Request for Proposal
Strategic Research Partnership on Economic Burden Assessment of Crop Losses in GBCL Project

Bryony Taylor, Anna Szyniszewska & Rasaki Arasah

July 2024
Economic Burden Estimate for Crop Loss
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Introduction

About CABI

CABI is an international not-for-profit organisation that improves people’s lives by providing information and applying scientific expertise to solve problems in agriculture and the environment.

Through knowledge sharing and science, CABI helps address issues of global concern such as improving global food security and safeguarding the environment. We do this by helping farmers grow more and lose less of what they produce, combating threats to agriculture and the environment from pests and diseases, protecting biodiversity from invasive species, and improving access to agricultural and environmental scientific knowledge. Our 49 member countries guide and influence our core areas of work, which include development and research projects, scientific publishing and microbial services.

We have over 500 staff based in 16 countries. We have offices in Brazil, China, Ghana, India, Kenya, Malaysia, Pakistan, Switzerland, Trinidad & Tobago, the UK, the USA and Zambia.

We gratefully acknowledge the core financial support from our member countries and lead agencies including the United Kingdom (Foreign, Commonwealth and Development Office), China (Chinese Ministry of Agriculture), Australia (Australian Centre for International Agricultural Research), Canada (Agriculture and Agri-Food Canada), Netherlands (Directorate-General for International Cooperation), and Switzerland (Swiss Agency for Development and Cooperation). Other sources of funding include the fees paid by our member countries and profits from our publishing activities which enable CABI to support rural development and scientific research around the world.

For more information go to https://www.cabi.org/

Organisation Background

CABI has a history of over a century of scientific endeavour. Since its beginnings as an entomological committee in 1910, CABI has developed into a truly international development-led organization, supported by both a first-class publishing division and a solid
Procurement Description

The Global Burden of Crop Loss (GBCL) initiative aims to comprehensively assess the socio-economic impact of crop loss globally. As part of our ongoing efforts, we are seeking strategic partnerships to contribute to developing a methodology to estimate the economic burden of crop losses.

Over the next three years, GBCL will move from a proof-of-concept stage to delivering full crop loss and economic burden estimates, establishing our data infrastructure, promoting uptake of results, and developing a sound business model. Through recently awarded FCDO funding we are contracted to deliver global country-level economic burden estimates for three crops, namely – wheat, maize, and rice. As part of this work, we also need to deliver up to three country-level case studies illustrating finer-level crop loss and attribution framework for selected crops.

CABI would like to identify a strategic partner to develop a methodological framework to estimate the economic burden associated with crop loss due to abiotic and biotic factors. The partner will deliver a global country-level assessment of the economic burden of losses in wheat, maize and rice.

The economic burden of crop loss is defined in our framework as the value of the crops that were lost, plus the cost of management measures employed to mitigate losses in the field (for example: pesticide application and labour to spray or for weeding). The objective is to provide information to stakeholders on the relative impact of individual biotic and abiotic hazards for selected crops globally.

This activity will contribute to the following work package of the Global Burden of Crop Loss programme:

- **Economic Burden Assessment (1D):** Estimation of the economic burden caused by crop losses, considering both the value of crops lost and the cost of management measures employed to mitigate losses. This will involve building on existing methodologies and leveraging key data sources identified for analysis.

We hope that this will offer a more holistic understanding of the burden to society caused by crop losses and enable comparison across different types of production systems.

How do we expect to work with the partner?

1. CABI will develop statistical models to estimate the attainable yield for selected crops at the national level. Annual actual crop production will be based on FAOSTAT data. The crop loss will be estimated as the difference between attainable and actual yield on a country level. These estimates will be validated based on data and results of other initiatives looking at potential yield estimates.

2. Once CABI validates the loss envelope figure, we want our partner to establish the value of crops lost, as well as calculating what producers have done to prevent losses and associate this with an economic cost – this includes the inputs and associated labour. This information needs to be embedded in a methodology that can be broadly applied to cropping systems, in different types of economies and context.
We welcome the application of existing frameworks and methodologies to provide information. So, within this piece of work will require quantifying the following costs, and is not limited to it:

a. Cost of labour for pesticide application, weeding etc.

b. Cost of equipment required to mitigate the hazards in the fields i.e. spraying or weeding equipment, irrigation etc.

c. Cost of consumables – pesticides, herbicides, fungicides, seeds, etc

Caveats to consider:

a. The costs of inputs and the market value of outputs will vary annually – what implications does it have for the economic burden assessment. How will this be accounted for?

b. Global data on the inputs are not always crop-specific.

c. Different crop varieties (for example maize) will require different inputs. We ought to capture large scale trends and shares of different inputs in the cropping system.

d. Farmers change their decision making in terms of inputs into the system based on economic constraints, perceived risks, as well as prior experience, including crop sell market value, and current economic and political conditions (subsidies, over/undersupply caused by shocks to markets).

Other considerations include:

a. What are the broader societal inputs i.e. flood or drought prevention measures?

b. How does the cost of inputs vary annually, and how does this affect the ‘costs’ side of the equation of the burden estimate year to year?

c. How do these inputs change in relation to cropping system i.e. smallholder system, commercial?

d. How do these inputs/fluctuations change in relation to geography, i.e. smallholder systems in Africa/Asia for example

e. How does a burden estimate work in a data rich and data poor environments? What extrapolations or assumptions can we make from data rich to data poor areas?

f. Can we assess the impact of the pest control measures applied in the field on biodiversity or environment?

Requirements

The partner will be responsible for:

1. Developing a reproducible and well documented methodology for global country-level assessment to quantify the value of crop lost and the total burden of crop loss using historical data that can be applied on annual basis.

2. Developing methods for estimating the cost of in field pest management measures, including costs of purchased inputs, hired labour, household labour, and other relevant factors.

3. Identifying factors that may need to be considered that will impact varying prices according to the market situation, political and environment conditions the previous year.

4. Delivering country level economic burden estimates for wheat, maize and rice globally on country-level.

5. Participate in monthly project meetings to communicate progress against the work plan and liaise with project partners.
Additional partner responsibilities include:

- Compiling and cataloguing global datasets necessary for calculating the cost associated with in-farm inputs and other information required for economic crop loss burden assessment
- Cleaning, processing and analysing compiled data.
- Documenting and sharing input data adhering to FAIR principles.
- Documenting and addressing inherent caveats associated with the assessment process, including data gaps.
- Developing proxies to enhance the categorization of predominant farming practices in different global regions.
- Producing a set of country-level economic burden estimates with global coverage
- Contributing to scientific publications presenting the economic burden of crop losses
- In response to request for proposals please provide details of what data sources and aspects of methodology will be shared.

RFP Process

You are invited to submit a proposal to supply the global economic burden estimates / assessment for wheat, rice and maize requirements for which are set out below:

1. Name and contact information of Principal Investigator
2. Information about the institution
3. Project summary
4. Methodology and approach
5. Proposed data sources
7. Budget / detailed costed plan with associated activities and milestones
8. Evidence of delivering results in this domain
9. What aspects of methodology will be shared and reproducible?

Proposal Submission Deadline

The deadline for proposal submission is Friday 23rd August 2024, 11.59pm GMT+1.

Submission of Proposal

Please complete all documents as specified and submit your Proposal to our Primary Contact. All communication with CABI must be through this Primary Contact. CABI will not accept any costs incurred in the preparation and submission of this or any future proposals.

Please email our Primary Contact if you have any queries about the RFP process or if you do not receive acknowledgment of receipt of your proposal within 3 working days.

Questions and Clarifications

If you have questions or require further clarification with regard to our requirements, please send these to our Primary Contact. Note that all questions and answers will be circulated to other participants in the RFP process, without identifying the origin of the question.
Review and Selection Timeline

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<tr>
<th>Action</th>
<th>Date</th>
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<tr>
<td>Send RFP to participants</td>
<td>29th July 2024</td>
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<tr>
<td>Response from Vendor by</td>
<td>23rd August 2024</td>
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<tr>
<td>Dialogue period</td>
<td>open until 22nd August 2024</td>
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<tr>
<td>CABI to Evaluate/Shortlist</td>
<td>30th August 2024</td>
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<td>Selection Process</td>
<td>5th September 2024</td>
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<tr>
<td>Raise Paperwork / pass to Board</td>
<td>13th September 2024</td>
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Acceptance of Proposal

The contract shall be awarded on the basis of the proposal which is the most economically advantageous to CABI having regard to both the price and capacity to meet CABI's service requirements in full. Incomplete Proposals may not be considered.

CABI shall not be bound to accept the lowest or any Proposal but reserves the right to accept a portion of any Proposal, unless the Vendor expressly stipulates otherwise.

CABI reserves the right as part of its evaluation of Proposal to question any Vendor further on aspects of its ability to provide the services required or to reject any and/or all Proposals.

The fact that you have been invited to respond to the RFP is not of itself an approval by CABI.
Proposal

Cost
Please provide details of costs to implement the economic burden estimate initially for a period of one year and include the following:
- Staff time
- Licenses (if any)
- Data acquisition, management including other relevant costs etc.

Note: Please provide all relevant costs in details including direct and indirect costs.

Project Plan
Please provide timescales and details of a typical project plan schedule from inception through to delivery and include any end-user training days and support days that are necessary. Please also state how long each optional/customisable feature and/or requirement would require until final delivery.

Corporate Details
Please provide details of the following:
- Latest Financial Report
- Number of Employees
- Company Start-up Date
- Background Information
- Evidence of delivering results in this domain or similar context
- Other relevant documentation appropriate, e.g. Escrow Agreement with reference to code etc.[
- Two References, as referenceable sites (NB: they will not be contacted without your prior consent)

Subcontractors
Subcontractor - The term Subcontractor shall mean any individual, company, or corporation to whom the Contractor assigns any part of the Contract.

- If a Vendor intends to use subcontractor(s), the Vendor must identify in its Proposal the names of the subcontractors and the portions of the work the subcontractors will perform
- Please describe any subcontractor relationships that would be involved in the support of any CABI contract. (use of any subcontractor requires CABI approval in advance. Failure to do so may result in termination of contract.)
Assessment Criteria

Responses will be assessed using the following criteria:

- Submission of a proposal with a breakdown of costs and an iterative development plan for the economic burden estimate.
- Responses to Functional Requirements, Non-Functional Requirements, Costs, Project Plan and Corporate Details etc.
- Ease of working together - we require regular and easy communication with CABI, and other relevant partners / stakeholders involved with the project. The ability to fit into Agile based work cycles will be beneficial
- Assessment of satisfaction with past projects, if the organisation has worked with CABI previously
- Demonstration of proven success of developing similar products. We might take up referral
- Stature of the organisation (operating years, finance, size of team etc.)
- Payment plan with a preference towards organisations which give a clear breakdown of costs
- Quality and scientific soundness of the proposed work plan
- Methodology and approach, including proposed data sources.
- Expected timeline for delivery including activities, milestones and deliverable etc.
- Evidence of delivering results in this domain
- Applicability of the work plan against set requirements
- Demonstration of the previous success working in the same domain
- Provision of a sound and flexible technology which will meet changing needs in the long term
- Speed at which the economic burden estimate can be delivered
- Schedule of deployment and testing phases

Declaration:

The company affirms that it:

- has sufficient financial resources to deliver the goods or services described in the request documentation (including fulfilling any guarantees or warranty claims);
- is not subject to any current or impending legal action (either formal proceedings or notification of legal action) which could impact on the financial viability of the tenderer or the delivery of the goods or services; and
- has (or will have in place) insurance cover for the purposes of, and at the levels required, for the procurement.

Name:  ......................................................... Signature:  .........................................................

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<tr>
<td>Africa</td>
<td>Ghana</td>
<td>CABI, CSIR Campus No.6 Agostino Neto Road Airport Residential Area P.O. Box CT 8630, Cantonments Accra, Ghana T: +233 (0)302 797 202 E: <a href="mailto:westafrica@cabi.org">westafrica@cabi.org</a></td>
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<td>Kenya</td>
<td>CABI, Canary Bird 673 Limuru Road, Muthaiga P.O. Box 633-00621 Nairobi, Kenya T: +254 (0)20 2271000/20 E: <a href="mailto:africa@cabi.org">africa@cabi.org</a></td>
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<td>CABI, Southern Africa Centre 5834 Mwange Close Kalundu, P.O. Box 37589 Lusaka, Zambia T: +260967619665 E: <a href="mailto:southernafrica@cabi.org">southernafrica@cabi.org</a></td>
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<td>Brazil</td>
<td>CABI, UNESP-Fazenda Experimental Lageado, FEPAF (Escriptorio da CABI) Rua Dr. Jose Barbosa De Barros 1780 Fazenda Experimental Lageado CEP: 18.610-307 Botucatu, San Paulo, Brazil T: +55 (14) 3880 7670 E: <a href="mailto:y.colmenarez@cabi.org">y.colmenarez@cabi.org</a></td>
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<td>USA</td>
<td>CABI, 745 Atlantic Avenue 8th Floor Boston, MA 02111 T: +1 (617) 682-9015/ +1 (617) 682-9016 E: <a href="mailto:h.jansen@cabi.org">h.jansen@cabi.org</a></td>
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<td>Asia</td>
<td>China</td>
<td>CABI, Beijing Representative Office Internal Post Box 85 Chinese Academy of Agricultural Sciences 12 Zhongguancun Nandajie Beijing 100081, China T: +86 (0)10 82105692 E: <a href="mailto:china@cabi.org">china@cabi.org</a></td>
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<td>India</td>
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<td>Pakistan</td>
<td>CABI, Opposite 1-A, Data Gunj Baksh Road Satellite Town, PO Box 8 Rawalpindi-Pakistan T: +92 51 929 2064/ 2063 / 2062 E: <a href="mailto:cabi.cwa@cabi.org">cabi.cwa@cabi.org</a></td>
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<td>Switzerland</td>
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<td>UK (Egham)</td>
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