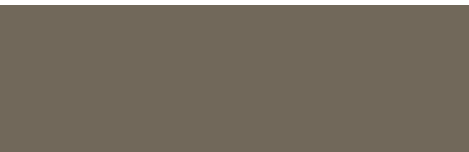


FARMER RELIEF FUND: INDIA



VIJAY

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Table of Contents

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- Problem
- Solution
- Financials
- Risks
- Impact
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Problem:

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- 95% of farmers in Vidarbha have massive debt
- Lack of resources and knowledge leads to crop failure
- Crop failure and debt strongly correlated with suicide rates

Indian Journal of Psychiatry (2008)

Farmer Suicides		
Year	Maharashtra	India
2007	4,238	16,632
2008	3,802	16,196
2009	2,872	17,368
2010	3,141	15,964
2011	3,337	14,027

National Crime Records Bureau of India

Solution:

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- Purchase land
 - ▣ Reduces debt

- Train farmers
 - ▣ Increases financial responsibility
 - ▣ Increases crop yield

- Install shade nets & irrigation systems



Solution:

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- **Grow non-traditional crops**
 - ▣ Enabled by improvements
- **Pay above market wages with profit sharing**
 - ▣ Increase standard of living
- **Provision to sell land back to farmer**
 - ▣ After year 5 and 10
- **Track social impacts**

Current		Our Plan	
Crop	Annual Yield (Per Acre)	Crop	Annual Yield (Per Acre)
Sugar Cane	\$ 1,276	Flowers	\$57,160
Rice	\$ 510	Capsicum	\$3,543
Wheat	\$ 347	Cucumber	\$1,263
Cotton	\$ 318		
Soy	\$ 246		

Financials: Data

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Per Acre	
Average cost of land	\$10,500
Shade nets	\$37,000
Irrigation	\$3,200
Total initial investment	\$50,700
Average crop revenue	\$24,000
Average operating revenue	\$22,000

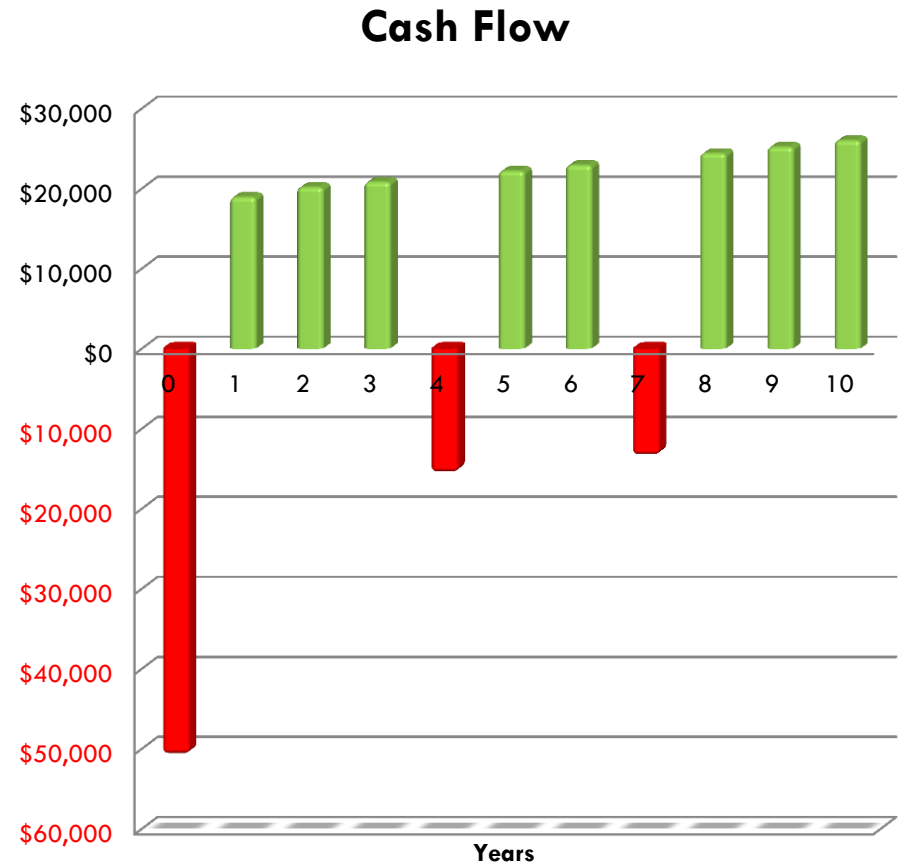
Financials: Returns

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□ Payback period:

▣ **2.54 Years**

IRR		
Time Period	Land Unsold	Land Sold
5 Years	12%	19%
10 Years	24%	26%



Financials: Structure

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- Mutual Fund
 - Open-ended fund
 - Proceeds reinvested

- Administration
 - 1%-2% fee to cover fund expenses
 - No target date



Risks : Start Up

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RISKS

- Buy-in from farmers
- Resistance
- Dead-end

MITIGATION

- Pilot project
- Work with local government
- Plan B: Forming co-operative society

Risks : Operations Phase

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RISKS

- ❑ Farmers quitting
- ❑ Sustainable market place
- ❑ Demand and price fluctuations of crop

MITIGATION

- ❑ Re-evaluate social impact and adapt
- ❑ Corporate partnerships eg. ITC Ltd.
- ❑ Constant evaluation of crop portfolio

Risks : Exit Phase

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RISKS

- Farmer's ability to buy back land
- FX rates
- Real estate prices

MITIGATION

- Robust redistribution contracts
- Monitoring and hedging
- Recent investment commitments in region are positive sign

Social Impact

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- \$10 million investment
 - Enriches 320 farmers
 - Impacts 1,500 People

- Farming & financial education

- Land improvements



Vijay

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Vijay

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Questions?

Appendix

Implications of Land Ownership

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Study found significantly higher suicide rates in marginal and small size-classes of landownership

Surveyed districts

- Wardha
- Washim
- Yavatmal
- N = 111

Class of Land Ownership	Percentage of Farmers
Marginal (0-2.5 acres)	14
Small (2.5-5 acres)	39
Semi-medium (5-10 acres)	21
Medium (10-20 acres)	15
Large (20+ acres)	4
No landownership info	7

Top Risk Factors in Suicide Cases

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Risk Factor	Percentage of Suicide Cases
Indebtedness	86
Economic status recently Deteriorated	74
Crop failure	55
Harassed for non-payment of loans	44
Land seizure/mortgage	17

Mishra, Srijit. "Farmer Suicides in Maharashtra." *Economic and Political Weekly*. April 2006

Other Risk Factors Associated with Suicides

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- Access to irrigation
- Yield uncertainty
- Absence of formal rural finance markets
- Lack of effective agricultural knowledge and skills
- Increasing production costs for cotton and decreasing global cotton prices
- High informal lending rates
- Recent suicides in area
- Value of produce
- Ownership of bullocks (relatively liquid assets)
- Size-class of farm
- Family size

AVG Outstanding balance per Loan

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- AVG Annual profit per farmer (Maharashtra): INR 4,363
- AVG annual net income per acre (Vidarbha): INR 2,700

Indian Journal of Psychiatry (2008)

Source	Suicide Cases		Non-Suicide Controls	
	Amount (INR)	Loans	Amount (INR)	Loans
Commercial Banks	95,000	4	11,500	1
Cooperative Bank	30,466	50	13,756	26
Moneylender	22,080	60	11,973	26
Average	23,821	163	14,598	71

Mishra, Srijit. "Farmer Suicides in Maharashtra." *Economic and Political Weekly*. April 2006

Farmer Field School Case Study

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Impact of FFS on Agricultural Income and Skills: Evidence from an Aid-funded Project in Rural Ethiopia

- Study conducted by University of Tokyo and Japanese International Cooperation Agency from 2007-2010

FFS Structure

- Ran by Agricultural Extension Instructors
- Three instructors per school
- Each school trained 25 farmers/yr. on AVG
- Training → 3-4 hr. workshops each week

FFS Case Study Results

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- Trained farmers to use new practices and technology to grow new varieties
- Real income per participant increased from **46%**-**164%** (increase equal to or larger than real income per worker before project)
- Training and new agricultural practices accounted for difference between study and control groups

Proforma Financials

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Year	0	1	2	3	4	5	6	7	8	9	10
Revenue (a)		\$ 20,655	\$ 21,895	\$ 22,551	\$ 23,228	\$ 23,925	\$ 24,643	\$ 25,382	\$ 26,143	\$ 26,928	\$ 27,735
Expenses											
Wages (b)		\$ 1,540	\$ 1,540	\$ 1,540	\$ 1,540	\$ 1,540	\$ 1,540	\$ 1,540	\$ 1,540	\$ 1,540	\$ 1,540
Production Costs (c)		\$ 200	\$ 200	\$ 200	\$ 200	\$ 200	\$ 200	\$ 200	\$ 200	\$ 200	\$ 200
		\$ 1,740	\$ 1,740	\$ 1,740	\$ 1,740	\$ 1,740	\$ 1,740	\$ 1,740	\$ 1,740	\$ 1,740	\$ 1,740
Operating Profit		\$ 18,915	\$ 20,155	\$ 20,811	\$ 21,488	\$ 22,185	\$ 22,903	\$ 23,642	\$ 24,403	\$ 25,188	\$ 25,995
Capital Expenses											
Land Expenses (d)	\$ (10,500)										
Shade Nets (e)	\$ (37,000)				\$ (37,000)			\$ (37,000)			\$ (37,000)
Irrigation (f)	\$ (3,200)										
Total Cash Flow	\$ (50,700)	\$ 18,915	\$ 20,155	\$ 20,811	\$ (15,512)	\$ 22,185	\$ 22,903	\$ (13,358)	\$ 24,403	\$ 25,188	\$ (11,005)
Property Value (g)	\$ 10,500	\$ 11,760	\$ 13,171	\$ 14,752	\$ 16,522	\$ 18,505	\$ 20,725	\$ 23,212	\$ 25,998	\$ 29,117	\$ 32,611

(a) based on 1/3 flowers, 1/3 cucumbers, 1/3 capsicum, based on government data on yield per acre x market prices as of 3/1/13, assuming 6% increase in yield during year 1, 3% increase after

(b) based on market rate of \$1,400 plus a 10% premium

(c) includes cost of seeds, fertilizer and pesticides

(d) based on data obtained from realestateindia.com

(e) Estimate obtained from company website, nets must be replaced after 3 years of use

(f) Average cost for a irrigation system, costs vary depending on depth of well required

(g) Assuming price appreciation of 12%, historical average for last decade

Sensitivity Analysis

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Sale of Land at Discount

5 Years		10 Years	
Discount	IRR	Discount	IRR
0%	20%	0%	26%
10%	19%	10%	26%
30%	18%	30%	26%
50%	16%	50%	25%

Crop Yield Data

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Current Yield	KG	Tons	\$/ton	\$/hectare	\$/acre
Soy	1138	1.14	\$533	\$608	\$246
Cotton	440	0.44	\$1,786	\$786	\$318
Sugar Cane	68554	68.55	\$46	\$3,153	\$1,276
Wheat	2850	2.85	\$301	\$858	\$347
Rice	2175	2.18	\$578	\$1,260	\$510
Source:	Department of Agriculture and cooperation, ministry of agriculture, government of India 2010				

Property values

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Location	Total Acres	\$/acre
Nagpur	3	\$ 32,000
Nagpur	80	\$ 27,000
Nagpur	8	\$ 15,000
Nagpur	37	\$ 7,500
Nagpur	25	\$ 30,000
	Avg.	\$ 22,300
Wardha	15.5	\$ 18,000
Wardha	300	\$ 8,000
Wardha	6	\$ 5,500
	Avg.	\$ 10,500
Source: realestateindia.com		

Strategic Partnerships

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- Investors
- Fund manager
- Local government
- Universities
- Agricultural Extension instructors
- Project/farm manager
- Farmers
- Buyers (wholesalers)
- Suppliers (equipment and agricultural inputs)

Strategic Partners

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