STDF PROJECT PREPARATION GRANT
(STDF/PPG/809)

REGIONAL APPROACH TOWARDS ADDRESSING INVASIVE QUARANTINE PESTS OF POTATO IN EAST AND SOUTHERN AFRICA, WITH A FOCUS ON POTATO CYST NEMATODE (PCN).

PROJECT REPORT SUBMITTED TO STDF BY INTERNATIONAL INSTITUTE OF TROPICAL AGRICULTURE (IITA)
Regional approach towards addressing invasive quarantine pests of potato in East and Southern Africa, with a focus on Potato Cyst Nematode (PCN). STDF 809

<table>
<thead>
<tr>
<th>PPG TITLE AND NUMBER</th>
<th>Regional approach towards addressing invasive quarantine pests of potato in East and Southern Africa, with a focus on Potato Cyst Nematode (PCN). STDF 809</th>
</tr>
</thead>
<tbody>
<tr>
<td>START AND END DATES</td>
<td>01/06/2022 - 31/05/2023</td>
</tr>
<tr>
<td>IMPLEMENTING ENTITY</td>
<td>International Institute of Tropical Agriculture (IITA)</td>
</tr>
</tbody>
</table>
| Technical Associated Partners | Food and Agriculture Organization of the United Nations (FAO)  
  International Centre of Insect Physiology and Ecology (icipe)  
  Kenya Plant Health Inspectorate Service (KEPHIS)  
  International Potato Centre (CIP)  
  Centre for Agriculture and Bioscience International (CABI) |

1. Briefly provide an overview of the PPG including the applicant, the objective, and any other relevant information related to the PPG context.

Potatoes (*Solanum tuberosum* L.) are among the most consumed staple food crops in East and Southern Africa, being a major source of carbohydrates, proteins, vitamins, minerals, antioxidants and essential amino acids (Andre et al., 2007). The total potato production area in the region is estimated at over 800,000 ha, producing about 9 million tons annually. Productivity is higher than the world average, at 157%. However, potato production is hindered by a number of factors, including low availability of certified seed, pests and diseases, poor market access and exploitation by traders. Of particular concern is Potato Cyst Nematode (PCN), a pest that has been subject to strict quarantine regulations in over 100 countries. PCN causes major crop losses, increases production costs and affects domestic and international market access.

The International Institute of Tropical Agriculture (IITA, www.iita.org) is a not-for-profit public research for development organization, established in Nigeria by statute (Decree No. 32 of 1967, now the International Institute of Tropical Agriculture Act). As a member of the CGIAR System Organization, a global research partnership for a food secure future, IITA works across 35 countries in sub-Saharan Africa with stations in Ghana, Uganda, Kenya, and Benin and presences in Chad, Guinea, and Niger. Its operations are organised under four regional hubs: West Africa Hub, managed from Ibadan, Nigeria; Central Africa Hub, managed from Nairobi, Kenya; East Africa Hub, managed from Dar es Salam, Tanzania; and Southern Africa Hub, managed from Lusaka, Zambia.

IITA, in partnership with national and international organizations, has a track record of developing agricultural innovations that address the challenges of hunger, malnutrition, poverty, and natural resource degradation in sub-Saharan Africa (SSA) for more than half a century with funding from MBGF, USAID, GIZ to mention a few. In 2018, the Africa Food Prize Committee recognized IITA with the distinguished Africa Food Prize for its contributions to African agriculture and its economy over the years.

The International Institute of Tropical Agriculture (IITA, www.iita.org) was granted a Project Preparation Grant (PPG) from the STDF to develop a proposal for a regional approach to
address invasive quarantine pests of potato, with a particular focus on PCN. The PPG was provided to facilitate awareness creation and discussions amongst stakeholders in East and Southern Africa. The proposal’s key objective is to effectively manage invasive quarantine and other regulated non-quarantine pests (RNQPs) of potato through strengthened capacity for detection, diagnosis, and containment. The target beneficiary countries are Burundi, Ethiopia, Kenya, Lesotho, Malawi, Tanzania, Mozambique, Rwanda, South Sudan, Uganda, Zambia, and Zimbabwe. This initiative will help to protect potato production and ensure food security and income generation for millions of smallholder farmers in the region. The IITA, office in Kenya, led the implementation of this work, under the technical oversight of the Food and Agriculture Organization of the United Nations (FAO), and in close collaboration with the STDF Secretariat, partner organizations and the relevant public and private sector stakeholders.

2. Describe the approach and methodology to carry out the PPG.

A working group led by IITA with an office in Kenya, under the technical oversight of the Food and Agriculture Organization of the United Nations (FAO), was established to facilitate the implementation of the PPG. This group included representatives from the International Potato Centre (CIP), International Centre of Insect Physiology and Ecology (ICIPE), Kenya Plant Health Inspectorate Service (KEPHIS) and Centre for Agriculture and Bioscience International (CABI). The group held regular virtual and a few face-to-face meetings for planning and executing the PPG activities. Furthermore, IITA engaged the expertise of its principal scientists who had conducted extensive research on potato pests and soil health. Additionally, consultative workshops, desk reviews and proposal writing were undertaken to ensure the successful implementation of the PPG. The writing of the proposal was done by experts from IITA, FAO, CIP, ICIPE, KEPHIS and CABI. Representatives from the SADC Plant Protection Technical Committee, universities, private sector and farmer organizations were also engaged during the consultative workshops. Discussions were held with representatives of ministries of agriculture, regulatory authorities and research institutions from the countries targeted by the project to ensure that appropriate trade-related concerns and country perspectives were captured in the final project proposal.

3. Provide details of the key stakeholders that were engaged and/or consulted in the PPG work (national government authorities, private sector, regional organizations, donors, etc.), as well as any key meetings and workshops convened, dates of mission travel, etc. Attach a list of all stakeholders consulted during PPG implementation as an Annex (including names, organization, e-mail, etc.). Upload a bibliography (with weblinks, where available, of documents consulted during the PPG work).

Implementation of the PPG involved several stakeholders who were consulted through virtual and in-person meetings. Information shared during the consultative meetings was used for proposal writing.

Annex 1 outlines the summary of the meetings held and their key outputs. Annex 2 lists the key stakeholders consulted during the implementation period
4. Describe the main outputs and results (expected and unexpected, if any) of this PPG (upload files).

1. Awareness about the threat of PCN and other quarantine pests was created amongst concerned stakeholders, including NPPOs and farmers.
2. Consultative stakeholder workshop was held bringing together NPPOs and National Seed Authorities, farmer associations, national research institutions and universities, and development partners, among other relevant stakeholders.
3. A validation workshop was held to consider feedback on the outputs and proposed project activities.
4. A project proposal entitled “Regional approach towards addressing invasive quarantine pests of potato in East and Southern Africa, with a focus on Potato Cyst Nematode (PCN)” was developed and submitted to STDF.
5. An additional project proposal was developed and submitted to USAID for support on healthy potato seed systems.
6. A strong consortium of experts was developed with a strong sense of harmony to execute the project and work closely together toward its successful implementation.

5. Briefly describe any challenges encountered in the implementation of this PPG, or any other developments that affected the PPG. Explain their implications and how they were addressed, if relevant.

1. Due to the COVID-19 pandemic, many stakeholders were unable to attend meetings physically. This challenge did not affect PPG development since most meetings integrated virtual participation.
2. Limited financial resources to accommodate an overwhelming number of stakeholders who expressed interest in the proposed project. The PPG secretariat engaged all the main and relevant stakeholders to develop the proposal. Limited financial resources did not affect proposal development.

6. What lessons were learned or identified in conducting this PPG?

1. Knowledge about quarantine pests of potatoes is lacking among NPPOs.
2. Seed certification and phytosanitary controls for potatoes are not well developed compared to other crops like cereals.
3. Capacity building among NPPOs on the detection and diagnosis of PCN and other quarantine pests of potatoes is urgently needed.
4. Laboratory infrastructure for diagnosis is inadequate in several NPPOs.
5. Stakeholder engagement before and during project formulation is vital for ownership.

7. If appropriate, describe potential next steps for the output(s) of this PPG.

A full project proposal for consideration by STDF was drafted and submitted by August 12, 2022. The proposal will also serve as a source of pitch content to reach out to other potential funding agencies. The IITA and FAO are collaborating to actively explore opportunities for funding from other interested donors.
ANNEX 1: SUMMARY OF THE MEETINGS HELD AND THEIR KEY OUTPUTS

PPG pre-launch meeting

A project preparation grant (PPG) was awarded to IITA, and FAO by the Standard and Trade Development Facility (STDF) to work with countries in Eastern Southern and Africa to develop a project proposal to foster a regional approach towards addressing invasive quarantine pests of potato, with a particular focus on potato cyst nematode.

The PPG aims to facilitate awareness creation and discussions amongst concerned stakeholders along the potato value chain as part of its activities with the objective, gather ideas based on country needs and priorities for the management of invasive quarantine and other regulated non-quarantine pests (RNQPs) through strengthened capacity in their detection, diagnosis, and containment.

Stakeholders including the NPPOs of the focus countries namely: Burundi, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Rwanda, South Sudan, Tanzania, Uganda, Zambia, and Zimbabwe were invited to a consultative virtual meeting on May 17 2022 as a pre-launch of the work.

The full report of the pre-launch can be accessed [here](#).

The aim of the prelaunch was to introduce the PPG to stakeholders, and present its objectives, activities, and expected outcomes. The participants were requested to share information on the status of potato production and on potato quarantine pests of economic importance in their countries. This information was gathered through a template that was shared before hand was used for project compilation.

Some highlights from the meeting include:

- Welcome and introduction of PPG by FAO-SFE
- Brief about potato production and threats posed by pests in the two regions with specific focus on Potato Cyst Nematodes (PCN) by IITA
- Overview of phytosanitary risks as constraining factors to the potato value chain for ESA by FAO-SFE.
- Participants enquired about the project, deadline for submission, expectations from each country representative, technical questions on varieties used in represented countries and how farmers can identify nematodes and their damage.
- PPG coordination team emphasized that the NPPOs would be key stakeholders with whom the project will work closely. The information gathered from the pre-meeting questionnaire was used during proposal writing.
- Participants showed great enthusiasm for the initiative and expressed their appreciation for it.

Way forward and closing

The organizing team to share a template with the participants to gather information on potato production and the constrains being faced in their country.

The participants were also informed about the follow-on hybrid consultative workshop to take place in Nairobi, June 2022.

Closing remarks were made by Solveig Haukeland-icipe, who thanked all the participants for the enthusiasm and looked forward to working with the country representatives.
Consultative stakeholder workshop

A hybrid workshop was conducted on 25-27th May in Nairobi. A total of 27 people participated (21 in person and 6 online) (Annex 3). The full workshop report is available [here](#).

**The objectives of the workshop were to:**

1. Introduce the project to stakeholders.
2. Present project goals, objectives, activities and expected outcomes.
3. Gather information about other regulated pests of potato of economic importance and how this project will benefit the two sub-regions.
4. Enhance awareness and understanding of the project goals in order to establish the support of NPPOs.

**Outputs**

1. Formation of a project proposal working/writing group.
2. Draft project proposal.
3. Letters of support from NPPOs of the project focus countries.

**Welcome remarks**

Welcome remarks were expressed by FAO SFE representative who acknowledged the need for such an initiative and that the project was timely, emphasizing that the project will benefit 12 countries in FAO’s Eastern and Southern regions. He also highlighted collaborative nature of the intended project, which is oriented towards joint efforts to support and safeguard the regional potato value chain.

Further remarks were delivered by the NPPOs representative from KEPHIS, who emphasized the importance of potato in the region and the relevance of the proposed project.

**Presentations:**

*Project introduction by IITA.*

The project goals and objectives were presented and the role to be played by the stakeholders emphasized. The participants were informed that STDF will finance project proposal preparation activity for implementation. In the presentation, the project scope, specific requirements and expected timelines for project activities were outlined. A project proposal was to be submitted by 12 August 2022.

"Overview of potato production and threats posed by pests in the two sub-regions with specific focus on PCN" - IITA

The presentation brought into perspective the status of potato production in Eastern and Southern Africa, and the threat posed by PCN and other emerging potato pests. In the presentation, it was emphasized that the quarantine pests have been detected in some countries in the region, causing substantial losses with no information on most countries.

**Recommendations included:**

*Overview of phytosanitary risks as constraining factors on potato value chain for East and Southern Africa- FAO-SFE*

Phytosanitary risks facing potato in East and Southern Africa regions were highlighted. PCN, Pectobacterium and Dickeya spp. were introductions thus considered as quarantine pest or Regulated non-quarantine pests, especially for *G. rostochiensis*, *G. pallida*, *Pectobacterium* and *Dickeya* spp.
Risk factors outlined:
- Movement of soil associated with potato and possible hosts.
- Movement of potatoes.
- Diversion of potato from intended use
- Movement of soil with waste water and potato refuse.
- Infested potato with accompanying soil from different origins.

Guides to STDF proposal development:
1. Develop guidelines to conduct PRA with an aim to determine PFA
   This includes guidelines for:
   ▪ Detection surveys, routine surveillance, monitoring and commercialization
   ▪ Protocol development - surveillance and diagnostics, determination of nurseries (protected facility for production of certified material)
   ▪ Capacity building for industries, inspections and scouting in accordance to IPPC for establishment of PFA. This should consider seed distribution & biosecurity protocols.
   Note: In development of PFA to consider a pilot study- use two areas i.e. one area known to be producing potato and the other without production.

2. Development of harmonized phytosanitary guidelines:
   ▪ Develop guidelines for two sub-regions, see domestication by stakeholders.
   ▪ Determine laboratory capacities, map capacities in terms of infrastructure and skills.
   ▪ Determine mechanisms for sustaining mapped capacities, and determine reference diagnostic laboratories.
   ▪ Consider use of EPPO protocols - to be validated and customized.

3. High level of policy ownership as a regulatory measure:
   ▪ Create awareness to decision makers in the countries by offering technical reports with details of implications for impact realization.

Country presentations (overview of SPS issues on potato and existing gaps)
NPPOs from the participating countries made presentations based on guidelines provided before the meeting:
- Potato production and pest status.
- Phytosanitary gaps.
- What to consider for STDF proposal.

The key highlights from NPPO presentations are provided in Annex 4.

Recommendations and action points
- Need to create awareness on pest and its status including economic impact
- Create knowledge at the NPPO and research levels.
- Conduct surveillances to determine actual species present, distribution and management strategies.
- Determine geographical spread and level of infestation.
- NPPOs to consider pest risks associated with soil and other associated particles with harvested potato.
- Need to have protocols with description of PRA involved with amount of harvested potato potentially infested soil.
- Raise awareness among stakeholders in potato value chain.
- Develop guidelines in handling of potato to ensure particles with acceptable risk limits in potato production fields.
- Develop guidelines for value chain operators.
- Emphasize clearly on the roles of stakeholders in potato value chain.
- Need to harmonize diagnostic protocols and policies for potato imports and develop a regional harmonized phytosanitary framework.
• Support adoption of new technologies (aeroponic and hydroponics, plant tissue culture and micro-propagation for potato production) and information transfer for seed multiplication.

• Sensitizations for seed propagators to consider registration and follow seed certification processes for seed production and create awareness to all potato growers on use of certified seed & even for ware potato production.

• Need to determine the current diagnostic capacities in East and Southern Africa countries as far as potato diseases are concerned so as to understand the key areas of interventions for capacity building.

• Develop bilateral agreements for potato imports within East and Southern Africa countries.

Feed back on the presentation during plenary

• Make countries aware of the existing pest problem.

• Need to have a baseline assessment across countries so as to establish a beginning point-see what is present and what is missing in each country.

• Understand what (initiatives) are already in place and how we can build on them.

• Need to come up with harmonized policies for movement of potato materials (determine scientific evidence as a guide in policy developments-COMESA/ East and Southern Africa, SADEC Countries). Ensure protocols are technically sound to address the problem regionally as a starting point.

• Need for use of certain protocols for domestication across Africa.

• Mentorship programmes and staffing at national levels.
Write shop
The write shop that took place on 5\textsuperscript{th} and 6\textsuperscript{th} July, 2022 at icipe campus, Nairobi, Kenya and was attended by members of the working group. It was a hybrid meeting with 6 participants (5 in person and 1 virtually).

The objectives of the meeting were to:
- Review the project zero draft produced during the consultative workshop.
- Review information provided from the consultative workshop and its relevance to proposal writing.
- Develop the key project objectives, activities and outputs.
- Develop the first draft proposal.

Members reviewed information shared during the consultative workshop and highlighted the key areas that the project would focus on.

The team also reviewed proposal requirements, discussed and agreed on the main objectives, outputs and activities.

Reccomendations
The team reviewed each section of the draft proposal and recommended:

Recommendation for the Log frame work
\begin{itemize}
\item Activity 1.1: Project initiation meeting
  o Coordinating countries to support by covering the costs of their participants.
  o Evaluate knowledge on pest status before initiation of the project.
\item Activity 1.2: Conduct a diagnostic/baseline study
  o Capacity analysis tool need to designed in form of a questionnaire.
  o Coordinating countries to support by covering the costs of their participants.
\item Activity 1.3: Prepare and implement the communication plan
  o The following were considered for further deliberations:
    - T shirt costings,
    - Banners, Radio and TV,
    - Aspects of information translation on the fliers
  o Communication on project progress through institution webpages and other platforms.
  o Include miscellaneous cost in the budget to cater for unforeseen costs.
\item Activity 1.4, half-yearly regional meetings/workshops
  o While meeting is for focal persons, consider including admin assistant.
  o Consider to hybrid meetings.
  o Overlapping meetings should be well captured in the workplan to avoid redundancy.
  o Need to have project management and coordinating structure that would include: Manager, coordinators, steering committee. A budget to be allocated to this team.
\item Activity 1.5: Conduct an economic situation analysis
  o Consider locally sourced international consultants, especially those with specific expertise from support institutions.
\item Activity 2.1: Develop/adapt (translate) protocols and guidelines on phytosanitary controls
  o Keep to minimum number of people, but possibly need more reviewers.
  o 12 people international.
  o Reviewers include-NPPOs for comments.
\item Activity 2.2: Support adoption of developed protocols and guidelines
  o Policy briefs-Conduct awareness forums for stakeholders.
\item Activity 2.3 pest risk analysis workshop
  o Consider hybrid meeting.
  o Project coordinating team will plan with support institutions regarding workshop details (on the background) prior to the actual meetings.
\end{itemize}
Include resource persons from CABI and KEPHIS.
- Conduct in Kenya.
- Assign responsibilities to institutions.
- DSA will be adjusted upwards for consecutive meetings if the budget allows.
- Consider budget for facilitators and drivers (lunch) for all meetings.
- Include the costings for conference package.

**Activity 3.1: Validate diagnostic protocols for PCN and other emerging potato pests**
- Development of diagnostic protocols through experts workshop.
  - Required expertise for each protocol
    - Nematologist (field and lab)
    - Bacteriologist with expertise in soft rot bacteria, both in the field and lab
  - Review workshop-honororium for reviewers (2experts).
  - Two protocols, harmonise with the number mentioned and the indicators in the logframe.
  - Plan for finalization workshop.
  - Need to have a facilitator.
  - Workshop of 10 participants including the facilitator.

**Activity 3.2: focused (sub regional) trainings of technicians and inspectors**
- Consider conducting the training in the countries/regions where is pest is known to occur.
- Consider to evaluate the trainers - carefully design the training, selecting experts in the key areas.
- Contingencies to backstop trainings need to be captured in the budget.

**Activity 3.3: Conduct trainings for agricultural advisory service provider**
- Budget for 3 facilitators to add the no. of facilitators to 39.
- Change the statement from ‘extension officers and lead farmers’ to ‘agricultural advisory service providers’ in the logframe.
- Facilitation for the trainers (participating institutions) and drivers.
- Transport – hand responsibility to the institutions, Field trips-lumpsum.

**Activity 3.4 Provide support to laboratories to conduct basic diagnosis**
- Budget for
  - Lab reagents and consumables.
  - Reagents and consumables to be identified by the trainers.
  - Lab and field PPE (consider using their own).
  - Trainers to specify what PPE is needed.

**Activity 4.1: Conduct surveillance of target pests in priority participating countries.**
- Consider conducting surveillance in two priority countries only, due to budget considerations.
- Develop a criteria for selecting priority countries where surveillance will be conducted, then demonstrate to other countries how it should be conducted.
- Identify responsible institutions - list them with the roles to coordinate.
- Include a planning workshop and induction for participants.
- The field surveillance protocols should have sample referral aspects from one country to another to diagnosis.
- Sample handling logistics need to be re-visited.

**Activity 4.2: Produce incidence report for target pests of potato**
- Distribution maps for the countries and for the regions will need a consultant/expert time for georeferencing of each sample collected.
- Project team to compile the raw data and give to the experts as consolidated for georeferencing.

Allocate specific sections of the proposal to each member to work on.

**Action points**
- KEPHIS and CABI to work on surveillance and diagnostics.
- Share the document for review IITA, CABI and KEPHIS, hold a virtual meeting on Friday 8th July 2022 at 9 am.
- Share the draft Excell sheet and Logframe with the rest of the proposal writing team.
- Look for consistencies in budget and workplan -KEPHIS, IITA.
- Highlight areas for review accordingly.
- Update the FAO Subregional Crops Officer and Principal Scientist (IITA) on Monday 12th July 2022.
- Validation workshop slotted for 20th July - Invitation letters and list of invitees to be prepared by IITA.

**Key outputs**

- Project objectives discussed and agreed upon.
- Outputs and activities discussed and agreed upon.
- Draft budget produced.
- Working group allocated the various portions of the proposal to work on.
- First proposal draft formulated.
Validation workshop

A project validation workshop was held on 20\textsuperscript{th} July 2022, Nairobi Kenya. The hybrid meeting brought together 13 in person and 20 online participants. The meeting comprised of power point presentations, group discussion and feedback in plenary. The workshop report can be accessed [here](#).

Welcoming remarks were made by the representative of IITA followed by introductions by participants. FAO SFE highlighted the progress that had been achieved towards proposal preparation.

Presentations

**PCN and other key emerging pests of potato and the possible actions to mitigate the associated risks-NemAfrica**

The presentation emphasized the threat posed by PCN highlighting the losses it causes, reports and known distribution of the pest in Africa. The need to develop a regional strategy to mitigate the pest, especially given potato trade trends among these two EAS sub-regional countries was emphasized. The project would therefore form a basis for development of strategies to create awareness about the pest and potential management options.

Recommendations from plenary
- Need for refresher courses for farmers and stakeholders.
- Need to build consensus on PCN management among countries.
- Need to develop reference documents for farmers.
- Need to develop a sustainability strategy for the proposed project proposal.

**Update on the PPG Roadmap-IITA**

The presentation provided and update of the progress achieved towards project proposal writing which included:

1. Idea conceptualization.
2. Reaching out to relevant stakeholders for participation with an aim to communicate the project objectives, create awareness and enhance effective pest management-PCN and other key emerging pests.
3. Submission of the PPG document to STDF.
4. Formulation of working groups with focus countries.

Recommendations
- During implementation, there is need to develop a matrix to map key actors/stakeholders from each participating institution in each country to facilitate decision making.
- With the absence of a comprehensive surveillance, there is need to determine how the project will realize credible results.
- Criteria for selection of participating countries should be informed by the pest history, potato production capacity and the value of the crop.
- NPPOs to provide letters of support.

**Conclusion and project proposal validation**

The participants in the validation workshop acknowledged the regional approach of the proposal and the work of the project writing/working group. In this regard, the project proposal was declared valid for submission and implementation. The proposal was compiled and submitted on 12 August 2022.
Meeting for profiling potential donors

The working group conducted a meeting on 28-29th November, Addis Ababa, Ethiopia with the aim of engaging on further discussions to best identify an approach to attract additional funding to complement support of the already submitted project proposal to the STDF. This meeting was attended by 7 members (6 in person and 1 online) of the proposal working group. The full report for the meeting can be accessed here.

Objectives

The key objectives were to:

1. Identify potential donors for possible collaborations.
2. Profile/Rank the identified donors according to previous experiences on what they have supported/what they support/their area of interest.
3. Identify outputs/activities, which need review and determine the extra funds needed for support.
4. Possible visits to the NPPO/EAIR diagnostic labs in Addis Ababa.
5. Possible visit/engagement with IFAD, EU delegation to the AU, Netherlands Embassy in Addis Ababa.

Mapping of potential donors followed the following criteria:

1. Key donors who have been funding projects/activities on potato value chain in Africa.
2. The key areas they have been supporting with strong focus on diagnostics and building capacities
3. Donors who would wish to support not only the potato value chain but other crops and/or other pests of potato, such as PSTVD and Phytophthora spp.

Key output

1. A donor profiling matrix was developed.
2. A draft proposal was developed to be submitted to USAID/Feed Future RFP.
3. A one pager document for use in approaching donors was developed.
ANNEX 2: LIST OF STAKEHOLDERS CONSULTED DURING THE PPG IMPLEMENTATION

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Designation</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orlando Sosa</td>
<td>FAOSFE</td>
<td>Sub Regional Crops Officer</td>
<td>Ethiopia</td>
</tr>
<tr>
<td>Haile Ahera</td>
<td>FAOSFE</td>
<td>Entomology Specialist</td>
<td>Ethiopia</td>
</tr>
<tr>
<td>Monica Parker</td>
<td>CIP</td>
<td>Lead Scientist</td>
<td>Kenya</td>
</tr>
<tr>
<td>Danny Coyne</td>
<td>IITA</td>
<td>Principal Scientist</td>
<td>Kenya</td>
</tr>
<tr>
<td>Washington Otieno</td>
<td>FAOSFE</td>
<td>Consultant</td>
<td>Kenya</td>
</tr>
<tr>
<td>Harun Murithi</td>
<td>IITA</td>
<td>Plant Pathologist</td>
<td>Kenya</td>
</tr>
<tr>
<td>Selamawit Araya</td>
<td>IITA</td>
<td>Nematologist</td>
<td>Kenya</td>
</tr>
<tr>
<td>Ronia Tanyongana</td>
<td>FAOSFS</td>
<td>Program Manager</td>
<td>Zimbabwe</td>
</tr>
<tr>
<td>Solveig Haukeland</td>
<td>icipe</td>
<td>Scientist</td>
<td>Kenya</td>
</tr>
<tr>
<td>Lucy Karanja</td>
<td>CABI</td>
<td>Research Associate</td>
<td>Kenya</td>
</tr>
<tr>
<td>Susan Njeri Dan</td>
<td>NPCK</td>
<td>Program Manager</td>
<td>Kenya</td>
</tr>
<tr>
<td>Teklu Baissa</td>
<td>NPPO</td>
<td>Senior Plant Quarantine Inspector</td>
<td>Ethiopia</td>
</tr>
<tr>
<td>Josphat Muhunyu,</td>
<td>MOLFC</td>
<td>Agriculture Secretary</td>
<td>Kenya</td>
</tr>
<tr>
<td>Tsebang Lebata Owen</td>
<td>MOA</td>
<td>Seed Multiplication Officer</td>
<td>Lesotho</td>
</tr>
<tr>
<td>Nharno Mudada</td>
<td>NPPO</td>
<td>Head of Plant Quarantine Services</td>
<td>Zimbabwe</td>
</tr>
<tr>
<td>Elisa Mazuma</td>
<td>NPPO</td>
<td>Deputy Director Agricultural Research Services</td>
<td>Malawi</td>
</tr>
<tr>
<td>George Okundi</td>
<td>GIZ/FABI</td>
<td>Regional project coordinator</td>
<td>Tanzania</td>
</tr>
<tr>
<td>Stephen Byantwale</td>
<td>NPPO</td>
<td>Principal Agricultural Inspector</td>
<td>Uganda</td>
</tr>
<tr>
<td>Ephrance Tumuboine</td>
<td>NPPO</td>
<td>Assistant Commissioner</td>
<td>Uganda</td>
</tr>
<tr>
<td>Belay Fentanew</td>
<td>MOA</td>
<td>Plant protection expert,</td>
<td>Ethiopia</td>
</tr>
<tr>
<td>Ildephonse Niragire</td>
<td>NPPO</td>
<td>Director RICA</td>
<td>Rwanda</td>
</tr>
<tr>
<td>Wachira Kaguongo</td>
<td>NPCK</td>
<td>Chied Executive Officer</td>
<td>Kenya</td>
</tr>
<tr>
<td>Afonso Sitole</td>
<td>MOA</td>
<td>Plant Protection Officer</td>
<td>Mozambique</td>
</tr>
</tbody>
</table>
Consultative workshop of the STDF project preparation Grant(STDF/PPG/809 held on 25th to 27th of May 2022 at Boma Hotel-Nairobi.

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Organization</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orlando Sosa</td>
<td>Ethiopia</td>
<td>FAO</td>
<td>In person</td>
</tr>
<tr>
<td>Ronia Tanganyona</td>
<td>Zimbabwe</td>
<td>FAO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Selamwit Kidane</td>
<td>Kenya</td>
<td>IITA</td>
<td>In person</td>
</tr>
<tr>
<td>Monica Parker</td>
<td>Kenya</td>
<td>CIP</td>
<td>In person</td>
</tr>
<tr>
<td>Harun Murithi</td>
<td>Kenya</td>
<td>IITA</td>
<td>In person</td>
</tr>
<tr>
<td>Danny Coyne</td>
<td>Kenya</td>
<td>IITA</td>
<td>In person</td>
</tr>
<tr>
<td>Washington Otieno</td>
<td>Kenya</td>
<td>FAO</td>
<td>In person</td>
</tr>
<tr>
<td>Manasseh Githinji</td>
<td>Kenya</td>
<td>SFSA</td>
<td>In person</td>
</tr>
<tr>
<td>Susan Njeri</td>
<td>Kenya</td>
<td>NPCK</td>
<td>In person</td>
</tr>
<tr>
<td>Ephrance Tumboine</td>
<td>Uganda</td>
<td>FAO</td>
<td>In person</td>
</tr>
<tr>
<td>Kudakwashe Primose</td>
<td>Zimbabwe</td>
<td>NPPO</td>
<td>In person</td>
</tr>
<tr>
<td>Solveig Haukeland</td>
<td>Kenya</td>
<td>icipe</td>
<td>In person</td>
</tr>
<tr>
<td>Masabarakiza Lucien</td>
<td>Burundi</td>
<td>NPPO</td>
<td>In person</td>
</tr>
<tr>
<td>Lucy Karanja</td>
<td>Kenya</td>
<td>CABI</td>
<td>In person</td>
</tr>
<tr>
<td>George Tadu</td>
<td>South Sudan</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Nnamo Mudada</td>
<td>Zimbabwe</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Yemesrach Kebede</td>
<td>Ethiopia</td>
<td>FAO SFE</td>
<td>Virtual</td>
</tr>
<tr>
<td>Bataung Kuenene</td>
<td>Lesotho</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Nanganidza Makoho</td>
<td>Zimbabwe</td>
<td>Farmer organization</td>
<td>Virtual</td>
</tr>
<tr>
<td>Abera Haile</td>
<td>Ethiopia</td>
<td>FAO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Malis Were</td>
<td>South Sudan</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Lebesa Lefu</td>
<td>Lesotho</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
</tbody>
</table>
Validation workshop and meeting of the writing group of the STDF project preparation Grant (STDF/PPG/809 held on 20th of July 2022 at Boma Hotel-Nairobi.

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Organization</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane Kamau</td>
<td>Kenya</td>
<td>Kephis</td>
<td>In person</td>
</tr>
<tr>
<td>Edward Onkendi</td>
<td>Kenya</td>
<td>Kephis</td>
<td>In person</td>
</tr>
<tr>
<td>Washington Otieno</td>
<td>Kenya</td>
<td>FAOSFE</td>
<td>In person</td>
</tr>
<tr>
<td>Manasseh Githinji</td>
<td>Kenya</td>
<td>Syngenta</td>
<td>In person</td>
</tr>
<tr>
<td>Danny Coyne</td>
<td>Kenya</td>
<td>IITA</td>
<td>In person</td>
</tr>
<tr>
<td>Wachira Kaguongo</td>
<td>Kenya</td>
<td>NCPK</td>
<td>In person</td>
</tr>
<tr>
<td>Harun Murithi</td>
<td>Kenya</td>
<td>IITA</td>
<td>In person</td>
</tr>
<tr>
<td>Selamawit Kidane</td>
<td>Kenya</td>
<td>IITA</td>
<td>In person</td>
</tr>
<tr>
<td>Joshua Gathua</td>
<td>Kenya</td>
<td>Kephis</td>
<td>In person</td>
</tr>
<tr>
<td>George Ngundo</td>
<td>Kenya</td>
<td>Kephis</td>
<td>In person</td>
</tr>
<tr>
<td>John Kimenju</td>
<td>Kenya</td>
<td>UON</td>
<td>In person</td>
</tr>
<tr>
<td>Lucy Karanja</td>
<td>Kenya</td>
<td>CABE</td>
<td>In person</td>
</tr>
<tr>
<td>Kenney Masamba</td>
<td>Malawi</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Hanna Jemal</td>
<td>Ethiopia</td>
<td>FAO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Shem Najee</td>
<td>Kenya</td>
<td>KU</td>
<td>In person</td>
</tr>
<tr>
<td>Ronia Tanyongana</td>
<td>Zimbabwe</td>
<td>FAO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Ildephonse Nagire</td>
<td>Rwanda</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Kutloelo Molapo</td>
<td>Lesotho</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Makhotso Lieketseng</td>
<td>Zimbabwe</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Yemesrach Kebebe</td>
<td>Ethiopia</td>
<td>FAO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Lucien Musabarakaiza</td>
<td>Burundi</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Gabriel Mganga</td>
<td>Tanzania</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Mathew Abang</td>
<td>Lesotho</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Gloria Chitedze</td>
<td>Malawi</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Nhamo Mudada</td>
<td>Zimbabwe</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Nanganidza Makoho</td>
<td>Zimbabwe</td>
<td>Farmer organization</td>
<td>Virtual</td>
</tr>
<tr>
<td>Bataung Kuenene</td>
<td>Lesotho</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Kudkwashe Primerose</td>
<td>Zimbabwe</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Lebata Tsebang</td>
<td>Lesotho</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Ephranse Tumbone</td>
<td>Uganda</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>George Okundi</td>
<td>Tanzania</td>
<td>GIZ</td>
<td>Virtual</td>
</tr>
<tr>
<td>Nyalesa Fredrick</td>
<td>Zambia</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
<tr>
<td>Beatrice Buwu</td>
<td>Rwanda</td>
<td>NPPO</td>
<td>Virtual</td>
</tr>
</tbody>
</table>

STDF Project Working group meeting held at Golden Tulip Hotel, Addis Ababa, Ethiopia on 28th-29th November 2022

<table>
<thead>
<tr>
<th>Name</th>
<th>Country</th>
<th>Organization</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jane Kamau</td>
<td>Kenya</td>
<td>KEPHIS</td>
<td>In person</td>
</tr>
<tr>
<td>Edward Onkendi</td>
<td>Kenya</td>
<td>KEPHIS</td>
<td>In person</td>
</tr>
<tr>
<td>Washington Otieno</td>
<td>Kenya</td>
<td>FAOSFE</td>
<td>In person</td>
</tr>
<tr>
<td>Danny Coyne</td>
<td>Kenya</td>
<td>IITA</td>
<td>In person</td>
</tr>
<tr>
<td>Orlando Sosa</td>
<td>Ethiopia</td>
<td>FAOSFE</td>
<td>In person</td>
</tr>
<tr>
<td>Solomon Gelalcha</td>
<td>Ethiopia</td>
<td>FAOSFE</td>
<td>In person</td>
</tr>
<tr>
<td>Yemesrach Kebede</td>
<td>Ethiopia</td>
<td>FAOSFE</td>
<td>In person</td>
</tr>
<tr>
<td>Hanna Jemal</td>
<td>Ethiopia</td>
<td>FAOSFE</td>
<td>In person</td>
</tr>
<tr>
<td>Monica Parker</td>
<td>Kenya</td>
<td>CIP</td>
<td>Virtual</td>
</tr>
</tbody>
</table>