IMPACT REPORT

20 YEARS OF IMPACT ON

20 MILLION LIVES
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About Villgro

Villgro is India’s oldest and one of the world’s largest social enterprise incubators. Our belief in the ability of market-based models to alleviate poverty has enabled us to champion our mission of creating impactful, innovative and successful enterprises in AgriTech, Cleantech, MedTech and Employability.

Since 2001 we have supported 310+ social businesses that have raised more than ₹4,164 million in follow-on investment and impacted over 20 million lives.

Apart from India, we also support social enterprises through Villgro USA, Villgro Kenya and Villgro Philippines.
Dear Friends of Villgro,

Impact investing and social entrepreneurship have grown tremendously since when Paul Basil started Villgro in 2001. We turned 20 a few months ago, and our journey reflects our evolving support for social entrepreneurs - from grassroots and micro-entrepreneurs, we have moved to work with innovative, scalable, for-profit market-based models. Many of our past incubatees, SkyMet, Ecozen, Promethean to name a few - have scaled up. Many of our current incubatees, Krimanshi, NeoMotion, Bharat Rohan, BookMyBai - are scaling up. The impact investing ecosystem has expanded. There is growing consensus about the need for investing in impact and making it integral to financial returns. This need will be even larger in the post Covid-19 world.

We are glad in the belief that Villgro and its incubatees have played a significant part in making this happen and will continue to do so.

Over the last two decades, Villgro has worked with over 315 entrepreneurs, created 4521 jobs, and impacted 20 million people. We have built an ecosystem to support social entrepreneurship - Unconvention to inspire the ecosystem; iPitch to discover innovative social enterprises; a network of partnerships - and developed an effective model for incubation. As this report is being written, I take over from Paul, who will focus on expanding Villgro’s incubation model globally.

This is also a testing time for our social entrepreneurs and the underserved base of the pyramid populations they serve. Social entrepreneurs need all the support they can get, to stay resilient in the face of adversity, and be agile in responding to the needs of their beneficiaries.
We hope that Villgro’s incubation protocols can increase the probability of success of an entrepreneur, especially so in these unprecedented times. Anchored around the diagnostic & solutioning panel and the 100-day plan, carefully chosen subject experts as low-bono mentors coupled with long-term asset building technical assistance have proved to be high value, quantifiable inputs. Villgro hopes to achieve impact at two levels - for beneficiaries at the base of the pyramid through its incubatees; and, through its incubation effort to help innovative and scalable market- based models succeed. We are better at measuring the former, we are getting better at doing the same in the latter. Understanding how our protocols and non-financial inputs are translating into impact outcomes is an ongoing learning experience. This year, we have tried to capture the multiple dimensions of impact - effect on infrastructure and supply linkages, enhancing the ability of caregivers and intermediaries, to name a few.

The imperatives for a sustainable world are changing and the needs of social entrepreneurs are evolving. And Villgro is listening - we are sharpening our incubation models to answer these needs. We hope to demonstrate the business value of our impact better. We want social entrepreneurship to embrace diversity and be more inclusive, beginning with gender.

This report aims to set the direction for a better, nuanced, and more comprehensive understanding of the impact we are helping social entrepreneurs achieve. I hope that you find it useful and interesting. As always, learning is a journey and we can only get better. Do let us know what you felt and thought as you read this report.

Sincerely,

Srinivas Ramanujam
CEO, Villgro Innovations Foundation
As I write this letter, we find ourselves in unprecedented times. The world is responding to a pandemic the likes of which has not been seen for over a century. While all attention is turned to this immediate global challenge that threatens the health of our species, the global challenge of climate change, which threatens the health of our planet, continues to loom large.

These challenges demand that we plan for - and invest in - our collective future. Without the creativity of those who came before us, we would not have the tools we have today. But the challenges of today highlight that our need for invention and innovation has never been greater.

The current pandemic has also highlighted the importance of local innovation. As places around the globe have fallen short of healthcare supplies, we have seen global supply chains break down and local innovators step up to provide new ideas for urgent needs like personal protective gear, diagnostics, and ventilators appropriate for their own local needs. The value of local innovation capacity cannot be overstated, but there is not a “cookie cutter” path to cultivating it. This requires on-the-ground perspective that evolves with the landscape and the times. For 17 years, Villgro has brought that perspective to their partnership with The Lemelson Foundation.

Villgro has provided amazing value by understanding the true needs of the invention and entrepreneurial ecosystem from an Indian context and quickly adapting to changing realities. They’ve demonstrated the willingness and ability to add value and support through the inevitable challenges faced by nascent companies who are creating hardware-based solutions to improve the lives of the poor in India and around the world.

Using both tested and experimental approaches, Villgro has proven that they know how to address key gaps for these types of social enterprises working on issues embodied by the Sustainable Development Goals (SDGs). In collaboration with Menterra and others, they’ve addressed needs like access to capital, product development, mentorship, market strategy, and governance throughout the stages of enterprise development and growth.
It’s this kind of comprehensive support that allowed a medical device company like Biosense, which creates affordable point-of-care diagnostic solutions for chronic diseases, to grow from a college dorm startup to a profitable business acquired by Tulip Diagnostics in 2019.

For two decades, Villgro has actively sought out the problems affecting the poor and identified and scaled local, high-potential invention-based enterprises to solve them. From a partnership perspective, they’ve helped us unpack their learnings along this journey and measure impact—from the number of social enterprises incubated and jobs created to the millions in follow-on funding secured and lives directly impacted by needed products.

While our collaboration has helped us invest in known problems, it is the ability to adapt to the unknown that truly tests us. With unexpected and urgent challenges like COVID-19, it’s this very system of innovation and resilience that is needed to help the world quickly respond to threats.

Think about a company like OmiX Labs, a biotech startup in Bangalore that Villgro has invested in since 2014. OmiX created a novel, low-cost kit that can rapidly detect the DNA of pathogens through a urine or blood sample on a disposable biochip. The original problem that OmiX was addressing was detecting the high prevalence of drug resistance in India, but it has been able to quickly pivot and adapt its technology platform to detect COVID-19.

Similarly, Biosense has used their deep understanding of the local supply chain built through scaling their own products to help dramatically increase the production of COVID-19 test kits that the Indian government needs to respond to the pandemic.

We can learn from the challenges we face today. We need resilient local systems that are flexible and can respond on the ground. Only by investing in core technologies and agile ecosystems will we be prepared for the next global threat while continuing to make progress in creating the future we all want, including those that are currently being left behind.

This is why we’re proud to continue supporting Villgro’s unique approach to cultivating and guiding the next wave of inventors and the next needed solutions through the changing local landscape to reach their full potential for impact.

Carol Dahl
Executive Director, The Lemelson Foundation
If India continues to consume water as per current rates, **we will have half the water we need by 2030.** This estimate by the 2030 Water Resources Group indicates a flashpoint that is only ten years away.

**Agriculture has a large role in India’s water story:** It accounts for 80% of our freshwater use. We grow water intensive crops (rice, wheat, sugarcane, and cotton) on 54% of our cultivated land. We use at least twice the amount of water to grow one unit of food versus comparable countries.

**Groundwater is a rapidly depleting lifeline for India’s farmers:** Despite large dams and canals, India’s farmers are heavily dependent on groundwater for irrigation. With over 30 million estimated borewells, India draws nearly 25 percent of the world’s groundwater. This is more groundwater than China and the United States combined! Over-extraction of ground water had led to **sixty percent of India’s districts being declared critical on ground water.** Summers and cropping seasons are marked by stories of distress.

HUL set up the Hindustan Unilever Foundation (HUF) in 2010 to support scalable solutions that can help address India’s water challenges. It established the 'Water for Public Good' programme with the belief that water (like air) is a ‘common’ i.e. a shared resource and must be managed by communities. Hence, our projects aim to help rural communities:

- **KNOW MORE** through innovative water numeracy solutions like water simulation games, water budgeting and water use score cards that can help map water sources, estimate water needs and quantify use

- **SAVE MORE** through initiatives to create effective water conservation infrastructure through GIS and data-driven tools for measurement, decision making and governance

- **USE LESS** by driving behaviour change through evidence-based responsible water-use solutions for farmers that secure their yields and reduce their overall costs of farming
In this context, HUF’s partnership with Villgro plays a crucial role. HUF has historically partnered with non-profit organisations with strong community ties. A key enabler of scale has been the focus on tools, methods, innovations that transcend typical project boundaries.

With increasing connectivity, use of technology and data is likely to become more mainstream, democratized and accessible for farmers and grassroots institutions across the country. We observed how the entrepreneurial ecosystem was starting to solve for water management and water use (in agriculture). There were clear opportunities to amplify our impact by:

1. Leveraging synergies between grassroots organisations and social entrepreneurs
2. Supporting new entrepreneurs with solutions to democratise access and use of water

Our partnership with Villgro enables us to meet these goals. Over the course of the next years, we aim to build a dedicated portfolio of entrepreneurs who are solving for a spectrum of water-related challenges for collective good. Some solution spaces that the portfolio aims to address are:

<table>
<thead>
<tr>
<th>Water Management Solutions</th>
<th>Farmer support and incentive for responsible water use</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Solutions for groundwater recharge, surface water conservation and distribution (technologies, data tools, service models)</td>
<td>• Markets for farmers to incentivise switching to water responsible crops</td>
</tr>
<tr>
<td>• Sustainable irrigation solutions for water intensive crops (rice, wheat, cotton, sugarcane)</td>
<td>• Value-add technologies (land preparation, small farm applications, storage)</td>
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<td></td>
<td>• Digital farm advisories and inputs fulfilment</td>
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<tr>
<td></td>
<td>• B2B and B2C marketing solutions for farmers</td>
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India’s water challenges are widespread and complex. Enabling farmers and local community-led institutions to solve for their challenges at scale will require innovation, collaboration and concerted action. Labels such as ‘non-profit’ and ‘for-profit’ often tend to draw artificial boundaries. We hope that HUF’s partnership with Villgro will harness entrepreneurial foresight and citizen action to ensure that water is available equitably and sustainably today and for times to come.

Reshma Anand
CEO, Hindustan Unilever Foundation
2001
Villgro Innovations Foundation set up

2002
First impact investment in India by Villgro

2004
Partnerships with IIT Madras and The Lemelson Foundation

2006
Launched Villgro Health and Energy practices

2010
Initiated Villgro Innovations

2013
Inaugurated Villgro Education practice

2014
Incubated 100 startups

2016
Set up Social Impact Fund

2017
Launched INVENT along with GoI and DFID, UK

2018
Incubated 200 startups

2019
Initiated Incubating Incubators in 7+ global frontier markets

2020

- Incubated 300+ startups
- Provided ₹671 million seed funding
- ₹4 billion follow-on funding by the portfolio
- 20 million lives impacted
- Unconventions in 20+ cities, connected 17,000+ entrepreneurs and hosted 800+ speakers
- 3,000+ iPitch applications, funded 23 startups and ₹74.4 million deployed
- ₹720 million deployed in 137 startups in low income states of India

Impact Report 2020
2019 Year-in-Review

Lives impacted across States and Union Territories of the portfolio companies have at least one woman founder.

43.8% women employed by portfolio companies

33% of the portfolio companies have at least one woman founder

$187.4$ million revenue generated by portfolio companies

Lives impacted across 25 States and 3 Union Territories
Researcher’s Note

By Tanuja Kate, Manager - Monitoring and Evaluation, Villgro

What Impact means for Villgro

For Villgro, Impact has always been two-fold: there is a) the impact that our incubation services have on our incubatees - business value of incubation, and b) the social and environmental impact created by our incubatees. They are both inherently connected to and derive from each other. Since our work spans four sectors (Agribusiness, Education & Employability, Healthcare, and Renewable Energy), the inclusive United Nations Sustainable Development Goals (UN SDG) framework became a clear choice. What made it more relevant was coupling it with NITI Aayog’s Baseline Report that maps all Indian states according to their SDG rankings, so states could be classified into: Achievers, Frontrunners, Performers & Aspirants.

Take a look at our ‘2019 year-in-review section’ to see which of our incubatees are enabling access to innovative products and services in each of these states.

Setting the context for Impact Report 2020

While we maintain a real-time incubatee tracker to measure their impact, there are a few data disclaimers to be mindful of as we read through this report.

- All data in this report is for Villgro India only, and does not include the impact data from Villgro Kenya & the Philippines

- Overall Impact Data (Lives touched, Follow-on raised, etc.) encompasses the data from our current portfolio, past portfolio, and portfolio under the INVENT program upto 2019

- 2019 Impact Data encompasses the self-reported data from all current incubatees on the beneficiaries/customers they have served. This data has been collected for the extent of their incubation duration in 2019 with Villgro, which ranges from 3 months to 12 months

- The three case studies seek to bring out an understanding of the beneficiary user experience of incubatees’ products and services and the business value of incubation, which is tied to a company’s milestones, by reliving select incubatee journeys. We followed a convenience sampling approach for data collection of the beneficiary surveys, with the key criterion being that the product/service has been used by the respective beneficiary for at least 3 months to 1 year
Deepening impact measurement

As we strengthen our work in impact measurement, our focus will remain on uncovering stories that bring out the business value of incubation, and the business value of environmental and social impact whilst striving to ensure a diversity and inclusion lens. We invite feedback from you - the readers - both practitioners and non-practitioners of impact measurement, on our framework, and on how we can work towards making impact measurement more inclusive and insightful going forward. Have a great read.

United Nations Sustainable Development Goals
Villgro | Agribusiness

Startups supported till date: 47

Funding deployed till date: ₹70 million
Portfolio (FY 19–20)

- **6,227** Smallholder farmers serviced
- **303** Microentrepreneurs created
- **100** Borewell replenishments initiated

**Aspirant & Performer**
- Odisha, Rajasthan & Uttar Pradesh

**Achiever & Front Runner**
- Karnataka, Tamil Nadu & Maharashtra
The Challenge

India accounts for 7.39% of the total global agricultural output, but lack of information about crop and soil health at the right stage of plant growth is one of the primary reasons for crop loss. Apart from the poor quantity and quality of farm produce that results in less income realization for the farmer, lack of market linkages and advisory often results in distress sale of the harvest.

The Solution

Bharat Rohan, through its CropAssure solution, applies a highly efficient framework to empower farmers with pest, disease and weed infestation prediction which enables them to take precautionary measures to avoid crop loss. UAVs (Unmanned Aerial Vehicles) collect unique data from fields using Hyperspectral Sensors. These sensors pick up minuscule physiological data from the crops, and then this data is analysed with ML algorithms to predict and share information on diseases and pest infestation in crops.

The Impact

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, and that help maintain farming ecosystems, and target 2.C: Adopt measures to ensure the proper functioning of food commodity markets and their derivatives, and facilitate timely access to market information, in order to help limit extreme food price volatility

Ensure sustainable consumption and production patterns

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

Number of smallholder farmers serviced

3,670

Number of jobs created so far

09
The Challenge

Irrigation water controllers are typically unaffordable for small and marginal farmers, which means that they have to manually control water flow, often in the middle of the night when power is available, or employ a labourer to do so. This means that often they do not water their crops with the correct amount of water, thus lowering yields and reducing their income. Presently, there does not exist a precise and cost-effective controller that can keep a check on all these factors.

The Solution

Flybird has designed a low-cost irrigation controller that supports farmers in irrigating their farms with accurate quantity of water and thereby increasing the quantity and quality of the yield. The controller is sensor-based and offers a variety of options for control including time, volume and moisture levels. The controller helps in optimizing water usage and electricity, reduces the requirement of labour for irrigation purposes and decreases fungal spread. Centered around the farmer, it is also priced at a significantly lower cost than competitive offerings.

The Impact

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, help maintain ecosystems, strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and progressively improve land and soil quality

Ensure sustainable consumption and production patterns

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses
The Challenge

Agriculture accounts for 18% of India’s GDP and provides employment to more than 50% of the country’s workforce. However, according to the United Nations, 40% of food produced in India is wasted or lost. The annual value of these harvest and post-harvest losses of major agricultural produce at the national level is ₹926 million! The export sector of the country is seeing increasing rejection rates due to failure of meeting international quality standards. The quality and safety standards that are currently used are outdated and there is an urgent need for solutions to mitigate post harvest wastage and monitor quality.

The Solution

RAAV combines spectroscopy and AI to build portable, non-invasive and easy-to-use devices that can detect nutritional and adulteration parameters in agricultural, dairy and poultry products. This eliminates food wastage caused due to lack of quality standards and inefficient assessment methods. This also enhances transparency between buyers and sellers and empowers farmers, businesses and consumers by providing them the data and tool to make informed business decisions.

The Impact

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, help maintain ecosystems, strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and progressively improve land and soil quality

Ensure sustainable consumption and production patterns

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses
The Challenge

80% of India depends on groundwater for its agricultural, domestic and drinking water supply. There are more than 45 million wells and borewells extracting groundwater at an alarming rate. Also, rainwater replenishes the surface water but cannot sufficiently recharge deeper aquifers, thus leading to borewell failures. The socio-economic impact of this is wide-ranging and includes falling farm yields, higher irrigation costs, higher livelihood vulnerability and increased social tensions.

The Solution

Urdhvam creates awareness via a groundwater simulator, augments supply via their BoreCharger and manages demand through a groundwater usage mobile app and data platform (currently in the prototype stage). BoreCharger is a groundwater rejuvenation solution that works on existing borewells by undertaking lithological video inspection of a borewell and puncturing its casing at appropriate depths to allow water to flow from the unconfined aquifer system (which is recharged fast during the rains) to enter the confined aquifer system or the borewell water pool (which is otherwise naturally recharged by percolation over centuries). This leads to 4 to 20 times more recharge of rainwater in the borewell water pool every year.

The Impact

- Clean water and sanitation
  - By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.
  - Promote inclusive and sustainable economic growth, employment and decent work for all
  - Improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead
  - Ensure sustainable consumption and production patterns
  - By 2030, achieve the sustainable management and efficient use of natural resources

Number of borewell implementations done

100

Potential water recharge for one year by the implementations

400 cubic meters

Number of jobs created so far

18
The Challenge

In India, Odisha ranks 11th in egg production, 13th in meat production and 16th in milk production. Aside from agriculture, animal husbandry is the most important economic activity, but despite accommodating nearly 5% of the total bovine stock of India, its total contribution to Net State Domestic Product (NSDP) is insignificant. At the retail end, 97% of the meat is sold via unorganised, unhygienic markets. In fish markets, iced fish is sold without any proper cold storage. The entire supply chain, from farm-gate to consumption is broken, unorganised, prone to wastages and adulteration, thus being disadvantageous for both local producers and consumers.

The Solution

ZooFresh offers an integrated meat aggregation and distribution system to create one-stop meat shops in small towns and rural areas, keeping consumer preference of fresh meat in mind. The goal is to source chicken, seafood and allied products from leased farms and small-scale local farmers. The live produce is transported using India’s first IoT-enabled fish logistics system to source, transport and distribute live fish. Rural hubs (B2B) that are operated by local micro-entrepreneurs undertake the last mile delivery of products to remote communities, and retail outlets (B2C, hotels and catering outlets) catering to the urban consumers.

The Impact

End hunger, achieve food security and improved nutrition and promote sustainable agriculture

By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, help maintain ecosystems, strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and progressively improve land and soil quality

Ensure sustainable consumption and production patterns

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

Number of microentrepreneurs in network

303

Number of producer farmers worked with

106

Number of jobs created so far

14
Krimanshi provides affordable nutritive feed solutions for cattle to the small dairy farmers all around the year. It upcycles food waste (like crushed fruits and vegetables, fruit leaves, etc.) into low-cost nutritious cattle feed and fodder. It currently manufactures four products—silage, fodder, concentrate feeds and mineral mixes.

According to the United Nations Development Programme, the carbon footprint of 40% wasted food is estimated to be 3.3 billion tonnes! There is low productivity of dairy farmers due to limited availability and affordability of quality feed and fodder.

Krimanshi provides affordable nutritive feed solutions for cattle to the small dairy farmers all around the year. It upcycles food waste (like crushed fruits and vegetables, fruit leaves, etc.) into low-cost nutritious cattle feed and fodder. It currently manufactures four products—silage, fodder, concentrate feeds and mineral mixes.

Overview

The Challenge

40% of food wasted in India

The Solution

Reducing food wastage by upcycling it as cattle feed

The Impact

1,165 cattle farmers impacted

Livestock Supported: 3,990

Fruit and vegetable waste upcycled: 600 tonnes

CO₂ equivalent greenhouse emission avoided 1,140 tonnes

Full-time jobs created 10

Impact Report 2020
Incubation Journey

August 2018
Incubation Journey with Villgro begins
Received seed funding of ₹2.5 million
Inconsistent sales

March 2019
Rebranded to increase the sales of concentrated feeds in Rajasthan
Support from: Villgro Technical Assistance Programme

October 2019
Signed on a new R&D Mentor to improve the products
Support from: Villgro Mentor Program
Consistent sales

February 2019
Won ₹2 million grant funding through Yes Scale Accelerator Program
Support from: Villgro Portfolio Management

May 2019
Raised ₹10 million Follow-on Funding from Social Alpha
Support from: Villgro Portfolio Management

March 2020
Set-up pilot plant to manufacture and sell potentially cost-effective and nutritious digestive mixtures to B2B clients at Bangalore
Support from: Villgro Mentor Program

“Through our incubation journey with Villgro, we have seen an 11 times increase in our sales.”
Nikhil Bohra, Founder & CEO, Krimanshi
Impact

Zero Hunger

By 2030, double the agricultural productivity and incomes of small-scale food producers

Ensure sustainable consumption and production patterns

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

Impact on Stakeholders

Farmers: surveyed farmers*

had a 42% increase in their milk income per day per cow

and a 40% of surveyed farmers experienced reduced veterinary costs

Distributors: 100% reported no delays in product delivery

*The average annual income of the 15 surveyed farmers is ₹4.8 Lacs and they own an average of 1.2 acres of cultivation land.
Villgro | Education & Employability

Startups supported till date: 25

Funding deployed till date: ₹100 million
Students and teachers monitored 1,87,500

Students learning 13,651

Men and women serviced 2,735

Education

Aspirant & Performer
- Rajasthan, Uttar Pradesh, Bihar & Jharkhand

Achiever & Front Runner
- Maharashtra, Telangana, Karnataka & Tamil Nadu

Employability

- Gapoon
- Multibhashi
- bookmybai

The Complete Map of India
The Solution

Bookmybai’s service-based platform places domestic workers in ‘formal-lite’ workplaces, which provide enhanced wages, transparent job roles, and contractual agreements. It provides safe relocation to migrants, along with free travel, accommodation and food. For city-workers, it uses geo-tagging technology to ensure a job within one-kilometer radius of their homes and helps them with setting up a bank account etc. To ensure safety, a legal contract is signed with the employer stating the client job description, salary structure, leave structure, etc. to prevent any form of exploitation.

The Challenge

The domestic workers’ market in India is highly fragmented and largely unorganised with over 50 million of them mostly being women. Often lacking safety and being exploited by agents, they have little to no opportunity for upskilling and are often poorly paid. Across the country, their wages do not go beyond ₹5,000 a month, despite working six to seven days a week in a full-time job.
The Challenge

The maintenance service industry is one of the largest unorganised segments in India. The overall incremental human resource requirement in the industry is approximately 70 million. According to an NSDC survey, within the plumbing sector alone, manpower supply is currently only at 20%, with only 0.5% actually trained. A majority of maintenance jobs like plumbing, carpentry, masonry, appliance repair, etc. are often provided on a short-term basis without a proper demand to supply mapping and skill development trajectory. At the same time, there is a scarcity of service providers catering to the maintenance of infrastructure throughout its lifecycle.

The Solution

Gapoon enables a B2B shared economy marketplace by providing end-to-end infrastructure maintenance support to the property management companies. Their long-term partnerships with multiple clients offer a sustainable career-building opportunity to the blue-collar professionals. Gapoon’s proprietary algorithm and automated technology portal ‘GExPro Suite’, addresses multiple skill development requirements by matching jobs to the right skill set, thus maximizing earnings per professional.

The Impact

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

Promote inclusive and sustainable economic growth, employment and decent work for all

By 2030, achieve full and productive employment and decent work for all women and men, including young people and persons with disabilities, and equal pay for work of equal value

Number of vendor partners: 73

Number of jobs created: 08
The Solution

MadGuy Labs’ test preparation platform for multiple government exams has personalised courses in regional and vernacular languages. Content in English, Hindi, Kannada, Marathi and Telugu are currently sold through their mobile app and available on Android platforms. The platform can also be utilised by coaching centres and educators to provide online classes and allied services like tests, real time quizzes, etc. Registrants on the app can additionally interact directly with the teachers to clarify their queries.

The Challenge

With tests for government jobs being conducted online, options for students from rural backgrounds to study with in-person coaching institutes are minimal and not adequate to ensure their success in the exam. Moreover, those who have completed their education in vernacular languages struggle to put in that extra amount of time and effort to be at par with those who have benefited from the opportunities available in urban areas. There are 500+ government job exams but coaching options are only able to provide the courses for a few mainstream exams. There is also paucity of online content for regional level exams which are conducted in vernacular languages.

The Impact

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

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Number of courses purchased
1,083

Number of jobs created
12
The Solution

Multibhashi’s language learning platform enhances employability through multilingual upskilling in English language proficiency by focusing on blue and grey collar workers to enhance their wages and expand the boundaries of employability. It currently supports 13 Indian languages, and the training modules are customized to specific job roles and industries. Bilingual training ensures each learner can pick up a new language via native mode of instruction before graduating to monolingual learning. It offers self-paced learning that any learner can utilise in leisure hours, thereby, making this a more viable and affordable solution to the target segment.

The Challenge

India has seen 63.5 million new entrants to the workforce, where fluent English-speakers earn 34% more than those who have limited English skills. The major segment affected by this is that of the blue-collar profiles like hospitality frontline staff, cab drivers, security guards, etc. who work on a daily wage basis and cannot take a break to attend usually expensive classroom training as it impacts their daily earnings. Thus, in India, expanding business sectors like retail, hospitality and BPOs struggle to find employees skilled in communication.

The Impact

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By 2030, achieve full and productive employment and decent work for all women and men, including young people and persons with disabilities, and equal pay for work of equal value

Number of active users: 6,922
Number of jobs created: 11
The Challenge

India has over a million government schools and more than 60% of the 260 million school-going children are enrolled in these government schools. However, most of these students struggle to even read at the grade they are in. This has serious consequences impacting students’ ability to achieve learning objectives and undertake higher education. The main reasons for this are teacher absenteeism, student absenteeism and dropouts, mismanagement of mid-day meal, lack of mandatory facilities, low levels of student learning, etc. In order to set this right, the government needs to continuously monitor the functioning of schools, but that alone is a huge challenge when there are millions of schools spread across multiple districts and states in India.

The Solution

Promorph’s analytics tool EmpowerU has been successfully implemented across various schools. It performs daily real-time monitoring and evaluation from each of the thousands of schools in a district or state using mobile application enabled with geofencing. This works even in rural schools that lack internet connectivity. An analytical web dashboard provides instant analysis and data-driven decision-making support through key performance indicators.

The Impact

Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

By 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes

Number of students and teachers being monitored

1,87,500

Number of jobs created

04
Blackboard Radio app simulates real-life conversations via AI and feedback sessions with English language teachers. The children are given personalized grammar and pronunciation corrections, a diagnostic assessment as well as audio learning materials like podcasts, news and stories.

Overview

The Challenge

70% students cannot speak English of their grade level

In India today, only around 30% of school students are able to speak fluently in English and 70% cannot even speak up to their grade. This is more so for students in Tier 2 & 3 cities, for they do not know how to learn the language and whom to practice with.

The Solution

Using AI and NLP to educate students

Blackboard Radio app simulates real-life conversations via AI and feedback sessions with English language teachers. The children are given personalized grammar and pronunciation corrections, a diagnostic assessment as well as audio learning materials like podcasts, news and stories.

The Impact

1,00,000 minutes spoken on the app

Audio homework completed on app:

3,500+

minutes

Consistent users on app:

4,000

Podcasts played on app:

3,000+

minutes

Impact Report 2020
Incubation Journey

**April 2018**
Incubation Journey with Villgro begins

**May 2018**
Received seed funding of ₹2.5 million through Villgro’s INVENT programme

**October 2018**
Assigned a mentor to support with market strategy and investor connects
Support from: Villgro Mentor Program

**January 2019**
Began Akshaya Patra Pilot in Bangalore
Support from: Villgro Portfolio Management

**July 2019**
Received equity funding of ₹3.5 million from Villgro

**Aug 2019**
BBR Program released commercially and introduction to NLP expert made
Support from: Villgro Mentor Program

**October 2019**
Raised a total of ₹10.5 million in follow-on capital from Titan VC and an angel investor

“Villgro has helped us with concise planning and execution of short term goals and long term goals. By leveraging their Mentoring and Technical Assistance Programmes, we were able to develop a structure in the company, from documentation to business process creation.”

Vatsal Dusad, Co-Founder, BlackBoard Radio
**Impact**

4  
**Quality Education**

4.4  
By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

8  
**Decent Work and Economic Growth**

8.6  
Promote inclusive and sustainable economic growth, employment and decent work for all.

By 2020, substantially reduce the proportion of youth not in employment, education or training.

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**Impact on Stakeholders**

**Parents:** 100% of parents surveyed found a significant change in their child’s language capabilities.

60% of the parents would recommend the app to others.

**Students:** 100% of students spent more than 30 minutes daily on the app. All students surveyed would recommend the app to others.
Villgro | Health

Startups supported till date: 28

Funding deployed till date: ₹60 million
Portfolio (FY 19-20)

17,000 Women screened and monitored
5,54,975 People radio-diagnosed
7,577 Infants screened or monitored
10,000 People screened and diagnosed
97 Physically disabled people serviced

SDG INDIA INDEX

Aspirant & Performer
Rajasthan, Uttar Pradesh, Bihar, Maharashtra, Jharkhand, Gujarat, Himachal Pradesh, Assam, Nagaland, New Delhi, Haryana, Arunachal Pradesh, Meghalaya, Uttarakhand, Chandigarh, Jammu and Kashmir, Tripura, Odisha & Chhattisgarh

Achiever & Front runner
Tamil Nadu, Kerala, Karnataka, Andhra Pradesh, Telangana, West Bengal

Portfolio (FY 19-20)
Impact Report 2020 35
The Challenge

The radiologist to patient ratio in India is an abysmal 1:100,000! This either leads to delayed diagnosis or makes the patients travel for many days in order to get access to fast and high-quality diagnosis. Due to shortage of institutional posts, difference in salary structure between public and private hospitals, higher vacancies with private providers etc., a wide majority of radiologists work in private hospitals and imaging centers. Thus, rural and peri-urban India face an acute lack of radiologists.

The Solution

5C Network’s online portal brings together proficient radiologists in the country and along with cutting-edge technology, allows hospitals and diagnostic centres to upload scans directly to the expert panel in an efficient, accurate and consistent manner.

The Impact

<table>
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<tr>
<th></th>
<th>Good health and well-being</th>
<th>Provide access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all</th>
<th>Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks</th>
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Number of jobs created so far: 5,549,975

Number of medical reports generated: 28
The Solution

Adiuvo Diagnostics’ non-invasive and portable device detects presence of pathogen in skin and soft tissue infections within two minutes by using multi-wavelength fluorescence spectroscopy combined with advanced image processing and machine learning techniques. It also classifies the pathogen species and in future has the potential to quantify the level of pathogenic load on the wound and hence, is an effective diagnostic aid to doctors in prescribing the right medical treatment.

The Challenge

Approximately 7-10% of hospitalised patients in India are affected by Skin and Soft Tissue Infections (SSTI) and the problem is more severe in emergency care settings. In total there are 6,000 dermatologists in India, but only 1 in 10 of them join government hospitals. Thus, most of the patients who rush to public hospitals have to get treated by general physicians which results in improper diagnosis and wrong treatment protocols. Due to the lack of a method to quickly identify and differentiate the pathogen causing the infection at an early stage, generic antibiotics are prescribed which contribute to antibiotic resistance, rise of superbugs and increasing healthcare associated infections.

The Impact

3 Good health and well-being

3.8 Provide access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all
The Challenge

In India, one woman dies every 7.5 minutes due to cervical cancer. Our country alone accounts for one quarter of the global cervical cancer burden with 330 million women between the ages of 30 and 60 years being at risk of developing it. Most women, especially in rural settings, do not have access to state-of-the-art technology like advanced CT scans and are not screened regularly, thus putting them at a high risk. It is, therefore, extremely critical to improve accessibility and affordability of cancer diagnosis infrastructure.

The Solution

Aindra Systems’ device assists with screening and detection of cervical cancer among women at an affordable cost. It banks on the pap smear test, a method of cervical screening to detect potentially cancerous cells, and sends it to a pathologist to confirm findings. Through AI, the grunt work of looking at 80% normal samples is eliminated and the entire process takes less than a day’s time.

The Impact

- **Good health and well-being**: 3
  - Provide access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all: 3.8
- **Gender Equality and Empower All Women and Girls**: 5
  - Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences: 5.6

**Number of jobs created so far**: 2,100

**Number of samples processed**: 13
The Solution

Janitri has designed two devices to aid in labour monitoring and protocol adherence during intrapartum and postpartum period.

- Daksh - a mobile tablet based intelligent labour monitoring tool that allows the staff nurse to register and enter vital signs of pregnancy and generates alerts in case of complications, based on an in-built algorithm. The doctor (possibly at a remote location) can also view the live labour progress and guide the nurse.

- Keyar - an affordable, easy-to-use and portable labour monitoring device for continuous monitoring of fetal heart rate and uterine contraction during intrapartum period for low-resource healthcare settings.

The Challenge

In India, an estimated 44,000 women die annually due to preventable pregnancy-related causes. More than 80% of these child deliveries occur with the assistance of staff nurses in low-resource settings which lack skilled healthcare workers and medical devices. This leads to delay in decision-making or providing intervention in case of complications. Uterine contraction is one of the important parameters to track the labour progress but over 85% of the times, it gets monitored inaccurately or ignored and can lead to death. Thus, there is a need for affordable and accurate solutions designed for low-skilled healthcare workers which would help them in precise monitoring and decision-support during the intrapartum period.

The Impact

3 Good health and well-being

3.1 By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births

3.2 By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births

3.8 Provide access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all

5 Achieve Gender Equality and Empower All Women and Girls

5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences

Number of jobs created so far: 18
Number of pregnant women impacted: 14,922
The Challenge

India sees 6,300 new arm amputees annually. Currently available externally powered functional prosthetic hands are priced between ₹0.5 and ₹3 million which makes this product almost unaffordable for low income families. Body powered hands, however, are available at ₹8K – 20K but are complex and extremely uncomfortable to wear. A well-fitting, functional prosthesis can speed-up rehabilitation, but these days, incomplete or unsystematic training leads to improper and inefficient prosthetic usage and inefficiency. Product robustness and affordable pricing options are the dire needs of amputees.

The Solution

Monc Technologies’ Unified Myography (UMG) acquires two different physiological phenomena from a single superficial muscle group and only a single UMG electrode is enough to control the hand functionalities. This enhances prosthesis robustness and quality, while being highly affordable.

The Impact

| Number of jobs created so far | 04 |
| Number of user trials done | 06 |

3 Good Health and Well-being
- Provide access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all

8 Decent Work and Economic Growth
- By 2030, achieve full and productive employment and decent work for all women and men, including young people and persons with disabilities, and equal pay for work of equal value

10 Reduce Inequality
- By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status
The Challenge

In Bangalore, India, of the total wheelchairs in the market, only 10% are being used by 6.68 million disabled citizens. This raises questions on the demand itself and whether the existing wheelchairs are solving for the problems faced by the differently abled. An unsuitable wheelchair leads to postural issues, secondary deformities and several psychosomatic barriers. It also increases pain and pressure sores, being fatal for patients with serious spinal cord injuries. For outdoor mobility, wheelchair users use alternates like tri-cycles and tri-scooters but these often involve transfers from one device to another. Consequently, many of them are forced to stay in the confines of their home.

The Solution

Neomotion’s products are designed to provide comfort and improve mobility to wheelchair users in India.

- **NeoFly** - wheelchair designed for individual customization, correct posture, energy conservation, and compactness to enhance accessibility.
- **NeoBolt** - motor-powered clip-on that converts NeoFly into a safe, road-worthy vehicle. With a maximum speed of 25 kmph, it eliminates the need to transfer to another vehicle when going out and can be independently attached by the user within seconds.
- **NeoRider** - hand-powered clip-on to NeoFly that obviates the need for two devices at home.

The Impact

Good health and well-being

- Provide access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all
- Promote inclusive and sustainable economic growth, employment and decent work for all
- By 2030, achieve full and productive employment and decent work for all women and men, including young people and persons with disabilities, and equal pay for work of equal value
- Reduce inequality within and among countries
- By 2030, empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status

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Number of user trials: 13  
Number of NeoFly users: 21  
Number of jobs created so far: 39
The Challenge

The neonatal period (first 28 days of life) is the most vulnerable time for a child’s survival. The global average mortality rate in this stage is 18 deaths per 1,000 live births and for India it is 28 deaths per 1000 live births. Sepsis is responsible for 30-50% of neonatal mortality and is largely preventable with early diagnosis and rational antimicrobial therapy. Currently, the diagnosis is difficult because sepsis symptoms are non-specific. Blood culture, the current gold standard, has a long turnaround time and is an invasive technique. An efficient, non-invasive and accurate diagnostic device is not available in the market.

The Solution

Spotsense’ rapid, non-invasive and point-of-care multiple biomarker rapidly determines the level of systemic inflammation in a child. It can be utilized by healthcare professionals like nurses and midwives, without a pathology lab and tests for biomarkers for sepsis in neonatal saliva to calculate a normalised score for sepsis. This score is then used for evaluating improvement and disease progression in an infant.

The Impact

Good health and well-being

3

By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1,000 live births and under-5 mortality to at least as low as 25 per 1,000 live births

3.2

Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all

3.8

Number of infants screened

120

Number of jobs created so far

02
The Challenge

India has the largest number of diabetes patients in the world, with more than 30 million diagnosed cases currently. A larger percentage of the affected is of the younger generation, thus lowering their productivity. Diabetes can lead to Diabetic Peripheral Neuropathy (DPN) which is one of the root causes of the diabetic foot - which often leads to amputation and takes a heavy toll on the individual, the family and healthcare system. Conventional DPN screening devices in the market are expensive and need trained healthcare workers to operate them, making them inaccessible to large sections of the society.

The Solution

Yostra’s Point-of-care screening device ‘Neuro Touch’ tests patients for symptoms of DPN while ‘Kadam’ reduces the healing time of chronic wounds. Neuro Touch is transforming neuropathy diagnostics since it is a UNIFIED device, capable of performing all five required tests in one device. It is easy to operate, battery-operated, compact and portable, provides digitized data, and AI driven reports. Kadam is a path-breaking technology for treating chronic wounds. It Provides Portable Warm Oxygen Therapy (WOT), enabling faster healing of chronic wounds, and enables accessibility at the primary care level. Kadam is currently in the clinical validation phase.

The Impact

3 Good health and well-being
3.8 Provide access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all
3.d Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks
Villgro | Energy

Startups supported
till date: 27

Funding deployed till date:
₹70 million
Portfolio (FY 19–20)

The Complete Map of India

Aspirant & Performer States
Odisha, West Bengal & Telangana

Achiever & Front runner States
Bihar, Gujarat & Karnataka

Odisha, West Bengal & Telangana
Bihar, Karnataka, Gujarat

Impact Report 2020
Overview

The Challenge

25% perishable agriculture produce wasted

This wastage is due to lack of access to proper storage near the farm and unavailability of market price information. Most of the small farmers crash sell their produce at below par prices, thereby making agriculture an unsustainable means of livelihood.

The Solution

On-farm micro cold storage unit

CoolCrop’s customizable, solar powered, on-farm micro cold storage saves 20% energy over conventional cooling modules. A mobile app estimating the price of the produce for a given geography and time period, enables farmers to decide the optimum time within which to sell their produce, as well as determine the optimum conditions needed to store it in the cold storage unit.

The Impact

1,080 smallholder farmers impacted

Waste reduction achieved: 15MT per month

CO2 emissions saved because of waste reduction: 30MT

Farmer income increased: 30%

Energy usage serviced by clean (solar) energy: 15%

Electricity saved compared to competitor product(s): 20%
“Villgro’s portfolio management team encouraged us to conduct thorough market studies in various states. As an outcome, our customer base increased by more than 100% in merely 6 months.”

Niraj Marathe, Co-Founder, CoolCrop
**Impact**

2

Zero Hunger

2.3  
By 2030, double the agricultural productivity and incomes of small-scale food producers

7

Affordable and Clean Energy

7.1  
By 2030, ensure universal access to affordable, reliable and modern energy services,

12

Ensure sustainable consumption and production patterns

12.3  
By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

12.5  
By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse

**Impact on Stakeholders**

Farmers: 88% surveyed farmers found CC helpful in preventing their produce from getting damaged. 94% saw an immediate effect on their produce's quality after storing it in a CC storage unit.

FPOs: All of the FPOs found that their sustainability increased after using CC storage.
Our Enablers
If you are a funder in agribusiness, health, employability & renewable energy, we invite you to reach out to us at info@villgro.org so we can create large scale social impact together.