

STRUGENCE ASHRAY FUND



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SECTION I

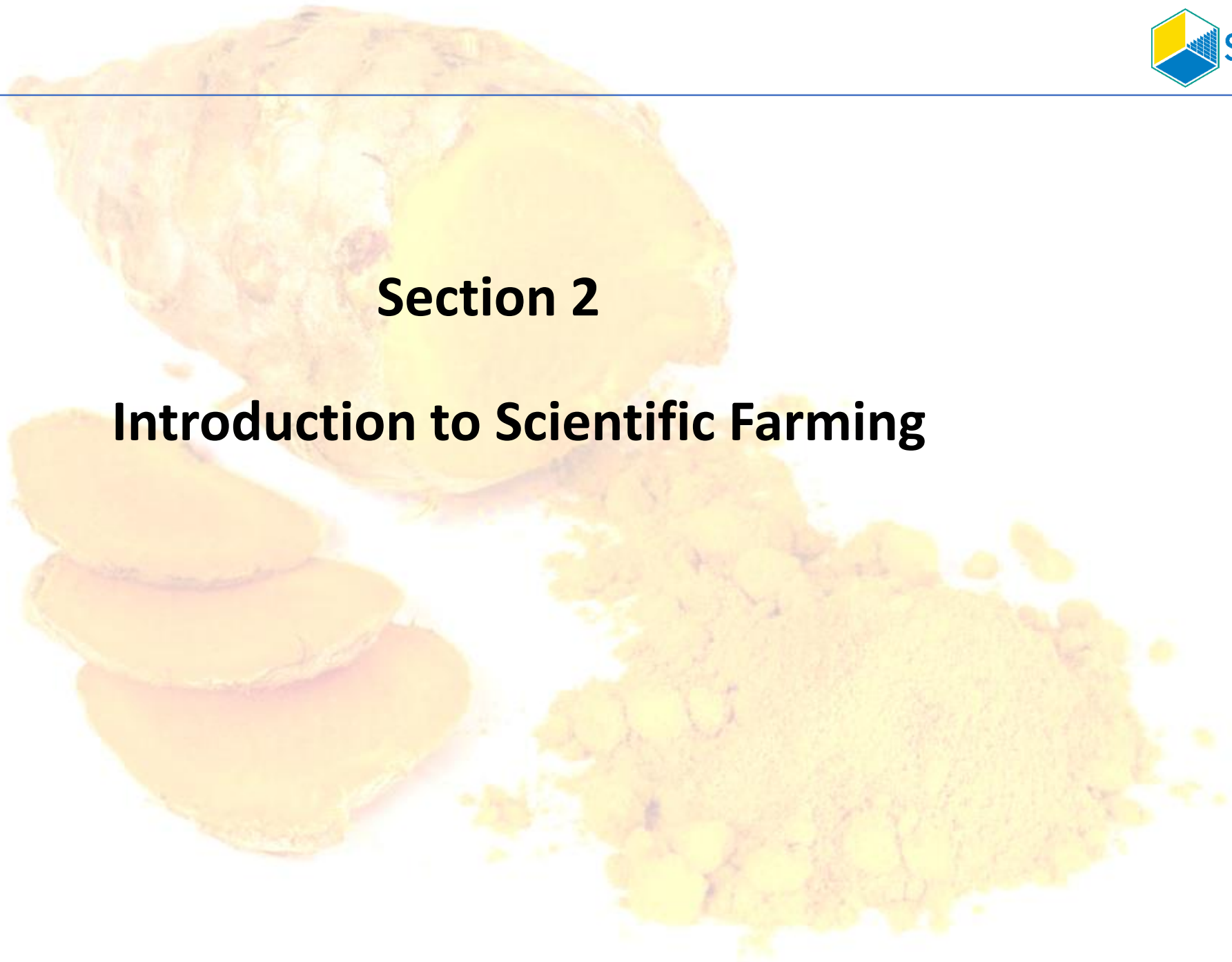
Executive Summary

- Farmers have been subject to the vagaries of nature and the uncertainties of the market prices.
- Strugence and its associates have worked out a solution for to address this problem
- Strugence seeks to do controlled scientific farming of crops beginning with Turmeric.
- Strugence has tied up with an agri-tech enterprise which shall set-up controlled farming on farmer's land, manage and cultivate the same and even give a firm offtake of the entire output of the crops produced.
- With this arrangement, small farmer shall get a steady source of alternate income

- Farmers have to bear cost of setting up controlled farming facilities which shall be approx. Rs.2,00,000 per Guntha (100 sq.mtr)
- Strugence seeks to finance the above Rs.2,00,000 investment through:
 - Debt from Banks and NBFCs for 80% of cost - Rs.1,60,000; and
 - CSR / Social Impact Fund contributions for the 20% margin to be put in by Farmer - Rs.40,000/-
- This margin of 20% shall be invested by either:
 - Strugence Benevolent Foundation (SBF), a Section 25 company with 80G certification; and/or
 - “Strugence Ashray Fund” (SAF) which is a Category 1 Alternative Investment Fund approved by SEBI.
 - Other structure as may be agreed with investors
- Strugence is seeking investors to fund the SAF or provide grants/donations to SBF
- **Investors shall be getting robust financial and social returns on investment**

Section 2

Introduction to Scientific Farming



- Much higher yield
- Less Water Consumption
- Minimum Man Power
- Minimal usage of Pesticide
- Increase in cultivation area
- No weather related crop failures
- Year round crop production
- Consistent quality of output



- **Poly house**

- These are made up of transparent, tight and flexible low density polyethylene
- Polythene allows thermal radiation, which increases the temperature and energy and thus helps in the process of photosynthesis.
- The structure is covered with a 200-micron thick plastic sheet. The structure is prepared with the GI pipes.
- The polythene sheets have a life of 3-5 years and the GI pipes have a life of over 24 years

- **Inner Climate Control**

- The polythene sheets are translucent and hence allow natural light for cultivation
- The temperature and humidity of the poly house is managed through water-misting machines
- Large exhaust fans help in keeping the air circulating and fresh inside the poly house

- **Watering & Fertigation**

- The water quality is controlled through RO plants which control the total salt-content levels, alkalinity levels and balance the micronutrients. Electrical conductivity level is 0.75-1.5 ds/m and a pH of 6-7
- Automatic watering system through drips or overhead floggers for providing water and liquid fertilizers.

- **Soil & Plantation**

- The soil used is a mix of local soil and Cocopeat with added nutrients for high yield and quality of crops
- The plantation involving vertical farming is done on MS steel racks which are placed above each other at 12 levels. The placing of the racks factor the light and growth space that is required for the crops
- The seeds used are scientifically selected for high quality output
- The planting of the seeds in the soil factors the spacing between seeds, number of seeds etc. for optimal output

- **Equipment used** - Besides polyhouses constructed on MS Steel frames, the other equipment used are:

- Electricity back-up generator
- RO plant
- Steel racks for plantation and related steel structures
- Irrigation systems
- Water-misting and air management systems
- LED lights



Typical Horizontal Farming



Typical Vertical Farming



Typical Polyhouse

- Strugence has set up a platform with its technology partner who is developing several projects in Controlled Farming in Turmeric product across India (predominantly in Maharashtra and Andhra Pradesh)
- The platform has a well-trained staff of around 400 people of which 10 are agricultural scientists
- In these projects, green houses are being established to grow high curcumin Turmeric under controlled conditions
- There is a site at Ghothi, Nasik which has produced the output and various new plants are being researched for development. The Technology Partners have grown crops here on both vertical and horizontal farming.
- With the technology of controlled environment, vertical farming, high yield seeds and controlled soil and scientific harvesting, there is a demonstrated high yield of certain crops like turmeric.
- The Platform is being promoted by Mr. Ashok Shinkar and Mr. Prashant Zade ,who has received several awards in this space



We can grow turmeric, soybean and many other crops in the vertical farms. Strugence has selected **Turmeric** for the following reasons:

- Huge demand in Domestic as well as International Market - India produces 82% Turmeric of world demand and is the major consumer of turmeric
- Most of India Turmeric (over 22 varieties) has approx. 1-3% curcumin. Turmeric with 5 - 12% Curcumin content (target produce) has strong international demand due to its anti-cancer, anti-inflammatory and other medicinal benefits. Post-processing there is a substantial value add of pure processed Curcumin for healthcare and cosmetics
- Turmeric shelf life is 3 years. Nothing generally happens to turmeric once it is dried and stored in a dry place and there is technology for extending life of product to 6 years.
- Domestically Turmeric is consumed mainly in powder form and there is a strong demand from processing companies for consistent and good quality of Turmeric.

Area Wise Production in Hectares and Tonnes

	2013-14		2014-15		2015-16		2016-17		2017-18	
	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production
Turmeric	2,07,570	10,92,630	1,78,470	8,46,250	1,83,480	9,67,060	2,48,050	12,15,520	2,24,260	11,07,920

Export of Turmeric from India During Apr – Dec 2018 compared Apr –Dec 2017

Item	April – December 2018			April – December 2017			% Change in 2018	
	Quantity (in Ton)	Value (Rs. Lakhs)	Rs. Per KG	Quantity (in Ton)	Value (Rs. Lakhs)	Rs. Per KG	Quantity	Value
Turmeric	1,02,000	1,00,655	98.68	80,400	77,807	96.77	27%	29%

Turmeric Commodity Prices – Last 5 years

Date	Price	Open	High	Low
2019	6,303.33	6,387.00	6,682.50	6,010.67
2018	6,907.33	7,009.83	7,254.17	6,581.83
2017	6,877.83	6,800.33	7,250.67	6,415.50
2016	7,800.83	8,063.50	8,485.83	7,504.33
2015	8,146.00	8,094.33	8,980.33	7,552.83

Source: Agri Exchange APEDA

Rates per quintal

- Growth of Turmeric in 2017-18 was 11.07 Lakh tonnes
- Exports during that time as approx. 10% at 1 Lakh tonnes growing at 29% in value terms and 27% in quantity terms
- Global demand for Turmeric is growing significantly
- Most produced Turmeric has lower curcumin content. For exports, Turmeric with over 5% curcumin content has high demand in pharmaceuticals as well
- Production is between 2-8 Tonnes per acre based on variety of the Turmeric

- Scientific Farming with vertical farms has much higher yield of crop vis-à-vis traditional farming.
- In a typical Scientific farming with vertical stacks project of 1 Acre, production parameters are as follows
 - Seedlings required per acre 6,33,000
 - Yield per seed is between 900gms to 1.85 Kg of Turmeric with an average of approx. 1.67 kgs per seedling
 - Yield of processed dry turmeric is approx. 250 tonnes per acre

	Vertical Farming	Conventional Farming	Productivity Multiplier
Cultivable Area per Acre (Sq. Mtr.)	31,680	4,000	7.92x
Seeds per Sq. Mtr.	20.00	3.50	5.71x
Yield Per Plant (Kgs)	1.67	0.79	2.11x
Mortality (%)	5%	10%	2.00x
Wet Output((Kgs) / Acre	10,05,206	9,954	96x
Wet Output (Tonnes)/Acre	1,005	10	100x
Dry Output (Tonnes)/Acre	250	2.5	100x

- Scientific Farming with vertical farms has much higher yield of crop vis-à-vis traditional farming.
- In a typical Scientific farming with horizontal farming project of 1 Acre, production parameters are as follows
 - Seedlings required per acre 1,60,000
 - Yield per seed is between 1 KG of wet Turmeric per seedling
 - Yield of processed dry turmeric is approx. 38-40 tonnes per acre

	Vertical Farming	Conventional Farming	Productivity Multiplier
Cultivable Area per Acre (Sq. Mtr.)	4,000	4,000	1.0
Seeds per Sq. Mtr.	40	3.5	11.4
Yield Per Plant (Kgs)	1.0	0.79	1.3
Mortality (%)	5%	10%	2.0
Wet Output((Kgs) / Acre	1,52,000	9,954	15.3
Wet Output (Tonnes)/Acre	152	10	15.2
Dry Output (Tonnes)/Acre	38	2.5	15.2



Section 3

Farmer Proposition

Typical Proposal for 1 Guntha

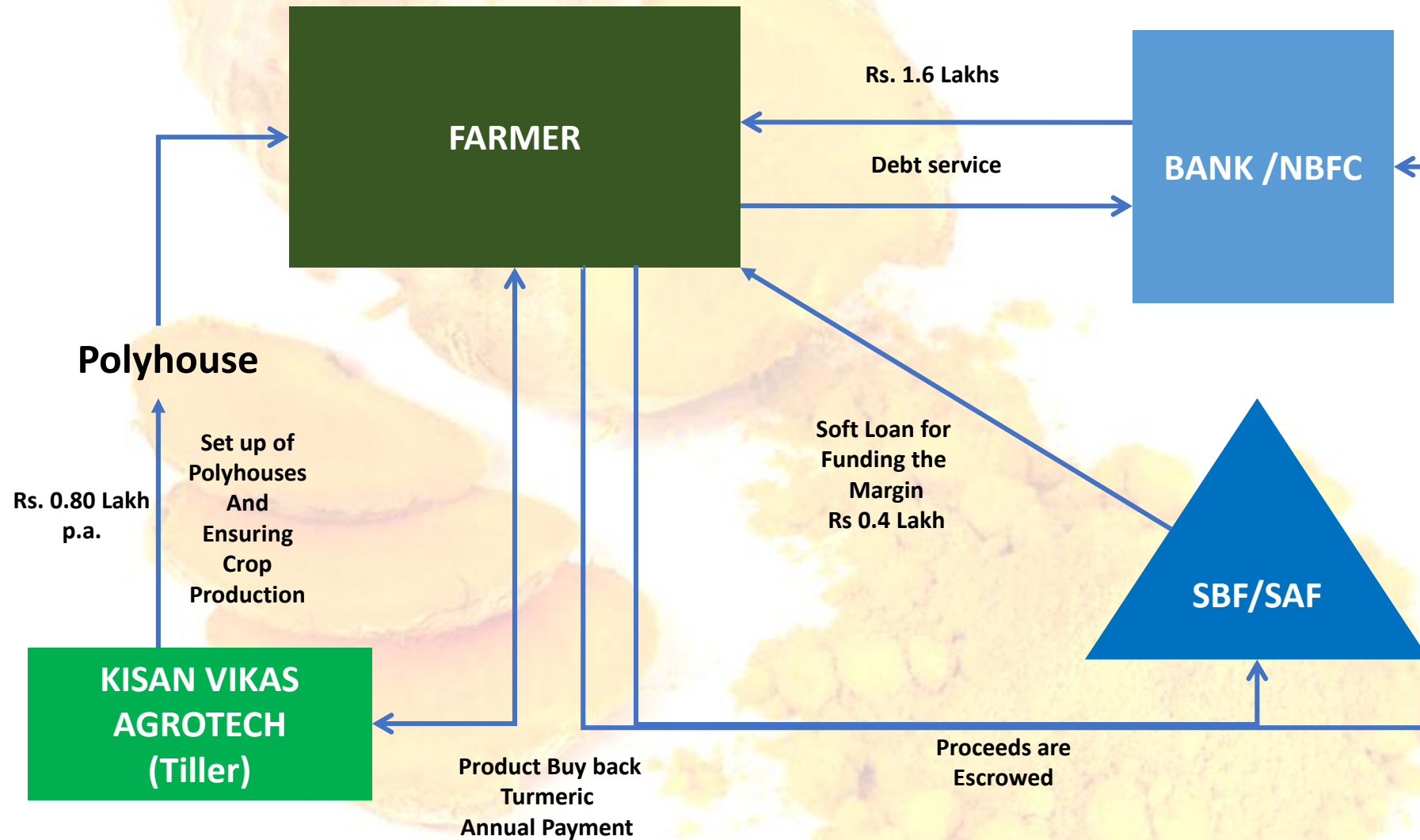
Land Area	1 Guntha
Investment Required	One time investment of Rs.2,00,000
Investment Funded by <ul style="list-style-type: none">- Fund- Debt	Rs. 40,000 Rs. 1,60,000
Key Debt terms of NBFC/ Banks	<ul style="list-style-type: none">• Term – 5 years with equated quarterly instalments aggregating to Rs.55,000 p.a.• Interest rate – 16% p.a.• Security – all equipment and farm produce• Escrow of Subsidy from Central / State Governments• Negative lien on land• Group / Joint Liability Mechanism
Key Investment Terms	<ul style="list-style-type: none">• Term - 5 years with equated annual instalments of Rs.16,000 p.a.• Approx. IRR – 28%• Security – second charge on all equipment and farm produce• Negative lien on land• Group / Joint Liability Mechanism
Net Revenue	Payment by agri-tech company of Rs.80,000 p.a. for 5 years and Rs.40,000 p.a. thereafter for 19 years
Income to farmer	All payments post repayment of Debt and Fund are to farmer

(Amounts in Rs. Lakh)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6 onwards
Revenue	0.80	0.80	0.80	0.80	0.80	0.40
Debt Service (interest + principal)	0.55	0.55	0.55	0.55	0.55	-
Net for Farmer & Investment	0.25	0.25	0.25	0.25	0.25	-
Farmer	0.09	0.09	0.09	0.09	0.09	0.40
Investor	0.16	0.16	0.16	0.16	0.16	-

Note:

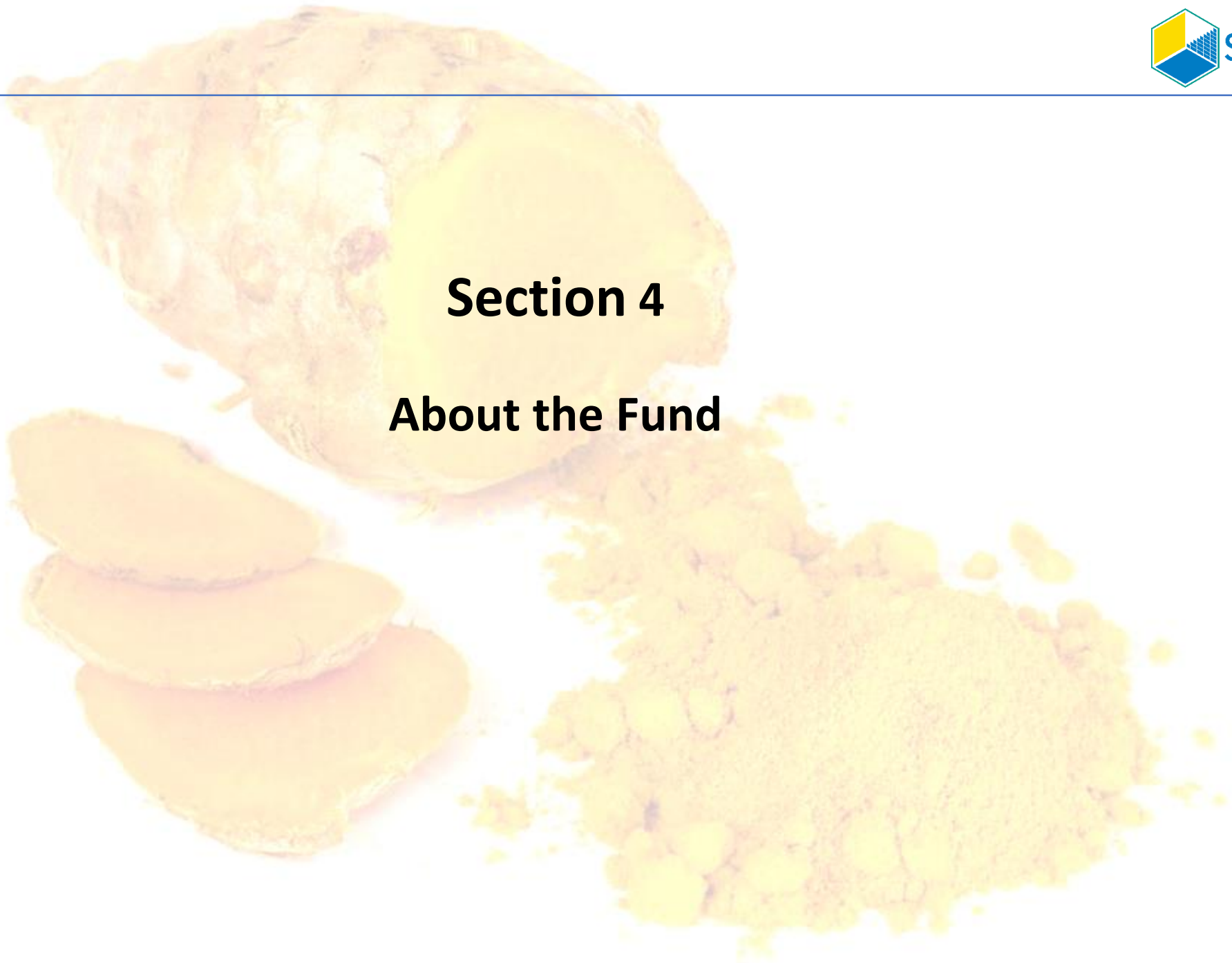
1. Arrangement likely to continue for 24 years
2. All operating costs and subsequent capex will be borne by the platform (Tiller)
3. The above workings are for 1 Guntha and any incremental 1 Guntha added to above will be a pro rata multiple

Schematic Representation



Section 4

About the Fund



About the Strugence Ashray Fund



- Strugence Ashray Fund, (**Ashray**) is a Securities and Exchange Board of India (SEBI) registered Category I Alternative Investment Fund under sub category Social Venture Fund.
- The focus areas is financial inclusion of farmers who are at the bottom of the pyramid
- The Fund aims at investing on both lines of Financial and Social Impact with best practices
- The Fund shall be investing the margin required by farmers for their financial sustainability and shall be getting the monies back over a period of time in a structured manner
- The fund is a transparent structure managed by professionals and seasoned bankers.

Fund Highlights	
Fund Structure	Cat I Alternate Investment Fund; India based Fund – Indian Trust
Fund Life	10 years, extendable twice by 1 year each
Fund Size	Rs 250 Crores with a green shoe option of Rs 250 Crores
Fund Sponsor	Strugence Benevolent Foundation and Strugence Sustainable Ventures LLP
Commitment period	48 months extendable by another 12 months
Sector Focus	Improving the lives of farmers through scientifically controlled farming
Geographic Focus	Maharashtra and Andhra Pradesh
Types of Contributions	<p>SAF can accept the following type of contributions:</p> <ul style="list-style-type: none"> • CSR Donations or Grants • CSR Investments with Returns • CSR Investment with Returns to be eventually applied for specific social objectives
Hurdle Rate	6% per annum for Investments in Class A units with returns only
Investment Structure	Investments in SPVs/ NBFCs for administering the investment
Investment manager	Strugence Sustainable Ventures LLP (“AMC”)
Set-Up Fee	One time upfront non-refundable fee of 2% of subscription amount to cover placement, structuring and legal costs etc.
AMC Fee	2% per annum
AMC Carry	20% with Catch-up on Hurdle Rate

- **Mr. S B Mathur (Independent Director)**, B.Com., FCA, ICWA has over 45 years of experience in the Insurance and Housing Finance fields. In his illustrious career he has served as the Chairman of Life Insurance Corporation of India, as the Non-Executive Chairman of National Stock Exchange of India Ltd. as the Chairman of IDFC Trustee Co. Limited, Orbis Financial Corporation Limited, UTI Technology Services Ltd., UTI Infrastructure & Services Limited, LIC HFL Care Homes Limited, Grasim Industries Ltd. He has been a Director on ITC Foods Limited, UTI Bank Limited; IL & FS Limited; National Investment Fund; National Stock Exchange of India Ltd.; National Collateral Management Services Limited; Munich Re India Services Private Limited; EMD Locomotive Technologies Private Limited; AIG Trustee Company (India) Private Limited; Universal Sompo General Insurance Company Limited, AXIS Bank Limited, Ken India Assurance Company Ltd.; National Commodities & Derivatives Exchange Limited and National Housing Bank. He has been a Non-Executive Independent Director of ITC Limited, as an Independent Director of Samruddhi Cement Ltd., Havells India Ltd., DCM Shriram Industries Ltd., UltraTech Cement Limited, Housing Development and Infrastructure Limited, ITC Hotels Ltd. He is a Fellow Member of the Institute of Chartered Accountants of India and also a Member of the Institute of Cost and Works Accountants of London. He was also sponsored by the United States Agency for International Development (USAID) for training program on housing finance at the Wharton Business School of the University of Pennsylvania.
- **Mr. S.C. Bhargava (Independent Director)**, B.Com. (Hons), FCA has been a Financial Consultant of Bank of Rajasthan and IL & FS Investsmart since August 2005. Mr. Bhargava has over 39 years of experience that encompasses investments, treasury management, finance, accounts and inspection. He joined Investment Department as Central Office, Mumbai in 1993 and served as the Deputy Secretary and since then worked in various capacities as Secretary (Investment), Chief (Investment) and this period he managed treasury, Government Bonds, debt both corporate as well as PSUs and Equity- sale and purchase. He worked with the Life Insurance Corporation of India from 1967 to 2005. He served Life Insurance Corporation of India (LIC) for 38 years and retired in 2005 as Executive Director (Investment). During his association with the Life Insurance Corporation of India, he served in various capacities such as deputy secretary, secretary(investment) and chief (investment). He serves as the Chairman of A. K. Capital Services Limited and OTC Exchange of India. He has been an Independent Non-Executive Director at Cox & Kings Limited since October 1, 2007; and Jaiprakash Associates Limited since December 2005. He has been an Independent Director of Aditya Birla Nuvo Limited from April 29, 2004. He serves as a Director of Antique Finance Private Limited, Jaypee Cement Limited, IL&FS, OTC Securities Limited, UTI AMC Limited; A.K. Capital Services Limited; UTI Retirement Solution Limited; G.K. Industrial Park Private Limited; Escorts Construction Equipment Limited; OTC Exchange of India; Max Mobile Communications Limited and S.C. Bhargava & Company.
- **Mr. Jayant S. Chiney (Executive Director)**, a senior commercial banker, has over 35 years of commercial banking experience covering all aspects of banking, including credit, treasury and international banking operations. Mr. Chiney was General Manager in Bank of India, and earlier was the CEO of Bank of India's European operations. Mr. Chiney has significant experience in credit and lending operations across various sectors and geographical markets, and has dealt with both, the large corporates, as well as the small and medium sized enterprises. Mr. Chiney's credit experience includes extending credit to the real estate sector, to both – the large developers as well as the medium and small sized developers. Mr. Chiney's credit experience covers geographical markets of Mumbai, across Maharashtra, Gujarat and Kolkata, and has good corporate relationships in these markets. Other key functions handled by Mr. Chiney include, international banking, giving him the experience and deep insights into the various facets of International Banking. Besides, Mr. Chiney was the Treasury Head, which apart from managing the local treasury operations, also oversaw the entire overseas operations of the Bank, which has a long established presence in 19 countries.
- **Mr. Dasharath Satam (Executive Director)** is a Chartered Accountant and Chartered Financial Analyst. He has been a hardcore banker with 17 years of experience. He has worked with UTI and IDBI(DFI). He is experienced on both sides of the Balance Sheet. He has represented IDBI at various Judicial / Quasi-Judicial Forums viz. BIFR, AAIFR, DRT, DART and CDR. He was also involved in setting up of Insurance JV of IDBI.

- **Mr. S Sridhar** (Independent) is an eminent banker with about 38 years of experience in banking in which he has worked 10 years at CEO/Board level. He was previously the Chairman and Managing Director of Central Bank of India, Chairman, and Managing Director of National Housing Bank and Executive Director of Exim Bank. His core strength to the Fund is wide lending experience and relationships across the business community, regulators, banks and financial institutions and Government of India. He was instrumental in setting up agenda for low cost housing, Rural Housing Fund, Housing Microfinance, Interest Subsidy for Housing Urban Poor, Mortgage Repository and Electronic Registry etc. He also introduced Reverse Mortgage for senior citizens. He is widely travelled and has been an invited speaker at many national and inter national conferences organized by the World Bank, UNCTAD, UNESCAP, Commonwealth Secretariat etc. Sridhar had an excellent academic record and holds a M.Sc. (Physics) degree from IIT Delhi. He is an Associate of Indian Institute of Bankers and was awarded the Lord Aldington Banking Research Fellowship.
- **Mr. Ashok Dutt** (Independent) is former Executive Director of Dena Bank. He has a wide banking experience of over 32-years, including in the fields of human resource management and retail banking, the release further said. Prior to this, he was working as General Manager in Allahabad Bank.
- **Ashok Shinkar** is the Managing Partner of the Investment Manager and has over 20 years of experience in finance, lending, investment banking and project development having worked in leading positions in Capital First, JM Morgan Stanley, SSKI Corporate Finance etc.

- **Ashok Shinkar** is the Managing Partner of the Investment Manager and has over 20 years of experience in finance, lending, investment banking and project development having worked in leading positions in Capital First, JM Morgan Stanley, SSKI Corporate Finance etc. Prior to this, Mr Ashok Shinkar was CEO Corporate Lending at Capital First Limited, a leading non-banking financial Company with a corporate lending book exceeding Rs. 20 billion. He has been instrumental in fund raising of debt /equity exceeding Rs. 150 billion across sectors, geographies and corporate and deployment of over Rs. 60 billion. He also has an experience in complex deal structuring, angel funding, turnaround, stress asset resolutions, enforcement of securities and real estate development. He is also the Managing Partner of Strugence Investment Advisors which has a Cat 2 AIF – Strugence Debt Fund which is focussed on investing in Real Estate. He has been closely associated with Slum Area Developments having invested in several SRA projects. He has promoted CSRNoble.com, which is an online portal that showcases various social projects in various fields to donors and also maps such projects to interested donors as per their preferences. He is also the promoter of Strugence Benevolent Foundation, a “not for profit organisation” . The Foundation has recently launched a programme called “Heal the Heels of India” where the programme envisages providing medicinal cream containing lanolin which results in quick healing of heels which is a highly neglected area in rural India due to lack of hygiene. Cracked heels, especially of rural women, results in deep-rooted physical and resultant social problems. He is planning to inter alia seriously fight this ailment.
- **Ajit Gaikwad** is the Chief Investment Officer of Strugence Debt Fund-1. He has over 25 years of experience in corporate lending, investing and financial advisory. Prior to this, he was with ICICI Group for over 16 years in lending and investing and for 5 years with Global Investment House (Kuwait) in advisory and investment group. Ajit started his career with SCICI wherein he headed a loans and investment group. Here he handled project finance and corporate lending and recovery for companies in sectors ranging from chemicals, metals, agro-products and also dealt with a few residential and hospitality projects. His loan portfolio was over 1,200 Crore (USD 175mn), with about 2% Non Performing Loans. Subsequently, in ICICI Group, he was involved in dealing with stressed assets portfolio and recovery. In his last role in ICICI Prudential, he was part of the team that set up the Real Estate Private Equity Fund from scratch. In this, he was responsible for about half the portfolio of the fund corpus of Rs. 1,000 Crore (USD 150mn). In Strugence, he looks after investments of Strugence Debt Fund.

Key Fund Participants



Sponsor	Strugence Benevolent Foundation and Strugence Sustainable Ventures LLP
Investment Manager	Strugence Sustainable Ventures LLP
Investment Committee	<ul style="list-style-type: none">• Mr. S. Sridhar• Mr. Ashok Dutt• Mr. Ashok Shinkar
Trustee	Strugence Trustee Private Limited
Legal Advisor	M G Subramaniam / Crawford Bayley & Co.
Tax Advisor	PWC / KPMG (proposed)/ Minesh Shah & Co.
Auditor	To be appointed
Implementing Agencies	Tie-ups with sector experts to ensure CSR programs are properly implemented

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Thank You