



2020  
THE YEAR THAT WAS









The word Dvara comes from the Sanskrit word '**dvarata**,' meaning 'entrance' or 'door.' A 'door' leads us towards possibilities and opportunities. For us at Dvara, this is about opening doors of opportunities to millions of individuals and enterprises by enabling access to financial services, thereby bringing about their financial well-being and helping them achieve their life goals.

Dvara is truly a unique organization with initiatives ranging from rural financial services, rural technology for better credit assessment, employing cutting-edge technology catering to urban newly banked financial requirements to policy research and advocacy. Since its inception, Dvara has had a significant impact on millions of lives. We aim to combine customer insights with the latest technology through our various initiatives, coupled with excellence in operations.

## MESSAGE FROM CHAIR & VICE-CHAIR



**Bindu Ananth,**  
Chair and Managing Trustee

*Jayakumar has been in the weaving business for over three decades and has been making sarees from a young age. As with other small businesses, the pandemic and the ensuing lockdown brought his business to a standstill. With no weddings, which used to be a major source of revenue for him, he was not able to generate any income, and whatever small orders came his way, he found it difficult to source raw materials to meet them.*

*Unfortunately, the story of Jaykumar isn't an isolated one. The plight of small businesses, migrant workers and everyday folks in dealing with what was an unprecedented year has brought into focus the distance that we have to go in creating an inclusive financial system that aids and protects households from hardships that can cripple their finances.*

*The year 2020 has been one of the most challenging and unprecedented years in our history. The year has been humbling in many ways, but it has also brought about opportunities accelerated by technology adoption and innovation in facilitating Covid-19 preparedness and response.*

In this report, we provide you with a glimpse of the journey that we have had in the year gone by.

One of the biggest challenges that people living in remote rural locations faced was access to liquidity. Dvara KGFS realised that the restriction on bank operations had an adverse impact on low-income households. To facilitate seamless withdrawals from their bank accounts, Dvara KGFS implemented an AePS Cash-Out facility at KGFS branches in record time which provided people like Jayakumar access to much-needed liquidity. The facility enabled people like him to tide over the lockdown period without having to travel far to withdraw cash, especially in the context of tighter restrictions on vehicular movement. During this time, Dvara KGFS also quickly built up its tech prowess, introduced digital products through KGFS Assist and supported disbursements and collections through the digital mode. This assumes significance as almost 90% of the branches are in deep rural areas with minimal digital adoption.

Another common problem in rural India that we find is highly fragmented land holdings and informal tenant farming practices, which have resulted in the low penetration of banking and insurance services and high indebtedness among the small and marginal farmers.

Dvara E-Registry, aiming to improve access to agricultural credit and crop insurance and offer timely advice to farmers, embarked on a pilot project in Odisha to use technology as an enabler to address the challenges farmers face. Leveraging Doordrishti, the



**Samir Shah,**  
Executive Vice-Chair & Group President  
& Managing Trustee

technology solution offered by Dvara E-Registry, the team has been working hard towards creating a platform for all stakeholders in the agricultural value chain by providing farm level analytics and actionable insights by harnessing the transformative power of artificial intelligence, remote sensing & emerging technologies at scale.

For gold as an asset, the Dvara SmartGold team were amazed at how customers continued to save using the micro-savings plan despite a loss in their earnings because of the lockdown. The team found that despite the challenges, gold remained a preferred investment option for middle and low-income households, and Dvara SmartGold has been diligently working towards creating a formal financial safety-net for households using an asset class that households intuitively understand.

In a bid to understand the impact of COVID-19 on the daily life of low-income households across India, a panel survey was conducted by the Social Protection Initiative at Dvara Research with 12 partner organisations to understand the coping strategies employed by low-income borrower households during the lockdown beginning in April 2020 to July 2020.

The magnitude of distress faced by these households and the coping strategies adopted by them to tide through these difficult times was overwhelming. It is also equally important to measure the level of access these groups have to essential services, cash and in-kind support provided by the Government.

The shift towards digital financial services has helped moved the needle forward on the financial inclusion of many low-income households and small firms with little or no access to traditional financial institutions. Covid-19, in a way, has only further accelerated the use of digital financial services and nudged both the provider and the end-customer towards adapting to a changed scenario. During the financial year, we have continuously strived to adapt and meet the challenges that the year has thrown up and are well prepared to accelerate on our plans for the future. As part of which we are committed to pioneering Dvara as India's first financial inclusion venture studio and are really excited about the possibilities ahead.

We would like to thank our Trustees for their wisdom and guidance and each of our stakeholders/partners who have walked with us in this journey. As we embark on a new financial year, we remain forever committed to serving our customers with innovative, customer-centric solutions that enable us to move forward on our mission to ensure that every individual and every enterprise has complete access to financial services.

Regards,  
**Bindu and Samir**



# The Dvara Venture Studio Model

India needs innovative solutions to the persistent challenges that are impacting today's society. This would mean the same problem needs to be looked at from a different lens and organizations and entrepreneurs need to come up with an out of the box thought process to design solutions for them. At Dvara we believe in working on solving problems from an innovative perspective and thus the Dvara business model is designed to reflect the same principles as a Venture Studio.

Dvara's Venture Studio serves as a partner to the entrepreneurs and provides them with the eco-system to build sustainable, scalable businesses right from ideation stage to a pre-seed or seed stage. As a startup-building machine, Dvara's Venture Studio (DVS) effectively combines the disruptiveness and agility of a startup with the stability of an experienced team and expert domain knowledge. The core value proposition of the Dvara model, is to focus on reduction in time it takes to build startups by significantly reducing the risk, at the same time attract more talent to ideate and innovate on new problem statements. It brings best of both the worlds in one model.

Dvara's studio provides a greater hands-on approach and a suite of early-stage services like a platform to launch the minimum viable product and achieving product-market fit in the closed environment of the Dvara's ecosystem giving entrepreneurs greater leeway to experiment.

“

It is uniquely positioned to increasingly enable entrepreneurship and encourage greater diversity in the startup eco-system in India.

”

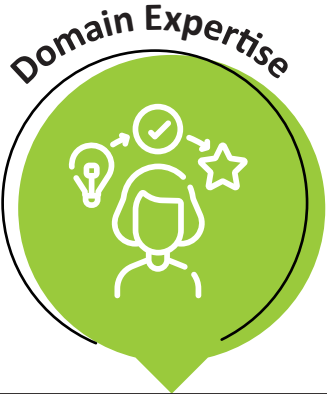


The studio also provides other services like Finance, HR, Tech so that founders can focus their complete time and energy towards building their business. The Dvara's Venture Studio Model is the next level evolution and is a natural progression towards building successful businesses. It is uniquely positioned to increasingly enable entrepreneurship and encourage greater diversity in the startup eco-system in India.

At the Venture studio we aim at building several startups in parallel or succession in the Financial Inclusion vertical. By holding majority stake in these startups, we predominantly bring the following value adds.



DVS provides the entrepreneurs with a valuable platform or infrastructure to launch their products and services, broad network of collaborators and early adopters for their product roll-out plan. Early adopters provide valuable feedback to better the product and in-turn achieve the product market fit.



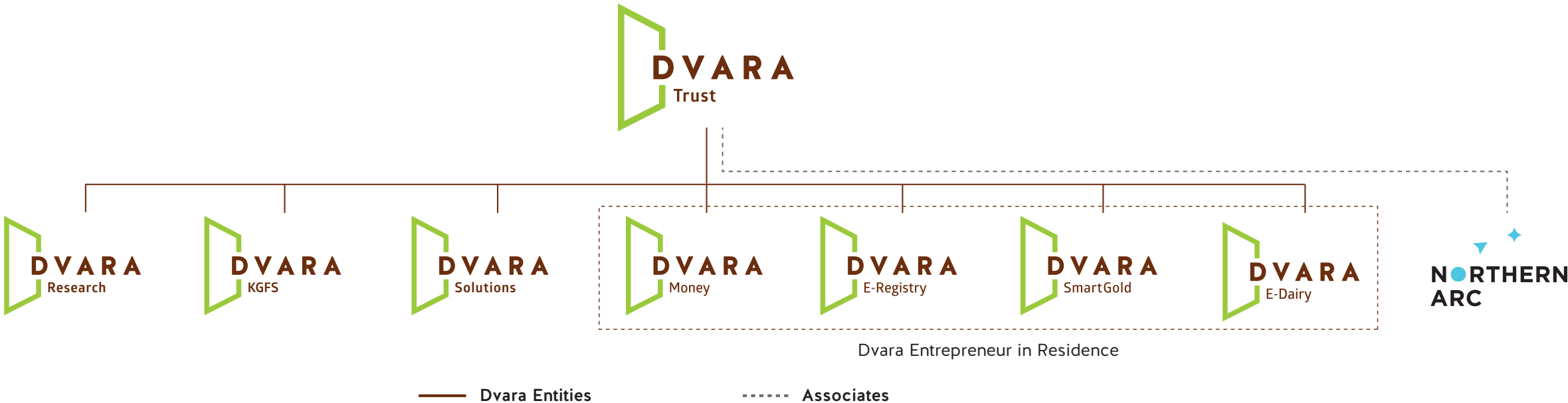
The impact of expert assistance at an early stage is invaluable. We provide with deep industry expertise in the relevant areas of work to the founders that helps them further in their product innovation journey and implementation on the ground.



At Dvara we take the burden of the early-stage hires, the finance functions, the compliance costs, and such other admin related efforts. We let the founders focus on their business, so they need not deal with any unwarranted distraction apart from launching the right products for the right problem statements.



From Dvara's Studio Fund we provide access to capital to multiple founders parallelly to be able to make their startup ideas into profitable ventures.





INR 1,150+  
Crores

received by promoted  
entities in follow  
on investments



10+

Impact and Strategic  
Investors backing  
our initiatives



65 Mn+  
Lives touched

10  
Live Initiatives



INR 750+  
Crores

in secondary sale  
generated for investors



1,00,000+  
Crores

of Finance Enabled to  
originators, households  
and enterprises





PAGE  
**18**

◀ SOCIAL STOCK  
EXCHANGE



PAGE  
**36**

◀ URBAN LOW-INCOME  
HOUSEHOLDS OF INDIA

# THE KEY THEMES OF 2020



PAGE  
**24**

◀ MICROFINANCE  
RECOVERY



PAGE  
**42**

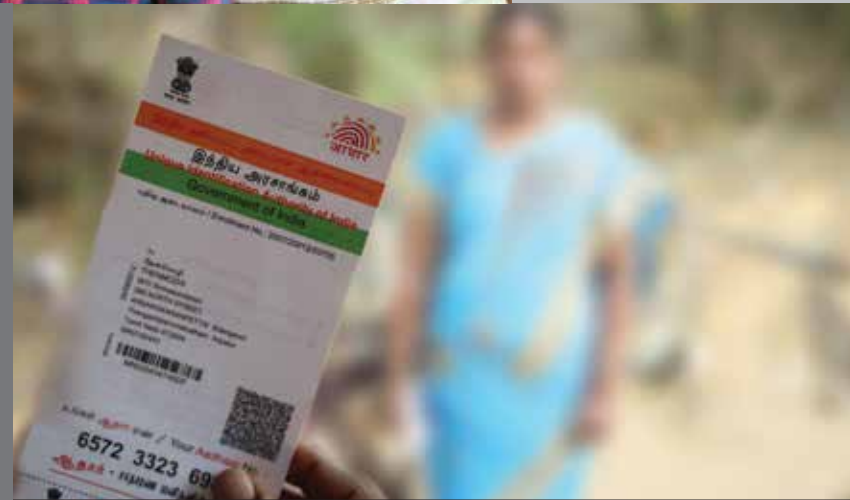
◀ FARMERS  
DILEMMA  
OF  
FRAGMENTED  
LAND  
HOLDINGS



PAGE  
**48**

◀ SAVINGS IN  
GOLD BY  
LOW-INCOME  
HOUSEHOLDS

PAGE  
**30**  
AADHAAR ENABLED ▶  
PAYMENT SYSTEM



PAGE  
**54** ▶  
SMALL  
HOLDER  
DAIRY  
FARMERS  
AND FINANCIAL  
INCLUSION



PAGE  
**59** ▶  
DIGITIZATION  
PAVES THE  
WAY FOR  
FINANCIAL  
INSTITUTIONS







“

I was able to secure a great yield from my crops and was also able to save up on precious time and money.

-Santhosh

”



# SOCIAL STOCK EXCHANGE



One of the main hurdles that non-profit organisations (NPOs) face in securing financing from a wide variety of sources is the lack of robust information about their activities. To mitigate this problem, the establishment of a Social Stock Exchange (SSE) will prompt all NPOs that access capital through it, to submit to a minimum reporting standard.

NPOs take a variety of legal forms. Among these, Section 8 companies are permitted to issue debt and equity, and these could be directly listed on the SSE, which will be housed within an existing exchange. For most other types of NPOs, the possibility of issuing securities in order to raise funds is greatly limited under current regulations. These limitations will be substantially removed by the SSE, because any NPO that conforms to the minimum reporting standard will now be able to directly list a very simple class of financial instruments.

These instruments will be called zero coupon zero principal (ZCZP) bonds. Here, the funders will be essentially making donations and receiving ZCZP bonds in return, and these will be donations because the ZCZP bonds will promise no financial return whatsoever. However, the ZCZP bonds will promise a social return by way of the beneficiary NPO's social impact, which funders care about. Therefore, the ZCZP bonds do carry risk but not the financial risk that conventional bonds carry.

“Section 8 companies are permitted to issue debt and equity, and these could be directly listed on the SSE, which will be housed within an existing exchange”



Accordingly, funders will be keen to channel funds only to credible and legitimate NPOs, which is the reason that the minimum reporting requirement is so crucial.

They do, however, represent an innovation over regular donations because by offering a route to direct listing on the SSE, they automatically come under the supervision of a highly competent regulator (i.e., SEBI) and this further bolsters the credibility and legitimacy of the NPOs that list such bonds (i.e., quite independently of the fact that listing also mandates a minimum reporting standard as discussed previously)

The SEBI Working Group envisions that NPOs that do the minimum reporting will also be able to raise capital via funding structures. The ZCZP bond is a funding instrument and not a structure. The essential difference is the presence of an intermediary in a funding structure.

These kinds of pay-for-success structures are already quite popular in the form of Social Impact Bonds or Development Impact Bonds. The key innovation here is that of the intermediary, who would enable the coming together of multiple parties of each of the three types – NPOs, outcome funders, risk capital funders. This would ensure maximum traction as far as reach and depth of impact is concerned.

The SSE is envisioned as the venue that will originate such funding structures. The intermediary could be organised as a Mutual Fund (MF), or a Social Venture Fund (SVF). The HDFC Cancer Fund is an already-existing instance of the clever use of a mutual fund structure to fund social impact. Similarly, SEBI's AIF guidelines do not prevent SVFs from being used as pay-for-success mechanisms (as described in the previous paragraph), and even encourage their use as simple grants-in, grants-out mechanisms. But, surprisingly, no NPO has so far benefitted from such SVF funding.

Dvara Research has always been doing what it does best: envisaging a strong financial system and a policy framework that allows multiple strategies and institutions. Response to COVID-19, Social Stock exchanges, Data Protection, and Priority Sector lending are just few of the themes which it has concentrated on over the past few months.

Indradeep Ghosh is Executive Director at Dvara Research and was a member of the drafting team the Working Group report on Social Stock Exchange.

Source: Social Stock Exchange: New Funding Avenues For Non-Profit Organisations - By Indradeep Ghosh

“

The SEBI Working Group envisions that NPOs that do the minimum reporting will also be able to raise capital via funding structures

”







“

.... and I'll not let our son compromise on his future for any reason whatsoever. My husband and I still have the will left in us to sit through long hours in the kitchen only because we know that we want to give our son a comfortable life. I have told my son that I will continue to work till the day he asks me to stop, until then I wouldn't stop for anything.”

-Kavita

”



## MICROFINANCE RECOVERY



*Debt* markets in India have witnessed a series of event-based shocks in recent years, and borrowers at the bottom of the pyramid are particularly vulnerable to such shocks. Northern Arc, an affiliate of Dvara Trust, has a large repository of loan data spanning over a decade, with around 200 live pools of securitizations, resulting in millions of repayment observations every month. This is anchored on Nimbus, an in-house technology platform. The data enable a dynamic understanding of credit behavior over time across geographies, originators, loan sizes, loan cycles, demographics, and credit bureau scores.

Historically it has been observed that although Microfinance loans do get impacted immediately post a crisis, collection efficiencies recover quickly, even where local geographies are severely affected. The volatility of collections gives an important insight into the process of recovery. Not all borrowers get affected equally and repayment behavior differs across clients, geographies and MFIs till it returns to normal levels.

Add this on this page on the side of the content. (not part of the article): MFIs now serve more than a 100 million borrowers, potentially the largest borrower base in the world. Microfinance portfolios have shown low delinquencies with steady-state collection efficiency around 99 percent.

While the post demonetization recovery across the country is an illustration of behavior post a nation-wide systemic shock, events like cyclone Fani, Kerala floods and most recently the COVID-19 pandemic also offer important insights. While these may seem like episodes of local crisis, for the borrowers operating in these areas the effect is devastating. Often their homes, livelihoods and lives get completely disrupted and they are required to start afresh. Data however consistently shows that over a period, they recover and start repaying their loans. Since they find it hard to pay multiple installments to become current, often improvement may not be visible in the PAR buckets. However, for all practical purposes these loans become current and eventually get repaid.



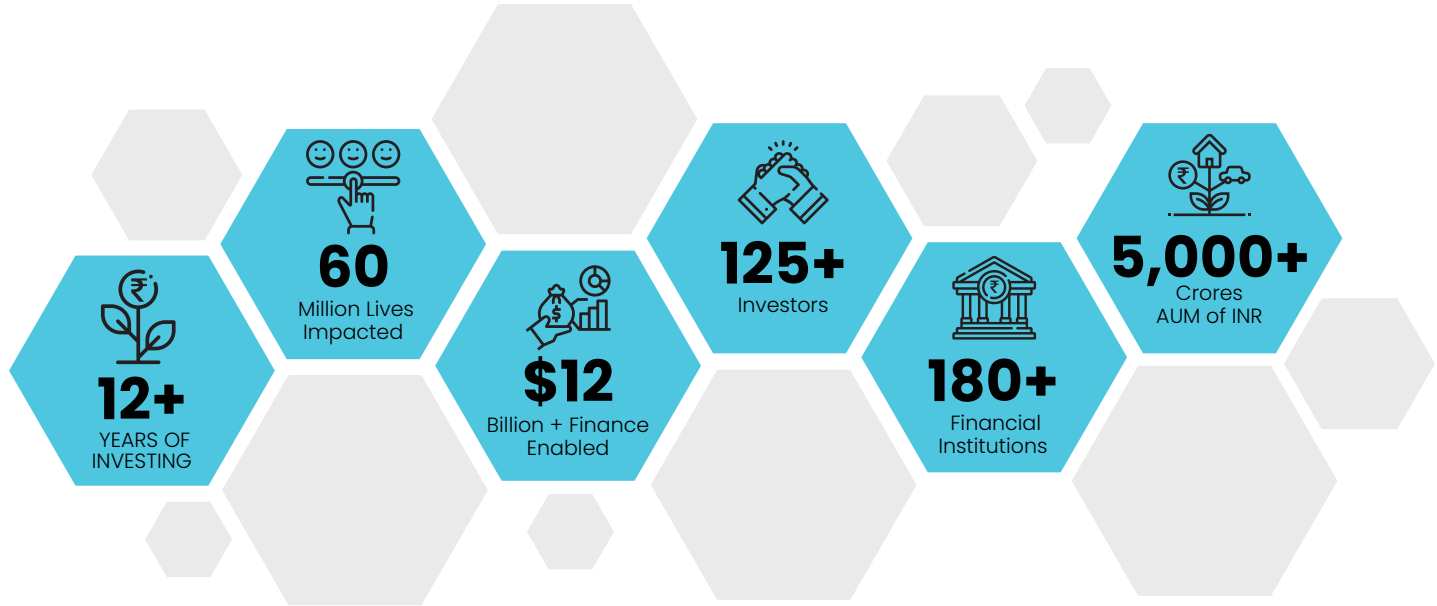
A survey of 322 microfinance borrowers across several Indian states, conducted by Dvara Research during the COVID-19 pandemic, found that 80% of households did not have any income-generating activity during lockdown, and close to 10% of households had to cut back on their regular consumption to manage their income. Similarly, a large-scale, nationally representative survey carried out by the Centre for Monitoring Indian Economy (CMIE) revealed that over 80% of Indian households across income groups reported income losses, with rural households more severely hit across the income distribution

However, despite our current bleak COVID-19 scenario, a CRISIL report shows that although the collections of microfinance institutions plunged to near Zero in the month of April, we have seen a rebound of 70-75 per cent in the month of July. The report further states that

the resumption of local economic activity was faster in rural and semi-urban areas in comparison to Urban.

Despite global headwinds, and the impact of COVID-19 impacting operations during the better part of the fourth quarter, Northern Arc has completed the financial year with volumes crossing INR 15,000 crores, well diversified across asset classes, investor categories and products. Northern Arc has engaged and continued to be extensively operative in carrying out its business throughout the Financial year 2019-20 in different sub verticals namely Micro Finance, Small Business Loans, Vehicle Financing, Corporate Finance, Affordable Housing Finance as well as Direct Origination and other verticals

Source:  
<https://www.northernarc.com/assets/uploads/pdf/Microfinance-Recovery-post-shocks-1589517074.pdf>



“ MFIs now serve more than a 100 million borrowers, potentially the largest borrower base in the world. Microfinance portfolios have shown low delinquencies with steady-state collection efficiency around 99 percent. ”





“

I was really surprised to hear that my loan amount got approved within three days and I received the money swiftly as well. Once again with God's grace, I was able to get back in track.

-Palani and Mrs. Palani.

”



## AADHAAR ENABLED PAYMENT SYSTEM



“ AePS is designed for consumers who do not possess smartphones or require assisted access to services. Debit/ATM cards can be swiped to populate details on Micro-ATMs, but details can be inputted manually. ”

The AePS system allows consumers with Aadhaar numbers to carry out financial transactions at Micro-ATMs through the Banking Correspondent (BC) of a bank. Using AePS, BC agents can enter the consumer's Aadhaar number in a Micro-ATM and authenticate the transaction using the consumer's biometric data. AePS is designed for consumers who do not possess smartphones or require assisted access to services. Debit/ATM cards can be swiped to populate details on Micro-ATMs, but details can be inputted manually. This means even customers who do not physically possess their debit cards can in theory undertake a transaction, as long as they have an Aadhaar-seeded bank account.

The Aadhaar enabled Payment System (AePS) has witnessed a surge in transactions during India's COVID-19-induced lockdown. Many providers have pivoted to use of this system as bank branches experienced service disruptions in the early weeks of the lockdown, limiting the cash-out points in India. This coincided with a huge demand for cash withdrawals by vulnerable citizens in response to the announcement of cash transfer schemes by Central and State governments. Many migrants who are part of the mass exodus away from affected cities also have heightened reliance on wayside shops and agents using MicroATMs to access cash.

Worryingly, the rise in AePS transactions has been accompanied by reports of a spike in transaction failure



rates. This has serious consequences for consumers who desperately need to access and remit cash to stay afloat in the crisis.

## AePS transactions in India's COVID-19-related lockdown

Cash withdrawal from bank accounts is an essential financial service in a crisis, especially for low-income informal sector workers whose lives have been thrown into uncertainty in the Covid-19 pandemic. In this context, the Aadhaar enabled Payment System (AePS) has emerged as a key cash-out infrastructure for providers and consumers. This is reflected in the dramatic increase in AePS transactions volumes in April 2020.

Several factors have necessitated a pivot to reliance on AePS infrastructure, especially for financial institutions serving low income consumers. Following the announcement of the nationwide lockdown on 24 March 2020:

- Banking services were immediately affected with several branches closing and working hours shortened due to various operational difficulties
- An estimated 400m workers in the informal economy, many of whom are daily wagers who suffered severe setbacks to their livelihoods and needed access to their cash
- Central and State Governments announced cash transfer schemes to support the most vulnerable individuals, creating huge demand for withdrawals by those trying to access cash transfers
- Migrant workers have suffered gravely, with many joining the mass exodus on foot from affected cities back to their hometowns on foot.

For many who may have their banking and ID documentation in their hometowns, the reliance on the AePS has been heightened.

Looking at this challenge, Dvara KGFS initiated AePS and rolled it out from 19th April 2020 to benefit their rural customers. This service was also made available at the

“

an estimated 400m workers in the informal economy, many of whom are daily wagers who suffered severe setbacks to their livelihoods and needed access to their cash ”

doorstep of customers as the government was transferring wages under the MNREGA scheme and COVID relief packages directly to the Jan Dhan account of rural women. Started as a pilot in one branch on 19th April in partnership with RBL Bank, it has now facilitated over 2.8 lakh transactions with a cumulative cash out of almost INR 79 Crores.

Dvara KGFS also introduced digital products through KGFS Assist and now supports disbursements and collections through the digital mode. This assumes significance as almost 90% of the branches are in deep rural areas with minimal digital adoption. The response to these initiatives has been quite overwhelming with digital medium (AEPS, UPI or NEFT) contributing almost 6% of the entire collections within a quarter of its launch.

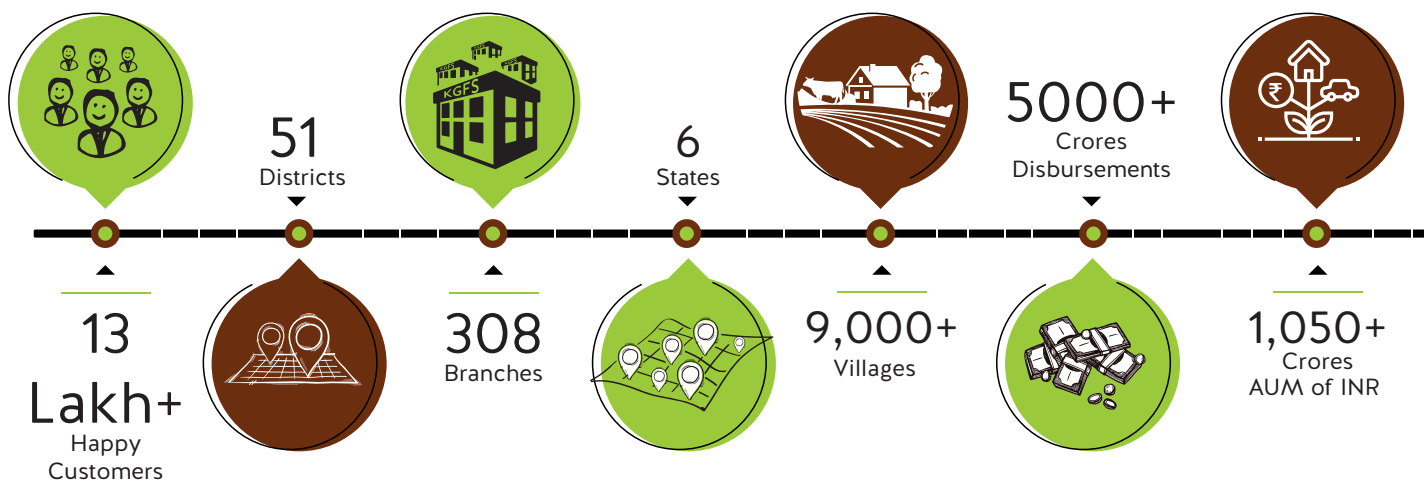
With its growing adoption rate, KGFS aims to increase this share to 25% by this financial year and move towards 100% in the coming years.

With the rural economy stabilizing, Dvara KGFS is confident of the recovery in disbursement volumes and asset quality. The collection efficiency has crossed 75% and is growing every single day. Even its Wealth Management initiative (Dvara Sampoorna Sampath Plan) has converted over 14,000 customers growing at over 30%-35% every month.

Source:

<https://www.dvara.com/research/wp-content/uploads/2020/05/Transaction-failure-rates-in-the-Aadhaar-enabled-Payment-System-Urgent-issues-for-consideration-and-proposed-solutions.pdf>









“

After all those years of suffering, we have finally found our stable ground. Dvara KGFS helped us stand tall, at a time when we thought everyone had given up on us and we are grateful for that.”

-Nirmala

”



A man with dark hair and a light beard, wearing a light green button-down shirt and blue jeans, is sitting in the driver's seat of a yellow and green auto-rickshaw. He is looking towards the camera with a slight smile. The rickshaw is open-sided, and a red and blue jacket is hanging on the back seat. The background is slightly blurred, showing an urban setting.

## URBAN LOW-INCOME HOUSEHOLDS OF INDIA

“

As of 2011, 14% of the urban population lived below the poverty line of Rs.860 per capita per month<sup>1</sup>, the numbers are a staggering 80 million people.

”

One of the many signs of a country's development are the changes in the urban-rural population distribution. Nowhere is it truer than in India, where rural to urban migration brought millions of people to the hundreds of cities of the country in search of economic opportunities that were absent in rural areas, in search of an improved lifestyle, education avenues and many social or economic reasons.

Industrial clusters around the peripheries of urban areas also attracted skilled, semi-skilled individuals to them. Rapid urbanisation i.e. urban population increasing at a faster rate than the total population led to massive strides in economic growth of the country, at the same time contributing to disparities within cities. As of 2011, 14% of the urban population lived below the poverty line of Rs.860 per capita per month<sup>1</sup>, the numbers are a staggering 80 million people. Thus, one need only imagine the millions of others who have been excluded from the below the poverty line but are still living at the margin and above. Urban poverty poses the problems of housing and shelter, water, sanitation, health, education, social security and livelihoods along with special needs of vulnerable groups like women, children and aged people.

As one moves upwards in the income pyramid, a segment of individuals commonly referred to as the 'aspirers' and the 'next billion'<sup>ii</sup>, those with an approximate income of up to Rupees Five lakhs of household annual income. These households are typically engaged in the informal



sector, the ubiquitous gig economy in Tier 1 cities and semi-permanent jobs, which result in a constant threat of job loss, eviction, and an almost absent social security cover.

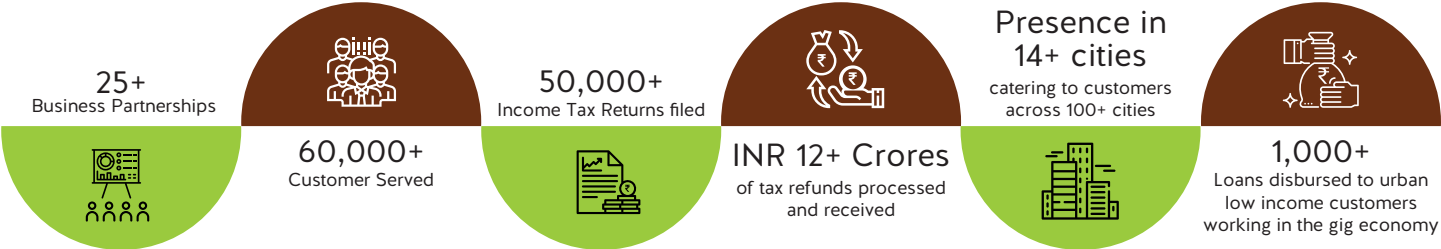
Irregular and delayed income and absence of contextual, relevant solutions leaves the households with few formal finance tools to smoothen consumption over the long term. There is deep distrust of banks and traditional financial institutions owing to the hitherto alienation from these entities. Challenges take the forms of language barriers, lack of understanding of the intricacies of financial products, incomplete documentation due to limited literacy, semi-permanent houses, or migration. As a path for wading through these problems, this segment relies on their communities. Communities are often formed through a common place of origin or a common occupation. Influencers play a key role in decision making for individuals – a social proof of sorts. It also results in

non-optimal financial products such as borrowing from a moneylender or forgoing a very much needed insurance purchase. The alienation from traditional financial providers also excluded many from the urban low-income household from digitising their presence, further leading to less than ideal terms of bargain.

The assets of such typical urban low-income household are only a few household durables, a couple of thousand rupees in either cash or receivable from someone they had lent it to, a gram or two of gold in the form of jewellery and human capital in the form of the next generation’s education, if at all.

There were 286 million low-income households in Indian cities in 2009. This number is expected to increase to 575 million by 2030<sup>iii</sup>. The needs of this segment are now being gradually addressed by the new age FSPs as well the changing gears of the

“ There were 286 million low-income households in Indian cities in 2009. This number is expected to increase to 575 million by 2030<sup>iii</sup> ”





traditional FSPs. The markets are now responding to the overwhelming demand for relevant and comprehensive solutions, that meet their challenging yet unique financial needs.

Dvara Money's vision is to be the trusted partner for financial wellness of gig economy workers and urban low-income users (who combinedly make the Urban Bharat) to secure assets, save for future and overcome any emergency fund requirement by removing fear and friction in traditional financial services.

Urban Bharat includes over 140 million migrant workers, who predominantly work in the unorganized sector, are rural poor looking out for seasonal employment opportunities, some of whom are part of the impending gig economy revolution. Through Spark, the technology engine of Dvara Money, Dvara Money has been able to reach a total of 13k users via its partner network and positively impacts thousands of users monthly. The solution comprehensively evaluates the user's profile to offer them suitable and timely financial solutions including product offerings like digital gold, mutual funds, and insurance options for users to select all in a way which is suitable and consumable for them.

**Source:**

- i. Poverty Line is based on the Tendulkar Committee
- ii. From a BCG report <https://www.bcg.com/publications/2017/marketing-sales-globalization-new-indian-changing-consumer>
- iii. Report: India Urban Poverty Report (2009), Ministry of Housing and Urban Poverty Alleviation, Govt of India







“

This was the first time someone other than a moneylender had given me money, the first time I got a formal loan. It took me some time to understand that there was an alternate to the moneylender, someone who can lend to me. When the loan amount finally came through, I felt as happy as I did on the birth of my son. I am also pleased with the crop advice that I get on my mobile....

- Narayan

”



## FARMERS DILEMMA OF FRAGMENTED LAND HOLDINGS



“

According to the 70th round of the NSSO Report, the number of tenanted holdings in Odisha increased by 16.9 percent between 2003 to 2013; the growth rate across India was 10.4 percent.

”

*The* onset and proliferation of mechanisation in agriculture reduces the per unit costs of large farm holdings and endows large farmers with competitive advantages. Large farmers access and leverage irrigation, machinery, technology intensive farming methods, credit and insurance more easily than most small farmers. The latter continue to rely on monsoons and ground water, labour intensive agricultural practices, informal, scarce and expensive credit and at best, minimal insurance. Small and marginal farmers are thus more vulnerable to health, labour market, pests, productivity and weather-related risks.

There are various farm level as well as systemic problems that exist for agriculture in India. At a farm and farmer level, decisions around sowing, purchasing Agri-inputs, and access to crucial information pertaining to best agronomic practices, weather and market prices are some of the hurdles faced by farmers. At a systemic level, limited access to credit, insurance, storage facilities and markets are all serious impediments to agriculture being a profitable business in India.

Dvara E-Registry believes that the use of cost-effective technology including mobile apps in local languages, satellite imaging, artificial intelligence, and machine learning will help in improving agricultural productivity in India and the quality of living of the nation's small and marginal farmers. Public-private partnerships in which



the central, state and local governments, research institutes and think tanks, financial service providers, technology and telecom companies, farmers and intermediaries that link all stakeholders need to work in tandem to achieve the ambitious goals of revitalising Indian agriculture and boosting farmer incomes.

With this vision, Dvara-Registry embarked upon its journey in a state with one of the lowest household agricultural incomes in the country- Odisha.

Leasing farmland is quite common in rural India and the practice of tenant farming is getting more entrenched in Odisha and the rest of India. According to the 70th round of the NSSO Report, the number of tenanted holdings in Odisha increased by 16.9 percent between 2003 to 2013; the growth rate across India was 10.4 percent.

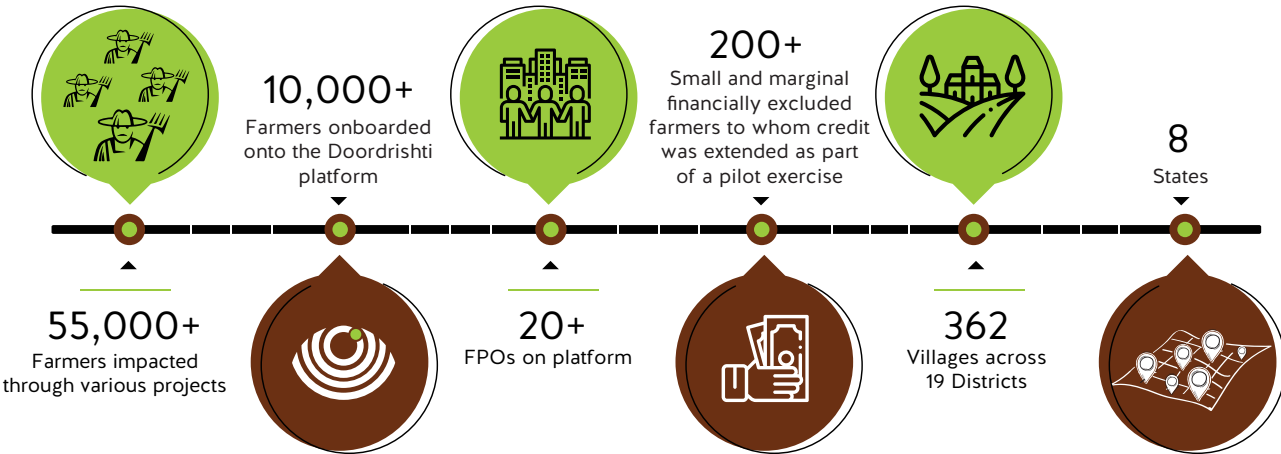
Most of the tenant farming in India is completely informal. Tenant farmers have no proof of tenancy making it difficult for bankers and insurance providers to source reliable information such as land and crop records. The absence of robust information and inability to monitor the progress of a crop through a sowing season renders it difficult for tenant farmers to access farm credit, insurance and advisory services.

There is a vital need to improve access to agricultural credit and crop insurance and as well as financial advice to farmers.

An average Odisha farmer is often identified by the unfortunate tag of ‘perennial debtor’. The quality of living of an average farmer in Odisha is worse than that of farmers in the rest of the country due to their low earning power, exploitative private (informal) credit mechanisms, high personal indebtedness to meet social and consumption needs, and climate-change induced calamities

Dvara E-Registry’s pilot in Odisha demonstrates how multiple agencies may function cohesively to improve the lives of farmer-partners and has potential to ameliorate agricultural productivity. The company aims to scale its model across other districts in Odisha and across the rest of India to achieve similar outcome.

With the adoption of Doordrishti, Dvara E-Registry aims to enable the actual cultivators of land i.e. tenant-farmers to avail of formal, cost-effective crop loans, the appropriate insurance cover for the lands they till and the crops they sow, and professional and customised advice based on the images farmer partners upload.





The initial launch of Doordrishti created ripples in the Indian Agri-landscape and impacted the Agri financing and FPO supply chain. Till date, DER has enabled access to agricultural loans for 60 farmers using it’s remote sensing and ML based model. For some of these farmers, this was the first time they had availed an institutional loan. The Chairman of Vector Finance, Rahul Johri, spoke of how Doordrishti and Khetscore added immense value in assessing creditworthiness and monitoring Agri-portfolios. This has helped them further their goal of financial inclusion for small and marginal farmers, tenant farmers and sharecroppers.

The FPO platform now supports close to 8,000 farming households and more than 12,000 famers across eight states of India. This includes two all women FPOs as well as two tribal FPOs.

The FPO platform, in addition to facilitating financial linkages, assists farmers and FPOs access a range of other services such as crop advisory, weather updates, price information, crop analytics to increase visibility on crop health status, market linkages (spot and futures), warehouse facilities, inventory management for FPOs and much more. One of the biggest advantages of employing a transfer learning ML model is its adaptability to different states and crops with just small customisations.

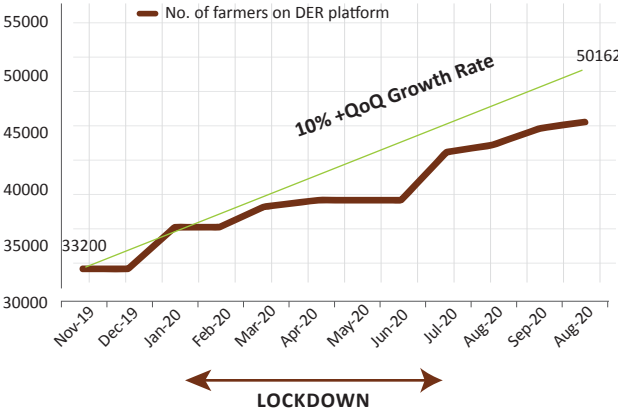
The landmark agri-bills tabled at the parliament promises a strong foundation, and a step towards offering new and innovating models of operation to the erstwhile deprived and heavily regulated agricultural sector in India while ensuring that all players are compensated fairly. The weakest link in this chain continues to be the farmer and Dvara E-Registry aims to continue empowering the grassroot organizations like FPOs to ensure that this symbiotic relationship forms an integral part of the impending agricultural revolution through adequate supply of technology, research, data and business partnerships.

Source: <https://www.dvaraeregistry.com/assets/PDFfiles/Sitaram%20Rao%20Case%20Study.pdf>

The growth rate of various components in the agricultural sector in Odisha (in %)								
Economic Activity		Growth over previous years						
Period	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Agriculture, Forestry and Fishing	15.85	-4.16	7.84	-12.73	19.84	-8.15	8.42	7.61
Crops	23.42	-9.17	10.11	-22.19	23.14	-17.53	9.11	2.93
Livestock	2.12	9.64	-3.6	4.83	3.15	7.39	14.26	20.68
Forestry and Logging	-3.45	9.34	5.69	5.75	21.79	0.49	1.34	7.64
Fishing and Aquaculture	12.44	-1.68	13.52	10.58	21.93	17.08	8.72	12.08

Source: Directorate of Economics & Statistics (DES), Odisha

Farmers catered to through the Financial Services and Value Chain Division







“

Once an elderly customer was in the middle of his lunch when I reached his house to collect his monthly repayment dues. He washed his hands off immediately, got up and went inside his home. I felt very guilty for having disturbed him during his lunchtime. I was about to leave. But he came out after a few minutes with his dues. I apologized profusely. He just replied saying- ‘You are a good child. It’s your job, and I don’t want you to be delayed in any way because of me.’ I keep thinking about that episode a lot in my head as it taught me that at the end of the day, it is our understanding of each other and our lives that counts. When we love and respect the people around us, that’s exactly what we receive in return too.

”





## SAVINGS IN GOLD BY LOW-INCOME HOUSEHOLDS

“

63% of the respondents of a recent research report agreed that “I trust gold more than the currency of the country” and 73% approving that “Gold makes me feel secure for the long term”.

”

*For* decades and centuries, gold has always been synonymous with currency. Gold has been considered a smart investment with 63% of the respondents of a recent research report agreed that “I trust gold more than the currency of the country” and 73% approving that “Gold makes me feel secure for the long term”. Amongst all asset classes, it seems to be the only instrument for protecting the savings of a household from inflation.

Investment in gold by Indian households is motivated by social, economic, and cultural factors. One out of every ten households buy gold annually or more frequently; usually in the form of jewellery, followed by coins and bars and an average Indian household allocates 11% of their wealth in gold bullion. Jewellery makes up the second largest portion of the household asset portfolio at around 31 per cent, with a household having jewellery worth ₹1,65,000 on an average. However, over time the entire system has been tilted to favour the jeweller. High making charges, low quality, unregulated chit funds, inefficient buy quantities, associated storage costs have impacted interest in this asset class.

Gold is used both as a savings instrument and as a collateral against borrowing in India and in South Asia. Households that have accumulated gold over several years tend to use it to borrow gold backed loans which can be quick and expensive but with comparatively better terms of contract than non-institutional credit. As a



financial instrument, gold remains to be a preferred form of investment because it serves as a protection against cashflow volatility, and hedge against inflation due to historically increasing prices.

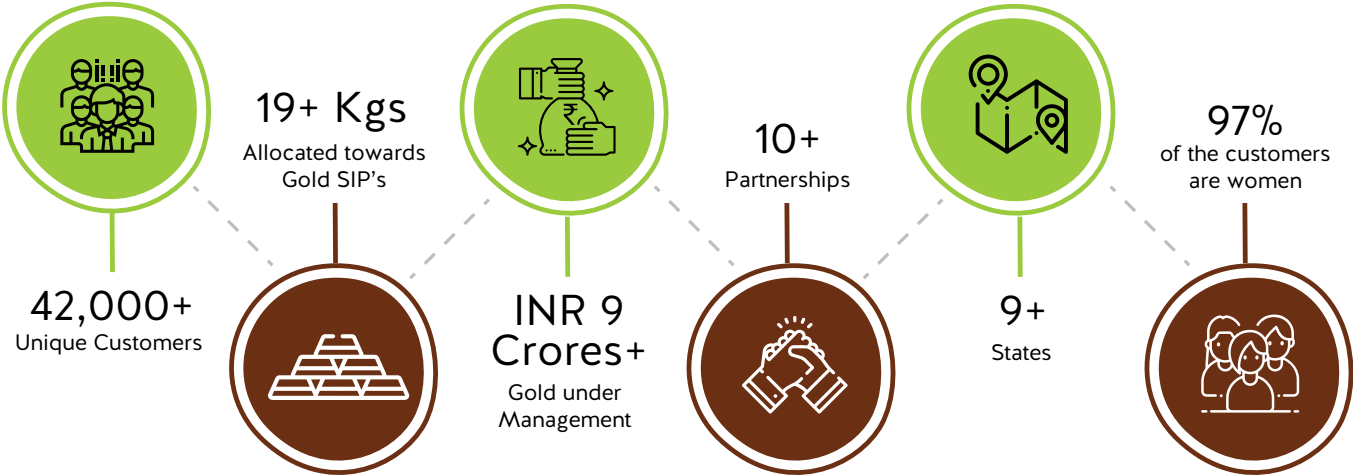
In a collaborative webinar jointly conducted by Dvara Research and Mann Deshi Mahila Bank, there were several insights shared on the influence of gold as an asset on customers and more so with women customers. Among Indian households, the ownership of the asset in the form of jewellery is typical with the woman creating a personal safety net for her and her family as well as establishing a sense of ownership, status and dignity within the family and society.

The webinar also shed light on the recent Covid-19 lockdown. Studies showed that women were using gold to meet immediate financial requirements in this state of emergency. For instance, during April-June 2020, rural credit markets were almost unavailable due to the government-imposed lockdown. During this period, farmers were facing severe problems as they were neither able to sell their harvest nor were, they able to sow seeds for the next crop season as they couldn't avail new loans.

In this situation, it was found that the women of the household stepped in to help ease the financial burden by -a) mortgaging their gold to buy seeds and b) pledging their gold to buy livestock, as the prices had dipped in the livestock market during the pandemic. This clearly illustrated the multiple roles that gold plays in the life of low-income households. It holds immense ornamental value as well as serves as a lifeline during emergencies or unplanned events like drought, lack of cattle fodder or market inefficiencies. With the steady increase in gold price, customers also see value in this asset, particularly for mortgage and resale value. It is highly liquid, no one's liability, carries no credit risk, and is scarce, historically preserving its value over time.

Another aspect of gold that was discussed during the webinar was the use of gold to enhance diversification of a household's financial portfolio. Along with ownership of physical asset like a house or land, investment in gold is often used an instrument for quick capital and liquidity for all commercial and personal purposes.

In the basket of financial products available and accessible to low-income households in India, there is scope for product innovation at the intersection of savings and gold investment.





“

Jewellery makes up the second largest portion of the household asset portfolio at around 31 per cent, with a household having jewellery worth ₹1,65,000 on an average. ”

#### Gold can enhance a portfolio in four ways:

- Generate long-term returns
- Act as a diversifier and mitigate losses in times of market stress
- Provide liquidity with no credit risk
- Improve overall portfolio performance

A solution in the form of a micro savings product targeted towards the lower- and middle-income household is imperative to enable systematic savings through this familiar asset class with the objective of creating a financial safety net by curating a range of gold linked micro savings product.

Dvara SmartGold offers a gold-based micro-savings product offered to help low- and middle-income households, and particularly women, to financially plan for their short, medium- and long-term goals while simultaneously capitalizing their preference for gold. This digital gold savings product facilitates the financialization of investment in gold that the government has been trying to achieve through various own policies like the Gold Monetization Scheme. It provides customers enough

flexibility as per their convenience and guarantees them immediate liquidity in times of need or any unexpected emergencies.

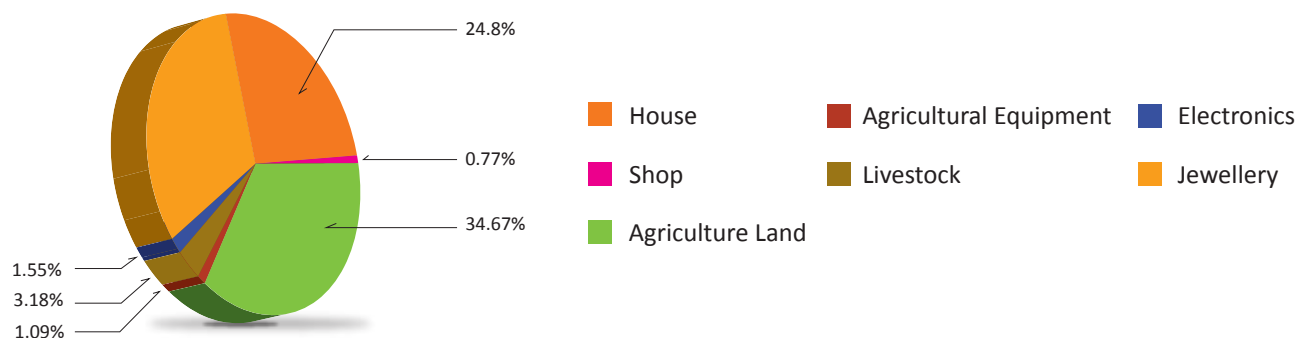
Dvara Smart Gold has been steadily investing on its technology and customer experience modules to provide access to financial services and a financial safety net to its customers. In addition to introducing jewellery partners to help customers obtain physical delivery of gold, the team is working on an instant loan against gold feature. It also plans on extending other associated products which would allow users to harness the power of gold to obtain value added services and make payments within its ecosystem. Dvara Smart Gold has set an ambitious target of positively impacting at least 1.5 Crore people (1% of Indian population) within the next 5 years.

To know more, please read our research brief on Savings in Gold by Low-income Households here.

Source:

<https://www.dvara.com/research/wp-content/uploads/2020/05/Savings-in-Gold-by-Low-Income-Households.pdf>

Share of each asset class in Household Asset Portfolio







“

A mechanic shop was a natural extension to turn my passion into a viable business. While I had started with a few savings, it wasn't enough to take things off the ground. Which is when I approached Dvara KGFS to help me financially plan for my business.

-Gopal

”



# SMALL HOLDER DAIRY FARMERS AND FINANCIAL INCLUSION



India ranks #1 in cattle population and milk production globally and is undoubtedly an important component of India's rural economy. Dairy provides a primary source of income for 70 million rural households in India with more than 60% of families involved in dairying belonging to the small and marginal farming sector.

Currently, infrastructure for raising livestock is neither adequately developed nor tailored to local conditions. To develop the sector, improvements are necessary in veterinary care, transportation, storage facilities and farmers' education. The penetration of primary and preventive care requires customised, cattle specific recommendations. Though the penetration of veterinary services has improved there still exists a shortage of qualified veterinarians and often it requires in-person visit to the farmer's place or a farmer is required to take the cattle to the veterinary dispensary which requires time and money.

The penetration of financial services for small-medium dairy farmers is very low and the options available are inadequate to meet the farmers requirements. There are several risks associated with Dairy farming such as: Disease, veterinary costs, purchase of cattle, shortage of fodder, low produce, market risks, market information,

“

Dairy provides a primary source of income for 70 million rural households in India with more than 60% of families involved in dairying belonging to the small and marginal farming sector. ”



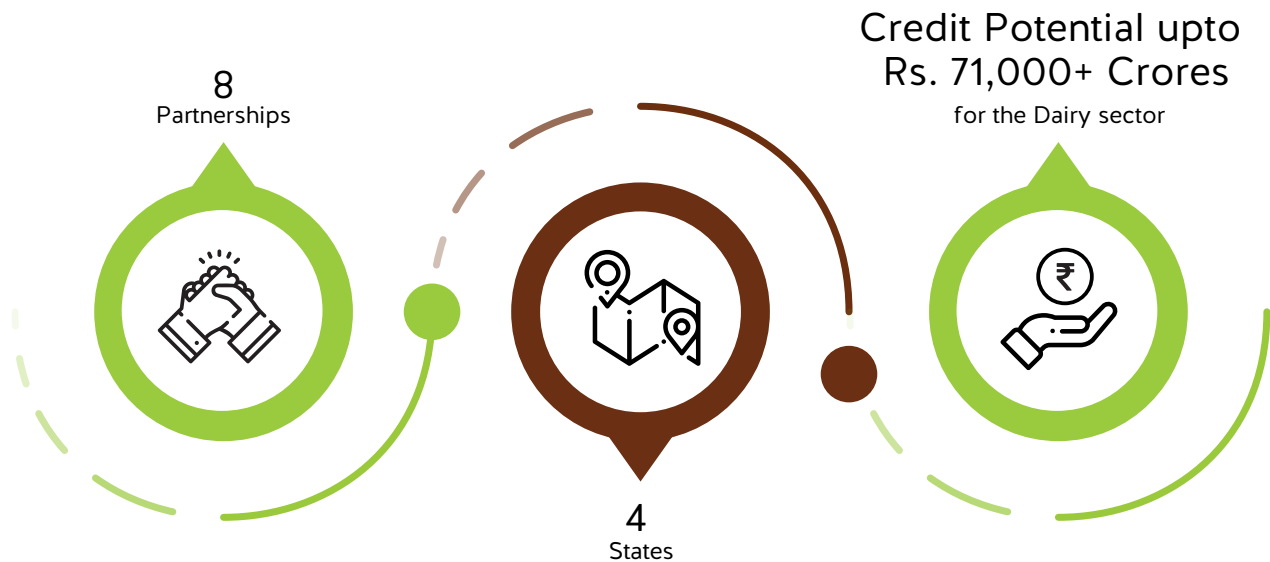
livestock know-how etc. Most farmers are not yet familiar with the concepts of livestock risk management and insurance.

Since the price per litre of milk is inelastic to a small dairy farmer, the options available for the dairy farmer to improve profitability are, increase milk production, reduce cost of operations & treatment, and reduce inter-calving period.

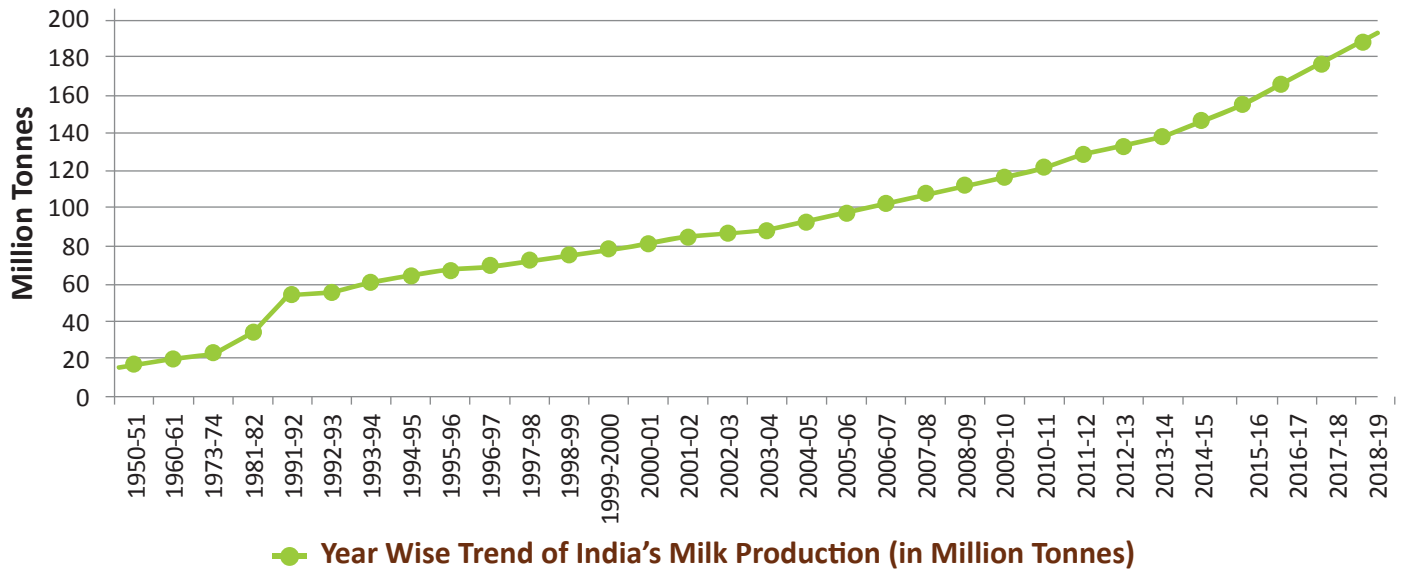
Farm-level credit for livestock production for small-medium dairy farmers comes from traditional lenders. Making institutional credit available and accessible to small farmers is imperative. Developing expertise at last mile to assess cattle is not the core strength of Financial institutions. There is assumed “cross

dependency” between lending institutions and insurers. However, partners work in silos with assumed expectations that are not verified.

Dvara E-Dairy has identified key problems of financial institutions and small & medium dairy farmers. The entity has developed innovative solution to address these problems by leveraging new age technologies (machine learning, artificial intelligence and internet of things) to empower every small and medium dairy farmer in India with suitable financial and cattle management solutions. The entity has partnered with large financial institutions (lending and insurance) and the pilot is progressing well. Dvara E-Dairy believe that the innovative solution will complement the decision of FSPs and achieve meaningful financial inclusion for dairy farmers.



## India's Milk Production (in Million Tonnes)



Source: Basic Animal Husbandry Statistics, DAHD&F, GOI





## DIGITIZATION PAVES THE WAY FOR FINANCIAL INSTITUTIONS



Over the last few years, technology has transformed the financial services delivery in India and around the world. Innovations and infrastructure such as JAM trinity (Jan Dhan, Aadhaar and Mobile), UPI, etc. have made formal financial services much more accessible to many people. A whole range of new age start-up fintech and technology companies have emerged in the process, providing a plethora of financial services in a faster and cost-efficient manner. This has caused a potential disruption amongst the current banks, NBFCs and other Financial Institutions requiring them to either invest in digital transformation of their business or pave the way for new players.

Digitisation provides Financial institutions with enormous opportunities to acquire new customers at a faster rate and serve their existing customers better. It also allows them to identify gaps in existing financial services landscape and address them through technology intervention. For instance, a Kirana store owner may opt for informal sources of credit to expand his/her business due to lack of credit history, book of accounts and collateral. To service this customer segment, new-age digital lenders are leveraging cutting-edge technology and alternative credit assessment models to understand the risks better. What used to be a neglected customer segment by traditional lenders are now being served by technology driven fintech start-ups. There are many such examples and use-cases that are being explored by

“

Dairy provides a primary source of income for 70 million rural households in India with more than 60% of families involved in dairying belonging to the small and marginal farming sector.

”

fintechs and as a result have pushed banks and larger financial institutions in the direction of digitisation.

Over the last year, the Covid-19 induced pandemic has highlighted the need for Financial Institutions to adopt digital modes of delivery to reach their customers. As a result, digitisation has become a high priority for Financial Institutions to stay relevant and continue to grow.

Dvara Solutions’ technology offering helps Financial Institutions automate their complete business process ranging from customer onboarding to KYC validation, credit underwriting, sanction, full servicing from booking to disbursement, collections, monitoring, auditing, and reporting. Their flagship product, Perdix offers straight through processing of loans without any manual intervention with features such as flexible workflow layer, configurable rule engine, scoring engine, automated credit decisioning and a state-of-the-art analytics engine. This has enabled Dvara Solutions’ partner Originators to continue their business in the new normal with minimal impact on operations and customer contact.

As the lockdown began in March 2020, its primary focus was on helping its clients implement the moratorium announced by the Central bank. The team automated various types of moratoriums, helped their clients

understand the complexities involved in each of these options and helped choose the suitable one based on their clients' borrower profiles. The team implemented the complex moratorium functionality across all its 20+ Financial Institution clients. The company also introduced four new modules, viz., BC and Co-lending, Direct Assignment, Legal Management and Guarantee Management, to its product, Perdix, in the last year. In addition, it has also ventured into offering platform services through integrations with external service providers for services such as Credit Bureau check, KYC validation, E-sign, E-stamp, Payments, etc. This is aimed at optimising costs and removing complexities for clients.

Dvara Solutions also exhibited its thought leadership by organising several webinar series during the lockdown around ‘Digitisation in Financial institutions’ covering topics of current interest such as digital on boarding, automated credit decisioning and digital collections. These webinars evinced good participation from across the financial services and technology ecosystem.

While the pandemic is nowhere near its end, Dvara Solutions has put in robust processes to provide seamless support to its existing clients and continues to innovate for the future by introducing newer modules and augmenting its product with more features.



**25 Clients**



**4 Mn Customer  
Accounts Handled**



**8500 Cr of  
AUM Handled**





10<sup>th</sup> Floor-Phase 1,  
IIT-Madras Research Park,  
Kanagam Village, Taramani,  
Chennai 600 113. Tel: 044-6668 7000  
**E-mail: [IR@dvara.com](mailto:IR@dvara.com)**

**Anuradha Kulkarni**  
Head of Strategy and Investment  
**[Anuradha.kulkarni@dvara.com](mailto:Anuradha.kulkarni@dvara.com)**

**Sanket Mehta**  
Financial Analyst  
**E-mail: [Sanket.Mehta@dvara.com](mailto:Sanket.Mehta@dvara.com)**

**Disclaimers:**

The trademarks, logos and service marks (collectively, the "Trademarks") used or mentioned on this report are registered and unregistered trademarks of Dvara Trust, its affiliates (collectively "Dvara Entities") or third parties and are legally protected. Nothing in this report should be construed as granting, by implication, or otherwise, any license or right in or to the Trademarks without the express prior written permission of Dvara Entities or such other third party. This Report should not be copied or otherwise distributed, in whole or in part.

No representations or warranties, express or implied, as to the accuracy or completeness of the information provided on this Report are made and Dvara Entities' expressly disclaim any liability for the use of this Report or any site/ reference linked therein.

This report and the contents thereof do not constitute an offer of or solicitation for the purchase, trading or any transaction in any Dvara Entity securities. No reader should act on the basis of any statement contained herein without seeking professional advice.