

# Agribusiness Incubator at ICRISAT

INDIA CASE STUDY



 **infoDev**  
Agribusiness



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# AGRIBUSINESS INCUBATOR AT ICRISAT, INDIA CASE STUDY

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## **1 SUMMARY**

The agribusiness incubator in the state of Andhra Pradesh in India is the result of a partnership between the Indian government and an international crop-research organization that is a member of CGIAR, a global partnership of organizations seeking a food-secure future. As the incubator has developed, it has become relatively independent of its founders, the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the Indian government's Department of Science and Technology. From supporting small businesses that can bring new agricultural research and technology to market, ABI has become an incubator of incubators, and is now helping African incubators follow its model.

## **2 BACKGROUND**

In December 2002, the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), a nonprofit organization, joined forces with the Department of Science & Technology (DST), an Indian government agency, to develop an agribusiness incubator (ABI) at ICRISAT. The incubator was supported by DST's National Science and Technology Entrepreneurship Development Board, which promotes the development and commercialization of indigenous technologies by providing financial assistance through public-private partnerships.

ABI's mission is to facilitate the creation of competitive agribusiness enterprises through technology development and commercialization. Its launching met a need identified by ICRISAT's senior management: to ensure that its research reaches the field. In the late 1990s, ICRISAT Identified two bottlenecks to its mission:

1. Public sector R&D was disconnected from broader market developments and demands
2. The research, technology development, technology transfer, and technology use sectors had failed to build lasting relationships with each other.

The agribusiness incubator was created with initial funding of about \$500,000 from DST with a staff of three—a manager, secretary and assistant). Funds were spent mainly to acquire lab equipment. The staff identified technologies that could potentially be commercialized that were related to crops ICRISAT had found were most beneficial in arid regions. After in-depth market research ABI expanded beyond ICRISAT-mandated crops. Interventions initially focused on biotechnologies.

ABI gradually moved away from ICRISAT's technology to a more client-centered approach. In order to engage scientists in ABI's work, management encouraged scientific consulting, effectively putting scientists in contact with enterprises. ABI's business model evolved from fee-based (rental of infrastructure, office, and facilities) to offer feasibility studies and consulting services.

### 3 CONTEXT AND CUSTOMERS

Because ICRISAT's headquarters are in the Indian State of Andhra Pradesh, ABI initially focused on this region. There is a long tradition of collaboration and partnership between ICRISAT and Andhra Pradesh. The state has contributed to the facilities housing the incubator and other agricultural projects. Over time, ABI has expanded beyond Andhra Pradesh into promoting new incubators and expanding internationally, particularly in Africa. Although most of ABI's incubatees and graduates are from Andhra Pradesh, some have a national reach.

ABI began by seeking entrepreneurs who were willing to commercialize its agriculturally based technologies. ABI offered these entrepreneurs concept validation, business consulting, technology support, infrastructural and other management facilitation. ABI supported them from concept to commercialization.

Criteria for ABI to support a company include:

1. It is a technology-based, agricultural startup.
2. It can work with an enterprise, industry association, R & D company approach.
3. It offers innovative concepts and proprietary proposals in agricultural technology.
4. Its owner has financing and the necessary technical education.
5. It submits a detailed business plan.

Over time, the definition of customer has also changed. While the primary focus remains on innovative technology-based enterprises, ABI now also supports seed farmers, Micro, Small and Medium Enterprises (MSME)s, and other companies that have participated in the Indian government's development programs.

### 4 STRATEGIC VISION, MISSION, AND TARGETS

***Vision: agricultural prosperity through innovation, entrepreneurship and partnerships.***

***Mission: to improve the lives of the poor by creating competitive agri-business enterprises that develop and commercialize new technologies.***

	<b>Year 1 2011-12</b>	<b>Year 2 2012-13</b>	<b>Year 3 2013-14</b>
Technologies	60	80	100
Enterprises supported	35	50	70
Farmer Impact	100,000	200,000	500,000
No: of consultancy	8	12	16
Scientists engaged	15	15	20

**ABI's goals from 2011-12 through 2013-14**

## 5 INCUBATOR'S DISTINCTIVE FEATURES

ABI's **distinguishing features** are:

- a) It is embedded in an international agricultural research center.\*
- b) It focuses on technology.
- c) It serves a broad spectrum of clients (small farmers, MSME, and advanced biotech firms).
- d) It is closely tied to India's policies and institutions.

Its **primary strengths** include:

- a) Its location at a world-famous research center with a large campus, state-of-the-art facilities, laboratories, experimental fields, and a community of national and international scientists.
- b) Its location in a very dynamic and entrepreneurial country with policies favorable to incubators. India has the largest number of agribusiness incubators in the world.
- c) Access to highly educated and experienced professional human resources.
- d) A proven record of success over the first 10 years of operation.

Its **primary weaknesses** include:

- a) Limited flexibility in seizing business opportunities because of the constraints of operating within a large international research center with objectives broader than business.
- b) The need to negotiate among different cultures: researchers versus business development managers, high-tech versus low-tech, medium-scale versus small-scale enterprises; Indian context versus an international mandate.
- c) A brand dependent on its affiliation with ICRISAT. If the link with ICRISAT were ever cut, the incubator's national and international expansion could be compromised.

**Management proposes to augment** its existing strengths and overcome its weaknesses by:

- a) Discussing the possibility of making ABI fully independent of ICRISAT while still keeping some ties to the nonprofit. In fact, ABI is already largely autonomous financially; for example, it pays ICRISAT rent for the use of its facilities.
- b) Providing incentives to researchers to participate in ABI's activities.
- c) Exploring expansion to Africa and forming partnership with African organizations to start similar activities in the sub-saharan region.

## 6 NETWORKS AND PARTNERSHIPS

ABI is skilled at forming networks and partnerships with key institutions in India and internationally. The five most important relationships are with:

1. **Technology Development Board (TDB)** of the **Department of Science and Technology (DST)**, which provided seed funds for ABI startups.
2. **DST's National Science and Technology Entrepreneurship Development Board (NSTEDB)**, an institutional mechanism to promote knowledge-driven and technology-intensive enterprises. The NSTEDB provided initial financial support to establish ABI.

3. **Technopreneur Promotion Program (TePP)**, an initiative of the **Department of Scientific and Industrial Research (DSIR)**, which lends money to individual innovators or firms for converting their novel ideas into working prototypes. ABI is a TePP outreach center.

4. The **Indian Council of Agricultural Research (ICAR)**, under the Department of Agricultural Research and Education (DARE). ICAR runs the **National Agricultural Innovation Project (NAIP)**, funded by the World Bank to provide technological support to farmers through development of new strategies, technologies, and innovative solutions. NAIP has given ABI responsibility for mentoring ten Business Planning and Development units or incubators of ICAR and state agricultural universities (SAUs).

5. **Micro, Small and Medium Enterprises – Development Organization (MSME-DO)**, which provides a wide spectrum of services to the sector, nurturing innovative business ideas that could be commercialized within a year, through onsite incubation at Research Institutes and SAUs.

## 7 CO-BUSINESS INCUBATION

ABI also serves agriculture-based entrepreneurs through institutional partnerships, by which it aims to:

- Enhance support and services for a large number of entrepreneurs.
- Compliment technology and business in their respective domains.
- Provide access to physical, technical, and other facilities for clients on co-business incubation basis.
- Facilitate inclusive growth through focused implementation of new venture creation and technology commercialization.
- Enhance success of incubatees by networking.
- Promote cross-border ventures and business development.
- Provide common branding for better marketability of the programs.

Among its institutional partners are IIAM in Mozambique, AREU in Mauritius, TNAU in Coimbatore, 10 Indian NARS through NAIP-ICAR, and STEP at Thapar University in Patiala, India.

Co-business incubation with the Network of Indian Agri-Business Incubators (NIABI) is one of the most important achievements of ICRISAT. The activity has put ICRISAT at the forefront of Indian agribusiness incubation development.

## 8 APPROACH TO INCUBATION

The core services provided by ABI to its clients include:

- Technology consulting. Transfer of agriculture know-how from ICRISAT's research findings or from other national and international partners. Examples include:
  - HNPV bio-pesticide.
  - Bacillus species bio-pesticide.

- Seed production in legume crops.
- Watershed development.
- Aflatoxin for food quality control.
- DUS testing for seed certification.
- Tissue culture protocol for crops.
- Genetic transformation for commercial crops.
- Transformation protocol development of commercial crops.
- GMO testing in seeds, food, feed.
- Marker development of traits for seed producers.
- Capacity building and training. Entrepreneurship development programs, skill upgrading, and business management training.
- Business facilitation. Pre-feasibility studies; market research consultancy; networking with bankers, venture capitalists, and markets. Facilitates entrepreneurs to participate in events and trade shows.
- Access to funding. ABI assists by networking with bankers and venture capitalists and national development programs.
- Infrastructure and facilities.

ABI's development plan includes service and outreach strategies.

**Service strategy.** ABI promote ventures directly through its service strategy, in the following categories: (i) Seed ventures; (ii) Biofuel ventures; (iii) Innovative ventures; (iv) Farm ventures and (v) Agri-biotech ventures.

**Outreach strategy.** ABI seeks to partner with organizations globally on business incubation.

ABI carries out initiatives funded by the Indian Government to promote SME and agribusiness through seed funding of enterprises as well as funding of innovations and business ideas.

## 9 INSTITUTIONAL SET-UP

ABI is a component of the Agribusiness Innovation Platform (AIP), a public-private partnership created by ICRISAT. ABI is responsible to the its standing advisory committee (SAC), which comprises six members, three internal (from ICRISAT management) and three external. The external members are a business school professor, a venture capitalist, and an agribusiness, finance, or biotech consultant. The SAC meets thrice yearly or as needed. Decisions are based on consensus, which means that they can be slow in coming, and that ABI could be stuck in the approval process. In order to be accepted, new clients must make presentations to the SAC.

ABI is part of ICRISAT, under the control of the Board of AIP. ABI and AIP are integrated with ICRISAT's new strategic plan, which emphasizes inclusive, market-oriented development, a paradigm shift embraced by ICRISAT's Board and scientists. ICRISAT believes that the traditionally poor technology-transfer record of the CGIAR, a global partnership of organizations seeking a food-secure future, could be improved through initiatives such as ABI.



## 10 BUSINESS MODEL

In its first five years (2002 to 2006), ABI depended heavily on funds from ICRISAT and Government of India. From the beginning, however, it tried to adopt a business model that would make it sustainable over time. Since 2007, ABI has been financially self-sufficient.

Having achieved financial self-sufficiency, ABI's management is of the view that in order to further grow, it needs to move to a different business model than in the past.

ABI has followed a franchising/revenue-generation model characterized by considerable management support for many small to medium enterprises and investments in technology transfer and marketing. Service or one-time fees have been its main source of revenue.

In the future, ABI would like to adopt a capital-gains model, with most revenue deriving from highly proprietary technologies. Equity payments and intellectual property rights would be the main components of the capital gains. Incubatees suited for this model include mature/large businesses and start-ups with solid entrepreneurs. The capital-gains model would offer less management support, while ICRISAT would provide more support for new technology development.

ABI rents most of its facilities from ICRISAT. In turn, ABI's clients pay rent for use of the facilities. The rents that ABI's clients pay are comparable to rental fees in the market, or sometimes are even higher (according to some of the interviewed incubatees). ABI's budgets are not submitted to the AIP's Board but to ICRISAT's Standing Advisory Committee (SAC). Recent budget and service fees are presented in the following tables.

Particulars	Budget Actual (1.4.2009-31.12.2009)			Budget Plan (2009-10)	
	Revenue Rs Lakhs	Expenditure Rs Lakhs	Balance Rs Lakhs	Revenue Rs. Lakhs	Expenditure Rs. Lakhs
<b>Opening Balance</b>	52.14	-	52.14	54.29	
<b>ABI Clients</b>	58.23	29.33	28.89	67.50	31.50
<b>Projects</b>	5.25	3.35	1.90	9.00	4.50
<b>Consultancy</b>	3.93	1.18	2.74	27.00	2.25
<b>Seed Business</b>	0.17	0.09	0.08	4.50	2.25
<b>Co Business Incubation</b>	-	1.06	(1.06)	13.50	4.50
<b>ABI Operational</b>	-	45.85	(45.85)	-	72.00
<b>2009-10 (Excl. reserves)</b>	67.58	80.86	(13.3)	121.50	117.00
<b>Total (incl. Reserves)</b>	119.72	80.86	38.84	175.79	117.00

Note: 1 Lakh = 100,000 Rupees; over this period \$1 = 42 Rupees.

### ABI-ICRISAT Budget 2009 and 2010

<b>ABI services</b>	<b>Annual Basis</b>
Membership fee for International Clients	\$ 2,500
Membership fee for Domestic SME	\$ 1,111
Membership fee for Rural & Co Business	\$ 111
	<b>Assignment Basis</b>
Technology Consultancy ICRISAT (IRS)	\$6000 / month
Business Consultancy Services	based on time involved
Marketing Services	2-5% on order value
Event Management Charges	15% of budget

#### **ABI service fees**

## **11 STAFFING AND LEADERSHIP**

Staff growth has been slow and cautious, from three employees to the current 11. The manager and deputy manager have a solid business background: Both are MBAs from Tamil Nadu University with previous business experience.

ABI has enjoyed leadership continuity in three key position: the Chief Operating Officer (COO) (Previously ABI's manager), the chief executive officer (CEO) of AIP (previously ABI's CEO), and the director-general (DG) of ICRISAT. These three key persons have provided the management, intellectual leadership, and business strategy for ABI. All are highly visible both within and outside the organizations. To a large extent they complement each other. ABI's COO has strong business experience and orientation; AIP's CEO is a renowned scientist and experienced biotech research manager; and ICRISAT's DG is the overall guiding force of the institute, responsible for overall strategic direction.

Close ties to Andhra Pradesh and key institutions in India's government have consolidated the leadership of these officials. A new generation of leaders to succeed the existing one has not yet been clearly identified.

## **12 OUTCOMES AND RESULTS**

Since its inception in 2002, ABI has incubated 29 enterprises and has also worked with seed entrepreneurs, MSMEs, biofuel clients, and more recently with other incubators. Of the 29 incubated enterprises, seven have graduated. Their current average annual sales total between \$1 and \$3 million.

In addition to graduating successful enterprises, other achievements of ICRISAT include:

### **1. Awards:**

- a. National Award for the Best Incubator in 2005 from Department of Science and Technology, Government of India

- b. Asia Pacific Association of Business Incubators (AABI) award in 2008
- c. ABI Client Rusni Distilleries won the Best Social Entrepreneur of the Country by the Prime Minister of India in the year 2006
- d. ABI client AAI won the FAAPCCI Award for Rural Development
- e. Being awarded the task of handholding 10 agribusiness incubators belonging to NIABI and forming the largest concentration of agribusiness incubators in the world.

**2. Promoting technology adoption:**

- a. Ethanol production from Sweet sorghum to Rusni Distilleries
- b. Biofermentor technology to Slessor and Tom
- c. Commercialization of ICRISAT varieties JG 11 & KAK 2 of chickpea, and ICGV91114 of groundnut to Aakruthi Agricultural Associates of India (AAI)

**3. Increased profits for farmers** worth \$13 million.

**4. Enhanced convenience for farmers** through new tools and services including mobile-based extension services and a cotton harvester. The innovations were incubated at ABI under the MSME scheme. Apart from funding assistance, they were given mentoring support, office space, business development services, networks, and product promotion.

**5. Increased rural employment:** 832 new jobs were created.

**6. New approach to CG was promoted** for international agricultural research to bridge the gap between product research and its use on farms.

## 13 FUTURE GOALS

ABI has achieved considerable success over the past ten years in bridging the gaps between product research and farm use. Future challenges for the future are described in the following paragraphs.

**Consolidation of Co-incubator Role.** ABI has effectively become an incubator of incubators in the agribusiness sector of India. The challenge for the future is to ensure that the experience is successful and can be replicated so that similar incubation experiences provide a dense network of agribusiness incubators throughout India. The real test is to evaluate the macro impact of this effort compared to other past efforts pursued to promote agribusiness SME growth.

**Expansion to Africa.** Since 2007 ABI has been exploring the opportunity to develop incubators in Africa. After missions to Mozambique and other countries where ICRISAT is pursuing research, ABI initiated co-incubation in countries in sub-Saharan Africa.

**Promotion of Value-Chain Initiatives.** ABI has worked successfully with biofuel companies using the sweet sorghum technologies developed by ICRISAT, as well as seed companies. The next challenge is to move these separate initiatives a step further and create value-chain integration that could lead to sectoral effects, similar to what Fundacion Chile and TnsMz achieved in Chile and Mozambique, respectively.

**Expansion within CGIAR.** ABI-ICRISAT has taken a very active role in promoting a Global Agribusiness Initiative (GABI) across the CGIAR system. It is not clear whether the initiative was successful and the extent to which other consulting group centers have subscribed to the idea.

## 14 CRITICAL SUCCESS FACTORS

1. ICRISAT's commitment to bridging the gap between research and farmers.
2. Close partnerships with key institutions of India's government.
3. A solid anchor in the form of ICRISAT scientists and pool of technologies developed by ICRISAT.
4. Clear orientation towards innovative ideas with sound market prospects.

## 15 LESSONS LEARNED AND IMPLICATIONS FOR AGRIBUSINESS INCUBATORS

**Bridging the gap between research and farmers.** The immediate implication of ABI's work is for other international centers belonging to the CGIAR. ABI has shown a way to bridge the gap between researchers and farmers in the SAT, offering a model for other CGIAR centers.

**Partnership with national development programs.** These partnerships enabled the incubator to be effective and to grow, from initial launch capital provided by Government of India and ICRISAT to new with DST, DSRI, DBT, and others.

**Incubating incubators.** The most valuable lesson for replicating ABI's success is its movement towards incubating incubators. ABI is the force behind NIABI and is mentoring ten agribusiness incubators in India.

**Moving from a Revenue-Generating to a Capital-Gain Business Model.** The management is thinking of generating revenue from intellectual property and equity sharing in the incubatees.

## **16 REFERENCES**

Francesco Goletti 2011 Background Case Study Agribusiness Incubator at ICRISAT, a study conducted by Agrifood Consulting International (ACI) and Economic Transformation Group (ETG) for infoDev, Bethesda, 2011

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