



Analysis and Profiling of Agri-Entrepreneurship Promoting Institutions

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ABSTRACT

The agricultural sector is undergoing a shift from subsistence-based practices to a business-oriented approach. Recognizing the importance of promoting agripreneurs, numerous organizations are actively engaged in fostering agri-entrepreneurship. An in-depth institutional profile analysis was conducted on sixteen agri-entrepreneurship promoting institutions in the states of Rajasthan and Telangana during 2022-23. Data were gathered from professionals within these organizations. The analysis focused on 12 key parameters, employing an exploratory research design, and utilizing empirical evidence for data collection. Correspondence Analysis was carried out to assess 15 strategic areas based on their significance. The strategic areas receiving the highest focus included branding and PR, help during pitching, certification, providing co-working spaces, and training. Conversely, intellectual property management and funding received comparatively less emphasis. These findings provide valuable insights into the key areas of support prioritized by agri-entrepreneurship promoting institutions.

INTRODUCTION

India has transitioned from being a food grains importer to one of the largest producers, reaching a record production of 329.68 million tonnes in 2022-23 (PIB, 2023). While the agricultural sector has achieved self-sufficiency, the farming community faces economic vulnerability. Despite increased food production, farmers' incomes have only risen 20-30 times since the 1970s, contrasting starkly with the substantial income growth in other professions (Sharma, 2017). A survey indicates that 40 per cent of farm households surveyed in 2005 expressed a willingness to quit agriculture if given the opportunity (NSSO, 2005). The disparity in income growth raises concerns about the economic challenges faced by the agricultural community in India. To address this issue, promoting agricultural entrepreneurship among farmers was a suggested strategy by Doubling Farmers Income Committee headed by Ashok Dalwai (2018).

Indian agriculture is characterized by small and fragmented landholdings. As per NSSO Survey of 2019 (NSSO, 2021), about

89.4 per cent of farmers in India are small and marginal, they rarely venture into agri-entrepreneurship due to the risk involved despite having potential to become entrepreneurs. Thus, unique needs of small-time rural entrepreneurs can be addressed through a holistic approach that places high-quality small business and life skills training alongside relevant technical training and adequate funding (Singh et al., 2016; Nain et al., 2019; Nain et al., 2019a). In tune with suggestions of various committees, agripreneurship promotion in the country is being carried out since past few years by organisations that include State Agriculture Universities, ICAR Institutes, Non-Government/Private Organisations, Krishi Vigyan Kendras etc. that mainly constitute the entrepreneurship ecosystem. Within which, factors related to agricultural policy and institutional frameworks are of utmost relevance because they affect agricultural performance most directly and are controllable to a certain extent by policymakers (Andreoni & Chang, 2014). The states of Rajasthan and Telangana are front runners in the promotion of agri-entrepreneurship via different grass root level institutions, thus a study on these states was taken up. Funding

and training support are being fulfilled by various institutions currently in these states, they were identified, and their novel approaches were documented, an institutional analysis & profiling was carried out to contribute for more effective interventions.

METHODOLOGY

This study employed an exploratory research design, focusing on the states of Telangana and Rajasthan. Telangana was chosen due to its significant number of agri-entrepreneurship promoting institutions, while Rajasthan, despite being a low Human Development Index (HDI) state, was selected for its notable performance in the Agricultural Marketing and Farmer Friendly Reforms Index, ranking third overall and first among the BIMARU states (Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh) (Chand & Singh, 2016). Two districts in each state, namely Hyderabad and Rangareddy in Telangana and Kota and Jaipur in Rajasthan, were purposively selected, based on the presence of promoting institutions and number of supported agri-entrepreneurs for facilitating a contrasting comparison based on the presence of promoting institutions and the number of supported agri-entrepreneurs. For this study, entrepreneurship promoting organisations were operationally defined as the institutions involved in; Entrepreneurial Training, Organizing Entrepreneurship Development Programmes (EDP's), Technology Business Incubator (TBI), Agribusiness Incubator (ABI) and Agribusiness Accelerator.

For the institutional analysis of organizations promoting agricultural entrepreneurship, sixteen institutions were shortlisted in the selected states. It comprised eight organisations from Rajasthan state viz. N-ABI (NIAM), Jaipur; R-ABI, SKNAU, Jobner; MNIT Incubation Centre, Jaipur; AIC Banasthali Vidyapeeth, Jaipur; Rajasthan Agricultural Research Institute, Jaipur; RUDSETI, Jaipur; KVK, Kota; Kota Agricultural University, Kota. From the state of Telangana, it comprised eight institutes viz. CIA, MANAGE, Hyderabad; a-IDEA, NAARM, Hyderabad; Nutri-hub, IIMR, Hyderabad; Abhisree foundation, Hyderabad; NI-MSME, Hyderabad; NIRD-PR, Hyderabad; Ag-Hub, PJTSAU, Hyderabad; ABI-ICRISAT, Hyderabad. The study involved forty three professionals from these promoting institutes, holding various roles such as Director, Chief Executive Officer, Chief Operating Officer, Business Managers, and Chief Trainers. Data collection was on twelve parameters related to the institutes based on empirical evidence. These parameters encompassed aspects like genesis, vision, and coverage of the organization; client orientation and infrastructure availability; progress of the institute in the past three years; institutional linkages; mode of training;

human resource at the institutes; follow-up support; strategic areas of support; and novel approaches that are further detailed in Table 1.

To investigate the association between categorical variables in the strategic areas of support, Correspondence Analysis (CA) methodology was employed. A simple graphical representation that aids in the comprehension of a vast amount of data is made possible by analysis of contingency tables containing numerical frequency data (Greenacre, 2007; Abdi & Williams, 2010). A total of fifteen strategic areas of support were enumerated ranging from high to low focus areas. The institutional representatives were required to mark their institutes' focus areas as per their mandates and past programmes. All responses were arranged in a 15x3 contingency table for employing the correspondence analysis to map them on a biplot (Table 5). Step wise process for Correspondence Analysis after contingency table preparation was followed as:

$$\text{Calculation of expected frequencies} = \frac{\text{Row total} \times \text{column total}}{\text{Grand total}}$$

$$\text{Calculation of chi-square statistic } \chi^2 = \sum \frac{(\text{Observed frequency} - \text{Expected Frequency})^2}{\text{Expected Frequency}}$$

Singular value decomposition = To decompose the chi-square matrix into its components. This results in eigen values and eigenvectors, which represent the dimensions of analysis (Figure 1).

Calculation of contributions and Association = To measure the degree of association between the categories and the dimensions of the analysis.

Visualization of results = Plotting the results on a CA Biplot (Figure 2).

RESULTS

Basic profile of entrepreneurship promoting institutions

The distribution of entrepreneurship promoting institutes according to their years of existence reveals a diverse landscape, with a significant portion (37.5%) falling within the 5-10 years category. In terms of establishment, a majority (56.25%) are affiliated with academic or research institutes, highlighting a strong connection between incubators and educational institutions. The vision or mandate of these incubators varies, with a notable emphasis on entrepreneurship development (50%), underscoring a commitment to fostering entrepreneurial ventures. Geographically,

Table 1. Profile of the promoting institutions

Profile	Criteria wise distribution of respondents (%)				
Years of Existence (years)	<2 yrs. 6.25%	2-5 yrs. 18.75%	5-10 yrs. 37.5%	10-15 yrs. 6.25%	>15 yrs. 31.25%
Mode of establishment	NGO 6.25%	Academic/Research Institutes 56.25%	State Govt 12.5%	Central Govt 25%	
Vision/Mandate	Employment Generation 18.75%	Human Resource Development 31.25%	Entrepreneurship development 50%		
Geographical coverage	Within locality 6.25%	Within District 12.5%	Within State 25%	Country wide 56.25%	

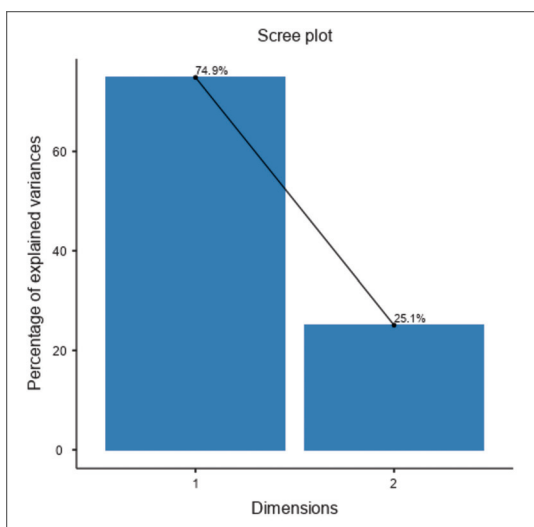


Figure 1. Scree plot

a substantial proportion (56.25%) operates at a nationwide level, indicative of a broad reach and impact.

Target beneficiaries

Referring to Table 2 on client orientation and targeted beneficiaries by entrepreneurship-promoting institutions, there was a notable emphasis on women entrepreneurs, with 93.75 per cent

Table 2. Client orientation/target beneficiaries

Clients	Major target (%)	Minor target (%)	Not targeted (%)
Women entrepreneurs	37.50	56.25	6.25
SC/ST	37.50	18.75	37.50
Youth entrepreneurs	62.50	37.50	0.00
Farmers	31.25	18.75	50.00
Small scale entrepreneurs	37.50	50.00	12.50
Agri graduates	31.25	37.50	31.25
Tech entrepreneurs	12.50	50.00	37.50
Service based entrepreneurs	43.75	12.50	43.75

of institutes considering them as major (37.5%) or minor targets (56.25%). Youth entrepreneurs receive strong attention, with 62.5 per cent as a major target and 37.5 per cent as a minor target, reflecting the belief that their fresh perspectives and adaptability bring innovation. Farmers are targeted to some extent, but 50 per cent of organizations do not specifically focus on them. Small-scale entrepreneurs are a significant target, evenly split between major and minor targets.

Modes of training

Hands-on training, workshops, and field visits/exposure visits are the most frequently used training modes, with over 50 per cent of institutions using them very frequently. Need-based advisory,

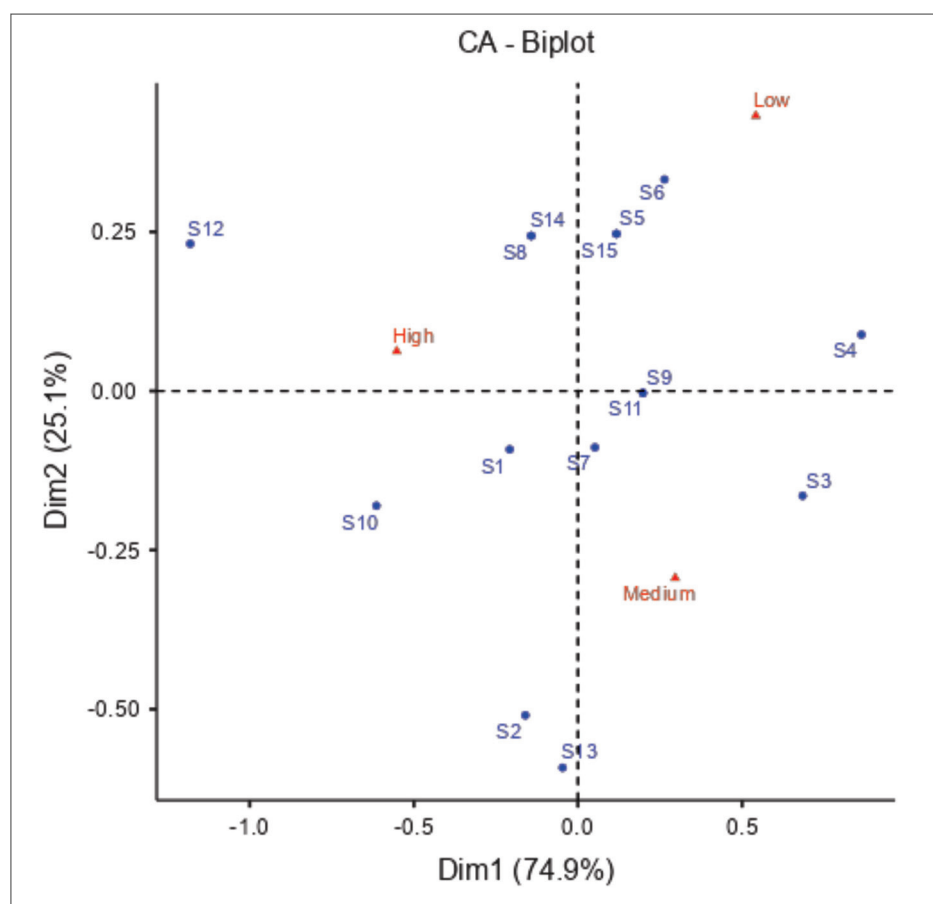


Figure 2. CA-Biplot

Table 3. Modes of training

Type	Very frequently (%)	Frequently (%)	Some-times (%)	Never (%)
Hands on training	43.75	37.50	18.75	0.00
Need based advisory	37.50	31.25	31.25	0.00
Workshops	62.5	31.25	6.25	0.00
Courses/Modules	43.75	12.50	43.75	0.00
Webinars	18.75	37.50	25.00	18.75
Field visits/Exposure visits	50.00	31.25	12.50	6.25
Lectures	43.75	31.25	25.00	0.00
Group meetings	37.50	43.75	18.75	0.00
Demonstrations	50.00	25.00	25.00	0.00
Farmers' field school	25.00	31.25	31.25	12.50

lectures, and group meetings are also commonly used, with over 37 per cent of institutions using them very frequently. Webinars and farmers' field schools are used less frequently, with less than 25 per cent of institutions using them very frequently. In summary, institutions employ a varied mix of training modes, with a notable focus on practical learning. Workshops, hands-on training, and field exposure are prominent, reflecting a holistic approach to entrepreneurship education.

Strategic areas of support

Notably, observing from Table 4 there is a unanimous and robust emphasis on training & workshops with experts (100%) and certification support (68%). In terms of medium focus areas, business and financial model development receive attention from 56.25 per cent of institutions, indicating recognition of the pivotal role played by sound business models. There was medium focus on funding by the organisation. However, the results also reveal areas of concern. Business coaching and mentoring show a surprisingly low focus at 6.25 per cent. Additionally, technology validation & backstopping receive a relatively low focus of 25 per cent, possibly indicating a perceived lower significance of these elements in the entrepreneurial journey. The varied focus across networking and investor connect, facilitation for grants and funding, pitch deck preparation, technology commercialization and pilot

support, marketing strategies workshops and providing co-working spaces/cubicles reflects a nuanced approach, where institutions tailor their support based on the specific needs and priorities of the entrepreneurs they serve.

The correspondence analysis of the contingency table generated two dimensions. The first dimension accounted for 74.9 per cent of the total variance, while the second dimension explained 25.1 per cent cumulatively accounting for 100 per cent (Table 5). A scree plot displays eigen values in descending order, forming a downward curve (Figure 1). The "elbow" of the graph, where eigen values stabilize, indicates which factors or components to retain as significant.

Table 5. Initial eigenvalue of dimensions and percentage of variance explained

Dimensions	Eigenvalue	Individual % of variance	Cumulative % of variance
Dim 1	0.2185	74.9	74.9
Dim 2	0.0732	25.1	100

DISCUSSION

Majority of agri-entrepreneurship institutions (62.5%) were established in the past 5-10 years, reflecting the recent growth of the agri-entrepreneurship ecosystem in India due to government initiatives like Start-up India, Stand-Up India, and ATAL Innovation Mission. Older institutions, such as SAUs and KVKs, have been promoting rural entrepreneurship for decades. Most institutions were established with a specific focus on entrepreneurship promotion, especially those started recently, while others focus on human resource development and rural entrepreneurship training (Kobba et al., 2020a). It could be observed from Table 1 that majority of the agri-business incubation centres were established by research and academic institutions to promote culture of entrepreneurship among its staff, students and incubatees and to commercialise the technology of the organisation. The results could also be correlated with Kademani et al., (2020) who reviewed that most agri-entrepreneurship promoting policies and institutions have taken a leap in past decade owing to government's push. The

Table 4. Contingency Table for Strategic areas of support

S.No.	Strategic Areas of Support	High focus (%)	Medium focus (%)	Low focus (%)
S1	Branding and PR	50.00	37.50	12.50
S2	Business and financial model development	43.75	56.25	0.00
S3	Business coaching and mentoring	6.25	62.50	31.25
S4	Funding by the organization itself	0.00	56.25	43.75
S5	Facilitation for grants and funding	37.50	31.25	31.25
S6	Intellectual property development	31.25	31.25	37.50
S7	Networking and investor connect	37.50	43.75	18.75
S8	Pitch deck preparation	50.00	25.00	25.00
S9	Technology commercialization and pilot support	31.25	43.75	25.00
S10	Certification support	68.75	31.25	0.00
S11	Technology Validation & Backstopping	31.25	43.75	25.00
S12	Training & workshops with experts	100.00	0.00	0.00
S13	Financial literacy to trainees	37.50	62.50	0.00
S14	Marketing strategies workshops	50.00	25.00	25.00
S15	Providing co-working spaces/cubicles	37.50	31.25	31.25

agri-business incubators with a mandate of entrepreneurship promotion country wide have been established by farm universities/ research organizations.

It was observed during the data collection that farmers, small scale entrepreneurs and agri-graduates were generally trained in entrepreneurship programmes by RUDSETI, KVKs, and NGOs but Agri-Business Incubators did not generally train/incubate them directly. Tech entrepreneurs receive attention as a minor target, and service-based entrepreneurs are a major target for the most institutions. The results correlate with Kobba et al., (2020a) who concluded that there were more women entrepreneurs and younger entrepreneurs in non-farm sector trained by RUDSETIs. Also, SC/ ST entrepreneurs are a significant focus, with a balanced distribution between major and minor targets, although some institutes do not specifically target them. This could be attributed to the fact that Stand-Up India scheme specifically targets SC, ST and Women entrepreneurs (PIB, 2022).

Institutions are placing a strong emphasis on providing practical and experiential learning opportunities for their trainees through hands-on training, workshops, and field visits/exposure visits. This aligns with a study by Ahmad et al., (2020), that emphasizes the significance of training programs and networking services as crucial factors contributing to the success of business incubators. Training programs are deemed vital for continuous learning and skill development, ultimately leading to exceptional performance. Institutions are also recognizing the importance of providing personalized guidance, theoretical knowledge, and opportunities for collaborative learning through need-based advisory, lectures, and group meetings. According to Nag & Das (2015), these sessions are crucial, as participants, especially youth from rural areas, are often shy and introvert when they join training programs. With respect to webinars and field schools it could be generalized that these modes of training may not be as well-suited to the needs of all trainees or may not be as readily available. This may be due to the reason that webinars are not very effective in imparting skills and enormous preparation is needed for field schools. Occasional use and absence of certain methods suggest adaptability in their training methodologies.

Present study presents a comprehensive analysis of the strategic areas of support offered by institutions, revealing distinct patterns in their focus areas. In high focus areas there is a robust emphasis on training and workshops with experts (100%), certification support (68.75%), underscoring the commitment to formal recognition and endorsement of entrepreneurial achievements (Kobba et al., 2020b). The correspondence analysis depicts that in a relative comparison with the strategic areas of support there is a strong correlation between high focus and strategic areas like training & workshops with experts (S12), pitch deck preparation (S8), marketing strategies workshops (S14), branding and PR (S1) and certification support (S10). All the strategic areas are significantly of high importance for especially business/tech entrepreneurs thus Agri-Business Incubators (ABIs) predominantly concentrate on these aspects. Other areas like providing co-working spaces/cubicles (S15) and facilitation for grants and funding (S5) fall between the high and medium focus area zones. Whereas, intellectual property development (S6) and funding (S4) are least

focused. The incubators have a significant difficulty in securing funding to feed the nurturing process (Kumar et al., 2022). In summary, the results highlight a strong commitment to knowledge transfer and formal recognition, a balanced approach to financial aspects, but also point to potential areas of improvement in coaching, mentoring, and technology-related support.

CONCLUSION

The institutions adopt a diverse set of priorities, acknowledging the multifaceted nature of entrepreneurial support. High focus on training, certification, and financial literacy suggests a strong emphasis on education and formal validation. The low focus on business coaching and mentoring highlights a potential area for improvement in providing personalized guidance to entrepreneurs. The moderate emphasis on business and financial model development, along with funding initiatives, reflects a balanced approach to financial aspects of entrepreneurship. While technology-related areas have a presence, their focus is not as intense, suggesting a measured approach to technological validation and development. These inferences collectively depict a comprehensive strategy where institutions balance educational support, financial backing, and other aspects crucial for entrepreneurial success.

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