CABI Stakeholder Survey

Report of results

April 2022

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1. Executive Summary

- CABI conducted a stakeholder survey in early 2022 to help shape its next Medium-Term Strategy
- Five draft goals were proposed for the Medium-Term Strategy 2023-2025:
    - Improve the food security and livelihoods of smallholder communities
    - Help communities reduce and adapt to climate change impacts on crops and landscapes
    - Reduce inequality through ensuring better opportunities for rural women and youth
    - Safeguard biodiversity and support sustainable use of natural resources
    - Increase the reach, application and impact of science in agriculture and the environment
- Participants provided views on these goals and on CABI's draft programmes/priorities under each goal, as well as their own priorities under each goal.
- 105 people answered the survey, of whom 41 were official representatives of CABI's Member Countries representing 31 different Members and 64 were other stakeholders.
- Survey participants supported the draft Medium-Term Strategy goals:
    - All respondents considered the draft goals appropriate (n=67; 27 Member Countries)
    - Each of the five draft goals was ranked a very high priority or a high priority by over 80% of both (i) all respondents (n=69) and (ii) responding Member Countries (n=27)
    - Draft programme plans and priority areas under each goal were also broadly supported
- When asked to state their own priorities under the goals, many respondents provided comments clearly aligned with, or that reinforce, existing or planned CABI programmes. For example:
    - "Climate change is a global crisis. CABI should continue to advocate for immediate solutions and propose strategies (where they have expertise) to governments and the private sector that will help drive the necessary changes to alleviate the situation."
    - "There is an urgent need to build advisory and training capacity to ensure farmers get the information and support they need."
    - "It is important to have increased the industry and the wider community awareness on the benefits of increasing the use of biological control as a way to reduce pesticide use."
- Specific observations from the survey will be considered further as the Medium-Term Strategy is refined:
    - How can we work together to address nutrition security as well as food security?
    - How can we harness and recognize the value of indigenous knowledge, and make the smallholder farmer a partner in science?
    - How do we optimize capacity building through promoting technology transfer, South–South and triangular cooperation between Member Countries, and CABI's work with national and regional educational, research, regulatory and other institutions?
    - How do we ensure local 'ownership' of biodiversity with respect to research, audits, collections, etc.?
- In addition, not directly raised in the survey but prompted by the results, we will explore further:
    - How best to work with the private sector towards achieving each of the stated goals
    - Practical steps needed to deliver agricultural job opportunities for women and youth
    - Key barriers and potential incentives/catalysts for (a) enabling smallholder farmers to adopt sustainable and climate-resilient production methods, and (b) making conservation of biodiversity and sustainable use of resources priorities for action at all levels
    - How to prioritise effort to translate research into practice
    - How best to measure success for the broad goals set out in the strategy

- Some of these questions will be addressed in CABI's 2022 Regional Consultation Meetings. Others will be explored further in dialogue with stakeholders leading to the 2022 Review Conference.
- Respondents did not want CABI to change its priorities in response to COVID-19, but expect adjustments in approach, including increased exploitation of digital tools and communication.
- With respect to new major CABI programmes, the survey offered no consensus. Popular suggestions included aspects of pest management (including pest early warning and phytosanitary systems), a further focus on climate-smart agriculture, and development of new digital platforms.
- These views, along with feedback on strengths and weaknesses in CABI's Development, Publishing and Research activities, will feed into CABI's strategy development process.

2. Introduction

As an intergovernmental organization, CABI's priorities are driven by the concerns and needs of its Member Countries. To enable Member Countries and other stakeholders to help shape its next Medium-Term Strategy for 2023–2025, CABI conducted a **stakeholder survey** during February 2022.

3. Survey Method

A survey questionnaire was designed with support from Luma Consulting; respondents provided their answers between 1 and 24 February 2022. The survey had a mix of open questions and questions requiring rating of options on a four-point or five-point scale. (Where average scores are presented in this report, these are derived by assigning 1 point for the lowest rating on the scale, two for the second lowest, and so on, then deriving a weighted average based on the percentage of respondents giving each rating). The Respondents were presented with CABI's five draft goals for the Medium-Term Strategy 2023-2025, brief descriptions of programme plans and priorities under each of these goals, and very short summaries of CABI's international development, publishing and research activities (See Annex 1: Briefing Document).

4. Results

4.1 Respondents

There were 105 respondents, of whom 41 were official representatives of CABI's Member Countries, from 31 different Member Countries, while 64 were other stakeholders. Of the latter group, 36 represented other government departments/agencies or institutions in Member Countries, 8 represented regional or global bodies, 9 represented donors, 3 were from the private sector and 8 represented partners from non-Member Countries. 68% of the respondents had worked with CABI for more than three years. Where Member Country responses are reported separately in this report these are based on identifying a single 'official' response from each Member, ensuring that all countries are weighted equally. Data from the whole survey sample were not adjusted to ensure balance by type or location of respondent. For many individual questions a significant fraction of 'other stakeholder' participants gave no response. Caution should be employed in interpreting apparent differences in preference given the size and nature of the survey population and the methodology of the survey – especially for specific priorities under the draft goals, where limited information was available to survey participants.

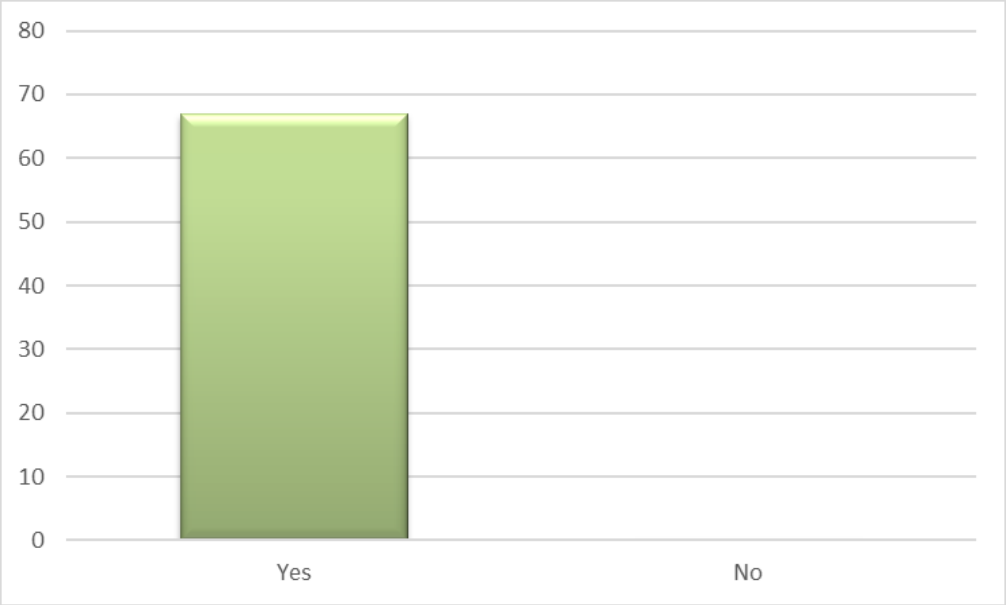
4.2 CABI's strengths and areas to be improved

Survey participants were asked how familiar they are with three broad areas of CABI's work – International Development work, Knowledge/Publishing Business, and Research – and what they consider to be CABI's top two to three strengths in each of these, as well as the top two to three areas that need to be improved. The key results are synthesized in the table below:

	Familiarity	Strengths	Areas to be improved
International Development work	Very familiar/extremely familiar: 61.16% Not familiar at all: 1.94%	Key strengths listed by participants were: 1. CABI's work in Plantwise and PlantwisePlus; 2. CABI's work in capacity building, protecting biodiversity from invasive species and improving access to agricultural and environmental scientific knowledge; 3. CABI's global reach and 100+ years of experience; and 4. Being a Member Country organization. Other strengths mentioned included CABI's extensive international networks from the global strategic level down to the operational country level, pest risk analysis and surveillance of pests and diseases of plants, and well-trained and knowledgeable science teams.	Two areas for improvement listed by participants were to: 1. Improve CABI's visibility; and 2. Develop stronger collaboration/partnerships with country donor desks, regional economic communities and stakeholders on the ground. Other suggestions for improvement included: make the Value Chain and Trade area of work more joined up and visible; and investigate opportunities to collaborate on new and emerging Regional Plant Protection Organisation initiatives, such as emerging pest and transboundary pest programmes, and regional technical working groups (such as on fall armyworm, Panama disease tropical race 4 (TR4), etc.)
Knowledge/ Publishing Business	Very familiar/extremely familiar: 40% Not familiar at all: 1%	Participants called out the following two strengths: 1. The range of CABI publishing products, including the CAB Abstracts and Global Health databases, the Compendia (most notably the Invasive Species Compendium, the Crop Protection Compendium and the associated Pest Risk Analysis tool), the Plantwise Knowledge Bank, and books and digital learning products. 2. The comprehensive depth, breadth, quality, accuracy and timeliness of the content . Illustrative comments include: "The depth and breadth of scientific knowledge at CABI is amongst the best. The support given by CABI for researchers and policymakers like myself from around the world to publish makes it unique"; "CAB Abstracts is one of the most comprehensive databases worldwide, which also covers a wide range of non-English journals from developing countries and assists in disseminating agricultural research knowledge".	The following three areas for improvement were most frequently mentioned by survey respondents: 1. Consider providing free or greater access to CABI's publishing content and help cover the costs of open-access publishing (nearly 25% of respondents mentioned this.). 2. Provide more marketing and promotion of the products, a better experience for mobile users, and support in terms of training on how best to use them (via periodic regional webinars). 3. Encourage greater collaboration and co-authorship between researchers from the developing and developed world, and for capacity building in research publishing skills.
Research	Very familiar/extremely familiar: 37.5% Not familiar at all: 2.8%	Three research strengths highlighted were: 1. the impact of pests 2. the management of invasive species, and 3. improved and safer food systems. Within these broad areas, aspects such as biological control, integrated pest management (IPM), Plantwise, climate-smart agriculture, advisory services and communication tools were noted. Many answers highlighted ways of working, rather than research areas, for which the following themes emerged: collaborative regional and national research and networking, providing information sources and communication tools, and being timely and topical.	A variety of ways to improve CABI's research were mentioned with none dominating. However, the below were highlighted: 1. Widen CABI's scope; international and national collaboration 2. Measure the impact of CABI's work; 3. Provide more technical and policy advice; 4. Find better ways for technology transfer and find ways to make CABI's expertise and materials cheaper or cost-free; and 5. Ensure more visibility in the wider scientific community and the public. Suggestions for broadening CABI's scope included the following: bioassays for pest controls; research on the effect of agroecosystem diversification on the pressure and spread of pests and diseases; assessment of the current status of invasive species; migratory pests; and studies on the impact of climate change on agriculture.

4.3 Views and comments on CABI's five proposed high-level goals

Q: Broadly, do you agree that these are the right goals and focus areas for CABI?



67 respondents answered this question, and all of them felt that these are the right goals and focus areas for CABI, with one respondent suggesting adding a goal related to the diversification of agroecosystems. Out of these 67 respondents, 30 were Member Country representatives, from 27 different Member Countries.

Q: Below are the five high-level goals that CABI might focus on in the future. For each goal, please identify their level of priority for your country

69 respondents answered this question. The overall results are given in the table below.

Goal	Low priority	Medium priority	High priority	Very high priority	Average score (out of 4)
Improve the food security and livelihoods of smallholder communities	0.0%	8.7%	23.2%	68.1%	3.59
Help communities reduce and adapt to climate change impacts on crops and landscapes	0.0%	4.4%	29.4%	66.2%	3.62
Reduce inequality through ensuring better opportunities for rural women and youth	7.4%	8.8%	44.1%	39.7%	3.16
Safeguard biodiversity and support the sustainable use of natural resources	0.0%	5.9%	29.4%	64.7%	3.59
Increase the reach, application and impact of science in agriculture and the environment	0.0%	7.5%	40.3%	52.2%	3.45

Below are results for the subset of Member Country representatives (n=27).

Goal	Low priority	Medium priority	High priority	Very high priority
Improve the food security and livelihoods of smallholder communities	0.0%	3.7%	25.9%	70.4%
Help communities reduce and adapt to climate change impacts on crops and landscapes	0.00	0.0%	34.6%	65.4%
Reduce inequality through ensuring better opportunities for rural women and youth	15.4%	3.9%	38.5%	42.3%
Safeguard biodiversity and support the sustainable use of natural resources	0.0%	3.9%	26.9%	69.2%
Increase the reach, application and impact of science in agriculture and the environment	0.0%	7.7%	42.3%	50.0%

These answers were broadly similar to those for all responders. Taken together with the prior answer, this suggests overall support for the five goals, with a dissenting minority against the inclusion of the goal on opportunities for women and youth as a separate goal.

When asked to comment on the draft goals, respondents indicated that these goals are well thought out, in line with the Sustainable Development Goals (SDGs), and relevant to the strategic plans of their countries or organizations. Specific comments included:

- The question of where nutrition and health fit in, beyond food production and food safety (goal 1).
- The potential to consider the diversification of agro-ecosystems as a high-level goal.
- How does CABI consider farmers and indigenous knowledge, and their full participation in science (goal 5)?

4.4 Feedback on specific priorities under each goal

Results are presented in each case for the whole responder group, with the numbers of respondents indicated (numbers given are for the main/first question).

4.4a Improving the food security and livelihoods of smallholder communities

Q: Thinking only about CABI's goal of improving the food security and livelihoods of smallholder communities, please tell us….(n = 59)

What is your single biggest priority under this goal? What would you most like CABI to do in order to achieve this goal? (Note, this can include any ideas, and need not be restricted to approaches CABI has identified in this survey as potential priorities under this goal)	The most common suggestion (15 respondents; 25%) was to build advisory and training capacity to ensure farmers get the information and support they need. Some of these responses mentioned the use of ICT and digital tools to facilitate this capacity building. The second most common suggestion (14 respondents) related to the need to improve pest management. Of these, five mentioned the need for lower-risk alternatives to plant protection. Finally, the only other response in the double-digits (10 respondents) was the need for improved market access, or at least some clear incentives to motivate farmers to change their practices.
What partners should CABI work with on funding and/or implementation to make progress on this goal?	25 (42%) mentioned national and sub-national government bodies for research and/or extension as a key partner. The next most frequently mentioned groups were international bodies (e.g. FAO, OECD, WTO) (14 respondents) and donors (11 respondents). FAO was specifically named by nine respondents. Other partner groups that were mentioned to a lesser extent included: NGOs and other development partners; private agribusinesses; CGIAR centres; regional bodies; and local grower groups (three respondents).
After three years, what contribution would you like CABI to have made towards achieving this goal?	The most commonly stated desire was for CABI to contribute towards improved/sustainable crop production (15 respondents). The second most frequent suggestion was improved knowledge and skills (12 respondents) and the third was improved technology and equipment (seven respondents).

Q: Below is a list of areas where CABI might focus our work to accomplish our goal of improving the food security and livelihoods of smallholder communities. For each focus area listed below, please tell us how useful/important this work would be for your country (n = 68)

Area	Not useful /important	Fairly useful/ important	Useful/ important	Very useful / important	Average score (out of 4)
Support sustainable food production by strengthening plant health system stakeholder linkages, including advisory services, research, input supply and regulation.	0.0%	3.00%	23.9%	73.1%	3.7
Predict and prevent pest threats to crops, through co-ordinated prioritization and response plans employing digital technology, as well as earth observation and modelling data.	0.0%	4.4%	42.7%	52.9%	3.49
Improve farmers' market access, incomes and welfare by widening use of low-risk plant protection products and IPM strategies that enable safer production of higher-value produce.	0.0%	4.5%	31.3%	64.2%	3.6
Mobilize agro-input dealers as advisors on, and suppliers of, sustainable crop protection solutions.	3.00%	19.4%	44.8%	32.8%	3.07
Provide research to support investment in SMEs serving the needs of smallholder farmers.	1.5%	19.7%	34.9%	43.9%	3.21

4.4b Helping communities reduce and adapt to climate change impacts on crops and landscapes

Q: Thinking only about CABI's goal of helping communities reduce and adapt to climate change impacts on crops and landscapes, please tell us…….(n = 51)

What is your single biggest priority under this goal? What would you most like CABI to do in order to achieve this goal? (Note, this can include any ideas, and need not be restricted to approaches CABI has identified in this survey as potential priorities under this goal)	The comments related to this question were often related to crop pests and diseases and the use of pesticides to control them, issues known to be of increasing concern in a changing climate, for example, “crop pests and disease”, “reduce maximum residue levels”, “quarantine threats”, etc. Further comments are highlighted below: • Developing resilient crops that would adapt to effects of climate change. • Technologies that help farmers adapt to the effects of climate change, as well as reduce the contribution to climate change. • Provision of research to drive financing for small and medium-sized enterprises (SMEs) contributing to climate adaptation and low-carbon growth. • Focus on agriculture’s contribution to climate change, and opportunities to reduce greenhouse gas emissions from the agriculture, fisheries and forestry sectors in low- and lower middle-income countries. • Prediction of invasive pests under climatic changes.
What partners should CABI work with on funding and/or implementation to make progress on this goal?	Some respondents mentioned “national and local government” or “ministry of agriculture”, etc. One response said “Climate research is all about alliances (AIM4C, GRA, ARA etc.) of funders/researchers to achieve greater impact at scale. CABI needs to join these to be a part of the conversation.” (CABI is in fact already a member of all of these alliances and has contributed significantly to two of them so far, as well as others, such as GACSA). Others suggested closer links with universities specializing in climate change.
After three years, what contribution would you like CABI to have made towards achieving this goal?	Several of the responses across the three questions stated that CABI should be (or is expected to be) developing new crops that are climate resilient. (Development of new crop varieties *per se* is outside CABI’s scope). Other comments included the following: • Strong institutions able to manage the natural resource base in a better way. • Improved knowledge and understanding to underpin and inform climate strategies. • Identification of the most promising [climate-smart agriculture] technologies, the companies, and co-development of business plans for collaboration. • To have secured partnerships with a number of research organizations working towards similar goals.

Q: Below is a list of areas where CABI might focus our work to accomplish our goal of helping communities reduce and adapt to climate change impacts on crops and landscapes. For each focus area listed below, please tell us how useful/important this work would be for your country (n=69)

Area	Not useful/ important	Fairly useful/ important	Useful/ important	Very useful/ important	Average score (out of 4)
Provide smallholder farmers with information and tools that support climate-resilient agriculture.	0.0%	7.25%	30.43%	62.32%	3.55
Support national and farm-level planning and resilience by developing pest risk analytics informed by historical climate data and future climate change scenarios.	3.0%	3.0 %	31.3%	62.7%	3.54
Provide research to drive financing for SMEs contributing to climate adaptation and low-carbon growth.	2.9%	19.1%	39.7%	38.2%	3.13
Develop management and governance plans on a landscape scale (including cropland, grassland, forests and natural areas) to control invasive species and thereby contribute to climate adaptation (e.g. increased ecosystem resilience) and climate mitigation (e.g. increased carbon sequestration).	0.0%	9.00%	35.8%	55.2%	3.46

4.4c Reducing inequality through ensuring better opportunities for rural women and youth

Q: Thinking only about CABI's goal of reducing inequality through ensuring better opportunities for rural women and youth, please tell us….(n = 68)

What is your single biggest priority under this goal? What would you most like CABI to do in order to achieve this goal? (Note, this can include any ideas, and need not be restricted to approaches CABI has identified in this survey as potential priorities under this goal)	Priorities detailed included addressing gender inequality; recognizing women's role, as well as seeking to change their roles and job opportunities (including for youth); and capacity development and training, including information and tool provision. Comments included: • "The biggest priority is to create job opportunities for rural women and youth under national rural revitalization strategy. CABI could provide training to rural women and youth, particularly through [the] plant clinic approach" • "…address gender inequalities in access to, and uptake of, advisory services and technology through targeted approaches to the development and promotion of these goods." • "A good communication action towards the youth that offers a better support to them to have a good life in the rural area. Training them to work [as] innovative leaders in the rural area." • "For me this is how to do all the other goals, not a stand-alone goal. You will need social science. You will need cultural experts to guide CABI. This is a very difficult thing to do."
What partners should CABI work with on funding and/or implementation to make progress on this goal?	The following were identified: local NGOs, national governments and extension services, community-based organizations including women's organizations, grower organizations, local banks that have youth funds, the private sector, FAO, IFAD, World Bank, International NGOs that have youth and women-focused programming, and universities with specific research programmes focussed on human geography/development work, etc.
After three years, what contribution would you like CABI to have made towards achieving this goal?	Key expected achievements include women's and youth empowerment, and a reduction in inequality, achieved through gender- and youth-focused projects and tailored training and education. Comments included: "Implementation of projects that demonstrate how opportunities for rural women and youth can improve their well-being"; "With the technical support of CABI, adequate number of rural women and youth…trained to become plant doctors and to provide advisory services to farmers in rural areas"; "Increased and equal participation of women and youth in agricultural food value chains"; Improved production, income and family nutrition where women play a more visible and equal role in agricultural decision-making."

Q: Below is a list of areas where CABI might focus our work to accomplish our goal of reducing inequality through ensuring better opportunities for rural women and youth. For each focus area listed below, please tell us how useful/important this work would be for your country (n=67)

Area	Not useful /important	Fairly useful/ important	Useful/ important	Very useful/ important	Average score (out of 4)
Create new job opportunities for women and youth as agricultural service providers.	0.0%	7.5%	26.9%	65.7%	3.58
Support women and youth in the production of low-risk bio-based pest control products for local use.	0.0%	18.2%	28.8%	53.0%	3.35
Enhance technology adoption by women and youth farmers through targeted technology development, dissemination, and promotion strategies.	0.0%	6.1%	50.0%	43.9%	3.38
Ensure equitable access to advisory services by providing mixed digital and face-to-face services designed to include marginalized groups.	3.00%	7.5%	44.8%	44.8%	3.31
Pilot social and behavioural change communication (SBCC) approaches that shift social norms underpinning inequalities in access to and benefit from agricultural services.	3.0%	13.6%	40.9%	42.4%	3.23
Promote role models of successful female scientists through SciDev.Net's Role Models series of written interviews and radio podcast episodes.	4.6%	20.0%	41.5%	33.8%	3.05

4.4d Safeguarding biodiversity and supporting the sustainable use of natural resources

Q: Thinking only about CABI's goal of safeguarding biodiversity and supporting the sustainable use of natural resources, please tell us….(n= 47)

What is your single biggest priority under this goal? What would you most like CABI to do in order to achieve this goal? (Note, this can include any ideas, and need not be restricted to approaches CABI has identified in this survey as potential priorities under this goal)	35% of responses focused on the conservation of biodiversity and or reducing its loss and 28% on the increased development, release, and use of biocontrol agents, biopesticides and other low-risk products. Invasive species prevention and control were mentioned five times (11%), twice in combination with climate change. Additional areas mentioned included conducting baseline surveys to understand what is actually present in terms of biodiversity in developing countries, and training local scientists and helping to build biodiversity collections; defining the economic value of biodiversity and its importance to ecosystem functioning and subsequent awareness raising; and, finally, the conservation of local landraces/the domestic gene pool (mentioned three times).
What partners should CABI work with on funding and/or implementation to make progress on this goal?	National and local governments and ministries were mentioned most often (37%). These include ministries of agriculture, the environment, forestry, livestock and conservation. This was followed by a 'group' incorporating NGOs, local farmer associations, invasive species and biocontrol associations (27%); followed by other development agencies, such as CGIAR, FAO, IPPC (17%), and, lastly, universities (7%) and international donors (OECD, World Bank, GBIF) (7%).
After three years, what contribution would you like CABI to have made towards achieving this goal?	Responses here were varied. Biocontrol/IPM was mentioned most often (36%), including the following areas: developing databases/catalogues for biocontrol agents released/available; strengthening the use of biocontrol; harmonized policies; reducing the reliance on pesticides; increased production and use of biocontrol products; increased awareness; support of small biocontrol companies; mass production of biocontrol agents; and more rational/safer pesticide use. A desire was expressed for CABI to have greater engagement and impact at the regional and national level by coordinating between and collaborating with governments, including the development of prevention and action plans for priority invasive species.

Q: Below is a list of areas where CABI might focus our work to accomplish our goal of safeguarding biodiversity and supporting the sustainable use of natural resources. For each focus area listed below, please tell us how useful/important this work would be for your country (n=64)

Area	Not useful/ important	Fairly useful/ important	Useful/ important	Very useful/ important	Average score (out of 4)
Support national and sub-national bodies to develop and implement invasive species management strategies that reduce negative effects on biodiversity, ecosystem service delivery and human well-being.	0.0%	4.8%	28.6%	66.7%	3.62
Provide sustainable nature-based solutions to priority invasive and native pests, including tackling new invasive species by developing, gaining approval for and releasing new biocontrol agents.	0.0%	4.8%	25.8%	69.4%	3.65
Increase the availability and use of low-risk bio-protection products that conserve biodiversity.	0.0%	3.2%	34.9%	61.9%	3.59
Apply CABI's data assets and microbial collections in the cataloguing and conservation of biodiversity.	1.6%	9.8%	44.3%	44.3%	3.31
Develop appropriate strategies for the utilization of biodiversity, such as biocontrol agents and the applications of CABI's microbial collections.	3.3%	3.3%	45.9%	47.5%	3.38

Two comments pertained to collections: *"Support the development of biodiversity collections that can be housed in country surveyed"* and *"[link] systematics collection in the US, EU etc. to collections in developing countries*". Increased community participation featured as well.

One respondent also commented: "*Understanding what biodiversity is present in developing countries is essential to safeguard and sustain it. CABI should collaborate with scientists in these countries to conduct biodiversity surveys, train local scientists and help them to build biodiversity collections."*

4.4e Increasing the reach, application and impact of science in agriculture and the environment

Q: Thinking only about CABI's goal of increasing the reach, application and impact of science in agriculture and the environment, please tell us…. (n=46)

What is your single biggest priority under this goal? What would you most like CABI to do in order to achieve this goal? (Note, this can include any ideas, and need not be restricted to approaches CABI has identified in this survey as potential priorities under this goal)	The main priority emerging from responses to this question is translating research into use, mainly in rural communities – mentioned in 34% of responses. Communication, capacity building and evidence informed policy were also mentioned by multiple respondents (16%, 11% and 9% of responses, respectively), as well as specific topics, including biological control, sustainable agriculture, pest management in relation to climate change, and the conservation of biodiversity. Among the comments were the following: "*To improve the connections between science and its application to solve real-world agricultural challenges, and to be able to talk to a widespread public audience about how this works"*; "*We would like that CABI has supported the development of protocols for surveillance, prevention and control of invasive pests and diseases, supported extensive training of staff in these protocols and assisted with public awareness and education (e.g. production of informative posters – physical and for social media, videos, etc.)"*
What partners should CABI work with on funding and/or implementation to make progress on this goal?	Of 81 partners mentioned, 43% were government partners (including ministries of agriculture and the environment), extension agencies, research bodies, financial institutions, national plant protection organizations and regulatory bodies. Another 24% were international partners – particularly calling out CBD, OECD, IPPC and regional plant protection organizations and research. The private sector, donors, and community partners were mentioned in 5–9% of responses, while NGOs, development partners, publishing companies, networks and media each were mentioned in 4% or less of responses.
After three years, what contribution would you like CABI to have made towards achieving this goal?	40% referred to successful technology uptake, including climate-smart agriculture, environmentally safe technologies, extension approaches, and the surveillance, prevention and control of invasives. Another 18% related to successful networking, 15% to capacity established (including institutional capacity, as well as capacity of agriculture and environmental science professionals, farmer intermediaries and farmers themselves), and 12% to successful research, including climate-smart practices and new biopesticides.

Q: Below is a list of areas where CABI might focus our work to accomplish our goal of increasing the reach, application and impact of science in agriculture and the environment. For each focus area listed below, please tell us how useful/important this work would be for your country (n = 62)

Area	Not useful/ important	Fairly useful/ important	Useful/ important	Very useful/ important	Average score (out of 4)
Enhance, expand and extend the reach of CABI's Publishing and Knowledge products and learning resources.	3.8%	5.7%	32.1%	58.5%	3.45
Increase the output and reach of SciDev.net in independent coverage of science for development.	1.9%	21.2%	36.5%	40.4%	3.15
Champion evidence-based approaches to development and application of FAIR (Findable, Accessible, Interoperable and Reusable) principles in the governance of development data.	0.0%	13.2%	37.8%	49.1%	3.36
Translate scientific research in agriculture and the environment into policy and practice, evaluating how best to deliver positive social and behavioural change in different contexts.	0.0%	5.7%	30.2%	64.2%	3.58
Contribute to the global evidence base through CABI's own scientific and social scientific research.	0.0%	20.8%	26.4%	52.8%	3.32

Five other focus areas were mentioned as highlighted by the following comments:

- "We would like to see CABI assist with implementing science, technology, engineering, and mathematics (STEM) programmes in school that can help to influence and stream students to pursue advanced training in the sciences, particularly in the areas of agriculture, fisheries, etc."
- "Provide capacity building programmes for the institutions of the country to sustain the achievements contributed from CABI."
- "CABI [should] promote technology transfer and South–South co-operation between Member Countries to increase the application and impact of science in agriculture."
- "Support [the] function of regulatory bodies."
- "Research projects that involve local universities/institutions."

4.5 Impact of COVID-19 on priorities

Q: Has COVID changed how you would like CABI to focus our efforts in the future? If so, please describe

41 respondents answered this question. Many felt that CABI's focus areas should remain the same but that the organisation needs to take advantage of ICTs for content development and the delivery of knowledge, advisory and e-learning services, as well as disseminating technologies and sharing experiences.

Illustrative comments included:

- "Yes, CABI should help its Members in ensuring….national food security [is] achieved."
- "To create more cluster online meetings/webinars and provide more video clicks for dissemination of technology and experience sharing to designated organization/ institutes or through [the] internet."

- "Yes, there is need to build capacity in e-learning on how to use CABI's resources. Use of cell phones in sending messages related to pest control. Pest forecasting and management."
- "Digital tools to provide remote agricultural extension and advisory services to farmers are strongly required due to COVID-19 restrictions."
- "CABI's footprint in low- and lower middle-income countries has been an advantage during COVID. It is important that CABI maintain (and expand) this footprint and provide ways that funders can take advantage of this ready capacity. Most funders are looking to have more project leadership in country and increase South–South collaboration. This is an opportunity for CABI."
- "CABI should…focus on production of healthy foods and also capacity building activities related to pest and disease management."
- "Yes. You need to be more assertive in reaching out. Need to expand your network of collaborators, donors, government relationships. Need to use more Zoom and IT technologies with donors and partners; and more phone connections with farmers."

4.6 Major programme plans

Q: Over the years, CABI has developed a number of large, multi-country programmes, such as Plantwise and Action on Invasives, and lately, Plantwise Plus. If you had to choose one problem or challenge which CABI should address by developing a new, large-scale global or pan-regional programme, what would it be?

The 43 responses to this question were quite varied. Plantwise/PlantwisePlus was mentioned six times, with one respondent lamenting the end of Plantwise classic. Seven respondents mentioned different aspects of pest management, including pest early warning and phytosanitary systems, and four highlighted aspects of climate-smart agriculture. Another four mentioned digital platforms, either for decision support or knowledge management: four on food and nutrition security and three on different aspects of land management. Other problems/challenges mentioned once included the following: COVID recovery; encouraging youth in agriculture; FAIR data; financial services for farmers; Global Burden of Crop Loss (GBCL); information for smallholders; interdisciplinary; soil health; policy; science communication; and water security. Some illustrative examples of comments given by respondents include the following:

- "Climate change will be the most challenging problem in the coming years. Having a programme that brings together all the challenges and solutions may be the next CABI goal."
- "Having a sustainable post-COVID-19 recovery strategy for those in the agricultural sector."
- "We would like CABI to find ways to collaborate with secondary and tertiary institutions to expose young people to pursue agriculture and related fields. There is a shortage in these areas."
- "Data management is a growing challenge. CABI's work on FAIR (Findable, Accessible, Interoperable and Reusable) data could act as the foundation of a large initiative, not just useful for low and lower middle-income countries, but members, funders and high-income country research providers as well."
- "The problem of nutrition and nutritious food which is accessible and affordable for all is not mentioned/part of that strategy. CABI could consider to not only increase productivity but also make the link with nutrition and health more explicit!"
- "CABI should continue doing and focus on what it is good at (improve food security, agricultural productivity and production). Stay as close as possible to your strength. Do not venture out and follow 'trends' and 'fashion'."
- "Global Burden of Crop Loss led by CABI is foreseen as an important global initiative to support better decision-making across plant health systems by enabling prioritization of research agendas".
- "One of the challenges for us is that programmes such as Plantwise are no longer being offered in this region. This is a very important initiative that we looked forward to implementing to assist our farmers and extension workers in particular in improving agriculture and sustainable food production."
- "The science communication and public understanding challenge. Communicating with people about why this work is important, what it achieves, etc. I think is the biggest challenge we are facing right now."

Annex 1 – Briefing Document for Stakeholder Survey and Regional Consultations

About CABI

CABI is an international not-for-profit organization that improves people's lives by providing information and applying scientific expertise to solve problems in agriculture and the environment. We use our skills to address the biggest challenges facing humanity, including hunger, poverty, climate change, gender inequality and the loss of biodiversity. As an intergovernmental organization, our work is guided and influenced by our 49 Member Countries. Building on more than 100 years' experience and a physical presence in over 20 locations worldwide, we work in partnership with our Member Countries, donors and other stakeholders to make a difference through our international development, knowledge management and scientific expertise, publishing products, tools, and biological resources and services.

International Development

CABI works with its partners to help farmers sustainably grow more and lose less of what they produce, combat threats to agriculture and the environment from pests and diseases, protect biodiversity from invasive species and improve access to agricultural and environmental scientific knowledge.

Knowledge/Publishing Business

CABI supports study, practice and professional development through its award-winning products, research services, open access products and support tools, which include the CAB Abstracts and Global Health databases, compendia, knowledge tools and portals, digital learning packages, books and eBooks.

Research

CABI's Science Strategy for 2022-25 identifies climate change alongside gender and social inclusion as overarching drivers for our research, which focuses on four areas: the impact of pests, management of invasive species, improved and safer food systems, and advisory services and communication tools.

Regional Consultations

The triennial Regional Consultations serve as a mechanism for CABI to listen to and engage directly with its Member Countries and other stakeholders. They help us to develop CABI's three-year Medium-Term Strategy and feed strategic recommendations into CABI's Review Conference. The meetings have traditionally been attended in person but, due to Covid-19 travel restrictions, the Regional Consultation process in 2022 will take place virtually in April and May 2022:

- Asia-Pacific: 05:00-08:00 UTC (06:00-09:00 BST), Wednesday, 13th April 2022
- The Americas and Europe: 13:00-16:00 UTC (14:00-17:00 BST), Wednesday, 27th April 2022
- Africa: 12:00-15:00 UTC (13:00-16:00 BST), Wednesday, 11th May 2022

Draft Goals for the Next Medium-Term Strategy, 2023-2025

Five draft goals were prepared and tested in a stakeholder survey held during February 2022. Descriptions of these follow, together with listings of specific areas and priorities under each goal that were evaluated in the survey.

Improve the food security and livelihoods of smallholder communities

This goal would encompass work from regional, national and farm levels to support sustainable food production (ensuring more, safer and higher quality food). This includes efforts to improve national plant health system stakeholder linkages, enhance a country's ability to predict and prevent threats to crops and provide timely information to farmers. It would also include programmes that improve market access and incomes for smallholders by supporting climate and pest-resilient production - including through wider use of low-risk plant protection products and integrated pest management strategies - and enhancing national sanitary and phytosanitary frameworks. Another element would be mobilization of private sector actors to support these goals, notably agro-input dealers as advisors to farmers, and investors in relevant small and medium enterprises (SMEs), who need better information on investable opportunities.

Priorities tested in the survey were:

- Support sustainable food production by strengthening plant health system stakeholder linkages, including advisory services, research, input supply and regulation
- Predict and prevent pest threats to crops, through co-ordinated prioritisation and response plans employing digital technology as well as earth observation and modelling data
- Improve farmers' market access, incomes and welfare by widening use of low-risk plant protection products & integrated pest management strategies that enable safer production of higher value produce
- Mobilise agro-input dealers as advisors on and suppliers of sustainable crop protection solutions
- Provide research to support investment in SMEs serving the needs of smallholder farmers

Help communities reduce and adapt to climate change impacts on crops and landscapes

This goal would cover work to promote adaptation to climate change on farms, across broader landscapes, and in national planning. It would encompass information and tools provided to smallholder farmers to support climate resilient approaches to agriculture. Recognizing the links between climate change and biotic threats from pests, diseases and invasive species, it would include development of pest risk analytics informed by historical climate data and future climate change scenarios. It would feature landscape-wide management and governance plans to control invasive species and thereby contribute not only to climate adaptation (increased ecosystem resilience) but also to mitigation (increased carbon sequestration). It would also include provision of research to drive financing for SMEs contributing to climate adaptation and low-carbon growth.

Priorities tested in the survey were:

- Provide smallholder farmers with information and tools that support climate-resilient agriculture
- Support national and farm-level planning and resilience by developing pest risk analytics informed by historical climate data and future climate-change scenarios
- Provide research to drive financing for SMEs contributing to climate adaptation and low-carbon growth
- Develop management and governance plans on a landscape scale (including cropland, grassland, forests and natural areas) to control invasive species and thereby contribute to climate adaptation (e.g. increased ecosystem resilience) and climate mitigation (e.g. increased carbon sequestration).

Reduce inequality through better opportunities for rural women and youth

This goal would focus on creating new employment opportunities for rural women and youth linked to value-adding opportunities around agricultural value chains, including local production of low-risk biological pest control products. It would address gender inequalities in access to, and uptake of, advisory services and technology through targeted approaches to the development and promotion of these goods. It would include piloting of Social and Behavioural Change Communication (SBCC) approaches aimed at shifting social norms underpinning inequalities in access to and uptake of agricultural services. These specific aims would link to a wider imperative to mainstream gender considerations in all CABI programme work and to use CABI's platforms to promote female role models in agriculture and the environment, e.g. via SciDev.Net's Role Models series.

Priorities tested in the survey were:

- Create new job opportunities for women and youth as agricultural service providers
- Support women and youth in production of low-risk bio-based pest-control products for local use
- Enhance technology adoption by women and youth farmers through targeted technology development, dissemination and promotion strategies
- Ensure equitable access to advisory services by providing mixed digital and face to face services designed to include marginalised groups

- Pilot Social and Behavioural Change Communication (SBCC) approaches that shift social norms underpinning inequalities in access to and benefit from agricultural services
- Promote role models of successful female scientists through SciDev.Net's Role Models series of written interviews and radio podcast episodes.

Safeguard biodiversity and support sustainable use of natural resources

This goal would cover CABI's work to conserve biodiversity through promotion of nature-positive approaches to agriculture, including integrated pest management and the greater use of biological alternatives to toxic pesticides. It would feature efforts to minimize the disruption of ecosystems by invasive species, including work to develop and facilitate implementation of national plans for their management and the identification, development and release of new and safe biocontrol agents. It would also include other strategies to utilize biodiversity, such as developing applications for CABI's microbial collections, as well as investigation of opportunities to use CABI's microbial collections and data assets in the cataloguing of biodiversity and changes in species distributions over time.

Priorities tested in the survey were:

- Support national and subnational bodies to develop and implement invasive species management strategies that reduce negative effects on biodiversity, ecosystem service delivery and human well-being
- Provide sustainable nature-based solutions to priority invasive and native pests, including tackling new invasive species by developing, gaining approval for and releasing new biocontrol agents.
- Increase the availability and use of low-risk bio-protection products that conserve biodiversity
- Apply CABI's data assets and microbial collections in the cataloguing and conservation of biodiversity
- Develop appropriate strategies for utilisation of biodiversity, such as biocontrol agents and applications of CABI's microbial collections

Increase the reach, application and impact of science in agriculture and the environment

This goal would capture further development of the many ways CABI reaches different stakeholders with high-quality evidence relevant to policy and practice. The abstract and indexing, journals, books, compendia, e-learning and training resources from CABI's Knowledge Business are complemented by independent journalism on science for development from ScDev.Net, and CABI's expertise in developing and evaluating diverse extension approaches designed to translate evidence into practice. It would also cover further expansion in CABI's role as a creator and curator of knowledge through its own scientific and social scientific research, data aggregation, analysis and modelling, and increasing effort around appropriate governance of data in development projects.

Priorities tested in the survey were:

- Enhance, expand and extend the reach of CABI's Publishing and Knowledge products and learning resources
- Increase the output and reach of SciDev.net in independent coverage of science for development
- Champion evidence-based approaches to development and application of FAIR (Findable, Accessible, Interoperable and Reusable) principles in the governance of development data
- Translate scientific research in agriculture and the environment into policy and practice, evaluating how best to deliver positive social and behavioural change in different contexts.
- Contribute to the global evidence base through CABI's own scientific and social scientific research

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