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Overview

Since 2002, Intellecap has constantly strived to shape outcomes in emerging and underserved markets by developing key insights and new ideas. As a result, the organization has undertaken bold initiatives across its various practices to push the envelope, seeking to build collaboration and thought leadership as part of the social impact discourse. This year marks the 4th edition of the Lighthouse, and there's been a concerted effort to bring more diverse, yet unique perspectives to the sectors Intellecap covers, and unearth fresh ideas that complement our work in nurturing ecosystems to deliver change.

The goal of this endeavour has always been to highlight and share the most relevant thought pieces with our external stakeholders, in order to bring forth sustainable solutions towards achieving the SDG's, as set forth by the United Nations. Our aim to cover a diverse set of perspectives continues, as some of this year's published pieces include bridging the digital divide in the agri ecosystem, creating a circular solar ecosystem, the need for a multi level approach in fighting diseases, tools to improve gender lens investing practices, closing the loop on plastic waste in India textile industry, among others.

As the world recovers from the aftermath of the pandemic, there are questions abound for the future that lies ahead, and we believe the perspectives shared in this year's edition contribute towards alleviating those concerns and providing resilient mechanisms to tackle them. It is our sincere hope that the Lighthouse offers you more than a glimpse into some of the most compelling geographies and sectors Intellecap serves as part of its key constituents, and aspires to continue serving in the years to come.

To connect with us about our work, and to know more about our various initiatives, please write to us at <u>connect@intellecap.net</u>.



AGRICULTURE

AGRICULTURE

BRIDGING THE DIGITAL DIVIDE IN THE AGRI ECOSYSTEM

By Mayur Varandani



A growing number of agricultural technologies have proven that they can support the overall development of the agriculture sector, and there are multiple examples to support the same

More than half the world's population is connected to the Internet today. Of this, over 90 per cent use mobile phones to connect digitally. Over the last decade, the widespread availability of mobile phones and access to mobile Internet has been a game-changer in digital inclusion; in fact, you're probably reading this article on your phone right now! Digital technologies are increasingly being used across every sector of the economy, including health, finance, education, infrastructure, e-commerce, and retail.

The agriculture sector, too, has witnessed a rise in the adoption of digital technologies across various activities. Some of the use cases where technology is being successfully used in agriculture include drones and GPS mapping to provide customized advisories on the use of fertilizers and pesticides, as well as on water management; remote sensors to verify crop insurance claims; digital platforms to provide direct market linkages between

farmers and consumers; and digital financial services that facilitate loans with low-interest rates and easy repayments to farmers. These solutions have the potential to address some of the most pressing issues faced by the sector, including low productivity and yields, climate-changerelated vulnerabilities, lack of access to credit, and weak market linkages.

Despite these technological developments in the agriculture sector, the adoption of digital solutions continues to remain low amongst vulnerable and marginalized populations in low- and middle-income countries (LMICs). While these gaps remain, there is a growing consensus among industry experts on some of the challenges faced by smallholder farmers in adopting digital technologies.

A growing number of agricultural technologies have proven that they can support the overall development of the agriculture sector, and there are multiple examples to support the same. However, for these technologies to achieve their full potential and inclusively benefit all agriculture sector actors, additional action from key stakeholders in the agriculture ecosystem may be required.



· Many smallholder farmers face capacity constraints in fully utilizing data collated from their agricultural activities.

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· Further, increasing collection, storage, and usage of data has raised concerns about the ownership and sharing of farmer and farm related data.

Risk of

Data Sharing

Gender-based

Digital Divide

Key Challenges

Digital Divide in

Agri Ecosystem

Limited

Youth in

Agriculture

Poor Accessibility

Lack of Knowledge

Low

Affordability

- According to a study by World Farmers' Organization, the average age of farmers globally is 60 years.
- Hence, there is a need to promote Involvement of agri-preneurship for the youth in LMICs. This may encourage a younger population to adopt technologydriven agriculture, which may solve the problem of ageing farmers.
- · Women farmers account for 43% of the agricultural labor force in developing countries (Source: UN Women). Many women farmers face constraints in adopting digital solutions.
- There are multiple reasons for this, but some of the main ones include insufficient knowledge of how digital solutions are used, a lack of motivation and support from friends and family to use technology, and limited time to understand and adopt solutions owing to household responsibilities.

Some illustrative examples are provided below, although these are by no means comprehensive.

- Foundations and Donors Scaling digital inclusion in underserved populations may require patient capital to be deployed through long-term programs. To incentivize private sector engagement, a "pay for success" funding model might be used, in which a promise is made to pay for improved social outcomes while digitizing the agri-ecosystem (example: Peru Climate-Smart Agriculture DIB).
- Regulators and Policymakers The agribusiness community is witnessing a surge in the number of social enterprises that provide various services to smallholder farmers. However, assisting rural populations to adopt digital solutions may require a nationwide digital inclusion initiative that may inspire confidence and create capabilities for smallholder farmers. A consistent emphasis may be required from the government, to build a foundational understanding of technology, its uses, and long-term adoption among farmers (example: National Gender Resource Centre in Agriculture (NGRCA) in India).
- **Corporates** The private sector, including multinational corporations and local enterprises, can help promote digitization and provide capacity development assistance to smallholder farmers and farmer

- Low smartphone penetration and Internet access are some of the key indicators of poor accessibility.
- In LMICs, a large section of the population continues to does not have a smartphone or access to the Internet.
 - Although mobile data may have become affordable, the high cost of devices continues to remain a significant barrier, especially for the poorest 20% of the population in LMICs.
 - Further, smallholder farmers often lack the financial means to invest in high-tech solutions.
- Limited knowledge and understanding of digital solutions remains one of the key barriers to achieving scaled digital inclusion in the last mile.
- Several grassroot enterprises, including NGOs and supply chain actors, design and implement digital literacy trainings for farmers. But this may have an impact on the long-term sustainability of the enterprises, as the efforts may often be duplicated while expanding into new locations.

associations through digital literacy initiatives. This may build a compelling case for farmers to choose and adopt digital solutions (examples: Cargill's 'Digital Saathi' -an AI based local online service platform and Arifu -mobile-based agronomic advice and financial skills training to farmers in Kenya).

Non-governmental Organizations (NGOs) and Other **Ecosystem Players** Understanding how people interact with one another and knowledge about processes and procedures and networks within government departments may enable local institutions, including NGOs, mobile network operators (MNOs), social enterprises, and other ecosystem players to design programs that foster trust among smallholder farmers, thereby promoting the adoption of digital solutions (example: Digital Agricultural Innovations and Services Initiative (DAISI) and GSMA AgriTech Programme).

While several such initiatives have made some headway in improving digital inclusion and access to technology among farming communities, there is a long way to go before this digital divide is truly bridged and ICT-enabled tools are widely accessible.

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AGRICULTURE

IMPACT OF DATA GOVERNANCE AND SOVEREIGNTY ON THE LIVELIHOODS OF SMALLHOLDER FARMERS

By Mayur Varandani and Ravi Gupta



Data analysis is a growing trend across industries, making it a critical part of improving business operations and decision-making. Myriad forms of data are enabling businesses to understand and anticipate customer needs, get insights into new geographies and customer segments, optimize resources, and make better decisions.

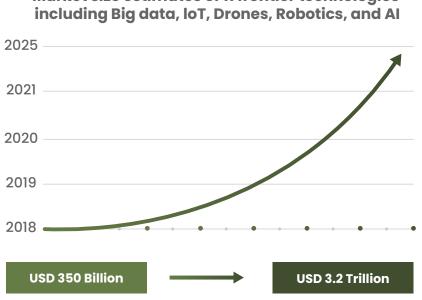
The agriculture sector is no different when it comes to the usage of data analytics. The sector has witnessed an increasing use of digital solutions such as precision agriculture, blockchain technology, and IoT to capture, facilitate, analyze, and enable decision-making on various activities across the supply chain. These solutions are driving a shift towards improving crop yields, mitigating the effects of climate change, increasing efficiency in resource utilization, and aligning with consumption demand in agriculture.

THE CURRENT STATE OF DATA OWNERSHIP AND GOVERNANCE IN AGRICULTURE

There are more than 500 million smallholder farmers worldwide, playing a significant role in food production and food supply. These smallholder farmers generate and may collect data on soil health, seed and fertilizer use, the time required to carry out field operations, production practices, and irrigation data. Data generators or service providers such as research institutions, government/ NGOs, and commercial service providers/ companies are also increasingly capturing this data either through direct interaction with farmers or by using mobile phones and/ or remote sensing technologies to develop digital farmer profiles.







Market size estimates of 11 frontier technologies

Source: UNCTAD report titled "Technology and Innovation report 2021"

Some of these profiles contain comprehensive data, which are made accessible-sometimes on a commercial basis-to multiple service providers, such as input providers, financial institutions, agro-processors, government agencies, and farmer cooperatives. Service providers may also develop products and services by undertaking data analysis to provide farmers with better inputs, timely and low-cost access to finance, and efficient price discovery. However, this increasing collection, storage, and usage of data have given rise to concerns around the ownership and governance of farmer and farm data. Questions remain in terms of who decides how that data is used and shared, who benefits financially from said data, and what rights farmers have to access, delete, and control data about them and their farmers that are held by third parties.

CHALLENGES FACED BY SMALLHOLDER FARMERS IN DATA GOVERNANCE AND **OWNERSHIP**

Many smallholder farmers face capacity restraints in fully utilizing data collated from their agricultural activities. There are multiple reasons for this, but some of the main ones include insufficient regulatory guidance on data privacy and security, lower literacy level, insufficient knowledge and awareness of how their data is stored and used by service providers, and a lack of farmer-centric data governance models. Apart from capacity-related challenges, smallholder farmers also face data ownership and control challenges, which impact their willingness to adopt digital solutions. According to the GFAR study "Rights of farmers to data, information, and knowledge," access to information is mainly limited to large-scale farmers and service providers. While much of the data is generated by smallholder farmers, it's generally gathered by government agencies, research organizations, NGOs, financial institutions, and development organizations. Since farm data is often sensitive and not something that farmers are willing to share, they may be reluctant to share certain data, particularly if that data will then be used and potentially owned by another party. This may put them in the position of either having to forgo access to beneficial digitallyenabled services unless they are aware and are willing to trade their data for access.

Given these challenges, there is an immediate need to design frameworks or processes for data governance and ownership that put the needs of farmers at the center. Putting in place policies around governance and inclusion will also drive the adoption of

innovative and farmer-friendly data analytics solutions in the agriculture sector, thereby improving livelihoods and increasing income for smallholder farmers, while also benefiting service providers and other agriculture stakeholders through creating a fair and competitive market for service delivery.

SOME WAYS STAKEHOLDERS ARE ADDRESSING THESE ISSUES

Overcoming issues around data governance and ownership requires a multi-pronged approach from all relevant stakeholders, including research institutions, policymakers, donors and development organizations, corporates, and data collection & analytics companies. Some well-known initiatives undertaken by organizations across the globe include the Voluntary Code of Conduct by the National Farmers' Federation, Australian Farm Data Code, the EU Code of Conduct on Agricultural Data Sharing by Contractual Agreement, and the US Privacy and Security Principles for Farm Data.

Apart from developing codes and principles, some regions are also forming Farm Data Cooperatives. These farmer cooperatives pool and store members' data and provide organization control over the flow of data. Farmers' data cooperatives include Ag Data Coalition, Grower Information Services Cooperative and the Farmers Business Network in the United States, and JoinData, Dutch data cooperative.

Some not-for-profit development organisations and development agencies have also designed programs that enable farmers to interact with their data. For example, Digital Green's "FarmStack" is a free open-source software



for data exchange to share data directly and securely without any third-party involvement. It also provides users with full control over data. Digital Green is using FarmStack to create a secure marketplace for the sale of agri products in India and Ethiopia. The Feed the Future Ghana Agricultural Development and Value Chain Enhancement (ADVANCE II), which was implemented by ACDI/VOCA, used innovative, locally-sourced farmer identification smartcards owned by

Some private players are also using technologies such as Al and blockchain to enable farmers to store their own data on a secure distributed database. For example, Farmobile, a US-based agriculture data collection and software provider, has developed an ownership framework that governs farm data ownership and exercises control through a legal agreement that asserts who can edit and access that data. Farmobile DataEngine platform provides data ownership rights to the farmers, through which they can keep their data with themselves or can share with service providers

the farmer, which was shared with the farmer's consent.

or advisors and can also monetize it. Similarly, Conservisa software-based farm management service provider gives the data ownership rights to the farmers. The company can only share farmers' data after their authorization.

With the increasing rate of technological advancements in the agriculture sector, data at different stages of the supply chain will become even more critical for planning and decision-making. Hence, there is a need to have a multi-stakeholder discussion on data governance where each stakeholder shares their concerns and suggestions to strengthen a common vision for the coherent implementation of existing data practices and policies across geographies.

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CIRCULAR APPAREL

CIRCULAR APPAREL

BUILDING A CIRCULAR TEXTILE INDUSTRY MUST BE A COLLECTIVE EFFORT

By Siddharth Lulla



The Indian textile and apparel industry is one of the world's largest, and is a major contributor to global textile and apparel production. Currently, the industry is estimated to be worth USD 103.4 billion and is expected to grow up to USD 190 billion by the year 2025-2026. Today, the Indian textile industry employs more than 45 million people, making it the second largest employer in India. It contributes to over 15 percent of the country's export earnings, and almost 7 percent of the country's industrial output (India Brand Equity Foundation, 2018).

Although the industry exhibits a positive trend in terms of growth, the question of sustainability looms large. The Indian textile and apparel industry has two broad issues related to sustainability. First, it is one the most polluting industries in the world. Secondly, it is plagued by social inequities.

More than 80% of textile waste generated is sent to landfills or incinerated instead of being recycled or reprocessed.

At the same time, India is increasingly facing the pressure to match supply and demand due to resource constraints in core areas like cotton production. There is, therefore, a critical need to 'self-disrupt' existing practices and transition towards pathways, and Circular Economy (CE) is the ideal model to be followed.

Aligning with the principles of the CE entails adopting a more strategic and future-oriented mindset to the entire lifecycle of products from material production, manufacturing, use, and closing the loop on waste. A CE is an emerging phenomenon with the potential to completely change the textile & apparel system.

Products in such a system are designed to be used more; made to be made again and made from safe and recycled or renewable inputs. While prioritizing the rights and equity of everyone involved are not highlighted in the CE literature, this is another critical area that needs attention in the journey to 'going circular'.



THE NEED FOR TRANSFORMATIONAL LEADERSHIP

Companies and manufacturers at the forefront need to lead this transformation. With increasing awareness of environmental and social issues, global brands have started implementing sustainable strategies, which include adoption of sustainable materials, reduced use and wastage of resources across the manufacturing process, etc.

On the other hand, individual designers, small companies and grassroot initiatives are demonstrating alternative ways to more sustainable businesses. There exist several examples of how to design, manufacture and do business in the context of the circular economy, the scaled adoption of which would need a systemic perspective and collaboration between different stakeholders, i.e, designers, producers, manufacturers, suppliers, business owners and even the consumers. This, in turn, would lead to new perspectives and networks that open different business and design opportunities.

KEY CHALLENGES INVOLVED

The transition to a circular economy clearly requires significant changes in both production and consumption models. Some of the factors that impede stakeholders in this transition include:

- Lack of knowledge, awareness of the range of solutions and best practices, capabilities to deliver circular business models that can seamlessly integrate with current systems
- Risks associated with adopting circular solutions and models such as technology risk, high capital investments, high transition costs in order to switch to new solutions
- Capturing value requires both recyclability and durability. Refurbishing products can be an expensive process, if done reliably. Similarly, most garments are composed of a mix of materials (e.g. cotton, viscose, polyester), which makes recycling difficult
- Enabling circularity involves a complex and expensive network of logistics both in terms of: o collection and recycling waste (textile, apparel, packaging, etc.)
- establishing customer-facing retail models like rental, e-commerce, subscription, etc.
- Consumers too, are required to overcome stigmas in using upcycled, repaired and refurbished products
- Lack of reskilling and up-skilling initiatives to make workers future ready

Given these risks, despite a rise of innovation by new startups/ innovators leveraging technologies and processes to create sustainable solutions, a very limited number of them have been able to scale and thereafter mainstream their solutions.

There is a need to work collaboratively so as to bridge the gap between innovators and manufacturers to promote

large-scale uptake of green solutions, not only by leading brands and manufacturers but also by small and medium enterprises to move towards sustainable practices.

Given the fragmented nature of the industry, standardized solutions are unlikely to emerge anytime soon. Hence, we are more likely to see a diverse range of strategies centered around the following fundamentals:

1. EMBRACING SUSTAINABLE DESIGN:

- Train and reskill design teams on the principles of circular design
- Invest in, incubate and experiment with alternative materials and fibers
- Reduce leakage in the system by concentrating on material recovery at both a pre and post consumer level
- Develop efficient supply chains with reduced demand of resources (energy, water) and packaging

2. OPTIMIZE WASTE-TO-VALUE PROCESSES:

- Adopt new technologies and solutions that use waste to manufacture new input materials such as fibers and yarns.
- Adopt innovative solutions to optimize sorting and recycling technologies.
- Partner with logistics partners and solution providers to collect and recycle waste (textile, plastics) generated in the supply chain.
- Develop collection points and home pick-ups to improve accessibility.
- Eliminate single-use packaging by using sustainable / recycled alternatives.

3. DRIVE CUSTOMER ADOPTION:

- Project sustainability and circular practices at the center of branding decisions
- Offer alternative business models such as rental and subscription
- Provide traceability information about the products to build customer awareness and buy-in
- Enable strategies and systems to encourage returns and recycling
- Use data analytics and tools to help customers make informed decisions and reduce waste

Given the ambitious sustainability goals set by brands globally, circularity is likely to be one of the key business trends of the next decade. The onus is on global brands to encourage action and behavioral change of their suppliers and customers. Today, more than ever, a collective effort of brands, the government and consumers is required to scale circularity in the textile industry, which is the key to a more sustainable future.

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CIRCULAR APPAREL

CLOSING THE LOOP ON PLASTIC WASTE IN INDIA'S TEXTILE & APPAREL INDUSTRY

By Siddharth Lulla



Due to weak enforcement and the continuing popularity of plastic packaging among retailers and consumers in the absence of any suitable alternative, the country has not been able to achieve substantial success in reducing the usage of plastics.

India's plastic consumption has grown significantly over the last decade. As per industry estimates India consumes c. 16

million tonnes of plastic on an annual basis, contributing to generation of c. 9.47 million tonnes of plastic waste annually. Only 60% of the total waste generated is processed while the remaining is unsegregated, littered and ends up in landfills or the natural environment.1

Around 43% of manufactured plastic is used for packaging purposes, majority of which is Single Use plastic i.e. used only once and disposed. While plastic packaging plays a key role of protection, marketing and advertising, the complete lifecycle of this is not thought through, resulting is substantial waste generation.

India's textile and apparel (T&A) industry is one of the world's largest, and is a major contributor to global textile





and apparel production and consumption. The industry is estimated to be worth USD 190 billion by 2025-26.2 It currently employs more than 45 million people making it the second largest employer in India - contributing over 15% of the country's export earnings, and almost 7% of the it's industry output. Although the industry exhibits a positive trend in terms of growth on the back of an exponential rise in fashion retail and online shopping, it is a significant contributor to the Single Use plastic packaging waste generation.

CURRENT POLICY LANDSCAPE AROUND SINGLE USE PLASTIC IN INDIA

The Government of India has announced a number of steps to phase out and eventually completely stop Single Use plastics usage to reduce the country's plastic footprint. The 2016 Plastic Waste Management Rules put curbs on use and generation of plastic packaging waste. This includes prohibition of carry bags made of virgin plastic less than 50 microns in thickness in order to facilitate ease of collection and recycling of plastic waste. Under the new rules the government now plans to ban bags less than 120 microns by next year.3

Additionally regulations for Extended Producer Responsibility (EPR)4 have also been introduced, according to which the producers (manufacturers, importers and those using plastic in packaging) as well as brand owners would be held responsible for collecting the plastic waste they generate and ensure a minimum percentage of the produce is recycled or used in supply.5 The proposed EPR framework has provisions to impose penalties if producers fail to meet their targeted collection.

Due to weak enforcement and the continuing popularity of plastic packaging among retailers and consumers in the absence of any suitable alternative, the country has not been able to achieve substantial success in reducing the usage of plastics. However, a clear shift from regulatory intent to action is now visible. The Central Pollution Control Board (CPCB) has sent notices to 52 companies for not registering and specifying their single use plastic disposal plans under the EPR framework.

It is therefore, imperative for the T&A industry to adopt a strategy aligned with the principles of the circular economy to address challenges posed by single-use plastics waste

The concept of a single-use plastics free circular economy, which can harness the benefits of plastics while addressing its drawbacks, and deliver significantly better system-level economic and environmental outcomes, is gaining traction in India and the rest of South Asia. Transition to such a circular system therefore, involves keeping useful plastics in the economy but out of the environment. This will entail simultaneous progress on multiple fronts including a re-evaluation of the plastics lifecycle, new commercially viable circular business models, development of alternative materials, new technologies, better land-based and marine plastic waste management solutions, awareness generation and enabling policy interventions.

In order to do so, India must adopt an integrated approach to collecting, segregating and recycling plastic waste that would ensure adequate recovery and collection mechanisms enabling producers and manufacturers to recycle plastic waste through a plug and play model.

There is an emergence of Integrated closed loop solution providers which have a holistic goal of reducing the generation of single use plastic in the ecosystem by collecting the waste packaging material from business/ end consumers, recycling it and converting it back into usable products. Such solutions fundamentally address the habit of waste disposal rather than just replacing the material through programs or mechanisms to collect all the recycled plastic products from various distribution points in the chain.

In an initiative to demonstrate a business case of how the entire plastic waste generated by a fashion brand can be collected, recycled and prevented from going to the environment, the Circular Apparel Innovation Factory (CAIF), an initiative by Intellecap, facilitated a pilot project in October 2020 between House of Anita Dongre, a brand at the forefront of sustainability in India and Lucro Plastecycle Pvt Ltd, a Mumbai based enterprise which collects and develops packaging from recycled post-consumer plastic waste.

House of Anita Dongre currently has 1200 retail touch points across the country. The pilot when scaled will recycle c. 6 Million polybags on an annual basis and manage the entire plastic waste generated by House of Anita Dongre at a pan India level. CAIF will disseminate the learnings and insights on best practices from this initiative to the industry. As per Rohan Batra, (Head Sustainability & CSR, House of



Anita Dongre) the partnership with Lucro and CAIF has been huge step in making the brand reduce its plastic footprint and bring in efforts to reduce the carbon footprint due to plastic waste generated so far. Rohan points out that the pilot has already been successful in introducing 6.5 lac polybags with 60-75% post-consumer recycled content in the supply chain. Since its inception the pilot has resulted in a monthly average of 500 kgs of plastic waste and 1.25 lac polybags being recycled at House of Anita Dongre resulting in a conservative 30% savings in carbon footprint.

Lucro also provides a blockchain enabled traceability tool called Satma CE, which validates the origin & supply chain process of the post-consumer waste used. Ujwal Desai, MD, Lucro Plastecycle Pvt Ltd mentions that Lucros trademarked Plast-E-Cycle process creates a circular economy for plastic, making the recycling and remanufacture of plastics more efficient and high quality. It definitely helps that Lucro is involved in every step of waste management, from collection and segregation, processing into granules, product design and manufacturing of high-quality, innovative and ecofriendly products.

The partnership between House of Anita Dongre, Lucro and CAIF demonstrates that integrated closed loop solutions are poised to create a cascading effect in India's T&A industry. It is evident that with the right support, innovative solution providers are ready and willing to drive significant environmental and social impact both in the country as well as demonstrate circular models that can be scaled globally.

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This article first appeared in **BW Disrupt**



CIRCULAR APPAREL

PROJECT ACE – ACCELERATING CIRCULAR ECONOMY

By Siddharth Lulla



The potential for the application of circular economy principles in the Textile & Apparel industry continues to expand and become clearer. While brands are increasingly looking to explore circular solutions (product innovations, business models, digital tools), a number of real as well as perceived barriers stand in the way of their adoption at scale. One such critical barrier is the lack of clear evidence of their economic viability. A circular solution that promises to deliver planet and people positive outcomes is intuitively interesting. However, if it is not economically viable for the industry (i.e. brands, manufacturers) to adopt, then such a circular solution will find very few takers. Hence a true "Business case" of a circular solution in the context of the circular economy would imply one that provides a combination of financial, environmental and social performance. Thus for a circular solution to be widely

adopted and scaled across the industry i.e. by leading brands and manufacturers, an understanding of what its Business Case is, becomes critical.

Based on our interactions and learning's from key stakeholders across the industry we realize that for evaluating the Business Case for a circular solution:

- An active engagement beyond just the sustainability teams and with key members from broader functions like brand teams, IT, design and procurement is essential
- Brands and manufacturers evaluating the business case of a solution should not look at it as a point in time pilot but with an intent of commercial adoption once the business case is proven



With these key learnings and insights, CAIF has launched Project ACE to help the industry (brands, manufacturers) build evidence of the underlying business case of circular solutions across thematic areas that are of business importance – like alternative materials, water management, energy efficiency, closing the loop on textile waste, alternatives to single-use plastics etc. and therefore create the foundation for their greater industry adoption.

ABOUT THE PROGRAMME:

CAIF launched **Project ACE (Accelerating Circular Economy)** in collaboration with DOEN Foundation. Through this, we aim to build evidence to establish the business case for circular solutions and hence build momentum towards a circular economy in the Textiles and Apparel industry in India.

Project ACE is designed with a 2-year timeframe and based on inputs from industry leaders aims to bring together a consortium of brands/manufacturers/corporates who are pioneering efforts in mainstreaming circular economy practices – both globally and locally.

Given that no single organization has the ability and/or willingness (resources and motivation) to invest behind scaling circular economy practices. The programme enables corporate brands and manufacturers to collaboratively pilot circular solutions to prove that circular business has a strong business case in thematic areas aligned with their sustainability goals such as alternative materials, water management, energy efficiency, closing the loop on textile waste, alternatives to single-use plastics etc

OUR APPROACH:

Under Project ACE, CAIF is working closely with the business and sustainability teams of leading brands and manufacturers using the following approach:

Assess High-Impact Solutions

 CAIF has sourced and conducted a robust technical evaluation of circular solutions aligned to target themes, to assess their impact and scalability potential and match participating corporate brands and manufacturers with solutions that meet their needs

Remove Risks & Barriers

 Piloting circular solutions has associated risks and costs. CAIF is creating brand consortiums around specific circularity themes to distribute and minimize the risk of innovation pilots and provide a provision to support innovators and brands to cover operational costs of pilots

Demonstrate Success on Ground

 CAIF is hand-holding corporate brands, manufacturers and innovators to facilitate the design and implementation of coordinated and collective onground pilots around selected circular solutions, with measurable outcomes and impact metrics

Establish a Business Case

 Through the pilots, CAIF will establish and articulate the business cases (economic, environmental, social value) for adoption and scaling of the piloted circular solutions by brands and manufacturers across their supply chains, and in the process accelerate and mainstream the circularity transition

Expected Outcomes:

- Create evidence to showcase the business case of high impact circular solutions, which include economic, environmental, social viability
- Drive the adoption and integration of high impact circular solutions within the Textile & Apparel supply chain
- Create industry awareness of the planet and people positive impact created as a result of adopting circular solutions and best practices

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This article first appeared in Circular Apparel Innovation Factory

ENERGY & CLIMATE CHANGE

ENERGY & CLIMATE CHANGE

OFF-GRID SOLAR REFRIGERATION: CURE TO THE GROWING VACCINE WASTAGE CRISIS

By Ankit Gupta and Kavya Hari



NEED AND IMPORTANCE OF OFF-GRID SOLAR REFRIGERATION FOR STORAGE OF VACCINES

In India, reliability of grid electricity remains a significant challenge despite an electrification rate of 99.93% as per the Saubhagya Dashboard. According to the 2019-20 Rural Health Statistics, 28.4% of the sub-centres and 4.3% of the primary health centres (PHCs) in rural areas lack electricity supply; severely affecting the efficacy of health service delivery. A reliable source of electricity is required to enable refrigeration of medical supplies (like vaccines, blood, biological samples etc.) and ensure appropriate functioning of medical equipment. In India, about 20-25% of all temperature sensitive health products (including vaccines) are spoilt or wasted due to insufficient refrigeration facilities. In terms of Covid-19 vaccination, the national average wastage is 6.3%, while the rate varies across states from 15% to less than 1%. Vaccine wastage occurs at both service and delivery levels – during storage, transportation and at vaccination centres.

Majority of the vaccines (including Covishield and Covaxin) require a controlled temperature range from 2oC



to 8oC to protect their potency. A vaccine's efficacy is dependent on its potency, which can be reduced due to lack of proper storage and transportation facilities at the requisite temperature. Vaccine efficacy can be maintained by provision of reliable source of electricity through off-grid solar refrigerators.

COST-EFFECTIVENESS OF OFF-GRID SOLAR REFRIGERATION TECHNOLOGIES

Solar direct drive (SDD) with phase change material (PCM) thermal battery and solar with battery (SWB) systems for ice lined refrigerators (ILRs) are the two most common types of technologies deployed in India. Technologies like SDD require only eight hours of sunlight to store thermal energy for a minimum of 78 hours of autonomy at an ambient temperature and a holdover time of 91 hours. SDD is also a more cost-effective technology mainly due to lower operational and maintenance costs at \$8/litre compared to \$16/litre for a SWB system. The higher cost for a SWB system is attributed to regular replacement of solar batteries.

In the absence of grid electricity supply, majority of the rural health centres use diesel generators that have higher operating costs (~\$37/litre) due to recurring expenditure on fuel. Diesel generators also contribute to air pollution and have a detrimental impact on health and the environment. Typically, replacement of a diesel generation with solar technology for a 100-litre vaccine refrigerator (~1.9 kWh per day) can eliminate up to 720 kg of carbon dioxide emissions annually. Off-grid solar refrigerators thereby directly contribute to SDG 7 (clean energy) and SDG 13 (climate action).

VALUE CHAIN OF VACCINE STORAGE IN INDIA

The value chain for vaccine cold chain consists of a series of links that are designed to keep vaccines within WHO recommended temperature ranges, from the point of manufacture to the point of administration. In India, vaccine distribution network is managed by four government medical store depots (GMSDs) located in Karnal, Mumbai, Chennai and Kolkata. GMSDs procure vaccines from the manufacturers and supply it to ~53 state vaccine stores. These stores then distribute the vaccines at 114 regional, 736 district and 26,268 sub-district level cold chain points via insulated vans. There are limited vaccine transportation and refrigeration facilities at each of these stages which inhibit immunization services. According to the government, the country requires augmentation of cold storage from ~5.2 million in 2020 to 11 million in the next 5 years. The demand is highest for ice packs (44 lakhs in next 3 years) and vaccine carriers (5 lakhs in next 3 years), followed by demand for ILRs, cold boxes, among others. Innovative solar powered refrigeration technologies can reduce the existing supply chain gaps across cold chain points. A recent report by GOGLA and Intellecap mapped the total addressable market for off-grid solar vaccine storage at \$811 million for last-mile delivery of services (i.e. health centres, chemists and ambulances) across rural India.

ECOSYSTEM SUPPORT FOR UPTAKE OF SOLAR TECHNOLOGIES

Given the ongoing pandemic, there has been a recent push from the government and development agencies for upscaling and deploying efficient solar technologies for vaccine storage as well as Covid-19 sample collection. In December 2020, the government announced usage of 29,000 cold chain points, 45,000 ILRs, and 300 solar refrigerators, among other applications for Covid-19 vaccine storage. By 2017, UNDP's Electronic Vaccine Intelligence Network (eVIN) program had supported installation of 20 solar refrigerators and 45 solar equipment systems across nine states. There is application of new solar technologies such as solar-powered swab collection kiosks by SELCO India at various PHCs in Karnataka. The government is also driving the agenda of proper storage and utilization of vaccines through its policies like the "National Vaccine Policy" and "National Health Mission" and its agreement under the global "COVAX Facility".

KEY CHALLENGES AND RECOMMENDATIONS REGARDING OFF-GRID SOLAR REFRIGERATION

The main challenges hindering the growth of the off-grid solar refrigeration market for vaccines are the long and cumbersome process of government tendering and limited awareness among stakeholders at the ecosystem level. The government agencies at the national/state level procure vaccine storage units through a tender process based on the least cost bidder criteria. Some of the early-stage entrepreneurs with innovative solar technologies are unable to compete at low prices or provide scale for participating in these tenders. Additionally, delays in approval and difficulty in payment clearance from the government discourages entrepreneurs and impacts their financial viability. Lack of awareness among policy makers and financiers on types and application of off-grid solar technologies and limited information on commercial viability further impedes uptake of these technologies.

The key recommendations for promotion of off-grid solar refrigeration pertain to three overarching themes of (i) generating awareness among stakeholders and end-users; (ii) enhancing the policy regime for solar cold chain in health care sector; and (iii) improving financial assistance for high cost (upfront) solar refrigeration facilities. Few specific recommendations include:

 Conduct knowledge sharing sessions to highlight benefit of solar refrigerators over diesel and other technologies especially based on lifecycle costing.



- Establish a digital platform with data on technology applications and potential market segments to enhance knowledge about off-grid solar refrigerators.
- Empanel solar companies providing off-grid solar refrigerators through a bi-annual selection process to enable quick deployment of technology.
- Provide disincentives to health care centres for usage of diesel generators in favour of solar technologies (like off-grid solar refrigerators and solar PV systems).
- Provide a dedicated budget for implementation of DRE systems at health care centres through the existing national/state level policies.
- Aggregate financial assistance at the national/state level through external funds from development agencies, CSR funds, private foundations etc.

 Deploy/use innovations like blockchain to provide real-time visibility of vaccine distribution from manufacturing to administration and eliminate supply chain gaps.

It is evident that the need of the hour is to improve health service delivery specially to reduce vaccine wastage through sustainable and cost-effective innovations. Thus, implementation of traditional initiatives (policy, awareness) along with innovative solutions (blockchain) can improve the overall effectiveness of off-grid solar refrigeration that can revolutionize the vaccine sector in India.

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ENERGY & CLIMATE CHANGE

PATH BREAKING INNOVATIONS IN THE CLEAN TECHNOLOGY SECTOR IN INDIA

By Ashay Abbhi



India is at the cusp of its energy transition journey driven by the 3D concept – Decarbonization, Decentralisation, and Digitization. Even as large-scale renewable energy is rapidly making strides towards cleaning and greening the grid, fossil fuel-based polluting power generation continues to dominate India's energy mix.

According to the Central Electricity Authority, as of May 2021, the share of renewable energy in India's total installed capacity (383.3 GW) stands at around 25% (95.6 GW). However, in power generation, it accounts for only about 12% at 14.13 billion units (BU) against a total generation of 118.09 BUs. Despite the growing share of renewable energy in the power basket of India, the challenge of providing clean energy to the on-grid and off-grid consumers still looms large. On the occasion of World Renewable Energy Day, Intellecap explores the mega-trends in the clean energy and climate change space in India highlighting key technologies within India's 3D energy transition concept that promise a cleaner, more efficient, and resilient energy sector.

GREEN HYDROGEN

Green hydrogen has recently gained traction as one of the fuels of the future. The term green is applied to the hydrogen production process when it is produced using renewable energy. The adoption of green hydrogen has the potential to decarbonize sectors with significant carbon



emissions. It can be applied in the chemical and fertilizer industry for the production of ammonia and methanol, the steel industry as a reducing agent, commercial and residential heat production, power generation, and fuel for transportation. Currently, the country utilizes around six million metric tonnes of hydrogen. This demand is expected to rise to 11 million metric tonnes by 2029-30. Production of hydrogen of this magnitude can lead to large amounts of carbon emissions which can be avoided by promoting and scaling up green hydrogen.

The Ministry of New and Renewable Energy (MNRE) has recently published the draft 'National Hydrogen Energy Mission' aimed at creating a green hydrogen value-chain, reducing production costs and phasing away from grey hydrogen (hydrogen produced from fossil fuels). The estimated cost of producing green hydrogen ranges from \$3.6-5.8 per kg which is almost three times the cost of grey hydrogen. The recent indication from the government towards setting green hydrogen consumption obligations for the petroleum refining and fertilizer industry has led to traction from private sector and government players likewise. Notable examples include: Reliance Industries launched the India H2 Alliance (IH2A) to build the hydrogen economy; NTPC signed a MoU with Siemens for green hydrogen production from its RE plants; the Indian Oil Corporation plans to establish a green hydrogen plant to replace fossil fuels at its refinery; and Adani Enterprises is collaborating with Maire Technimont to implement green hydrogen projects.

PEER-TO-PEER ENERGY TRADING THROUGH BLOCKCHAIN

In the era of prosumers (consumers who produce their own electricity) peer-to-peer (P2P) energy trading presents a viable solution to allow access to solar power for consumers with inadequate rooftop space or capital to set up solar power projects. Per this technology, excess energy from the solar rooftop plant of

a consumer can be sold to its neighbors. P2P trading uses blockchain technology to ensure transparent and reliable transactions. The transactions are carried out through smart contracts that can divert a pre-determined portion of energy to a consumer at a definite time, thereby encouraging decentralization and reducing the role of distribution companies and retailers. At present, the technology is only in the pilot stage and may take a few years to achieve universal acceptance. Significant resistance is expected from DISCOMs who may not like to see their high paying customers switch to energy trading. Moreover, the development of this infrastructure within high-density areas with limited rooftop space may not be financially viable.

India has already begun experimenting with P2P energy trading. BSES Rajdhani, in collaboration with blockchain

technology provider Power Ledger, Australia, has created a solar oasis in Delhi's grid-connected residential hub of Dwarka. The pilot project comprises 300 kW of solar power plants which services a group of gated communities. During the trial, residents with rooftop solar infrastructure were able to trade a total of 25 MWh of energy with their neighbors as well as with higher tariff commercial customers, minimizing the amount of energy that was spilled back to the grid.

VEHICLE-TO-GRID

Electric Vehicles (EVs) can use their batteries as decentralized storage systems for excess power when not in use, which can be fed into the grid through the vehicle-togrid (V2G) technology. EVs charged through solar-powered charging stations when combined together can integrate a considerable amount of renewable energy into the grid to help balance the load during peak hours. EV owners can be compensated in the form of direct payment per unit fed into the grid or through preferential EV charging tariffs. This bi-directional flow of energy can be especially useful when utilizing the time-of-day concept - EVs can use solar power to charge during the day and feed it back to the grid during the night. However, unless EVs scale up to the point where large amounts of energy can be stored in the batteries, V2G technology will remain a distant dream. Moreover, given the payment track record of cash-strapped DISCOMs, feeding energy into the grid may lead to financial turbulence for both the DISCOMs and the EV owners.

So far, research projects are underway in India to establish a proof-of-concept for the V2G technology. A simulation was carried out by The Energy Resources Institute (TERI) in Delhi to determine the utility of the V2G model in peak shaving, demand response, and demand-side management. The lessons learnt from the simulation suggest that the V2G model can be a viable option when combined with a financial incentive provided to the owners for feeding back units into the grid. With the increase in EV penetration across consumer segments, the V2G technology could help shave off peak load within small residential communities in the future, thereby reducing the load on the grid.

CARBON CAPTURE UTILISATION AND STORAGE

Carbon capture utilization and storage (CCUS) or carbon sequestration have been around for a long time. However, it has found another lease of life with technological evolution and the introduction of direct air capture technology. CCUS, an auxiliary technology to the two primary streams of mitigation and

adaptation to decarbonize the environment, also improves energy reliability. At present, the technology is in a nascent stage with only 26 CCUS facilities capturing around 36-40 million tonnes of carbon dioxide per annum globally. In India, there are only four facilities wherein carbon dioxide is



recovered from the combustion of industrial flue gases and used to manufacture by-products.

India has a potential for carbon storage ranging from 5-400 billion tonnes of carbon dioxide, mainly in geological formations. However, limited research and development on technical and economic feasibility, high capital and operational costs, and lack of regulatory/policy framework hinder market development of CCUS technologies in India. To address the R&D challenge, the Department of Science and Technology has established a national program on carbon dioxide storage to support research, development, and demonstration projects in 2020. It is also providing grant-in-aid support of up to \$0.29 million under its Accelerating CCS Technologies (ACT) initiative. In the near future, industries are expected to lead the deployment of CCUS technologies with the increased focus on decarbonization and net-zero pathways.

India has set a target of reducing the emission intensity of the economy by 33-35 percent by 2030 from 2005 levels under the Paris Agreement. Transitioning towards a clean and green economy requires an ecosystem-based approach with an emphasis on creating an enabling policy and regulatory framework, developing innovative financial instruments, and enhancing market demand and supply. The government has implemented various fiscal and financial assistance policies for generating power via renewable energy sources, improving industrial energy efficiency, and introducing electric vehicles for both private and public transport. However, there is limited focus on the development of new and innovative technologies through private sector engagement. Furthermore, between 2019 and 2020, the share of early-stage financing deals in the clean-tech sector fell sharply as compared to other sectors. To steer growth in clean-tech innovation, the government launched a global initiative, the 'Mission Innovation CleanTech Exchange' in 2021. This aims to drive global investment in research and development, demonstration, and commercialization of innovations in the clean-tech sector by catalyzing publicprivate capital. That said, there is a need to implement innovative financing approaches such as blended finance or rebates and incentive mechanisms as well as to provide scale-up financing for the commercialization of novel clean energy technologies.

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ENERGY & CLIMATE CHANGE

MINIMISING WASTE: WHY IT IS IMPORTANT TO CREATE A CIRCULAR SOLAR ECOSYSTEM

By Ashay Abbhi



The world has witnessed a rapid increase in installed solar photovoltaic (PV) capacity over the past few years. According to IRENA, in 2020 alone, over 126 GW of solar PV capacity was installed globally. As of now, over 713 GW of solar power has been installed, having multiplied nearly 10 times over the past 10 years. In 2011, the capacity stood at 73 GW, and has grown at an average of 70 GW per year.

Solar modules have a life of around 25 years, at the end of which they become unprofitable. Thus, it is expected that starting in 2026, around 70 GW of solar capacity will have to be retired every year. This translates into about 4 million panels per GW or 280 million panels decommissioned per year. Most of these panels will find their way to landfills where they will do more harm than the good done over their lifetime. Moreover, as the demand for solar panels increases with time, raw materials will become increasingly scarce. It is, therefore, an opportune time to understand and establish a circular economy for solar energy to enable an ecosystem that encourages repair, reuse and recycling of solar PV materials.

Intellecap attempts to explore the various aspects of the solar circular economy to enhance the sustainability quotient of solar energy and create an ecosystem to tackle this massive issue that can potentially overwhelm the global solar PV industry.



DEFINING THE ECOSYSTEM

By definition, a circular economy is aimed at minimising waste by segregating materials and components derived at the end of a product's life and reusing them in the manufacturing process of new products, to keep the raw materials circling within the economy to the maximum extent possible. Extending this definition to the solar industry, a circular solar economy is essentially a process of extracting reusable valuable components and elements from retired solar panels and using them to develop new solar cells and panels. Productive reuse generates further value out of the product and prevents essential ingredients from rotting in the landfills for aeons to come. It also prevents toxic elements used in products from contaminating the environment by making their disposal sustainable.

DRIVING A CIRCULAR SOLAR ECONOMY

Solar panels use many elements that are precious and finite in nature including silicon, indium, silver, tellurium and copper. These are rare earth elements that are mined and refined to be used in solar panels. Developing countries have large reserves of these raw materials. According to the Center for Strategic and International Studies, China produces nearly 90 per cent of the world's rare earth metals, a large part of which is also used in making solar cells. Neither the mining nor the refining process is sustainable and leads to gross wastage of resources. Therefore, at the end of a solar panel's life, discarding the panels altogether will not only lead to wastage of precious metals and associated wastage of resources, but also cause environmental poisoning. Developing a circular economy will create a process to feed the recovered material back into the system to avoid wastage at multiple levels.

As the demand for solar energy increases, the need for these elements will become greater. However, there are not enough reserves of precious metals for the entire fossil fuel-based generation to be replaced by renewable energy, including solar. Reusing elements could be one of the primary solutions for the production of solar energy to match the anticipated global demand in the future.

Increased profits, enhanced job prospects and cost savings are the key consequences of developing a circular solar economy. The manufacturers may be able to reduce production costs by reusing precious elements recovered from retired panels. Given the magnitude of solar waste expected to be generated, third-party recycling could become an independent segment of the solar industry and provide sustainable livelihood opportunities, especially in developing countries.

BUILDING A CIRCULAR SOLAR ECOSYSTEM

A circular solar ecosystem has three foundational factors that need to be developed – technological expertise,

economic maturity, and regulatory support. At present, a circular solar economy is largely a theoretical concept with little on-ground progress. Only a handful of companies are engaging in buybacks or refurbishment of solar panels after the end-of-life is achieved. The market is also at a nascent stage at present since the number of retired solar panels is very low. However, this may soon change.

In 2019, the world generated 720 TWh of solar power, accounting for 3 per cent of the total power generation, using 46 million metric tonnes (mmt) of solar panels. It is expected that by 2026, around 70 GW of solar power capacity will be ready for decommissioning every year. As per estimates, around 8 mmt of decommissioned solar panels could be accumulated by 2030. Technological expertise that can refurbish solar panels at scale will be required to tackle such massive quantities of solar waste. While other components such as aluminium frames, glass, ethylvinylacetate and backsheets are also used, the rare earth metals used in manufacturing the cells and other metals such as copper can justify the refurbishing costs. In some cases, general e-waste recycling processes are being employed for solar waste management but there is a strong need for research and development in this area. Veolia, a French waste management company, has developed a recycling line specific to solar panels. ROSI Solar, another French enterprise, has created a process to extract precious metals from used panels.

Standards and regulations will be required to sustainably extract the reusable materials from solar panels. Moreover, the un-recyclable materials will also have to be sustainably discarded so as to prevent waste. Initially, manufacturers and waste managers may have to be incentivised to encourage the recycling of solar panels. In India, which is looking at 8-10 GW of solar capacity deployment every year by 2030 through the tendering route, sustainable solar waste management guidelines and requirements at the end-of-life of a project could be built into the tender mechanisms. This may make it mandatory for developers to put in place solar waste management mechanisms and encourage solar recycling.

The ecosystem will require low-cost investments to effectively develop the required technology and provide recycling and reuse services at affordable prices. Climate finance may be required in the form of public-private partnerships. Initially, government efforts might be needed to push the mandates and set up facilities. However, the future of the circular solar economy lies in engaging with the private sector. It may be necessary for large-scale solar manufacturers to develop this technology using low-cost investments to ensure in-house circularity of the process. Alternatively, third-party recyclers may be encouraged to develop a technological core competency, which may further be licensed to provide decentralised recycling systems. Many technology start-ups are taking positive steps towards this.



CHALLENGES AND OUTLOOK

The price volatility of metals extracted from used solar panels could create a challenge in determining a standard economic model for recycling of solar waste. Moreover, technologies are being explored for replacing rare earth elements in the solar cell development process, which, if popularised, may make the investments in the circular solar economy unjustifiable. Further, quantification of the sustainability quotient of solar panel production and recycling is not currently available, which may be able to provide a definite direction for creating the circular solar economy. Every solar panel ever deployed presents an opportunity for recycling and can play an important role in building a circular solar economy. According to Mercom India, it is expected that the global solar capacity may increase to around 3,000 GW by 2030. The amount of solar waste generated during this period and beyond presents a colossal challenge to the sustainability of the sector and the environment. It is, therefore, the right time to build mechanisms, technologies and processes to enable a circular solar economy and make solar more sustainable.

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ENERGY & CLIMATE CHANGE

NET ZERO GOALS AND RUSH FOR CARBON CREDITS

By Santosh Singh



Recently, a number of friends reached out to me to know more about 'Carbon Credits'; knowing well that their interest in climate change and carbon credits was very limited, it was slightly surprising for me to have their keen queries on carbon credits. It did not take much time to figure out that their interest was piqued by recent coverage of a firm that turned into a unicorn. This firm deals in carbon credit supply and carbon project development.

The other word that is a buzzword these days with anyone who is following the global development discourse, is Net Zero. With COP26 global coverage and our Prime Minister announcing a Net Zero target for 2070; 'Net Zero' and 'Carbon Credit' are becoming a part of mainstream discussions. While the words 'Carbon Credit' and 'Net Zero' are becoming a more prominent discourse in mainstream media and business press, these are not yet properly understood by many.

WHAT IS "NET ZERO" AND WHY DOES IT MATTER?

In the simplest terms, an entity (corporate, institution, country, planet) achieves Net Zero when its greenhouse gas (GHG) emissions are balanced by removal of the greenhouse gases (in terms of CO2 equivalent) from the atmosphere. So, if a corporate emits one million tonnes of CO2 equivalent from its activities (direct or indirect emissions from the use of coal powered electricity and other activities, technically classified into Scope 1, 2 and 3) and removes one million tonnes of CO2 from the atmosphere, it is said to have achieved a Net Zero status.

If you are wondering why there's a need for this, (I would be disappointed if you do not know that Climate Change is an existential crisis and we need to spend some time understanding it) the short answer is that we need to achieve



Net Zero by 2050 to have a realistic chance of limiting global warming within 1.5 degree celsius. If we fail to do so, our kids would inherit a disastrous future to say the least. More than 200 countries are committed to achieve this goal and are taking actions towards decarbonization of the economy. Further, close to 400 of the 2,000 largest publicly traded companies in the world have already proposed or set Net Zero goals for themselves.

UNDERSTANDING NET ZERO COMMITMENTS OF COUNTRIES AND CORPORATES AND THE ROLE OF CARBON CREDITS

In the last five years, there are two major shifts that have happened globally. Firstly, countries as part of their commitment to reduce GHG emissions are introducing different carbon pricing mechanisms (such as emission trading systems or carbon taxes) that put a cap on how much emission is allowed for a company within their jurisdiction. In this scenario, if a company exceeds its emission cap, there is an additional cost that it has to bear for each tonne of additional CO2 equivalent emission. They either pay to those companies whose emissions are below the assigned caps or buy carbon emission reduction certificates from others to offset their additional emissions. Secondly, corporates/companies as a part of their net zero goals are procuring carbon credits to offset their residual emissions.

These new developments have suddenly driven demand for carbon credits to an unprecedented height. In 2021, the voluntary carbon market hit a record value of \$1 billion worth of carbon credits mainly driven by net zero

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commitments or other emission reduction goals/targets of companies. Along with the sudden jump in demand, many industries operating in 'energy intensive and hard to abate sectors' such as steel, petrochemicals, cement etc., have realized that they will need to offset a huge amount (in 2021 global energy related CO2 emission were approximately 36.3 billion tonnes mainly due to industrial processes from these hard to abate sectors) of carbon emissions. These sectors have limited scope for emission reduction in their own operations (approximately 60-70% emission reduction feasible through energy efficiency, resource efficiency measures and deep decarbonization technologies). Hence, they would need to rely on offsetting their emissions by either directly investing into carbon sequestration initiatives or purchasing carbon credits generated from other sectors. This realization has led to a sudden rush for obtaining carbon credits before the prices rise.

Several projections and estimates suggest that carbon prices need to reach around USD 40–120 per ton of carbon dioxide equivalent to meet the 2 degree celsius temperature goal of the Paris Agreement.

While it might seem that there is a lot happening in the carbon market, this is currently a very nascent phase of 'Carbon Market 2.0'. The next two years look very promising for the carbon market as we look to gain more clarity on different dimensions of carbon markets.

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ENERGY & CLIMATE CHANGE

HOW INDIA CAN BENEFIT FROM VOLUNTARY CARBON MARKETS

By Santosh Singh



Carbon market has once again become a global buzzword with increased focus on **net zero** goals by corporations, and with countries firming up their climate commitments under the **Paris Agreement**. It is seen as one of the most effective market-based mechanisms to price greenhouse gas **(GHG)** emissions and achieve climate goals. Carbon market had been operational since the launch of the **Clean Development Mechanism** by the United Nations in 2006, has evolved in its new version.

There are two types of carbon markets, the compliance market (emission trading resulting from legal and regulatory requirements); and the voluntary market (resulting from voluntary climate commitments by corporations). While the compliance market mainly driven by emission trading systems (ETSs) have been operational since the mid-2000s, the voluntary carbon market (VCM) has gained traction in the past few years. The VCM is led by corporations and industries in the hard-to-abate sectors which rely on carbon credits to achieve their ambitious 'voluntary' climate goals. This market grew by more than 60% from 2020 to reach \$1 billion in November 2021 and is expected to reach at least \$50 billion by 2030. One of the differentiating factors of VCM is premium pricing attributed to projects that generate co-benefits such as biodiversity conservation, gender and community economic development. Prices of carbon credits for these projects can vary widely from \$5/tCO2e (e.g., agriculture, forestry etc.) to \$25/tCO2e (e.g., clean cooking for low-income households) depending on the types of cobenefits (1 tCO2e is equal to 1 carbon credit).

These additional revenue streams from carbon credits have the potential to fundamentally alter the economics of key activities such as agriculture, forestry, cooking and waste management - possessing high social, economic and environmental impact potential. These activities are either capable of removing carbon from the air or avoiding emissions by adopting better practices and technologies. They play a key role in empowering local communities by:

- Acting as an additional income stream for smallholder farmers, while creating co-benefits like generating livelihood opportunities for local communities
- Protecting coastal areas and local communities from extreme weather events in case of mangrove plantations
- Improving farm productivity through improved watershed, cooler micro climate, soi I erosion prevention, and enhanced biodiversity.



For example, a low-income household using traditional cooking stoves can derive carbon benefits by switching to cleaner cooking solutions; and smallholder farmers can get benefit from planting trees and changing agriculture practices to reduce GHG emissions without harming productivity. The carbon credits from these activities can give almost \$20 to \$40 per year to a household switching to clean cooking and \$7 to \$20 per year per acre additional income to smallholder farmers.

Carbon markets can play a very critical role in India's journey to achieve its net zero and decarbonization goals as well as in catalyzing certain key sectors such as transportation, agriculture, forestry, waste management etc. While India is aggressively reducing emission intensity of many sectors, it would still rely heavily on the carbon market for offsetting residual emissions to achieve net zero. This resulting carbon market is estimated to be at least worth \$50 billion. This estimate only factors seven hard-to-abate sectors comprising cement, steel, aluminum, electricity utilities, aviation, automobile (passenger cars), oil and gas (refining and extraction). Additionally, India can achieve a carbon market potential of \$30 to \$50 billion by 2050 (at a conservative price of \$15 per carbon credit) from agriculture, land restoration activities, and reducing emissions from deforestation and forest degradation (REDD+).

Rapidly growing carbon markets coupled with a dynamic international policy environment, are driving countries to

develop action plans to leverage carbon markets to meet their climate commitments. India is already proactively working on shaping the domestic carbon market with the Ministry of Environment, Forest and Climate Change (MoEFCC) and Ministry of Power (MoP) developing the requisite legal, institutional and technical infrastructures. Once developed, these would be able to address aspects related to double counting, corresponding adjustments and issues of quality and integrity of carbon credits, especially in the compliance market.

While the domestic compliance carbon market is critical for India's net zero ambitions, there is a significant opportunity to leverage the voluntary carbon market. We can be one of the major destinations for attracting global capital pools chasing voluntary carbon projects in the Global South. For this, there is a need for a more structured mechanism for private sector participation in the voluntary carbon credit projects. A proactive approach from India on developing a framework to promote public-private partnerships, and to attract private investment in carbon projects through inclusive business models can unlock significant social, economical and environmental benefits.

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ENERGY & CLIMATE CHANGE

CHALLENGES IN EFFECTIVE ESG REPORTING IN KENYA

By Utsav Mulay



ESG reporting is gaining fresh momentum in Kenya, as investor interest and activism rises globally. ESG stands for environmental, social and corporate governance issues that are of increasing concern, over and above financial returns provided by companies. It is the need of the hour for companies to understand their impact on environment and society, to maximize the positive and reduce negative. While many companies in Kenya have been reporting ESG, this has been largely inconsistent. This is not the fault of the companies, as there exists a veritable 'alphabet soup' or 'ESG zoo' of reporting standards and acronyms. The most widely used of these, globally and by listed companies in Kenya, is the Global Reporting Initiative (GRI) reporting standard. GRI is also recommended by the NSE manual, to help reduce uncertainties on which framework to apply, as well as for consistency in reporting in Kenya.

While the benefits of the ESG reporting are well documented, here are a few challenges in implementing

ESG reporting in Kenya. Companies that ignore addressing these challenges are liable to miss out the most valuable benefits of ESG reporting such as accessing new sources of capital from sustainably conscious investors like pension funds, development finance institutions and private equity firms, as well as achieving operational efficiencies.

Four challenges exist in operationalizing an effective ESG reporting structure. These are setting governance structures, understanding reporting boundary, conducting materiality analysis and developing and publishing relevant ESG content. Let us examine each challenge in detail.

The setting of an active governance structure to drive meaningful ESG reporting is critical. The Kenya Companies Act of 2017 mandates company directors to review ESG issues that may affect the future performance of the company. The board provides oversight of the ESG reporting agenda endorsed by the CEO and driven by the Sustainability





Manager. A great example of a well-designed ESG report is by Diageo UK, which mentions the CEO's support for sustainability reporting in a letter at the beginning.

The reporting 'boundary' refers to all the entities a company has control over ('organizational boundary') and all those entities over which it exercises influence ('operational boundary') such as subsidiaries, suppliers, vendors and contractors. The upstream and downstream need to be considered, and the reporting boundary set accordingly. This may vary from company to company depending on the sector of the company and type of information needed.

Materiality refers to the principle that determines which topics are sufficiently important enough to require being reported. All ESG topics are not of equal importance to every company; disclosures relating to water waste and treatment may be more important to a chemical manufacturer as compared to a furniture company. Materiality is defined within the reporting boundary, and materiality analysis should ideally be carried out annually by listed companies.

Once the three challenges are addressed, it should be straightforward to select the relevant data. The Sustainability manager, supported by the CEO, will need to engage in stakeholder outreach, both internally and externally, to set up the relevant systems to gather the required information. At this stage, the GRI also provides guidance on how the sustainable development goals (SDGs) relevant to the ESG reporting process can be selected. Not all the SDGs are required, companies must select those most relevant to their business. This is important to avoid allegations of green washing, and report measurable and tangible annual progress in achieving the targets under the chosen SDGs.

The Nairobi Securities Exchange (NSE) took an important step for ESG reporting by publishing the ESG Disclosures Guidance Manual in November last year. The manual provides a clear roadmap to collect, analyze and publicly disclose important ESG information as per international reporting standards. Listed companies in Kenya have a one-year grace period to integrate and comply with these standards; all listed companies are expected to share ESG reports as part or in addition to their annual corporate reporting requirements by 2023. This will allow investors as well as the public to understand and compare ESG performance of different companies. Listed companies as well as SMEs that aspire to be listed should proactively leverage the ESG manual and expert advice to benefit from effective ESG reporting.

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HEALTHCARE & WASH

HEALTHCARE & WASH

NEED FOR A MULTI-LEVEL APPROACH TO FIGHT FEVER OUTBREAKS & ILL-PREPARED HEALTH SYSTEMS

By Sagar Atre



In a recent article, Dr. Raj Panjabi, a noted public health professional and the head of the U.S President's Malaria Initiative (PMI) wrote, "Alarm bells don't ring in health crises, community workers do." This is especially true in the hinterlands of India, where unsanitary conditions, poor preventive behaviours, and a lack of surveillance mechanisms make it a breeding ground for many diseases.

The unfolding crisis in Firozabad, Uttar Pradesh is an example of what such micro health crises can do if we don't work towards enhancing our public health capabilities. Similar crises have occurred in 2015 and 2019, where outbreaks of similar fevers were attributed to dengue and scrub typhus. U.P. 's Bareilly has been one of the few urban areas to report a spike in malaria cases, reporting up to

20,000 cases in a span of weeks in 2019, at a time when malaria is nearly non-existent across much of India barring a few scant pockets.

BATTLING OLD SCOURGES

Diseases such as malaria, dengue, scrub typhus, and leptospirosis are remarkably good indicators of glaring gaps in health systems. They can lay bare the hollow claims of policymakers by bringing health systems to their knees and giving doctors barely any time to respond.



A lack of discipline in implementing prevention programs can lead to spectacular failures such as the one in Firozabad, where according to recent figures, around 5000 people are suffering from symptoms similar to dengue, while more than 100 confirmed deaths have occurred in Firozabad and other districts in Western UP.

Dengue fever is easy to ignore in usual public health systems. It causes mild illness in many people, but can prove to be fatal for the young and healthy with supposedly strong immune systems and wreak havoc among children. Aedes mosquitoes are suited to breed in cleaner water, in small water collections such as water coolers, among others and they bite mostly during the day, making bed nets and ointments redundant.

Another threat is scrub typhus, caused by a bacterium (O. tsutsugamushi) and spread through bites of small insects called larval mites which dwell in dry scrubs and bushes near the fields in rural areas, where children often play and many of those practicing open defecation need to go. Unlike Dengue and Malaria, scrub typhus has remained largely off the radar, and no real estimates can be gleaned from public health data. The third purported culprit of this outbreak is leptospirosis, usually contracted through contaminated water, soil or food. While scientific evaluations are unavailable, the Delhi government's effort at making Sunday a day of clearing stagnant water in domestic settings was a doable task for most households.

ILL-PREPARED HEALTH SYSTEMS

Most of India, especially the rural and semi-urban parts are ill-prepared to deal with most of these diseases. Most labs in such places struggle to perform tests which can differentially diagnose these ailments. The international pressure to control malaria helped the discovery of rapid diagnostic kits, but others such as dengue, scrub typhus, leptospirosis remain undiagnosed, or need a skilled diagnostician. Investments that are needed are often missing, and that means that most of the tests performed for diagnosing diseases remain inaccurate. While multiple forms of dengue tests are available, the RTPCR remains the most reliable. Tests for scrub typhus and leptospirosis remain unreliable and it is unlikely that they will be performed even in district hospitals in the country due to the facilities required. In sum, India's scientific efforts need to be directed towards developing tests which can help in diagnosing these diseases, or at least providing a provisional diagnosis for them.

THE NEED FOR MULTI-LEVEL APPROACHES

The key challenge remains the lack of a holistic thought process for tackling the challenge at multiple levels. Impact of infectious diseases on public health can be dealt with at four key levels. Primarily, it is our inability to implement basic practices of hygiene, sanitation and build strong primary health systems. The second issue is identifying and building strategies and strategic capabilities specific to India's regions. The third is a lack of focus on developing innovative solutions which can tackle these health challenges through the country's growing scientific capabilities as was done for COVID-19. Many of India's institutions such as BIRAC, the DST, the IISc, IISER's and IIT's are now proving to be useful in creating innovative solutions for diagnosis and management. They need to be given the mandate of building solutions to tackle them. The final, and probably most complicated challenge is designing interventions which inculcate appropriate health behaviours and improve uptake of health services by the community. Many NGOs and institutions across India have been at the forefront of designing such initiatives across challenging geographies in India.

It would probably be appropriate to say that for India, apart from the fundamental capabilities to ring the alarm bells, we also need the capabilities to nimbly tackle the cause of the alarm, and prevent such incidents in the future.

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HEALTHCARE & WASH

FROM LOCAL MANUFACTURING TO DIGITAL TECH: HOW AFRICAN ORGANIZATIONS PIVOTED TO SUPPORT MATERNAL AND CHILD HEALTH DURING COVID-19

By Shraddha Kothari



Sub-Saharan Africa has witnessed a sustained improvement in maternal and child health outcomes in the last two decades. The maternal mortality ratio in the region has declined from 870 per 100,000 births in 2000 to 534 per 100,000 births in 2017. However, despite this impressive progress, the region still has the highest neonatal mortality rate in the world, with 27 deaths per 1,000 live births in 2019. It also accounts for over two-thirds of all maternal deaths worldwide.

The ongoing COVID-19 pandemic has stressed global healthcare systems and reduced the availability of medical

services across the board — and maternal, newborn and child health services are no exception. There has been a notable reduction in the utilization of these services in sub-Saharan Africa, as measures such as curfews and lockdowns have been used to curb the spread of the pandemic across the region, affecting how women seek and access health facilities in these countries.

In Liberia, for instance, the number of women who attended the recommended medical visits during pregnancy dropped by 18%, while the number of women seeking to initiate medical care during pregnancy fell by 16% in Nigeria. In



Uganda, a study found that women's attendance at antenatal services dropped by 26%. In addition, the study also noted a rise in: adverse pregnancy outcomes for Caesarean sections (5%), haemorrhages related to pregnancy (51%), stillbirths (31%), low-birth-weight (162%) and premature infant births (400%). Similarly, in Ethiopia the pandemic affected the utilization of reproductive, maternal and newborn healthcare services, worsening both maternal and perinatal outcomes.

This has, unfortunately, led to a further increase in maternal mortality in various African countries. Consequently, it is imperative to recalibrate and scale models that can prevent the further deterioration of maternal and child outcomes in the region's already-strained healthcare systems. There have been some organizations that have done just that, benefitting from a reduction in their immediate supply chain vulnerability and also attaining long-term economic and environmental benefits. Below, we'll explore a few of these organizations' pandemic responses, and discuss what other healthcare providers can learn from them.

DEVELOPING LOCAL MANUFACTURING TO OVERCOME SUPPLY CHAIN CHALLENGES

The Safe Motherhood Alliance, a for-profit social enterprise in Zambia, sells low-cost delivery kits to expectant mothers for a safer birth experience. As a result of the pandemic's disruptions in the global supply chain, the enterprise pivoted its model and commenced manufacturing the products that it was struggling to source through its usual suppliers. It has developed the local manufacturing capacity to produce some of the items — such as sanitary napkins and face masks — that were needed for its delivery kits. Moreover, it has leveraged locally available materials, like the fibres of banana skins, to make sanitary napkins, allowing it to produce them at a fraction of the cost of importing them.

When the Safe Motherhood Alliance reaches full production, it will be able to sell these sanitary napkins to other relevant groups, such as adolescent girls. Overall, leveraging local manufacturing and available materials will not only enable the enterprise to support safer births at a lower cost, but it will also allow it to expand its customer base.

ADAPTING TECH-BASED MATERNAL AND CHILD HEALTH SOLUTIONS

In recent years, organizations have deployed several technology-based solutions to support improved health

outcomes for maternal and child health in sub-Saharan Africa. As a result of the pandemic, some of these healthfocused organizations have refined their models and formulated partnerships to support expectant mothers. For instance, Child.org, an NGO in Kenya that focuses on improving global child health partnered with MamaTips, a non-profit maternal health organization that has developed a mobile subscription service. The partnership enables Child.org to provide essential information to expectant mothers via SMS texts, in the absence of the face-to-face meetings that were a part of its delivery mechanism. Such partnerships can be effective in scaling existing programs focused on maternal and child well-being, even beyond the pandemic.

Another digital platform, MomCare, increased its offerings to expectant mothers during the pandemic. It provided women in Kenya with details on facilities that could be accessed despite the curfew, and also connected them to transport services so they could access these facilities. MomCare's mobile phone-based application enables the staff at healthcare facilities to track the progress of expectant mothers digitally and in real-time.

Similarly, in Nigeria, the digital health enterprise mDoc expanded its scope of services to meet the pandemic-fueled increase in demand for digital health services by expectant mothers. This for-profit enterprise hired more coaches and deepened the support offered to these women. Given the limited access to health care facilities, the enterprise refined its curriculum and modified its processes to provide these expectant mothers with further guidance on clinical care and support to manage pregnancy-related health issues like high blood pressure.

These examples demonstrate that there is significant potential to leverage and integrate technology-based health solutions in the region — not only to provide care during the pandemic but also to improve and scale existing health service delivery and support services for expectant mothers.

COVID-19 has already worsened maternal and child health outcomes in sub-Saharan Africa. As the crisis gradually abates it will be critical to evaluate, adapt and scale health service delivery models and support service programs to prevent — and ideally, reverse — any further loss of the previous gains made in maternal and child health outcomes across the region.

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HEALTHCARE & WASH

PAUL FARMER: A VOICE FOR AN EQUITABLE WORLD

By Sagar Atre



Few people outside of governments have founded health movements that provide care to millions of people in the world, fewer still are comfortable to confront the powerful in the realm of global health and calling them out on injustice, and nearly no one who has done so, has stayed friends with most of them after such debates. Dr. Paul Farmer did all three.

Although unintentional, many public health professionals eventually get isolated from the ground realities resulting in making decisions which can have disproportionate ill effects on some of the most vulnerable people in the world. However, Dr. Paul Farmer was the founder of Partners in Health, an organization spread across Africa, Latin America and Europe where their clinics have treated around 3 million in the past year alone.

Beginning his work through a clinic in the Cange region of Haiti, Dr. Farmer and his partners, Ophelia Dahl and

Dr. Jim Yong Kim founded PIH in 1987. The organization today has a presence across 12 countries in Africa, Latin America and Asia, with nearly 18000 employees. Dr. Farmer has contributed to bringing major global challenges like tuberculosis, AIDS and Ebola in the spotlight. PIH's efforts and grassroots work ensured that these challenges elicited a global policy response. He responded to multiple humanitarian crises like the Haiti Earthquake, the Ebola epidemic, the HIV epidemic in Africa and built programs which helped bring drug-resistant tuberculosis to the world's attention. In the beginning of the AIDS epidemic, Dr. Farmer was known to walk for hours on end to ensure patients were taking their medications on time. Dr. Farmer authored 12 books based on his work, and was the subject of a book "Mountains Beyond Mountains: The Quest of Dr. Paul Farmer, A Man Who Would Cure the World" and a documentary, Bending the Arc. Dr. Farmer suddenly passed away due to unknown causes on February 21, 2022, plunging the world of global health into sadness.



Dr. Farmer was usually most comfortable with his patients whom he served literally till a few hours before his demise. But he also straddled the frontlines of crises, board rooms and glitzy global health conference halls, sometimes passionately taking on the bureaucrats who often sat far away from the problems they wished to solve. In a telling incident that was included in a documentary about him, "Bending the Arc", he debated with a senior World Bank official in an open forum when the official decried that providing AIDSrelated care in Africa was not a "cost-effective" solution. Farmer criticized the world's inaction to providing necessary drugs and expertise to the afflicted African nations. The U.S. and many other development partners ultimately did just that through the PEPFAR program, which has saved millions of lives and which ensures access to anti-retroviral drugs for millions of people today. The program has helped to curtail and manage AIDS in the worst affected regions of the world.

Dr. Farmer remained one of the staunchest practical advocates, demonstrating through his work in real life, how socioeconomic inequities brought on by local and global factors led to devastating health consequences on the poor from the developing world. His persistent emphasis on need to achieve health equity has driven many leaders in the world to tackle these challenges. When asked about Haiti and its grinding poverty, Farmer was frank to criticize US agricultural policies which forced Haiti to drop import tariffs on rice which led to severe consequences on Haitian rice farmers, thus, rippling the effect on their lives.

His strong advocacy with the developed world and especially the United States government was one of the primary reasons which led to the President's Executive program for AIDS relief. This program continues to provide millions of people with affordable [and in many cases, free] antiretroviral drugs that have helped to stem the tide against AIDS in some of the worst affected areas in the 1990s. In recent times, it has become easier to hide inefficient health systems under the guise of providing technocratic "solutions" and technological band-aids to problems that actually need more nuanced, people-oriented, just strategies along with enough financial and human resources invested in it. Farmer remained an advocate of adequate public funding for healthcare and social protection to form a strong public sector backbone. While he was not averse to the private sector's contribution, his advocacy for good quality, equitable and affordable public healthcare is something which remains sadly ignored even by the pandemic-affected world.

In losing Paul Farmer, the world has lost one of the foremost advocates of a just and equitable health system, and a person whose experiences in the worst health crises only served to strengthen his determination without yielding to cynicism. He leaves the global health community the responsibility of carrying forward his legacy with the same passionate optimism that defined his work.

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SUSTAINABILITY, SOCIAL IMPACT & ENTREPRENEURSHIP

SUSTAINABILITY, SOCIAL IMPACT & ENTREPRENEURSHIP

HOW TO BACK AN INCLUSIVE POST-COVID RECOVERY

By Carolien de Bruin and Vineet Rai



During the first wave of COVID-19 last year, tens of thousands of desperate migrant workers deserted Indian cities to make the long journey back home **on foot.** They walked thousands of kilometres and exposed the deep fault line between industrial and agrarian India.

At the **Aavishkaar Group**, we felt helpless. As a pioneer of **impact investing** - an approach that taps into market forces to drive positive change - we could not think of a business model to feed the hungry in the shortest possible time that would also meet our capital allocation criteria. We had come face-to-face with the limitations of impact investing.

AN OUTPOURING OF HUMANITARIANISM

Our response was to launch the **Aavishkaar Foundation** to mobilise grant capital from the Aavishkar Group and provide immediate support to those in need. Working with a network of trusted community-focussed organisations across the country, within three months of launch we had distributed a million food kits and supported frontline workers in seven government hospitals by providing them with personal protective equipment (PPE).

We were not alone. Across India, we witnessed an immense and inspiring **response** to the COVID-19 crisis mounted by **social entrepreneurs**, local businesses, and philanthropic organisations alike.

This outpouring of humanitarianism reminded us that capital has a variety of important roles to play in meeting global development challenges. What could we change by channelling more global capital - both philanthropic and investment - to create sustainable local impact?

"What could we change by channelling more global capital - both philanthropic and investment - to create sustainable local impact?"

- Vineet Rai, Aavishkaar Group & Carolien de Bruin, World Economic Forum



THE GROWTH OF IMPACT INVESTING

The term "impact investing" was coined in the mid-2000s when the **Rockefeller Foundation** hosted multi-stakeholder conversations on how to use capital differently. It aims to challenge traditional mainstream capital allocation strategies by positioning impact investment alongside philanthropy to achieve sustainable outcomes.

Such a mission has never been more important. The world will need around \$2.5 trillion every year until 2030 to meet the UN's Sustainable Development Goals (SDGs), according to estimates from the Business and Sustainable Development Commission's 2017 **Better Business Better World** report. This amount is huge compared to the total donor capital available, which we estimate at close to \$250 billion annually. However, it is less than 1% of the nearly **\$400 trillion** global capital pool held by banks, institutional investors and asset managers. If we are to have any chance of meeting the SDGs, impact investors must step up to inspire global mainstream investors to both "do good" and "do well".

This is already starting to happen. Dedicated impact investing funds jumped from \$502 billion in assets under management in 2019 to \$715 billion in 2020, according to the **Global Impact Investing Network (GIIN)**. Increasingly these investments are recognised as benefiting both society and investors' bottom line - they are **delivering above-market returns** precisely because of their focus on environmental, social and governance (ESG) factors.

A POWERFUL COMBINATION

Delivering a financial return while doing good is no longer considered far-fetched, but impact investing cannot do the work of philanthropy or vice versa. As Eric Kessler of Arabella Advisors **points out**, solving many problems will always depend on generosity. This is particularly true in times of crisis when there is a need for the kind of agile, rapid response and relief work that foundations and nonprofits are best-placed to provide.

By contrast, one of the strengths of impact investing is that it can drive long-term innovation and systems change by funding the development of market-based solutions to complex human problems. It is in the nature of impact capital to invest in high-risk, early-stage social enterprises that mainstream investors tend to neglect - including those that are based in rural and semi-urban regions where they are delivering essential services in the last mile. "What would the world look like if more investors joined philanthropists in backing organisations like these?" - Vineet Rai, Aavishkaar Group & Carolien de Bruin, World Economic Forum

BUILDING A BETTER WORLD

The pandemic has highlighted many great examples of such enterprises. Take for instance social business **Haqdarshak**, an agent-based model that uses technology to help citizens and small businesses apply for government welfare. It has helped more than a million individuals, connecting over 600,000 people to benefits. During the COVID-19 crisis Haqdarshak used its 200-plus field operations team and 2,000-plus active field agents to provide support for welfare programmes, vaccine registration, and even insurance coverage. Its services are free and it emphasises communicating with vulnerable communities, including migrants and the rural and urban poor, in their own languages. As such, its work during the crisis has been invaluable.

Another social purpose organisation, **Sustainable Environment and Ecological Development Society (SEEDS)**, takes an ecosystem approach to partner with vulnerable communities to build their resilience to disasters. It uses innovative methods and technologies tailored to specific communities. For example, a recent **partnership with Microsoft** provided local communities with specific, localised and clear disaster alerts and warnings. This was designed to change how they use disaster-related information to make decisions and avoid loss of lives and assets.

We saw a momentous response from social entrepreneurs and community organisations during the COVID-19 crisis - what would the world look like if more investors joined philanthropists in backing organisations like these? To build a more resilient world, we need a global investment system that values and supports such on-the-ground projects. By working together, philanthropy and impact investing could create a powerful engine to help drive an inclusive recovery.

This article is part of a series published by the World Economic Forum's COVID Response Alliance for Social Entrepreneurs on the Indian response to its second wave of COVID-19. The Alliance is hosted by the Schwab Foundation for Social Entrepreneurship and includes 86 leaders in social entrepreneurship, including the Aavishkar Group, collectively supporting an estimated 100,000 entrepreneurs.

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SUSTAINABILITY, SOCIAL IMPACT & ENTREPRENEURSHIP

LIKE IN CRICKET, PLAYING THE MID OVERS IS IMPERATIVE: HOW PRIVATE EQUITY CAN AID INDIA'S ECONOMIC REVIVAL

By Gagandeep Bakshi



As we brace ourselves against the 3rd wave of COVID-19, the Indian economy continues to face distress. As per ILO, more than 400 mn in India are at risk of sinking deeper into poverty. While the government has been taking various fiscal measures to support recovery and resilience, private capital to has a significant part to play.

We saw a large number of tech start-ups mushroom in the COVID-19 world and VCs also had their hand full. The gig economy and e-commerce sectors show promise for generating employment, but they have to continuously keep raising capital to support the negative cash flows. It has been an uphill task for many to keep afloat. India ranks 3rd amongst global unicorns after USA and China with a combined valuation of USD 116 bn across 35 companies. With over \$35.7 Bn in total funding, Indian unicorns are also the largest job creators and employers in the Indian startup ecosystem. Approximately, 70% of these unicorns are loss-making. Given the current global crisis, a financial collapse would be catastrophic for the surmounting unemployment rate in India. This is where our traditional sectors bring in longevity and resilience to the economy.

Unfortunately, in these difficult times, mid-market private equity deals saw a drop of approximately 32% compared to the pre-COVID-19 year. We also saw a drop of ~ 50% in



traditional sectors that support employment and capital flow. This can be substantiated by 2 key data points – Firstly, a large part of the capital moved away from traditional businesses towards tech opportunities and COVID-friendly healthcare to insinuate at the "new normal". Secondly, control/buyout deals saw increased traction compared to mid-market deals. Private Equity funds focused on midmarket opportunities saw their risk appetite going down with many uncertainties brought about with this pandemic. On the other hand, sovereign funds with significantly longer investment horizons have also seen dwindling risk appetite as they have been opting to do co-investments as opposed to direct investments.

We are seeing some interesting trends which could explain some of the gaps that need to be filled.

- Our country has a depleting count of risk-taking private equity funds including the sovereigns on one side and a piling dry powder on the other. As per a report published by Indian PE and VC association and Bain & Company, there was \$8 bn in dry powder available with funds in 2020.
- Buyouts have recorded significant growth of almost 10x in the last decade
- Share of growth deals (\$10-50 mn) or the missing middle (between the VCs and the large PE / buyout funds) has been going down in last decade
- Significant increase in the proportion of >\$100 mn deals as a percentage of all deals in value compared to \$10-50 mn deals. This also shows that PE funds are increasingly preferring larger ticket deals in mature companies leaving a growing vacuum in the SMEs for mid-market deals.

So what will help insulate our economy and businesses from these black swan events:

- More mid-market private equity funds that can support the traditional SMEs
- Mainstreaming of impact is now becoming a reality and we need more of that to happen soon. Limited partners now have a wide range of options to deploy their capital and General partners are using impact to differentiate and create value. TPG, Bain Capital, KKR, Partners Group, and others have created dedicated impact vehicles
- We need our very own DFI not one but a few which focuses on specific themes and support businesses across their life cycle
- Need for higher domestic capital participation from pension/retirement funds in private equity funds. As Non-government funds, pension funds and gratuity funds can now invest up to 5% of their investible surplus in Category I and Category II AIFs registered with SEBI, this not only provides for financial stability in the Indian startup ecosystem but also boosts the confidence of the Indian market
- Lastly and more importantly, we need many more risk takers that can continue to show confidence and invest in the businesses even in difficult times

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This article first appeared in **BW Disrupt**

SUSTAINABILITY, SOCIAL IMPACT & ENTREPRENEURSHIP

MAINSTREAMING IMPACT: BRINGING TOGETHER THE IMPACT ECOSYSTEM

By Urvashi Devidayal



The Covid-19 pandemic has uncovered the inequities in the Global South whose vulnerable populations and urban megacities have struggled with the basics of access to healthcare, food, water, and livelihoods. Rural populations have struggled with connectivity, and the increasing digital divide has thrown millions of children out of formal education. Millions of women across the world have been disproportionately affected, losing jobs and livelihoods, and have been victims of violence. Climate change continues to be the greatest challenge of our time. In short, the progress we made in the fight towards ending poverty, hunger and inequality has been set back years, if not decades.

This unprecedented time has forced us to see that our current system of development needs to change if we are to achieve the UN SDGs by 2030. Any deliberation or action that looks to solve the world's most pressing challenges cannot be relegated to a place that is 'niche' or just confined to a 'few'. We need to drive home the message that delivering impact for inclusive development is everyone's business. Leading with an impact focus is now not a 'good thing to do' or an afterthought, but is essentially smart economics in the long-run.

In 2009, the Sankalp Forum was started with the singular goal to bring together the impact ecosystem that can support business-led solutions working towards our world's most pressing issues - climate crisis, smallholder farmers, sustainable agriculture, financial inclusion, livelihoods, water, health and sanitation, among others. The real need for such a platform stems from Intellecap's commitment to building the ecosystem and empowering entrepreneurs to deliver impact. At its heart, Sankalp is a celebration of entrepreneurship and the overall objective of the Forum is to 'mainstream impact'. As firm believers that entrepreneurs cannot succeed alone, and that it requires the convergence of knowledge, network and capital for their enterprises to grow, scale and deliver impact – Sankalp is that aspect of our work that represents 'network'.



Gover the past 12+ years, Sankalp has been recognised for its distinct enterprise focus, and spread across 3 continents, we have showcased and discovered 1800+ entrepreneurs through 25+ editions and connected them to 600+ investors. Through Sankalp, we have enabled enterprises and entrepreneurs, helped raise over USD 270+ million in funding, and disbursed over USD 870,000+ in cash grants.

To be specific, Sankalp serves a 3-fold agenda: (i) to showcase promising enterprises to investors and others, (ii) to bring global decision-makers of the enterprise-led development space face-to-face with the organizations they serve, and (iii) to drive dialogue around solutions to systemic barriers that hold back enterprises from scaling.

To achieve this overarching objective, there are several goals we consciously work towards. First, broaden the number of funders in the space, whether it is the private sector, the government or VCs. The pool of capital directed towards the realisation of the SDGs needs to exponentially increase. To that extent, also bridge the gap between philanthropic grant capital and impact investment. Second, increase private sector participation in the space - beyond just capital infusion, our efforts are towards engaging private sector companies to work with social enterprises in the corporate supply chain. The idea is to create an environment for collaboration that can support innovationled solution building. And finally, as an ecosystem platform, our goal is to amplify the status of social enterprises and socialise the idea of impact investing. In the forum, we engage with multiple organisations like the WBG and IFC, and networks like the WEF, to work together and develop a common framework for action to further build the sector.

As a forum dedicated to network building, Sankalp today has grown to be one of the world's largest inclusive development-led platforms where you meet leaders who are driving change, where you hear ideas that lead to transformational change, and where you interact with likeminded people sharing the same vision for change.

The 13th edition of the Sankalp Global Summit 2021 is being held virtually on October 12-14, 2021 with the theme 'Mainstreaming Impact'. Featuring discussions around agritech, climate change, digital financial inclusion, gender equality in business, circular economy and impact investing, as well as unique networking opportunities for entrepreneurs and investors, the Summit will host 200+ speakers from leading organisations such as World Bank, Bill and Melinda Gates Foundation, Sequoia Capital, SEWA and UNCDF, and includes two Nobel Laureates. To know more, visit: Sankalp Summit 2021.

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SUSTAINABILITY, SOCIAL IMPACT & ENTREPRENEURSHIP

BEST PRACTICES FOR ENTREPRENEURS APPLYING FOR PROGRAMS

By Allan Obilo



Pitching a business idea is one of the most daunting parts of any entrepreneur's journey. More often than not, it opens an opportunity for an entrepreneur's vision to turn into reality. Although it is an overwhelming experience, there are several of best practices you as an entrepreneur can take to ensure a greater chance of success.

TELL A STORY

Open your pitch with a captivating story that addresses the problem your product or service solves in the marketplace. Your pitch is key to connecting your startup to the audience. Start by getting to the statement of the problem. Show the investor how the problem affects people. Present the story in the present tense with pictorial illustration to sink in the investors' minds better.

Now that you've painted a clear picture of the problem, explain your company's solution to address the problem. Avoid using jargon when you tell your story, rather, use real customer names and real challenges. Keep the presentation simple and realistic. Be sure to share what inspired you to create the business in the first place. More often than not, what people will remember are the stories you tell, so it's important to have a few compelling customer stories ready to share.

ENSURE CLARITY IN YOUR PRESENTATION

One of the key questions that go through investors' minds when they listen to you is, "What is your business offering?" I've seen many investors tune out of the pitch because the explanation of the business offering is confusing. Offer a clear and concise understanding of what the product or service is, how much the product or service costs, and how you are selling it to the target market. Lastly, be clear to share a compelling value proposition, which will highlight how your product or service is distinctly different from and superior to existing alternatives and meets market needs.



This structure will help pique investors' interest and keep them engaged during your presentation. It also creates a logical sequence to the pitch, itself. Even if your product or service is particularly technical or detailed, always strive to be exceedingly clear and be willing to simplify the business model.

Keep in mind that investors listen to so many pitches and continuously evaluate numerous enterprises. Any aspect of the presentation that is not clear should be avoided. Make the best use of investors' limited time by insuring your presentation is direct, clear, and concise.

FOCUS ON ACTUAL PROGRESS MADE AND CURRENT TRACTION

Regardless of the stage of your enterprise, demonstrate progress. It will be received positively and can help build credibility among investors. The traction that you'd want to share includes sales, traffic, downloads, or any other growth metrics to indicate early adoption and potential to scale.

If your startup runs an app, investors want to know how many sign-ups you have, how many additional ones are you getting per month, what is your conversion rate, how many repeat users you have, and what the churn rate looks like? Further, presenting correct numbers on the cost of customer acquisition, the business's break-even point, and how much revenue the startup generates will certainly build confidence with the investor that the entrepreneur understands the startup's revenue model.

As the CEO of the company, you are expected to be the lead salesperson. Therefore, you'll want to show the investors that you know how to sell them to your own company.

ANSWER QUESTION DIRECTLY AND SUCCINCTLY

After you've made your pitch to investors, if they have an interest in what you're doing, they will ask questions. It

is very important to answer the questions directly with enthusiasm and zeal. Most investor pitches are timed with a limited amount of time for Q&A. So, the longer you spend answering one question, the fewer questions you'll have the opportunity to field. You should aim to answer as many questions in as short a time as possible. Anticipate difficult questions. Research more about the industry your startup operates in and all aspects of your business.

Investors may pose complex questions, but don't make the mistake of avoiding the question altogether or providing an answer to a separate question. When you don't directly answer an investor's question you lose out on a perfect opportunity to address a concern, your credibility wanes, and the investor is much less likely to ask for a follow on meeting.

CLOSE WITH A CLEAR CALL TO ACTION

The conclusion of your presentation is your best moment to engage the investor with a call to action. Remember that a call for action need not be only money: you could ask for mentorship support, advisory board members to offer strategic thinking, or support in identifying and recruiting amazing team members for your company.

When the call for action is monetary, you should outline proof that what you're doing has an impact. Make the strategic ask while also stating exactly how you intend to use the funds by sharing a list of activities and how much funds will be allocated to each activity.

Pitching to investors is demanding on your time, and can be intimidating! I hope these five points help you demystify your next investor conversation and increase your chances of generating interest from investors. I wish you the best in your fundraising journey and I'd love to hear from you.

Allan Obilo is a Senior Associate at Intellecap

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SUSTAINABILITY, SOCIAL IMPACT & ENTREPRENEURSHIP

THE BLAME GAME: 5 REASONS WHY EARLY STAGE DEALS FALL THROUGH IN AFRICA

By Margaret Nakunza and Arielle Molino



If Africa was a person and I had to describe it in one word, that word would be innovative! For many stakeholders, the conversation on Africa has shifted from problem-centered challenges to solution-oriented opportunities, prospects, innovations that the continent can now boast about. This is evident considering the number of investment funds that are streaming in to scout for companies across Africa. However, there is a mismatch between who investors are looking for and what entrepreneurs are searching for.

According to research conducted during one of our Sankalp events, we found that 88% of entrepreneurs are looking to raise capital which is not shocking, however, only 38% of the investors offer ticket sizes below USD \$1M, when 71% of the entrepreneurs are looking to raise less than \$1M. It's clear that the majority of entrepreneurs in Africa are early stage entrepreneurs which often results to many disappointments for entrepreneurs because early stage investing in Africa is characterized by numerous challenges. Some are due to macroeconomic systemic factors that are beyond the control of both the investor and the potential investee. However, there are some challenges that hinder the conclusion of a transaction. It isn't a blame game of just pointing fingers, as all stakeholders are key contributors in the game of investments. Could there be a simple issue of misalignment of expectations or are we looking at a more nuanced and hidden reason for deals falling through? Here are some reasons why deals fall through in Africa:

1. Faking it, and not making it

Some of the early stage entrepreneurs are trying to turn themselves into social enterprises or high-impact businesses



even if it's not core to their model. The depth of seriousness on their impact is not really baked into the model of the organization. We notice the shift to impact business when funds are on the table. However, when pitching to a group of investors, the business plan is rejected because the idea of impact is not integral to the business making it seem like an after-thought.

Recommendation for entrepreneurs: It is important for entrepreneurs to stay true to the nature of their business model, don't over exaggerate your impact play for the investor; they'll see right through it.

2. Misalignment of expectations

Investments are relationships that are built on trust. As such, managing expectations on both sides is incredibly important. Entrepreneurs need to understand the due diligence process and the expectations of the investor; on the other side of the table, investors need to be honest and open about their processes. Even valuation is subject to due diligence, and investors may discover that the market is not as big as they thought, or the picture that was painted is not entirely accurate. Beyond valuation, investors will have critical governance expectations, ensuring the right checks and balances for the company. While some entrepreneurs see this as 'losing control,' good governance will better position the company for additional capital raises later on, and ultimately offer an exit for the investor.

Recommendations for both parties: Be honest and open with you understanding of the process and expectations. Ask questions when you don't understand. Focus on how to create value together. If you see more value than money, then it's a good partnership.

3. The fly-in, fly-out model misses important contextual nuances

80% of the funding that comes into Africa for young companies is foreign capital, and 42% of the funding comes from just North America. Africa has 54 countries (or 56 depending on how you count), which means an incredible diversity of resources, politics, and regulatory environments, which cannot be homogenously generalized as "Africa." Africa can be overwhelming for an investor who doesn't understand these unique dynamics, and generalized approaches may not be effective. Investors who are not based in the region or country in which they're investing in can often struggle with "getting" the local context. Let's face it, this is a reality for many global investors, but when investors fly in and fly out, they may miss a lot of nuance that is in inherent for the entrepreneur.

Recommendation for investors: Have a local base and not just a base where you employ expats. Try your best to have local employees who are really able to understand the context in which you're investing, can ask the right questions, and understand the macro-level environment in which entrepreneurs are working. If you don't have the infrastructure to hire locally, then collaborate with local partners or consultants who can offer a contextual perspective.

4. Lack of willingness to be flexible

We've all heard narratives around the need for more patient capital, but flexibility goes beyond just exit timelines. Entrepreneurs need more than just money, and the best investors give support, not just the cash. Trust is a very real currency in these transactions and investors may need to go beyond the business – to understand what's going on with the entrepreneur mentally and emotionally. Running a start-up is hard work: ensuring they can pay salaries every month, managing clients, delivering on goods and services, and fundraising all at the same time. Investors who aim to understand the entrepreneur more deeply can also avoid "the beer head effect" of investing into businesses that have all foam and no substance. First time entrepreneurs aren't bad entrepreneurs; they may just not be used to the language of investors.

Recommendation for investors: Don't fall into the power play trap of who holds the purse strings. Aim to build relationships with the entrepreneurs beyond just the business because the industry expertise and advise you can offer as an investor may be just as valuable as the cash in your fund. Remember it is a balancing act, and don't get emotionally attached to a deal. You don't want to have a blind spot and be 'so taken' with an entrepreneur that you miss the bigger picture.

5. Deal fatigue

If the deal is taking too long, it's a lose-lose situation; the parties on both side of the table get tired of the process. Time is a critical currency for entrepreneurs trying to fundraise, and they hope for openness on how quickly investors will communicate interest or lack of interest. Entrepreneurs may genuinely need time to get their documents in order. Investors could share a clear list of what they're looking for and let the entrepreneur come back at his/her own pace.

The ability to go away and come back after some time once the entrepreneur is ready, actually helps build a healthy relationship.

Recommendations for both parties: Doing business in Africa is not for the faint of heart. If it's a 'no' from investors, make it a quick 'no,' which is better for the entrepreneur than a prolonged 'yes.' Entrepreneurs, if you don't feel comfortable with the investor, then pull the plug and move on to identifying other investment opportunities.

It takes time to appreciate the continent and de-escalate the challenges that come with it. Africa is the frontier



and the future of investments – a rising continent ripe with opportunity. Entrepreneurs and investors should both understand its challenges, embrace them, and grow businesses together for the betterment of the region.

Arielle Molino is a Principal and Margaret Nakunza is a Senior Associate at Intellecap

This article first appeared in Intellecap



GENDER & LIVELIHOODS

GENDER & LIVELIHOODS

TOWARDS GENDER-INCLUSIVE INVESTING: A CO-DESIGN APPROACH

By Jona Repishti, Amar Gokhale and Saida Benhayoune



This article is the first of a 2-part series that captures learnings from a 'co-design' exercise conducted with investors in India to help the move from intention to action on gender-inclusive investing. The co-design exercise comprised of five 3-hour sessions conducted virtually in October 2021.

Gender Inclusive Investing, or Gender Lens Investing (GLI), is an approach to investing into companies, organizations, and funds that takes into consideration gender-based factors across the investment process to advance gender equality and better inform investment decisions.[1] Many of the funds deploying capital with a gender lens — approximately 65% of them — are newly established first-time funds (*Project Sage 4.0*). To close the gender financing gap, we need to bring larger pools of money, more quickly into this space. Activating well-established, mainstream investors to integrate gender into their work holds an opportunity to accelerate impact.

Could co-design — a method of bringing together users and stakeholders to generate more equitable solutions — play a role in building the field?



Inspired by MIT D-Lab's 15-year track record in organizing design summits around the world and a small grant from Aspen Network Development Entrepreneurs (ANDE), the authors of this article went on a listening tour. We interviewed 20 impact investors and 12 ecosystem actors in India looking to learn: What incentivizes fund managers to build gender equity in their work? And also, could we leverage collaborative methods to help them unpack the challenges they face in the very early stages of their gender lens adoption journey?

BRIDGING THE CHASM BETWEEN INTENTIONALITY AND ACTION

We discovered multiple investors in India that were actively experimenting and trying to customize strategies for becoming more gender-inclusive. Despite growing demand, progress was slow. The reason? Creating a gender lens strategy and then leading internal reform can be timeintensive, expensive, and complex. Even the most wellintentioned and well-connected gender-pioneers struggled to bridge the chasm between intentionality and action.

Additionally for new entrants in the gender-inclusive investing space, there is a paucity of Indian role models and actionable guides to draw from. Between the DIY option of using case studies and reports, and the pay-forsupport option of working closely with technical assistance providers, there is not much to draw from if neither option worked for you.

D-Lab realized that there was a unique window to use codesign to deliver value to fund managers looking for learning opportunities, actionable toolkits, and peer networks.

We teamed up with Intellecap[2], a catalytic ecosystem player in India, and organized the in October 2021. We invited six impact investors: Aavishkaar Capital, UC Impact, Acumen, Villgro, Omidyar India, and Accion Venture Lab, to join us. All six investors were in the process of exploring how to develop more inclusive gender investing practices, and we spotted an exciting opportunity to open up their process to participatory design frameworks and creative collaboration.

ACCELERATING GLI INNOVATION AND EQUITY WITH CO-DESIGN

Bringing co-design – the collaborative and creative process of convening a diverse set of actors to unpack complex challenges and ideate together – into the GLI space is quite new. Since GLI work at the fund level has multiple entry points, we focused on three themes: how to improve sourcing, due diligence, and gender data practices. Co-design offers a unique set of advantages for unpacking these challenges: Inclusive: Co-design brings in diverse voices and perspectives fostering a deeper understanding of the barriers, richer ideation, and more suitable solutions.

Agile: Sprints hinge on a disciplined, facilitated, experiential process that is suited for breaking down complex problems into manageable and addressable challenges, encouraging quick experimentation and iteration to shorten the learning curve towards concrete outcomes.

Collaborative: In addition to solutions, co-design helps build relationships, incorporate different perspectives, and allows for cross-pollination of ideas – all with a focus on building understanding, fostering adoption, and community buy-in along the way.

THE CO-DESIGN SPRINT EXPERIENCE

Over the course of 5 sessions, our co-design summit welcomed 100+ participants – gender lens practitioners, entrepreneurs, investors, and thought leaders – from around the world to support our investors in the design and development of solutions. The workshop series validated that co-design delivers unique benefits to investors that are new to the GLI space:

Seeing the forest and the trees. Most of the challenges to GLI adoption stem from the difficulty of grappling with deeply rooted societal norms, unconscious biases, and long-established industry practices. Our co-design sessions focused on building mindsets for empathy, bias awareness, creativity, optimism, and openness as prerequisites to exploring challenging themes around power dynamics, privilege, and implicit biases. A participating investor noted "[because of] this workshop, I got a very different perspective on GLI and I realized how many conscious and unconscious biases are embedded in investing practices that I wasn't aware of ... " By inviting cross-pollination of different perspectives and a beginners' mindset, co-design can offer a holistic yet disciplined approach to help fund managers detect and manage blind spots - both internal and external to the funds - in a progressive and systemic fashion.

Finding the needle in the haystack. It is not always easy to know where to start and where to focus reform efforts when you have never done such work before. The challenges and barriers that GLI advocates uncover are complex, interwoven, and systemic. This explains the analysis paralysis that many fund managers face in moving from intention to action. By emphasizing problem framing over solution ideation, co-design can help investors visualize what to prioritize first (among many possible points of entry) and discover different pathways for intervention. One investor noted: "When we started the whole exercise, the ideas were very jumbled; and now when I am seeing everything in a structured manner, it makes it easier to pick where to focus on first."



It will take a village. After the co-design sprint, one investor noted: "My biggest takeaway is that there are many others in the ecosystem dealing with similar questions on gender and that we can get a lot more done from working with each other." Whether it is by pooling gender performance data to build a stronger business case for GLI to LPs, co-developing industry standards for gendered due diligence processes, or collaborating on building pipelines of female-led and gender forward businesses, impact investors realized that they could reap additional benefits from taking a collaborative approach to GLI. By continuing to position forward-thinking fund managers within networks of like-minded peers and ecosystem actors, we can maximize the returns on their individual efforts and accelerate the pace of GLI adoption.

THE WAY FORWARD

Sometimes, co-design feels like a big upfront investment in terms of planning, coordination, and time commitment, but time and time again, we have seen that it pays unique dividends to those that engage in it. Co-design sprints may be less suitable for delivering ready-to-implement gender lens solutions, but they can serve as enriching and generative exercises that build a strong foundation for catalyzing change at both the fund and the ecosystem level.

To move the needle on GLI we should continue to leverage inclusive, disciplined co-design methods that bring industry champions together to build confidence, gain new insights, and build relationships for addressing some of the most complex challenges.

Jona Repishti was a Manager and Saida Benhayoune was the Innovation Practice Advisor at MIT D-Lab. Amar Gokhale is Associate Director at Intellecap

This article first appeared in APVN Asia



GENDER & LIVELIHOODS

THREE STRATEGY TOOLS TO IMPROVE GENDER LENS INVESTING (GLI) PRACTICES

By Jona Repishti, Amar Gokhale and Saida Benhayoune



This article is the second of a 2-part series that captures learnings from a 'co-design' exercise conducted with investors in India to help the move from intention to action on genderinclusive investing. The co-design exercise comprised of five 3-hour sessions conducted virtually in October 2021. Please click here for the first article.

The data is in – 2020 was another disappointing year for women-led startups. They received just 2.3% of global venture capital (VC) funding, the lowest amount recorded over the last five years. Despite the setbacks, there is a growing urgency to address the gender financing gap. New actors are stepping up and taking action. Increasingly, progressive VCs are turning their gaze inward, scrutinizing their portfolios and investment practices, and identifying ample room for improvement. Many are looking for practical pathways and actionable tools to increase their capacity to allocate capital and promote gender equity.

Can strategy tools help gender-intentional investors generate quick insights and shape better, fairer, and more inclusive investment practices?

We identified six funds working in India – Aavishkaar Capital, Acumen, Omidyar Network India, Accion Venture Lab, Villgro, and UC Impact – who were actively working to increase capital flows to women-led and gender-forward businesses. In October 2021, investors from these funds joined our "Co-design Sprint: Towards gender inclusive investment practices" to explore how they might improve sourcing, due diligence, and gender data practices to achieve their goals. In a virtual workshop series, MIT D-Lab



and Intellecap placed the investors in design teams of 4-6 alongside ecosystem stakeholders, gender experts, and entrepreneurs and introduced them to co-design methods.

For each 3-hour workshop, we developed and tested a series of interactive exercises and visual tools to facilitate harnessing GLI insights for the six spotlight investors.

GENERATING NEW INSIGHTS WITH STRATEGY TOOLS

Albert Einstein famously said that if he had an hour to save the world, he would spend 55 minutes understanding the problem and the last 5 minutes solving it. Most of the current GLI literature focuses on capturing best practices and packaging them into guidebooks, reports, and case studies that are mostly prescriptive. It focuses less on the problem framing space, leaving it up to practitioners to figure out what solutions are contextual and relevant to them. Yet it is not easy to know where to start if you have never done it before. Many investors we spoke to were casting a wide net, trying multiple strategies to make their investment practices more gender-inclusive, yet were seeing mixed results towards reaching desired outcomes.

How can we help investors identify the right problems to solve? We propose using strategy tools or visual canvasses and frameworks that help practitioners break down and reframe complex problems. So, issues like 'I can't recruit more female founders because I have a pipeline problem' that seem intractable or paralyzing at the start, can be broken down to reveal bite-sized challenges and new opportunities for improvement. With this goal in mind, we created a series of sensemaking tools to help investors surface diverse perspectives and develop a shared understanding of where the challenges they need to address really lie. The set of actionable frameworks we developed are simple enough to sketch on MIRO — and powerful enough to help investors, female founders, and other stakeholders have focused exchanges that unlock pivotal insights around sourcing, due diligence, and data practices.

These types of strategy tools, more widely seen in business consulting or entrepreneurship circles, are especially helpful in communicating and organizing thoughts, collecting collaborative insights, creating inclusive designs, and ensuring alignment – which was a good match for the early-stage work that our six spotlight investors were doing in their funds.

We'd like to share the tool series, explain how we used them in each workshop, and invite you to try them to support your gender lens journey.

WORKSHOP 1: TAKING A CUSTOMER-CENTRIC APPROACH TO SOURCING WOMEN-LED BUSINESS

Accion Venture Lab and Villgro paired up for the **Sourcing Workshop** to tackle a common challenge: *"How might we improve our sourcing practices to attract and identify* more female-led ventures?" Women founders are different than male founders, and to attract them, investors can start by understanding what makes them different, then restructuring sourcing processes to work for their needs. We invited workshop participants to begin visualizing women entrepreneurs as a desirable new market segment. We leveraged two well-established design tools to generate insights: user personas and user journey maps. Investors developed user personas to drill down into the unique aspirations, challenges, needs, and desires of the women entrepreneurs they want to attract. Next, workshop participants filled out user journey maps, stepping into the shoes of female founders to pinpoint where and how existing sourcing practices exacerbate or create barriers to entry. The two empathy-building tools helped uncover a set of common gaps and opportunity spaces for GLI investors to address as they design or improve their sourcing practices. Taking a customer-centric approach offered investors new insights on how to adapt their messages, channels, positioning, and offering to attract and retain women-led businesses in their pipelines.

To make your sourcing inclusive, start by understanding who you want to attract into your pipeline, then anticipate and address the challenges they face when they navigate your recruitment process. Try out our GLI sourcing tools HERE.

WORKSHOP 2: IDENTIFYING THE 'LEAKS' OR RISK DRIVERS IN YOUR DUE DILIGENCE FUNNEL

Aavishkaar Capital and Acumen paired together to explore "How might we improve our due diligence processes to better evaluate and select for female-led and gender-forward businesses?" Drawing inspiration from Hugh Macfarlane "Leaky Funnel", we invited participants to visualize the due diligence cycle as an inverted pyramid divided into four closely related stages: screening, evaluation, negotiation, and approval. In design teams, participants were challenged to identify: Where along the due diligence process does the funnel 'leak', or 'disproportionately eject' female founders and gender-forward businesses? Which factors may be causing leaks in each due diligence stage? More specifically, we asked participants to consider three risk drivers: 1) WHAT criteria are used for selection? 2) WHO is involved and who has decision-making power? And 3) HOW are the processes implemented and monitored? By segmenting due diligence into discrete stages and examining risk factors that touched on the fund's culture, underlying norms, decision-making processes, and potential exclusionary practices, the tool revealed multiple opportunities for investors to mitigate undesirable leakage (such as gender biases, blind spots, misaligned incentives) while maintaining desirable screens (continuing to successfully weed out unfit deals) to identify the best investment opportunities.

To make due diligence inclusive, break down the due diligence process in stages, create a heatmap to identify risk



factors in your current processes, and uncover the drivers behind the risks. You can try out our GLI due diligence tools **HERE.**

WORKSHOP 3: LEVERAGE GENDER DATA TO AMPLIFY VALUE FOR THE FUND AND ENTREPRENEUR

Omidyar Network India and UC Impower paired up in the Gender Data Workshop to explore: "How might we leverage gender data to create value for our fund and our portfolio companies?" We framed the workshop as an opportunity to optimize each investor's data-gathering practices. We invited investors to 'begin with the end in mind' specifically asking: What value do your fund and your portfolio entrepreneurs expect to generate from gender data? How do these values line up, and how can they complement each other? To help organize brainstorming of opportunities, we developed the 6P Gender Data Bloom Canvas, which invites participants to explore a multitude of ways in which investors and entrepreneurs can leverage gender data to generate value in six categories: Product, Processes, People, Planning, Performance, and Positioning. By expanding the understanding of the opportunities that exist to create value from gender data, investors can become more intentional about what data needs to be collected and how to use it. Furthermore, the tool helps investors think about the value in a more holistic and strategic sense that goes beyond Environmental, Social, and Governance (ESG) or impact metrics monitoring.

To design a gender data strategy that yields powerful results without overburdening you and portfolio companies, start with a goal in mind. You can try out our GLI Data tools **HERE**.

THE WAY FORWARD

Through the co-design sprint, investors gained access to new frameworks and tools, fresh insights, promising idea

starters, and new relationships – all of which can be further leveraged in their gender lens journey.

This experiment validated that strategy tools have enormous potential to propel investors from intentionality into action. These frameworks helped investors move away from one-size-fits-all gender mainstreaming approaches, better identify sourcing, due diligence, and gender data challenges inside their organizations by collecting multiple perspectives and begin to identify what levers they need to pull first to solve these challenges.

Paired with mindset exercises around bias, power, empathy-building, and guided by thoughtful facilitation, strategy tools have the potential to improve clarity and inclusiveness. When used to enter into conversation with female founders, strategy tools can help investors shed a light on hard to identify blind spots, unconscious biases, or long-standing organizational practices that may be blocking the achievement of desired gender outcomes. In opening up participation to include many voices, including the ones most affected, we can make new GLI practices vastly more inclusive, innovative, and effective.

Centering our co-design tools around gender equity helped us realize that imagining more inclusive investment processes is a journey, not a destination. As such, there is a lot more work to be done to translate existing best practices into a practitioner-friendly GLI tool library. Actionable strategy tools promise to accelerate innovation, reduce risk by identifying optimal levers for change, and increase the adoption of the best possible solutions that meet the needs of female founders, gender-forward businesses, and the funds themselves.

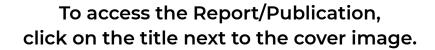
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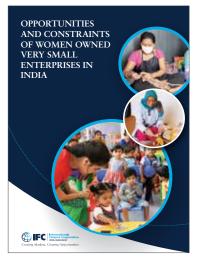




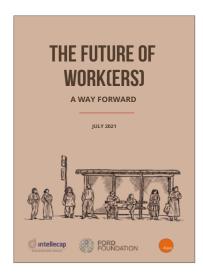
DISRUPTIVE ROLES IN GENDER LENS INVESTING IN KENYA



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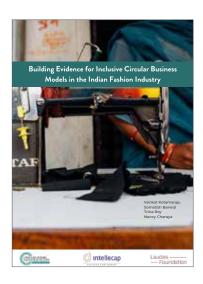
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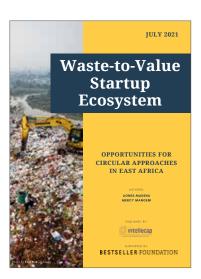
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LEADING TANZANIAN WOMEN IN FINANCIAL SERVICES – AN EXAMINATION OF GENDER EQUALITY IN TANZANIA'S FINANCIAL SERVICES SECTOR

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