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Business Incubators: The Missing Link to Small Business Survival

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Abstract:

Small businesses play a vital role towards world economic development as they contribute between 40% to 50% of national Gross Domestic Product (GDP) as well as 70% to 90% of employment. However, besides their critical role, small business failure rate is alarming, ranging between 50% and 95% in their early years of existence. To reverse this trend, business incubators have provided required build capacity to start-up entrepreneurs and innovators thereby assuring their survival and growth. Having their roots in the 1950s and 1960s, business incubators have offered mentorship, skills building, technical support, training, facilities and venture capital. Globally there are over 7,000 incubators concentrating in various fields from science, economics, technology, marketing to business management. The success rate of businesses incubated is evident with 84% of graduates settling permanently in the community where they start businesses. The success rate of incubated businesses is evident in different countries such as New Zealand (87%), United States of America (85%) and Germany (90%) while South Africa and Brazil both have 80% success rate.

Besides the success rate of businesses incubated, the failure rate of incubator businesses is alarming being as high as 90%. The failure is associated with lack of professional management, no sustainable growth plans, inappropriate technology and funds misappropriation. However, having played the role of the missing linking between business failure and success, incubators cannot be neglected. The purpose of this paper is to explore the roles of incubators, benefits, challenges and keys for their success. Based on empirical research, this paper gives an overview of the current state of incubators worldwide and their difficulties. The paper concludes with a case study of the National Environment Trust Fund (NETFUND) Incubation Centre which is a government initiative that has successfully support the development and promotion of green enterprises.

Keywords: Incubation, innovators, funding, quality management, benefits, challenges

1. Introduction

Business incubators have their roots in the 1950s and 1960s but their activities climaxed in the 1990s. The purpose of business incubation was to offer advice and venture capital for start-up businesses. Since the inception of incubation, thousands of incubators operate worldwide (Lesâkovâ, 2012; Mitra, 2013). Today, business incubators are found in almost every world city and the concept has become a global phenomenon. The National Business Incubation Association (NBIA), USA, states that there are over 7,000 incubators globally. Hackett and Dilts (2004:57) note that, "a business incubator is a shared office-space facility that seeks to provide its incubatees with a strategic, value-adding intervention system (i.e. business incubation) of monitoring and businesses assistance." Mian (1996) further observes that a business incubator is "a locally based institution created to encourage and support new business development."

The National Business Incubation Association defines an incubator as a "business assistance programme targeted to start-up and early stage firms with the goal of improving their changes to grow into health, sustainable companies" (in Adkins, 2001). As derived from the definition, incubators take many forms among them designing programmes meant to accelerate successful development of business ideas and commercializing products or services. Buys and Mbewana (2007) further observe that business incubators cover a wide range of organisations that assist entrepreneurs develop their ideas from inception, growth to commercialization. This is done by the incubators providing conducive environment in which such businesses operate and grow to be sustainable and successful. Other definitions focus on activities performed by business incubators such as providing office space, seed capital, technical support, management assistance, mentorship and networking services (See Table 1 for more definitions).

Definitions of Business Incubator	Focus	Sources
A facility that assists businesses in their early	Support early-stage of	Allen & Rahman (1985);
stages by providing appropriate resources e.g.	business development	Brooks (1986); Smilor &
rental space, office, secretarial services, book-	(those with potential	Gill, (1986); Udell (1990);
keeping, accounting services, conference	for high growth	Hisrich (1988).
facilities, shipping facilities and consulting	potential)	
support that leads to business profitability		
An innovative system designed to help	Innovation and	Campbell & Allen (1987);
entrepreneurs and start-ups develop real	technology	Kuratko & LaFollette
businesses or companies		(1987); Lumpkin & Ireland
		(1988); Mian (1996).
"Is an economic development tool designed to	Acceleration	National Business
accelerate the growth and success of		Incubation Association
entrepreneurial companies through an array of		(NBIA)
business support resources and services"		

Table 1: Common Incubator Definitions

A major benefit of business incubators is to assist local entrepreneurs realise their dreams by forming successful companies which in turn create jobs for the community thereby improving the standards of living. The incubated businesses also revitalise local economies and enhance and improve quality of lives for the community (Lesâkovâ, 2012). This is achieved through the incubators' role of mitigating numerous avoidable risks faced during the start-up stage and reducing the time required for businesses to gain traction (National Entrepreneurship Network (NEN), 2013). It is also argued that such incubators act as a platform for organisations and academics to develop and introduce new technologies to the market while at the same time contributing significantly to both local and regional growth (NEN, 2013).

2. Specific Roles of Business Incubators

Business incubators have come of age and are available in every corner of major world cities and communities. From America, Europe, Africa to Asia, business incubators play similar roles. The main roles as highlighted by different scholars (Adkns, 2001; Burns, & Dewhurst, 1996; Deakins, 1996; Lesâkovâ, 2012; Mitra, 2013; Tulchin & Shortall, 2008) are:

2.1. Training

Many entrepreneurs the world-over lack the competencies and expertise to run and operate businesses either due to lack of adequate education level or experience. By identifying and providing the right competencies, incubators enable start-up entrepreneurs to launch and operate their businesses knowing what to do, why and how to do it.

2.2. Resources

Most start-ups lack the resources to start and operationalise their businesses. However, the presence of incubators gives hope by providing basic business tools that enable entrepreneurs improve their businesses. This vital role involves incubators providing resources in terms of venture capital and facilities such as working space, offices and other requirements for entrepreneurs to grow and sustain their businesses.

2.3. Technical Support

For entrepreneurs in need of technical support, incubators provide valuable support. With good connections and relationships with government ministries, universities, technical institutions and industries, incubators are able to link entrepreneurial businesses with necessary supports. The various experts then work with entrepreneurs from the initial stages of their businesses to a state of stability and sustainability. For instance, from pre-incubation stage to post-incubation, technical and business support enables entrepreneurs to develop prototypes, test them, modify and eventually commercialise.

2.4. Networking

Since most entrepreneurs are just starters and they lack business exposure, incubators play a very instrumental role in connecting entrepreneurs with the right networks. Such networks act as a source of ideas, marketing and financing. The incubators also encourage similar entrepreneurs to start similar networks.

2.5. Skills Building

Most incubators do not just provide training, resource and technical support. There are also those that empower entrepreneurs through specific practical skills. These skills include marketing, book-keeping, financial management (cash flow management, trial balance, profit and loss account), debt management, negotiation, presentation and pitching. The goal is to make the entrepreneur self-sustaining and independent upon the incubators' withdrawal.

2.6. Mentorship/Coaching

The overall purpose of mentorship is to walk with entrepreneurs from the start to a level where their businesses are considered stable and sustainable. The process (mentorship/coaching) requires time and much interaction with the

entrepreneurs in order to make sure they are on track. Such mentorship/coaching provides hand-on practical experience and covers areas such as marketing, human resource, strategy development, developing accounting systems, financial management, networking and personal empowerment and analytical skills.

2.7. Funding

A major drive for most entrepreneurs joining incubation is to get funding to finance their businesses. The incubators often have good connections to different and reliable funding for start-ups and other forms of businesses. According to an NBIA survey, business incubators provide up to 83% of seed money to upcoming businesses while 76% assist businesses get funding from federal government (Tulchin & Shortall, 2008). However, the incubators themselves are not financiers but facilitate funds management and distribution. As indicated earlier, funding should not be made the primary goal of incubation or for entrepreneurs joining the incubation programme.

2.8. Innovation

One central role for incubators is to facilitate invention and innovation among businesses being supported. The incubators do this by creating sustainable and strong entrepreneurial support for start-up businesses. The incubators strive to develop infrastructural systems where new innovation and technology are development, refined and tested for commercial and marketability (NEN, 2013). According to NEN (2013), the heart of incubator is the start-ups. It is these businesses that need help to identify market innovative opportunities (value proposition), technologies, performing team members, sources of capital and legal assistances. And besides this support, incubators also provide emotional support, knowledge advice and networking services. Through their innovative and technologic drive, incubators enable businesses to provide innovative solutions to world problems and challenges.

3. Incubation Concentrations

Worldwide, there are certain areas that attract incubators among them biotechnology, pharmaceutical sectors, hitech sectors, business and financial services, retail, marketing and distribution, services, knowledge-oriented services, creative industries, research and development (State of the Business Incubation Industry, 2006). It is also notable that most incubators are publicly funded projects aimed at job creation, economic revitalisation and commer cialisation of innovations (Campbell & Allen, 1987). According to an NBIA Report, for every 50 jobs created by incubators, 25 more jobs are created in the community. The report further argues that 84% of incubate graduates settle permanently in the community where they start businesses (Tulchin & Shortall, 2008).

Besides providing training, technical expertise, funding and mentoring/coaching, business incubators are expected to put working control systems in place for businesses under their care. The systems ensure linkages between objectives and resources while at the same time managing and containing costs and optimal performance (Hackett &Dilts, 2004:57). Hackett and Dilts (2004) analysed 35 articles from both empirical and non-empirical studies and concluded that upon going through an incubation process, incubated businesses demonstrated the following outcomes:

- "The incubatee is surviving and growing profitability.
- The incubatee is surviving and growing and is on a path toward profitability.
- The incubatee is surviving but is not growing and is not profitable or is only marginally profitable.
- Incubatee operations were terminated while still in the incubator, but losses were minimised.
- Incubatee operations were terminated while still in the incubator, and the losses were large."
- (Hackett & Dilts, 2004:74).

According to Hackett and Dilts (2004), the first three outcomes indicate incubation success while the last two outcomes signify incubation failure. They further pointed out that success indicated does not guarantee future success of the incubator since proper management, marketing and customer management must be given prominence all the times.

4. Incubators' Funding Dilemma

There are two determinants of business incubators' success and sustainability, namely market opportunity validation and developing products or services that address the specific needs of identified market (Mitra, 2013). For an incubator to be successful then it must address and assist entrepreneurs achieve these two goals, otherwise its primary objective will be lost.

In the same breath, incubators need to examine carefully the potential entrepreneurs or incubatees management skills as this form the central propeller for business operations and success. Poor management skills mean that the business will not realise its mission nor satisfy its market (Mitra, 2013). The incubator must therefore ensure the right management skills and competencies are attained by the entrepreneurs either through acquisition of appropriate skills or by assisting the entrepreneur find qualified manager to operate and steer the businesses to the next level.

Most incubators have performed the role of funding agents and use such approaches to attract entrepreneurs or incubatees. While funding is critical for business success, it should not be the major emphasis. According to Mitra (2013), "over 99% of companies should operate as organically grown, self-sustaining businesses—bootstrapped, without external funding. For them the goal is to achieve customer validation, not financing." Mitra further argues that when an incubator uses financing as its success matrix, there is a tendency to include inexperienced entrepreneurs in the incubation programme and more often than not such entrepreneurs fail since the core challenge was not addressed. Hackett and Dilts (2004), argue that the focus on financial dependence forces many incubators to function in a "politically charged

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environment" where they must demonstrate their success in order to continually receive public funds. The trend can easily tempt incubators to report less failures compared to success cases.

To avoid such accusations and temptations, incubators should emphasise less on funding and shape their objectives in such a way that they emphasis on business development and sustainability while at the same time only admitting qualified and proven cases for incubation. Similarly, it is probably more appropriate to connect entrepreneurs with angel investors and venture capitalists while at the same time equipping them with appropriate knowledge, skills and expertise and only provide funding when necessary (Mitra, 2013). At all costs, funding should never be a major driver to incubation or entrepreneurs joining incubation programmes. Oxford (2014) emphasises that "money is no cure for the incubator disease." While the incubators are able to give good advice, it must be emphasised that it the responsibility of the entrepreneurs to make their business succeed (Lesâkovâ, 2012).

Proven entrepreneurs are those who have developed actual products or services that appear promising should be the potential candidates for incubation. It is notable that great companies originate in the most unpredictable places such as garages, kitchen tables, basements, bed rooms, school dorms, streets and far away from incubation centres (Oxford, 2014). Putting unproven businesses in incubation does not always work and could be a recipe for failure.

One way to nurture entrepreneurship especially those to include in incubation programmes is for the governments and like-minded institutions to establish start-up centres with vital infrastructure. Such places would attract potential entrepreneurs and provide a breeding ground for innovation and nurturing of ideas, products and services. These bodies should go a step further by using their machineries to be the main customer and markets for the entrepreneurs. By so doing, these organisations will fund the start-up businesses directly by providing the necessary tools and indirectly by paying for services rendered by the entrepreneurs (Oxford, 2013). A good example of such a practice is Silicon Valley where the United States Government offers markets for start-up businesses thereby making the venture one of the most successful in the world today.

5. Are Business Incubators the Solution to Business Failures?

It is evident that small businesses are vital to economic development as they contribute between 40% to 50% of national gross product (GDP) while contributing between 70% to 90% employment (Burns, 2001; Day, 2004; Longenecker et al., 2012; Sham, 2014). However, besides their importance, the rate of failure for small businesses is alarming and ranges between 50% and 95% worldwide for most countries for the first few years of operations (Willemse, 2010; World Bank, 2012). In fact, only less than 50% of small businesses survive to fifth year of operation with another small faction attaining to high growth (Willemse, 2010).

The high rate of failure signifies the importance of incubation as a solution to mitigating failures. In fact, for businesses put under incubation programmes, thesuccess rate has been enormous. Statistics from different parts of the world indicate that if well managed, incubators are able to transform failing businesses into prosperous businesses. The analysis of incubated businesses is encouraging thus explaining why incubation programmes are mushrooming all over the world. For instance, in New Zealand, incubated businesses have a success rate of 87% and continue to operate for two 2 years post incubation compared to 69% of general enterprises. A similar study from United States of America, gave the success rate of incubated businesses at 85% compared to 50% businesses not incubated. An even high success rate of 89% was noted for businesses incubated in Europe with Germany specifically having a success rate of 90%. In Africa, South Africa has a success rate of 80% of incubated businesses compared to 50% of non-incubated businesses. A similar success rate (80%) is notable in Brazil in South America (ANPROTEC Brazil; European BIC Network, 2008; NBIA; Schricke & Liefner, 2006; SEDA, 2008; New Zealand, 2008).

The above findings significantly indicate that incubators worldwide are critical and instrumental to business survival and growth. However, though important incubators still face major challenges threating their core survival and undermining their worth course.

6. Business Incubators' Challenges

Besides business incubators' numerous gains especially creating job opportunities, improving the economic standard of living for the communities and development of new products and services (Lesâkovâ, 2012), the highly charged business trend has also faced several challenges. In fact, according to Relan (2012), 90% of incubators will fail having absorbed a lot of capital with little returns. The reasons associated with failures are:

6.1. Lack of Professional Management Personnel

The success of any incubator is anchored on its quality of management. The selection of qualified and experienced managers will ensure proper management of resources and accountability. This would also ensure smooth and quality service to the incubatees (Cullen, Calitz & Chandler, 2014). Such managers are able to instil spirit of creativity and innovativeness which in turn trickle down to incubate businesses. A quality management also provide direction, technical support, marketing services and other consultancy services (Ndedi, 2009; Nieman & Nieuwenheuizen, 2009). Scaramuzzi (2002) has recommended that qualified management should be put in place. Such management should be made of experienced and knowledgeable staff and have a board to govern incubator activities. A well-managed incubator is able to attract investors, sponsors, and other stakeholders, all aimed at benefiting the incubatees and their businesses.

6.2. Sustainability and Growth

Sustainability denotes an incubator's ability to maintain and sustain itself. Growth on other hand defines the incubator's annual returns and number of graduates completing the programme. According to Scaramuzzi (2002), sustainability and growth remain major challenges affecting incubators' ability to fulfil their objectives. If the incubator is unable to attract required personnel, acquire required funding or manage resources efficiently, chances of survival are slim. The result is frustration of incubatees already recruited in the incubation programme who may also fail to realise their purpose (Lalkaka & Shaffer, 1999).

6.3. Technology

Depending on the objectives of incubators, access to technology determines the survival of incubators. To achieve their objectives, most incubators require technology-based facilities to help them determine their services(Caleb, Olaopa & Siyanbola, 2012). Failure to have the appropriate technology hinders business ideas and product development. The required technology is sometimes very expensive or has to be imported. If the incubators are unable to buy or import the new technology, it becomes difficult to operate. If the problem becomes acute, then, the incubators are forced to close done their programmes. This can be very frustrating especially to the youth who may have invested their time, energy and resources to bring out products that are unique, affordable and targeted at solving community problems (Ndedi, 2009).

6.4. Funding

The ability to raise and manage funds signifies incubators' good management skills. Shareholders and other investors put their money and other resources where they expect optimal returns. From inception to maturity, incubators require funding. Such funds may be obtained from donors, governments, micro-financial institutions, business-people interested in particular projects or through partnership with donors whether local or international (Ndedi, 2009). As Lalkaka and Shaffer (1999) observe, funding is earned. The authors argue that the incubators must win the confidence of the donors or sponsors into his or her mission and objectives. The funding agencies only fund programmes that are well managed and efficiently fulfilling their original goal and objective (Lose & Tengeh, 2015).

6.5. Mentorship

It is true that many incubators are involved in mentoring incubatees and entrepreneurs. However, the high failure of these incubators is associated with lack of mentorship. Before mentoring others, incubators also need to go through mentorship in terms of building products, marketing and selling skills, businesses processes, human management and public relations (Relan, 2012). It should be remembered that many of these incubators are also start-ups and face similar challenges facing the businesses which they are founded to assist. If not well grounded, incubators face the same fate as those businesses they plan to help.

6.6. Lack of the Right Variety of Entrepreneurs

The selection of the right incubatees or entrepreneurs is the first step to determine incubators' success or failure. This means that admission of entrepreneurs who lack interest, passion and commitment only lead to incubator's failure through loss of funds arising from failed businesses (Morrison, Rimmington & Williams, 1999; Oxford, 2014).

7. The Quality of Incubation

For incubatees to be effective, the quality of the incubators is important. In several studies, numerous factors have been identified as critical factors associated with successful incubators. These factors range from access to science and appropriate technology, adequate facilities, quality entrepreneurs, stakeholder and investors' support, relevant government policies, competent management, financial sustainability, networking and availability of funding (Autio & Klofsten, 1998; Buys & Mbwewana, 2007; Campbell, 1984; Richards, 2002; Wagner, 1997). Khalil and Olafsen (2010) have cited InfoDev experience in identifying three measures of incubators' effectiveness in their effort to create and stimulate innovation and growth. Firstly, incubators should be assessed by the number of innovative enterprises they have created. Secondly, the ability of incubators to develop viable businesses in terms of revenue sizes and prosperity for growth. Lastly, incubators' effectiveness must be based on the size of investment attracted. The three key determinants demonstrate that just like an incubate business can fail, so are the incubators. To remain in business, clear vision, quality leadership and management are critical to incubators' success and sustainability.

Besides their popularity, many business incubators fail as they never live to their expectations. To succeed, any business incubator must add real value (Mitra, 2013). According to Oxford (2014), "they all start off with great hopes and great names...but most end as 'Boulevard of Broken Dreams', the very name of a book on the phenomenally high failure rate of these pre-fab start-up clusters."

8. Case Study

8.1. Incubation in Practice

The National Environment Trust Fund (NETFUND) is a state corporation under the Ministry of Environment and Natural Resources (MENR)mandated to develop programmes meant to improve the environment. Toward this end, NETFUND established a national Green Innovations Awards Programme (NETFUND GIA) with the aim of instilling a culture of self-regulation in environmental management." Through this programme, the organization "envisions a future

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where all Kenyans take personal and community responsibility for the management of the environment." The case study focuses on the NETFUND GIA programme (especially the incubation arm of the programmewhich is considered a great success story).

The main objectives of the NETFUND GIA are threefold: namely to enhance public awareness on green growth initiatives; promote enabling environment for green growth initiatives; and finally, support development of green enterprises. And to achieve the objectives, NETFUND plays the role of an incubator through the GIA programme since inception. The NETFUND GIA has focused on key thematic areas of agribusiness, water management, renewable energy generation and resource-basedwaste management.

To participate, innovators from all walks of live are invited to participate in national wide competition for the best projects or business ideas. And with its highly experienced judges, NETFUND identifies, recognises and rewards innovative environmental projects/ideas from thousands of entries. The winning category prices range from US\$ 10,000 (1st prize) to US\$ 2,500 (3rd prize). The NETFUND GIA programmespends over US\$ 50,000 on technical and business support per innovator. The winning projects/ideas are nurtured into quality products and services through awellthought-out twelve-monthincubation programme. Products or services that successfully graduate from the GIA programme receive seed funding of up to US\$ 20,000. The incubation programme which is run and operated in partnership with Daystar University to equip innovators with business management and technical skills as well as capacity to turn the projects/ideas into start-up businesses that are profitable and sustainable in the long-run. With experts from businesses, industries, legal firms, and environmentalists from government ministries, the innovators are well grounded with knowledge, skills and exposure on how to run, manage and accelerate their businesses.

Business skills attained ranges from business management, marketing, communication and financial management. Technical supports on the other hand ranges from product testing, legal compliance, patenting and product certification by relevant governmental and international authorities. The participants also gain from first-hand interaction and practical trainings in relevant industries through exchange visits besides participating in national exhibitions and trade fairs (NETFUND factsheet, 2016).

As an incubator, the NETFUND GIA programme has supported innovators from different fields ranging from hydropower generation, briquette making, cooking stoves, organic farming, waste management, tile making, animal feeds to fruit processing. Currently the programme has twenty-five (25) incubatees in its twelve months programme.

With a national outlook, NETFUND GIA has its presence in different counties across Kenya. And with increasing demand for environmentally friendly businesses and community projects, the programme is planned to include more incubatees and thematic areas. The participants range from youth, women, professionals, scientists to poverty-stricken communities and women groups. With recognition and support from international donors and Kenyan government; the incubation programme can only become better.

Below are some of the businesses that have been incubated successfully: a rural mini- hydro-electric power plant; high energy saw dust briquettes factory; and a water hyacinth paper production facility.

8.2. Rural Hydro-Electric Power Plant

This is a mini-hydro-electric power generating plant operated by a twenty-five-year-old, John Magiro whose initial capital of US\$60 was raised from the sale of domestic animals (rabbits and goats). With a drive to offer a solution to the rising cost of kerosene in his Mihuti Village, Mr. Magiro initially generated powerto assist his mother cut the rising cost of kerosene. Using locally available materials such as old bicycle parts and simple motors from old cars, Mr. Magiro was able generate power from a small permanent river running across his village.

Following the successful generation of power, the young innovator became the darling of the villagers as he was able to connect them to "his power" at a cost of US\$ 1 per month. With the support of the NETFUND GIA programme, Mr. Magiro participated in the incubation programme which besides winning a prestigious award of US\$ 10,000 also boosted his technical and business skills. Currently he has poweredover 110 households from initial number 30 homes and with time he will realise his dream of powering 10,000 homes. Through his efforts, the community is able to enjoy cleaner, healthier and sustainable energy. The NETFUND GIA programme has provided to him with financial, legal and technical support to ensure smooth running and sustainability of his business.

8.3. High Energy Saw Dust Briquettes

The business owner, Paul Kairu felt the need to conserve the environment by providing solution to tree cutting menace that has endangering the lives of millions of people in Kenya. The saw dust briquettes provide alternative to firewood and charcoal dependant hotels, factories and domestic users. According to NETFUND specialists, the saw dust briquettes are of high quality and cost less that charcoal and firewood. The briquettes' high energy efficiency makes them suitable for industry use, thereby opening a market for him in leading industries in Kenya, such as a large shoe company that consumes one ton of briquettes daily. With the support of NETFUND GIA programme, the business has recycled about 75 tons of saw dust which would have been discarded as waste or burned to destroy it and causing pollution to the environment.

Having participated in the NETFUND GIA programme, the innovator has installed a three phase power connector, a solar saw dust drier, a briquetting machine with conveyor and control cabinet, an electric sieve, a mixing machine, weighing scale, stitching machine and a saw dust moisture analyser. As a result of the technical assistance provided to this enterprise, the production capacity has increased from an average of 12tons per month to 240 tons per month. The business is not only providing a waste management solution, but it also offers employment (four permanent and twenty

casuals) to local the community. It also provides the owner with a consistent source of income. NETFUND support was geared to make the business even more stable and sustainable as a solution to environmental management.

8.4. Water Hyacinth Paper Factory

The presence of water hyacinth in Lake Victoria in Eastern Africa poses a threat to millions of people depending on its water for farming, drinking and electricity. The fast spreading hyacinth has caused panic both locally and internationally with millions of dollars being spent to control its spread. It is this threat that spurred a young entrepreneur, Michael Otieno, to innovate a solution. Michael who dropped out of high school due to a lack of school fees started a business that manufactures paper products from water hyacinth and waste papers. Using traditional methods of paper making, the business produces products such as gift bags, notebooks, business cards and greeting cards.

According to the NETFUND Factsheet, "The project utilizes solar energy to dry the products—thus promoting the adoption of renewable energy sources. The use intervention contributes to the control and management of the weed that has colonised the lake." The business now offers employment to youth and women who assist in the production process through the collection model.

Having participated in the NETFUND GIA programme, Michael has acquired business skills such as marketing, management, communication and financial management. He has also attained technical and production skills for the production of quality products. Similar to other successful participants in the incubation programme, Michael has received seed capital that enabled him to install a calendaring machine, pulping machine, chaff carter, solar drier and other automated processing machines. The support provided by NETFUND has seen the project increase its production capacity by 400%. The initiative can currently manage 60 tons of hyacinth per month up from 16 tons prior to NETFUNDs support. It is a business that is expected to be sustainable and that will challengeother youthin the area to initiate similar initiatives.

9. Conclusion

Business incubators are instrumental in assisting emerging businesses start and survive during their most vulnerable period. While some incubators have successfully crafted their visions, mission and objectives in order to attain their desired goal of seeing small businesses and medium businesses thrive, research shows that thousands of incubators don't survive to fulfil their mandate either to their founders or entrepreneurs.

To ensure the survival of such incubators, several scholars have outlined numerous determinants of success for incubators, both in developing and developed countries. These determinants include: adhering to stringent selection criteria of incubatees, admitting only quality incubatees or entrepreneurs with well-developed visions and clear objectives; having competent managementteams; comprehensive financial sustainability business plans for the incubator; appropriate technology,; experienced advisory board in place; supportive stakeholders/investors; compliance with legal frameworks; good sources of funding and adequate networks.

The NETFUND incubator has instituted some of these structures to ensure it is a sustainable programme, hence other incubators could learn from this. It continues to play a positive role in transforming the youth and other innovators in Kenya by providing the environment where ideas can be presented, tested and financially supported to make them a reality. It is an incubator that should be emulated by other government ministries globally.

10. References

- i. Adkins, D. (2001). Identifying obstacles to the success of rural business incubators. National Business Incubation Association (NBIA). Retrieved from: www.rural.org/publications/NBIA01-08.pdf
- ii. Allen, D.N. & Rahman, S. (1985). Small business incubators: A positive environment for entrepreneurship. Journal of Small Business Management, 23(3), 12-22.
- iii. ANPROTEC Brazil. US Brazil Innovation summit.Retrieved from: http://www.anprotec.org.br/publicacao.php?idpublicacao=538
- iv. Autio, E. & Klofsten M. (1998). A comparative study of two European business incubators. Journal of Small Business Management, 36, 3–10
- v. Brooks, O.J. (1986). Economic development through entrepreneurship: incubators and the incubation process. Economic Development Review, 4(2), 24-29
- vi. Burns, P. (2001). Entrepreneurship and small business. New York: Palgrave.
- vii. Burns, P. & Dewhurst, J. (1996). Small business and entrepreneurship. London: McMillan Press Ltd.
- viii. Buys, A. J. & Mbewana, P. N. (2007). Key success factors for business incubation in South Africa: The Godisa case study. South African Journal of Science, 103, 356-358.
- ix. Caleb, A.M. Olaopa, R.O.&Siyanbola, W.O. (2012). Technology business incubation as strategy for SME development: How far, How well in Nigeria? Science Technology, 2, 172–181.
- x. Campbell, C. (1984). Hatching small businesses: Planning. Chicago: National Business Incubation Association.
- xi. Campbell, C. & Allen, D. N. (1987). The small business incubator industry: Micro-level economic development. Economic Development Quarterly, 1(2), 56-59.
- xii. Cullen, M., Calitz, A. & Chandler, L. (2014). Business incubation in the Eastern Cape: A case study. International Journal of Innovation Education Research, 2, 76-89.

- xiii. Day, J. (2000). The value and importance of the small firm to the world economy. European Journal of Marketing, 34(9/10), 1033-1037.
- xiv. Deakins, D. (1996). Entrepreneurship and small firms. London: McGraw-Hill Publishing Company.
- xv. European BIC Network. 2008. BIC Network in 2007 Facts and Figures. Brussels. Retrieved on November 1st from: http://www.ebn.be/
- xvi. Hackett, S. M. & Dilts, D. (2004). A systematic review of business incubation research. The Journal of Technology Transfer, 29, 55-82.
- xvii. Hisrich, R.D. (1988). New business formation through the enterprise development enter: a model for new venture creation. IEEE Transactions on EngineeringManagement EM, 35(4), 221-231.
- xviii. Mohsen A Khalil, M. A. & Olafsen, E. (2010). Enabling Innovative Entrepreneurship through Business Incubation. In López-Claros, A.The Innovation for Development Report 2009–2010, pp 69-84. London: Palgrave Macmillan UK.
- xix. National Environment Trust Fund. Factsheet: National environment trust fund green innovations award (NETFUND GIA). Nairobi: National Environment Trust Fund.
- xx. Kuratko, D.F. & LaFollette, W.R. (1987). Small business incubators for local economic development. Economic Development Review, 5(2), 49-55.
- xxi. Lalkaka, R. & Shaffer, D. (1999). Nurturing entrepreneurs, creating enterprises: Technology business incubation in Brazil. In Proceedings of the International Conference on Effective Business Development Services, Rio de Janeiro, Brazil, 3–5 March 1999; pp. 2–3.
- xxii. Longenecker, Justin G., Carlos, W. Moore, Petty, J. William (2012). Small business management: An entrepreneurial emphasis. U.S.A. Thompson South-Western.
- xxiii. Lose, T. & Tengeh, R. K. (2015). The sustainability and challenges of business incubators in the Western Cape Province, South Africa. Sustainability, 2, 14344-14357. Retrieved from: www.mdpi.com/journal/sustainability
- xxiv. Mian, S. A. (1996). Assessing value added contributions of university technology business incubators to tenant firms. Research Policy, 25, 325-335.
- xxv. Mitra, S. (2013). The problems with incubators and how to solve them. Harvard Business Review, August 26.
- xxvi. Morrison, A., Rimmington, M., & Williams, C. (1999). Entrepreneurship in the hospitality, tourism and leisure industries. Bath, UK: Butterworth-Heinemann.
- xxvii. National Business Incubator Association. Retrieved from: http://www.nbia.org/
- xxviii. Ndedi, A. A. (2009). Entrepreneurship training and job creation in South Africa: Are tertiary institutions filling the gap? Journal of Contemporary Management, 6, 463–470
- xxix. National Entrepreneurship Network (NEN). (2013). Guidelines: Metrics & milestones for successful incubator development (A white paper). India: Department of Science & Technology, Government of India. Retrieved from: http://webcache.googleusercontent.com/search?q=cache:http://www.andeglobal.org/resource/dynamic/b logs/20150609_144829_13974.pdf
- xxx. Nieman, G. & Nieuwenheuizen, C. (2009). Entrepreneurship: A South African perspective (2nd ed.). Cape Town, South Africa: Interpak Books.
- xxxi. New Zealand Ministry of Economic Development (May, 2008. Incubator Support Programme Evaluation Report.
- xxxii. Oxford, C. (2014). Trouble in paradise: Why business incubators don't work. Forbes. Retrieved from: http://onforb.es/V4JTmP
- xxxiii. Relan, P. (2012). 90% of incubators and accelerators will fail and that's just fine for America and the world. Retrieved from:https://techcrunch.com/2012/10/14/90-of-incubators-and-accelerators-will-fail-and-why-thats-just-fine-for-america-and-the-world/
- xxxiv. Richards, S. (2002). Inside business incubators and corporate ventures. New York: John Wiley.
- xxxv. Scaramuzzi, E. (2002). Incubators in developing countries: Status and Development Perspectives. Washington, DC, USA: The World Bank.
- xxxvi. Schricke, Ester and Ingo Liefner. (February, 2006). 20 Jahre Technologieund Gründerzentren in Niedersachsen—Eine Untersuchung der regionalokonomischen Effekte. Hannover, Cuba: University of Hannover.
- xxxvii. Sham, T. (2014). Chine SMEs development. OCBC Wing Hang Monthly Newsletter, September, 1-4.
- xxxviii. Smilor, R.W. (1987). Managing the incubator system: critical success factors toaccelerate new company development. IEEE Transactions on EngineeringManagement EM, 34(4), 146-156.
- xxxix. Small Enterprise Development Agency (SEDA). (2007–2008). Annual report 2008. Pretoria. Retrieved from: http://www.seda.org.za/content.asp?subID=922
 - xl. State of the Business Incubation Industry, 2006.
 - xli. Tulchin, D. & Shortall, J. (2008). Small business incubation and its prospects in Indiancountry. Washington, D.C: Social Enterprise Association/UpSpring

- xlii. Udell, G.G. (1990). Are business incubators really creating new jobs by creating newbusinesses and new products? Journal of Product Innovation Management, 7, 108-122.
- xliii. Wagner, J. J. (1997). The incubation of technology intensive new businesses. Pretoria: Institute for Technological Innovation, University of Pretoria.
- xliv. Willemse, J. (2010). The forum SA: SME failure statistics. Retrieved from: http://www.theforumsa.co.za/forums/showthread.php?t=7808.
- xlv. World Bank (2012). Doing business 2013. New York: The World Bank.