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DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK
MULTILATERAL INVESTMENT FUND

REGIONAL

AGTECH EXPERIMENTATION CONSORTIA

(RG-T3350)

DONORS MEMORANDUM

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PROJECT SUMMARY

AGTECH EXPERIMENTATION CONSORTIA (RG-T3350)

The evolution of technology applied to the agricultural sector creates interesting potential for agtech startups. However, successful ventures are still scarce. The agtech entrepreneurial ecosystem (which ranges from research to venture capital funds) is increasing in density more slowly than other sectors and is still perceived to be risky, which acts as a brake on venture capital investments in this segment.

On the demand side, few producers adopt recently-developed technological solutions. This low rate can be explained by the mismatch between the solutions offered and the problems encountered by agricultural producers, which differ by sector (e.g. livestock, crop, dairy, fruit, and vegetable).

The project's main objective is to strengthen the ties between the productive sector and the developers of agtech solutions so that high-impact solutions can be brought to market and widely adopted by producers. The innovation proposal consists of an incubation laboratory that would enable producers and developers to work together on developing solutions that can be tested in the field and generate repeated improvements. This linkage between producers and developers would materialize under the framework of organizations such as the Regional Agricultural Experimentation Consortia (CREA), which are institutions that generate and manage knowledge among producers and their environment. Starting with the main problems faced by the agricultural sector, the development of innovative and commercially sustainable agtech solutions will be promoted.

The program will encourage more producers to get involved the process of generating solutions for the sector. According to estimates, at least 20% of CREA producer members in Argentina, Bolivia, and Paraguay will actively participate in the agtech ecosystem, serving as visionaries or co-developers, early-adopters, mentors, validators, or financiers. The three countries have CREA groups with more than 2,200 producer members, the oldest being the Argentine organization. The groups arose in Bolivia and Paraguay through their links with bordering countries.¹

As for solutions, it is anticipated that at least 40 groups of entrepreneurs who co-develop agtech solutions will benefit. Of them, 30% will develop tested and commercially validated solutions and half will continue the acceleration and scale-up process. The program's indirect beneficiaries will be: (a) some 1,600 producers who will receive training in using agtech solutions; and (b) the academic community, through mutual cooperation in developing solutions.

IDB Lab will actively support the operation in its role as a nexus with global ecosystems. Leveraging the reputation of the CREA movement, it will promote linkages with other institutions in the innovation ecosystem around the world to enrich the co-creation methodology and the agtech ecosystems of Argentina, Bolivia, and Paraguay as a whole.

¹ Uruguay has a peer organization—Federación Uruguay de Grupos CREA (FUCREA)—but its strategic priorities for the coming years do not include agtech solutions

ANNEXES

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Proposed resolution

INFORMATION AVAILABLE IN THE TECHNICAL DOCUMENTS SECTION OF THE IDB LAB PROJECT INFORMATION SYSTEM

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ABBREVIATIONS

AACREA	Asociación Argentina de Grupos CREA [Argentine Association of CREA Groups]
AB-CREA	Asociación Boliviana de Grupos CREA [Bolivian Association of CREA Groups]
CREA	Consortios Regionales de Experimentación Agrícola [Regional Agricultural Experimentation Consortia]
CREA Paraguay	Asociación de Grupos CREA de Paraguay [Paraguayan Association of CREA Groups]
CRF	Corporate Results Framework (IDB)
CTI	Competitiveness, Technology, and Innovation Division (IDB)
FONTAGRO	Fondo Regional de Tecnología Agropecuaria [Regional Fund for Agricultural Technology]
KIC	Department of Knowledge, Innovation, and Communication (IDB)
RND	Environment, Rural Development, and Disaster Risk Management Division (IDB)
SMEs	Small and medium-sized enterprises

**REGIONAL
AGTECH EXPERIMENTATION CONSORTIA
(RG-T3350)**

EXECUTIVE SUMMARY

Country and geographic location:	Argentina, Bolivia, and Paraguay. The project will be executed in the three countries and may also benefit agtech entrepreneurs in others that seek support from the CREA organizations in the three aforementioned countries.		
Executing agency:	AACREA – Asociación Argentina de Consorcios de Experimentación Agrícola [Argentine Association of Agricultural Experimentation Consortia]		
Focus area:	Climate-smart agriculture		
Coordination with other donors/Bank operations:	The project interfaces with the IDB Group's agtech working group whose participants include the Environment, Rural Development, and Risk Management Division (RND); the Competitiveness, Technology, and Innovation Division (CTI); the Knowledge, Innovation, and Communication Sector (KIC); IT Lab; the Regional Fund for Agricultural Technology (FONTAGRO); and IDB Invest. This group identified promotion of the region's agtech ecosystem as a priority. The project complements CTI operations in Argentina and RND operations in all three participating countries.		
Project beneficiaries:	The direct project beneficiaries are: (i) 40 business ventures to be incubated via the CREA methodology; (ii) at least 20 business ventures to receive finance; (iii) 400 producers that participate in the agtech ecosystem; (iv) at least 13 viable products to undergo technical and commercial validation; and (v) CREA to incorporate entrepreneurs as members of its movement.		
Financing:	Nonreimbursable technical-cooperation funding:	1,225,000	
	Other IDB Lab funding:		
	Total IDB Lab contribution:	1,225,000	51%
	Counterpart:	1,195,000	49%
	Total project budget:	2,420,000	100%
Execution and disbursement periods:	48 months for execution and 54 months for disbursement		
Special contractual conditions:	Conditions precedent to the first disbursement of the nonreimbursable funds: (a) appointment of the project coordinator; (b) letters of agreement signed by CREA Paraguay and the Bolivian Association of CREA Groups to execute the project and use the contribution; and (c) arrangement acceptable to the Bank for charging for incubation services.		
Environmental and social impact review:	This operation was screened and classified as required by the IDB's Environment and Safeguards Compliance Policy (Operational Policy OP-703) on 17 October 2018. Since the impacts and risks are limited, the proposed classification of the project is category "C" (low risk).		
Unit with disbursement responsibility:	MIF/CAR		

I. THE PROBLEM

A. Problem description

- 1.1 The agricultural sector faces unprecedented challenges in terms of ensuring a reliable food supply, given uncertainty surrounding the impact of climate change on traditional production methods. From the lens of technological development, this situation offers a very important opportunity to innovate along the entire value chain (use of inputs, agricultural production, transportation, distribution, storage, water disposal). Accordingly, the region is experiencing a significant increase in the number of agtech startups. A 2017 [IDB Lab survey](#) identified 130 such startups in Latin America and the Caribbean. According to [The Yield Lab](#), this figure doubled one year later. That same IDB Lab study found that young companies are leading agtech supply, 60% of which were established during the last five years, indicating that the market is in full development. By way of comparison, in Israel, a known innovation hub, 60% of companies have been operating for more than 10 years. As for the types of startups, 70% of them in Latin America and the Caribbean focus on the digitization of agriculture. Biotechnology, by contrast, requires more time and entails higher risk and therefore its share of the supply is still small.
- 1.2 All these developments will be crucial for agricultural producers who need solutions to address the above-mentioned challenges, with a view to increasing their productivity, becoming more resilient to climate change, and managing natural resources more sustainably. Nonetheless, only a handful of producers have adopted recently-developed technological solutions. For example, just 15% of CREA producers in Argentina^{2, 3} practice variable-rate application of seed or fertilizers, which is essential for precision agriculture. Nevertheless, according to the study "[La revolución Agrotech en Argentina](#)" [The Agrotech Revolution in Argentina], producers have an underlying culture of innovation and willingness to incorporate technology. In fact, during the 1990s, the pace at which biotechnology developments were adopted in Argentina—and later in the Southern Cone countries—was very fast, facilitating, *inter alia*, unprecedented productivity gains attributable to the use of direct seeding methods. This willingness among producers is a positive factor in terms of informing and encouraging demand.
- 1.3 Despite producers' propensity to adopt agtech solutions, the startups that are prospering in that field are still few and far between. The density of the agtech entrepreneurial ecosystem, which includes everything from research to venture capital funds, is growing at a much slower pace than other sectors. According to the Association for Private Capital Investment in Latin America (LAVCA), venture capital investments surpassed US\$1 billion in 2017 and, for the first time, the amount invested in startups doubled in 2016. However, just 7% of contracts closed in 2017 went to finance agtech. The existing supply of

² According to the CREA census, as of year-end 2014 some 45% of CREA producers had identified such areas on their farms (based on soil characteristics) while 57% had maps of the yield from fields on their farms. This figure reflects a relatively high percentage of producers who have taken steps to profile and delimit environmental heterogeneity—the starting point for precision agriculture. However, just 15% of CREA members were practicing variable-rate application of fertilizers and seed, and not necessarily everywhere on the farm (i.e. the percentage of farmers who really practiced precision farming was very low).

³ The CREA network is comprised of groups of 10 to 12 producers who meet to share knowledge and experience. These groups have access to a CREA technical advisor. At the country level, CREA groups have established associations, including the Argentine Association of CREA Groups (AACREA), the Bolivian Association of CREA Groups (AB-CREA), and the Paraguayan Association of CREA Groups (CREA Paraguay).

financing is targeted to global solutions with high potential for scale-up; it provides few incentives for solutions that could create value added at the regional level and therefore remains scarce. This shows that, despite having enormous potential, the sector is still seen as risky. This risk is associated with two main factors: (i) the low success rate of agtech startups; and (ii) the difficulties inherent in the scale-up of these solutions and getting more users to adopt them.

- 1.4 Based on the good practices described in the above-mentioned studies, one factor explaining the low rates of technology adoption is the asymmetry of information between problems and the supply of solutions. Producers: (i) have difficulty pinpointing the problems of their productive activities and communicating them through the appropriate channels to reach the ears of prospective suppliers of solutions; (ii) are unaware of the solutions available and are not trained and/or willing to pay for their use; and (iii) not all producers are in a position to assume the risk entailed in adopting such innovations. In turn, the developers of solutions do not have perfect information either, since: (i) many are unaware of specific problems affecting the rural sector (vertical differences); (ii) they do not understand the challenges entailed in applying solutions (e.g. connectivity, producer idiosyncrasies, and/or the particular features of production systems in the different parts of the region); (iii) they do not have a firm grasp of the profiles of the adopters (sector technicians, owners, employees); (iv) they do not have clear channels of communication with the productive sector; and (v) many entrepreneurs in the agtech niche lack basic entrepreneurial training necessary to grow their businesses.

B. Beneficiaries

- 1.5 This entrepreneur-producer methodology for developing agtech solutions should benefit the agtech ecosystem as a whole, generating better solutions for farming and increasing producers' rate of technology adoption.
- 1.6 The project will foster greater engagement among producers in the generation of solutions for the sector. It is expected that at least 20% of CREA producer members in Argentina, Bolivia, and Paraguay will participate actively in the agtech ecosystem as visionaries or co-developers, early-adopters, mentors, validators, or financiers. The three countries have agricultural experimentation consortia (also known as CREA groups), with the Argentine organization being the oldest. In the case of Bolivia and Paraguay, their CREA groups arose through their linkage with bordering countries.
- 1.7 As for as for solutions, it is anticipated that at least 40 groups of entrepreneurs who co-develop agtech solutions will benefit. Of these, 30% will develop tested and commercially validated solutions, half of which will continue on to the acceleration and scale-up process. The project's indirect beneficiaries will be: (a) some 1,600 producers who will receive training in the use of agtech solutions; and (b) the academic and research community (universities, national agricultural technology institutions) in each country, through mutual cooperation in developing solutions.

II. THE INNOVATION PROPOSAL

A. Project description

- 2.1 The project's main objective is to strengthen linkages between the productive sector and the developers of agtech solutions so that high-impact solutions can be brought to market and widely adopted by producers.

- 2.2 The project proposes to strengthen the innovation ecosystem with the aim of developing agtech solutions, thereby reducing the failures in coordination between potential users of these solutions and entrepreneurs. Starting with the main problems faced by the agricultural sector, the development of innovative and commercially-sustainable agtech solutions will be promoted.
- 2.3 Accordingly, the CREA producers associations of Argentina, Bolivia, and Paraguay have identified the opportunity for establishing a regional laboratory to promote the development of agtech solutions and creating an avenue for linkage between users, developers, investors, and other stakeholders in the entrepreneurial ecosystem, with the goal of co-designing agtech solutions aligned with agricultural problems and opportunities which will lead to their effective adoption.
- 2.4 In this context, co-development of solutions is defined as the process of identifying problems and responding to them in a systematic framework shared by the main stakeholders (i.e. producers, adopters, entrepreneurs, incubators, financiers, and academics). To achieve the best possible outcomes, the creators of the solutions and their potential adopters will craft the solutions together.
- 2.5 The jointly-developed solutions will leverage the opportunities offered by the Fourth Industrial Revolution and address challenges of the productive sector. These will have a transformative vision based on: (i) inclusiveness: serve different types of agricultural producers; (ii) sustainability and resilience: boost productivity but through the sustainable use of natural resources, with the capacity to adapt to and mitigate the impact of climate change; (iii) efficiency: achieve the fewest losses and waste throughout the chain; and (iv) nutrition: promote the production of more nutritious and safer food.
- 2.6 This requires complementarity and synergy between producers, academics, and entrepreneurs, and a combination of skills and knowledge from the business, biological, agronomical, environmental, digital, and biotechnological standpoints, among others. To attain the proposed objective, the project will work to reduce information asymmetries between agricultural producers and solutions developers through avenues for collaborative work.
- 2.7 Participatory methodologies will be implemented to identify the main problems and/or challenges in the subsectors. These challenges will be transformed into open calls for proposals at the regional (Argentina, Bolivia, Paraguay) or country level, in which it is hoped that innovative solutions will be proposed by entrepreneurs through open innovation processes. The solutions selected for development will be incubated using the methodology developed by the CREA associations, which will take best market practices into consideration and will, in particular, have CREA producers and advisors at the regional level acting as technical mentors. In addition, the farms of CREA producer members will serve as validation proving grounds for the resulting technologies on a commercial scale. As mentioned in paragraph 3.6, this initiative complements operation RG-G1020, *From Science to Impact: Unlocking AgTech in Latin America the Caribbean*. Although operation RG-G1020 uses similar tools, its focus is on strengthening the relationship between producers and agtech entrepreneurs to generate impact, by encouraging producers to adopt technology and engage with the ecosystem, and attracting entrepreneurs to develop agtech solutions for producers.
- 2.8 Startups will receive support for scale-up, primarily through the dissemination of business cases and the development of networking systems with financiers and large companies that can structure demand for agtech solutions. Leveraging the reputation that the CREA groups enjoy, actions will be promoted to establish linkages with other actors of the

innovation ecosystem. IDB Lab, in its role as nexus with global ecosystems, will support exchanges and study tours to leading ecosystems, such as the United States and Israel, with the aim of taking part in knowledge frontier exchange forums, investment rounds, and disseminating the possibility of incubating business ventures with field testing in the participating countries (co-development).

- 2.9 **Last mile.** The development of technology-based solutions with an exponential impact will be promoted, generating value proposals for small and medium-sized (SME) producers who are not currently served by developers of agtech solutions. The CREA associations in the three countries represent more than 70% of producers with fewer than 10 employees, which puts them in that size category. Subsectors—e.g. dairy, livestock, and fruit and vegetables—will also be considered, provided that the solutions are able to generate business opportunities for entrepreneurs in these subsectors, while serving SME producers who have traditionally been neglected.
- 2.10 **Innovation.** The distinguishing feature of the proposal is its focus on broadening the base of agtech solutions by effectively and efficiently matching and coordinating entrepreneurs and producers. In this way, the project will address problems associated with the lack of alignment between agtech supply and the needs of the region's producers with respect to greater productivity and sustainability, better adaption and resilience, and reduction of their vulnerability to climate change. The solutions will take account of connectivity and user willingness-to-pay, among other basic factors related to their adoption by users. One distinctive aspect is that this solution arises from the productive sector itself, which sees an opportunity to meet its needs with this kind of innovation.
- 2.11 The CREA associations are in an advantageous position to match private stakeholders with unexplored market opportunities in early stages of the innovation chain, by leveraging knowledge of the problems encountered by their producer members and enabling key players in the agtech ecosystem to participate in the project.

Component I: Reducing information asymmetries between the productive and entrepreneurial sectors (IDB Lab: US\$298,900; local counterpart: US\$545,000)

- 2.12 The objective of this component is to establish channels of communication and the sharing of information between producers and developers with the goal of reducing information asymmetries between the two. This component's activities will leverage the initiatives and events generated by both sectors relating to agricultural innovation. The following activities will be carried out to connect the productive and entrepreneurial environments.
- 2.13 **Generation of information and knowledge.** The project will generate strategic information and knowledge that is currently unavailable. It will profile potential demand among users for agtech solutions in the three countries where the project will be active. This information will serve as support for the project's baseline and as input for the process of co-developing solutions as well as strategies to promote the adoption and scale-up of those solutions. Key stakeholders in the ecosystem will be mapped in each of the countries and internationally. Complementing this effort, a prospective study will be conducted on agricultural technologies applied in relevant productive subsectors for the CREAs in the three participating countries. Using participatory methods (e.g. design thinking), the major problems and challenges of set of productive subsectors will be identified and this information will then be shared with entrepreneurs.
- 2.14 **Linkage of stakeholders.** In-person activities will be held to link producers and entrepreneurs in the natural environments of each group. They will include dissemination activities, such as workshops and events to demonstrate agtech solutions in producers'

environments. Periodic opportunities for producers and developers to meet in the countries and regions will also be promoted, including speed-dating and hackathon events.

- 2.15 For this component, the following outcomes are anticipated: (i) main problems identified in at least 10 vertical agricultural production structures, using participatory methodologies; (ii) three surveys to profile potential agtech adopters administered; (iii) three maps of agtech ecosystems prepared; (iv) twenty-one periodic encounters between producers and entrepreneurs held; (v) twenty events/workshops to sensitize producers to agtech solutions held; (vi) some 15,000 producers sensitized at agtech opportunities; and (vi) one prospective agtech study completed.

Component II. Co-developing agtech solutions (IDB Lab: US\$444,300; local counterpart: US\$370,000)

- 2.16 This component will support co-development of agtech solutions to address the challenges or problems faced by agricultural producers in the three participating countries.
- 2.17 **Calls for solutions.** Annual challenges will be launched to encourage proposals for new regional-level solutions to problems prioritized by each productive subsector in which the CREA exercise technical leadership. Entrepreneurs or teams that propose the most promising solutions will be selected by panels of experts from a variety of sectors. The evaluation process will take account of factors such as consistency between the solution and the problem, the opportunity to be grasped, environmental externalities generated through effective implementation, the technical capacity of the entrepreneur and/or technical team, the time frame and amount required to develop the solution, and its technical and commercial feasibility.
- 2.18 **CREA incubator.** Entrepreneurs who propose the most promising solutions will be incubated by the CREA associations, which will develop a new business unit in its innovation area that will be responsible for their co-development. Training in essential aspects of entrepreneurship⁴ will be provided by prominent institutions selected to work in partnership with the CREA associations. Training in the specific agricultural techniques of the value propositions and technical assistance in those areas will be provided by the CREA associations. For concrete aspects related to the particular features of projects, specialized mentors will be contracted. As a distinguishing feature of the incubation process, a network of mentors and testers will be established with CREA advisors and producers, who will provide specialized mentoring services and offer their farms to field test and validate the solutions. They will also offer technical opinions during user experience with the solution. CREA associations will establish a mechanism for charging for incubation services, based on the economic sustainability of the proposal. The mechanism will include fixed and variable payments based on minimum results. The plan will be submitted to the Bank for consideration and the income generated during the project will be used to finance operating costs.
- 2.19 **Dissemination of the co-developed solutions.** Solutions with the most potential for success will be presented at specific events with CREA producers and advisors. IDB Lab will reserve the right, but not the obligation, to support the future scale-up of innovations of interest to it, under different financing conditions to be negotiated with entrepreneurs after they have participated in the proposed project.

⁴ Basic training for entrepreneurs will include the following modules as a minimum: market analysis; business plan; cost; sales; personnel; and entrepreneurial skills.

- 2.20 For this component, the following outcomes are anticipated: (i) four calls held for solutions; (ii) two hundred submissions received; (iii) forty business ventures selected for the CREA co-development process; (iv) fifty percent of the solutions field tested on producer farms; (v) CREA incubation methodology developed; and (vi) sixteen promising solutions presented and disseminated among technicians and producers.

Component III: Promoting the scale-up of solutions (IDB Lab: US\$177,500; local counterpart: US\$87,500)

- 2.21 The objective of this component is to promote the scale-up of the most promising solutions following the co-development and incubation processes. The following activities will be carried out to that end.
- 2.22 **Business cases.** Business cases (objective information) will be developed for the most promising solutions, describing the solution itself, the innovation it represents, its outcomes in terms of increased productivity or process efficiency, and the economic outcomes generated through the validation processes, among others.
- 2.23 **Linkage to large companies and investors.** Leveraging the CREA movement's broad network of contacts, promising solutions will be presented to large companies and corporations in the sector. As structurers of demand, these companies have the potential to reach a large number of users. In addition, entrepreneurs will be supported in the process of seeking funding for subsequent stages (seed capital, angel investments) and will receive training in investment readiness.
- 2.24 **Investor training.** Since some AACREA producers have already begun to invest in early stages and to add more producers to this process, courses will be offered to provide producers with the tools they need to participate as angel investors or in smart capital funds in the subsequent investment stages for the most promising ideas.
- 2.25 **Adopters clubs.** Using the CREA group profiling methodology, the establishment of groups of adopters will be promoted, where "visionaries" and early adopters can share their experiences with other producers, thereby supporting the scale-up of the most promising technological solutions.
- 2.26 For this component, the following outcomes are anticipated: (i) twelve businesses cases developed and disseminated for scale-up; (ii) at least one case presented to large companies or corporations in the sector; (iii) eighteen entrepreneurs trained in investment readiness; (iv) ninety producers participating in investor training programs; and (v) three adopters clubs operating.

Component IV: Engaging with the entrepreneurial ecosystem (IDB Lab: US\$92,500; local counterpart: US\$42,700)

- 2.27 The objective of this component is to promote the linkage of the CREA association incubator with the rest of the innovation system in each of the countries and globally, to promote the model helping to increase the adoption of solutions by producers and their co-development by producers and entrepreneurs. As a result, the local ecosystem should become denser, with more stakeholders, including users (basically producers), financiers, entrepreneurs, and academics, generating a larger and better flow of information and knowledge.
- 2.28 To that end, specific actions will be developed for linkage with the innovation ecosystems in each of the countries with which ties have been established, for the purpose of understanding how they created and developed their own agtech ecosystems in their specific circumstances and conditions.

- 2.29 IDB Lab will support the CREA associations' efforts to organize study tours to leading ecosystems such as St. Louis, Minnesota, and California in the United States, Australia, or Israel, and in establishing links with international investors specifically seeking investment opportunities in the region in this area.
- 2.30 The CREA associations' incubation model will be disseminated at special events in each of the countries and other such events at the regional level.
- 2.31 For this component, the following outcomes are anticipated: (i) four study tours to leading international ecosystems held; (ii) fourteen activities held to establish links with local and international stakeholders who are relevant for the innovation system; and (iii) six external events held to present the CREA incubation model.

B. Project results, measurements, monitoring, and evaluation

- 2.32 The goal by the end of the project is to have developed an incubation methodology that combines the participation of agricultural experimentation consortia (producers groups) and teams of entrepreneurs to develop high-potential agtech solutions. It is anticipated that at least 13 solutions will be developed and tested technically and commercially (MVP-minimum viable product), 60% of which will receive financing and be subject to acceleration processes so they can continue to be scaled up.
- 2.33 With respect to producers, at least 20% of CREA members will participate in the project, carrying out specific activities as early adopters of technology, mentors, co-developers, or investors in the business ventures, bringing about a change in the institution's culture. It is expected that the CREA movement will actively incorporate entrepreneurs as key players for the sector's development, generating exchanges of information and knowledge that will help to increase the density of the agtech ecosystem.
- 2.34 **Project monitoring.** The project will have a monitoring and evaluation system based on an open-source platform that can be fed in real time by producers, group technical experts, incubation specialists, and by the entrepreneurs themselves. The system will make it possible to fine-tune the processes related to the calls for proposals, selection, co-development, testing, adoption, and scale-up of agtech solutions. The system, whose data will be compatible with the data obtained periodically by CREA through surveys, will make it possible to observe the changes resulting from the use of agtech solutions.
- 2.35 Studies (that could be used as a final external evaluation) will be conducted funded by the IDB Lab contribution, for the purpose of answering the following questions: (i) Has the co-development methodology helped to generate ventures with a higher-than-average success rate? (ii) Has the rate at which new technology is adopted by CREA entrepreneurs and their sphere of influence increased? (iii) Were the entrepreneurs incubated by CREA able to find financing in the local/regional ecosystem? (iv) Were the startups incubated by CREA scaled up to reach other markets? (v) Were innovations generated? (vi) Were other players in the ecosystems included in the co-development of innovations, thereby enriching the process?

III. PROJECT ALIGNMENT WITH THE IDB GROUP, SCALABILITY, AND RISKS

A. Alignment with the IDB Group

- 3.1 This project is part of the climate-smart agriculture pillar, since it promotes new solutions with the potential to boost productivity, resilience to climate change, and more sustainable use of natural resources in different sectors of the agriculture chain.

- 3.2 Under this pillar, the agtech working group brings together other stakeholders in the IDB Group (e.g. IDB Invest, FONTAGRO, RND, CTI, KIC, and IT Lab) where knowledge and action opportunities for the IDB Group are shared. The working group identified promotion of the region's agtech ecosystem as a priority, key to which is interaction between the productive sector (represented by the CREA movement) and entrepreneurs, for cooperative development of strategic and scalable solutions.
- 3.3 The project is also aligned with the IDB Group's Institutional Strategy, which identifies as one of the region's challenges the low levels of productivity and innovation and the need to develop adequate knowledge and innovation ecosystems. Climate change and environmental sustainability are crosscutting themes in the strategy.
- 3.4 Moreover, the project is aligned with the UNDP's Sustainable Development Goals (SDGs), particularly with the objectives: (i) SDG 13, climate action; and (ii) SDG 9, industry, innovation, and infrastructure, by promoting more resilient and sustainable economic activity and the incorporation of new innovations into the agriculture sector.
- 3.5 The project aligns to the Bank's country strategy with Argentina 2016-2019 in the area of promoting innovation and development of the productive sector. The operation forms part of the IDB Group's Digital Action Plan, as it deals specifically with scant adoption of information and communication technologies by the private sector. It leverages and complements operations of the Competitiveness, Technology, and Innovation Division (CTI) in Argentina, by promoting research and entrepreneurship. The project also complements operations of the Environment, Rural Development, and Disaster Risk Management Division (RND) in the three countries, by improving productivity, sustainability, and resilience in primary production. It also promotes synergy with IDB Invest, by exploring how disruptive technology can affect the agribusiness panorama, and promoting developments supported by IDB Invest's clients and their value chains.
- 3.6 This initiative complements other IDB Lab operations in the pillars of climate-smart agriculture and the knowledge economy. This is the case with NXTTP labs' regional agtech acceleration program for startups; the FONTAGRO Research to Impact Program that links research to the entrepreneurial ecosystem; the Xcala platform that seeks to catalyze early-stage investment through angel investor networks; and the efforts of various venture capital funds in the region that provide funding for more advanced stages. In all these cases, the creation of complementary agtech solutions is promoted, linking different approaches to increase the density of the ecosystem (ranging from financing and acceleration, linkage to academic institutions, linkage to producers problems, and ownership by users)

B. Scalability

- 3.7 The methodology for co-development of agtech solutions can be transferred and replicated in different ecosystems, and could reach mid-level development countries, such as Uruguay, Chile, or Peru, where producers organizations and even other entrepreneurial organizations could adopt the methodology. The methodology could also be transferred to peer organizations, such as the Uruguayan Federation of CREA Groups (FUCREA) in Uruguay.
- 3.8 In Argentina, the methodology can be transferred to incubators associated with prestigious universities, thereby forging closer ties between academics, entrepreneurs, and the productive sector. According to ["La revolución Agrotech en Argentina,"](#) the country has over 350 registered incubators.

- 3.9 The social fabric built by producers organizations such as the CREA groups will facilitate coordination with the different levels of government, technical schools, producers, and entrepreneurs. As for the solutions themselves, estimates suggest that one CREA producer member influences more than 40 nonmember producers. Therefore, the benefits reported by CREA producers who adopt solutions can easily be applicable to producers in their spheres of influence, scaling up their impact on SME producers.

C. Project and institutional risks

- 3.10 **The main risks** that have been identified are: (i) that the incentives will not be the right ones to enable producers and entrepreneurs to work together; and (ii) since the calls for proposals will focus on an early stage in the innovation chain and, hence, will finance projects with high technological risk, some of them may not result in products that are technologically and commercially viable. **Mitigation measures:** The leadership and communication strategy that the CREA associations deploy with its groups of producers is relevant. It can also form partnerships with organizations in the innovation ecosystem that are closer to entrepreneurs. As well, the support provided for entrepreneurs in the incubation process requires the committed involvement of other players such as mentors, tutors, technology centers, academic institutions, and other organizations in the entrepreneurial ecosystem, accelerators, and large companies in the sector, with the aim of reducing the inherent technological and commercial risks.

IV. FUNDING INSTRUMENT AND PROPOSED BUDGET

- 4.1 The total project cost will be US\$2,420,000. Of this amount, IDB Lab will provide US\$1,225,000 (51%) in the form of a nonreimbursable technical-cooperation contribution, and the CREA association in Argentina, Bolivia, and Paraguay will contribute US\$1,195,000 (49%) as the local counterpart.

	IDB Lab	Counterpart	Total (US\$)
Components			
I. Reducing information asymmetries between the productive and entrepreneurial sectors	298,900	545,000	843,900
II. Co-developing agtech solutions	444,300	370,000	814,300
III. Promoting the scale-up solutions	177,500	87,500	265,000
IV. Engaging with the entrepreneurial ecosystem	92,500	42,700	135,200
Coordination and execution	150,100	149,800	299,900
Monitoring and evaluation	45,000	0	45,000
Audits/ex post reviews	16,700	0	16,700
Total	1,225,000	1,195,000	2,420,000
%	51	49	100

V. EXECUTING AGENCY AND IMPLEMENTATION STRUCTURE

A. Executing agency

- 5.1 AACREA is a private-law civil association established in 1957 with the mission of promoting the exchange of knowledge among agricultural producers, in order to help them boost their productivity with resilience. It currently has 2,000 member producers who meet periodically in more than 200 groups. AACREA will bear operational, financial, and administrative responsibility for the project and will coordinate actions in Argentina and at

the regional level. It has specialized technical, administrative, and management staff. Its financial status is solid, with annual surpluses that enable it to provide funding for the project, thereby leveraging the IDB Lab contribution.

- 5.2 The activities that will be implemented with CREA Paraguay and AB-CREA will be carried out under cooperation agreements between the parties that set out the activities and objectives. CREA Paraguay was established in 2017 and already has 50 member producers. AB-CREA was founded in 2003 and currently has 19 producers groups. The three organizations have a long track record of joint work, especially in common border areas. This cooperation has led to the formation of binational groups and the CREA groups in Bolivia and Paraguay.

B. Implementation structure

- 5.3 The following will be established for project governance: (i) a board of directors; (ii) an executive team; and (iii) a consultative group, the functions of which are described below.
- 5.4 **Board of directors.** As the project's senior authority, the board's role will be to define the execution strategy and approve operational planning and the semiannual status reports to be submitted to the Bank. It will be comprised of at least five members, including one CREA association director from each participating country and the executive coordinator who will act as secretary. The board will meet periodically and interact, as necessary, with the executive team (national and regional).
- 5.5 **Executive team.** This team will report directly to the board of directors. It will be responsible for designing general project activities and ensuring that they are executed in due time and form. It will also prepare the project's strategic plans, annual work plans, annual budgets, status reports, and any other information requested by the Bank.
- 5.6 The executive team will be subdivided into a **regional executive team** and a **country executive team**. The former will comprise an executive coordinator, an academic coordinator, and a technical assistant. The executive coordinator will organize, coordinate, and execute the project; the academic coordinator will handle the project's technical aspects; and the assistant will provide support to both coordinators. This team will be based in Argentina.
- 5.7 **National executive team.** This team will consist of the core executive team and a technical expert/coordinator in each country. The coordinators for each country will be responsible for contributing to the design of general project activities, playing a leading role in determining which actions will be carried out in their country, and ensuring their execution.
- 5.8 **Consultative group.** The executive team will form a consultative group, comprised of representatives of leading agtech institutions. This group's main function will be to serve as a platform for consultations/recommendations at its semiannual meetings. IDB Lab will participate in this group as an observer.

VI. MILESTONES AND SPECIAL FIDUCIARY ARRANGEMENTS

- 6.1 **Results-based disbursements and fiduciary arrangements.** As noted in the institutional assessment, AACREA is a private-law civil association with its own administrative and procurement policies that meet transparency, economy, and efficiency criteria. From the organizational standpoint, it has the requisite fiduciary and financial

capacity to carry out the project. Accordingly, and for supervisory purposes, AACREA's operating policies⁵ will be taken into consideration and applied for project administration and procurement. AACREA will be responsible for administering the contribution earmarked for activities in Bolivia and Paraguay.

- 6.2 The executing agency will commit to the agreements with IDB Lab related to disbursements, procurement, and financial management mentioned below.
- 6.3 Disbursements will comply with the specific technical conditions (first and subsequent disbursements, if any) and the following will be submitted to the Bank's satisfaction: (i) disbursement request(s); (ii) financial plan; and (iii) reconciliation of the contribution. The executing agency will present the following as justification for the use of funds: (i) a certificate from an accountant acceptable to the Bank indicating that the expenditures made are those stated in the annual work plan;⁶ and (ii) a reconciliation of the contribution's resources.
- 6.4 It will also have submitted evidence regarding: (i) the validation of milestones for the pertinent calendar year; (ii) fulfillment, to the Bank's satisfaction, of milestones established for that year; and (iii) provision of the local contribution as budgeted.
- 6.5 **Procurement.** The executing agency's procurement policies will apply. Semiannual plans will be submitted, setting out the procurement operations required for project execution and the fulfillment of milestones. They will specify the procurement operations that are essential from the technical standpoint for IDB Lab, and the technical aspects of these operations will be subject to ex ante review.
- 6.6 **Milestones.** A preliminary table of results-based milestones is attached. At the start of each calendar year, the milestones to be attained during the year will be validated, or they may be changed, as necessary, provided such changes do not alter project objectives or results.
- 6.7 **Financial statements and review of use of the contribution.** The executing agency will prepare and keep its annual financial statements at the Bank's disposal. It will also keep a record of in-kind contributions to be certified by a professional, to the Bank's satisfaction.⁷
- 6.8 The Bank may use its contribution to finance a review of the financial statements and the use of project resources, verifying financial and procurement practices.

VII. ACCESS TO INFORMATION AND INTELLECTUAL PROPERTY

- 7.1 **Access to information.** Under the Bank's Access to Information Policy, this document is made available to the public.
- 7.2 **Intellectual property.** The Bank will own all intellectual property rights related to the project, and will grant a royalty-free, irrevocable, noncommercial license for an indefinite period of time for the use of copyrights, patents, and any other intellectual property rights to AACREA, AB-CREA, and CREA del Paraguay, which may grant similar licenses to government and other agencies that work, apply, replicate, or generate knowledge using

⁵ In accordance with Appendix 4 of policies GN-2349-9 and GN-2350-9.

⁶ May be the executing agency's professional accountant or another suggested by it. The Bank will evaluate the accountant's professional experience and criteria to avoid ethical conflicts or conflicts of interest.

⁷ May be the executing agency's professional accountant or another suggested by it. The Bank will evaluate the accountant's professional experience and criteria to avoid ethical conflicts or conflicts of interest.

the products developed under this project. The entrepreneurs will own the intellectual property rights to the solutions they developed.