

**STDF PROJECT PREPARATION GRANT (PPG)****APPLICATION FORM**

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| <b>Full name and contact details of the requesting organization(s)</b> | Ministry of Agriculture and Irrigation – Quality Control and Export Development Unit (MOAI-QCEDU)  |
| <b>Full name and contact details of contact person for follow-up</b>   | Dr. Afaf A. Elgozouli – Director of MOAI-QCEDU<br><a href="mailto:bitelgozouli@yahoo.co.uk">bitelgozouli@yahoo.co.uk</a> ,<br><a href="mailto:bitelgozouli@gmail.com">bitelgozouli@gmail.com</a> , moafqcu@yahoo.com |

**I. Background and Rationale****1. Local Sesame Cultivation, Production & Export (Table 1 and 2)**

Sudan is the world's fourth sesame producer with 331 tons produced in 2005 after China, India and Myanmar. Sudan was the leading sesame exporter in 2004<sup>1</sup>, in addition to being one of the main crops of the Sudanese economy (including cotton, groundnuts, sorghum, millet, wheat, gum Arabic, sugarcane). Sesame's contribution to human food security and animal feed is considerable. It is sold on the domestic and international markets in forms of dry sesame seeds and sesame oil.

Table 1: Sesame production in Sudan (2006-2011)

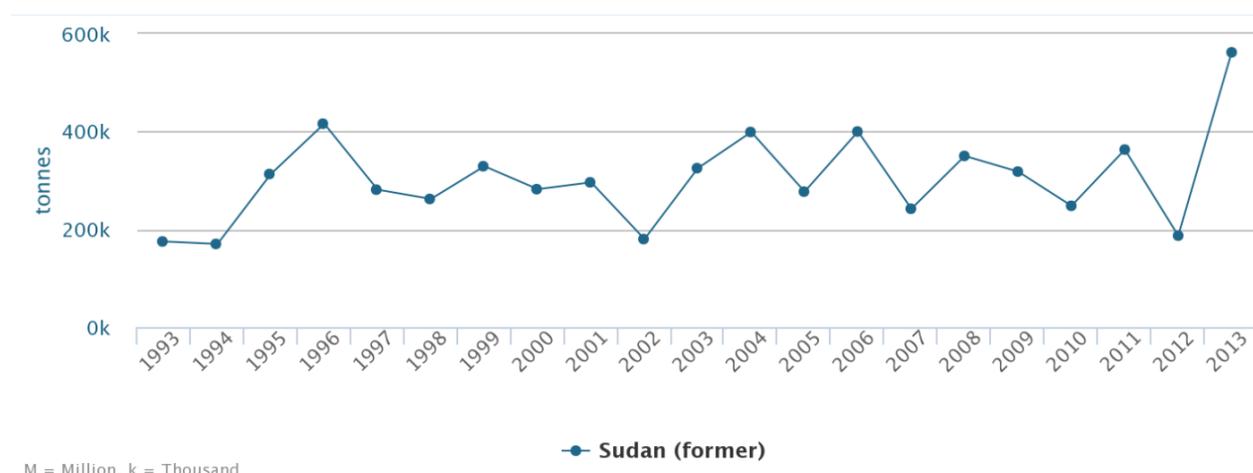
Area (thousand feddan), production (thousand tons), productivity (kg /feddan)

| Seasons   | Cultivated area | Harvested area | Production | Productivity |
|-----------|-----------------|----------------|------------|--------------|
| 2006/2007 | 3378            | 2672           | 242        | 91           |
| 2007/2008 | <b>4352</b>     | <b>3490</b>    | <b>346</b> | <b>99</b>    |
| 2008/2009 | <b>3973</b>     | <b>2962</b>    | <b>318</b> | <b>107</b>   |
| 2009/2010 | <b>4573</b>     | <b>3031</b>    | <b>248</b> | <b>82</b>    |
| 2010/2011 | <b>4226</b>     | <b>3529</b>    | <b>363</b> | <b>103</b>   |

Source: Department of Agricultural Statistics - Ministry of Agriculture

<sup>1</sup> "Sesame: The underexploited Organic Oilseed Crop", Olowe, V.I.O\*, Adeyemo, Y.A and 2Adeniregun, O.O., 1. Research and Development, p. 3

Table 2: Production of sesame seeds in Sudan



Source: FAO Statistics

Sesame is grown in Sudan under rain-fed conditions by traditional or mechanized farming, semi-commercial and commercial farmers. It is characterised by traditional and semi-mechanized cultivation processes.<sup>2</sup> Farmers in the traditional subsector by relying on a wider use of crop rotation, more frequent and timely sowing weeding, and higher sowing rates, appear to pay more attention to good farming practices than the investors in the mechanized subsector. Smaller farms regularly produce about 38% of the sesame grown, while the mechanized subsector accounts for 62% of sesame production.<sup>3</sup> In this sense, sesame commands a relative advantage in that the yields under mechanization and traditional systems are comparable.<sup>4</sup>

Table 3: Exports of Sesame (2008-2012)

| Year | Quantity (1000 ton) | Value (1000 USD) |
|------|---------------------|------------------|
| 2008 | 96.7                | 141,846          |
| 2009 | 137.7               | 143,352          |
| 2010 | 224.1               | 167,264          |
| 2011 | 211.8               | 230,950          |
| 2012 | 210.469             | 272,002          |

Source: Central Bank of Sudan annual report

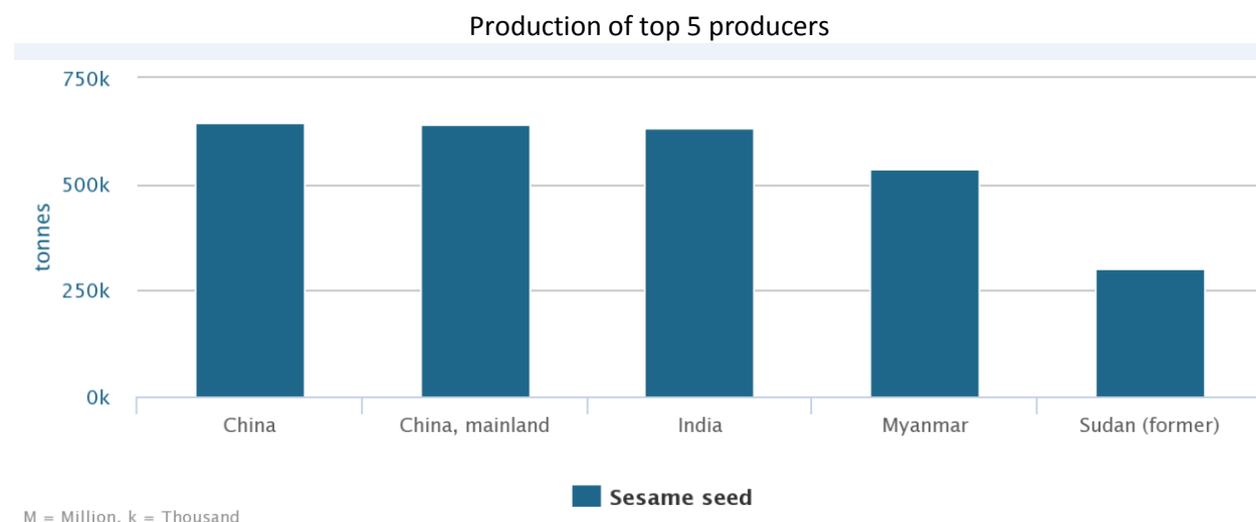
Sesame is exported to the United Arab Emirates, Kuwait, Qatar, Jordan, Egypt, Saudi Arabia, Yemen, Algeria, Lebanon, Morocco, Tunisia, Syria, Oman, Djibouti, Mexico, Cuba, Guatemala, Switzerland, France, United Kingdom, Turkey, Poland, Germany, Greece, Netherlands, Italy, Spain, Poland, Belgium, Greece, India, Japan, South Korea, China and Iran. Thereby, in case of severe weather conditions in other sesame

<sup>2</sup> Government of Sudan and FAO/WFP Crop and Food Security Assessment Mission To the 15 Northern States of Sudan”, January 2011, p. 13

<sup>3</sup> *Idem*, p. 14; “Quadi Crop and Food Supply Assessment Mission to Sudan”, January 2012, FAO, p. 13

<sup>4</sup> “Sesame: The underexploited Organic Oilseed Crop”, Olowe, V.I.O\*, Adeyemo, Y.A and 2Adeniregun, O.O., 1. Research and Development, p. 3-4

producing countries, like in the last couple of years in India and China, Sudan, along with other African countries would be able to supply the market sufficiently.



Source: FAO Statistics

Sudanese sesame production sometimes suffers from pesticides contamination, which adversely effects and reduces Sudan's market access opportunities. This directly impacts small subsistence farmers, food security and livelihood. Sesame production has been less efficient knowing that in 2011-2012, 1.6 million ha of sesame were expected to be harvested with an estimated production of 193,000 tons of dry sesame seeds, 47% less than last year from a similar area harvested.<sup>5</sup> Also, oil seed production has fallen due to a decrease in sesame production from 363,000 tons to 193,000 tons in 2012.<sup>6</sup> Reasons behind this sharp decline require further investigation, in particular to assess the share of chemical residue in crop damage.

Rejection from Japan alerted the Ministry of Agriculture and The Quality Control and Export Development Unit (MOAI-QCEDU), as Japan is world major sesame importer and Sudan's share of this market was 17%, dropping to 7%. This significant decline draw attention to the quality related problems of sesame production in Sudan like pesticide residues, in particular carbaryl (3 cases) reported by the Japanese authorities in 2009.

Furthermore, the rising price of sesame seeds in financial markets, which in turn caused a lower consumer demand for sesame products, has also contributed to the lower Japanese import in 2013. On the other hand, poor sesame harvest in India pushed higher the global prices of sesame during the year 2013. Sudan, as one of the five biggest sesame seeds producing countries, based on FAO Statistics, has the ability to rebalance the market supply in case of lower production from India and China.

The EU rejection data shows a total of 36 rejections with the total export volumes of 761 tons for Sudan over the period 1999-2013 (Appendix 2). Considering the detailed rejections for the EU, it is noticeable that nearly all rejections stem from mycotoxins (aflatoxins). However, the downside is that it is not specifically recorded whether it is sesame or any other nuts and seeds.

The MoAI and the MOAI-QCEDU are also facing the challenge that not all of Sudan's agricultural exports are tested for pesticides residues and furthermore, MRLs do not comply currently with international standards which is a major weakness what export development faces with.

<sup>5</sup> "Quadi Crop and Food Supply Assessment Mission to Sudan", January 2012, FAO, p. 25

<sup>6</sup> *Idem*, p. 6

The issue of chemical residue in sesame production is to be linked to national development issues as identified by the Diagnostic Trade Integration Study (DTIS) and carried out under the Enhanced Integrated Framework (EIF) which specifies the priority for Sudan in order to build/improve SPS capacity. Accordingly, there are strong linkages between the current PPG and the following actions which will be implemented as per the EIF:

- Develop nation-wide standards action plan with the objective of reducing regulatory overlap and increasing investment in key trade-related functionalities as well as enhancement of rules supported by the implementation of this project.
- Launch a campaign to raise awareness on quality assurance, food safety and regulatory compliance among producers.
- Provide additional supportive services to producers, such as introducing Good Management Practices (especially along value chains for livestock/meat, horticulture, and processed foods).
- Strengthen institutional framework in charge of SPS activities.

## **2. Legislations & Management of Chemicals, Pesticides and Insecticides and their Associated Risks**

Controlling measures and management of chemicals in Sudan is being gradually introduced for various groups of chemicals used in specific domains. Accordingly, there are Pesticides and Pest Control Products Act, Pharmaceuticals and Poison Act, and a Food Control Act. However, no specific legislation regulates the limitation of important groups of chemicals such as fertilizers, industrial chemicals and consumer chemicals which are increasingly used in Sudan, a trend reflected in their yearly import growth.<sup>7</sup>

Unmanaged pesticides application exposes populations of farmers, workers and consumers to great health dangers. In fact, although the control of pesticide use is under governmental supervision, the practice of pesticide application remains widely used among workers with minimum precautionary measures for personal protection and proper body and equipment decontamination procedures. Furthermore, there are significant adverse long-term effects of the uncontrolled use of pesticides on the environment including water quality (marine, surface, and groundwater), air pollution and animal life.<sup>8</sup>

It remains important to highlight that sufficient statistical data and analysis has been difficult to find on the subject of Sudanese sesame production and the impact of chemical residue on crops through normal desk research.

Accordingly, and based on the data available, it is evident that Sudan's sesame production suffers from the following SPS deficiencies:

- Legal and regulatory frameworks for SPS management and the use of chemicals.
- Implementation of SPS and chemicals standards.
- Awareness and information on SPS requirements of the sesame export market.
- Tracing of sesame production from farm to end of value chain through inspection, enforcement, diagnostics and certification.
- Non-existence of responsible governmental body (Lab) for pesticide residue testing.

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<sup>7</sup> "Impact of Pesticides and Other Chemicals on the Environment", Azhari Omer Abdelbagi, Adam Ali Mohamed, Ahmed M. Elhindi, and Ali Mohamed Ali, 2006, p. 1

<sup>8</sup> *Idem*, p. 17

### 3. Impediments to International Market Access

Oil seed was historically Sudan's second largest export commodity<sup>9</sup>, however, crop damage is strongly impacting the country's international market access, at a time when Sudan needs to promote its exports in order to rebalance the country's external accounts.<sup>10</sup> In addition, two key constraints on sesame exports have to be highlighted:<sup>11</sup>

- Low productivity: yield gaps between research and actual farmers' yields show that production could reach more than double compared to the current yields.
- High marketing costs including the inability to comply with freight food and plant safety standards, which at times represent the main constraint on exports.

While sesame oil is to a large extent exported to Saudi Arabia and the UAE, sesame seed exports are somewhat less concentrated. Inter alia, China is a large importer (Sudan's largest in 2005); Saudi Arabia, Egypt, and other countries in the region remain major export destinations for Sudanese sesame.<sup>12</sup> A high market growth for sesame in Asia and Europe has been registered in the last decade, as sesame derived products readily meet health requirements for food in these markets. In this sense, Sudanese local producers have a strong potential to remain relevant as supply sources.<sup>13</sup> In particular given that Sudan's sesame seeds have historically enjoyed international reputation for high quality.<sup>14</sup>

Accordingly, there remains a significant untapped potential for Sudan to resurface itself as a considerable market player in sesame's international market once the above highlighted issues of market access are addressed at a national level. The proposed aims to address the quality and quantity aspects of these market access impediment and be able to supply the market with high quality product in case of severe weather conditions in other major producing countries like China or India. This will allow Sudan to become the biggest sesame exporter country in the world again. In fact, the world's traded sesame seed surpassed one million tons per year in 2011 and was valued at roughly 850 million US Dollar. In the last 15 years, world trade in sesame has increased by nearly 80 percent based on the information of the Agricultural Marketing Resource Center.

### 4. Cooperation with UNIDO and FAO

As part of a regional project in cooperation with AIDMO (Arab Industrial Development and Mining Organization) and the Swedish International Development Agency (SIDA), UNIDO carried out specific technical assistance interventions in Sudan. These included strengthening the accreditation capacities and conducting a mapping exercise for the current national quality infrastructure with a roadmap to strengthen these capacities.

The current PPG will directly benefit from the regional activities especially with regards to upgrading the national quality infrastructure (Standards, Testing, Metrology and Conformity Assessment) following

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<sup>9</sup> "Revitalizing Sudan's Non-Oil Exports: A Diagnostic Trade Integration Study (DTIS)", prepared for the Integrated Framework Program. December 2008, p. 40

<sup>10</sup> International Monetary Fund, Country Report No.12/298 – Sudan, November 2012, p. 20-21

<sup>11</sup> "Revitalizing Sudan's Non-Oil Exports: A Diagnostic Trade Integration Study (DTIS)", prepared for the Integrated Framework Program. December 2008, p. 44, 49

<sup>12</sup> "Revitalizing Sudan's Non-Oil Exports: A Diagnostic Trade Integration Study (DTIS)", prepared for the Integrated Framework Program. December 2008, p. 41

<sup>13</sup> "Sesame: The underexploited Organic Oilseed Crop", Olowe, V.I.O\*, Adeyemo, Y.A and 2Adeniregun, O.O., 1. Research and Development, p. 3-4

<sup>14</sup> "Revitalizing Sudan's Non-Oil Exports: A Diagnostic Trade Integration Study (DTIS)", prepared for the Integrated Framework Program. December 2008, p. 40

international best practices to create the needed environment for stronger trade performance and consumer protection.

The Sudanese Standards & Metrology Organization (SSMO) is the main counterpart and beneficiary of the AIDMO-SIDA-UNIDO project. FAO has been also been requested to provide inputs during the preparation of this application. The exact role and responsibilities of the various executing agencies will be better elaborated at the start of the implementation phase.

## **5. Ongoing Projects in Legislation Enactment and Standards enforcement in Sudan**

### IFAD Project

IFAD (International Fund for Agricultural Development) is in the process of implementing a Seed Development Project in Sudan which aims at increasing crop productivity for about 108,000 smallholders adopting certified seeds in North and South Kordofan. The seed supply system for sesame in Sudan is at the embryonic stage characterized by limited human, technical and financial capacity of the National Seed Administration (NSA) compounded with an ineffective organizational set up causing inadequacy of the existing seed quality control standards.<sup>15</sup> The project will among other:

- Contribute to the creation of an enabling environment for sustainable development of agricultural production through laws, regulations and policy reforms,
- Support the NSA in monitoring the multiplication and certification standards,
- Create a marketing channel of certified seeds,
- Enact and enforce plant variety protection legislation.<sup>16</sup>

### IAEA

A regional project was launched by the IAEA (International Atomic Energy Agency) Technical Cooperation Branch in 2007 for consumer safety and trade development through competent nuclear testing and metrology laboratories. The overall objective was to strengthen the capacity and enhance the competence of testing and calibration laboratories for the purpose of providing safe, reliable and internationally recognized services to support consumer safety and trade. Furthermore, the project aims to:

- Enhance the profile and relevance of testing and calibration laboratories through awareness building of all stakeholders,
- Further improve and sustain human resources development programmes,
- And to strengthen the testing and metrology laboratories capabilities and relevance.

This PPG strongly complements these capacity building initiatives which will be highlighted in one of the outputs of the ensuing project containing a fund mobilization strategy.

## **6. Government Agencies, Private Sector and Unions in support of this PPG request**

- Federal Ministry of Agriculture and Irrigation
  - Quality Control and Export Development Unit
  - Plant Protection Directorate
  - Extension and Technology transfer Department
  - Rain fed Sector
  - Seed Administration
  - World Trade Accession Unit
  - International Corporation and Investment Directorate

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<sup>15</sup> The recently enacted Seed Act of 2010 is yet to be implemented and enforced.

<sup>16</sup> "Seed Development Project", Completion Design Report, Near East, North Africa and Europe Division, IFAD, February 2012, p.8-12

- State Ministries of Agriculture in Rain Fed Sector
- Agriculture Research Centres and related academic institutions
- Oil crops (sesame) producers union
- Oil crops export and trade union
- National experts
- Sudanese Standards & Metrology Organization SSMO
- Farmers Union

#### **7. Consultation relevant development partners and potential donors**

The following national stakeholders from Sudanese production – consumption chain have been preliminary consulted among each other and as a result appreciated and welcomed the technical assistance and guidance provided by STDF. As part of the mapping exercise which will be undertaken during the PPG, a comprehensive section in the project document will identify the exact roles, responsibilities, and assistance received to effectively address compliance challenges of production and marketing of Sudanese sesame industry. The initial list includes:

1. Ministry of Agriculture, Forest and Irrigation, Gadarif State
  2. Ministry of Agriculture, North Kordofan State,
  3. Sudanese Standards and Metrology Organization (SSMO)
  4. Farmers Union, Kordofan State
  5. Arabic Sudanese Seeds Company
  6. Administration of Elobied Market for Food Crops
  7. General Administration of planning and Agric. Economic, MAI
  8. WTO Accession unit. MAI
  9. Rain fed Sector and State Affairs, MAI
  10. International Cooperation and Investment Directorate, MAI
  11. Seed Administration, MAI
  12. Food Security Department, MAI
  13. Union of Chambers of Commerce – Chamber of Exporters
- \*Support letters are attach

#### **Potential donors to be approached for project funding:**

The project proposal has been submitted to the following donors asking for co-financing project implementation;

1. Aid for Trade, CAADAP
2. Common Fund for Commodities (CFC)
3. Islamic Development Bank
4. International Fund for Agriculture Development (IFAD)
5. Federal and Local ministries of agriculture
6. Sudanese Standards and Metrology Organization (SSMO)

## **II. Proposal, Implementation & Budget**

### **1. Proposal & Implementation**

Through the requested PPG, a project proposal will be developed to support the Quality Control and Export Development Unit (MOAI-QCEDU) at the Ministry of Agriculture and Irrigation aiming at strengthening SPS compliance capacity of sesame production. Furthermore, the project will focus on other export crops related to oil seed commodities such as (groundnut, sun flower seeds, cotton seeds, etc.) in Sudan for enhanced access to international markets.

Implementation of the PPG will extend for 6 months with an expected start in February to July 2015.

The leading bodies in the development of the project proposal under this PPG are UNIDO and Quality Control and Export Development Unit (MOAI-QCEDU) at the Ministry of Agriculture and Irrigation which is the main counterpart. The activities which are expected to be implemented under the project preparation process are illustrated in the following table:

|   | Activity  | Responsible        | Completion date | Expected output  |
|---|---|--------------------|-----------------|--|
| 1 | Conduct consultation with national stakeholders on different initiatives in sesame industry   | UNIDO + MOAI-QCEDU | One month       | <ul style="list-style-type: none"> <li>▪ Understanding issues at stake for main bodies concerned</li> <li>▪ Identifying current, on-going and planned national initiatives within SPS and TBT</li> </ul>   |
| 2 | Assess compliance challenges of sesame production destined for export (testing, certification, registration) & GAP analysis of international best practices | UNIDO + MOAI-QCEDU | Two months      | <ul style="list-style-type: none"> <li>▪ Conducting technical GAP analysis on sesame yield and production for export markets</li> <li>▪ Identifying relevant industry standards</li> <li>▪ Identifying and formulating suitable legal framework</li> <li>▪ Analysing current regulatory gaps for successful implementation of international standards</li> </ul> |
| 3 | Validation workshop reviewing findings  | UNIDO + MOAI-QCEDU | One month       | <ul style="list-style-type: none"> <li>▪ Negotiating with stakeholders and validating findings through a workshop</li> </ul>   |
| 4 | Design final project proposal based on the selected option and define the scope, services, legal setup, action plan and resources                           | UNIDO + MOAI-QCEDU | Two months      | <ul style="list-style-type: none"> <li>▪ Final project proposal</li> </ul>   |

**Description of activities:**

The approach will commence by conducting consultations with national stakeholders on different initiatives within the sesame industry in Sudan. This step will ensure obtaining the necessary up-to-date data and engagement of relevant stakeholders from the beginning of the process. Simultaneously, an

## Annex 1 - STDF/PPG/435 Application

intensive assessment of compliance challenges of sesame production destined for export, such as testing, certification, registration, will be carried out by an international consultant / technical expert.

The objectives will be to display the current state of affairs and linking them to international best practices through a gap analysis. This will form the foundation of developing different scenarios to overcome shortcomings currently existing in the industry. The proposal of technical interventions will consider innovative and feasible approaches that could be implemented in Sudan, inter alia, the establishment of public-private-partnerships (PPP) and adaption of latest technologies.

As part of the funds mobilization strategy, a validation workshop to review and endorse the findings and the technical proposal will be organized. External donors will be identified and co-funding mechanisms will be explored within the context of this stage.

Following stakeholders will be contacted for project proposal development and implementation of resultant project. The way of obtaining their involvement for the PPG and ensuing project is mentioned below:

| <b>Stakeholder</b>                 | <b>Involvement for PPG</b>       |
|------------------------------------|----------------------------------|
| Agriculture Research Centre        | Interviews                       |
| National Seed Administration       | Interviews                       |
| Oil crops (sesame) producers union | Interviews + field visits        |
| Oil crops export and trade union   | Interviews + field visits        |
| National expert                    | Validation workshop + Interviews |
| National Standards Body            | Validation workshop + Interviews |
| Bi-lateral & external donors       | Validation workshop + meetings   |

**Budget**

| Budget Item | Description of inputs required/ Roles and activities:  | No. of experts | No. of working days | DSA based on international organization | Estimated budget (US\$) |
|-------------|--|----------------|---------------------|---|-------------------------|
| Expertise   | <p>1-National expert</p> <ul style="list-style-type: none"> <li>- Conduct consultation with national stakeholders and different initiatives in sesame industry</li> <li>- Organize validation workshop</li> <li>-Examine the current market structure and categories of sesame marketing</li> <li>- Analyse the market services and margins</li> <li>- Examine sesame market deficiencies compared to regional and international market</li> <li>- Assist and accompany international expert during field missions and follow up on necessary actions and duties</li> <li>- Contribute to the formation of the final project document</li> </ul> | <b>1</b>       | <b>40</b>           | <b>1 x 40 x 250</b>                     | <b>10000</b>            |
|             | <p><b>2-International consultant:</b></p> <ul style="list-style-type: none"> <li>- Assess the compliance challenges of sesame production destined for export (testing, certification, registration) &amp; GAP technical analysis based on international best practices</li> </ul> <p><u>SPS and TBT</u></p> <ul style="list-style-type: none"> <li>- Review the compliances of sesame crops production with technical regulations of SPS &amp;TBT requirements.</li> </ul>   | <b>1</b>       | <b>40</b>           | <b>40 x 1 x 500</b>                     | <b>20000</b>            |

Annex 1 - STDF/PPG/435 Application

|                                   |   |                                  |                            |                |       |
|-----------------------------------|---|----------------------------------|----------------------------|----------------|-------|
|                                   | <ul style="list-style-type: none"> <li>- Review non-technical barriers for sesame trade to existing markets.</li> <li>- Suggest possible remedies.</li> </ul> <p><u>Crop production – technical component</u></p> <ul style="list-style-type: none"> <li>- Compile the verified production with existing technologies of sesame.</li> <li>- Consider the situation and impact by the different players</li> <li>- Comply with SPS regulations.</li> <li>- Consider the socioeconomic impact of adopting international standards.</li> <li>- Create the final project proposal based on findings regarding GAP analysis following international best practices as well as feedbacks of validation workshops</li> </ul> |                                  |                            |                |       |
| Travel                            | External travel by airplane   | 2                                | One trip to and from Sudan | 2000           | 4000  |
|                                   | Internal travel by vehicle  | 10 (2 consultants + counterpart) | 10                         | Cars rent =200 | 2000  |
| Stakeholder meetings and workshop | Conference hall and meetings hosting and services, printing services  |                                  | 2                          | 6500           | 13000 |
| Miscellaneous                     | Printing, logistics, etc...   | 1                                |                            |                | 1000  |
| <b>Total</b>                      |   |                                  |                            | <b>50.000</b>  |       |

**Appendixes**

**Appendix 1:** Letters of support from each of the organizations supporting this proposal.

**Appendix 2:** Border rejection of sesame and related products from Sudan