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ATAL INNOVATION MISSION FOSTERING SUSTAINABLE DEVELOPMENT-A STUDY

Dr.T.S.Shyam Prasad

Lecturer in Political Science, SVGM Government Degree College
 Kalyandurg, Andhra Pradesh

Abstract

Atal Innovation Mission (AIM), NITI Aayog is Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country and was setup in 2016. Towards this end AIM has taken a holistic approach to ensure creation of a problem-solving innovative mindset in schools and creating an ecosystem of entrepreneurship in universities, research institutions, private and MSME sector. All the initiatives of AIM are currently monitored and managed systematically using real-time MIS systems and dynamic dashboards. AIM is also currently having its programs reviewed by third party agencies for ensuring continuous improvements. Components of Atal Innovation Mission are discussed below. Promoting Entrepreneurship and Startups for Sustainable Growth truly will help India to ignite the innovative entrepreneurial spirit of New India by focusing on strengthening the above pillars, which will ensure an unprecedented wave of long- deserved growth, prosperity and well-being that can serve the interests of the rest of the world as well. The growing innovation momentum in corporates, social enterprises, NGOs, and government agencies is beginning to have a significant impact. More and more organizations have embedded innovative cells in their organization's structure.

Key Words: Innovation, Startups, Entrepreneurship, Incubators

INTRODUCTION:

Atal Innovation Mission (AIM), NITI Aayog is Government of India's flagship initiative to promote a culture of innovation and entrepreneurship in the country and was setup in 2016. Towards this end AIM has taken a holistic approach to ensure creation of a problem-solving innovative mindset in schools and creating an ecosystem of entrepreneurship in universities, research institutions, private and MSME sector. All the initiatives of AIM are currently monitored and managed systematically using real-time MIS systems and dynamic dashboards. AIM is also currently having its programs reviewed by third party agencies for ensuring continuous improvements. Components of Atal Innovation Mission are discussed below.

ATAL TINKERING LABS - AT SCHOOL LEVEL

AIM has launched the Atal Tinkering Lab (ATL) program. ATL is a state-of-the-art space established in a school with a goal to foster curiosity and innovation in young minds, between grade 6th to 12th across the country through 21st century tools and technologies such as Internet of Things, 3D printing, rapid prototyping tools, robotics, miniaturized electronics, do-it-yourself kits and many more. The aim is to stimulate a problem-solving innovative mindset within the children of the ATL and nearby communities. Till date, AIM has established 10,000 Atal Tinkering Labs in Schools across the country. With a vision to 'Cultivate one Million children in India as Neoteric Innovators. Atal Innovation Mission is establishing Atal Tinkering Laboratories (ATLs) in schools across India. The objective of this scheme is to foster curiosity, creativity, and imagination in young minds; and inculcate skills such as design mindset, computational thinking, adaptive learning, physical computing etc.

ATL is a workspace where young minds can give shape to their ideas through hands on do-it-yourself mode; and learn innovation skills. Young children will get a chance to work with tools and equipment to understand the concepts of STEM (Science, Technology, Engineering and Math). ATL would contain educational and learning 'do it yourself' kits and equipment on – science, electronics, robotics, open-source microcontroller boards, sensors and 3D printers and computers. Other desirable facilities include meeting rooms and video conferencing facility. In order to foster inventiveness among students, ATL can conduct different activities ranging from regional and national level competitions, exhibitions, workshops on problem solving, designing and fabrication of products, lecture series etc. at periodic intervals.



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ATL OBJECTIVES:

1. To create workspaces where young minds can learn innovation skills, sculpt ideas through hands-on activities, work and learn in a flexible environment.
2. To empower our youth with the 21 century skills of creativity, innovation, critical thinking, design thinking, social and cross-cultural collaboration, ethical leadership and so on.
3. To help build innovative solutions for India's unique problems and thereby support India's efforts to grow as a knowledge economy.

PROGRESS OF ATAL TINKERING LABS:

Some statistical data of Atal Tinkering Labs. At present there are 10,000 ATLs in 29 states and 7 Union Territories spanning 722 districts. More than 6,200 mentors of change engaged for mentoring 1.1 crore students actively engaged in ATLs. 60% of ATLs are functioning in Government and Government aided schools and more than 16 lakh innovation projects created.

ATAL INCUBATION CENTRES - BUILDING STARTUPS AND ENTREPRENEURS ECOSYSTEM OF INDIA :

Atal Incubation Centres or AICs are business incubators established by AIM at universities, institutions and corporates to promote innovation and entrepreneurship among young innovators of the country. These Atal Incubation Centres aim to foster world-class innovation and support dynamic entrepreneurs, who want to build scalable and sustainable enterprises. AIM has successfully operationalized 72 AICs across India. These AIC enable startups by providing technical facilities, resource-based support, mentorship, funding support, partnerships and networking, co-working spaces and lab facilities among others. 3500+ startups are incubated at these AICs and have created more than 32000 jobs in the ecosystem. About 1000+ startups have a women leader and founder. AICs supports startups from diverse areas such as Healthtech, Fintech, EdTech, Space and Drone Tech, AR/VR, Food Processing, Tourism, among others.

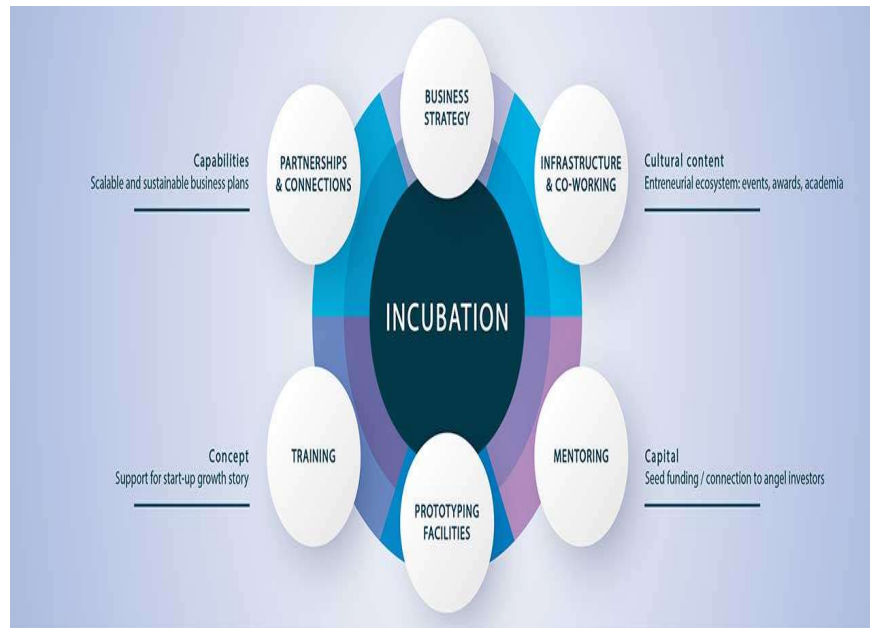
Atal Innovation Mission (AIM) is the Government of India's endeavor to promote a culture of innovation and entrepreneurship. Its objective is to serve as a platform for the promotion of world-class Innovation Hubs, Grand Challenges, Start-up businesses, and other self-employment activities, particularly in technology-driven areas. Under its core objectives, AIM intends to support the establishment of new incubation centres called Atal Incubation Centres (AICs) that would nurture innovative start-up businesses in their pursuit to become scalable and sustainable enterprises. Along with AICs, AIM shall also provide scale-up support to a few distinguished incubation centres of the country. These incubation centres, referred to as Established Incubation Centers (EICs) have already been in existence, but AIM intends to further catalyze their performance by providing them scale-up support.

INCUBATOR:

Business incubators are institutions that support entrepreneurs in developing their businesses, especially in the initial stages. These are organizations geared towards speeding up the growth and success of start-ups and early-stage companies. Incubation is usually done by institutions that have experience in the business and technology world. Incubation support includes providing technological facilities and advice, initial growth funds, network and linkages, co-working spaces, lab facilities, mentoring, and advisory support. They are often a good path to capital from angel investors, government organizations, economic-development coalitions, venture capitalists, and other investors.



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Most of the incubators have potential capital to invest in growth startups or have links to potential funding sources. They provide access to compliance services from professionals such as accountants and lawyers; not to mention the invaluable mentoring and networking support available at the incubation center, through the staff and other entrepreneurs at the incubator.

As early-stage hand-holders, incubators act as an integral part of the start-up ecosystem. They act as a catalyst for both regional as well as national economic development. There are different types of incubators: Academic institutions; Non-profit development corporations; For-profit development ventures; Venture capital firms, and combinations of the above. Incubators vary in their strategies. Some are located in an actual physical space meant to foster networking between incubatee entrepreneurs and others in entrepreneurial space. While others operate on a virtual basis. Incubators sometimes call themselves accelerators instead, often when they are geared towards jump-starting businesses that are more developed. Also, business incubators differ from research and technology parks in their dedication towards supporting start-ups and early-stage companies. Research and technology parks tend to be large-scale projects that house organizations ranging from government institutions, corporate and university labs to very small companies. They seldom offer business assistance services, unlike business incubators. Rather, it will be good to say that business assistance services are the hallmark of business incubators.

Now there are 69 Atal Incubation Centers across the nation and 2,900 startups incubated and more than 900 startups run by women. More than 32,000 jobs created by startups and 1,500 events such as workshops, conferences conducted.

ATAL COMMUNITY INNOVATION CENTRES - SERVING UNSERVED AND UNDER-SERVED REGIONS OF INDIA:

To promote the benefits of technology led innovation to the unserved/underserved regions of India including Tier 2, Tier 3 cities, aspirational districts, tribal, hilly and coastal areas, AIM is setting up Atal Community Innovation Centres with a unique partnership driven model wherein AIM would grant upto Rs 2.5 crores to an ACIC subject to a partner proving equal or greater matching funding. So far 14 ACICs have been established across the country.



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Atal Community Innovation Centers (ACIC) are envisaged to serve the unserved/underserved areas of the country with respect to the start-up and innovation ecosystem. ACIC saw it to be crucial to reach the innovators at the bottom of the pyramid and give them equitable opportunities, especially by reducing the lab to land distance and creating a space for pre-incubation of ideas/solutions. Celebrating the idea of ‘frugal’ which is predominant in Indian communities, ACIC aims to create a formal approach to identify and scale up these innovations; using solution driven design thinking and supported by Public Private Partnerships (PPP) model.

GRASSROOTS INNOVATIONS:

Grassroots Innovations (GI) refer to products and services emerging from innovations brought about by people at the bottom of the pyramid (BOP) who are from economically disadvantaged sections and socially excluded areas. Enabling local communities to convert or upgrade their ideas into products and services, by blending creativity, science and technology, design and risk seeking approach constitute the heart of grassroots innovation. Local communities are well-versed with their community’s needs, local resource constraints and are innately motivated to solve those problems using different ideas and tools built via knowledge of the area and experience of time.

Communities of innovation can successfully flourish if these enabling institutions are received by people who can optimally utilize local knowledge, contextual market needs and a diverse range of skill sets in combination to a shared pool of public knowledge. While access to spaces of innovation irrespective of age or economic differences serves as an entry point, originality can only thrive if masses are prepared to build upon the local ecosystem with an increased degree of interactivity and ownership. Atal Community Innovation Centers have been modelled to encourage mass diffusion of innovation from the roots of communities. Thus, building upon grassroots innovations as a fundamental building block for societal transformation serves as a progressive strategy.

BUILDING BLOCKS OF AN ACIC:

- Focus is on the unserved and Underserved regions in India in terms of idea generation, promotion of innovations and innovators at grassroots level.
- Physical space of the ACIC provides a gateway for experimentation, engagement and participation. Financial assistance of 2.5 crore is provided to the ACIC for running space, innovation and outreach operations.
- Aspiring entrepreneurs in the pre-incubation process will be provided directional training and mentoring by business or research experts in making their ideas viable
- ACIC will nurture SDG innovations and entrepreneurial ventures. The aspiring innovators in the community will be educated about the SDGs and innovations and entrepreneurial ventures catering to SDG transformations.
- Knowledge of design methods and their integration into industry and government can help people articulate latent needs and find local solutions to these needs.
- Diversifying finances and networking can build a competitive and more productive ecosystem of development and progress

ATAL NEW INDIA CHALLENGES - PRODUCT AND SERVICE INNOVATION WITH NATIONAL IMPACT:

Atal New India Challenge is a flagship program of Atal Innovation Mission, NITI Aayog. The program aims to seek, select, support and nurture technology-based innovations that solve sectoral challenges of national importance and societal relevance. ANIC solicits innovations in the prototype stage and supports the selected start-ups throughout the commercialization stage over the course of 12 – 18 months by funding up to INR 1 crore and other associated support. 53 Startups have been supported with grant-in-aid under ANIC phase 1, and 88 Startups have been shortlisted for grant-in-aid and mentorship support under ANIC phase 2 program. ANIC 1.0 followed an open innovation challenge format where challenge statements were put out in the public domain and a call for application was done. The received applications moved through 3 rounds of evaluations including in-person presentation by shortlisted applicants before a technical screening and



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selection committee (SSC). The winner start-ups / individual innovators are supported through a tranche-based grant-in-aid of up to INR 1 crore and through AIM's innovation network. The support is to take the prototype to commercialization stage in a total duration of the 12 – 18 months

HIGHLIGHTS:

ANIC was launched in partnership with 5 ministries across 24 challenge areas

- Ministry of Jal Shakti
- Ministry of Railways
- Ministry of Agriculture and FW
- Ministry of Road Transport & Highways
- Ministry of Housing and Urban Affairs
- ANIC received 900+ complete applications
- 150 applications were shortlisted from 11 challenge areas for presentation before the screening and selection committee (SSC)
- 52 applications were further shortlisted for Working Committee (WC) review
- 30 projects approved for final grant-in-aid and associated support from AIM

CURRENT STATUS:

- ❖ 30 innovations / start-ups are being supported by AIM through grant-in-aid and associated support from AIM's innovation ecosystem
- ❖ Grant-in-Aid worth INR 22.85 crores approved
- ❖ 1st tranche of grant-in-aid (30% of total grant-in-aid approved) worth INR 6.85 crores disbursed to the 30 grantees
- ❖ 2nd tranche work in progress

IMPACT CREATED:

Five Ministries in the Union Government of India involved in 24 challenge areas which are having national importance and as result more than 700 registrations are done and 50 startups selected from which 29 startups received more than 12 crore rupees as grants

MENTOR OF CHANGE (MENTORSHIP AND PARTNERSHIPS - WITH PUBLIC, PRIVATE SECTOR, NGOS, ACADEMIA, INSTITUTIONS):

To enable all the initiatives to succeed AIM has launched one of the largest mentor engagement and management program "Mentor India – The Mentors of Change". Till date AIM has over 6200+ Mentors registered under the Programme. Mentor India is a strategic nation-building program to engage mentors who can lead the way for students of Atal Tinkering Labs across India. We call them "Mentors of Change" who volunteer for mentorship and help students practice future skills such as design thinking. Mentors of Change are instrumental in making the Atal Tinkering Labs a successful platform for students by joining in experimenting, innovating, and bringing their knowledge to practice.

The Mentor India program is a voluntary national movement being led by AIM, wherein skilled professionals provide pro-bono mentoring to young ATL innovators, with a strong sentiment towards nation building. These skilled volunteers, who are called the 'Mentors of Change' spend time on-ground with ATL students, who are the young innovators of India and enable them to experience, learn and practice 21st century skills such as human centric design approach, computational thinking, physical computing etc. They work with a vision to give back to the country, and play a significant role in building a new India – one which pioneers in technology and innovations and emerges as a world leader. ATLs are non-prescriptive by nature, and mentors are expected to be enablers rather than instructors.



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As a mentor of change, you will get:

1. Access to a nation-wide community of interesting professionals to learn from and network with.
2. A unique opportunity to mold the young minds of our country
3. Recognition from Atal Innovation Mission for the mentoring sessions and contributions to the programme.
4. Access to all Atal Innovation Mission challenges, resources and platforms

Areas of Contribution:



AIM ECOSYSTEM DEVELOPMENT PROGRAMME:

AIM has established institutions across the value chain of the Innovation Ecosystem. Atal Innovation Mission (AIM) has initiated the program AEDP(AIM Ecosystem Development program) with a vision to build collaborations, create strategic programs, develop the innovation ecosystem and link all parts of the AIM Ecosystem.

AEDP'S OBJECTIVES:

1. To map and develop the Innovation Ecosystem of the country
2. To develop quality and long lasting Collaborations and Partnerships.
3. Linking the relevant stakeholders in the Innovation ecosystem to break the silos
4. Building a pool of experts
5. To bridge the internal or external gaps of the Innovation Ecosystem through Strategic Programs, Ecosystem mapping and research & publication cell.
6. Connecting with various stakeholders in the government
7. Being the link between AIM beneficiaries, Start-ups and the Government

CORPORATE SOCIAL RESPONSIBILITY (CSR INNOVATION:

To narrow the gap between 'the industry' and 'the innovation ecosystem', Atal Innovation Mission (AIM) and Sattva Consulting are working to establish a structured and streamlined process that enables and motivates corporates to



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fund the innovation ecosystem with ease. This would involve bringing corporates, incubators/ startups, and other stakeholders in the innovation ecosystem together to facilitate conversations and devise ways to facilitate effective collaborations for promoting and scaling innovations.

This integration between the corporates and the overall innovation ecosystem will benefit both, the corporates, and the Incubatees/start-ups. With a greater volume of funds flowing into the ecosystem, more start-ups and incubators will benefit from improved capability-building support for better infrastructural and research facilities and improved access to funds, empowering more entrepreneurs to explore entrepreneurship at scale.

ECOSYSTEM DEVELOPMENT:

Ecosystem development deals with catalyzing and augmenting the efforts of AIM through strategic initiatives and partnerships along with mapping and strengthening the innovation ecosystem. The main objective of AEDP is connecting various stakeholders through various platforms to facilitate better flow of activities in the innovation ecosystem. The team has been constantly working on developing programs and planning out activities to meet this objective. Strategic programs have been implemented and collaborations forged that provided an additional layer of support for the AIM grantees, improving their chances of success. This support could also be in the form of capacity building, knowledge resources and transfer, access to resources, mentoring support and so on and so forth. Below are the achievements based on this so far:

- *50+ partnerships (total): Collaborations with Corporates, MSMEs, Foundations, NGOs etc.*
- *10 international partners that support AIM for Infrastructure support, Market/ investor/ enterprise access, creation of several modules etc.*
- *Spectacular engagement from AIM affiliated startups with 60+ startups exhibiting and 200+ participants at India France digital summit.*
- *Review mechanism put in place*
- *Proactive approach to relevant partners*
- *AEDP is also working on creating an ecosystem research group at AIM where-ecoscope mapping of the ecosystem will be carried out and a platform is in creation to anchor innovation scholars and practitioners.*

OVERVIEW ON AIM:

In the last few years, innovation in India has reached a tipping point, with social enterprises too leveraging it to the best of results. SKS Microfinance has successfully innovated the 'Grameen Bank Microfinance Model', which has figured out a unique way to scale up the penetration and impact of the organization and acquired SKS a membership of 5.7 million across 16 states in 11 years.

Akshaya Patra is the world's largest NGO-run school meal programme—it reaches 10 million children across 5 states, six days a week. And they serve freshly cooked meals at Rs 1.50 per meal. This was achieved through a 'technological innovation: to prepare meals on large scale in a short time' and a 'logistics innovation: to reach the meals to the schools'.

Others like Goonj—which creates rural value from urban waste in a manner that is mutually dignified—and MV Foundation—which has come up with a new way to rescue child labourers and give them schooling—are offering non-linear solutions to the country's developmental challenges.

Government agencies are also leveraging innovation for inclusive growth. The Defence Institute for High Altitude Research in Ladakh has played a transformational role in accelerating the socio-economic development of the region. Many initiatives, such as solar energy-based low-cost greenhouses and zero energy-based storage, have transformed vegetable and animal productivity and output, and even raised the tree line above 13,000 feet.



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The Government of Karnataka partnered with Azim Premji Foundation to innovate primary education in government schools. They have instituted an innovative process to assess a school's capability to build student competencies rather than merely marking them. This will lead to many more students passing out of primary schools with basic competencies. Atal Innovation Mission too, has been relentlessly promoting a culture of innovation and entrepreneurship in the country. In its very first year, AIM undertook six major initiatives: (i) Atal Tinkering Labs, (ii) Atal Incubation Centres, (iii) Atal New India Challenges, (iv) Mentor India Campaign, (v) Atal Community Innovation Centre, and (vi) ARISE.

At the school level, AIM has established thousands of Atal Tinkering Labs to enable students between classes VI–XII access to innovative tools and technologies, such as 3D printers, robotics, miniaturized electronics, and do-it-yourself kits. So far, there are over 4880 operational labs in more than 650 districts of India—over 2 million students have access to these labs. At the university, institution and industry levels, to promote an ecosystem for start-ups and entrepreneurs, AIM has been establishing Atal Incubation Centres (AICs). To date, AIM has selected 102 universities, institutions, and private players, each of whom foster the creation and nurture of 40–50 start-ups every four years. So far, over 50 of them are operational, with more than 900 operational start-ups. To ensure that innovation reaches the remotest and underserved regions of the country, including tribal and hilly areas and aspirational districts, AIM sets up Atal Community Innovation Centres (ACICs). Based on a unique partnership-driven model, an ACIC is granted up to Rs 2.5 crore by AIM if a partner proves equal to or greater funding. So far, over 300 applications have been received and the plan is to establish more than 50 ACICs in the next two years.

Atal New India Challenges strive to create innovative products and services that can have socio-economic impacts. So far, AIM has organized over 24 challenges in partnership with five different Union ministries and departments. Of the 950 applications received, 52 have been selected for grant in aid and handholding by incubators/mentors of AIM.

For the MSME/start-up sector, AIM's ARISE seeks to convert great research ideas into viable innovative prototypes, followed by product development and commercial deployment. To help all these initiatives to succeed, AIM has launched one of the largest mentor engagement and management programmes, called 'Mentor India: The Mentors of Change'. To date, AIM has recorded over 10,000 registrations, with more than 4000 of those allocated to ATLs and AICs.

CONCLUSION:

Promoting Entrepreneurship and Startups for Sustainable Growth truly will help India to ignite the innovative entrepreneurial spirit of New India by focusing on strengthening the above pillars, which will ensure an unprecedented wave of long- deserved growth, prosperity and well-being that can serve the interests of the rest of the world as well. The growing innovation momentum in corporates, social enterprises, NGOs, and government agencies is beginning to have a significant impact. More and more organizations have embedded innovative cells in their organization's structure. Let us build this momentum to the point it makes India the 'innovation capital of the world'.

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