane Larwanou)

Senegal: Institute of Food Technology, Dr Babacar Ndir

Nigeria: Federal Ministry of Environment, Abuja, Mr Oyebo [not present at the workshop. –Ed.]

Guinea: Institute of Normalization and Metrologie, Ministry of Industry and Commerce, Mr. Aly Sylla

3.2 Working Group 2: Laboratory and Field Analytical Methods

Chair: Dr Bréhima Diawara
Secretaries: Mme Fanta Guindo Boré
Prof. Robert Ndjouenkeu

Membership:

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Mrs Felicia Ibrahim Adam
Ghana Standards Board (GSB), Ghana

Dr Stella Apolot
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Mr Nafan Diarrassouba
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Dr Brehima Diawara
Institut de Recherche en Sciences Appliqués et Technologiques (IRSAT), Burkina Faso

Dr Mbayhoudel Koumaro
Institut Tchadien de Recherche Agronomique pour le Développement (ITRAD), Tchad

Mr Claude Laleye
Centre Béninois de Normalisation et de Gestion de la Qualité (CEBENOR), Benin

Dr Steve Maranz
World Agroforestry Centre (ICRAF)

Dr Babacar Ndir
Institut de Technologie Alimentaire (ITA), Sénégal

Prof. Robert Ndjouenkeu
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Mrs I. C. Ojei
Standards Organization of Nigeria (SON), Nigeria

Mme Seydou Ramatou
Institut National de Recherche Agronomique du Niger (INRAN), Niger

Mr Mamadou Soufountera
Institut d'Economie Rurale (IER), Mali

Dr Oumou Cissé Traoré
Institut d'Economie Rurale (IER), Mali

Mr Tomtala Winga
Direction de la Qualité et de la Métrologie, Togo

Results and Recommendations

Domains of synergy

Identification of the parameters of analysis to be taken into account for the quality of shea products

These parameters are listed in the table below:

Kernels

- Moisture
- Fat Content
- Acidity (FFA)
- Foreign body
- Microbiological Analysis (e.g. fungi)

Butter

- Moisture
- Indices
 - of peroxide
 - of iodine
 - of saponification

Fatty Acid Profile
Content of saponifiables
Vitamins A and E
Density
Index of Refraction
Colour
Smell (aromatic profile)
Consistency
Fusion Point
Impurities

Harmonization of analytical methods

The participants determined that the reliability of analyses relative to the quality of shea products require that these techniques (methods of sampling, analytical protocols) are common to all the actors, based on a harmonized set of standard methods to be used in the various laboratories throughout the region.

In this respect, it was noted that the Economic and Monetary Union of West African States (UEMOA) had already begun, at the sub-regional scale, a harmonization of laboratory analytical methods.

UNIDO and the FAO may have also undertaken similar work in the sub-region. Accordingly, the group recommended reference to any relevant documentation as appropriate, and more particularly to those of UEMOA, in order to obtain a better understanding of methods adopted by the sub-region and acting as regional analytical standards.

For the methods relative to the shea products which have not yet been taken into account in these documents, it was recommended that the various laboratories communicate between themselves the existing practices in their respective laboratories so that together a method of harmonization may be adopted and proposed for inclusion in the repository of UEMOA. ICRAF was designated for the collection, the compilation and the diffusion of these various methods.

Constitution of an African Shea Network

Among other objectives, this network would have a mission to serve as a forum linking the various sub-regional laboratories working on shea products. This networking should allow these laboratories to work together so as to evolve towards an accreditation by proper authorities.

The network of laboratories, in coordination with the shea network, would also serve as the basis for designation of a scientific committee on shea product quality analysis.

Identification of institutions and resource persons

Taking into account the fact ICRAF, through the **CFC-ProKarité** project, will have served as a regional catalyst in implementing the Bamako workshop, and that the expertise accumulated by the various institutions involved in the project constitutes an inestimable reference on shea products, it was proposed that the **CFC-ProKarité** partner institutions and their respective officers are considered as basic resource entities.

These institutions will assemble the relevant technical information on shea products and will, through the ICRAF and the Shea Network, make this information available to partner institutions of the other countries.

The structures of normalization of the sixteen countries of the shea zone represent the second resource entity for the harmonization and diffusion of the analytical methods for determination of shea product quality.

ICRAF, institution of animation of the shea network, is well-placed for the collection and diffusion of the information about all the laboratories of the 16 countries of the shea zone. In this respect, it is recommended that the elaboration of a technical questionnaire for identification of the laboratories of

analysis, quality control and research on shea products will provide a basis of background information on the technical capacities of national laboratories across the region, the structures of normalization of the various countries, and on the existing documentation regarding norms and standards for shea products (UEMOA, UNIDO, FAO).

Definition of needs and necessities

The working group agreed that the general objective of the structures of analysis, control and research on the shea tree concerns first and foremost the intensification of as human resources as well as material and technical capacities of the implicated institutions, in order to effectively guarantee the quality of shea products.

Accordingly, priority needs were identified to serve as basis for common reflection, and a step toward the defined objectives. These five priority axes are listed in the table below, with a proposition of calendar of execution (ICRAF / **CFC-ProKarité** to be charged with each task):

1. Identification of the laboratories of analysis, control and research:
 - Sending of technical questionnaires: by the end of November 2004
 - Return of questionnaires: by labs: by the end of December 2004
2. Acquisition of the reference documentation: standards and protocols of analysis, diffusion to all the labs: by end of March 2005
3. Identification of equipment (laboratory and field), in accordance with the harmonized standards, and according to the technical questionnaires from each laboratory: by end of March 2005
4. Training in shea product quality analysis and quality control:
 - 1 technical training workshop a year (scientists and technicians)
 - 2 technical trainings per country per year (rural producers)
5. Establishment of the Shea Network: end of January 2005

3.3 Working Group 3: Policy and Regulatory Requirements, Regional Linkages, Collaboration and Coordination

a. Francophone Section

Chair: Mamy Keita (Guinea)
Secretary: Olivier Ahimin (Cote d'Ivoire)

Members:

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Forest Stewardship Council (FSC), Côte d'Ivoire

Mr Boubacar Issa
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Mr Léon Soumana Kassoura
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Mr Mamy Keita
Agence pour la Commercialisation Agricole, Guinée

Mr Bernard Ouoba
Direction de la Normalisation et de la Promotion de la Qualité (FASONORM), Burkina Faso

Mr Barama Sarr
Institut Sénégalais de Normalisation (ASN), Sénégal

Mr Michel Vamane
Service du Conditionnement du Contrôle de Qualité, Centrafrique

Results and Recommendations:

Action plan

1. ICRAF to identify the focal points in the various shea producing countries: by March 2005
2. Every country to establish a national structure charged with organizing the shea sector in association with ICRAF: by September 2005
3. A semi-official regional structure put in place, working in association with the sub-regional bodies (CEDEAO, UEMOA, CEMAC) to oversee relevant activities: by September 2005
4. International (and regional) standards for shea products elaborated (with attention to packaging, classification, specification, analytical methods, quality required with regard to the physio-chemical properties): by June, 2006
5. Elaboration of the legislative texts relative to the certification of shea products (decrees, specifications of responsibilities, technical references, etc.): by September, 2006
6. Test phase of the certification of the shea products and adjustments as necessary: from September 2006 to March 2007

3.3 Working Group 3: Policy and Regulatory Requirements, Regional Linkages, Collaboration and Coordination

b. Anglophone Section

Members:

Alhaji Waziri H. Ahmadu
Department of Agriculture and Rural Development (Abuja State), Nigeria

Mr Deressa Fuffa
Quality Standards Authority of Ethiopia (QSAE), Ethiopia

Mr Seth Phillips Ika'a
Commodities & Export Trade Department, Nigeria

Dr Emilio Jaden
Secretariat of Agriculture and Animal Resources (SAAR), Sudan

Engr. Chidume Okoro
National Shea kernel Association of Nigeria (NSAN), Nigeria

Results and Recommendations

After an extensive discussion, the group recommended as follows:

1. The setting up of two Technical Committees:

- One on Certification and Standards, in order to harmonise various standards on shea products and produce a draft set of harmonized standards for shea products to serve as the basis for a certification system; and
- A Technical Committee to establish the network of shea producing countries in Africa, as well as launch the Shea Network.

2. Policy and Regulatory Issues

MARKETS:

As a matter of deliberate policy, emphasis should be placed on local, national, regional and international markets in that order. This is because of the huge potential of local, national and regional markets - which remain largely untapped and which have less rigid standards of product quality to meet.

Certification should stress product quality followed by ecological aspects including environmental stewardship.

ENVIRONMENT:

Shea producing countries are encouraged to promote:

- Reafforestation
- Improved cultivars
- Domesticated shea plantations
- Protect shea trees from bush burning and harvesting for energy purposes.

CAPACITY BUILDING:

Policies for building of shea capacities especially in the areas of

- Appropriate technology
- Skills Acquisition and
- Institutional building

REGULATORY REQUIREMENTS

- In each producing country, National Standards Boards are should supervise the regulatory Standards aspects of the products.
- National Associations should have membership in the committees that monitor National Standards.
- Governments should encourage and create a conducive climate for the development of the shea industry.

COLLABORATION

Member countries require collaborative efforts in the following areas:

- Capacity building
- Institutional building
- Trade Fairs
- Business Skills & Product Presentation

LINKAGES

The Working Group recommends :

- The formation of The Shea Network as a vehicle for realizing linkages, collaborating and coordination in the shea industry
- The midwife for this Network will be ICRAF
- The Format for the development of the Network was agreed as follows:
 - Establishment of a national shea association in each member country
 - by 31st December 2004
 - Setting up of National Steering Committees in each producing country

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- by 30th March 2005
- Confirmation and details of national associations & national steering committees sent to ICRAF – by 30th April 2005
- Circulation of Final Draft constitution for the Shea Network – June 2005
- Consultative Forum to inaugurate the Shea Network - October 2005

3.4 Working Group 4: Private Sector: Industry and Trade

Chair: Ms Helen Kassardjian

M. Antoine Devulder

Secretary: Eric Derks

Members:

Mr Gilles R. Adamon
NATURA sarl, Bénin

Mr Ayodele Kola-Mustapha
Ayo Mustapha Ltd., Nigeria

Mr Eric Derks
Action for Enterprise (AFE), Mali

Mr Antoine Devulder
Loders Croklaan, Netherlands and Burkina Faso

Godwin Igili
Broadacres Ltd., Nigeria

Mr. Steffen Kaeser
United Nations Industrial Development Organization (UNIDO)

Ms Helen Kassardjian
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Mr Hamza Koné, Président
Table Filière Karité, Burkina Faso

Dr Larwanou Mahamane
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Mr Bernard Ndonazi
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Mme Marcelline Ouédraogo
Groupement Féminin Songtaaba, Burkina Faso

Mr N'Golo Traoré
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Ms Emilie Vicart
AGRO ECO, Ghana

Mr Jean-Baptiste Zoma
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Results and Recommendations

The discussion group largely agreed on quality parameters for both the raw nuts and butter establishing the fact quality tends to diminish in larger orders.

We also agreed on the need for both micro and macro financing to enable the countries move up to processing rather than selling raw nuts.

It was also agreed that more collaboration should be established between the producers to harmonise production techniques.

The buyers present stated that it will be difficult to increase pricing now due to the fact the percentage of bad nuts weighs heavily on pricing factors. The Nigerian delegation argued that for the farmers to improve on quality by going an extra mile they will require an extra buck. But it seems to be a 'Catch-22' situation.

The trade session also acknowledged that francophone countries seem to get more developmental assistance for shea-related activities than Anglophone countries.

The session also agreed that a continent wide association might be necessary, but the session also agreed that the buyers might not want a 'cartelisation' of the trade.

But it was agreed that the producers of shea should improve on their quality as well as conformity and connectivity to the markets.

It was noted that quality standards for shea kernel are relatively clear and consistent, while those for shea butter vary according to customer requirements. Other qualities, such as refraction, taste, color and odor may also be of concern.

The group also spoke about issues of product quality control and certification. This could be facilitated via regional harmonization of production and post-harvest processing techniques, storage, handling etc; identification of reliable laboratory testing facilities, training of staff, and accreditation or certification of the labs as well as staff. Developing industry standards and benchmarks, as found in the trade cashew kernels for example, might enable the development of a uniform pricing mechanism.

Recommendations

1. Quality parameters for kernels, according to industrial representatives present:
 - a. Free Fatty Acid (FFA): <6% preferable, <8% tolerable
 - b. Fat Content: 45% - 55%
 - c. Humidity: < 7%
 - d. Impurities: <1%
 - e. presence of hydrocarbons: increasingly less tolerated but no particular parameter at present; this is however foreseen to become a bigger issue in the near future, particularly in the European Union
2. Quality parameters for shea butter were deemed too variable (depending on the specific requirements of particular buyers and end-users) to comment on or to give specific figures. However, FFA, humidity and impurity levels are of most concern to industry. Particular markets will have more specific requirements regarding other parameters.
3. One proposed solution for improving shea butter quality was to adhere to and promote the above quality parameters for shea kernels, if not even more stringent ones, in order to assure that the resulting butter is of good quality.
4. Proposed solutions for improving shea kernel quality:
 - a. harmonize processing techniques: determine what works best and promote widely to all actors in supply-chain throughout production zones
 - b. increase transparency in supply-chain to promote traceability:
 - linking supplied kernels to particular actors and producer groups/villages/zones will facilitate mechanisms to reward sources supplying good quality and either penalize or target for reform other sources
 - certification process is not impossible but very cumbersome for kernels, especially if there is little traceability of supply. Increasing traceability will open sector up to greater certification or provenances, origins, or other profitable certification schemes
 - traceability will also promote longer-term relationships between actors (international buyers, traders, and producers) which will have the benefit of professionalizing actors – which will in turn foster sector-wide learning networks and professional associations

5. Two problems were identified, for which no immediate solutions are proposed:
 - a. absorbing seasonal production so excess supply doesn't enter the market in following year, and thereby degrade overall quality levels
 - b. fostering growth and improvement in the shea sector, so it continues to engage industry as a viable source of vegetable fats for the chocolate and cosmetic industries, for existing and new products.

4.0 Workshop Conclusions

Following presentation of the Working Group conclusions and recommendations, and prior to the closing of the workshop, the following 'resolutions' were put forward by the participants in order to summarise the results of the workshop, though there was not sufficient time to adequately debate nor vote on the same:

1. The stakeholders of the shea sector must be organised, first at the national level, then at the regional level; ICRAF is requested to facilitate this process, at least at the regional level.
2. Harmonised regional standards for shea product quality should be developed and elaborated, based on the requirements of the end-users (buyers) of shea kernel and shea butter.
3. Certification of shea products must begin with increased 'trace-ability' along the supply chain, beginning with the documentation of the origin of shea kernels.
4. Regional trade in shea products should be facilitated by enabling policies and legislation, particularly as regards customs regulations for products in transit.
5. A database of all characteristics of the shea resource should be elaborated, maintained, and made available to all stakeholders.
6. The international accreditation of national laboratories should be pursued as a means of reinforcing regional analytical credibility at the international level.
7. Shea processors should be provided with technical support as regards the specific product quality requirements of the various markets for shea products.
8. A set of Standard Operating Procedures (SOPs) should be developed in order to define (and publicise to the producers and processors) the quality trade-offs and price benefits resulting from extra time and effort invested in product quality.
9. A technical inventory of the shea resource, including production, processing and market data, should be compiled for each of the 16 shea producing countries; this information should be compiled through the Shea Network, and made available through its web-site, to be maintained initially by ICRAF.

- - -

In conclusion, the implementing agency, ICRAF, considers that the workshop was a qualified success.

Though the specific objectives of the workshop – the conclusive definition by consensus of product quality parameters, norms and standards for shea products – could not be attained in the course of the workshop, it is hoped that the process has in fact begun, and that the technical committees constituted during the workshop will continue to work together toward these objectives over the coming months, with the active facilitation of ICRAF through the **CFC-ProKarité** project.

While it was perhaps unavoidable that the **CFC-ProKarité** project partners would take the workshop as an opportunity or forum through which to publicise the project, it is crucial that the 12 shea producing countries which lie beyond the four project countries are able to feel that they, too, have ownership and are an essential part of the process thus begun.

Indeed, there is no way that the project can meet its sector-wide objectives without a fully regional consensus, and the very active involvement of certain key countries which lie outside the four project countries. This has been the primary goal of the workshop, and its most significant result.

It has also become clear during the course of the workshop that, as one participant put it, product quality **standards** for shea products must be dictated by the market, and by specific product application – which is to say, by the industrial end-users – while the **norms** can only be determined as a result of, and in response to these standards.

Thus, the onus is on ICRAF (and, we hope, something of a mandate as well) to draw these industrial end-users into the regional dialogue begun at Bamako during the workshop, for the ultimate benefit of all the stakeholders of the shea sector, and the sector itself as a whole.

With this, ICRAF expresses its profound thanks to the Common Fund for Commodities and to the Netherlands Government for its crucial and timely support for this broader regional effort thus initiated through the project.

Thanks also to the Supervisory Body of the project, the Inter-Governmental Group for Oilseeds, Oils and Fats, for their attention and technical support.

Appendix 1 : Workshop Agenda

Hours	Activities	Observations
Day 1: Wednesday 06/10/04		
08:00-9:00	Registration	
09:30-10:15	Opening Ceremony	Bino Teme, Directeur Général IER
	A Welcome Address: Dr. Jan Laarman, ICRAF Deputy Director General for Programmes	Dr. Jan Laarman
	Opening Remarks, Secretary United Nations Food and Agriculture Organization Inter-Governmental Group on Oilseeds, Oils and Fats (FAO-IGGOOF)	Mr. Peter Thoenes
	Opening Address by Hon. Minister of Agriculture, Republic of Mali	SE Seydou Traore
10 :45–11 :00	Groupe Photo & Pause Café	
11:00-11:30	Participants Introduction	
11:30-12:30	Introductory Presentations	
	Presentation of the Workshop Objectives and Expectations	Amadou Niang
	Overview of Shea Product Applications and Markets	E. Masters
	Introduction: Product Quality Indicators of Shea kernel and Shea Butter	Dr. Babacar Ndir, ITA (Sénégal) Mr Barama Sarr, ASN (Sénégal)
12:30-13:15	Discussion	
13:15-14:15	Lunch	
Plenary Session 1 :SHEA PRODUCTS, PROCESSING METHODS AND PRODUCT QUALITY Chair : Amadou Niang ICRAF		
14:20-14 :40	Presentation : Quality Parameters and Production Methods	Dr. Peter Lovett, (WATH)
14 :40-15 :00	Influence of Processing Methods on Shea Butter Quality	Prof. César Kapseu, ENSAI (Cameroun)
15:00-15:20	Presentation: Monitoring Product Quality in Shea Production: Application of HACCP Methodology	Prof. Robert Ndjouenkeu, ENSAI (Cameroun)
15:20-15 :40	Presentation: Effects of Primary Processing of Shea Fruit on Shea Butter Quality	Mr Patrick Aculey, CRIG (Ghana)
16 :40–16 :00	Discussion	
16 :00-16 :20	Coffee Break	
16 :20-17 :10	Presentation: Certification Prospects for Shea Butter based on Current Examples	Dr. Diane Russel (ICRAF) Dr. Olivier A. Adje (FSC) Peter Lovett (WATH)
17 :10-17 :30	Discussion	
17 :30	Wrap-up of the first day	

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Day 2: Thursday 7 October 2004		
Plenary Session II : SHEA PRODUCT QUALITY PARAMETERS: METHODS OF ANALYSIS, MONITORING AND CERTIFICATION		
(Chair: Dr. Diane Russell, ICRAF)		
09 :00-09 :50	Presentation: Defining Shea Provenances: Profiling Product Qualities by Origin	Dr. Steve Maranz (ICRAF)
09:50-10:10	Presentation: Defining Standard Operating Procedures for Shea Processing	Peter Lovett (WATH)
10:10-10:40	Taking Regional Action toward Shea Certification	Mr Nimo Ahinkorah, ARSO
10 :40–11 :00	Coffee Break	
11:00-11:30	Presentation: Monitoring and Documenting Product Quality: Summary of Product Quality Factors, Determinants and Constraints	Dr Hisham Moharram, Rutgers University (USA)
11:30-13:30	Discussion	
13:30-14:30	Lunch	
14:30-16:00	Discussion groups by sub-region	
16 :00–16 :30	Coffee Break	
16 :30-17 :00	Presentations and Discussion	
17 :00-18 :00	Wrap-up of the second day	
Day 3: Friday 8 October 2004		
Plenary Session III : REGIONAL ACTION PLAN TOWARD ESTABLISHMENT OF A PRODUCT CERTIFICATION SYSTEM FOR SHEA PRODUCTS		
(Chair: Mr. Nimo Ahinkorah, ARSO)		
9 :00-9:30	Presentation	
	Presentations Meeting the Requirements of International Markets: Building Capacity in Standards and Conformity Assessment	Mr. Steffen Kaeser (UNIDO)
9:30 – 9 :45	Discussion	
9 :45 -10 :00	Coffee Break	
10 :00-10 :15	Presentation of Working Groups	
10 :30 – 13 :00	Discussions according to working groups: Working Group 1: Production Methods and Product Quality Working Group 2: Laboratory and Field Analytical Methods Working Group 3: Policy and Regulatory Requirements, Regional Linkages, Collaboration and Coordination Working Group 4: Private Sector: Industry and Trade	
13:00-14:30	Lunch	
14 :30- 15:00	Presentation of Working Group Recommendations Workshop Resolutions and Adoption of Regional Workplan	October 2004-March 2007
15:00-16:00	Wrap-up and Summary of Discussions	
16:00-17:00	Closing Remarks Mr. Peter Thoenes, FAO-IGGOOF Amadou Niang, ICRAF-Sahel Representative Ministry of Agriculture	
19:30	Cocktail Reception	

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Appendix 2: List of Participants

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