

Impact Evaluation of the Maharashtra CAIM Programme

The Convergence of Agricultural Interventions in Maharashtra

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Interventions in Maharashtra

Study sponsored by

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Foreword

The Vidarbha region in eastern Maharashtra has been facing an acute agrarian crisis, causing distress to a large part of the local population whose primary occupation is agriculture. The crisis has been fomented by a number of factors, including fragmentation of land leading to tiny landholdings, scanty and irregular rainfall, sparse irrigation facilities, and lack of opportunities for non-farm activities. Six of the 11 constituent districts of Vidarbha—Akola, Amravati, Buldhana, Wardha, Washim, and Yavatmal—have been most adversely affected by the crisis, which has tragically led even to a spate of suicides by farmers in the region.

Stepping in to alleviate the agrarian distress in the region, the Government of Maharashtra, the International Fund for Agricultural Development (IFAD), and the Sir Ratan Tata Trust joined hands to form a consortium to fund a programme to ensure a steady increase in the incomes of the poor farmers and farm workers in the rural hinterland of Vidarbha. Implementation of this programme, titled, Convergence of Agriculture Interventions in Maharashtra (CAIM), commenced in 2012 and ended in December 2018.

The primary objective of the CAIM programme was to develop resilient and sustainable on-farm and off-farm livelihoods that would build the capacity of local households to face both climatic and marketing risks without falling into poverty and distress. The programme targeted rural, particularly Below-the-Poverty-Line households belonging to the Scheduled Castes and Scheduled Tribes, landless labourers including women, small and marginal farmers, and selected farmers who had been severely affected by the agrarian crisis. A process of identification and proper validation by the Gram Sabha was used to avoid the possibility of the financially better-off households capturing programme benefits.

The National Council of Applied Economic Research (NCAER) was entrusted with the task of conducting an end-line survey to ascertain the

impact of the programme on beneficiaries. The NCAER team carried out an extensive primary level enumeration of the beneficiaries in both the programme as well as the non-programme, control villages to compare major indicators of project performance.

The NCAER study found that the CAIM-supported programmes had noticeably and sustainably enhanced the living conditions of the households and villages in distress, with a large number of households benefitting from it. The programme also achieved women's empowerment and tangible long-term benefits for the targeted population through various means, including debt redemption, drudgery reduction, a micro livelihood plan, social enterprises, and joint asset ownership. The study findings have been presented to CAIM and IFAD officials and other stakeholders involved in the programme.

I join the NCAER team in their appreciation for the insights and guidance received from Ms Rasha Omar, Country Head, IFAD. The superior performance and success of the programme can be largely attributed to the organisational efficiency of the CAIM Project Authority, led ably by Mr Piyush Singh, IAS. The contribution of the Mahila Vikas Arthik Mahamandal also deserves special mention for providing the right perspective for implementing the CAIM programme.

I would like to thank the NCAER team led by Dr Saurabh Bandyopadhyay and Dr Laxmi Joshi, with Mr Prabir Kumar Chaudhuri, Dr Tarujyoti Buragohain, and Mr Animesh Sharma, as its core members, for carrying out this important study. Dr Rajesh Chadha, NCAER's Research Director, ensured quality control and provided overall supervision.

This NCAER report detailing the findings of the CAIM programme should be a guide for planning future programmes to accelerate rural development and to the welfare of distressed communities.

New Delhi

December 10, 2019

Dr Shekhar Shah

Director General
NCAER

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List of Acronyms

ASC	Agriculture Service Centre
ATMA	Agriculture Technology Management Agency
AWPB	Annual Work Plan and Budget
BBF	Broad Bed Furrow
BCI	Better Cotton Initiative
BD	Bio Dynamic
BDC	Bio Dynamic Compost
BMCU	Bulk Milk Chilling Unit
BPL	Below the Poverty Line
CAIM	Convergence of Agricultural Interventions in Maharashtra
CDC	Cattle Development Centre
CFC	Common Facility centre
CMRC	Community Managed Resource Centre
CNB	Cement Nala Bund
DF	Dhan Foundation
DiD	Difference in Difference
DPM	District Programme Manager
DPMT	District Programme Management Team
ELS	Endline Survey
FGD	Focus Group Discussion
Gol	Government of India
GoM	Government of Maharashtra
GPS	Gram Panchayat
GVA	Gross Value Added
IA	Implementing Agency
IAY	Indira Awas Yojana
IFAD	International Fund for Agricultural Development
INR	Indian Rupee
IPM	Integrated Pest Management
IWMP	Integrated Watershed Management Programme
JLG	Joint Liability Group

LEISA	Low External Input Sustainable Agriculture
MAVIM	Mahila Arthik Vikas Mahamandal
MCC	Milk Collection Centre
MFI	Microfinance Institution
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MIS	Management Information System
MLP	Micro Livelihood Plan
MSAMB	Maharashtra State Agricultural Marketing Board
MSRLM	Maharashtra State Rural Livelihood Mission
PMFBY	Pradhan Mantri Fasal Bima Yojana
NCAER	National Council of Applied Economic Research
NGO	Non-Governmental Organization
NIWCYD	National Institute of Women, Child & Youth Development
NRLM	National Rural Livelihood Mission
NSSO	National Sample Survey Organisation
OBC	Other Backward Caste
PCMCC	Primary Cooperative Milk Collection Centre
PG	Producer Group
PMU	Programme Management Unit
PPR	Preliminary Project Report
RBI	Reserve Bank of India
SBI	Sukhi Baliraja Initiatives of SRTT
SC	Scheduled Caste
SHG	Self Help Groups
SMEs	Small and Medium Enterprises
SPARC	Small Producer Agricultural Resource Centre
SRTT	Sir Ratan Tata Trust
ST	Scheduled Tribe
SWC	Soil and Water Conservation
UNDP	United Nations Development Programme
USD	US Dollars
VDC	Village Development Committee
VIC	Village Information Centre
VLC	Village Level Committee
VSTF	Village Social Transformation Foundation

Contents

<i>Foreword</i>	<i>III</i>
<i>Acknowledgements</i>	<i>IV</i>
<i>Study Team</i>	<i>IV</i>
<i>List of Acronyms</i>	<i>V</i>
<i>List of Tables</i>	<i>IX</i>
<i>List of Figures</i>	<i>XIII</i>
Executive Summary	1
Chapter I: Outline of the Region	5
I.1 Introduction	5
I.2 Demography of the Project Area	6
I.3 The Agricultural Sector	7
I.4 Rainfall Trends	9
I.5 The Livestock Sector	10
I.6 Work Participation Rates	11
I.7 The Poverty Scenario	12
I.8 Background of CAIM Interventions in Selected Districts	12
I.9 CAIM Programme Components	14
I.10 Institutional Capacity Building	14
I.11 Self Help Groups and Development of CMRCs	14
I.12 Marketing Linkage and Sustainable Agriculture	15
I.13 In Situ Water Conservation	15
I.14 Breed Improvement of Local Cattle	16
I.15 Scope of the Proposed Study	16
Chapter II: Methodology and Approach	17
Chapter III: Village Level Evidence	19
III.1 Gender Focus	19
III.2 Upliftment of Living Standards	19
III.3 Infrastructure Development:	21
III.4 Household Participation	22
III.5 Empowerment Facilitating Activities	23
III.6 Soil and Water Conservation (SWC) Work	28

III.7 General Crop Condition	28
III.8 Availability of Inputs	29
Chapter IV: Agriculture: An Overview from the Household Survey	33
IV.1 Agriculture and Inter-cropping	33
IV.2 Production Scenario	36
IV.3 Production Area under BCI, Organic and LEISA: Change in the Acreage of the Non-conventional vis-à-vis Conventional Areas	38
IV.4 Change in the Yield of Cotton	39
IV.5 Change in Net Incomes in Cultivation of Cotton	40
IV.6 Soil and Water Conservation	41
IV.7 Marketing Support	41
IV.8 Non-Farm Enterprises	44
Chapter V: Status of Households in the Programme and Control Areas	46
V.1 Introduction	46
V.2 Demography	47
V.3 Activity, Capacity Building and Change in Income: A Closer View	48
V.4 Training and Capacity Building	50
V.5 Income and Income Conditions across the CAIM and Control Villages	53
V.6 Trend of Change in Household Income since 2012-13	55
V.7 Reasons for Change in the Income Levels	55
V.8 Perceptions about the Wealth Category Status among Respondents from the CAIM and Control Villages: An Overview	56
V.9 Land Ownership and Status	56
V.10 Availability of Finance	57
V.11 Housing and General Living Conditions	64
V.12 Possession of Consumption and Productive Assets: A Snapshot	66
V.13 Women's Empowerment	67
V.14 Overall Impact of CAIM programmes on Women's Empowerment	71
Chapter VI: An Assessment of the Income Status and Its Correlation with Food Security in the Programme Area	75
VI.1 Food Security	75
Chapter VII: Summary of Focus Group Discussions (FGDs)	87
VII.1 Introduction	87

VII.2 Summary of the FGDs Conducted in Yavatmal District	87
VII.3 Summary of the FGDs Conducted in Buldhana District	89
VII.4 Summary of the FGDs Conducted in Amravati District	91
VII.5 Summary of the FGDs Conducted in Akola District	93
VII.6 Summary of the FGDs Conducted in Wardha District	95
VII.7 Summary of FGDs Conducted in Washim District	98
VII.8 FGD Conducted in Mukindpur Village, Nehr Block, Yavatmal District on 3rd April 2019	101
VII.9 FGD Conducted in Langhapur Village, Block Murtizapur GD, District Akola, on 4th April 2019	102
VII.10 FGD Conducted in Wai Village, Block Karanja, District Washim, on 5th April 2019	104
Chapter VIII: Case Studies and Success Stories	106
Case Study 1: Ultra-poor Families in Kohala Village, Nehr Block, Yavatmal District, on 3rd April 2019	106
Case Study 2: Ultra-poor Families in Nimbha Village, Block Murtizapur, District Akola, on 4th April 2019	107
Case Study 3: Primary Cooperative Milk Collection Centre (PCMCC) at Bhamdevi, Washim district on April 5, 2019	108
Case Study 4: Marketing Linkage and Sustainable Agriculture (Carried out on April 07, 2019)	109
Chapter IX: Conclusion and Outlook	113
Appendix	

List of Tables

I.1: District-wise Population (2011 Census) and per Capita Income of Vidarbha	6
I.2: Details of Area under Cultivation-Net Sown Area ('000 hectares)	7
I.3: Major Crops Grown in Districts of the Vidarbha Region	8
I.4: Size of Landholdings in per cent in Maharashtra	8
I.5: Progress of Livestock	11
I.6: Work Participation Rates (2011 Census)	11
I.7: Proportion of Population below the Poverty line and Beneficiaries of MGNREGA	12
I.8: The Funding Pattern for CAIM	13
I.9: Coverage of the Programme	14
II.1: Sample Size	17
III.1: Percentage Share of Female Population and Female-headed Households in the Selected CAIM and Control Villages	19

III.2: Percentage Share of Sources of Drinking Water in the CAIM and Control Villages	19
III.3: Perceptions of Type of Main Approach Roads in the CAIM and Control Villages (Expressed as a percentage of respondents)	21
III.4: Percentage Share of CAIM-Supported Households according to Their Landholdings	22
III.5: Percentage Share of CAIM-supported Households according to their Socio-economic Status	23
III.6: Percentage Share of Total and CAIM SHGs and SHG Members in the Selected CAIM Villages, 2018-19	23
III.7: Number of Joint Liability Groups and Members in the Selected CAIM Villages	24
III.8: Percentage Change of Women's Representation in the Selected CAIM Village Development Committees	25
III.9: Number of Households Linked to Bulk Milk Chilling Centre/s in the Selected CAIM Villages	26
III.10: Number of Paravets and Pashu Sakhis in the Selected CAIM Villages	27
III.11: Percentage Change in SWC Work in the Selected CAIM Villages during 2012-13 to 2018-19	28
III.12: Percentage Share of Area under Different Crops in the Selected CAIM Villages	28
III.13: Percentage Share of the Area under Different Crops in the Selected Control Villages	29
III.14: Percentage Share of Area Irrigated by Different Sources in the Selected CAIM Villages, 2018-19	30
III.15: Percentage Share of Area Irrigated by Different Sources in the Selected Control Villages, 2018-19	30
III.16: Perceptions of the Respondent Villages on the Availability of Different Inputs in the Selected CAIM Villages	31
III.17: Perceptions of the Respondent on the Availability of Different Inputs in the Selected Control Villages	32
IV.1: Distribution (%) of the Area under Cotton and Intercropped Cotton (Acres)	33
IV.2: Distribution (%) of the Area under Soybean and Intercropped Soybean with Tur	34
IV.3: Distribution (%) of the Area under Tur (Not Intercropped) and Gram	34
IV.4: Distribution (%) of the Area under Wheat and Vegetables	34
IV.5: Distribution (%) of the Area under Fruits and Fodder Crops	35
IV.6: District-wise Percentages of Irrigated Land (CAIM Area)	36
IV.7: District-wise Percentages of Irrigated Land (Control Area)	36
IV.8: District-wise Percentages of Production of Cotton and Soybean	36
IV.9: District-wise Percentages of Production of Tur and Gram	37
IV.10: District-wise Percentages of Production of Wheat and Vegetables	37
IV.11: District-wise Percentages of Production of Fruits	37
IV.12: Area (in acres) under BCI, Organic Farming and LEISA	38
IV.13: Share (%) of Non-Conventional and Conventional Areas	38
IV. 14: Percentage of Respondents Positively Reporting Implementation of Soil and Water Conservation Activities (out of the Total Respondents)	41
IV.15: Preferred Market Channels (%)	42
IV.16: CAIM-supported Market Channels (%)	42

IV.17: Percentage of Responses Regarding Use of Marketing Channels in CAIM Villages, 2013-2018	42
IV.18: Preferred Market Channels in the Control Villages	43
IV.19: Percentage of Responses Regarding Use of Marketing Channels in the Control Villages, 2013-2018	43
IV. 20: Type of Non-Farm Enterprises in the CAIM Villages	44
IV.21: Types of Non-Farm Enterprises in the Control Villages	45
IV.22: Extent of Income Change from Non-farm Activities in Both CAIM and Control Villages	45
V.1: Percentage Distribution for the Respondents' Gender from the CAIM and Control Villages	47
V.2: Percentage Distribution of Age Group from the CAIM and Control Villages	47
V.3: Distribution (%) of the Socio-economic Category of the Respondents from the CAIM and Control Villages	48
V.4: Training on SHG Management and Financial Services (%)	50
V.5: Training on Crop and Horticultural Production (%)	51
V.6: Training on Marketing Interventions (%)	51
V.7: Training on Processing/Grading/Packaging/SMEs (%)	52
V.8: Training on Livestock Development and Production (%)	52
V.9: Training on Natural Resource Management/SWC (%)	53
V. 10: Training on Social Rights, Empowerment and Health (%)	53
V.11: Distribution (%) of Annual Income in the CAIM and Control Villages: Extreme Scenarios in 2017-18	54
V.12: Distribution of Annual Income in the CAIM and Control Villages: Balanced Scenarios (%) in 2017-18	54
V.13: Status of Change (%) in Annual Income since 2012: The Degree of Change in the Treatment and Control Villages	55
V.14: Increased or Decreased Level of Annual Incomes since 2012: Broad Reasons that Impacted the Change (%)	55
V.15: Wealth Category Status as per the Respondents (%)	56
V.16: Land Ownership (%)	56
V.17: Status of Land Ownership (%)	57
V.18: Comparative Status of Bank Accounts Held by Households (%)	57
V.19: Status of Savings (Deposits) in Banks (%)	58
V.20: Distribution of the Sources of Loans for the Responding Units (%): CAIM Villages	59
V.21: Distribution of the Sources of Loans for the Responding Units (%): Control Villages	59
V.22: Applications (%) of Formal Loans: CAIM Villages	60
V.23: Application (%) of Formal Loans: Control Villages	60
V.24: Major Sources (%) of Informal Loans: CAIM and Control Villages	62
V.25: Land Ownership and Sources of Loans (%): CAIM Villages	62
V.26: Land Ownership and Sources of Loans (%): Control Villages	63

V.27: Status of Asset Ownership (%): Consumption Assets	67
V.28: Status of Asset Ownership (%): Productive Assets	67
V.29: Impact of Income-generating Work of Women (%) on Household Incomes of Farm and Non-farm Enterprises	71
V.30: Impact of Wage Employment of Women (%) outside the Household since 2012 (start of CAIM)	71
V.31: Status of Change (%) in the Overall Workload of Women (including Both Domestic and Income-generating Work) since 2012	72
V.32: Status of Change (%) in the Decision-making Power within the Household since 2012	73
V.33: Status of Change (%) in Women's Mobility outside the Home since 2012	73
V.34: Change (%) in Status of Ownership of Assets by Women since 2012	74
V.35: Change (%) in the Status of Women outside the Home since 2012	74
VI.1: District-wise Food Shortage Faced by Households along with the Size of Land Ownership in the CAIM and Control Villages (%)	76
VI.2: Change in Overall Availability of Food during the Project Period	78
VI.3: Status of Change in the Quality and Type of Food Consumed	79
VI.4: Incidence of Food Shortage for Households with Incomes below INR 15,000: Overview of Districts and Blocks	80
VI.5: Incidence of Food Shortage for Households with Incomes of INR 15,000–30,000	82
VI.6: Incidence of Food Shortage among Households with Annual Incomes of INR 30,000–50,000	84
VII.1: Brief Profile of Participants in the FGD Organised in Yavatmal District	87
VII.2: Brief Profile of Participants in the FGD Organised in Buldhana District	89
VII.3: Brief Profile of Participants of the FGDs Conducted in Amravati District	91
VII.4: Brief Profile of Participants in the FGDs Organised in Akola District	93
VII.5: Brief Profile of Participants in the FGDs Organised in Wardha District	95
VII.6: Brief Profile of Participants in the FGDs Organised in Washim District	98
VII.7: Brief Profile of Participants in the FGDs Organised in Yavatmal District	102
VII.8: Brief Profile of Participants in the FGDs Organised in Akola District	104
VII.9: Brief Profile of Participants in the FGDs Organised in Washim District	105

List of Figures

I.1: Trend Share (%) of GSVA of Agriculture and Allied Sectors of Maharashtra in terms of the Overall GSVA	5
I.2: Trends of Annual Rainfall	9
I.3: Trends of Monsoon	9
III.1: Number of Toilets (Common+ Households) in the Selected CAIM and Control Villages	20
III.2: Availability of Power Supply during Peak Agricultural Operations in the CAIM Villages	20
III.3: Percentage Share of Households Having Electricity Connections in the CAIM and Control Villages	21
III.4: Perceptions of Status of Transport Facility Available in the CAIM Village for Goods (Expressed as a percentage of respondents)	22
III.5: Perceptions of Respondents as to whether VDCs were Active or Not	24
III.6: Number of Village Information Centres in the Selected CAIM Villages	25
III.7: Number of Bulk Milk Chilling Centre/s in the Selected CAIM Villages	26
III.8: Number of SPARC (Small Producer Agricultural Resource Centre) Units Supported	27
III.9: Share of Irrigated Area in the Selected CAIM and Control Villages	29
IV.1: Distribution (%) of the Total Area under Cultivation in the Six Districts of Vidarbha	35
IV.2: Change in Yield (%) of Cotton due to the Adoption of BCI	39
IV.3: Change in Yield (%) of Cotton due to the Adoption of Organic Farming	39
IV.4: Net Change (%) in Income due to the Adoption of BCI Cotton	40
IV.5: Net Change (%) in Incomes due to the Adoption of Organic Farming in Cotton	40
IV.6: Percentage of Households Engaged in Non-farm Business Activity	44
V.1: Sample Distribution of the CAIM and Control Group Households across the Selected Districts for the End Line Survey	46
V.2: District-wise Percentages of VDC Membership in the CAIM and Control Villages	49
V.3: District-wise Percentages of SHG Membership in the CAIM and Control Villages	49
V.4: District-wise Percentages of Producer or Farmer Group Membership in the CAIM and Control Villages	50
V.5: Formal Loans Availed of by the Households (%) as Recorded at the Time of the Survey: CAIM and Control Villages	58
V.6: Informal Loans Availed of by the Households (%): CAIM and Control Villages	61
V.7: Percentage of Formal Loans Availed of by Gender—CAIM Households in Various Districts at the time of the Survey	63
V.8: Percentage of Informal Loans Availed of by CAIM Households in Various Districts according to Gender at the Time of the Survey	64
V.9: Housing Condition of the CAIM and Control Households	65
V.10: Extension/Enlargement of House Undertaken during the Project Period/Comparable Period: An Overview of the CAIM and Control Villages	65

V.11: Water, Electricity and Better Sanitation (%): An Overview of the CAIM and Control Villages	66
V.12: Share (%) of Debt-Redemption Support Received by Women in the Districts of Vidarbha	68
V.13: Share (%) of Drudgery Reduction Support Received by Women in the Districts of Vidarbha	68
V.14: Share (%) of Support Received by Women under the Micro-livelihood Programme in the districts of Vidarbha	69
V.15: Share (%) of Support Received by Women under the Ultra-Poor Support Programme in the Districts of Vidarbha	69
V.16: Share (%) of Social Enterprise Programme Received by Women in the Districts of Vidarbha	70
V.17: Share (%) of Joint Asset Ownership by Women in the Districts of Vidarbha	70
VI.1: Percentage of Households Facing Food Shortage across the CAIM and Control Villages as the Size of Land Ownership	75
VI.2: Percentage of Households That Faced Food Shortage as per Their Income Distribution in the CAIM and Control Villages	77
VI.3: District-wise Food Shortage Faced by Households along with Respective Income Distributions in the CAIM and Control Villages (%)	78

Executive Summary

The Vidarbha region of Maharashtra is particularly vulnerable to the vagaries of nature such as deficient and uncertain rainfall. This vulnerability has plunged some districts in the region, especially those with large concentrations of under-privileged communities like the Scheduled Castes and Scheduled Tribes, into a high level of economic distress. The situation has been compounded by the prevalence of widespread poverty, low agricultural productivity, and high infant mortality in the region. The Government of Maharashtra has been trying to alleviate this distress by introducing various schemes for the upliftment of ultra-poor households in the affected districts. The Convergence of Agricultural Interventions in Maharashtra (CAIM), jointly funded by the Government of Maharashtra, International Fund for Agricultural Development (IFAD), and Sir Ratan Tata Trust, is one such schemes, which was implemented in the region from 2012 to end-2018. The CAIM programme covered six distressed districts of Vidarbha, viz. Akola, Amravati, Buldhana, Wardha, Washim, and Yavatmal. The National Council of Applied Economic Research (NCAER) was commissioned to evaluate the impact of the scheme on the beneficiaries by conducting an End Line Survey (ELS).

During the course of this study, NCAER worked on primary and secondary data, extensively scanning the extant literature, policy documents, and review reports from IFAD to arrive at its findings. The NCAER officials interacted with the CAIM implementation team, executives from the funding agencies, and the State government to gather valuable insights about the programme and its objectives.

One of the typical features of the CAIM programme was that the beneficiaries were mostly identified during the course of the actual programme implementation. NCAER also found that in addition to CAIM, 75 different schemes, often overlapping with each other's domains, were also operating in the identified districts of the region. Consequently, it was difficult to accurately apportion or quantify the gains achieved by each intervention or scheme.

During the primary survey, data were collected from both the CAIM-assisted (treatment) as well as the non-CAIM assisted (control) groups to create a comparative framework for ascertaining

the achievements recorded over the programme period. For this purpose, detailed questionnaires were prepared in consultation with IFAD and PMU-CAIM to gather household and village level information, covering the beneficiaries and other stakeholders. NCAER carried out the primary field analysis by deploying adequately trained and qualified manpower, with good working knowledge of the local language, Marathi, so as to communicate effectively with the respondents belonging to a rural and agricultural background. The potential field investigators were provided adequate training including field exposure (through a pilot survey), and thereafter the requisite number of team leaders and supervisors were appointed to ensure efficiency in data collection.

One of the typical features of the CAIM programme was that the beneficiaries were mostly identified during the course of the actual programme implementation.

The structured questionnaire prepared for the study quantified the goals and objectives sought to be achieved by the programme. Further, the qualitative aspects of the programme were assessed by conducting a total of 36 Focused Group Discussions (FGDs), including six FGDs in each of the selected six districts. The ELS documents both the success stories and lessons learnt during the study. The sampling and demographic details as well as the findings of the study are reported here.

Sample and Demography

The ELS was conducted from the third week of March 2019 till the first week of May 2019. The sample of villages was drawn from the comprehensive list of the treatment villages provided to NCAER based on the relative shares of each district. Similarly, the villages for the control group were chosen from each of the 64 blocks covered in this primary assessment. On an

average, the number of female respondents was relatively higher in the CAIM villages as compared to the control villages, though inter-district variations may be noted for the districts of Akola, Wardha, and Yavatmal.

The number of respondents in the economically active age group (26-60 years) was considerably higher in the CAIM villages as compared to the control villages with significant inter-district variations.

The incidence of membership of Village Development Committees (VDCs) was also comparatively higher in the CAIM villages, with membership of Self-Help Groups (SHGs) denoting better group coordination, particularly for women's empowerment achieved under CAIM.

Village Level Information

The participation of female population was higher in the CAIM villages relative to the control villages. Similarly, CAIM villages reported a higher number of female-headed households.

The overall supply of water through pipelines (the number of water connection points), which is the safest mode of providing drinking water, was higher in the CAIM villages as compared to the control villages. The CAIM villages also showed a higher degree of progress in terms of increasing the number of toilets. Further, the general status of power supply is better in the CAIM villages as compared to the control ones. No distinct difference in the road condition was observed in the CAIM villages as compared to their control village counterparts.

General Crop Condition

The major crops produced in the selected areas of Maharashtra are cotton, soybean, tur, gram, wheat, vegetables, fruits and fodder. Intercropping is also practised in some of the crops, such as intercropping of cotton with tur, and of soybean with tur.

The prevalence of black cotton soil and a considerable difference in the day and night temperatures in the area makes it suitable for cotton farming. The area is, in fact, an established cotton tract of the country. Being a cash crop, and raw material for industry, cotton offers farmers an opportunity to earn high returns, though like all agricultural commodities, cotton too faces periodic fluctuations of demand and supply.

BCI, Organic and LEISA Farming

Various measures like Better Cotton Initiatives (BCI), organic farming, and Low External Inputs for Sustainable Agriculture (LEISA) were adopted in

the CAIM villages for substantially lowering input costs and achieving higher productivity of cotton and other crops. These initiatives have resulted in a general shift to non-conventional farming.

The change in the net incomes of farmers adopting BCI is quite encouraging. Among those who adopted all aspects of BCI, 74 per cent reported increased net incomes.

Availability of Inputs

The share of irrigated area in all the selected CAIM villages, except in Amravati district, was higher than in the control villages. The major sources of irrigation in the selected villages of CAIM were borewells and open dug wells, whereas in the selected control villages, these were open dug wells and canals.

Most of the Soil and Water Conservation (SWC) work in the CAIM villages was carried out through the convergence of various government schemes. Most households reported positive results for SWC works. The key activity carried out was that of developing rainwater harvesting structures. The respondents reported improvement in both the water table and the domestic supply of water. This facilitated an increase in the area under irrigated crops, adoption of multiple crops, and increased yield.

Marketing Intervention

About 29 per cent of the respondents reported that they preferred the use of Farm Gate for selling their produce, whereas 64.8 per cent asserted that they preferred to sell their produce in the market. Only about 4 per cent reportedly pooled production and the market in a group to get the benefit of collective bargaining.

Income and Income Conditions across CAIM and Control Villages

Income is the most important indicator of development, and it was seen to have inter-district variations for both the treatment (CAIM) as well as the control villages. Income levels were seen to increase significantly among the households from in the treatment villages (73.7 per cent) as compared the control villages (51.5 per cent). Among the CAIM villages, a smaller percentage of households registered no change in incomes, as compared to the corresponding figure of respondents from the control villages. A similar trend was observed in the case of decrease in incomes.

It may be noted that the significant positive change in incomes for respondents of the CAIM villages was the outcome of improved income from farming in all the six CAIM districts. However,

there was a notable variation among districts, such as between the districts of Akola and Washim. On the other hand, there was a marginal variation in the changes between the CAIM and control villages with respect to non-farm and wage activities.

Change in Household Income due to Non-Farm Enterprises

The change in households' income due to non-farm activities varied across the districts among both the CAIM and control villages during the project period. In the CAIM villages, about 14 per cent of the households reported an increase in their household income as against a corresponding figure of 5 per cent in the control villages. This points to a positive impact of the intervention of CAIM on household income. Almost an equal proportion (about 60 per cent) of households reported no change in household income during the project period in both the CAIM and control groups. About 3 per cent of the households in the CAIM villages, and 4 per cent in the control villages reported a decrease in household income during the project period. The non-responses for this issue were higher in the control villages as compared to the CAIM villages.

Financial Inclusion across the CAIM and Control Villages

The amount of savings it has in bank accounts is the key indicator of the financial and livelihood security of any household. It may be noted that around 90 per cent of the households had savings in bank accounts in the CAIM-supported areas as compared to a corresponding figure of only 80 per cent in the control areas.

The CAIM villages also exhibited the ability to take formal loans from banks, followed by SHGs, which have achieved considerable penetration in the selected districts of Vidarbha. The share of savings bank loans was almost 62 per cent of the total, followed by 32 per cent for loans from SHGs.

There were varied applications of formal loans by borrowers, by respondents from both the CAIM and control villages. The loan application pattern in the CAIM villages indicated a higher use of loans for farming and horticulture (54 per cent), followed by that for livestock (13.8 per cent), and education (10.5 per cent). The loan use pattern in the control villages too pointed to a higher percentage use of loans for farming and horticulture (67 per cent), followed by education (9.5 per cent), and house and property (6.3 per cent).

It has been observed that it is easy and convenient to raise finance from informal sources but taking such loans, especially among the distressed rural population, is also a major reasons

for the rural distress. In most cases, such funds/loans do not have legal sanctions and also bear exorbitantly high rates of interest, resulting in perennial indebtedness for the borrower. Overall, the study found a lower inter-district variation with regard to informal loans as compared to the formal loan component.

Financial Inclusion Based on Land and Income Distribution

Since land is a key constituent of farming activities in the rural hinterland, land ownership is a prime factor of livelihood for the farming community. A sizeable section of the respondents had landed assets but a considerable number of respondents also did not possess any land of their own, including 31 per cent and 36 per cent of the respondents in the CAIM and control villages, respectively. Among the landowners, 69 per cent were marginal farmers, 21 per cent were small farmers, and 11 per cent were large farmers in the CAIM villages, while the corresponding figures were 76 per cent, 16 per cent, and 8 per cent, respectively, in the control villages. The ELS showed a distinct borrowing pattern from both the formal and informal sectors sources based on land distribution.

The share of loans taken by marginal and landless farmers from formal sources was lower than the corresponding figures for small and large farmers. However, the marginal, landless, and small farmers often resort to informal sources of loans, which may be detrimental to their financial security. In the control villages, the marginal and landless farmers reportedly got fewer formal loans as compared to their counterparts in the CAIM villages, and the same trend was observed for small and large farmers too. However, there was a high degree of inter-district variations. The loan intake of Buldhana district for both the CAIM and control villages are low, while the Yavatmal and Washim districts were at the other extreme. Another striking feature emerging from NCAER's ELS was that a higher number of women in all the districts availed of formal loans as compared to men. The total proportion of formal loans taken by women was 63.4 per cent as against a corresponding figure of 46.8 per cent for men. The higher share of formal credit and lower share of informal loans availed of by women is a strong indicator of women's empowerment stemming from the CAIM programme.

Other Parameters of Women's Empowerment

Women's empowerment is also a significant indicator of equal entitlement in an otherwise gender-discriminated society. The CAIM

programmes targeted women's empowerment as an exclusive programme through various initiatives such as debt redemption, drudgery reduction, micro-livelihood plan, ultra-poor support, social enterprise, and joint asset ownership.

The programmes for women's empowerment were, however, not restricted only to the CAIM areas but were also a part of the relevant schemes implemented by both the State and Central Governments in the control households. The programmes in the CAIM villages had a robust impact as women's empowerment was seen to increase substantially, by 56.2 per cent, in the CAIM households as compared to that in the control ones, by 28.8 per cent. This also reflects the notable success of CAIM programmes to engage women through different programmes for both farm to non-farm enterprises since the initiation of the programme in 2012.

Housing and Sanitation Conditions

Housing and sanitation facilities are manifestations of development and economic advancement. The ELS by NCAER checked the status of housing and sanitation by comparing the CAIM and control villages, and found a higher proportion of kutcha houses in the control villages, in contrast to the CAIM villages, which had a high number of semi-pucca and pucca houses.

Since the provision of sanitation, water, and electricity is a pre-requisite for improving living conditions, it is obvious that by focusing on these facilities, CAIM ushered in development in the selected villages through its productivity-enhancing and income generation activities.

Food Security

Food security is an inherent aspect of sustainable livelihoods. The data from the ELS reveals a striking feature concerning food security. It was observed that 40.1 per cent of the households of marginal landowners faced food shortages in CAIM villages, while the corresponding figure for the control villages was 42.2 per cent. Similarly, only 8.5 per cent of the households of medium landowners faced food shortages in CAIM villages as compared to a higher corresponding figure of 11.4 per cent for households of medium landowners in the control villages.

Moreover, the vulnerability of households to food shortage varied across different income groups. It was observed that households in the lowest income category of less than Rs 15,000 per month faced acute food shortages in both the CAIM and control villages, with their respective

shares being 61.4 per cent and 62.6 per cent. The intensity of food shortage, however, decreases with an increase in the income range.

Focus Group Discussions

The participants in the Focus Group Discussions (FGDs) displayed awareness of their households receiving various benefits and inputs like goatry, poultry, buffaloes, farm ponds, and fodder. The participants also appreciated the role played by the Mahila Arthik Vikas Mahamandal (MAVIM), and Community Managed Resource Centres (CMRCs) for their overall development. According to them, goatry is the most popular livestock as the farmers receive more profits with comparatively low input cost. Buffaloes are also considered as popular livestock, but due to the lack of adequate fodder and marketing facilities, the potential of this activity could not be optimised.

After the CAIM intervention, there was evidence of greater awareness and literacy regarding banking transactions among women. All the women in the selected areas were associated with at least one SHG. Most of the members readily revealed that their incomes as well as savings had increased due to the CAIM interventions. They also reported the purchase of assets like motorcycles, colour television sets, refrigerators, and fans, among other things, out of the surplus funds accumulated from economic activities started under CAIM.

SHG and CMRC Development

The outputs and outcomes pertaining to this component may be rated as satisfactory. CAIM extended requisite support to MAVIM for the implementation of this component. The various initiatives of CAIM, undertaken in collaboration with the CMRCs and SHGs, which included setting up of agriculture service centres, goat rearing, poultry, and Broad Bed Furrow (BBF) planters. Measures such as Better Cotton Initiative (BCI), ultra-poor support and debt redemption have not only improved the profile of CMRCs and SHGs in the CAIM villages but also enabled MAVIM to implement agriculture-related activities.

Conclusion

In overall analysis, the CAIM programme has succeeded to a large extent in bringing about noticeable and sustainable improvement in the living conditions of the households and villages in distress, especially the ultra-poor households. The lessons learnt from the implementation of this programme may help evolve future programmes to bring about quantum improvement in the lives of millions of poor and downtrodden of this country.

OUTLINE OF THE REGION

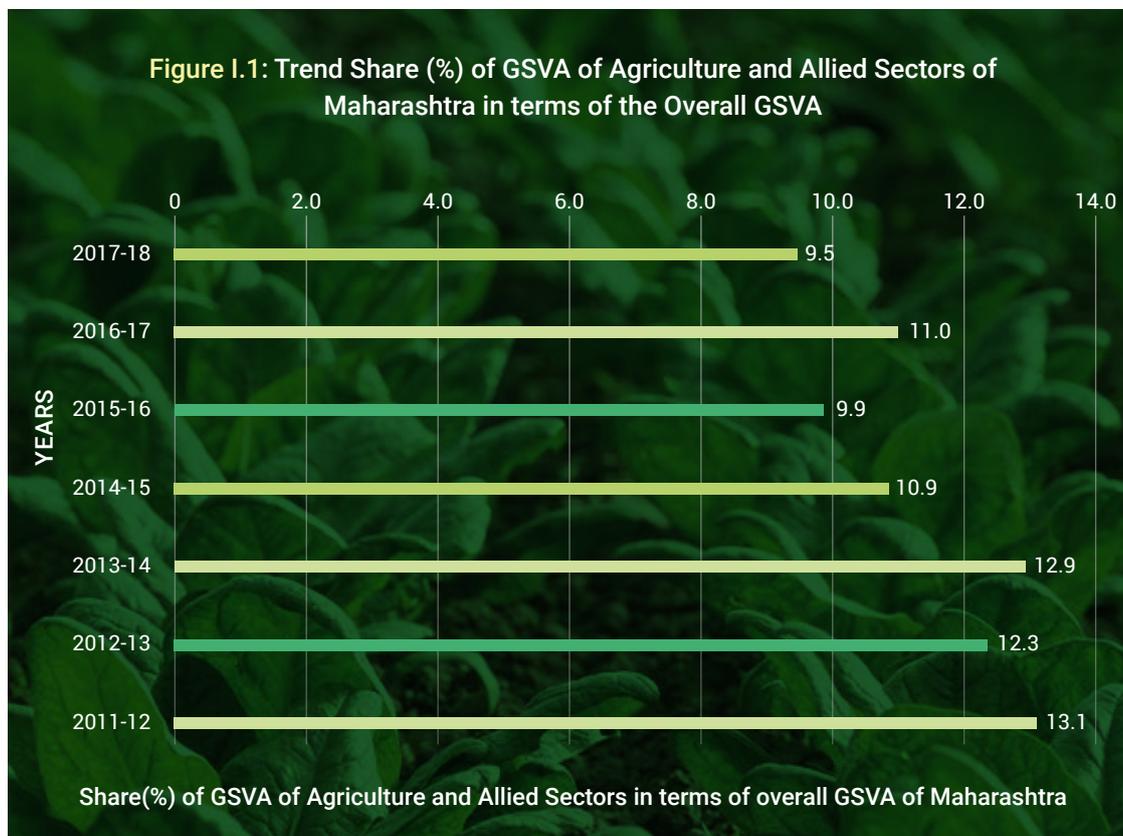
Impact of Convergence of Agricultural Interventions in Maharashtra (CAIM)

I.1 Introduction

Maharashtra is the second most populous state in the country after Uttar Pradesh and the third largest state by area coverage (307,713 km²), distributed into 36 districts across five regions, viz. (i) Vidarbha, (ii) Marathwada, (iii) Khandesh, (iv) Western Maharashtra, and (v) Konkan. Maharashtra is characterised by the co-existence of very affluent households alongside very poor households. As per the 2011 Census, Maharashtra is home to 11.24 crore people, of which the Scheduled Castes (SCs) and Scheduled Tribes (STs) together account for 21.2 per cent. The SC and ST population of the state is higher than the national average of 20.7 per cent with a wide inter-district variation.

As per the Economic Survey (2017-18), the per capita income for Maharashtra is Rs 165,491 in 2016-17 (at current prices) with a wide inter-district variation. However, the overall per capita income of the state is much higher than the national average of Rs.103,870 for the same period. The economy of Maharashtra has been growing rapidly in the recent decade with a consequent decline in rural poverty from 59 per cent in 1993-94 to 24.2 per cent in 2011-12.

Agriculture is the mainstay of the state in terms of employment in rural areas. However, the share of agriculture and allied GVA to SDGVA declined from 13.1 per cent in 2011-12 to 9.5 per cent in 2017-18 at constant prices (at 2011-12) (Figure I.1).



Source: Economic Survey of Maharashtra, 2018.

A low level of agricultural productivity, crop losses, and inadequacy of modern inputs such as High-yield Variety (HYV) seeds, fertilisers, and irrigation have, among other factors, contributed to the decline mentioned above. The total agricultural area of the state is about 17,406,000 hectares, of which only about 17 per cent is irrigated. In comparison, the irrigated area available for agriculture in the Vidarbha region within the state is quite low at 5 per cent. One of the major crops grown in Vidarbha is cotton, which entails a high input cost of cultivation in addition to the need for water. However, the lack of irrigation facilities in the region puts farmers in a precarious position, especially due to the frequent occurrence of crop failures caused by uncertain and low levels of rainfall. Such frequent crop failures impose a significant debt burden on the farmers.

The Vidarbha region has been declared as a 'vulnerable' region by the state government and some of its districts have been identified as distressed districts, as they are characterised by a high level of poverty, low agricultural productivity, and high infant mortality. The Government of India has implemented various flagship projects inter-alia for the development of the region, including: (i) construction of farm ponds, (ii) creation of a low-cost onion storage structure, (iii) surveillance and monitoring of pest and disease for the soybean and cotton crops, and an (iv) Artificial Insemination (AI) delivery system (Annual Report 2017-18, Department of Agriculture, GOI). The Government of Maharashtra, on its part, has introduced various schemes for the upliftment of ultra-poor households in these districts. Convergence of Agricultural Interventions in Maharashtra (CAIM) is one of these schemes, which was implemented in six distressed districts of the Vidarbha region from 2012 to 2018.

I.2 Demography of the Project Area

The Vidarbha region of Maharashtra consists of 11 districts, of Maharashtra out of which six districts, viz. Akola, Amravati, Buldhana, Wardha, Washim, and Yavatmal, were identified as critically distressed on account of the prevailing suffering of the rural populace, which required immediate intervention. The total population of these six districts, as per the 2011 Census, was 12.6 million, which is equivalent to 11.2 per cent of the State's population. The population of these districts

ranges from 1.2 million in Washim to 2.9 million in Amravati (Table I. 1). The SC and ST populations are much higher in these districts than the State average (21.2 per cent), ranging between 23 per cent in Buldhana to 31.5 per cent in Amravati.

The average per capita income of these districts ranges from Rs 79,985 in Washim to Rs 1,34,052 in Wardha, both of which are substantially lower than the State average of Rs 1,65,491.

TABLE I.1: District-wise Population (2011 Census) and per Capita Income of Vidarbha

Districts	Total Population (No.)	Scheduled Castes (No.)	Scheduled Tribes (No.)	Percentage of SCs and STs to the Total Population	Per Capita GSDVA 2016-17 (Rs)
India	12,101,93,422	16,66,35,700	8,43,26,240	20.7	1,03,870
Maharashtra	1,12,37,2972	1,32,75,898	10,510,213	21.2	1,65,491
Selected 6 districts of Maharashtra					
Akola	18,18,617	3,64,059	1,00,280	25.5	1,22,687
Amravati	28,87,826	5,06,374	4,04,128	31.5	1,17,954
Buldhana	25,88,039	4,70,895	1,24,837	23.0	85,227
Yavatmal	27,75,457	3,28,518	5,14,057	30.4	98,661
Washim	11,96,714	2,29,462	80,471	25.9	79,985
Wardha	12,96,157	1,88,830	1,49,507	26.1	1,34,052
Total*	1,25,62,810	20,88,138	13,73,280	27.6	-

*Total of Six districts ;
Source: Census of India, 2011.

I.3 The Agricultural Sector

Agriculture is the mainstay of the economy in the Vidarbha region, with the local population having hardly any other non-farm activities to fall back upon. A combination of several factors has led to agrarian distress in this area. These are: (i) scanty and irregular rainfall, (ii) progressive depletion of soil fertility, (iii) low level of irrigation facilities, (iv) mono-cropping, (v) indiscriminate use of fertilisers, and (vi) low use of HYV seeds. Adverse market conditions have also added to the people's miseries. Table I.2 presents details of the area under cultivation (net sown area), net irrigated area, rainfed area, and cropping intensity in the six distressed districts identified for implementation of the CAIM project in the Vidarbha region. The irrigated area varies in the order of 5, 6, 4, 4, 1, and 7 per cent of the cultivable land, respectively, in Akola, Amravati, Buldhana, Yavatmal, Washim, and Wardha as compared to a corresponding state average figure of 17 per cent. The cropping intensity is also much lower than the state average, except in Wardha district. The major agricultural crops grown in these districts are cotton, soybean, Kharif jowar, grams, wheat, pigeon pea, chickpea, and Kharif sorghum, among others. The major

horticultural crops are mango, orange, sapota, kagzi lime, mausumbi, guava, ber, jujube, custard apple, and banana, among others. The main vegetables grown in these districts are onion, potato, tomato, brinjal, cabbage, cauliflower, beans, ladyfinger, bitter gourd, fenugreek, spinach, dolichoas beans, and cucumber (Table I.3). Due to the lack of adequate market and transportation facilities, and export mechanism, the farmers are not able to get an adequate return for their crops. District-wise data is not available in the latest Agricultural Census, 2015-16. However, the proportion of marginal farmers increased from 48.97 per cent in 2010-11 to 51.39 per cent in 2015-16, whereas the proportions of small farmers, semi-medium farmers, and medium and large farmers declined in Maharashtra. It has been observed that in Maharashtra, the proportion of marginal farmers is much lower than the corresponding national average whereas the proportions of small farmers, and semi-medium and medium farmers are higher than the corresponding national average. This implies that a large number of farmers in Maharashtra are holding farms of a reasonable size (Table I.4).

TABLE I.2: Details of Area under Cultivation-Net Sown Area ('000 hectares)

Districts	Total Area (Sq Km)	Area under Cultivation	Net Irrigated Area	Rainfed Area	Cropping Intensity (per cent)
Akola	5676	455		441.60	120.9
Amravati	12,210	766	51.30	540.70	118.3
Buldhana	9661	740	43.45	407.12	106.1
Yavatmal	13,582	884	35.40	839.30	101.6
Washim	4898	368	5.50	402.20	109.8
Wardha	6309	473	31.85	399.71	155.6
Maharashtra*	30.80	17.41	3.94	13.99	129.0
India*	328.7	140.1	68.40	84.10	

Source: Statistical Abstract of Maharashtra.

Note: *The figures for Maharashtra and India figures are in million hectares.

TABLE I.3: Major Crops Grown in Districts of the Vidarbha Region

Districts	Agricultural Crops	Horticultural Crops	Vegetables
Akola	Cotton, Soybean, Kharif Jowar, Gram, Pigeon pea, Wheat	Mango, Sapota, Orange	Tomato, Brinjal, Cabbage, Cauliflower, Beans, Ladyfinger, Bitter Gourd, Fenugreek, Spanish
Amravati	Soybean, Cotton, Pigeon pea, Sorghum, Gram, Chickpea, Wheat	Orange, Mango, Mausumbi, Kagzi lime, Ber, Banana,	Tomato, Brinjal, Cabbage, Cauliflower, Beans, Ladyfinger, Bitter Gourd, spinach, Onion, Others
Buldhana	Cotton, Soybean, Pigeon pea, Kharif Sorghum, Gram	Mango, Orange, Kagzi lime, Mausumbi, Guava, Ber, Custard apple, Banana, Sapota	Onion, Tomato, Cauliflower, Ladyfinger, Brinjal, Cabbage, Fenugreek, Custard Apple, Bean, Potato
Yavatmal	Cotton, Soybean, Pigeon pea, Sorghum, Grams	Orange, Mango, Sapota	Tomato, Brinjal, Cabbage, Onion, Potato, Cauliflower, Custer Bean, Bean, Ladyfinger, spinach, Fenugreek, Bitter Gourd, Cucumber,
Washim	Cotton, Soybean Gram, Wheat, Sunflower	Mango, Orange, Sapota, Mousambi, Guava, Aonla, K. Lime, Custard Apple, Ber	Tomato, Brinjal, Cabbage, Cauliflower, Beans, Ladyfinger, Bitter Gourd, Ridge Gourd, spinach, Cucumber.
Wardha	Soybean, Cotton, Pigeon pea, Wheat, Chickpea	Mandarin, Mango, Custard Apple, Aonla, K. Lime, Sweet Orange, Banana, Ber	Tomato, Onion, Cole Crop, Leafy Vegetables, Brinjal
Maharashtra	All Cereals, All Pulses, All Foodgrains, Sugarcane, Cotton		

Source: Agricultural Census-2015-16, Gol.

TABLE I.4: Size of Landholdings in per cent in Maharashtra

Size of Landholdings	Maharashtra		All India	
	2010-11	2015-16	2010-11	2015-16
Marginal farmers (up to 1 ha)	48.97	51.39	67.10	68.52
Small farmers (1-2 ha)	29.58	29.33	17.91	17.69
Semi- Medium (2-4 ha)	15.76	14.39	10.04	9.45
Medium Farmers (4-10 ha)	5.19	4.47	4.25	3.76
Large Farmers (> 10 ha)	0.50	0.41	0.70	0.57

Source: Agricultural Census, 2015-16, Gol.

I.4 Rainfall Trends

Around 90 per cent of the area under cultivation in the Vidarbha region is rainfed. The region used to enjoy assured rainfall, of an average of 800 mm. However, both the annual rainfall and monsoon season rainfall declined across the districts in the region from 2012 to 2017 (Figures I.2 and I.3).

The decline of both annual rainfall and monsoon rainfall was much higher in five of the selected districts except Buldhana. All the six districts, however, received much lower rainfall as compared to the corresponding state average, leading to distress among farmers due to low farm productivity and meagre returns in 2017.

FIGURE I.2: Trends of Annual Rainfall

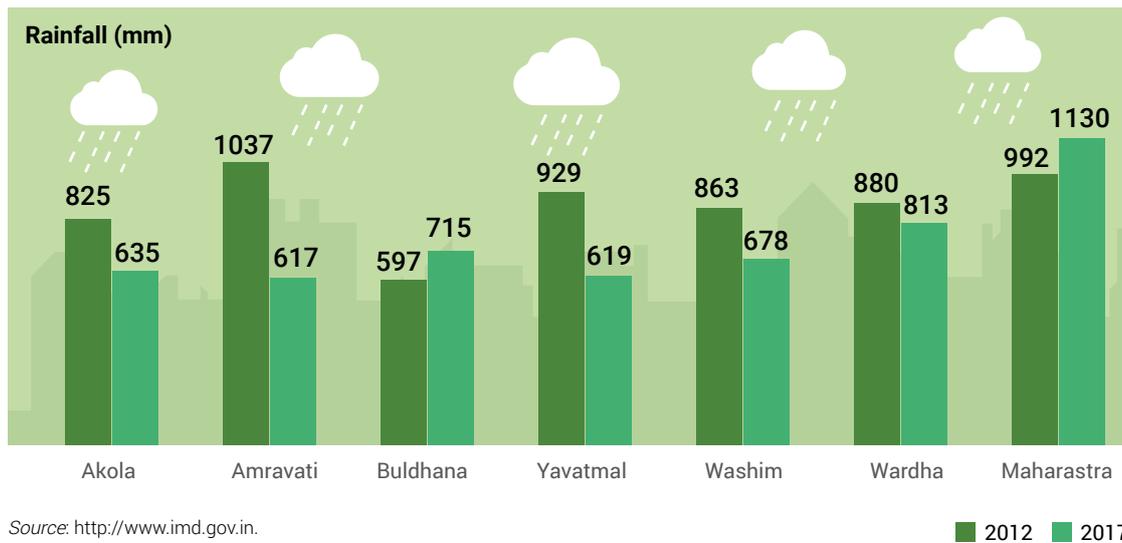
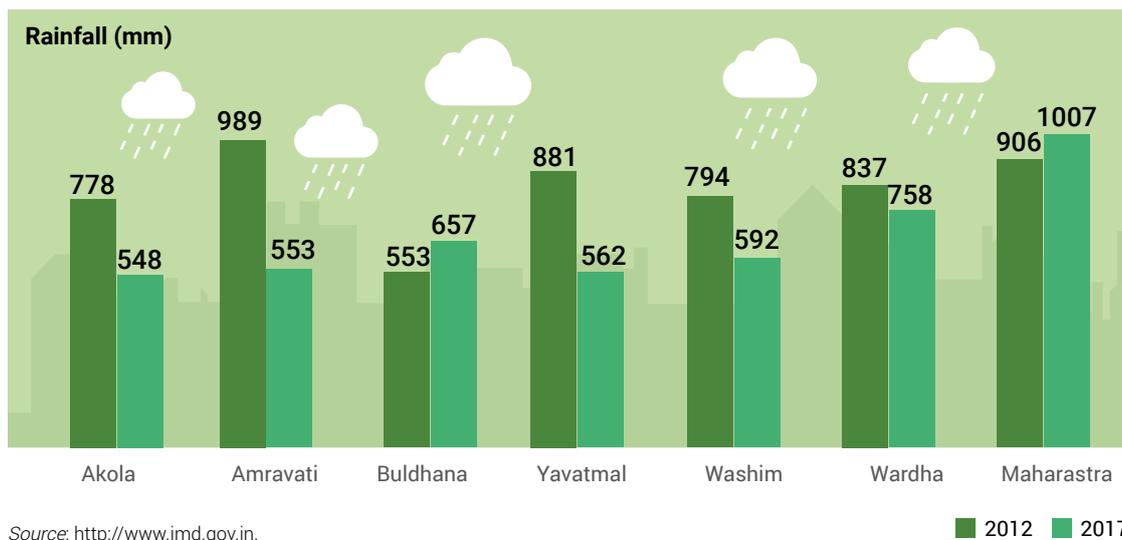


FIGURE I.3: Trends of Monsoon



I.5 The Livestock Sector

The farmers also earned a significant share of their incomes from the sale of livestock products. According to the NSSO 70th Round, the income received from animals/livestock ranges from Rs 3214 for a land size category of up to 1 hectare to Rs 10,016 for a land size category of more than 10 hectares. Income from milk contributes 41 per cent of the total income from livestock animals, for landholding groups owning less than one hectare of land to 71 per cent for groups with large landholdings.

The Government of Maharashtra implemented a scheme called, 'Gowardhan Govansh Seva Kendra', in 2017 to improve the production of livestock in 34 districts in the state except the Mumbai and Mumbai Suburban districts. The main objectives of the scheme are to: (i) ensure care for of livestock which are useful for dairy products, farming, and animal husbandry; (ii) provide feed, water and shelter for these livestock, (iii) implement a fodder production programme for livestock in these centres, and (iv) encourage the production of various products like fertilisers, gobar gas, and other by-products from cow urine and cow dung. During 2017-18, the government allocated an amount of Rs 34 crore for setting up the Gowardhan Govansh Seva Kendra in 34 districts, including Rs one crore for each district.

In order to improve the growth of the fisheries sector, the Government of Maharashtra implemented a scheme called 'Neelkranti Mission' in 2017 with the following objectives: (i) tapping the total fish potential of both the inland and marine sectors and tripling the production by 2020; (ii) doubling the incomes of fishermen and fish farmers for their produce, with special focus on increasing productivity and ensuring better marketing and post-harvest infrastructure, including the use of e-commerce, other technologies, and best global innovations; and (iii) tripling export earnings by 2020, with as focus on the flow of benefits to fishermen and fish farmers.

As per IFAD Report, 2018, CAIM supported 2517 dairy units, 39 milk collection centres (MCCs), and fodder development in 5355 hectares of land. The project also supported 2830 households for goat-rearing and 15,962 households in backyard poultry during the project period. The project allocated para-vets to Community Managed Resource Centres (CMRCs). The Mahila Arthik Vikas Mahamandal (MAVIM) established a system of fee-based support to livestock farmers in the project area, covering activities such as vaccination, deworming, and primary treatment. The project also covered various livestock-related activities for extending sustainable livelihood opportunities to small, marginal, landless, and distressed farmers and farm workers.

Table I.5 presents the growth trend in the production of milk, eggs, and wool in the six distressed districts of Vidarbha. The production of the livestock sector varies across the districts. This initiative was taken in the context of a steep downturn in milk production in Maharashtra, from 7210 million kg in 2007-07 to 1040 million kg in 2016-17, signifying a decline of 85 per cent decline over the initial year (2007-08). Milk production in the six distressed districts also showed a similar alarming downward trend.

In contrast, in the case of egg production (poultry), there was a healthy growth of 58 per cent in the state over the same period, viz., 2007-08 to 2016-17. However, out of the six beneficiary districts, only two districts, viz., Amravati and Yavatmal, registered growth in egg production during the same period.

In the case of wool production also, there was a decline in all the districts except Amravati and Yavatmal. This implies that the low contribution of the livestock sector to farmers' incomes in these districts, particularly the marginal and landless farmers, is one of the root causes of their distress.



TABLE I.5: Progress of Livestock

Districts	Milk Production (Lakhs Kg)		Eggs Production (Lakhs)		Wool Production (MT)	
	2007-08	2016-17	2007-08	2016-17	2007-08	2016-17
Akola	567.92	80.12	340.30	48.19	2.08	1.93
Amravati	962.00	190.76	680.08	1843.33	11.72	38.45
Buldhana	1411.48	141.74	875.74	351.22	49.50	52.95
Yavatmal	980.32	162.99	398.26	430.74	4.00	11.55
Washim	548.29	94.16	279.77	118.29	1.37	4.26
Wardha	719.69	73.78	553.52	426.12	1.78	0.39
Maharashtra	72097.49	10402.15	34578.01	54773.55	1676.79	1406.65

Source: Animal Husbandry Statistical Booklet, 2007-08 and 2016-17, Maharashtra.

I.6 Work Participation Rates

As per the 2011 Census, the work participation rate in Maharashtra is much higher than the national average with a wide inter-district variation. The highest work participation rate among males was observed in Wardha, at 58.7 per cent, followed by Yavatmal, at 57.4 per cent, Amravati, at 56.6 per cent, Akola, at 55.8 per cent, and Buldhana and Washim, at 54.9 per cent each. Similarly, the proportion of agricultural labourers in these districts is also much higher than the corresponding state average, implying a low level of income earned from agricultural activities.

TABLE I.6: Work Participation Rates (2011 Census)

Districts	Percentage of Workers			Percentage of Cultivators			Percentage of Agricultural Labourers		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Akola	55.8	28.1	42.3	18.0	14.5	16.9	42.8	66.9	50.6
Amravati	56.6	28.3	42.8	18.3	11.5	16.1	46.0	71.0	54.0
Buldhana	54.9	38.9	47.2	31.6	31.6	31.6	43.0	59.2	49.5
Yavatmal	57.4	40.0	48.9	26.2	22.2	24.6	46.5	66.7	54.6
Washim	54.9	39.8	47.6	30.2	27.4	29.1	48.1	63.8	54.4
Wardha	58.7	34.1	46.8	23.6	18.6	21.9	36.7	64.1	46.4
Maharashtra	56.0	31.1	44.0	23.1	29.6	25.5	20.8	39.9	27.3
India	53.3	25.5	39.3	24.9	24.1	24.6	18.6	55.2	29.96

Source: Census of India, 2011.

I.7 The Poverty Scenario

Even though the per capita income of some of the districts in Vidarbha like Akola, Amravati, and Wardha was higher than the corresponding national average in 2016-17, the proportion of the population below the poverty line in all the districts except Wardha was much higher than the state average of 18 per cent (Table I.7). In 2002, the

population below the poverty line in Maharashtra was 35.7 per cent, which declined to half by 2013-14. The poverty ratio declined to more than half during the same period, viz., 2002 to 2013-14, in Akola, Amravati, and Wardha. The population below the poverty line declined marginally in Buldhana, Yavatmal, and Washim.

TABLE I.7: Proportion of Population below the Poverty line and Beneficiaries of MGNREGA

Districts	MGNREGA Beneficiary Households per 1000 Households	Percentage of Rural Households Below the Poverty line	
		2002**	2013-14***
	2013*		
Akola	95	48.1	22.4
Amravati	13	48.6	20.6
Buldhana	33	44.5	26.3
Yavatmal	194	45.5	30.8
Washim	68	43.1	29.1
Wardha	149	41.1	17.5
Maharashtra		35.7	18.0

Sources: * Report on District Level Estimates for Maharashtra 2013-14, Government of India.

** Rural poverty scenario Maharashtra-Yashada http://www.yashada.org/pdfs/Presentation_Thackeray_Sir.ppt; *** Spatial Poverty in Maharashtra, by Dr Laveesh Bhandari and Minakshi Chakravarty, *Live Mint*, 05 January 2015.

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) programme has been implemented across India to reduce poverty. Various studies show that MGNREGA has reduced poverty through employment generation and income. This

is because the scheme attracts poor and vulnerable people like wage earners, STs, SCs, and marginal farmers. The proportions of MGNREGA beneficiaries per 1000 households are 13, 33, 68, 95, 149, and 194 per cent, respectively, in Amravati, Buldhana, Washim, Akola, Wardha and Yavatmal.

I.8 Background of CAIM Interventions in Selected Districts

The Vidarbha region in eastern Maharashtra came into sharp focus for the wrong reason, that is, a spate of farmer suicides during the initial decade of the millennium. This distressing situation in this primarily agrarian-impelled economy was the outcome of various factors inter-alia, that is, successive years of drought accompanied with low yields, poor market access, dependence on private moneylenders, and prevalence of unfair trade practices. Increased input costs also aggravated the farmers' woes, leaving them severely debt-ridden.

As mentioned earlier, it was with the objective of alleviating the distress of farmers in the region that the Government of Maharashtra initiated the CAIM programme in the six most distressed districts of Vidarbha, viz., Akola, Amravati, Buldhana, Wardha, Washim, and Yavatmal. The programme was funded by an IFAD Loan of SDR 26.82 million equivalent to US \$ 40.1 million, and an IFAD grant of SDR 67,000 equivalent to US \$ 1 million. The programme has also been co-funded by the (i) Sir Ratan Tata Trust and other Tata Trusts (TT) with a grant equivalent to US\$ 16 million equivalent

to INR 752.37 million, and (ii) Government of Maharashtra, which contributed US \$37.6 million, equivalent to INR 1880 million, as convergence and counterpart funding.

The programme financing agreement was signed on September 30, 2009. The IFAD loan and grant became effective on and from December 2009. The actual project implementation accordingly commenced from 2010-11 after the project management was put into place. The project period initially was up to December 31, 2017, which, however, was extended up to December 31, 2018, to ensure better utilisation of the available funds.

The overall goal of the CAIM programme has been to develop resilient, sustainable, and diversified households, and on-farm and off-farm

livelihoods enabling households to face climatic and market vagaries without falling back into the trap of poverty and distress.

The Maharashtra State Agricultural Marketing Board (MSAMB) was the Lead Programme Agency and a Programme Management Unit (PMU) at Amravati along with the Districts Programme Management Team (DPMT). The programme was implemented in a sub-project mode. The sub-projects were clusters of villages and the intervention was designed with an end-to-end approach. NGOs, registered institutions, and private corporate companies were encouraged to get associated with the designing and implementation of the programme. The programme outlay was set at INR 5932.3 million for a period of eight years, from 2011 to 2018. The funding pattern for CAIM is given in Table I.8.

TABLE I.8: The Funding Pattern for CAIM

Financial Agencies	Amount (\$000)	Amount in INR (Million)
Government of Maharashtra	376.02	188.01
IFAD Loan	411.09	205.55
Sir Ratan Tata Trust, Grant	160.07	80.03
Beneficiaries Share	36.09	18.04
Banks Credit	145.39	72.69
Private Sector	57.79	28.89
Total	1186.45	593.23

Source: Project Monitoring Unit, Amravati, Maharashtra.

The key purposes and objectives of the CAIM programme are to: (i) improve household incomes from diversified farming and off-farm activities; (ii) render farming systems resilient with the introduction of organic and low-input contract farming; (iii) facilitate the involvement of farmers' groups in primary processing, quality enhancement, and marketing; (iv) empower women through micro-finance and micro enterprises; and (v) achieve convergence of government programmes and resources through the Agricultural Technology Management Agency (ATMA).

The beneficiary groups of the programme are rural households belonging to the: (a) SCs, (b) STs, (c) Landless labourers, (d) Rural women, (c) Small and marginal farmers, and (d) Farmers facing agrarian distress. CAIM has been implemented

in villages with predominant populations of BPL households, after identification of the poor and their needs, using a bottoms-up approach, where households would be facilitated to join self-help groups (SHGs) and strengthen their own organisations. In order to avert the possibility of the economically better-off households capturing the benefits of the programme, a wealth ranking process was used. The list of identified households was placed before the Gram Sabha for validation while the beneficiaries for each village were selected.

The programme envisages targeting of about 1606 villages in 64 clusters in the six selected districts in the Vidarbha region. The number of villages and blocks among the selected districts are given in Table I.9.

TABLE I.9: Coverage of the Programme

Districts	Number of Revenue Villages as per 2011 Census	Number of Blocks	Number of CAIM Villages
Akola	864	7	159
Amravati	1637	14	328
Buldhana	1300	13	282
Wardha	973	8	228
Washim	698	6	148
Yavatmal	1853	16	461
Total	7325	64	1606

Source: Project Monitoring Unit, Amravati, Maharashtra.

I.9 CAIM Programme Components

The programme objectives are sought to be achieved through three major components. The major components and their sub-components are given below. The sub-components are also major interventions envisaged in the sub-projects. Component 1: Institutional capacity building and partnerships—The sub-components are:

(i) Partnership building, and (ii) SHG & CMRC development. Component 2: Marketing linkages and sustainable agriculture—The sub-components are (iii) Market linkage, (iv) Sustainable agriculture (v) In situ water conservation, (vi) LEISA/organic farming, and (vii) Breed improvement of local cattle. Component 3: Programme management.

I.10 Institutional Capacity Building

The component of institutional capacity building includes: (a) publicity/information dissemination on the project in the project area, including information on activities under the project, (b) mobilising the village community, especially the Panchayati Raj Institutions (PRIs) for soil and water conservation and other agricultural development on a focused and sustained basis, establishing representative and inclusive Village Development Committees (VDCs), and (c) organising the villagers and target groups and beneficiaries so that they can represent their interests in decision-making bodies—this would especially involve the establishment of representative and inclusive VDCs, SHGs, farmers' groups/Joint Liability Groups (JLGs) and CMRCs, (d) building and strengthening bonds of solidarity and support, especially amongst women

groups (SHGs) to provide emotional support to distressed families and persons, (e) providing counselling services to those in debt and emotional stress, (f) organising producers into producer companies for providing necessary services for the producers, including inputs, technology, assistance in marketing of produce, and where feasible, processing/value addition, (g) undertaking various capacity building measures in line with the objectives of all the sub-components to enable building of institutional as well as human capacities, and (h) engaging with PRI structures at all levels as well as the concerned government agencies to secure goodwill and buy-in as well as access to the various resources available through these bodies.

I.11 Self Help Groups and Development of CMRCs

It was stipulated that MAVIM would engage the services of Non-Government Organisations (NGOs) for organising SHGs and CMRCs, and implementing the end-to-end projects through SHGs. The NGOs would be entrusted with the work of only forming SHGs and CMRCs, and linking them with various

activities for income generation farming and off-farming. Following the model of the International Fund for Agricultural Development (IFAD)-funded Tejaswini model of building sustainable SHGs, CMRCs would be formed for providing

need-based services to the SHGs. For promoting and strengthening clusters of 200 to 250 groups, a CMRC would be set up for about 50 villages. Under this programme, about 15,000 SHGs would be strengthened. The first step would be to map the existing SHGs and group them into locations with about 150 existing SHGs, with the potential to form/include an additional 50 to 100 new SHGs. The CMRCs would be responsible for strengthening

the existing groups. The Sahyoginis supported by Manager and the Community Accountant would train the SHG members, establish a proper bookkeeping system for the SHGs, and reconcile the accounts of the existing SHGs working towards establishing bank linkages. Each Sahyogini would be responsible for about 30–40 SHGs based on the geographical spread of the villages. Each SHG would be provided with a kit, including books of accounts and training materials.

I.12 Marketing Linkage and Sustainable Agriculture

There are 63 regulated markets in the project area under the control of the Agricultural Produce Marketing Committees (APMCs). The APMC markets serve farmers operating within a 10 to 15 km radius. However, in many cases, farmers have to travel long distances to sell their produce. All the cereals, pulses, and oilseeds are sold using an auction system of selling and procuring. The cost of transport is always high and farmers are thus compelled to sell their produce at the nearest markets at low price margins, especially in the case of some perishable commodities like vegetables and fruits. Amendments to the APMC Act, permitting direct purchases, free trading and movement of commodities, and involving private sector players have enhanced price margins to producers, particularly for soybean, cotton, red gram, and pulses. Sales take place through a number of registered traders and commission agents.

Farmers have been facing problems such as extensive mono-cropping, particularly of soybean, with high input costs but low returns in rainfed conditions, absence of low-input organic farming, severe erosion of traditional agro-biodiversity, and low crop diversification. On the basis of these constraints, it was proposed that the CAIM programme would address the following key issues: (i) Dissemination of information on Low-external Input Sustainable Agriculture (LEISA) to farmers through the Farmers Field School (FFS) approach, with a related emphasis on the use of organic farming and adoption of crop diversification, (ii) conduction of farm demonstration at the village level to demonstrate the advantages of organic farming among farmers' groups, producers' groups, and SHGs; and (iii) laying an emphasis on including seasonal vegetables in the proposed cropping patterns, and establishing linkages with markets.

I.13 In Situ Water Conservation

The farming system in the project area largely depends on rainfall. With increasing precipitations, some of the water is lost through run-off while dry spells tend to become longer. Non-availability of water at the required time has been one of the key factors responsible for crop failure. The overall objectives of this sub-component are to; (a) enhance in situ rainwater harvesting to increase the availability of water for agriculture, livestock, domestic, and livelihood purposes, (b) reduce soil erosion to preserve soil fertility and increase nutrient availability to crops, (c) mitigate and reduce risks caused by water scarcity, droughts, and floods, and (iv) increase the output and productivity of agriculture by securing at least one crop and possibly two, through an improvement in the soil moisture regime and provision of supplemental irrigation crop through well irrigation.

The expected benefits from this situ water conservation are: (i) a total of 1200 villages covering about 4,03,200 hectares of land would be treated under in situ water conservation measures, (ii) an estimated 1,96,800 landowning households would benefit from the SWC, (iii) a minimum of 3,600 farm ponds or at least three per village would be constructed, with pump sets and conveyance systems provided to each of them, (iv) a total 12000 local youth would have been well trained and be able to serve as 'resource agents' in their respective localities, thereby facilitating the availability of skills and knowledge post the project, and (v) a total of 12,000 VDCs would be formed and provided training and skill enrichment in the area of planning, governance, and natural resources management.

I.14 Breed Improvement of Local Cattle

Various factors such as poor rate of conception; poor quality of germplasm; inadequate breeding, feed resources and healthcare support, the existing facilities of which cover less than 20 per cent of the breedable population of the area; and lack of awareness and motivation among the livestock farmers, have resulted in slow and declining growth of the livestock sector, in general, and the dairy sector, in particular. The BAIF Development Research Foundation and other NGOs have developed a comprehensive cattle development programme to provide door-to-door services to the farmers. The objectives of this sub-component are to: (i) create gainful employment for the rural poor through dairy and livestock development, (ii) generate awareness regarding the socio-economic benefits of improving local cattle and buffaloes,

(iii) ensure income generation through enhanced production of milk, and (iv) promote nutritional security through enhanced supply of milk and farmyard manure, which, in turn, can boost agricultural production.

With the programme having completed eight years in December 2018, the programme authorities decided to evaluate the impact of the interventions undertaken through the project. In this context, the CAIM Project Director approached the National Council of Applied Economic Research (NCAER) to submit a proposal for carrying out an end line study to assess the project's impact. A baseline study had been conducted at the beginning of the project.

I.15 Scope of the Proposed Study

The study to be carried out by NCAER entailed undertaking an Endline Survey (ELS) to identify and document the impact of the CAIM programme on reduction of household poverty, a sustainable increase in household incomes, and increased household resilience to climate and market risks.

References:

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- Convergence of Agricultural Interventions in Maharashtra's Distressed Districts Programme, *Project Design Completion Working Paper*.
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METHODOLOGY AND APPROACH

The methodology followed for the study comprised an economic analysis of primary and secondary data, and extensive scanning of the extant literature, policy documents, and implementation and review reports. The NCAER team interacted extensively with the CAIM implementation team, funding agencies, and other concerned State government officials to gather valuable insights about how far the goals and objectives of the programme had been achieved. This was followed by analysis of the baseline information and the information arising out of the annual outcome surveys, which helped in ascertaining the comparative achievements vis-à-vis primary data collected during the ELS.

A typical feature of the CAIM programme has been that the beneficiaries were identified mostly during the course of the actual programme implementation. In India's context, for the implementation of agriculture-related programmes/schemes, the State government's role is that of a facilitator and the individual farmers are free to decide about their participation in the programme or otherwise. Accordingly, very few of the farmers (at most 20 per cent) identified for the participation in the programme during the baseline survey conducted at the initial stage of the programme, actually participated and reaped the benefits of the programme. This necessitated modification of the initial plan to collect primary data for the treatment group (beneficiaries) and control group (non-beneficiaries) in order to apply the DiD (Difference in Difference) method in equal proportion in a comparable framework. Apart from CAIM, 75 different schemes of the

Departments of Agriculture of both the State and Central Governments are being implemented in the identified six distressed districts of the Vidarbha. Accordingly, it would be difficult to quantify scheme-wise the gains achieved through each intervention/scheme if the domains of different schemes were to overlap with each other.

In view of these conditions, the Recall Method was chosen for conducting the primary survey, with the methodology devised through mutual consultation with IFAD and the Programme Management Unit (PMU)- CAIM. However, since the Recall Method does not preclude having both the beneficiaries as well as the control group for the survey, for facilitating a comparative framework, one control village from each of the 64 constituent blocks (that is, 64 villages) and 17 such households per village (that is, $64 * 17 = 1088$ households) were included for the primary survey. The list of the control variables was provided by the PMU-CAIM.

The overall number of villages in the 64 constituent blocks of the six distressed districts of Vidarbha was 240, out of which 64 villages were the control villages. Therefore, out of the remaining 176 treatment villages, 2992 beneficiary households (or 17 households per village for the 176 villages) were randomly selected as a representative sample for the primary survey. Thus, overall 4080 households (including villages from both the control and treatment groups) were subjected to the primary survey conducted for the study (Table II.1). The list of the selected CAIM and control villages is given in Appendix I.

TABLE II.1: SAMPLE SIZE

District	Clusters	Number of Villages		Sample Households		
		CAIM	Control	CAIM	Control	Total
Amravati	14	36	14	611	238	849
Akola	7	17	7	296	119	415
Buldhana	13	31	13	525	221	746
Washim	6	16	6	276	102	378
Wardha	8	8	8	425	136	561
Yavatmal	16	16	16	867	272	1139
Total	64	176	64	2992*	1088	4080*

Note: *The actual survey had covered 4352 households, covering 240 villages (176 treatment and 64 control villages), of which 3194 households were from the CAIM area and 1158 households were from the control villages.

A well-designed questionnaire is a pre-requisite for ensuring authentic results of the primary survey based on the ground level realities and the extent to which the goals of the programme had been achieved. Accordingly, the dedicated members of the NCAER survey team held a number of meetings and brainstorming sessions before preparing the draft questionnaire for the survey. A comprehensive questionnaire, covering all the aspects, was prepared separately for conducting a primary survey of: (i) households, (ii) village level respondents, (iii) MAVIM, and (iv) CMRCs and SHG development (Appendix II). The questionnaires thus prepared were then subjected to detailed vetting by IFAD and PMU-CAIM, and subsequently the questionnaire for the stratified analysis of data was modified for finalisation on the basis of the feedback and comments obtained.

For carrying out the primary level field analysis, NCAER maintains a list of eligible survey agencies having adequately qualified manpower for conducting field surveys. For this particular project, the field staff needed not only a general aptitude for statistical analysis and understanding of the subject matter but also knowledge of the local language, Marathi, in order to communicate effectively with as the respondents belonging to a rural and agricultural background of Maharashtra. Accordingly, two agencies fulfilling all the requisite eligibility criteria were selected for carrying out the primary survey. The selection of two different agencies for this task helped in not only ensuring healthy competition but also in reducing the time

required for the survey, especially in view of the tight time schedule available for completing the study. Further, conduction of a surveys by two different agencies would provide an opportunity for comparing the results and identifying any bias in reporting, which, in turn, would prevent fluctuations in data that could affect the overall analysis and evaluation. Due care was also taken to provide extensive training including field exposure (through a pilot survey) to the prospective surveyors of both the agencies, and to ensure that the survey agencies commissioned efficient teams of leaders and supervisors collect the data.

The structured questionnaire was aimed at gathering insights regarding achievement of the goals and objectives of the programme in quantifiable terms. It was important to assess the qualitative aspects of the programme, which were mostly subjective in nature and could not be captured in ordinarily quantifiable terms but had a critical bearing on the outcome and attainment of the programme's goals. For this purpose, Focus Group Discussions (FGDs) were held, including six each in every district selected for the project, totalling 36 FGDs in the six identified districts. In addition, the study included a documentation of: (i) success stories, and (ii) lessons learnt, based on the several case studies that had been conducted during the course of the ELS. Apart from its demonstration effects, this documentation was also expected to set a benchmark for evaluation of future programmes.

VILLAGE LEVEL EVIDENCE RESULTS FROM THE FIELD SURVEY

The performance of the CAIM households was better than the control households with regard to most of the parameters, as indicated by the results of the ELS. This chapter details the comparison at the aggregated level to check how the CAIM villages were positioned against the control villages, which offered an opportunity to ascertain the veracity of the findings at the disaggregated household level.

III.1 Gender Focus

Table III.1 reveals that the female population in the CAIM villages was maintained at a higher level, albeit marginally than that of the control villages though there were a few district-wise variations. Similarly, the CAIM villages consistently maintained their edge over the control villages as far as the female-headed households were concerned.

TABLE III.1: Percentage Share of Female Population and Female-headed Households in the Selected CAIM and Control Villages

Districts	Female Population				Total Female-headed Households			
	CAIM		Control		CAIM		Control	
	2012-13	2018-19	2012-13	2018-19	2012-13	2018-19	2012-13	2018-19
Akola	47	46	48	48	7	9	7	8
Amravati	46	49	43	48	21	30	17	21
Buldhana	41	46	42	48	12	12	6	6
Washim	51	44	49	44	5	6	6	6
Wardha	47	47	42	34	6	7	6	6
Yavatmal	51	48	48	49	7	10	6	7
Total	46	47	45	46	12	15	10	12

Source: Endline Survey, NCAER, 2019.

III.2 Upliftment of Living Standards

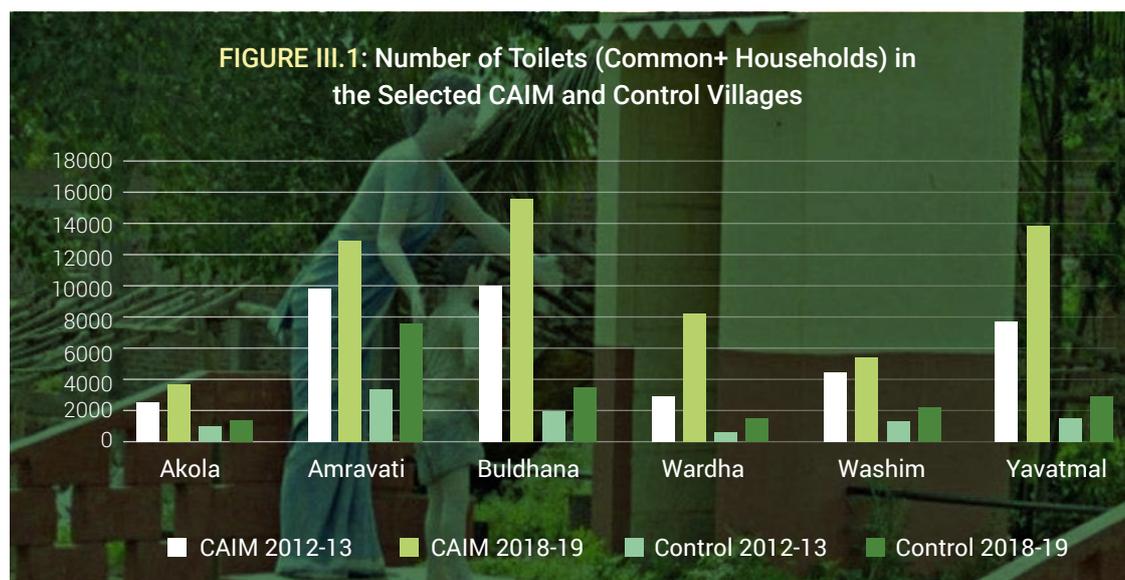
Supply of Safe Drinking Water: Table III.2 depicts different modes of supply of drinking water in the CAIM villages vis-a-vis the control villages. Wide inter-district variations were observed in this regard. However, as per the overall analysis, supply of water through the pipeline (the number of water collection points), which is the safest mode of providing drinking water, was higher in the CAIM villages as compared to the control villages.

TABLE III.2: Percentage Share of Sources of Drinking Water in the CAIM and Control Villages

Districts	Government Wells		Government Pipelines		Hand Pumps /Bore Wells		Common Wells	
	CAIM	Control	CAIM	Control	CAIM	Control	CAIM	Control
Akola	1	1	79	95	5	3	14	1
Amravati	14	14	73	10	8	27	6	49
Buldhana	16	8	6	4	37	58	41	30
Wardha	7	13	51	21	30	29	12	37
Washim	1	2	87	77	5	2	7	19
Yavatmal	29	18	7	12	43	50	22	19
Total	8	4	68	65	13	13	11	19

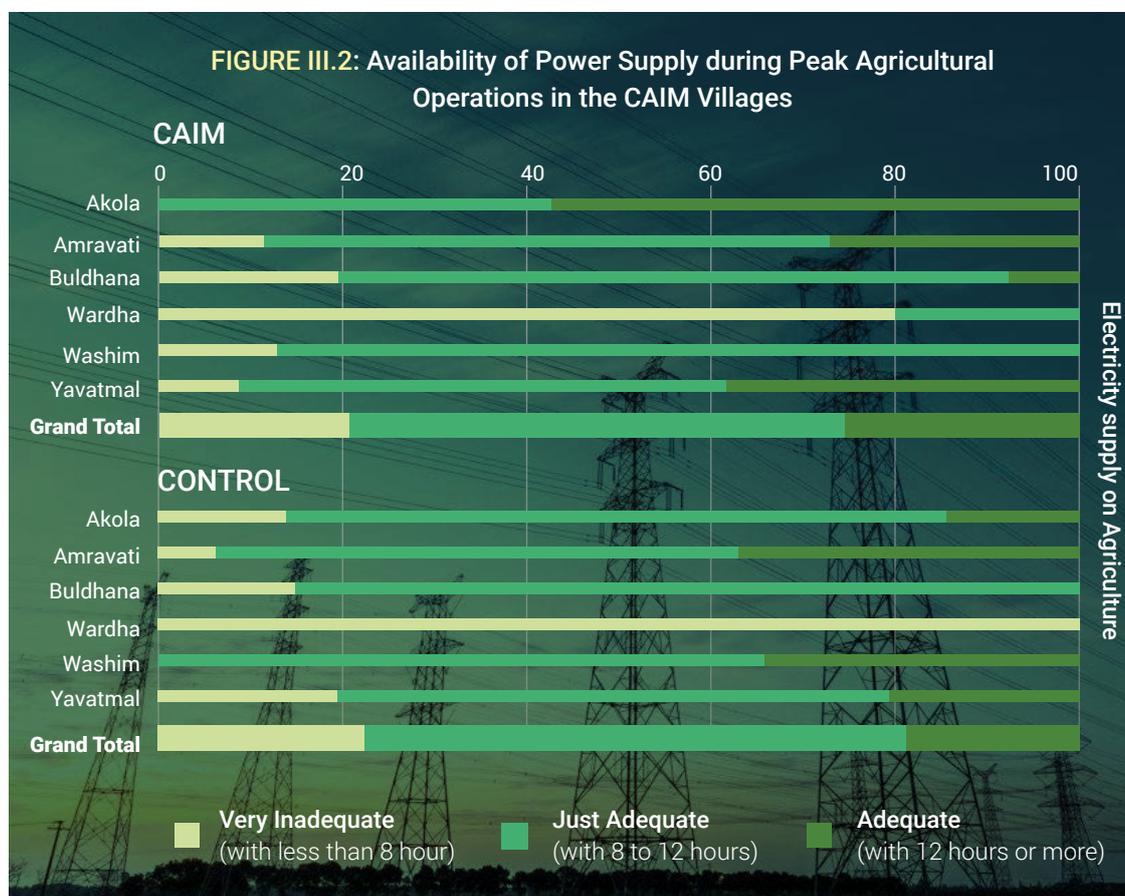
Source: Endline Survey, NCAER, 2019.

General Hygiene-Open Defecation Free Villages: Figure III.1 depicts the comparative position of toilets in the CAIM and control villages. Although there were distinct inter-district variations, the CAIM villages still showed achievement of a higher degree of progress as compared to that in 2012-13.



Source: End Line Survey, NCAER, 2019.

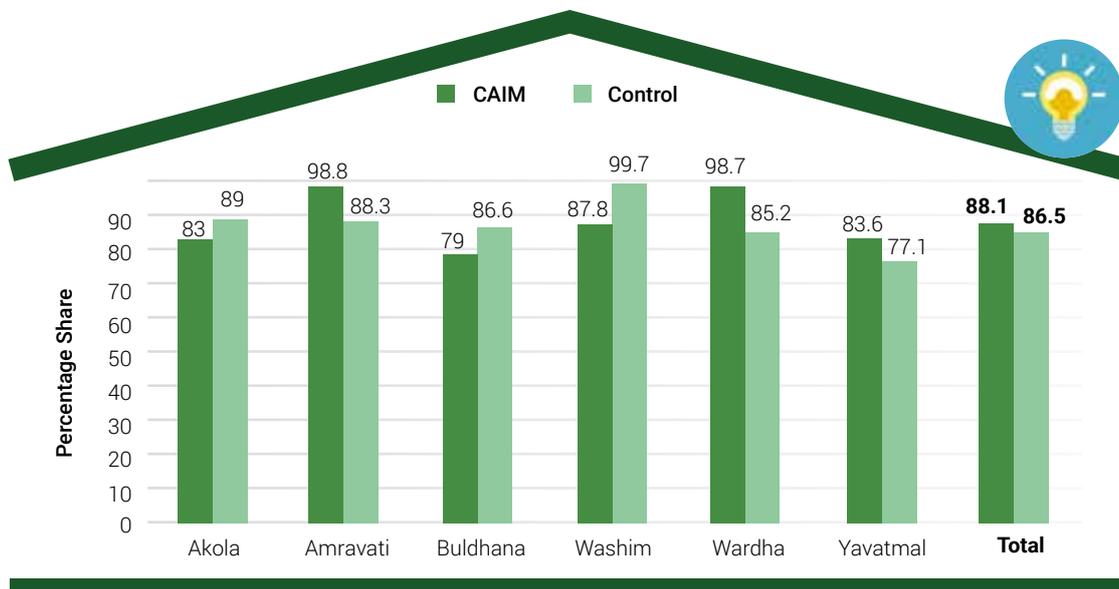
Adequacy of Power Supply: Figure III.2 depicts the comparative level of power supply during the peak agriculture operation season in the CAIM villages vis-à-vis the control villages. There were wide inter-district variations in both the categories of villages, but the CAIM villages depicted a better status in terms of higher adequate and just adequate power supply, and lesser occurrence of very inadequate supply.



Source: End Line Survey, NCAER, 2019.

Household Electricity Connection: The implementation of the CAIM programme has brought about a higher level of general awareness and improvement in living standards of the CAIM villages. Figure III.3 illustrates that despite inter-district aberrations, in the overall analysis, the CAIM villages got a marginally higher level of household electricity connectivity than the control villages.

FIGURE III.3: Percentage Share of Households Having Electricity Connections in the CAIM And Control Villages



Source: End Line Survey, NCAER, 2019.

III.3 Infrastructure Development:

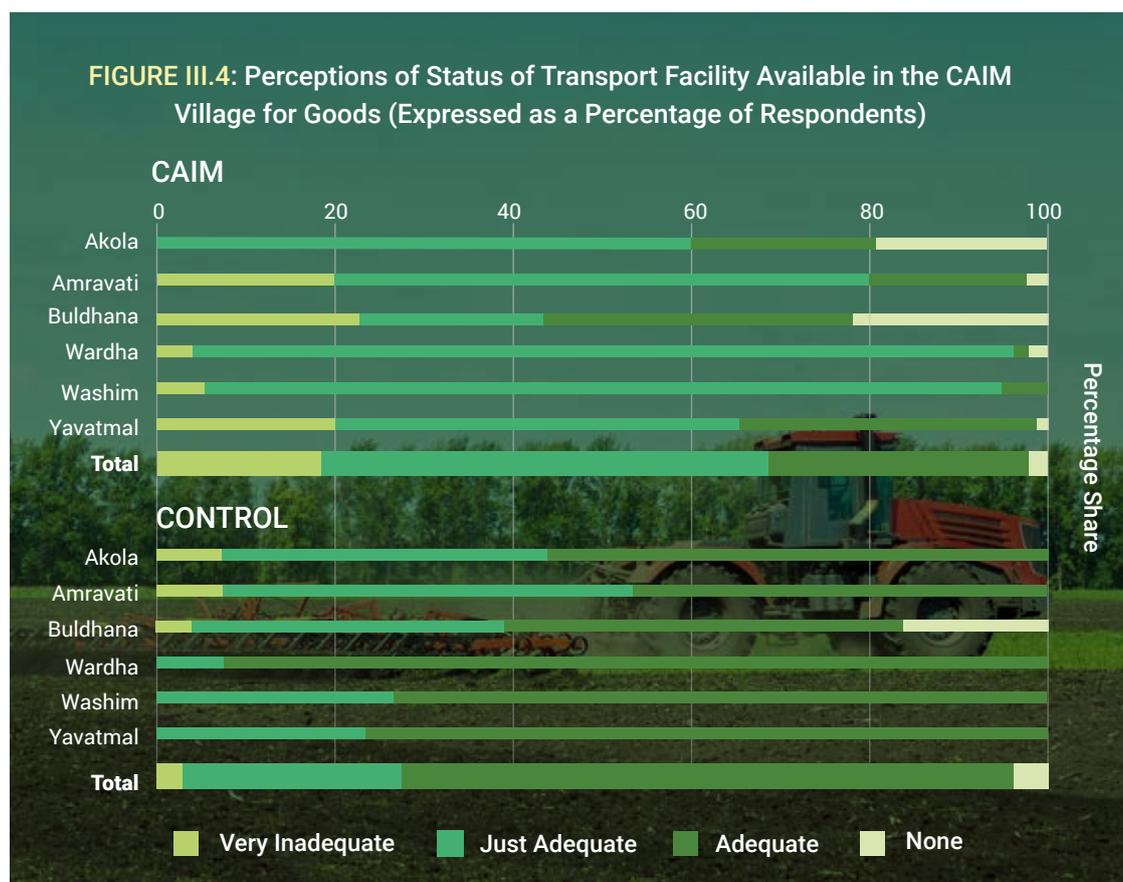
Approach Road: Table III.3 depicts the district-wise and overall perceptions of respondents about the road conditions in the villages of the respective districts. The perceptions fluctuated widely among the respondents in the different districts. No distinct difference in road condition was observed in the CAIM villages as compared to their control village counterparts. However, the CAIM villages reported a higher level of kutcha approach roads, which needed upgradation.

TABLE III.3: Perceptions of Type of Main Approach Roads in the CAIM And Control Villages (Expressed as a Percentage of Respondents)

Districts	Kutcha Road		Pucca Road		Both	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	24	14	41	14	35	71
Amravati	22	8	75	92	3	0
Buldhana	20	8	57	54	23	38
Wardha	4	13	75	75	21	13
Washim	13	17	40	33	47	50
Yavatmal	8	0	73	87	18	13
Total	15	8	65	66	20	26

Source: End Line Survey, NCAER, 2019.

Transport Facility: As in the case of the approach roads, there was inter-district variation with regard to transport facilities too but there was very little to choose from between the CAIM and control villages, with both showing a highly mixed status.



Source: End Line Survey, NCAER, 2019.

III.4 Household Participation

Tables III.4 and III.5 depict the percentage share of landholding type in CAIM supported households and the socio-economic status of the landholders. It could be observed that CAIM supported households in the selected villages consist of 33.8 per cent landless, 28.4 per cent SC/ST, 35.3 per cent BPL and 4.6 per cent ultra-poor households respectively.

TABLE III.4: Percentage Share of CAIM-Supported Households according to their Landholdings

Districts	Landless	Marginal	Small	Large	Total
Akola	39.4	25.9	33.6	1.1	993
Amravati	35.2	17.2	23.8	23.8	10247
Buldhana	31.6	27.4	21.8	19.1	13010
Washim	23.3	35.7	33.4	7.6	1296
Wardha	32.1	28.0	26.3	13.6	1998
Yavatmal	39.2	19.4	26.7	14.6	4743
Total	33.8	23.3	24.3	18.6	32287

Source: End Line Survey, NCAER, 2019.

TABLE III.5: Percentage Share of CAIM-Supported Households according to their Socio-economic Status

Districts	SC/ST	BPL	Ultra-poor	Total
Akola	24.3	56.1	5.6	993
Amravati	33.8	35.6	4.8	10247
Buldhana	23.1	27.0	4.1	13010
Washim	24.0	54.5	0.3	1296
Wardha	27.5	10.8	15.7	1998
Yavatmal	34.1	58.0	1.8	4743
Total	28.4	35.3	4.6	32287

Source: End Line Survey, NCAER, 2019.

III.5 Empowerment Facilitating Activities

During the project period, 56 per cent of the SGHs in the selected villages were registered under CAIM, constituting 39 per cent of the overall SHG membership in such villages.

TABLE III.6: Percentage Share of Total and CAIM SHGs And SHG Members in the Selected CAIM Villages, 2018-19

Districts	Total SHGs	Total SHG Members	CAIM SHGs in the Village as a Percentage of the Total SHGs	Members of CAIM SHGs (per cent) among Overall Members
Akola	96	965	83	80
Amravati	532	4809	52	35
Buldhana	386	3910	73	25
Washim	137	1238	103	99
Wardha	432	4722	55	36
Yavatmal	587	6037	35	33
Total	2170	21681	56	39

Source: End Line Survey, NCAER, 2019.

Table III.7 below depicts the district-wise status of the Joint Liability Groups (JLGs) and their membership for different periods of time. It was that there were district-wise variations and both the number of JLGs and their memberships, which had picked up in 2015-16 vis-à-vis 2012-13, had come down by 2018-19, thereby indicating that some of the weak JLGs had ceased operations and thus closed down.

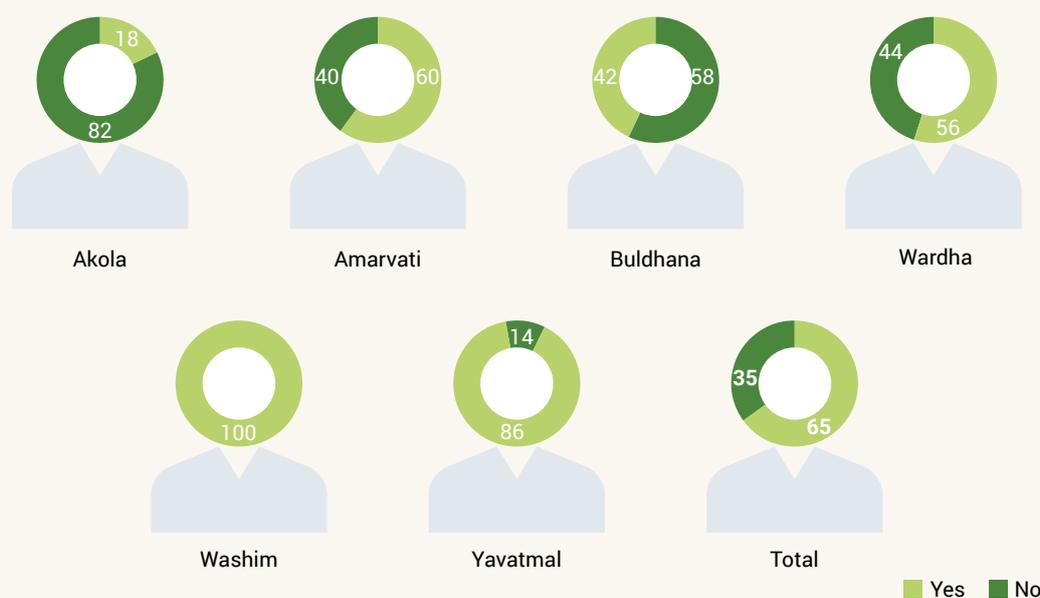
TABLE III.7: Number of Joint Liability Groups and Members in the Selected CAIM Villages

Districts	Joint Liability Groups (JLGs)			Number of JLG Members		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Amravati	12	38	21	41	166	79
Buldhana	28	46	19	122	183	88
Wardha	11	3	3	41	84	74
Yavatmal	18	29	36	48	134	177
Total	69	116	79	252	567	418

Source: End Line Survey, NCAER, 2019.

Status of Functioning of Village Development Committees (VDCs): The perceptions expressed by the respondents in the selected villages (Figure III.5) vary between the districts, and show a mixed trend, which is an indicator of the lack of awareness among the villagers about the functioning of VDCs. Further, Table III.8 depicts the percentage representation of the women in the VDCs. It was observed that in addition to the district-wise variation, the representation of women had declined marginally in the Buldhana and Wardha districts, but there was overall 14.4 per cent growth of women's representation in the VDCs. In some of the villages, CAIM had established VDCs to implement SWC works. In addition, each village also had a Village Level Committee (VLCs) comprising SHG members, that met every month and undertook activities related to women's empowerment.

FIGURE III.5: Perceptions of Respondents as to Whether VDCs were Active or Not



Source: End Line Survey, NCAER, 2019.

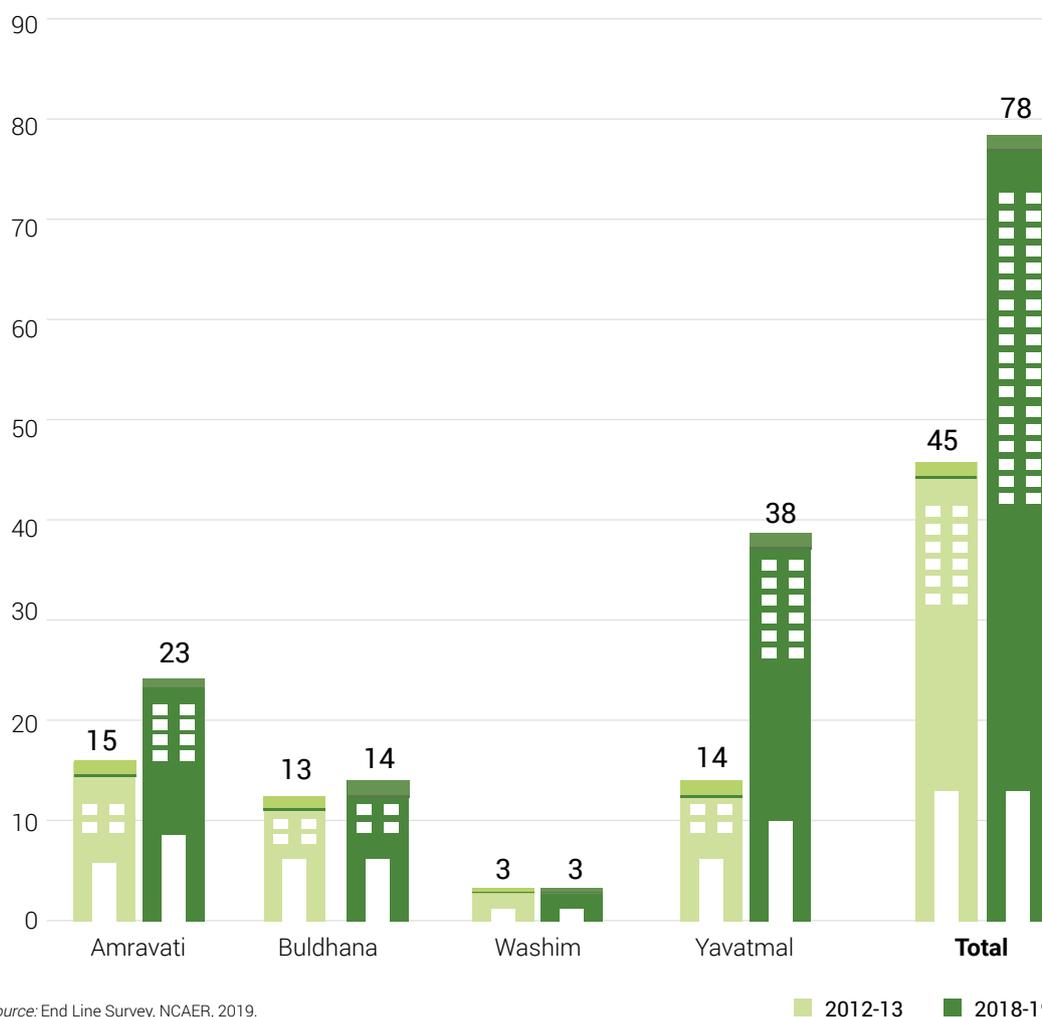
TABLE III.8: Percentage Change of Women's Representation in the Selected CAIM Village Development Committees

Districts	2012-13 (N)	2018-19 (N)	Percentage Change
Akola	10	10	0.0
Amravati	75	91	21.3
Buldhana	53	51	-3.8
Washim	37	49	32.4
Wardha	68	67	-1.5
Yavatmal	145	176	21.4
Total (N)	388	444	14.4

Source: End Line Survey, NCAER, 2019.

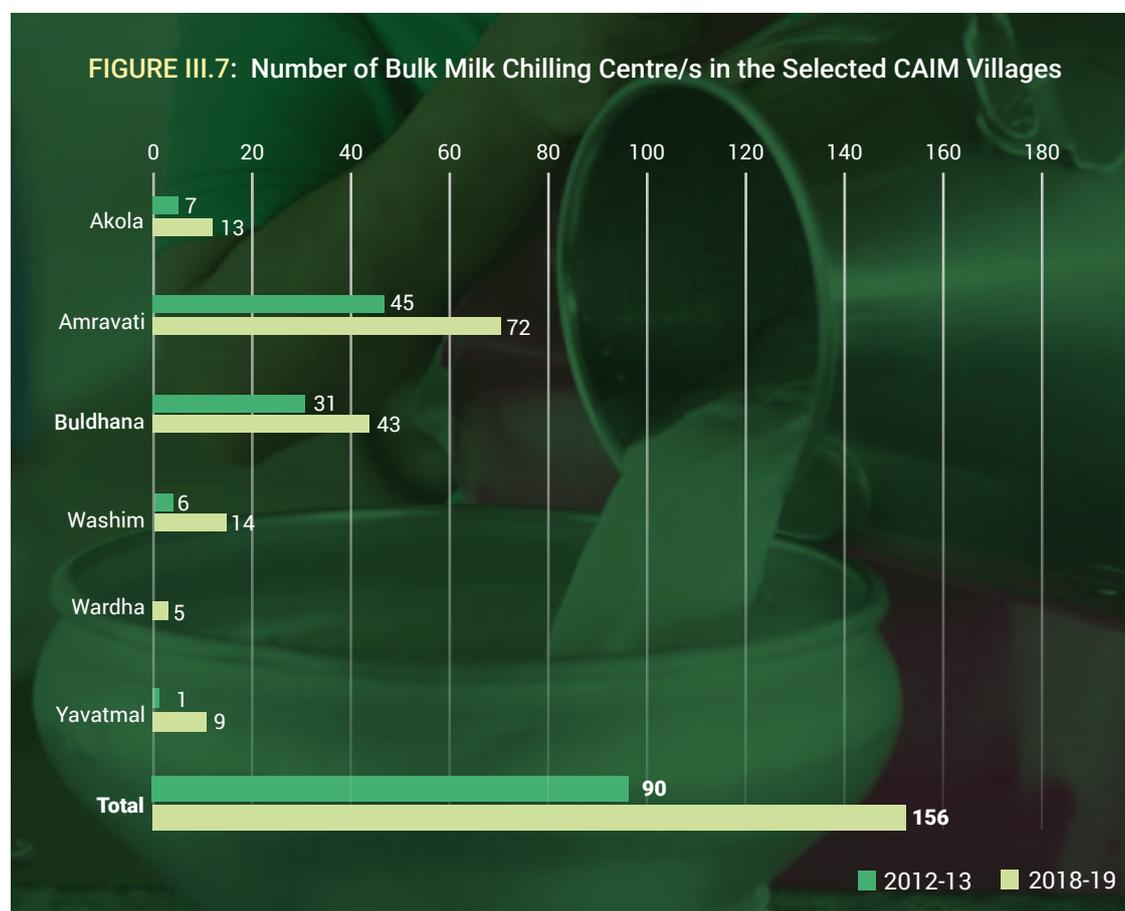
Village Information Centres: In order to provide extension services and proven technology packages, Village Information Centres (VICs) were established during the project period. Figure III.6 shows a significant increase in the number of VICs from 45 in 2012-13 to 78 in 2018-19 in the selected CAIM villages. The field survey showed that no VICs were established in the Akola and Washim districts.

FIGURE III.6: Number of Village Information Centres in the Selected CAIM Villages



Source: End Line Survey, NCAER, 2019.

Bulk Milk Chilling Centre/s: Bulk Milk Coolers are promising entrants into the value chain. A better alternative to the present collection system of milk is the process of cooling of milk immediately after milking in the Bulk Milk Chilling Units (BMCUs). The usage of such tanks has recently become popular because it not only helps in increasing the shelf-life of milk but also provides a systematic and simple way of procurement of milk. This also ensures the procurement of more milk by covering the untapped remote areas for milk collection. Figure III.7 shows that number of BMCCs increased from 90 to 156 during the period 2012-13 to 2018-19. Further, Table III.9 shows a gradual increase in the number of households linked to BMCCs from 577 to 1174 between 2012-13 and 2018-19.



Source: End Line Survey, NCAER, 2019.

TABLE III.9: Number of Households Linked to Bulk Milk Chilling Centre/s in the Selected CAIM Villages

Districts	2012-13	2015-16	2018-19
Akola	1	4	5
Amravati	442	750	877
Buldhana	132	150	171
Washim	2	3	5
Wardha	0	26	106
Yavatmal	0	5	10
Total	577	938	1174

Source: End Line Survey, NCAER, 2019.

Paravets and Pashu Sakhis: CAIM appointed paravets assigned to the CMRCs and MAVIM established a system of fee-based support for the livestock farmers in the project area, covering vaccination, deworming, and primary treatment. The main objective of the programme was to use paravets and pashu sakhis to improve animal health services through improved training of these workers (including exposure visits), and to provide animal health cards to all households, and thereafter use these to determine the vaccination requirements and dates of vaccination. Table III.10 shows that the number of paravets increased by 48 per cent and the number of pashu sakhis increased by more than 100 per cent during the project period, from 2012-13 to 2018-19.

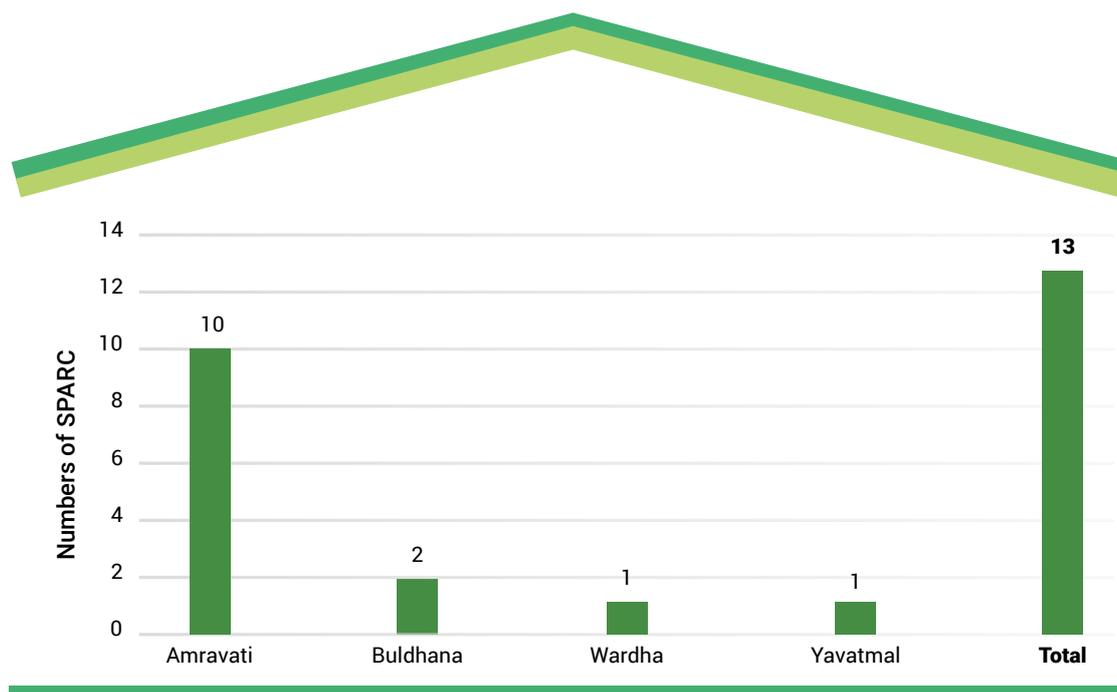
TABLE III.10: Number of Paravets and Pashu Sakhis in the Selected CAIM Villages

Districts	Paravets		Pashu Sakhis	
	2012-13	2018-19	2012-13	2018-19
Akola	1	1	2	4
Amravati	17	24	24	45
Buldhana	11	11	9	10
Washim	0	0	2	8
Wardha	2	3	0	14
Yavatmal	8	19	3	10
Total	39	58	40	91

Source: End Line Survey, NCAER, 2019.

Small Producer Agricultural Resource Centres (SPARC Units): The CAIM programme has been instrumental in the creation of Small Producer Agricultural Resource Centres (SPARC units) in different districts. Figure IV.8 shows that 13 such units had been installed in four of the six selected districts.

FIGURE III.8: Number of SPARC (Small Producer Agricultural Resource Centre) Units Supported



Source: End Line Survey, NCAER, 2019.

III.6 Soil and Water Conservation (SWC) Work

Most Soil and Water Conservation (SWC) works in the CAIM villages had been carried out through convergence. Most of the villages reported positive results for SWC works. With increased infiltration of rainfall, there has been a rise in the water table and the existing wells hold water for longer. Further, new wells and boreholes have been installed. This has resulted in a larger area of irrigated crops and increased yields. The total area benefited by SWC works of all types increased by 41 per cent, and the total proportion of families who benefited increased by 10 per cent during the project period, from 2012-13 to 2018-19. The progress of SWC works varied across the districts. The various activities undertaken as part of the SWC work, along with the overall improvement achieved in percentage terms during the project period, from 2012-13 to 2018-19, are detailed in Table III.11.

TABLE III.11: Percentage Change in SWC Work in the Selected CAIM Villages during 2012-13 To 2018-19

Item	Improvement (Percentage Change)
Rain Water Harvesting	63
Cement Nala Bunds (CNBs) De-silted	50
New Cement Nala Bunds (CNBs) construction	72
Well Recharge	80
Recharge Shaft	96
Nala Revival (km)	659
Graded Bunding (Km)	20
Sowing across the Slope (acre)	7
Contour Sowing (acres)	28

Source: End Line Survey, NCAER, 2019.

III.7 General Crop Condition

Table III.12 summarises the area cultivated under different crops in the selected CAIM villages. It may be observed that a major part of the area was utilised for the cultivation of cotton intercropped (31 per cent) with tur, and soybean intercropped with tur (28.8 per cent).

TABLE III.12: Percentage Share of Area Under Different Crops in the Selected CAIM Villages

Districts/ Items	Akola	Amravati	Buldhana	Washim	Wardha	Yavatmal	Total
Cotton intercropped with tur	22.9	24.8	23.4	27.9	39.1	51.3	31.0
Cotton not intercropped	36.0	10.4	3.5	7.3	10.8	5.6	9.0
Soybean intercropped with tur	14.8	33.1	41.6	24.1	19.3	16.3	28.8
Soybean not intercropped	4.5	8.3	10.1	15.9	9.7	6.4	9.1
Tur	0.5	3.3	1.2	1.9	0.0	2.3	1.8
Gram	8.1	10.4	11.8	9.9	9.7	6.3	9.8
Wheat	8.6	4.0	2.0	10.1	9.0	7.1	5.4
Vegetable area	0.9	1.0	0.2	0.6	1.4	0.9	0.7
Other crop	1.5	3.4	4.3	2.3	0.4	3.4	3.1
Orchard	2.2	1.3	1.9	0.0	0.7	0.3	1.2
Total cropped area	18,512	62,136	75,636	25,858	26,267	47,978	2,56,387

Source: End Line Survey, NCAER, 2019

As in the case of CAIM villages, in the case of the control villages too, cotton and soybean intercropped with tur covered a major share of the cultivated area.

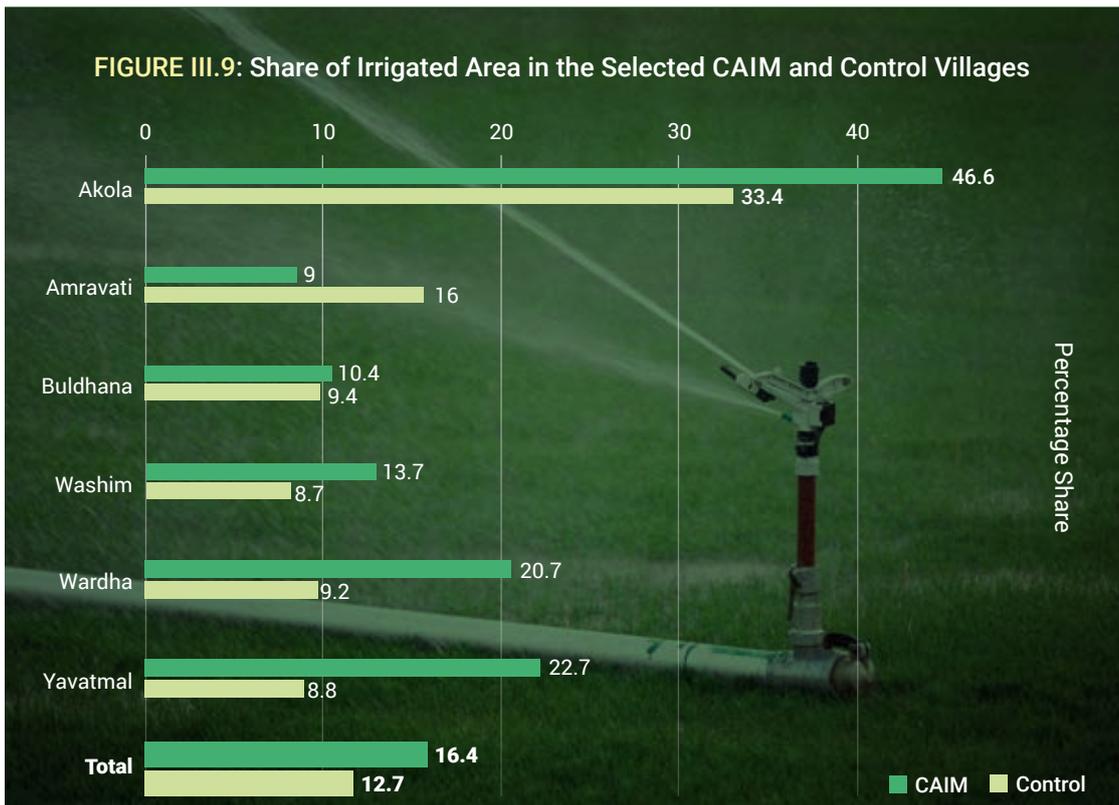
TABLE III.13: Percentage Share of the Area Under Different Crops in the Selected Control Villages

Districts → Crops ↓	Akola	Amravati	Buldhana	Washim	Wardha	Yavatmal	Total
Cotton intercropped with tur	43	26	21	47	15	53	31
Cotton not intercropped	1	7	4	4	2	6	5
Soybean intercropped with tur	9	33	37	15	29	15	28
Soybean not intercropped	15	3	13	14	11	6	9
Tur	0	0	0	0	3	2	1
Gram	14	14	12	10	13	9	12
Wheat	12	6	4	8	21	5	7
Vegetable area	5	1	0	1	1	1	1
Other crop	0	5	8	0	5	2	5
Orchard	1	4	0	1	0	0	1
Total Cropped Area	4085	24,966	20,230	7090	8344	11,869	76,584

Source: End Line Survey, NCAER, 2019.

III.8 Availability of Inputs

Irrigation: Figure III.9 illustrates that the share of the total irrigated area was higher in the CAIM villages, albeit marginally, as compared to the control villages. Akola had the highest share of irrigated area. In all the selected CAIM villages, the share of irrigated area was higher than in the control villages except in Amravati.



Source: End Line Survey, NCAER, 2019.

Table III.14 shows that the major sources of irrigation in the selected CAIM villages were borewells and open dug wells whereas in the selected control villages, they were open dug wells and canals.

TABLE III.14: Percentage Share of Area Irrigated by Different Sources in the Selected CAIM Villages, 2018-19

Districts ↘ Sources of Irrigation ↓	Akola	Amravati	Buldhana	Washim	Wardha	Yavatmal	Total
Rivers	13.0	17.8	20.5	1.4	22.5	8.0	14.0
Canals	4.4	10.5	24.0	7.3	24.3	13.0	13.9
Bore wells	64.1	39.1	24.0	25.2	10.6	25.4	33.0
Open dug wells	13.2	25.3	29.8	55.1	40.7	40.1	32.0
Farm ponds	4.6	7.3	1.8	8.1	1.9	2.7	3.9
Others	0.6	0.0	0.0	2.8	0.0	10.7	3.2
Total irrigated area	8626	5601	7845	3555	5450	10,913	41,990

Source: End Line Survey, NCAER, 2019.

TABLE III.15: Percentage Share of Area Irrigated by Different Sources in the Selected Control Villages, 2018-19

Districts ↘ Sources of Irrigation ↓	Akola	Amravati	Buldhana	Washim	Wardha	Yavatmal	Total
Rivers	8	2	5	1	3	23	6
Canals	0	42	21	1	0	20	24
Bore wells	25	19	1	11	33	23	17
Open dug wells	60	31	11	86	55	32	37
Farm ponds	3	6	9	2	9	2	6
Others	4	0	53	0	0	0	11
Total irrigated area	1365	3997	1906	614	769	1049	9700

Source: End Line Survey, NCAER, 2019.

Other Inputs: A close look at the availability of agricultural inputs in both the CAIM and control villages reveals a mixed picture with inter-district variations. However, it may be noted that there is still scope for a lot of improvement to ensure optimal productivity and remunerative returns to the farmers.

TABLE III.16: Perceptions of the Respondent Villages on the Availability of Different Inputs in the Selected CAIM Villages

Districts→ Particulars↓	Akola	Amravati	Buldhana	Wardha	Washim	Yavatmal	Total
Water for Agriculture							
Totally depending on rainfall	6.3	32.4	46.4	0.0	0.0	34.7	25.5
10-30 per cent is met through irrigation	56.3	23.5	42.9	50.0	21.4	22.4	33.3
30-50 per cent is met through irrigation	31.3	29.4	10.7	20.8	71.4	22.4	26.7
More than 50 per cent from irrigation	6.3	14.7	0.0	29.2	7.1	20.4	14.5
Chemical Fertiliser							
Regularly available	11.8	40.0	24.1	16.7	20.0	26.5	25.4
Not so regularly available	58.8	5.7	6.9	20.8	73.3	6.1	19.5
Not at all available	29.4	54.3	69.0	62.5	6.7	67.3	55.0
Bio and Organic Fertiliser							
Regularly available	5.9	34.3	24.1	8.3	6.7	18.4	18.9
Not so regularly available	64.7	8.6	3.4	20.8	86.7	10.2	22.5
Not at all available	29.4	57.1	72.4	70.8	6.7	71.4	58.6
Pesticide							
Regularly available	5.9	29.4	24.1	16.7	6.7	26.5	21.4
Not so regularly available	64.7	8.8	3.4	20.8	80.0	6.1	20.8
Not at all available	29.4	61.8	72.4	62.5	13.3	67.3	57.7
Seeds							
Regularly available	23.5	34.3	17.2	8.3	21.4	28.6	23.8
Not so regularly available	58.8	8.6	10.3	20.8	71.4	4.1	19.6
Not at all available	17.6	57.1	72.4	70.8	7.1	67.3	56.5
Farming Tools and Machinery							
Regularly available	58.8	22.2	40.0	70.8	35.7	20.4	36.5
Not so regularly available	29.4	19.4	13.3	12.5	57.1	14.3	20.0
Not at all available	11.8	58.3	46.7	16.7	7.1	65.3	43.5
Adequate Labour							
Regularly available	82.4	33.3	6.7	41.7	57.1	63.3	45.3
Not so regularly available	11.8	27.8	43.3	50.0	35.7	16.3	29.4
Not at all available	5.9	38.9	50.0	8.3	7.1	20.4	25.3
Godowns							
Yes	0.0	2.9	10.0	0.0	0.0	2.0	2.9
No	100.0	97.1	90.0	100.0	100.0	98.0	97.1
Grading Facilities							
Regularly available	0.0	30.6	20.0	0.0	0.0	6.1	11.7
Not so regularly available	41.2	27.8	36.7	12.5	93.3	4.1	27.5
Not at all available	58.8	41.7	43.3	87.5	6.7	89.8	60.8
Soil Testing							
Regularly available	0.0	27.8	46.7	0.0	0.0	4.1	17.5
Not so regularly available	41.2	22.2	3.3	16.7	80.0	8.2	21.1
Not at all available	58.8	50.0	50.0	83.3	20.0	87.8	61.4

Source: End Line Survey, NCAER, 2019.

TABLE III.17: Perceptions of the Respondent on the Availability of Different Inputs in the Selected Control Villages

Districts→ Particulars↓	Akola	Amravati	Buldhana	Wardha	Washim	Yavatmal	Total
Water for Agriculture	14	29	54	0	0	33	27
Totally depending on rainfall	29	29	31	63	67	27	37
10-30 per cent is met through irrigation	57	36	15	13	17	13	24
30-50 per cent is met through irrigation	0	7	0	25	17	27	13
More than 50 per cent from irrigation	14	29	54	0	0	33	27
Chemical Fertiliser							
Regularly available	0	29	15	0	33	33	21
Not so regularly available	71	7	8	0	67	7	19
Not at all available	29	64	77	100	0	60	60
Bio and Organic Fertiliser							
Regularly available	0	29	15	0	33	13	16
Not so regularly available	71	7	8	0	50	20	21
Not at all available	29	64	77	100	17	67	63
Pesticide							
Regularly available	0	29	23	0	33	20	19
Not so regularly available	71	7	0	0	50	20	19
Not at all available	29	64	77	100	17	60	62
Seeds							
Regularly available	14	29	23	13	33	27	24
Not so regularly available	71	7	0	0	67	13	19
Not at all available	14	64	77	88	0	60	57
Farming Tools and Machinery							
Regularly available	86	21	38	88	20	27	42
Not so regularly available	14	21	8	0	80	13	18
Not at all available	0	57	54	13	0	60	40
Adequate Labour							
Regularly available	86	21	8	38	50	60	40
Not so regularly available	14	36	54	38	50	27	37
Not at all available	0	43	38	25	0	13	24
Godowns							
Yes	0	0	0	0	0	7	2
No	100	100	100	100	100	93	98
Grading Facilities							
Regularly available	0	29	8	0	17	7	11
Not so regularly available	71	29	31	0	33	13	27
Not at all available	29	43	62	100	50	80	62
Soil Testing							
Regularly available	0	36	38	0	33	7	21
Not so regularly available	57	29	23	13	50	7	25
Not at all available	43	36	38	88	17	87	54

Source: End Line Survey, NCAER, 2019.

AGRICULTURE: AN OVERVIEW FROM THE HOUSEHOLD SURVEY

IV.1 Agriculture and Inter-cropping

Agricultural development is the backbone of the CAIM programmes covering six distressed districts of Vidarbha in Maharashtra. It would be pertinent to assess the area, production, and productivity of some of the major crops that are produced extensively in the CAIM areas. The following major crops are produced in the selected areas of Maharashtra:

- Cotton
- Soybean
- Tur
- Gram
- Wheat
- Vegetables
- Fruits
- Fodder

Intercropping is also practised in some of the crops. Intercropping is essentially a farming practice that involves planting or growing more than one crop at the same time and on the same piece of land. The most common goal of intercropping is to achieve a higher yield through the optimal use of all the available resources or ecological processes that would otherwise not be utilised in raising a single crop. Following are examples of intercropping done in the Vidarbha region:

- Cotton intercropped with tur; and
- Soybean intercropped with tur.

The presence of black cotton soil and considerable difference in day and night temperatures in the area makes it suitable for cotton farming. The area is, in fact, an established cotton tract of the country. Being a cash crop, and intended to be used as raw material for the industry, cotton provides a significant opportunity to the farmers to earn remunerative returns, though, like all agricultural commodities, cotton too faces periodic fluctuations of demand and supply. The distribution of the area under intercropped cotton (with tur) and cotton alone (CAIM) is shown in Table IV.1

TABLE IV.1: Distribution (%) of the Area Under Cotton And Intercropped Cotton (Acres)

Districts	Cotton Intercropped with Tur			Cotton Not Intercropped		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Akola	8.9	9.5	9.0	12.8	10.9	12.8
Amravati	7.4	8.5	8.5	12.4	15.2	17.3
Buldhana	6.8	7.3	7.5	10.6	10.7	10.3
Wardha	19.9	20.6	21.5	14.4	14.0	13.6
Washim	2.4	1.7	2.4	3.9	5.2	3.1
Yavatmal	54.6	52.4	51.1	45.9	43.9	42.8

Source: End Line Survey, NCAER, 2019.

In terms of coverage and importance, it is observed that the largest area under intercropped cotton was found in the Yavatmal district, followed by Wardha. It may be noted that the share of cotton intercropped with tur has been decreasing in Yavatmal, from 54.6 per cent in 2012-13 to 51.1 per cent in 2018-19. However, the opposite trend is being witnessed in Wardha, where there was an increase in the acreage of intercropped cotton during the corresponding period. The acreage of cotton as a single crop was also the highest in Yavatmal, followed by Amravati. In Amravati, the acreage increased from 12.4 per cent to over 17 per cent in 2018-19.

TABLE IV.2: Distribution (%) of the Area Under Soybean and Intercropped Soybean with Tur

Districts	Soybean Intercropped with Tur			Soybean Not Intercropped		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Akola	13.2	10.1	10.1	4.2	4.6	4.1
Amravati	19.9	20.7	20.9	8.7	8.6	10.3
Buldhana	16.5	16.8	16.9	12.1	11.2	10.5
Wardha	5.3	5.6	4.8	19.6	19.5	18.0
Washim	29.4	31.4	30.2	11.4	10.8	11.4
Yavatmal	15.7	15.5	17.1	44.1	45.3	45.7

Source: End Line Survey, NCAER, 2019.

In terms of coverage and importance, it is observed that the largest area under intercropped soybean was in Washim district, followed by Wardha. It may be noted that the share of soybean intercropped with tur was over 30 per cent in 2018-19. The acreage of soybean as a single crop was the highest in Yavatmal, followed by Wardha (Table IV.2).

TABLE IV.3: Distribution (%) of the Area Under Tur (Not Intercropped) and Gram

Districts	Tur Not Intercropped			Gram		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Akola	9.5	29.0	9.4	14.0	12.9	9.5
Amravati	40.8	35.3	38.1	20.9	21.5	40.8
Buldhana	16.9	10.2	14.2	10.3	11.6	16.9
Wardha	1.1	4.4	14.2	16.7	16.5	1.1
Washim	18.8	8.7	11.8	15.5	15.2	18.8
Yavatmal	13.0	12.4	12.4	22.6	22.3	13.0

Source: End Line Survey, NCAER, 2019.

In terms of coverage and importance, the largest area under tur as a single crop was in Amravati (38 per cent in 2018-19), followed by Buldhana. It may be noted that the share of gram was over 40 per cent in 2018-19 in Amravati, followed by Washim (Table IV.3).

TABLE IV.4: Distribution (%) of the Area Under Wheat and Vegetables

Districts	Wheat			Vegetables		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Akola	11.6	9.3	15.8	23.9	9.9	10.2
Amravati	17.0	13.4	11.6	25.0	35.9	42.6
Buldhana	9.1	9.3	7.5	18.2	12.3	11.6
Wardha	19.1	20.9	15.9	2.3	1.5	2.8
Washim	23.0	20.7	19.2	30.7	23.8	17.1
Yavatmal	20.1	26.4	29.9	0.0	16.7	15.7

Source: End Line Survey, NCAER, 2019.

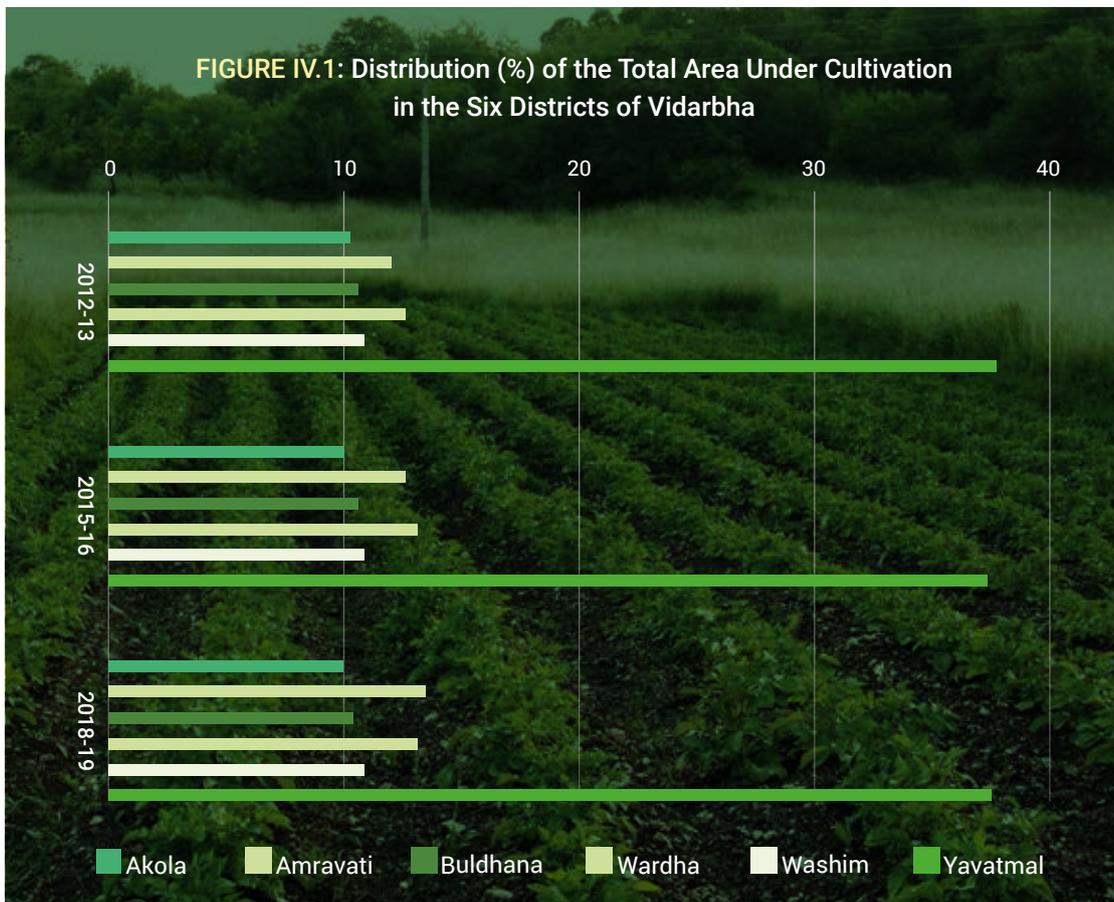
In terms of coverage and importance, the largest area under wheat was in Yavatmal (30 per cent in 2018-19), followed by Buldhana. It may be noted that the share of vegetables was around 43 per cent in 2018-19 in Amravati, followed by Washim. However, the acreage under vegetables was seen to decrease over time in Washim (Table IV.4).

TABLE IV.5: Distribution (%) of the Area Under Fruits and Fodder Crops

Districts	Fruits			Fodder Crops		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Akola	4.4	6.3	2.4	17.1	17.5	13.3
Amravati	39.9	43.3	43.2	20.4	23.8	18.3
Buldhana	28.4	21.7	12.6	24.0	3.3	11.6
Wardha	16.2	16.5	29.1	2.8	4.7	6.1
Washim	3.1	4.1	1.8	9.9	21.0	8.5
Yavatmal	8.0	8.1	10.8	25.9	29.6	42.2

Source: End Line Survey, NCAER, 2019.

The largest area under wheat was found to be in Amravati, at over 43 per cent in 2018-19, followed by Wardha, at 29 per cent. It may be noted that the share of fodder crop was over 42 per cent in 2018-19 in Yavatmal, followed by Amravati, at 18 per cent (Table IV.5). An analysis of the percentage distribution of the total area under cultivation shows that among the six districts, Yavatmal consistently registered the highest area under cultivation (Figure IV.1).



Source: End Line Survey, NCAER, 2019.

The area under irrigation is an important indicator of productivity with respect to acreage usage. The district-wise percentages of irrigated land in the six selected districts of Vidarbha are shown in Table IV.6.

TABLE IV.6: District-wise percentages of Irrigated Land (CAIM area)

Districts	2012-13	2015-16	2018-19
Akola	32.8	31.8	32.3
Amravati	24.3	21.9	22.7
Buldhana	19.7	20.3	20.4
Wardha	37.7	35.7	37.2
Washim	40.9	40.3	81.5
Yavatmal	16.1	17.6	17.9
Total	25.6	25.5	31.2

Source: End Line Survey, NCAER, 2019.

Rainwater harvesting, and promotion of farm and village ponds in the CAIM areas have enhanced the infiltration of rainfall, led to a rise in the water table, and ensured that the existing wells hold water for longer. Further, new wells and boreholes have been installed. The above measures have helped increase the irrigated area in the region, to some extent. It would be interesting to compare these results with the distribution of irrigated land in the non-CAIM areas (table IV.7).

TABLE IV.7: District-wise percentages of Irrigated Land (Control area)

Districts	2012-13	2015-16	2018-19
Akola	35.9	38.4	37.3
Amravati	18.9	18.4	19.0
Buldhana	12.2	12.0	13.9
Wardha	26.3	24.9	25.4
Washim	35.7	37.2	38.0
Yavatmal	7.3	7.7	7.8
Total	20.9	21.1	21.6

Source: End Line Survey, NCAER, 2019.

IV.2 Production Scenario

The shares of production of major crops by each of the districts are shown in Tables IV.8 to IV.11

TABLE IV.8: District-wise percentages of Production of Cotton and Soybean

Districts	Cotton Production			Soybean Production		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Akola	8.6	8.5	9.6	5.6	4.9	5.2
Amravati	7.5	7.9	8.4	24.6	27.0	31.6
Buldhana	5.7	6.4	6.5	10.8	10.6	9.5
Wardha	17.9	19.1	19.8	9.6	9.1	7.5
Washim	1.7	1.9	2.4	19.0	18.5	16.8
Yavatmal	58.6	56.1	53.2	30.5	30.0	29.4

Source: End Line Survey, NCAER, 2019.

It may be noted from Table IV.8 that cotton production was mostly dominated by Yavatmal district, followed by Wardha. Further, all the districts grew cotton in variable degrees.

TABLE IV.9: District-wise Percentages of Production of Tur and Gram

Districts	Tur Production			Gram Production		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Akola	10.1	10.8	10.8	12.5	11.7	14.2
Amravati	18.4	17.0	17.4	19.0	22.4	24.0
Buldhana	8.8	9.5	7.9	9.2	7.1	6.1
Wardha	13.3	12.7	15.1	20.7	22.5	20.3
Washim	11.3	13.2	10.4	15.9	15.9	13.9
Yavatmal	38.0	36.7	38.3	22.7	20.3	21.4

Source: End Line Survey, NCAER, 2019.

The highest share of tur production in 2018-19 was witnessed in Yavatmal, at over 38 per cent, followed by Amravati and Wardha, respectively. The share of production of gram in 2018-19 was the highest in Amravati, at 24 per cent, followed by Yavatmal and Wardha (Table IV.9).

TABLE IV.10: District-wise Percentages of Production of Wheat and Vegetables

Districts	Wheat Production			Vegetable Production		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Akola	13.9	13.6	13.1	3.6	2.8	2.9
Amravati	13.2	15.7	8.9	0.5	0.5	0.2
Buldhana	11.6	8.0	5.5	0.3	0.3	0.2
Wardha	17.4	20.0	16.7	0.2	0.0	0.0
Washim	22.7	17.0	24.4	95.4	96.2	96.6
Yavatmal	21.3	25.8	31.4	0.0	0.2	0.0

Source: End Line Survey, NCAER, 2019.

Yavatmal accounted for the highest share of wheat production in 2018-19, at 31.4 per cent, followed by Washim and Wardha. The share of wheat production in Akola for the corresponding period was over 13 per cent. In the case of vegetables, Washim accounted for almost the entire share of production in 2018-19, at 96.2 per cent of the total (Table IV.10).

TABLE IV.11: District-wise Percentages of Production of Fruits

Districts	Fruits Production		
	2012-13	2015-16	2018-19
Akola	0.0	0.4	0.0
Amravati	1.1	9.0	9.9
Buldhana	0.2	0.8	0.7
Wardha	96.8	76.5	87.1
Washim	0.0	0.2	0.1
Yavatmal	1.8	13.2	2.2

Source: End Line Survey, NCAER, 2019.

In the case of fruits, Wardha recorded the largest share in production in 2018-19, at 87 per cent, with Amravati registering a share of around 10 per cent during the same period. The corresponding shares of Akola, Buldhana, and Washim were negligible (Table IV.11).

IV.3 Production Area under BCI, Organic and LEISA: Change in the Acreage of the Non-conventional vis-à-vis Conventional Areas

The average area under BCI (Better Cotton Initiatives), Organic Farming and LEISA (Low External Inputs for Sustainable Agriculture) has been adopted in the CAIM villages for higher productivity of cotton and other crops (Table IV.12).

TABLE IV.12: Area (in acres) Under BCI, Organic Farming and Leisa

Districts	BCI			Organic Farming			LEISA		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Akola	0.0	2.0	16.0	0.0	0.0	0.0	0.0	0.0	9.0
Amravati	17.5	22.5	33.5	121.0	140.0	145.0	23.0	15.0	16.0
Buldhana	21.5	28.5	21.5	115.2	92.7	91.1	8.0	8.0	0.0
Wardha	5.0	3.0	3.0	0.0	1.0	13.0	0.0	0.0	0.0
Washim	4.0	12.0	8.0	39.0	20.0	36.0	16.0	11.0	2.0
Yavatmal	117.8	133.8	160.8	9.0	0.0	8.0	12.0	11.0	56.0
Total	165.8	201.8	242.8	284.2	253.7	293.2	59.0	45.0	83.0

Source: End Line Survey, NCAER, 2019.

If we add up the area under BCI, organic farming, and LEISA, and take the share with the total area under cultivation (including both the conventional and non-conventional), we can observe a distinct increase in the overall area under cultivation, as shown in Table IV.13.

TABLE IV.13: Share (%) of Non-conventional and Conventional Areas

Districts	Non-Conventional Area			Conventional Area		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
Akola	0.0	0.7	7.8	100.0	99.3	92.2
Amravati	73.2	83.5	75.2	26.8	16.5	24.8
Buldhana	79.2	75.0	66.8	20.8	25.0	33.2
Wardha	0.8	0.6	2.2	99.2	99.4	97.8
Washim	57.0	49.7	44.2	43.0	50.3	55.8
Yavatmal	34.8	45.2	57.2	65.2	54.8	42.8
Total	27.7	28.2	31.2	72.3	71.8	68.8

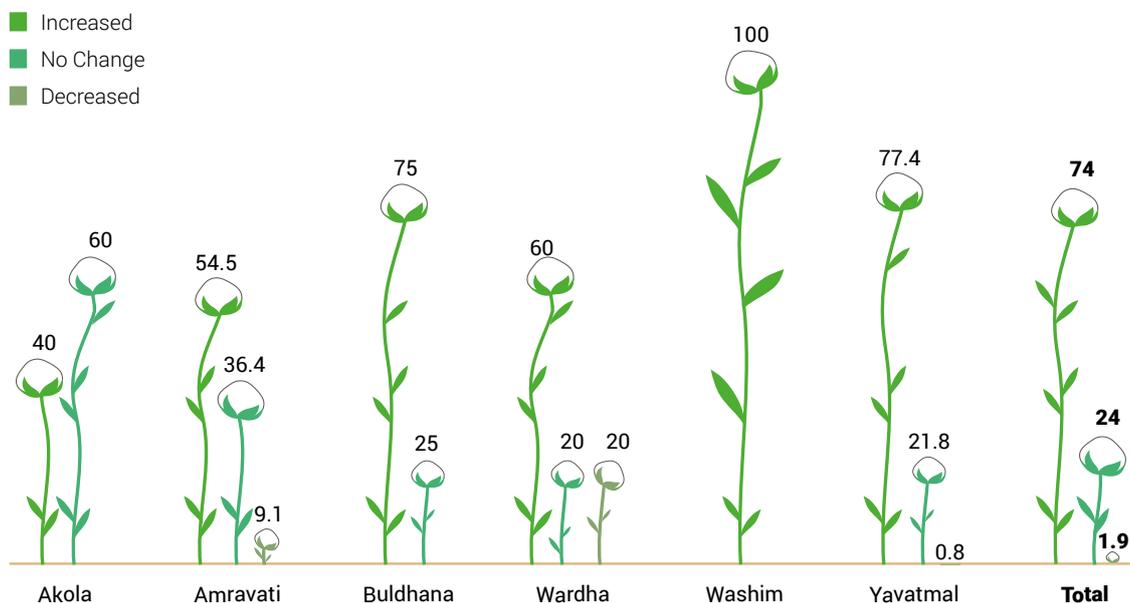
Source: End Line Survey, NCAER, 2019.

Despite huge inter-district variations, one may observe a shift of area towards non-conventional farming, though districts like Akola and Wardha still have a long way to go in this area.

IV.4 Change in the Yield of Cotton

Yield is an important consideration for modern farming. It is observed that the adoption of BCI farming helped change the yield of cotton substantially for the responding farmer households (Figure IV.2).

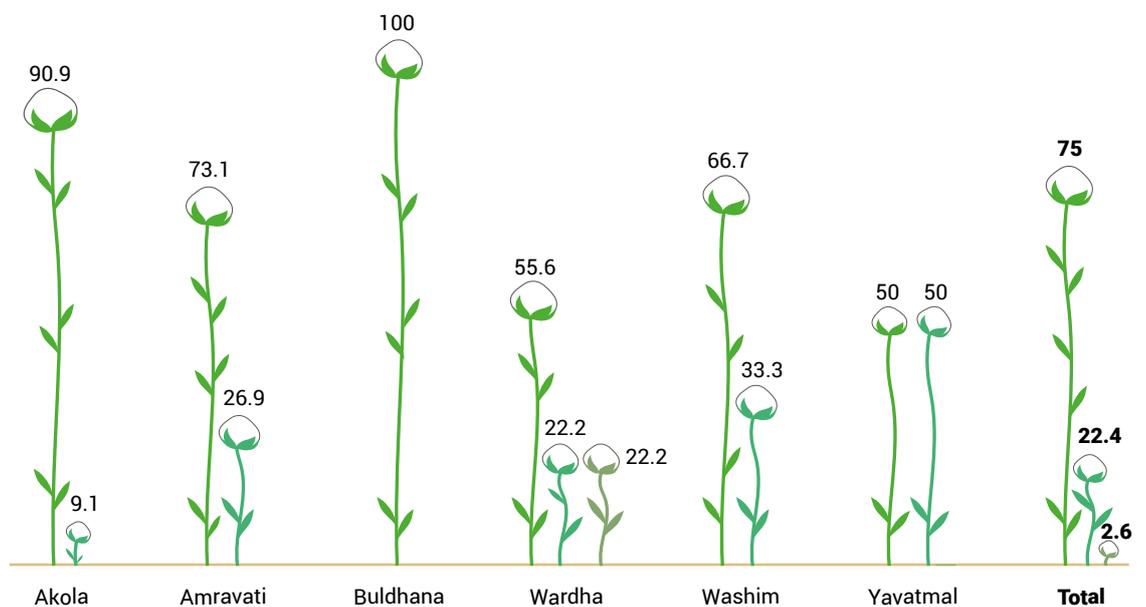
FIGURE IV.2: Change in Yield (%) of Cotton due to the Adoption of BCI



Source: End Line Survey, NCAER, 2019.

The same is equally true in the case of organic farming. Farmers adopting organic farming reported a very high increase in the yield of cotton. The inter-district variation shows that the percentage increase in yield was near total in Buldhana, followed by 91 per cent in Akola. Overall, there was a 75 per cent increase in the yield of cotton due to the adoption of organic farming (Figure IV.3).

FIGURE IV.3: Change in Yield (%) of Cotton due to the Adoption of Organic Farming



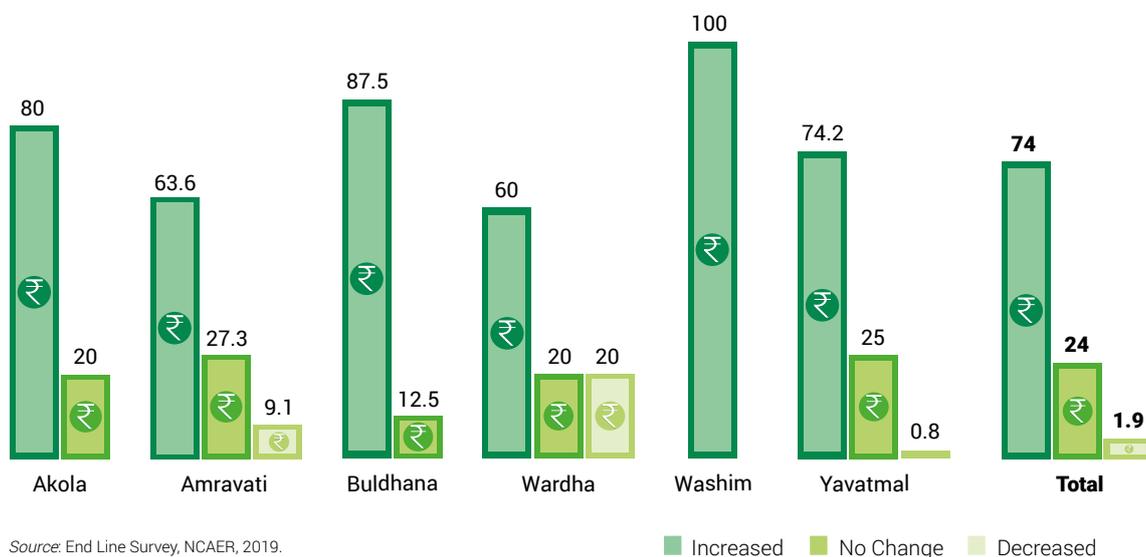
Source: End Line Survey, NCAER, 2019.

Legend: Increased (Light Green), No Change (Medium Green), Decreased (Dark Green)

IV.5 Change in Net Incomes in Cultivation of Cotton

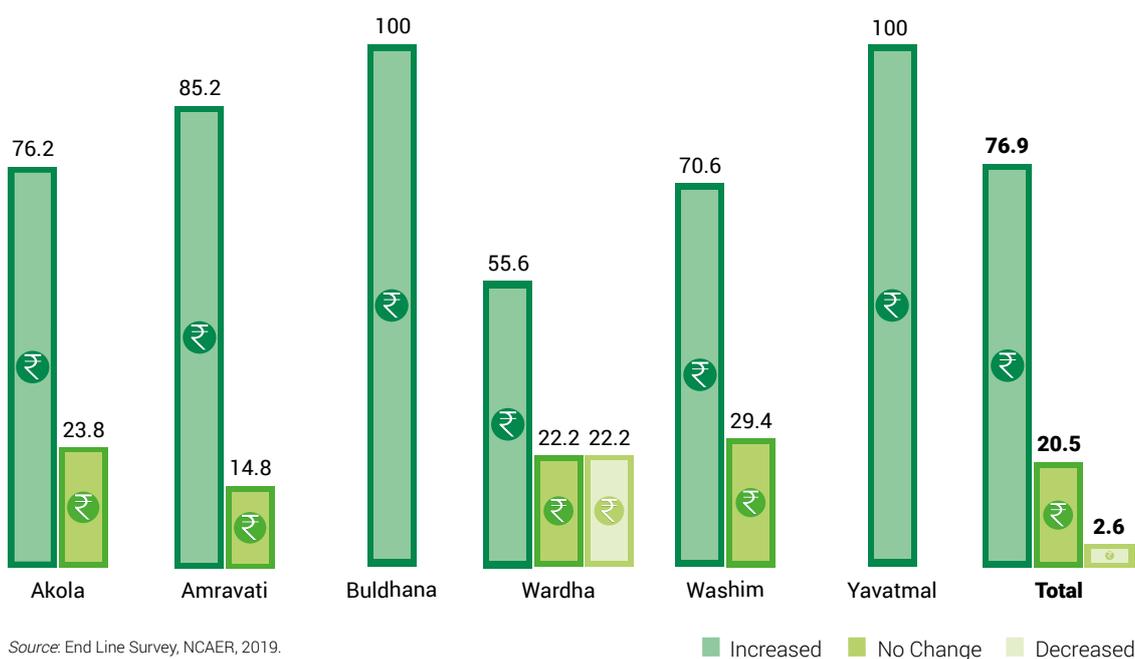
The change in the net income of farmers adopting BCI is quite encouraging. Among those who adopted all aspects of BCI, that is, 154 farmers in this sample, 74 per cent reported an increased impact on their net incomes. The inter-district variation shows that the impact was near total in Washim, followed by Buldhana, at 87.5 per cent, and Yavatmal, at 74.2 per cent (Figure IV.4).

FIGURE IV.4: Net Change (%) in Income due to the Adoption of BCI Cotton



The change in the net incomes of farmers adopting organic farming was also encouraging. Among those who adopted all aspects of organic farming, that is, 78 farmers in this sample, around 77 per cent reported an increased impact on their net incomes. The inter-district variation shows that the impact was near total in Yavatmal and Buldhana, followed by Amravati, at 85.2 per cent, and Akola, at 76.2 per cent (Figure IV.5).

FIGURE IV.5: Net Change (%) in Incomes due to the Adoption of Organic Farming in Cotton



It is observed that non-conventional farming leads to more benefits in terms of yield and changes in income to the farming community. However, as of now, its penetration among households is low and, therefore, its impact remained obscure in a multiplicity of activities undertaken through CAIM.

IV.6 Soil and Water Conservation

Most of the SWC work in the CAIM villages was carried out through convergence. Most households reported positive results for SWC works. The key activity carried out was that of developing rainwater harvesting structures. To this end, the main thrust for individual households was watershed management through the creation of farm and village ponds. The respondents reported an increase in both the water table and the domestic supply of water. The larger the area under irrigated crops, the higher was the adoption of multiple crops and greater the yield.

The basic figures depicting the extent of soil and water conservation across households in the selected districts varied in both the CAIM and control areas (Table IV.14).

TABLE IV. 14: Percentage of Respondents Positively Reporting Implementation of Soil and Water Conservation Activities (out of the Total Respondents)

Districts	CAIM Areas	Control Areas
	Percentages of 'Yes' out of the Total Responses	Percentages of 'Yes' out of the Total Responses
Akola	13.11	7.44
Amravati	88.60	72.69
Buldhana	92.55	80.25
Wardha	25.80	7.75
Washim	17.92	9.17
Yavatmal	26.06	8.10
Total	50.22	38.54

Source: End Line Survey, NCAER, 2019.

Households in the Amravati and Buldhana districts reported higher soil and water conservation efforts as compared to the other districts.

IV.7 Marketing Support

A few questions were included in the questionnaires administered to the respondents to assess the extent of market intervention extended by CAIM in both the beneficiaries' villages as well as the non-beneficiaries' villages.

The farmers were asked to indicate the preferred channels/ways of marketing for the crops they were growing. They were given various options to assess their preferences for selling their products. The responses vary across the districts. About 28.9 per cent of the farmers expressed their preference for Farm Gate for selling their produce, whereas 64.8 per cent claimed that they preferred to sell their produce in the market, with the responses showing a wide inter-district variation. Only about 4 per cent of the farmers claimed to be pooling their production and market in the group (Table IV.15).

TABLE IV.15: Preferred Market Channels (%)

Districts	Farm Gate Sale	Market Selling	Pooling	Supply to Processing Unit/Collection Centre	Contract Farming
Akola	38.6	59.2	0	2.2	0.0
Amravati	11.9	77.6	3.2	0.3	7.1
Buldhana	11.9	85.7	0	0.4	2.0
Wardha	36.2	62.3	0.9	0.3	0.3
Washim	33.8	53.2	7.6	4.1	1.3
Yavatmal	31.7	62.0	6.0	0.3	0.0
Total	28.9	64.8	4.1	0.9	1.3

Source: End Line Survey, NCAER, 2019.

CAIM support was seen to vary across the districts. In the case of Farm Gate, the highest level of support was received by Wardha, at 75 per cent, whereas the lowest was observed in Amravati, at 7.7 per cent. This implies that Wardha district got the least support from CAIM for market selling, whereas Amravati and Buldhana received the maximum support for market selling (Table IV.16).

TABLE IV.16: CAIM-Supported Market Channels (%)

Districts	Farm Gate Sale	Market Selling	Pooling	Supply to Processing Unit/Collection centre	Contract Farming
Akola	60.0	40.0	0.0	0.0	0.0
Amravati	7.7	80.1	3.6	0.5	8.1
Buldhana	9.8	87.6	0.0	0.4	2.2
Wardha	75.0	25.0	0.0	0.0	0.0
Washim	26.6	58.2	11.4	0.0	3.8
Yavatmal	34.7	54.4	10.2	0.6	0.2
Total	24.9	65.4	6.9	0.5	2.3

Source: End Line Survey, NCAER, 2019.

Table IV.17 shows a slight overall increase in market selling, from 49.3 per cent in 2013 to 52.6 per cent in 2018-19. In Yavatmal, the average figure for the use of marketing channels increased from 72.8 per cent in 2013 to 78.3 per cent in 2018-19.

TABLE IV.17: Percentage of Responses Regarding Use of Marketing Channels in CAIM Villages, 2013-2018

Districts	2013		2015-16		2018-19	
	Yes	No	Yes	No	Yes	No
Akola	40.3	59.7	42.6	57.4	42.9	57.1
Amravati	36.9	63.1	36.6	63.4	37.2	62.8
Buldhana	37.8	62.2	38.1	61.9	37.6	62.4
Wardha	52.3	47.7	55.8	44.2	55.4	44.6
Washim	39.4	60.6	49.3	50.7	50.7	49.3
Yavatmal	72.8	27.2	76.4	23.6	78.3	21.7
Total	49.3	50.7	51.9	48.1	52.6	47.4

Source: End Line Survey, NCAER, 2019.

In the case of the control villages, 19 per cent preferred to sell their produce through Farm Gate while 75.7 per cent took their produce for sale to the market, and sales in the latter case showed a wide inter-district variation. Only 3 per cent, 1.6 per cent, 0.5 per cent of the farmers, pooled production and market in the group, supplied to the processing units, and to contract farming, respectively (Table IV.18).

TABLE IV.18: Preferred Market Channels in the Control Villages

Districts	Preferred Marketing Channel (%)					
	Farm Gate Sale	Market Selling	Pooling	Supply to Processing Unit/Collection Centre	Contract Farming	Total
Akola	24.6	70.5	0.0	4.9	0.0	100
Amravati	5.6	84.3	6.5	1.9	1.9	100
Buldhana	4.0	92.0	1.3	1.3	1.3	100
Wardha	19.5	80.5	0.0	0.0	0.0	100
Washim	25.7	67.1	1.4	0.0	0.0	100
Yavatmal	26.8	68.2	5.0	0.0	0.0	100
Total	19.0	75.7	3.2	1.6	0.5	100

Source: End Line Survey, NCAER, 2019.

In Buldhana, without CAIM support, the largest proportion of farmers, that is, 92 per cent, took their produce to the market for sale, followed by farmers in Amravati (84.3 per cent), Wardha (80.5 per cent), Akola (70.5 per cent), Yavatmal (68.2 per cent), and Washim (67.1 per cent), respectively. About, two-thirds of the farmers did not actually use market channels for their produce in the control villages, with this figure remaining almost constant from 2013 to 2018-19.

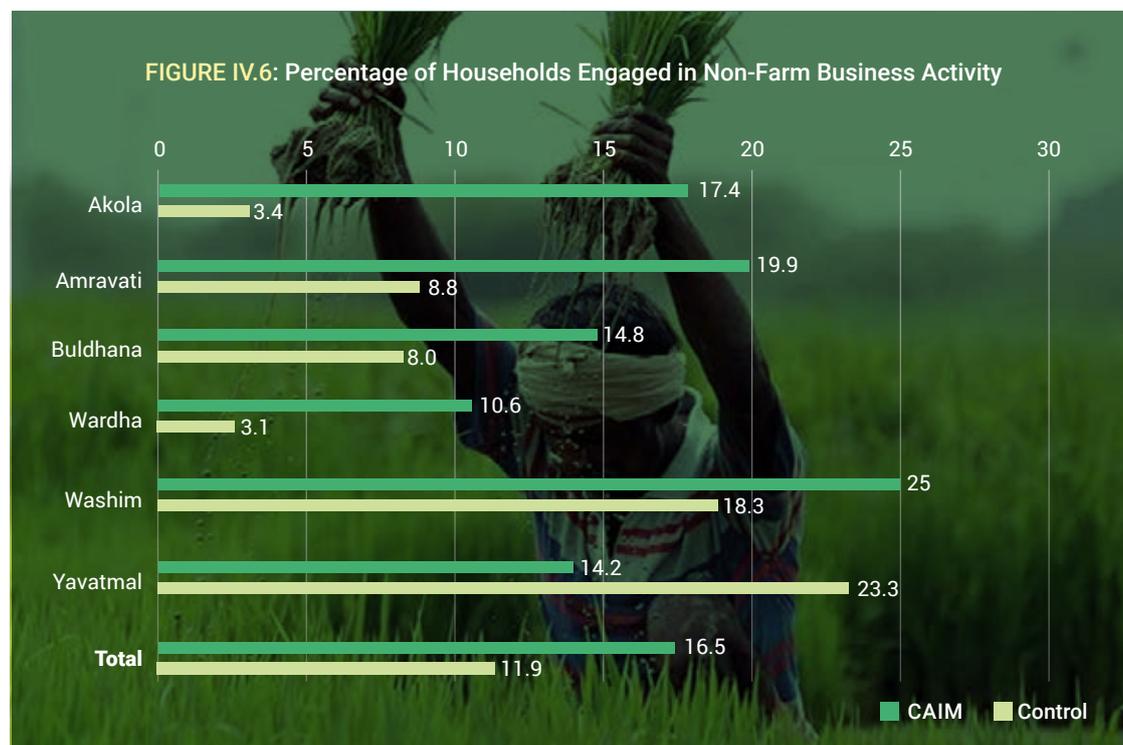
TABLE IV.19: Percentage of Responses Regarding Use of Marketing Channels in the Control Villages, 2013-2018

Districts	2013		2015-16		2018-19	
	Yes	No	Yes	No	Yes	No
Akola	37.8	62.2	40.0	60.5	39.5	60.5
Amravati	39.3	60.7	39.0	60.6	39.8	60.2
Buldhana	27.3	72.7	27.0	72.6	27.4	72.6
Wardha	50.8	49.2	52.0	48.4	50.4	49.6
Washim	33.9	66.1	36.0	64.2	33.9	66.1
Yavatmal	51.9	48.1	53.0	47.3	53.6	46.4
Total	40.3	59.7	41.0	59.0	41.0	59.0

Source: End Line Survey, NCAER, 2019.

IV.8 Non-Farm Enterprises

Most rural households have multiple sources of income. Figure IV.6 presents the percentages of households having non-farm enterprises among both the CAIM and control villages. The percentage of households engaged in non-farm business activities varies across the districts. The highest proportion of such households in among the Caim villages was recorded in Washim (25 per cent), followed by Amravati (19.9 per cent), Akola (17.4 per cent), Buldhana (14.8 per cent), Yavatmal (14.2 per cent), and Wardha (10.6 per cent). The proportion of households engaged in non-farm activities among the control villages was the highest in Yavatmal (23.3 per cent), followed by Washim (18.3 per cent), Amravati (8.8 per cent), Buldhana (8.0 per cent), and Akola and Wardha (3 per cent each).



Source: End Line Survey, NCAER, 2019.

IV.8.1 Types of Non-Farm Businesses

The selected households were engaged in various types of non-farm businesses, including: (i) running shops, (ii) other trading business, (iii) food and crop processing, (iv) manufacturing, including tailoring, weaving, and handicrafts, (v) transport, and (vi) Others. Table IV.20 presents the percentage of households engaged in different types of businesses. Among the CAIM villages, about 25 per cent of the households had shops while about one-third of the households were engaged in other businesses.

TABLE IV. 20: Type of Non-Farm Enterprises in the CAIM Villages

Districts	Shops	Other Trading Businesses	Food/ Crop Processing	Manu-facture	Transport	Others
Akola	35.4	6.3	0.0	22.9	16.7	18.8
Amravati	34.4	6.6	10.7	15.6	5.7	27.0
Buldhana	26.3	6.6	15.8	26.3	2.6	22.4
Wardha	25.6	9.3	4.7	23.3	25.6	11.6
Washim	10.0	20.0	8.8	13.8	3.8	43.8
Yavatmal	22.6	5.6	2.4	10.5	3.2	55.6
Total	25.6	8.7	7.5	17.0	7.1	34.1

Source: End Line Survey, NCAER, 2019.

In the control villages, 20 per cent of the households reported having shops, whereas about 56 per cent had other non-farm enterprises (Table IV.21). Apparently, the other trading businesses, food processing, manufacturing, and transport activities were not very popular business activities as very few households in both the CAIM and control villages were engaged in these activities.

TABLE IV.21: Types of Non-Farm Enterprises in the Control Villages

Districts	Shop	Other Trading Businesses	Food/Crop Processing	Manu-facture	Transport	Others	Total
Akola	50.0	0.0	0.0	25.0	0.0	25.0	100
Amravati	40.9	18.2	13.6	0.0	0.0	27.3	100
Buldhana	0.0	23.1	0.0	38.5	15.4	23.1	100
Wardha	33.3	0.0	16.7	0.0	16.7	33.3	100
Washim	22.7	0.0	0.0	9.1	4.5	63.6	100
Yavatmal	13.0	4.3	0.0	7.2	2.9	72.5	100
Total	19.9	7.4	2.9	9.6	4.4	55.9	100

Source: End Line Survey, NCAER, 2019.

IV.8.2 Change in Households' Incomes

The change in household incomes due to non-farm activities varied across the districts among both the CAIM and control villages during the project period. In the CAIM villages, about 14 per cent of the households reported an increase in their household incomes as against a corresponding figure of 5 per cent in the control villages. This implies that the intervention of CAIM had a positive impact on household incomes in 14 per cent of the households. Almost an equal proportion (about 60 per cent) of households reported that no change in household incomes during the project period in both groups of households. About 3 per cent of the households in the CAIM villages, and 4 per cent of the households in the control villages reported a decrease in the households' incomes during the project period. The number of non-responses to the question on change in household incomes was higher in the control villages as compared to the CAIM villages (Table IV.22).

TABLE IV.22: Extent of Income Change From Non-Farm Activities in Both CAIM and Control Villages

Districts	CAIM Villages				Control Villages			
	Increased	Unchanged	Decreased	NR	Increased	Unchanged	Decreased	NR
Akola	11.7	53.4	0.3	34.5	2.5	15.70	0.0	81.8
Amravati	18.6	73.0	7.2	1.1	6.9	84.30	7.7	1.1
Buldhana	12.9	81.8	4.3	1.0	2.1	0.88	8.3	0.8
Wardha	5.6	43.0	0.8	50.7	3.9	20.20	0.0	76.0
Washim	23.4	45.5	1.3	29.8	7.3	22.90	1.8	67.9
Yavatmal	11.1	50.1	1.7	37.1	7.0	57.20	0.7	35.1
Total	13.7	60.1	3.1	23.1	5.2	58.50	3.9	32.5

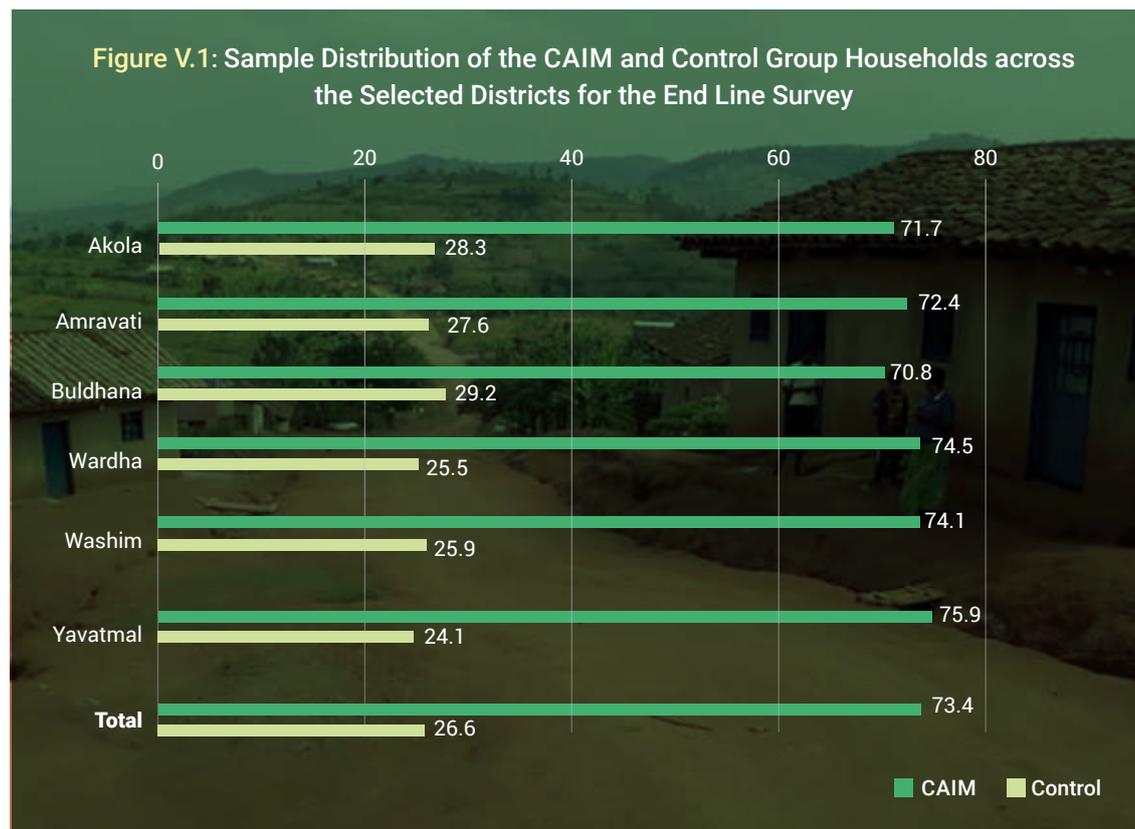
Source: End Line Survey, NCAER, 2019. Note: NR=Non-Response.

STATUS OF HOUSEHOLDS IN THE PROGRAMME AND CONTROL AREAS

V.1 Introduction

On the request of the Convergence of Agricultural Interventions in Maharashtra (CAIM), the National Council of Applied Economic Research (NCAER) undertook an End Line Survey (ELS) to ascertain the impact of the schemes undertaken by CAIM over a period of 10 years, on the targeted beneficiaries, to help improve their incomes, productivity, and livelihoods, spread over six distressed districts of the Vidarbha region of Maharashtra, viz., Akola, Amravati, Buldhana, Wardha, Washim, and Yavatmal. Overall, the field survey covered 64 blocks across these six districts. Apart from the beneficiaries, that is, the treatment group, the ELS of NCAER also included a small sample of non-beneficiary households, that is, the non-treatment or control group, to examine the comparative scenario and assess the impact of the schemes undertaken by CAIM on the intended beneficiaries.

The control or non-CAIM villages accounted for a 27 per cent share of the total sample of 4352 households. The sample distribution of the CAIM and control villages for each of the six districts is depicted in Figure V.1.



Source: End Line Survey, NCAER, 2019.

The ELS was initiated in the third week of March 2019, and ended in the first week of May 2019. Several impediments, such as the general elections held in the country during this period, hindered the survey process, with the data gathering/analytics affected concomitantly.

The sample households for each of the districts were selected using a detailed methodology specially devised for this purpose. The sample of villages was drawn from the comprehensive list of the treatment villages provided to NCAER based on the relative shares of each district. Similarly, the villages for the control group were chosen from each of the 64 blocks covered in this primary assessment. The non-treatment or the control group was included to facilitate comparison with the CAIM villages and accordingly assess the impact of the CAIM programmes on its beneficiaries.

V.2 Demography

Demographic parameters, especially age and gender, are important indicators of development. The ELS also recorded the notable demographic features for both the CAIM and control villages. The gender distribution of the respondents from the CAIM and control villages is depicted in Table V.1.

TABLE V.1: Percentage Distribution for the Respondents' Gender from the CAIM and Control Villages

Districts	Male Respondents		Female Respondents	
	CAIM	Control	CAIM	Control
Akola	61.5	74.2	38.5	25.8
Amravati	29.3	52.2	70.7	47.8
Buldhana	27.9	42.9	72.1	57.1
Wardha	58.6	71.3	41.4	28.7
Washim	42.8	58.3	57.2	41.7
Yavatmal	75.5	78.8	24.5	21.2
Total	49.9	61.8	50.1	38.2

Source: End Line Survey, NCAER, 2019.

On an average, the number of female respondents was proportionately higher in the CAIM villages as compared to the control villages though, inter-district variations may be noted for the district of Akola, Wardha, and Yavatmal.

The age distribution of the respondents from the treatment and control villages is depicted in Table V.2.

TABLE V.2: Percentage Distribution of Age Group from the CAIM and Control Villages

Age Group (in Years)→ Districts↓	Less than 25		26-45		46-60		Above 60	
	CAIM	Control	CAIM	Control	CAIM	Control	CAIM	Control
Akola	0.7	4.1	56.0	43.0	30.6	38.0	12.7	14.9
Amravati	4.9	5.5	56.7	53.5	29.9	30.4	8.5	10.6
Buldhana	5.2	7.9	60.1	56.5	29.0	27.2	5.7	8.4
Wardha	3.7	0.8	56.2	59.7	29.2	27.1	10.9	12.4
Washim	3.5	7.3	53.5	36.7	32.7	36.7	10.3	19.3
Yavatmal	2.1	3.2	47.3	55.1	40.8	31.9	9.8	9.8
Total	3.5	4.9	54.3	52.5	33.1	31.1	9.2	11.4

Source: End Line Survey, NCAER, 2019.

Overall, the proportion of respondents in the economically active age group of 26-60 years was considerably higher in the CAIM villages as compared to the control ones, though inter-district variations may be noted.

The distribution of socio-economic category of the respondents from the treatment and the control villages is depicted in Table V.3.

TABLE V.3: Distribution (%) of the Socio-economic Category of the Respondents from the CAIM and Control Villages

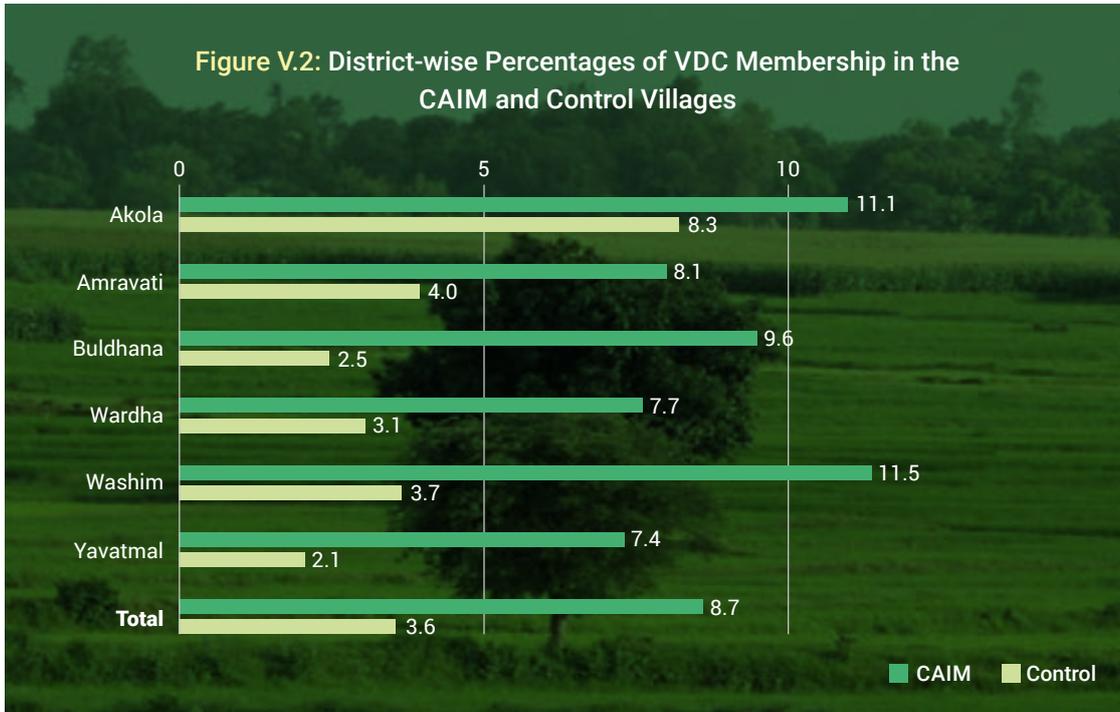
Socio-economic Category → Districts ↓	SCs		STs		Others	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	25.4	38.0	22.8	28.9	51.8	33.1
Amravati	21.8	28.4	22.4	22.9	55.7	48.7
Buldhana	31.8	29.6	6.7	2.5	61.5	67.9
Wardha	17.2	32.6	17.5	24.0	65.3	43.4
Washim	35.8	35.8	6.5	8.5	57.7	55.7
Yavatmal	13.7	9.9	30.9	37.3	55.3	52.8
Total	22.5	26.2	19.9	21.6	57.6	52.1

Source: End Line Survey, NCAER, 2019.

It may be observed that number of households from the SC and ST categories emerging from the random sampling was higher in the control villages as compared to the CAIM ones.

V.3 Activity, Capacity Building and Change in Income: A Closer View

The change in household incomes due to non-farm activities varied across the districts among both the CAIM and control villages during the project period. In the CAIM villages, about 14 per cent of the households reported an increase in their household incomes as against a corresponding figure of 5 per cent in the control villages. This implies that the intervention of CAIM had a positive impact on household incomes in 14 per cent of the households. Almost an equal proportion (about 60 per cent) of households reported that no change in household incomes during the project period in both groups of households. About 3 per cent of the households in the CAIM villages, and 4 per cent of the households in the control villages reported a decrease in the households' incomes during the project period. The number of non-responses to the question on change in household incomes was higher in the control villages as compared to the CAIM villages (Table IV.22).



Source: End Line Survey, NCAER, 2019.

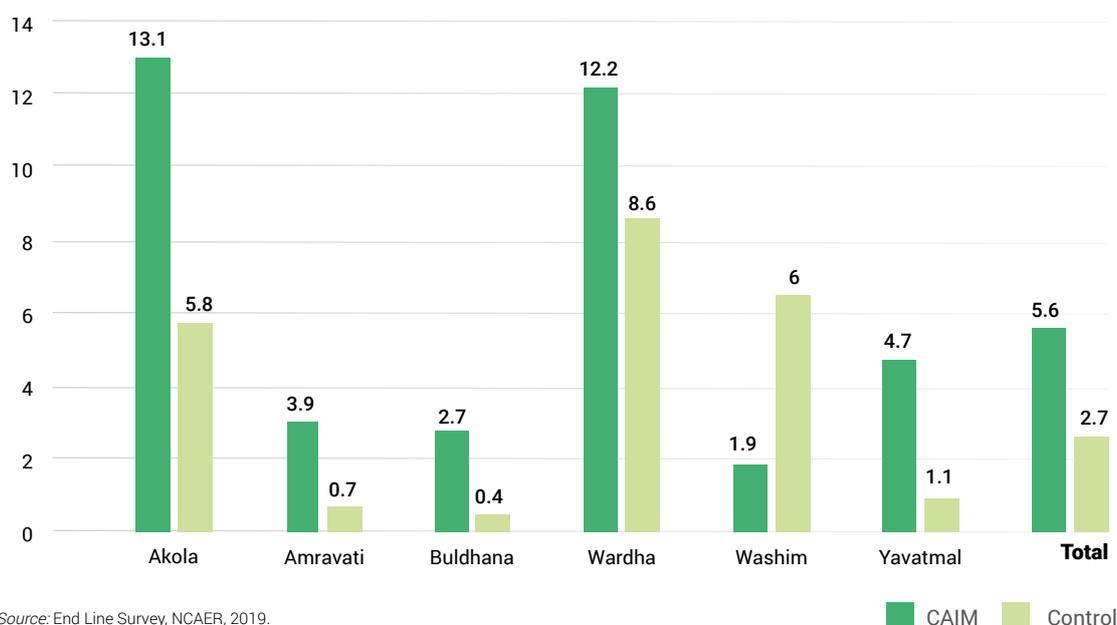
The total SHG membership was 75.8 per cent in the CAIM villages and 39 per cent in the control villages. The ELS also shows that the SHG membership was quite high across all the districts in the CAIM villages as compared to the control villages, with the highest membership being reported as 81.8 per cent in Buldhana and the lowest in Akola, at 61.6 per cent, for the CAIM villages. For the control villages, the SHG membership was the highest in Wardha, at 64.1 per cent and the lowest was in Akola, at 22.3 per cent.



Source: End Line Survey, NCAER, 2019.

The ELS indicates that the total membership of the producer or farmer group was 5.6 per cent in the CAIM villages and 2.7 per cent in the control villages. This type of membership was the highest maximum in Akola (13.1 per cent) and lowest in Washim (1.9 per cent) among the CAIM villages. Among the control villages, it was the highest in Wardha (8.6 per cent) and lowest in Buldhana (0.4 per cent). Membership of the producer or farmer group was comparatively higher in the CAIM villages across all the districts except in Washim, where it was 1.9 per cent in the CAIM villages and 6.5 per cent in the control villages (Figure V.4).

FIGURE V.4: District-wise Percentages of Producer or Farmer Group Membership in the CAIM and Control Villages



Source: End Line Survey, NCAER, 2019.

V.4 Training and Capacity Building

According to the ELS, out of the total households, the proportion of those whose members attended training on SHG Management and Financial Services was 45.3 per cent in 2010-13, which increased to 56 per cent in 2014-16, but declined to 36.1 in 2017-18. It was also reported that among the total number of trained people, 64.6 per cent benefited from the training received. In Amravati, the percentage of people who attended the training rose from 67.6 per cent during the period 2010-13 to 74.9 per cent during 2014-16, but then fell sharply to 17.1 per cent in 2017-18, though 73.5 per cent of the people who attended the training said that they benefited from it (Table V.4).

TABLE V.4: Training on SHG Management and Financial Services (%)

Districts	People Who Attended Training, 2010-13 (%)	People Who Attended Training, 2014-16 (%)	People Who Attended Training, 2017-18 (%)	People Who Benefited from the Training (%)
Akola	29.8	42.0	46.9	48.5
Amravati	67.6	74.9	17.1	73.5
Buldhana	64.8	71.0	24.1	71.2
Wardha	25.3	50.3	61.2	61.5
Washim	32.9	51.9	44.2	55.7
Yavatmal	32.6	39.7	41.9	62.2
Total	45.3	56.0	36.1	64.6

Source: End Line Survey, NCAER, 2019.

The total percentage of households whose members attended training on Crop and Horticultural Production was 32.1 per cent in 2010-13, rising to 36.6 per cent in 2014-16, but falling to 17.3 per cent in 2017-18. Out of those who attended the training, 44.2 per cent reportedly benefited from it. The percentage of households attending training on crop and horticultural production fell in 2017-18 after rising in 2014-16, in the Akola, Amravati, Buldhana, Washim, and Yavatmal districts, though the fall was significant only in the Amravati and Buldhana districts (Table V.5).

TABLE V.5: Training on Crop and Horticultural Production (%)

Districts	People Who Attended Training, 2010-13 (%)	People Who Attended Training, 2014-16 (%)	People Who Attended Training, 2017-18 (%)	People Who Benefited from Training (%)
Akola	9.9	15.6	14.9	18.6
Amravati	58.3	60.9	9.7	59.5
Buldhana	62.1	64.5	22.1	65.3
Wardha	17.8	27.4	33.0	38.5
Washim	2.6	11.1	10.1	16.0
Yavatmal	15.1	18.8	17.0	34.1
Total	32.1	36.6	17.3	44.2

Source: End Line Survey, NCAER, 2019.

The total proportion of households whose members attended training on Market Interventions was 27.3 per cent during the period 2010-13, which increased to 30.7 per cent during 2014-16, and fell to 12.8 per cent in 2017-18. Out of those who attended training, 37.9 per cent benefited from it. In Amravati, the percentage of people who attended training rose from 55.8 per cent during the period 2010-13 to 58.3 per cent during 2014-16, and then fell sharply to 9.7 per cent in 2017-18, though 56.9 per cent of the people who attended the training reportedly benefited from it. The district of Yavatmal saw only a slight continuous increase in the number of people who attended the training over the period of study (Table V.6).

TABLE V.6: Training on Marketing Interventions (%)

Districts	People Who Attended Training, 2010-13 (%)	People Who Attended Training, 2014-16 (%)	People Who Attended Training, 2017-18 (%)	People Who Benefited from Training (%)
Akola	8.6	12.3	11.9	12.5
Amravati	55.8	58.3	9.7	56.9
Buldhana	59.8	61.0	19.4	60.1
Wardha	13.8	20.7	26.9	29.5
Washim	4.9	16.2	12.7	20.2
Yavatmal	3.1	4.6	5.4	12.3
Total	27.3	30.7	12.8	37.9

Source: End Line Survey, NCAER, 2019.

The total proportion of households whose members attended training in Processing/Grading/Packaging/SMEs was 26.7 per cent during the period 2010-13, rising to 28.7 per cent in 2014-16, but falling again to 11.5 per cent in 2017-18. Out of those who attended training, 35.3 per cent benefited from it. In all the districts except Amravati and Buldhana, the percentage of people who attended training on Processing/Grading/Packaging/SMEs increased continuously over the period of study, but in Amravati and Buldhana, the percentage of people who attended training increased during 2014-16, but then fell sharply in 2017-18 (Table V.7).

TABLE V.7: Training on Processing/Grading/Packaging/SMES (%)

Districts	People Who Attended Training, 2010-13 (%)	People Who Attended Training, 2014-16 (%)	People Who Attended Training, 2017-18 (%)	People Who Benefited from Training (%)
Akola	6.3	9.3	11.3	11.1
Amravati	54.9	56.8	10.8	56.1
Buldhana	58.5	59.1	19.2	59.2
Wardha	12.0	17.3	18.1	21.0
Washim	4.9	8.8	9.2	11.5
Yavatmal	4.1	4.6	5.3	12.4
Total	26.7	28.7	11.5	35.3

Source: End Line Survey, NCAER, 2019.

The total proportion of households whose members attended training on livestock development and production was 35.2 per cent during the period 2010-13, which went up to 42.5 per cent during 2014-16, and fell to 24.6 per cent in 2017-18. Out of those who attended training, 51.9 per cent benefited from it. In all the districts except Amravati, Buldhana, and Washim, the percentage of people who attended training on livestock development and production increased over the period of study but in Amravati and Buldhana, the percentage of people who attended training increased during 2014-16, and then fell sharply in 2017-18, whereas in Washim, it increased during 2014-16 but fell slightly by 1.5 per cent in 2017-18 (Table V.8).

TABLE V.8: Training on Livestock Development and Production (%)

Districts	People Who Attended Training, 2010-13 (%)	People Who Attended Training, 2014-16 (%)	People Who Attended Training, 2017-18 (%)	People Who Benefited from Training (%)
Akola	9.8	27.0	30.5	37.1
Amravati	60.2	62.4	11.2	61.0
Buldhana	65.1	65.6	22.0	66.1
Wardha	15.5	32.1	39.7	42.3
Washim	15.2	29.8	28.3	39.2
Yavatmal	19.6	25.5	27.3	46.4
Total	35.2	42.5	24.6	51.9

Source: End Line Survey, NCAER, 2019.

The total proportion of households whose members attended training on Natural Resource Management/SWC was 25.1 per cent during the period 2010-13, which rose to 26.9 per cent during 2014-16, and fell to 9.7 per cent in 2017-18. Out of those who attended training, 33.5 per cent reportedly benefited from it. In Wardha, the percentage of people who attended training on Natural Resource Management/SWC increased continuously over the period of study but in the other districts, the percentage of people who attended training increased during 2014-16, and then either fell or remained stagnant in 2017-18 (Table V.9).

TABLE V.9: Training on Natural Resource Management/SWC (%)

Districts	People Who Attended Training, 2010-13 (%)	People Who Attended Training, 2014-16 (%)	People Who Attended Training, 2017-18 (%)	People Who Benefited from Training (%)
Akola	3.0	6.6	6.6	9.4
Amravati	56.7	58.1	9.4	57.8
Buldhana	52.9	53.1	19.4	53.9
Wardha	11.0	14.2	15.8	18.5
Washim	1.9	6.5	6.1	7.9
Yavatmal	3.1	4.1	3.5	10.6
Total	25.1	26.9	9.7	33.5

Source: End Line Survey, NCAER, 2019.

The total proportion of households whose members attended training on Social Rights, Empowerment and Health was 28.2 per cent during the period 2010-13, which rose to 31.9 per cent during 2014-16, and fell to 17.5 per cent in 2017-18. Out of those who attended training, 38.6 per cent reportedly benefited from it. In all the districts except Amravati, Buldhana, and Yavatmal, the percentage of people who attended training on Social Rights, Empowerment and Health increased over the period of study but in Amravati and Buldhana, the percentage of people who attended training first increased by a meagre percentage during the period 2014-16 and then fell sharply in 2017-18, whereas in Yavatmal, it increased during 2014-16 but fell slightly, by 0.2 per cent, in 2017-18 (Table V.10).

TABLE V. 10: Training on Social Rights, Empowerment and Health (%)

Districts	People Who Attended Training, 2010-13 (%)	People Who Attended Training, 2014-16 (%)	People Who Attended Training, 2017-18 (%)	People Who Benefited from Training (%)
Akola	11.3	17.9	19.9	21.1
Amravati	56.0	56.8	10.5	56.5
Buldhana	46.2	46.7	20.0	46.6
Wardha	11.3	19.0	24.9	25.1
Washim	8.8	19.4	20.1	24.4
Yavatmal	13.6	17.0	16.8	32.1
Total	28.2	31.9	17.5	38.6

Source: End Line Survey, NCAER, 2019.

V.5 Income and Income Conditions across the CAIM and Control Villages

According to the ELS, out of the total households, the proportion of those whose members attended training on SHG Management and Financial Services was 45.3 per cent in 2010-13, which increased to 56 per cent in 2014-16, but declined to 36.1 in 2017-18. It was also reported that among the total number of trained people, 64.6 per cent benefited from the training received. In Amravati, the percentage of people who attended the training rose from 67.6 per cent during the period 2010-13 to 74.9 per cent during 2014-16, but then fell sharply to 17.1 per cent in 2017-18, though 73.5 per cent of the people who attended the training said that they benefited from it (Table V.4).

TABLE V.11: Distribution (%) of Annual Income in the CAIM and Control Villages: Extreme Scenarios in 2017-18

Income Category → Districts ↓	Less than INR 15,000		Above INR 100,000	
	CAIM	Control	CAIM	Control
Akola	7.5	13.3	16.6	13.3
Amravati	24.5	31.9	4.0	4.4
Buldhana	17.4	27.5	4.3	2.5
Wardha	2.4	3.1	28.6	16.5
Washim	7.7	14.7	15.4	9.2
Yavatmal	0.4	0.4	27.0	17.9
Total	10.6	16.5	15.7	10.1

Source: End Line Survey, NCAER, 2019.

It may be noted that the overall percentage of households in the extreme poor category was lower in the CAIM villages (10.6 per cent) as compared to the control ones (16.5 per cent), while the corresponding figure for households at the highest level of income was much higher in the CAIM villages as compared to the control ones.

The dynamics of the incomes earned by respondents from the CAIM villages need to be analysed with a balanced view. As per the balanced view, the higher income levels have been distributed into two categories, viz., income level below INR 50,000, and income level above INR 50,000 (Table V.12).

TABLE V.12: Distribution of Annual Income in the CAIM and Control Villages: Balanced Scenarios (%) in 2017-18

Income Category → Districts ↓	Less than INR 15,000		Above INR 100,000	
	CAIM	Control	CAIM	Control
Akola	61.2	69.2	38.8	30.8
Amravati	80.4	84.2	19.6	15.8
Buldhana	80.9	87.5	19.1	12.5
Wardha	41.4	52.0	58.6	48.0
Washim	58.3	67.9	41.7	32.1
Yavatmal	24.1	26.0	75.9	74.0
Total	56.1	63.9	43.9	36.1

Source: End Line Survey, NCAER, 2019.

The balanced income scenario clearly shows that overall the percentage distribution of the respondent households with income levels below INR 50,000 was much lower in the CAIM villages (56 per cent) than in the control villages (64 per cent). On the other hand, the CAIM villages definitely had an upper edge with regard to their respondents having incomes above INR 50,000 (44 per cent), as compared to their counterparts in the control villages (36 per cent) (Table V.6).

V.6 Trend of Change in Household Income since 2012-13

There is a need to understand the undercurrents of change in the income levels of both the treatment and control villages in order to ascertain both the extent and reasons for this change. The year 2012 has been taken as the benchmark year as various schemes under the CAIM programme were launched in full swing during this year, and they impacted a sizeable section of the population in the six distressed districts of Maharashtra selected for the study.

TABLE V.13: Status of Change (%) in Annual Income since 2012: the Degree of Change in the Treatment and Control Villages

Change in Annual Income→ Districts↓	Increased		No Change		Decreased	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	64.5	29.2	34.2	67.5	1.3	3.3
Amravati	79.6	56.5	18.4	40.1	2.0	3.3
Buldhana	79.6	59.6	14.2	31.9	6.2	8.5
Wardha	72.3	48.0	25.8	44.0	1.9	8.0
Washim	76.3	45.2	19.0	51.9	4.7	2.9
Yavatmal	68.0	53.3	27.6	39.3	4.4	7.4
Total	73.7	51.5	22.7	42.6	3.6	5.9

Source: End Line Survey, NCAER, 2019.

The income level is noted to have increased significantly among the households in the treatment villages (73.7 per cent) in comparison to the control villages (51.5 per cent). A much smaller percentage of households in the CAIM villages recorded no change in incomes during the said period as compared to the corresponding figure in the control villages, and the same trend was observed with regard to the decrease in incomes.

V.7 Reasons for Change in the Income Levels

An analysis of the reasons for the change in income levels indicates that the treatment villages performed quite well with regard to farm-related activities, which reflects the impact of various schemes implemented under the CAIM programme.

TABLE V.14: Increased or Decreased Level of Annual incomes since 2012: Broad Reasons that Impacted the Change (%)

Reason for Change in Income→ Districts↓	Improved Income from Farming		Improved Income from Non-Farm Enterprise		Increased Wages and Salaries		Other	
	CAIM	Control	CAIM	Control	CAIM	Control	CAIM	Control
Akola	51.0	55.6	25.7	6.7	12.1	31.1	11.2	6.7
Amravati	22.4	18.3	45.0	41.4	20.9	22.0	11.8	18.3
Buldhana	22.9	18.3	42.8	43.8	17.0	14.5	17.3	23.4
Wardha	59.1	59.0	16.5	9.8	17.2	18.0	7.2	13.1
Washim	46.2	55.7	31.2	24.6	10.9	9.8	11.7	9.8
Yavatmal	57.3	44.4	21.8	28.4	8.3	16.6	12.7	10.7
Total	39.1	31.2	33.2	34.1	15.0	18.1	12.7	16.6

Source: End Line Survey, NCAER, 2019

It may be noted that a significant positive change in the incomes of respondents in the CAIM villages was the result of improved income from farming in all the six districts. However, there was a notable variation among the districts. On the other hand, there was a marginal variation in terms of the changes between the CAIM and control villages with respect to non-farm and wage activities, and other reasons (Table V.14).

V.8 Perceptions about the Wealth Category Status among Respondents from the CAIM and Control Villages: An Overview

Perceptions about wealth category signify an important parameter for explaining changes in the levels and stability of income.

TABLE V.15: Wealth Category Status as per the Respondents (%)

Wealth Category	2012-13		2015-16		2018-19	
	CAIM	Control	CAIM	Control	CAIM	Control
Rich	1.3	0.8	1.8	1.0	6.2	3.7
Medium	34.7	34.0	50.2	45.4	57.2	52.1
Poor	48.2	48.2	41.9	44.2	33.4	36.4
Very Poor	15.8	17.1	6.0	9.5	3.2	7.8

Source: End Line Survey, NCAER, 2019.

It may be observed that there was a notable shift in perceptions on self-explained wealth status among the respondents, with a steep decline in the percentages of households at the poor and very poor levels over the period 2012-13 to 2018-19, in both the CAIM and control villages. However, the degree of decline in status in the CAIM villages was more pronounced and rapid than in the control villages, pointing to a crucial difference with regard to the impact of schemes in unequivocally elevating the status of the respondents (Table V.15).

V.9 Land Ownership and Status

Land is a key constituent of farming activities in the rural hinterland. The ownership of land is, a prime factor of livelihoods for the farming community. A sizeable section of the respondents had land assets but equally, there was a considerable number of respondents who did not possess any land of their own. Table V.16 depicts the landholding scenario as it emerged from the ELS.

TABLE V.16: Land Ownership (%)

Districts	CAIM		Control	
	Yes	No	Yes	No
Akola	50.5	49.5	51.7	48.3
Amravati	75.6	24.4	75.5	24.5
Buldhana	74.6	25.4	77.6	22.4
Wardha	62.7	37.3	57.0	43.0
Washim	64.8	35.2	53.2	46.8
Yavatmal	71.3	28.7	52.7	47.3
Total	69.2	30.8	63.6	36.4

Source: End Line Survey, NCAER, 2019.

It may be noted that the incidence of land ownership was higher among the respondents in the CAIM villages (69.2 per cent) as compared to the respondents in the control villages (63.6 per cent). However, inter-district variations may be noted.

TABLE V.17: Status of Land Ownership (%)

Types of Farmers → Districts ↓	Marginal		Medium		Large	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	69.4	62.5	17.6	22.5	13.0	15.0
Amravati	92.9	94.1	4.6	2.9	2.5	2.9
Buldhana	96.9	97.9	2.7	1.3	0.3	0.8
Wardha	57.6	64.1	22.3	25.8	20.2	10.2
Washim	62.2	68.3	25.1	15.4	12.7	16.3
Yavatmal	36.4	54.1	45.3	33.2	18.4	12.7
Total	69.0	76.3	20.5	15.6	10.5	8.1

Source: End Line Survey, NCAER, 2019.

Except for Akola, in all other selected districts, the percentage of marginal farmers (owning land area of 2.5 acres or less) was higher in the control villages as compared to the CAIM ones. The medium farmers (owning land area ranging between 2.5 and 5 acres) and large farmers (owning land area of more than 5 acres), on the other hand, was proportionally higher among respondents in the CAIM villages with the notable exception of Akola. Overall, the proportion of medium farmers was 20.5 per cent in the treatment villages.

V.10 Availability of Finance

V.10.1 Status of Bank Accounts and Actual Savings

The existence of a bank account denotes an important form of financial inclusion. It may be noted that the respondent households in the CAIM villages exhibited a higher degree of financial inclusion (albeit marginally) in terms of the share of bank account facilities available to them as compared to their counterparts in the CAIM villages (Table V.18).

TABLE V.18: Comparative Status of Bank Accounts Held by Households (%)

Districts	Households with Bank Accounts after Implementation of CAIM	
	CAIM	Control
Akola	98.4	98.3
Amravati	98.2	98.2
Buldhana	98.8	95.4
Wardha	98.7	99.2
Washim	98.4	95.4
Yavatmal	99.6	98.6
Total	98.8	97.6

Source: End Line Survey, NCAER, 2019.

The existence of savings in a bank account is a key indicator that reflects the capability of households to ensure better livelihoods and planning for themselves.

TABLE V.19: Status of Savings (Deposits) in Banks (%)

Districts	Status of Bank Savings	
	CAIM	Control
Akola	71.7	52.9
Amravati	92.3	82.8
Buldhana	94.3	81.0
Wardha	76.5	69.0
Washim	80.4	66.1
Yavatmal	99.2	97.9
Total	89.6	79.9

Source: End Line Survey, NCAER, 2019.

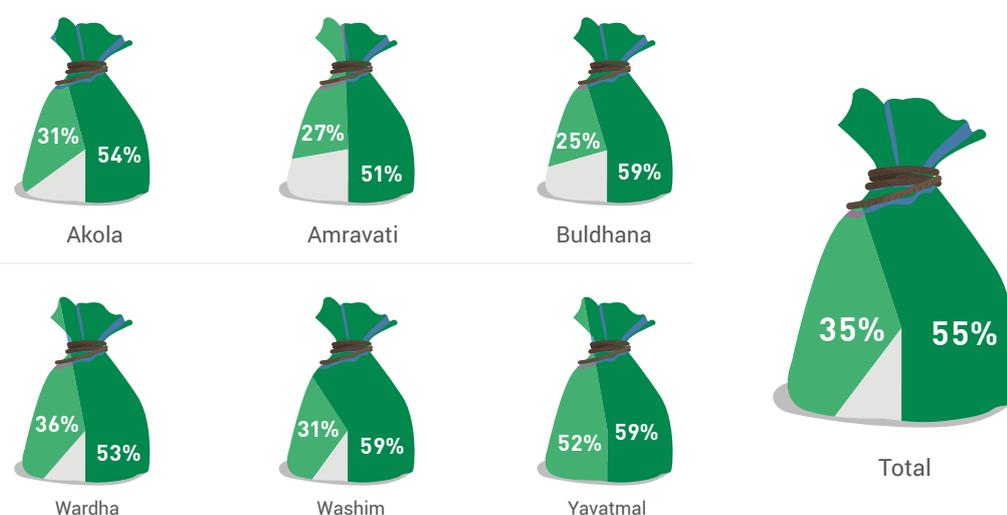
It may be noted that overall around 90 per cent of the households had savings in bank accounts in the CAIM-supported areas as compared to a corresponding figure of around 80 per cent for households in the control areas (Table V.19).

V.10.2 Formal Loan Segment

The availability of finance is imperative for the growth of production and its sustainability among the farming community. The effectiveness of the CAIM support programmes can be assessed in terms of the equitable distribution of financial services among the farmers to ensure that their activities can be continued even after discontinuation of the schemes under CAIM.

One of the most basic financial services is the availability of loans from formal financial sources. It may be noted that over 55 per cent of the households had taken loans from the formal sources. The proportion of loans taken was as high as 59 per cent in Washim, followed by 58.6 per cent in Yavatmal. The proportion of loans taken was, on an average, over 50 per cent in all the treatment districts, while it was much lower in the control areas (Figure V.5).

FIGURE V.5: Formal Loans Availed of by the Households (%) as Recorded at the Time of the Survey: CAIM and Control Villages



Source: End Line Survey, NCAER, 2019.

■ CAIM ■ Control

V.10.3 Sources of Formal Savings: CAIM and Control Villages

The CAIM villages display a very strong link for sources of formal loans, followed by SHGs, which have achieved considerable penetration in the selected districts of Vidarbha. Table V.20 shows that savings bank loans constitute almost 62 per cent of the total loans taken in the CAIM villages, while SHG loans constitute 33 per cent of the total, and accounts for a share of 9 per cent in the overall loans, with the other sources having an insignificant share.

TABLE V.20: Distribution of the Sources of Loans for the Responding Units (%): CAIM Villages

Sources of Loans→ Districts↓	Savings Banks	Self-Help Groups	Other Institutions*
Akola	65.3	32.8	1.9
Amravati	60.4	34.9	4.7
Buldhana	66.8	31.4	1.8
Wardha	61.9	36.0	2.1
Washim	58.5	39.7	1.8
Yavatmal	59.3	39.2	1.5
Total	61.6	35.9	2.5

Source: End Line Survey, NCAER, 2019.

Note: *Other institutions include post offices, and micro-finance institutions, among others.

The Control villages too show a very strong preference for the savings bank accounts as sources of loans, followed by SHGs. Table V.21 shows a share of 66 per cent of the total for savings bank loans, 19 per cent for loans from SHGs, and 12 per cent for cash loans, while the other sources account for an insignificant share.

TABLE V.21: Distribution of the Sources of Loans for the Responding Units (%): Control Villages

Sources of Loans→ Districts↓	Savings Bank	Self-Help Groups	Other Institutions*
Akola	70.1	6.5	23.4
Amravati	73.4	23.2	3.4
Buldhana	82.4	16.1	1.5
Wardha	57.0	29.8	13.2
Washim	66.7	14.0	19.3
Yavatmal	53.7	18.2	28.1
Total	66.1	19.0	14.9

Source: End Line Survey, NCAER, 2019.

Note: *Other institutions include post offices, and micro-finance institutions, among others.

V.10.4 Uses of Formal Loans: CAIM and Control Villages

Since the applications of formal loans by the borrowers are varied, it would be interesting to examine the uses to which the borrowers put these loans, in both the CAIM and control villages.

TABLE V.22: Applications (%) of Formal Loans: CAIM Villages

Districts	Farming and Horticulture	Livestock, Poultry and Fish	Education	Health Expenses	House and Property	Others
Akola	62.3	7.0	6.1	11.4	3.5	9.6
Amravati	41.8	21.2	15.3	0.6	8.2	12.9
Buldhana	32.2	25.1	13.6	7.5	7.0	14.6
Wardha	74.2	7.5	4.3	0.0	3.2	10.8
Washim	39.3	6.7	9.3	18.7	7.3	18.7
Yavatmal	64.3	12.0	10.2	5.2	4.6	3.8
Total	54.0	13.8	10.5	6.7	5.6	9.4

Source: End Line Survey, NCAER, 2019.

Note: Others include non-farm income-generating activity or business, other investments, weddings and social events, other consumption, and repayment of other loans.

The pattern of loan applications in the CAIM villages shows a high percentage use of loans for farming and horticulture (54 per cent), followed by livestock (13.8 per cent), and education (10.5 per cent).

TABLE V.23: Application (%) of Formal Loans: Control Villages

Districts	Farming and Horticulture	Livestock, Poultry and Fish	Education	Health expenses	House and Property	Others
Akola	63.4	4.9	9.8	9.8	7.3	4.9
Amravati	74.4	10.3	5.1	0.0	5.1	5.1
Buldhana	66.0	8.5	8.5	4.3	0.0	12.8
Wardha	63.6	0.0	4.5	9.1	13.6	9.1
Washim	63.2	2.6	10.5	7.9	5.3	10.5
Yavatmal	68.0	2.3	11.7	4.7	7.8	5.5
Total	67.0	4.4	9.5	5.4	6.3	7.3

Source: End Line Survey, NCAER, 2019.

Note: Others include non-farm income-generating activity or business, other investments, weddings and social events, other consumption, and repayment of loans.

The loan use pattern in the control villages too shows that a large percentage of the loans were used for farming and horticulture (67 per cent), followed by those for education (9.5 per cent), and for house and property (6.3 per cent).

V.10.5 The Informal Loan Segment

Although finance raised from informal sources can be obtained conveniently, it is often one of the major reasons for rural distress.

Funds/loans procured through informal sources are mainly taken by the rural poor in distress due to the inherent ease and promptness with which such loans may be raised. However, in most cases, such loans do not have legal sanction, and for obvious reasons, they bear an exorbitantly high rate of interest, resulting in perennial indebtedness for the borrower.

One of the basic financial services is the loan component from the informal sources. It may be noted that over 10 per cent of the households among the respondents in the CAIM villages had taken loans from informal sources. The loan proportion was as high as 27 per cent in Washim, followed by 23 per cent in Akola. Amravati and Buldhana were the two districts where there were few recipients of informal loans in both the CAIM and control villages. Overall, there was a lower inter-district variation for informal loans as compared to the formal loan component (Figure V.6).

FIGURE V.6: Informal Loans Availed of by the Households (%): CAIM and Control Villages



Source: End Line Survey, NCAER, 2019

V.10.6 Sources of Informal Loans: CAIM and Control Villages

One of the main sources of informal loans in the CAIM villages were found to be friends, followed by moneylenders, who have achieved considerable penetration in the districts of Vidarbha. Table V.24 shows that the share of loans taken from friends in the control villages was 75.4 per cent as compared to a corresponding figure of 72 per cent for the CAIM villages (Table V. 24) Loans from traders accounts for an insignificant share among the total loans taken in both the CAIM and control villages.

TABLE V.24: Major Sources (%) of Informal Loans: CAIM and Control Villages

Sources of Loans → Districts ↓	Friends		Moneylenders		Traders		Others	
	CAIM	Control	CAIM	Control	CAIM	Control	CAIM	Control
Akola	66.7	57.7	29.5	38.5	1.3	0.0	5.1	3.8
Amravati	81.3	50.0	12.5	50.0	6.3	0.0	0.0	0.0
Buldhana	90.5	80.0	9.5	20.0	0.0	0.0	0.0	0.0
Wardha	71.1	82.4	14.5	11.8	9.2	0.0	7.9	5.9
Washim	69.4	80.0	20.0	17.1	3.5	2.9	7.1	0.0
Yavatmal	74.3	80.6	25.7	16.7	0.0	0.0	0.0	0.0
Total	72.0	75.4	21.1	21.4	3.5	0.8	4.6	1.6

Source: End Line Survey, NCAER, 2019.

Note: Others include shops and landlords.

V.10.7 Financial loans: Based on Land Distribution

Land distribution is one of the most crucial indicators of the economic condition of a farmer. We can observe a distinct borrowing pattern from both the formal and informal sectors based on land distribution. The share of loans taken by marginal and landless households from formal sources, which have the relative advantage of a lower interest rate than that charged by informal sources, is lower than the share of loans taken by small and large farmers from formal sources (Table V.25). However, the marginal, landless, and small farmers are compelled to resort to informal sources of loans for meeting their unfulfilled demands for funds, which may prove to be detrimental to their cause.

TABLE V.25: Land Ownership and Sources of Loans (%): CAIM Villages

Districts	Marginal and Landless Farmers		Small Farmers		Large Farmers	
	Formal	Informal	Formal	Informal	Formal	Informal
Akola	50.9	21.2	54.7	25.0	60.0	0.3
Amravati	49.1	2.5	71.9	5.6	38.9	0.1
Buldhana	53.2	2.4	37.5	0.0	50.0	0.0
Wardha	59.9	14.6	52.4	23.7	40.8	0.2
Washim	56.8	20.8	64.4	36.1	54.1	0.4
Yavatmal	48.9	8.0	62.1	8.5	65.4	0.1
Total	52.2	8.7	60.3	16.9	56.1	0.2

Source: End Line Survey, NCAER, 2019.

In the control villages, the marginal and the landless farmers took fewer formal loans as compared to their counterparts in the CAIM villages, and the same is true of small and large farmers. However, there is a very high inter-district variation. The loan intakes of Buldhana for both the CAIM and control villages are low, while the districts of Yavatmal and Washim are on the other extreme (Table V.26).

TABLE V.26: Land Ownership and Sources of Loans (%): Control Villages

Districts	Marginal and Landless Farmers		Small Farmers		Large Farmers	
	Formal	Informal	Formal	Informal	Formal	Informal
Akola	14.7	20.3	52.0	11.1	30.2	22.2
Amravati	24.0	0.3	62.5	37.5	27.3	0.0
Buldhana	22.7	3.5	0.0	0.0	24.8	0.0
Wardha	31.4	10.2	39.4	9.1	35.2	15.4
Washim	18.3	23.8	40.0	43.8	31.4	23.5
Yavatmal	34.4	16.0	66.7	6.7	53.8	2.9
Total	25.3	9.8	55.6	12.5	34.6	12.0

Source: End Line Survey, NCAER, 2019

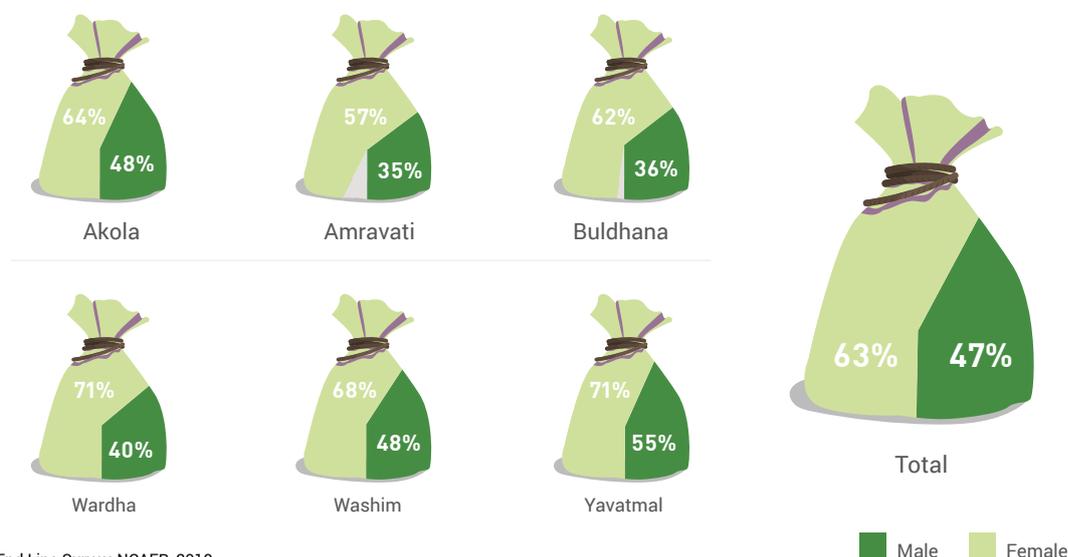
Overall, the CAIM households enjoyed substantially higher access to softer term funds from the formal sources than their counterparts in the control villages, which may be attributed to the focused attention the former received under the CAIM programmes. The dependence of farmers with larger land holdings on informal sources in the control villages depicts the comparative advantage that their counterparts in the CAIM villages enjoyed in this regard.

V.10.8 Financial Services: A Gender Perspective

Access to financial services is vital for any household. Finance is a significant tool that can help eradicate poverty by promoting opportunities as well as facilitating empowerment. The sources of finance are also important, as for any society to prosper, the percentage of informal loans taken by its constituents must be as small as possible while women should have easy access to finance. The ELS reveals some interesting results about the financial services availed of by households in the Vidarbha region.

Households in various districts of Vidarbha availed of both formal loans, including loans from banks and SHGs, among others, as well as informal loans, including loans from friends, moneylenders, and traders, among others, for meeting various expenses relating to crop farming and horticulture, house and property, health, and education, among others. Out of all the districts, the men in Yavatmal and women in Wardha took the maximum share of formal loans, at 54.7 per cent and 71.2 per cent, respectively. The minimum share of formal loans was availed of by men and women in Amravati at 35.5 per cent and 57.2 per cent, respectively. A striking feature to be noted is that women in all the districts availed of more formal loans as compared to men. The total share of formal loans taken by women was 63.4 per cent, as compared to a corresponding figure of 46.8 per cent for men (Figure V.7).

FIGURE V.7: Percentage of Formal Loans Availed of by Gender—CAIM Households in Various Districts at the Time of the Survey

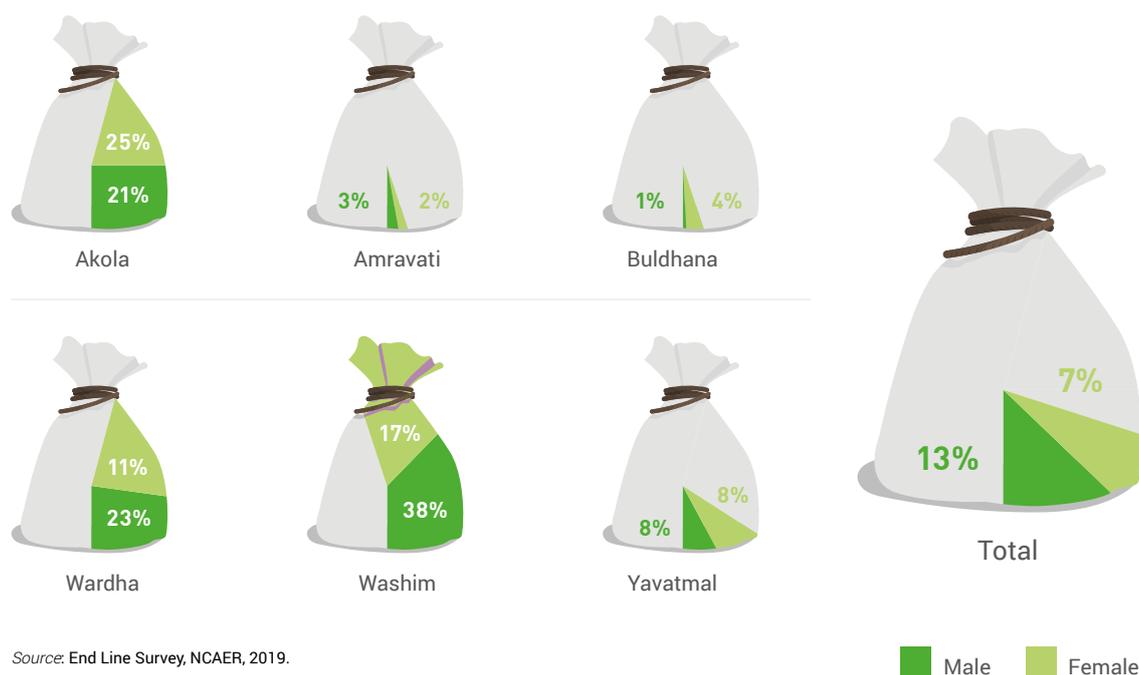


Source: End Line Survey, NCAER, 2019.

As regards informal loans, the men in Washim and women in Akola availed of the maximum informal loans, at 38.3 per cent and 21.4 per cent, respectively. Men in Buldhana and women in Amravati took the least share of informal loans, at 0.6% and 1.8 per cent, respectively. The men in Akola and Wardha also took significant percentages of informal loans, at 24.6 per cent and 22.6 per cent, respectively. Interestingly, women took fewer loans from informal sources as compared to men in all the districts except Buldhana, where they took more informal loans, and in Yavatmal, where both men and women had an equal share of the credit. Overall too, women took fewer informal loan as compared to men, with the respective shares being 7.1 per cent for women and 13.1 per cent for men (Figure V.8).

The fact that women took a higher share of formal loans and a lower share of informal loans points towards women's empowerment, which is a positive indicator.

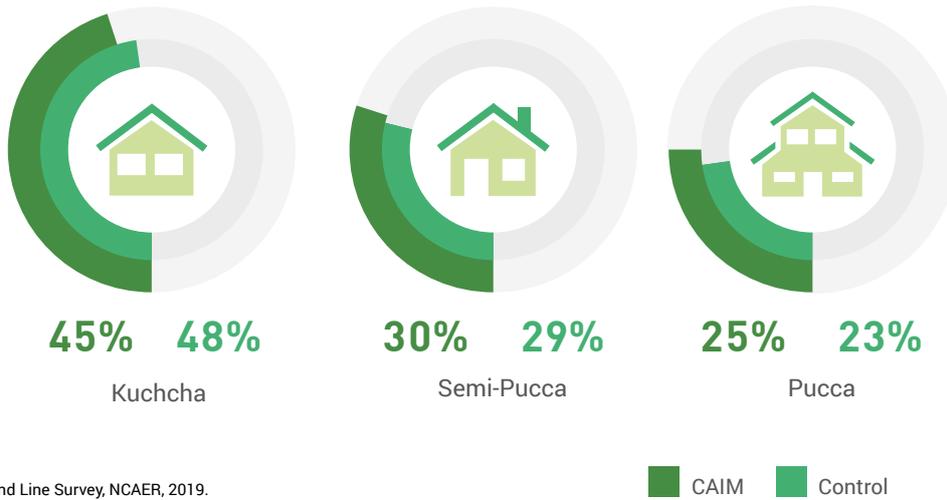
FIGURE V.8: Percentage of Informal Loans Availed of by CAIM Households in Various Districts According to Gender at the Time of the Survey



V.11 Housing and General Living Conditions

The condition of housing and the general conveniences and access to amenities that households enjoy reflect their developmental status. This status needs deeper scrutiny for analysing the impact of the CAIM programme in the region. The ELS compared the status of housing for households in the CAIM villages with their counterparts in the control villages, and the findings are depicted in Figure V.9.

FIGURE V.9: Housing Condition of the CAIM and Control Households



Source: End Line Survey, NCAER, 2019.

The proportion of kutchcha houses was proportionately higher in the control villages, while that of semi-pucca and pucca houses was higher in the CAIM villages. The type of house is one indicator while the extension/enlargement of the house undertaken during the project period or a comparable project period indicates an improvement in the income levels and affordability of the households. In the case of both these indicators, the CAIM villages were better off than the control ones, as seen in Figure V.10.

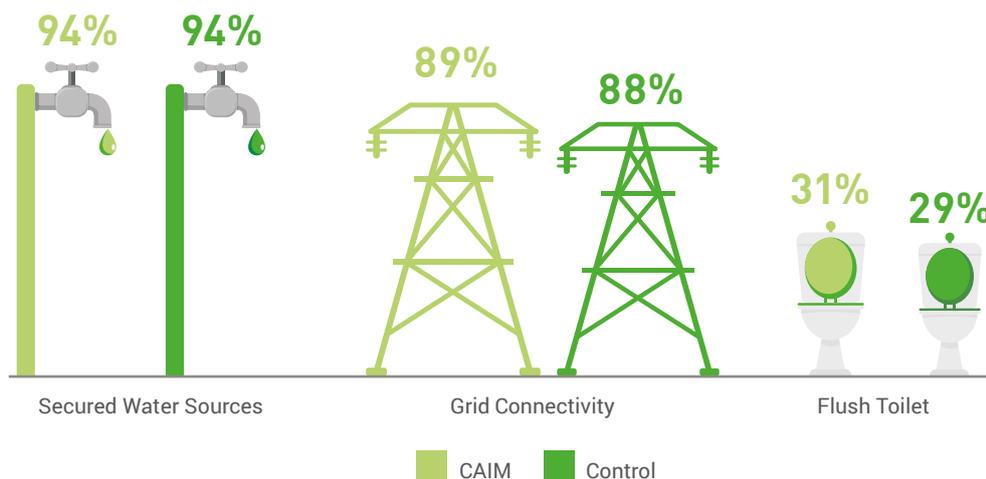
FIGURE V.10: Extension/Enlargement of House Undertaken during the Project Period/Comparable Period: an Overview of the CAIM and Control Villages



Source: End Line Survey, NCAER, 2019.

Sanitation, water, and electricity represent the core facilities for ensuring better living conditions, which makes it relevant to assess the comparative status of the availability of these facilities in the CAIM and control villages. The development efforts undertaken in the CAIM villages were seen to be more productivity-enhancing, thereby translating into higher income generation and improvement in the living conditions. Interestingly, though there was little variation between the CAIM and control villages with regard to availability of various amenities for better housing, yet the percentages of CAIM villages in terms of the services used by them were higher than the corresponding percentages for the control villages, which points to the penetration of the CAIM programme among households.

FIGURE V.11: Water, Electricity and Better Sanitation (%): An Overview of the CAIM and Control Villages



Source: End Line Survey, NCAER, 2019.
 Note: Secured water sources include piped water into the house, public tap, tube well with pump, and protected well.

However, in both the CAIM and control villages, a large number of inhabitants still did not access the facilities of flush toilet, indicating unhealthy sanitation conditions and poor general hygiene. Addressing this issue in the region thus remains a daunting challenge.

V.12 Possession of Consumption and Productive Assets: A Snapshot

The possession of assets helps improve the living conditions of a household. Consumption assets are used to add mobility, amenities, communication facilities, and entertainment options for households through possession of two- or four-wheelers (including a bicycle, motorcycle or car), fan, refrigerator, mobile, and colour television. Productive assets, on the other, add value to the existing efforts of the household in enhancing productivity and help generate more income. These assets include tractors, irrigation/micro-irrigation equipment, sprayers, and even sewing machines. A comparative assessment of the ownership of assets is given in Table V.27.

TABLE V.27: Status of Asset Ownership (%): Consumption Assets

Consumption Assets → Districts ↓	Coloured TV		Refrigerator		Mobile		Fan		Motorcycle	
	CAIM	Control	CAIM	Control	CAIM	Control	CAIM	Control	CAIM	Control
Akola	63.2	64.2	16.6	13.3	84.3	74.8	80.1	72.5	34.5	23.3
Amravati	75.9	71.4	13.5	7.4	88.0	85.1	89.8	88.1	22.0	23.1
Buldhana	71.4	69.0	8.6	4.2	85.9	82.8	92.4	88.7	23.1	16.5
Wardha	85.1	76.6	23.7	15.6	87.8	84.4	91.0	88.3	44.7	30.5
Washim	60.6	52.3	16.5	11.9	89.4	79.8	87.4	71.6	33.9	23.9
Yavatmal	86.9	81.1	38.9	40.8	90.6	83.5	96.7	91.5	55.4	53.5
Total	76.5	71.3	21.5	17.0	88.1	82.5	91.2	85.9	36.6	30.2

Source: End Line Survey, NCAER, 2019.

The overall status of asset ownership emphasises that the CAIM households had a distinctly higher possession quotient of consumption assets as compared to the households in the control villages. This indicates higher relative affordability, and in a way, reflects the success of the schemes devised to improve the livelihood of farmers through the CAIM project. While there is a high degree of preference for consumption assets among households, the proportion of possession of productive assets is much lower, as observed in Table V.28.

TABLE V.28: Status of Asset Ownership (%): Productive Assets

Productive Assets → Districts ↓	Tractor		Sprayer		Irrigation Equipment		Micro-Irrigation Equipment		Sewing Machine	
	CAIM	Control	CAIM	Control	CAIM	Control	CAIM	Control	CAIM	Control
Akola	3.3	3.3	11.4	10.0	10.1	9.2	5.9	7.5	6.5	5.9
Amravati	1.1	0.4	5.3	3.3	6.1	5.2	4.0	3.7	8.1	5.9
Buldhana	1.6	1.3	3.8	1.3	3.6	1.3	2.3	0.9	9.1	5.9
Wardha	3.7	1.6	7.7	0.0	12.0	6.3	8.3	4.0	6.4	0.8
Washim	5.8	3.7	15.5	7.3	14.5	13.8	14.5	6.5	15.9	7.3
Yavatmal	4.9	1.8	59.6	44.5	28.5	20.7	16.4	6.3	9.3	10.2
Total	3.2	1.7	22.1	13.8	13.8	9.6	8.9	4.5	9.0	6.5

Source: End Line Survey, NCAER, 2019.

However, notwithstanding the generally lower degree of possession of productive assets, it can be distinctly seen that the CAIM households had a higher degree of ownership of productive assets as compared with the control villages. The inter-district variation also tilts in favour of the CAIM villages as compared with their counterparts in the control villages.

V.13 Women's Empowerment

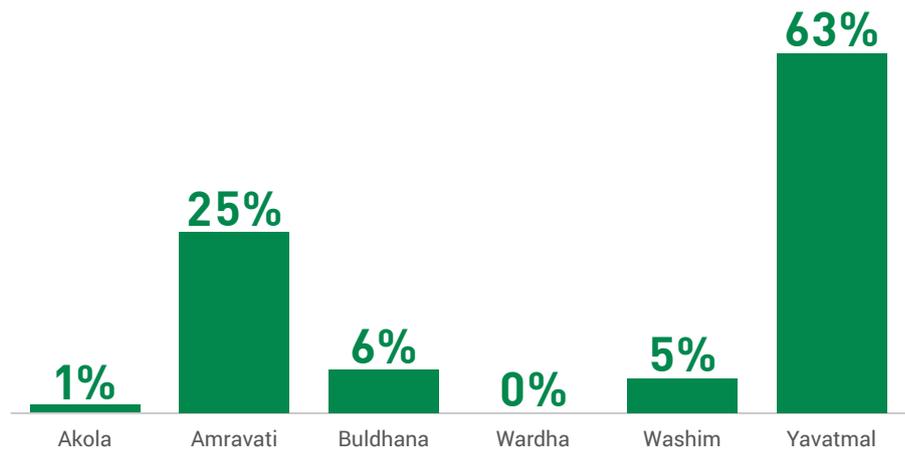
Women's empowerment signifies equal entitlement of women vis-à-vis men in an otherwise gender-discriminated society. The CAIM programmes aimed at achieving women's empowerment as an exclusive programme through sub-programmes covering debt redemption, drudgery reduction, micro-livelihood plan, ultra-poor support, social enterprise, and joint asset ownership. Following is a brief discussion along with suitable representations on each of these interventions in the A few illustrations below show their positive impact in the districts of Vidarbha.

V.13.1 CAIM-initiated Programmes and their Reach among the Districts

V.13.1.1 Debt Redemption

The debt-redemption programme of CAIM was enormously successful in the Yavatmal district of Vidarbha. Among the districts, Yavatmal's share touched 63 per cent, followed by Amravati (25 per cent), Buldhana (6 per cent) and Washim (5 per cent) (Figure V.12).

FIGURE V.12: Share (%) of Debt-Redemption Support Received by Women in the Districts of Vidarbha

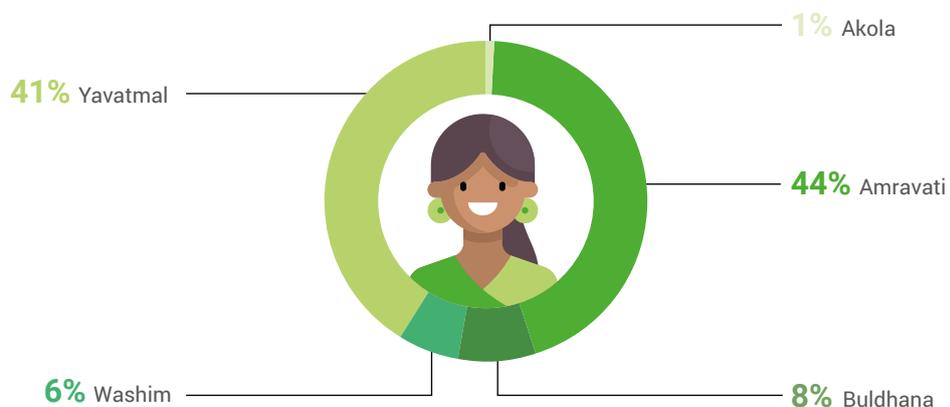


Source: End Line Survey, NCAER, 2019.

V.13.1.2 Drudgery Reduction

The drudgery reduction programme by CAIM was aimed at reducing the stress and exhaustion levels of women. The programme had a higher share of participation in the districts of Amravati (44 per cent) and Yavatmal (41 per cent). Buldhana had an 8 per cent share whereas other districts had negligible shares. Both in the debt-redemption and drudgery reduction, Akola has the lowest share of just 1 per cent (Figure V.13).

FIGURE V.13: Share (%) of Drudgery Reduction Support Received by Women in the Districts of Vidarbha



Source: End Line Survey, NCAER, 2019.

V.13.1.3 Micro-livelihood Plan

The micro-livelihood plan was another important programme aimed at enhancing the livelihood capacities of women by empowering them economically and making them self-reliant through the provisioning of credit along with a livelihood enhancement initiative to ensure the well-being of their families. The share of Yavatmal was the highest amongst districts (34 per cent) in the support received by women under the micro-livelihood programme, followed by Amravati (29 per cent) and Washim (15 per cent) (Figure V.14). The other three districts had insignificant shares.

FIGURE V.14: Share (%) of Support Received by Women Under the Micro-livelihood Programme in the Districts of Vidarbha

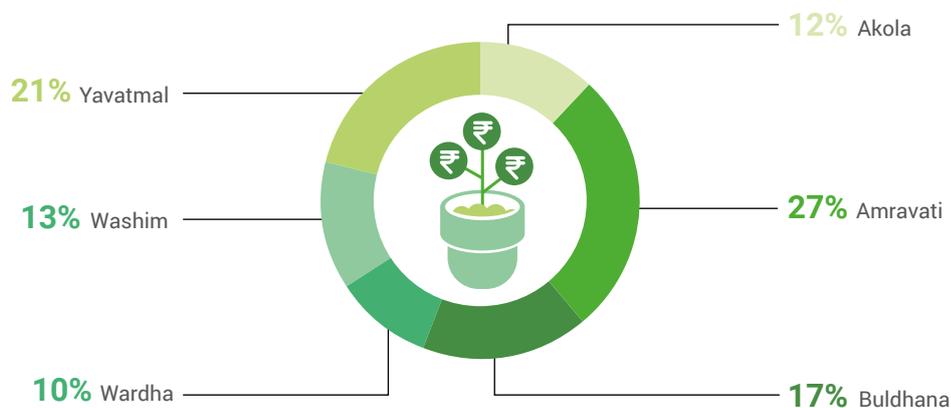


Source: End Line Survey, NCAER, 2019.

V.13.1.4 Ultra-poor Support

Ultra-poor support is aimed at making women self-reliant by offering them productive assets to enable them to produce different commodities and services, and to sell them at remunerative prices, along with seed money for start-ups, vocational training, and healthcare, among other types of support for ensuring potentially better livelihoods. Under the ultra-poor support programme, the initial sum was paid to women mostly to purchase goats, which turned out to be a successful model. Among the districts, Amravati recorded the highest share of support received (27 per cent), followed by Yavatmal (21 per cent), Buldhana (17 per cent), Washim (13 per cent), Akola (12 per cent), and Wardha (10 per cent) (Figure V.15).

FIGURE V.15: Share (%) of Support Received by Women Under the Ultra-Poor Support Programme in the Districts of Vidarbha

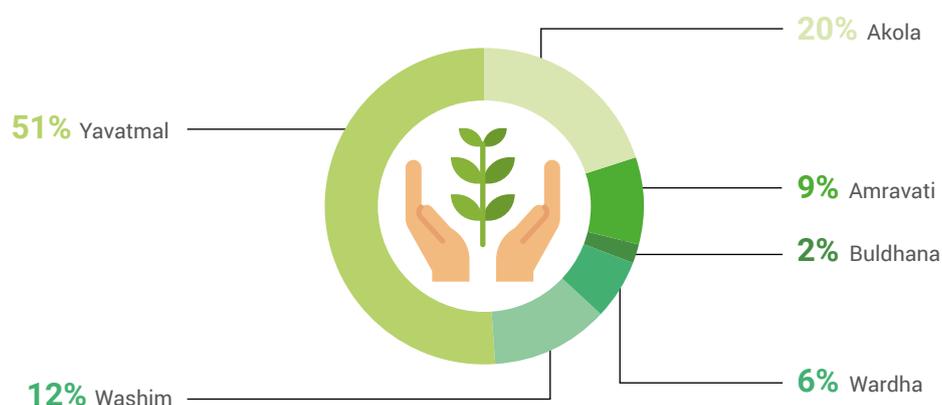


Source: End Line Survey, NCAER, 2019.

V.13.1.5 Women's Development—Social Enterprise

The programme on social enterprise entailed an assessment of the women's development needs, and accordingly the devising of a personalised training course drawing from the inherent/acquired expertise. The highest share of the beneficiaries of this programme was seen in Yavatmal (51 per cent), followed by Akola (20 per cent), Washim (12 per cent), Amravati (9 per cent), Wardha (6 per cent), and Buldhana (2 per cent) (Figure V.16).

FIGURE V.16: Share (%) of Social Enterprise Programme Received by Women in the Districts of Vidarbha



Source: End Line Survey, NCAER, 2019.

V.13.1.6 Women's Development—Joint Asset Ownership

The Joint Asset Ownership programme represented a critical aspect of empowerment of women aimed at offering women the right of ownership of house and land for their protection and benefit. It was observed that Amravati achieved the highest share of participation under this programme (53 per cent) in this count, followed by Yavatmal (20 per cent), Akola (11 per cent), Washim (9 per cent), and Wardha (5 per cent). It may be noted that Buldhana has the lowest share of participation of only 2 per cent (Figure V.17).

FIGURE V.17: Share (%) of Joint Asset Ownership by Women in the Districts of Vidarbha



Source: End Line Survey, NCAER, 2019.

V.14 Overall Impact of CAIM programmes on Women's Empowerment

The programmes on women's empowerment are not merely restricted to CAIM but have also been a part of the relevant schemes implemented by the State as well as the Central Governments in the control households. In this context, a comparison between the CAIM and control households provides a critical insight into the relative impact of women engaged in farm and non-farm enterprises on their family incomes.

TABLE V.29: Impact of Income-generating Work of Women (%) on Household Incomes of Farm and Non-farm Enterprises

Change in Income → Districts ↓	Increased		No Change		Decreased	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	38.4	8.3	61.6	90.1	0.0	1.7
Amravati	80.5	45.8	18.9	51.6	0.6	2.6
Buldhana	78.1	46.6	21.2	50.8	0.7	2.5
Wardha	35.2	5.6	64.5	93.7	0.3	0.8
Washim	53.6	10.1	45.4	89.0	1.0	0.9
Yavatmal	38.2	23.2	61.7	76.0	0.1	0.8
Total	56.2	28.8	43.4	69.5	0.4	1.7

Source: End Line Survey, NCAER, 2019.

Table V.29 shows that the impact of income-generating work on the household incomes of women has been robust and has substantially increased (56.2 per cent) in the CAIM households as compared to that of the Control ones (28.8 per cent). This reflects the noticeable success of the CAIM programmes to engage women through different programmes linked to farm as well as non-farm enterprises since 2012.

V.14.1 Status of Change in Wage Employment of Women outside the Household since 2012

Wage employment of women outside the family is an important avenue of income generation and empowerment. The wage employment of women was distinctly high in the CAIM areas (56.2 per cent) as compared to the control areas (20.6 per cent) (Table V.30).

TABLE V.30: Impact of Wage Employment of Women (%) outside the Household since 2012 (start of CAIM)

Change in Status of Wage Employment → Districts ↓	Increased		No Change		Decreased	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	38.4	7.5	59.1	90.0	0.0	2.5
Amravati	80.5	30.7	22.7	68.1	0.1	1.1
Buldhana	78.1	29.4	23.2	70.2	0.3	0.4
Wardha	35.2	7.9	62.7	92.1	0.3	0.0
Washim	53.6	10.1	44.6	89.0	0.0	0.9
Yavatmal	38.2	19.7	63.2	79.1	0.3	1.2
Total	56.2	20.9	44.5	78.1	0.2	1.0

Source: End Line Survey, NCAER, 2019.

Table V.30 above also illustrates that the proportion of respondents who said that the proportion of wage employment for women remained unchanged over the study period was much lower in the CAIM villages (44.5 per cent) in comparison to the control ones (78.1 per cent).

V. 14.2 Change (%) in Status of Overall Workload of Women (including both Domestic and Income-generating Work) since 2012

The workload of women increases due to enhanced activities related to income-generating work along with their daily chores. The increased activity level also reflects enhanced opportunities for the women as they responded to the women pond well programme-based approach offered through systematic learning.

TABLE V.31: Status of Change (%) in the Overall Workload of Women (including Both Domestic and Income-generating Work) since 2012

Change in Workload→ Districts↓	Increased		No Change		Decreased	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	43.8	18.2	56.2	81.0	0.0	0.8
Amravati	79.7	42.4	20.1	56.1	0.1	1.5
Buldhana	77.7	31.5	22.0	66.8	0.3	1.7
Wardha	41.1	20.6	58.9	78.6	0.0	0.8
Washim	54.5	15.1	44.9	84.9	0.7	0.0
Yavatmal	36.1	24.4	63.9	74.8	0.0	0.8
Total	56.7	28.3	43.1	70.6	0.2	1.1

Source: End Line Survey, NCAER, 2019.

It may be noted that the workload on women in the CAIM villages increased substantially, as reported by 56.7 per cent of women as compared with a corresponding figure of only 28.3 per cent in the control villages. The proportion of those reporting 'no change' was almost 71 per cent in the control villages, reflecting the lower level of opportunities available for such women as compared to their CAIM counterparts (Table V.31).

V.14.3 Status of change in the relative standing of women since 2012

V.14.3.1 Decision-making within the Household

The impact of women's empowerment is mostly reflected in their decision-making power within the household. The share of such women was substantially higher for the 'improved' column as compared to the 'unchanged' and 'worsened' columns. It may, however, be noted that the decision-making power of women within the households was more pronounced in the CAIM villages as compared to their control counterpart. In this regard, the CAIM households clearly depict an improved status for women.

TABLE V.32: Status of Change (%) in the Decision-making Power within the Household since 2012

Change in Decision-making Power → Districts ↓	Increased		No Change		Decreased	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	58.1	33.9	41.9	66.1	0.0	0.0
Amravati	88.7	70.3	11.0	29.0	0.3	0.7
Buldhana	89.0	49.4	10.9	49.8	0.2	0.8
Wardha	45.6	27.8	54.4	72.2	0.0	0.0
Washim	68.2	36.1	31.8	63.9	0.0	0.0
Yavatmal	37.6	24.0	61.6	74.0	0.8	2.0
Total	64.4	43.3	35.3	55.9	0.3	0.8

Source: End Line Survey, NCAER, 2019.

Over 64 per cent of the respondent households reported an improvement in decision-making power by the women members as compared to the corresponding figure of 43 per cent in the control villages. A much lower percentage of households reported a 'no change' scenario (35.3 per cent) in the CAIM villages as compared with around 56 per cent reporting the same scenario in the control villages (Table V.32). The implication of these findings is that improved decision-making power among women is the direct consequence of their capacity to earn incomes from productive work.

V.14.3.2 Mobility outside the Home

The impact of women's empowerment is also reflected in their mobility outside the home, which, in turn, emanates mostly from the earning opportunities available to them and other related activities. In this case too, the share of those reporting an 'improved' status was substantially higher than those reporting an 'unchanged' or 'worsened' status. It may, however, be noted that the improved mobility was more pronounced in the CAIM households as compared with their control counterparts.

TABLE V.33: Status of Change (%) in Women's Mobility outside the Home since 2012

Change in Mobility → Districts ↓	Increased		No Change		Decreased	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	52.1	18.2	47.5	81.8	0.3	0.0
Amravati	88.1	71.0	11.6	28.6	0.3	0.4
Buldhana	87.7	49.4	12.1	50.2	0.2	0.4
Wardha	43.3	15.2	56.5	84.8	0.3	0.0
Washim	65.9	25.9	34.1	74.1	0.0	0.0
Yavatmal	34.2	20.8	65.0	78.4	0.8	0.8
Total	62.0	38.6	37.6	61.0	0.4	0.4

Source: End Line Survey, NCAER, 2019.

It may be observed that 62 per cent of the respondent households reported improvement in mobility outside the home by the women members as compared to only 38.6 per cent of such respondents in the control villages. A much smaller percentage of households reported a 'no change' scenario (37.6 per cent) in the CAIM villages as compared with around 61 per cent reporting the same scenario in the control villages (Table V.33).

V.14.3.3 Ownership of Assets

Ownership of assets is one of the most important reflections of women's empowerment and entitlement. Among the three scenarios, that is, (i) improved, (ii) unchanged, and (iii) worsened, the percentage share reporting an 'improved' status was considerably higher in the CAIM villages as compared with the control ones, reflecting better social cohesion and understanding within the treatment (CAIM) villages as compared with the non-treated (control) ones.

TABLE V.34: Change (%) in Status of Ownership of Assets by Women since 2012

Change in Status of Asset Ownership→ Districts↓	Increased		No Change		Decreased	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	39.6	9.1	60.4	90.9	0.0	0.0
Amravati	84.7	65.9	15.1	33.7	0.1	0.4
Buldhana	83.4	44.5	16.1	54.7	0.5	0.8
Wardha	31.8	11.1	68.2	88.9	0.0	0.0
Washim	46.6	23.4	53.1	76.6	0.3	0.0
Yavatmal	32.7	20.5	66.7	78.3	0.6	1.2
Total	55.7	34.5	44.0	64.9	0.3	0.5

Source: End Line Survey, NCAER, 2019.

It may be observed that around 56 per cent of the respondent households reported an improvement in ownership of assets by the women members as compared with 34.5 per cent from the control villages. A much smaller percentage of households reported a 'no change' scenario (44 per cent) in the CAIM villages as compared with a corresponding figure of around 65 per cent in the control villages (Table V.34).

V. 14.3.4 Change in Social Status

With improved earning capacity, the social status of women too changes. Among the three scenarios, that is, (i) improved, (ii) unchanged, and (iii) worsened, the percentage share of those reporting an 'improved' status was significantly high for the CAIM households as compared with the control ones, reflecting better social status for women in the treatment (CAIM) villages as compared with the non-treated (control) ones.

TABLE V.35: Change (%) in the Status of Women outside the Home since 2012

Change in Status Outside the Home→ Districts↓	Increased		No Change		Decreased	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	49.8	16.5	49.5	83.5	0.7	0.0
Amravati	87.1	70.4	12.7	28.8	0.1	0.7
Buldhana	88.4	51.3	11.4	48.3	0.2	0.4
Wardha	38.2	11.9	61.8	87.3	0.0	0.8
Washim	59.9	26.6	40.1	72.5	0.0	0.9
Yavatmal	34.2	24.8	65.5	74.4	0.2	0.8
Total	60.5	39.2	39.3	60.1	0.2	0.6

Source: End Line Survey, NCAER, 2019.

It may be noted that over 60 per cent of the CAIM respondent households reported an improvement in the status of women members as compared with 39 per cent from the control households. A much smaller percentage of CAIM households reported a 'no change' scenario (39 per cent) as compared with a corresponding figure of around 60 per cent from the control villages (Table V.35).

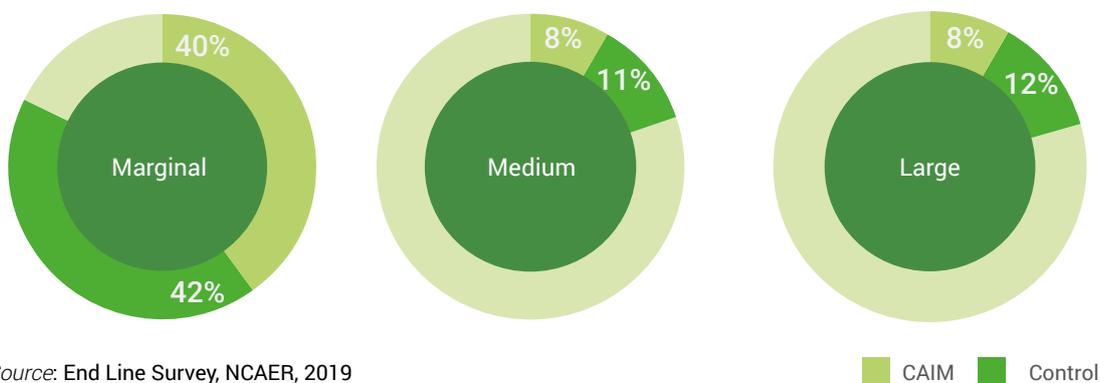
AN ASSESSMENT OF THE INCOME STATUS AND ITS CORRELATION WITH FOOD SECURITY IN THE PROGRAMME AREA

VI.1 Food Security

Food security is imperative for ensuring sustainable livelihoods. Food shortage and hunger are a curse for any human society. A closer look at the data from the ELS reveals a striking feature. It was observed that 40.1 per cent of the households among the marginal landowners faced food shortage in the CAIM villages, while the corresponding figure for the control villages was 42.2 per cent. Also, 8.5 per cent of the households of medium landowners faced food shortage in the CAIM villages while 11.4 per cent of the households of medium landowners faced food shortage of any kind in the control villages. It was observed that 8.6 per cent of the households of large landowners faced food shortage in the CAIM villages and 12.1 per cent

of the households of large landowners faced food shortage in the control villages. It was a matter of concern that the households of the marginal landowners experienced the highest incidence of food shortage while the households of large landowners faced the least food shortage. One of the possible reasons for this could be the socio-economic status of the households concerned and the high level of inequality between them. There is a high degree of inter-regional disparity across the districts of Maharashtra and the Vidarbha region has mostly been neglected, unlike the western districts and some of the South-western districts, which receive a large share of the state's funding and attention. It is only recently that the Vidarbha region started receiving attention due to a large number of farmer suicides.

FIGURE VI.1: Percentage of Households Facing Food Shortage across the CAIM and Control Villages as the Size of Land Ownership



Source: End Line Survey, NCAER, 2019

The ELS also shows that the degree of food shortage varies across the districts of Vidarbha region under the sub-categories of land ownership in the CAIM and control villages. Buldhana district suffered the most with regard to food shortage faced by the households of marginal landowners followed by Akola and Amravati. While 55.3 per cent of the households of marginal landowners in the CAIM villages of Buldhana district faced food shortage, the corresponding figure for the control villages in the same district was 73.9 per cent. Among the households of medium landowners,

those in Washim district faced the maximum food shortage in the CAIM and control villages, at 32.9 per cent and 50 per cent, respectively, followed by Akola. Among the households of large farm owners, the district of Amravati reported the highest incidence of food shortage, at 50 per cent in the CAIM villages and 75 per cent in the control villages, followed by Washim. The households in Yavatmal faced the lowest incidence of food shortage across all categories of land ownership. The households in Wardha district across all categories of land ownership also faced a comparatively lower incidence of food shortage.

TABLE VI.1: District-wise Food Shortage Faced by Households along with the Size of Land Ownership in the CAIM and Control Villages (%)

Districts	Marginal Landowners		Medium Landowners		Large Landowners	
	CAIM	Control	CAIM	Control	CAIM	Control
Percentage of Households Facing Food Shortage						
Akola	50.7	41.3	31.5	37.0	10.3	22.2
Amravati	46.2	43.0	21.2	0.0	50.0	75.0
Buldhana	55.3	73.9	0.0	0.0	0.0	0.0
Wardha	17.2	13.4	4.8	6.1	5.3	0.0
Washim	40.3	52.1	32.9	50.0	19.4	6.3
Yavatmal	6.9	1.4	0.5	0.0	2.6	0.0
Total	40.1	42.2	8.5	11.4	8.6	12.1

Source: End Line Survey, NCAER, 2019.

Another fact that came to light was that the households' vulnerability to food shortage varied across different income groups. It was observed that the households which earned an income of less than INR 15,000 faced acute food shortage in both the CAIM and control villages, with their respective shares being 61.4 per cent and 62.6 per cent. Among the households that had incomes of INR 15,000–30,000, 48.7 per cent faced food shortage in the CAIM villages and 55.4 per cent faced food shortage in the control villages. Among the households falling in the annual income group of INR 30,000–50,000, 31 per cent faced food shortage in the CAIM villages and 24.2 per cent

in the control villages. Among the households in the income group of INR 50,000–75,000, 16 per cent faced food shortage in the CAIM villages and 16.1 per cent in the control villages. Among the households in the INR 75,000–100,000 income group, 8.5 per cent faced food shortage in the CAIM villages and 7.8 per cent in the control villages. Among the households earning more than INR 100,000, 8.4 per cent faced food shortage of any kind in the CAIM villages and 6.9 per cent in the control villages (Figure VI.2). Thus, we can infer that as income increases, households face lower incidences of food shortage, and this trend is clearly visible in both the CAIM as well as the control villages.

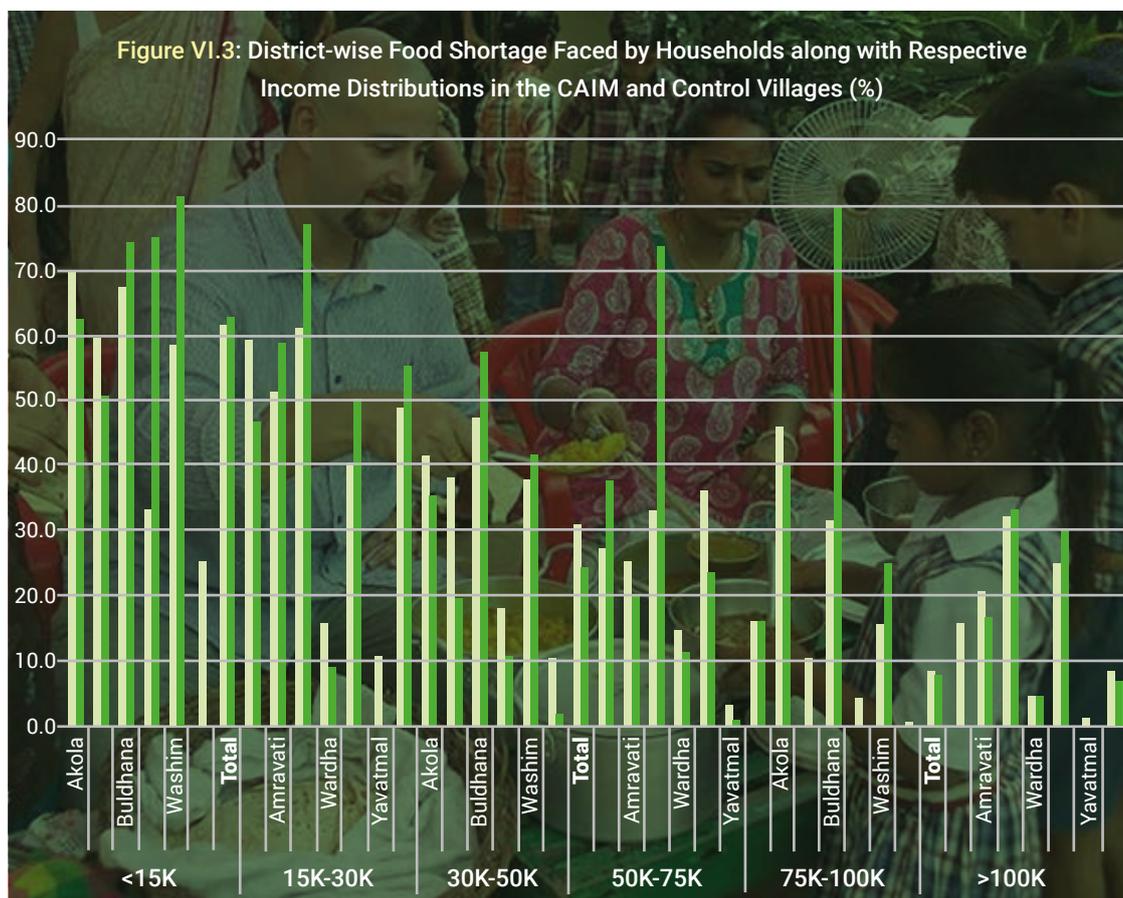
Figure VI.2: Percentage of Households That Faced Food Shortage as per their Income Distribution in the CAIM and Control Villages



Source: End Line Survey, NCAER, 2019.

A closer look at the ELS unveils the inter-district disparity among the households that faced food shortage based on income distribution. Among the households earning less than INR 15,000, the maximum incidence of food shortage was experienced by those in Akola district, including 69.6 per cent in the CAIM villages, and 62.5 per cent in the control villages. This was followed by Buldhana district, where the corresponding figures were 67.3 per cent in the CAIM villages and 74.2 per cent in the control villages. Among the households belonging to the INR 15,000–30,000 income group, those in Buldhana district faced the maximum food shortage, at 61.1 per cent in the CAIM villages and 77.1 per cent in the control villages. Among the households in the income group of INR 30,000–50,000, the incidence of food shortage for households in Buldhana district was 47.3 per cent in the CAIM villages and 57.1 per cent in the control villages. Among the households earning annual incomes of INR 50,000–75,000, those in the Washim and Buldhana districts faced acute food shortage, with the corresponding

figures being 36 per cent in the CAIM villages and 23.5 per cent in the control villages for Washim district, and 32.8 per cent in the CAIM villages and 73.7 per cent in the control villages for Buldhana district. Among the households earning INR 75,000–100,000 per annum, those in the Akola district faced major food shortage, at 45.8 per cent and 40 per cent in the CAIM and control villages, respectively. Further, among households earning annual incomes of INR 75,000–100,000, in 31.6 per cent and 80 per cent faced food shortage in the CAIM and control villages, respectively. Among the households earning annual incomes of over INR 100,000, households in the CAIM villages of Buldhana district (32 per cent) faced the maximum food shortage followed by those in Washim (25 per cent). The Yavatmal district faced comparatively the lowest incidence of food shortage across all the income groups, followed by Wardha, while the Buldhana and Akola districts experienced the highest incidence of food shortage across all income groups followed by the Washim district (Figure VI.3).



Source: End Line Survey, NCAER, 2019.

Since food shortage has links with hunger and malnutrition, it is a matter of grave concern and calls for urgent policy action. In this context, it would be relevant to assess the coverage of the Public Distribution System (PDS) and its effective reach and targeting.

It was found that the availability of food increased for around 41 per cent of the respondents as compared with 22 per cent of the respondents in the control villages. A considerable number of respondents (76.2 per cent) from the control villages also reported no change in the food availability as compared to the CAIM village (58.4 per cent).

TABLE VI.2: Change in Overall Availability of Food during the Project Period

Districts	Increased (per cent)		Unchanged (per cent)		Decreased (per cent)	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	22.0	29.2	77.0	70.8	1.0	0.0
Amravati	38.7	17.2	60.0	78.0	1.3	4.8
Buldhana	28.2	5.0	69.4	93.3	2.4	1.7
Wardha	57.0	36.7	42.2	63.3	0.8	0.0
Washim	46.5	19.6	52.6	78.5	1.0	1.9
Yavatmal	47.3	33.5	52.4	66.5	0.3	0.0
Total	40.5	22.2	58.4	76.2	1.1	1.7

Source: End Line Survey, NCAER, 2019.

The quality and the type of food consumed also changed, and the change was more visible in the case of respondents from the CAIM villages (41 per cent) as compared with the control ones (23 per cent) (Table VI.3).

TABLE VI.3: Status of Change in the Quality and Type of Food Consumed

Districts	Increased (%)		Unchanged (%)		Decreased (%)	
	CAIM	Control	CAIM	Control	CAIM	Control
Akola	22.6	30.0	76.7	70.0	0.7	0.0
Amravati	39.3	20.7	59.4	74.5	1.3	4.8
Buldhana	28.8	4.2	70.3	93.7	0.9	2.1
Wardha	54.2	34.9	45.3	65.1	0.5	0.0
Washim	46.8	22.9	52.3	75.2	1.0	1.9
Yavatmal	47.9	32.8	51.5	66.1	0.6	1.1
Total	40.7	22.9	58.5	75.0	0.8	2.0

Source: End Line Survey, NCAER, 2019.

It was observed that over 90 per cent of the households from both the CAIM and Control villages had access to PDS while over 60 per cent were satisfied with the food quality they received.

VI.1.1 A Special Note on Food Shortage in the CAIM Areas of Vidarbha

Food shortage is a concern not only for policymakers but also for the people in the affected region. Food shortage mainly emanates from low affordability as a result of low income and low productivity. The CAIM programme was mainly initiated to improve productivity and livelihood opportunities in the six distressed districts of the Vidarbha region in Maharashtra that is, Akola, Amravati, Buldhana, Wardha, Washim, and Yavatmal, where financial distress has led to a high incidence of suicides among farmers.

The CAIM programme was envisaged to alleviate the farmers' distress and ensure higher incomes for the poor and downtrodden in the rural hinterland. The programme laid emphasis on providing farmers access to improved farming techniques, marketing, training, and support from SHGs for a small, sustainable, and effective credit delivery mechanism through women in the family. As discussed in an earlier chapter, a number of measures like debt redemption and drudgery

reduction were also initiated under the programme to ensure women's empowerment along with the support for the ultra-poor.

In this context, the primary survey carried out by NCAER during the period March-May, 2019 to assess the impact evaluation of the CAIM programme, also asked a question about the incidence of food shortage. The responses to this question from the beneficiaries indicated a distinct pattern. It was found that there is largely an inverse relation between food shortage and the income levels of the respondents, that is, the higher the income level, the lower would be the level of food shortage, and vice versa. However, the problem of food shortage seems more pronounced in some of the districts, where there may have been hurdles in the implementation of various schemes under the project, or where the general level of development would have been lower than in the other districts. The general scenario across the six districts under study has been delineated below.

VI.1.2 Income Group and Block-wise Concentration

Low income seems to be the crucial reason for food shortage, with the lowest and lower income categories across all blocks recording varying levels of food shortage in different districts of the Vidarbha region.

An extensive survey to study the level of poverty in the country has been due for more than a decade, and the Indian government is still undecided regarding the criteria for identifying families below the poverty line. However, as per the C. Rangarajan Committee report, submitted in July 2014, the poverty line benchmark was INR 32 (per day) for rural areas, amounting to INR 11,680 per annum. Assuming about 6 per cent inflation per annum, we envisaged INR 41 per day as a benchmark for poverty classification.

The classification of the higher income category of INR 15,000 per annum thus reflects an overall improvement in income status away from the poverty line.

Households earning less than INR 15,000 and INR 15,000–30,000 may be termed as the lowest and lower income groups, respectively. The incidence of food shortage is thus obviously higher among these groups as compared to others. However, the incidence of food shortage varies across blocks. In addition, there are broader inter-district variations. Table VI.4 shows the incidence of food shortage for households earning less than INR 15,000 per annum, while Table VI.5 shows corresponding figures for households earning INR 15,000–30,000 per annum.

TABLE VI.4: Incidence of Food Shortage for Households with Incomes below INR 15,000: Overview of Districts and Blocks

Districts	Blocks	Number of Respondents	Percentage of Respondents Who Said 'Yes'
Akola	Akola	3	66.7
	Balapur	2	0.0
	Barshitakli	6	83.3
	Patur	6	83.3
	Telhara	6	66.7
	Total	23	69.6
Amravati	Achalpur	21	38.1
	Amravati	19	63.2
	Anjangaon Surji	16	56.3
	Bhatkuli	12	66.7
	Chandur Bazar	7	71.4
	Chandur Railway	11	63.6
	Chikhaldara	14	64.3
	Daryapur	8	37.5
	Dhamangaon Rly	6	66.7
	Dharni	18	61.1
	Morshi	14	64.3
	Nandgaon Kh	12	58.3
	Tiosa	11	63.6
	Warud	7	85.7
Total	176	59.7	
Buldhana	Buldana	8	50.0
	Chikali	7	85.7
	Deulgaon Raja	4	100.0

(Contd.)

Districts	Blocks	Number of Respondents	Percentage of Respondents Who Said 'Yes'
	Jalgaon Jamod	8	100.0
	Khamgaon	4	50.0
	Lonar	6	66.7
	Malkapur	6	50.0
	Mehakar	9	88.9
	Motala	7	85.7
	Nandura	20	60.0
	Sangrapur	8	37.5
	Shegaon	8	62.5
	Shindkhed Raja	6	50.0
	Total	101	67.3
Wardha	Ashti	1	100.0
	Deoli	1	0.0
	Hinganghat	1	100.0
	Samudrapur	5	20.0
	Seloo	1	0.0
	Total	9	33.3
Washim	Malegaon	3	100.0
	Mangrulpir	4	50.0
	Manora	8	62.5
	Washim	8	50.0
	Total	23	60.9
Yavatmal	Digras	2	0.0
	Umarkhed	1	100.0
	Yavatmal	1	0.0
	Total	4	25.0

Source: End Line Survey, NCAER, 2019.

Table VI.4 shows that among all the districts and the lowest income group earning less than INR 15,000 per annum, the incidence of food shortage was the highest in Akola (69.6 per cent), followed by Buldhana (67.3 per cent), Washim (60.9 per cent) and Amravati (59.7 per cent), whereas it was the lowest in Yavatmal (25 per cent) and Wardha (33.3 per cent).

The blocks where 80 per cent or more respondents reported food shortages included

Barshitakli and Patur in Akola; Warud in Amravati; Chikali, Deulgaon Raja Jalgaon Jamod, Mehakar and Motala in Buldhana; Ashti and Hinganghat in Wardha; Malegaon in Washim; and Umarkhed in Yavatmal.

Respondents from the next higher income group, that is, those with annual incomes of INR 15,000–30,000 reported a lower incidence of food shortage (Table VI.5).

TABLE VI.5: Incidence of Food Shortage for Households with Incomes of INR 15,000–30,000

Districts	Blocks	Number of Respondents	Percentage of Respondents Who Said 'Yes'
Akola	Akola	14	35.7
	Akot	4	50.0
	Balapur	12	58.3
	Barshitakli	24	70.8
	Murtijapur	5	80.0
	Patur	6	66.7
	Telhara	10	60.0
	Total	75	60.0
Amravati	Achalpur	17	58.8
	Amravati	9	66.7
	Anjangaon Surji	26	57.7
	Bhatkuli	23	47.8
	Chandur Bazar	19	42.1
	Chandur Railway	14	57.1
	Chikhaldara	25	48.0
	Daryapur	15	33.3
	Dhamangaon Rly	17	58.8
	Dharni	27	63.0
	Morshi	15	60.0
	Nandgaon Kh	21	52.4
	Tiosa	15	26.7
	Warud	20	45.0
	Total	263	51.3
Buldhana	Buldana	27	59.3
	Chikali	13	69.2
	Deulgaon Raja	12	58.3
	Jalgaon Jamod	27	55.6
	Khamgaon	15	80.0
	Lonar	20	65.0
	Malkapur	22	50.0
	Mehakar	18	77.8
	Motala	10	50.0
	Nandura	18	50.0
	Sangrampur	18	66.7
	Shegaon	18	55.6
	Shindkhed Raja	21	61.9
	Total	239	61.1
Wardha	Arvi	9	33.3
	Ashti	9	22.2

(Contd.)

TABLE VI.5: Incidence of Food Shortage for Households with Incomes of INR 15,000–30,000

Districts	Blocks	Number of Respondents	Percentage of Respondents Who Said 'Yes'
	Deoli	13	7.7
	Hinganghat	12	0.0
	Karanja	11	27.3
	Samudrapur	7	0.0
	Seloo	6	0.0
	Wardha	3	66.7
	Total	70	15.7
Washim	Karanja	16	31.3
	Malegaon	8	100.0
	Mangrulpir	15	26.7
	Manora	25	40.0
	Risod	8	62.5
	Washim	11	18.2
	Total	83	41.0
Yavatmal	Arni	3	0.0
	Babhulgaon	1	0.0
	Darwaha	9	0.0
	Digras	3	33.3
	Ghatanji	3	0.0
	Kalamb	1	100.0
	Mahagaon	3	0.0
	Maregaon	4	50.0
	Ner	2	0.0
	Ralegaon	1	0.0
	Umarkhed	1	0.0
	Yavatmal	7	0.0
	Total	38	10.5

Source: End Line Survey, NCAER, 2019.

Table VI.5 shows that among districts and households with annual incomes of INR 15,000–30,000, the incidence of food shortage was the highest in Buldhana (61.9 per cent), followed by Akola (60 per cent), and Amravati (51.3 per cent), whereas it was the lowest in Yavatmal (10.5 per cent).

The blocks where 80 per cent or more respondents reported food shortage in this income

group included Murtijapur in Akola; Khamgaon in Buldhana; Malegaon in Washim; and Kalamb in Yavatmal. It may, however, be noted that the number of actual respondents was very low in most of the cases for this income group.

Respondents from the higher income group, that is, those with annual incomes of INR 30,000–50,000 reported an even lower incidence of food shortage than the others (Table VI.6).

TABLE VI. 6: Incidence of Food Shortage among Households with Annual Incomes of INR 30,000–50,000

Districts	Blocks	Number of Respondents	Percentage of Respondents Who Said 'Yes'
Akola	Akola	9	66.7
	Akot	19	52.6
	Balapur	11	9.1
	Barshitakli	12	58.3
	Murtijapur	15	26.7
	Patur	9	44.4
	Telhara	14	35.7
	Total	89	41.6
Amravati	Achalpur	13	38.5
	Amravati	13	38.5
	Anjangaon Surji	6	33.3
	Bhatkuli	9	33.3
	Chandur Bazar	15	46.7
	Chandur Railway	9	44.4
	Chikhaldara	12	50.0
	Daryapur	7	14.3
	Dhamangaon Rly	4	75.0
	Dharni	6	33.3
	Morshi	17	47.1
	Nandgaon Kh	16	12.5
	Tiosa	8	50.0
	Warud	4	25.0
	Total	139	38.1
Buldhana	Buldana	11	45.5
	Chikali	10	70.0
	Deulgaon Raja	11	45.5
	Jalgaon Jamod	13	46.2
	Khamgaon	10	40.0
	Lonar	22	63.6
	Malkapur	3	66.7
	Mehakar	3	0.0
	Motala	12	41.7
	Nandura	12	33.3
	Sangrapur	5	40.0
	Shegaon	6	50.0
	Shindkhed Raja	13	38.5
	Total	131	47.3
Wardha	Arvi	12	25.0
	Ashti	10	50.0
	Deoli	8	0.0

(Contd.)

TABLE VI. 6: Incidence of Food Shortage among Households with Annual Incomes of INR 30,000–50,000

Districts	Blocks	Number of Respondents	Percentage of Respondents Who Said 'Yes'
	Hinganghat	7	0.0
	Karanja	15	26.7
	Samudrapur	4	0.0
	Seloo	11	9.1
	Wardha	9	11.1
	Total	76	18.4
Washim	Karanja	7	0.0
	Malegaon	9	66.7
	Mangrulpir	14	35.7
	Manora	16	50.0
	Risod	7	28.6
	Washim	21	33.3
	Total	74	37.8
Yavatmal	Arni	20	5.0
	Babhulgaon	5	20.0
	Darwaha	14	14.3
	Digras	20	5.0
	Ghatanji	14	7.1
	Kalamb	11	0.0
	Mahagaon	8	0.0
	Maregaon	11	27.3
	Ner	10	0.0
	Pandharkawada	4	0.0
	Pusad	12	50.0
	Ralegaon	3	0.0
	Umarkhed	9	0.0
	Wani	5	60.0
	Yavatmal	16	0.0
	Zari	13	0.0
	Total	175	10.3

Source: End Line Survey, NCAER, 2019.

Table VI.6 shows that among all the districts and households with annual incomes of INR 30,000–50,000, the incidence of food shortage was the highest in Buldhana (47.3 per cent), followed by Akola (41.6 per cent) and Amravati

(31.8 per cent), whereas it was the lowest in Yavatmal (10.3 per cent).

The above figures clearly indicate that the incidence of food shortage declines with rising incomes.

VI.1.3 Interpretation of the Findings on Food Shortage

Since the issue of food shortage is a time-invariant one, its specific implications in terms of the time period of the shortage, and the concomitant issues is outside the scope of this discussion. However, in view of the criticality of the relation between income and food shortages, it is important to note variations at the district level. Some of the districts like Yavatmal, did exceedingly well in terms of fewer responses to the question on food shortage, followed by Wardha and Washim, while districts like Buldhana and Akola recorded

a smaller proportion of cow-related deaths. Block level variations and the impact of the food shortage are also determined by the composition of the population (for example, say, "tribal versus non-tribal") and their livelihoods, "depending upon the minor forest produce). It is thus obvious that various factors are responsible for food shortage in the districts under study. However, it is important to note the caveat that due to the small number of respondents (though sampled), the robustness of the estimate is indeterminate.

SUMMARY OF FOCUS GROUP DISCUSSIONS (FGDS)

VII.1 Introduction

Development may occur through a variety of processes, such as factor multiplication or factor transformation. Rural development too may occur through a variety of processes, such as the expansion of roads, increased accessibility to drinking water facilities, proper sanitation, basic education, and healthcare. Similarly, the incomes of rural households may also increase through various processes like an increase in the area under cultivation or the use of HYV seeds, proper irrigation facilities, and better farm mechanisation procedures, among others. Various studies have found that income from livestock is one of the major sources of sustainable household income in rural areas. In Maharashtra, the Vidarbha region has been considered as one of the most underdeveloped in terms of household income

due to inadequate income from agriculture. Under the CAIM programme, six districts were selected for sustainable agricultural growth and enhancement of household income, and implemented the scheme. The earlier chapters provide quantitative information based on the field-based questionnaires. This chapter provides an assessment based on the qualitative information obtained through Focus Group Discussions (FGDs). Some of the case studies conducted during the GGDs have also been included in this chapter to ascertain the extent of effectiveness of the CAIM interventions. The FGDs were organised in all the selected districts, viz. Akola, Amravati, Buldhana, Wardha, Washim, and Yavatmal. The major findings of the discussions are presented in the following sections.

VII.2 Summary of the FGDs Conducted in Yavatmal District

A total of six FGDs were organised in six different villages of Yavatmal district, namely, (i) Shindkhed, (ii) Gawara, (iii) Dangargaon, (iv) Telang Takali, (v) Savargaon, and (vi) Hatwanjari. A total

of 62 members participated in the discussions, of which 52 per cent were women. A brief profile of the participants in the FGDs is given in Table VII.1.

TABLE VII.1: Brief Profile of Participants in the FGD Organised in Yavatmal District

Blocks	Names of the Villages Where the FGDs Were Conducted	Number of Participants	Size of Landholdings Owned by the Participants (acres)	Maximum Level of Education	Date of Discussion
Ner	Shindkhed	11 (M3+F8)	6 owned 2.5-10 acres of land	Up to 12 th Standard	27.03.19
Zarijamani	Gawara	10 (F5+M5)	8 owned 2-7 acres	Up to 12 th Standard	03.04.19
Maregaon	Dangargaon	9 (F)	7 owned 1-5 acres of land	Up to 10 th Standard	08.04.19
Pandharkavada	Telang Takali	10 (M)	9 owned 2 to 8 acres of land	Up to 10 th Standard	04.04.19
Ner	Savargaon (Kale)	11 (F4+7 M)	10 owned 2 to 5 acres of land	Up to Graduation.	26.03.19
Maregaon	Hatwanjari	11 (F6+M5)	10 owned 1 to 4 acres of land	Up to 12 th Standard	05.04.19

Note: Except 4, all the participants were literate. 'M' indicates male, and 'F' indicates female.

All the participants were aware of the Government programmes implemented in the village, viz., the Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGA), crop insurance, drip irrigation, and Integrated Child Development Scheme (ICDS), among others. Although some of the participants were ignorant about the finer points, the participants displayed awareness of their households receiving various benefits like goatry, poultry, buffalo, farm ponds, and fodder in the village through the CAIM interventions. In Dangargaon village, some of the participants also expressed appreciation of the role played by MAVIM, and the CMRC in their overall development.

VII.2.1. Changes in Cropping Patterns

The crops grown in the village varied across the locations. Almost all farmers were growing cotton, soybean and tur during the Kharif season (summer crop) and wheat and Bengal grams during the Rabi season (winter crop). In village Gawara, one of the farmers had started growing a medicinal plant, that is, Pashanbhed, on four acres of land. All the farmers were practising inter-cropping of crops like cotton with tur and soybean with tur.

VII.2.2. Changes in Yields

The yield patterns varied across the village where the FGD was organised. In the villages, Shindhked, Gawara and Savargaon, the yield of cotton increased from 7-8 qt/ac to 10-12 qt/ac in the same variety after the CAIM intervention. Farmers received training under the CAIM programme on BCI. Most of the participants said that due to better irrigation and the use of certified seeds the yield had increased slightly in soybean. However, in the village Telang Takali, the participants said that 40 farmers had received training on BCI in 2015-16. Only two farmers used organic fertilisers for cotton cultivation. They received an abysmally low yield, and thereafter stopped growing Organic Cotton. The yield of other crops remained almost the same. Hence, due to the mixed results across different villages on BCI and organic farming, it was not possible to derive any conclusions at this stage.

VII.2.3. Changes in Area under Cultivation

In the selected districts, the net area under cultivation remained more or less same. However, the area under cotton had decreased and concomitantly, the area under soybean had increased. In village Savargaon, the area under wheat and gram had increased. Similarly, in village Hatwanjari, the area under soybean and wheat had increased twofold. A lower yield was reported for the medicinal plant, Pashanbhed, planted

on four acres of land, which made the farmers disinterested in its cultivation.

VII.2.4. Changes in Input Use

The extent of fertiliser use varied across the villages. However, the use of fertilisers was seen to have increased since the last five years but the use of pesticides remained almost the same though their use went up in the event of a severe pest attack. Very few farmers reported the use of pre-treated seeds as most of them used certified seeds. Most of the participants reported difficulty in accessing credit. There were three Krishi Sewa Kendras (KSKs) in Savargaon village, but no KSK in any of the other five villages where FGDs were held. The distance to the farthest KSK was 20 km. It was found that currently, agricultural implements like tractors and tubewells are not available in the KSKs but inputs like fertilisers, pesticides, and seeds were available in all the KSKs.

VII.2.5. Changes in Production Practices

Almost every farmer was aware of initiatives like the Better Cotton Initiative (BCI), Broad Bed Furrow (BBF), and Integrated Pest Management (IPM) as relevant training had been conducted under CAIM.

VII.2.6. Market Intervention

In village Telang Takali, under the CAIM Programme, 19 farmers had received 25 birds each. CAIM had also arranged an agent who would visit every 2-3 days to source eggs (costing INR 5 each) from the village and would market them. In some villages, the SHGs received training from CAIM in the marketing of livestock.

VII.2.7. Livestock Intervention

Some of the ultra-poor farmers received goats, poultry birds, buffaloes, and fish seeds from CAIM. According to them, goatry was the most popular livestock as it brings more profits to the farmers due to its low input cost. Buffalo is also considered as a popular livestock but due to the lack of availability of adequate fodder, the activity of buffalo rearing could not be promoted to its optimal potential.

VII.2.8. Women's Empowerment

After the CAIM intervention, awareness about and literacy pertaining to banking transactions among women have taken firm root. All the women in the selected areas were found to have been associated with one or the other SHGs. In Hatwanjari village, four women had taken loans to renovate their houses, 27 women had taken loans from SHGs for promoting their goatry business, eight members had purchased a sewing machine for their tailoring businesses, and ten women had

started the business of making coats for cotton plucking since 2016.

Most of the members readily revealed that their incomes, as well as savings, had increased

on account of the CAIM interventions. They also reported the purchase of assets like motorcycles, colour television sets, refrigerators, and fans out of the surplus from economic activities started under the CAIM programme.

VII.3 Summary of the FGDs Conducted in Buldhana District

FGDs were organised in the following six different villages of Buldhana district: (i) Satali, (ii) Kundh (KH), (iii) Yeoli, (iv) Tikodi, (v) Paoali Shimoe, and (vi) Bhapgaon (Table VII.2). A total of 72

members participated in the discussion, of which 53 per cent were women. A brief profile of the participants in the FGDs is given in Table VII.2.

TABLE VII.2: Brief Profile of Participants in the FGD Organised in Buldhana District

Blocks	Names of the Villages Where the FGDs Were Conducted	Number of Participants	Size of Landholdings Owned by the Participants (acres)	Maximum Level of Education	Date of Conducting the FGDs
Jalgaon (Jamod)	Satali	12 (M4+F8)	7 owned 1 to 10 acres of land	Up to 12 th Standard	16.04.19
Malkapur	Kund (KH)	12 (F)	11 owned 2 to 4 acres of land	Up to 12 th Standard	12.04.19
Labour	Yeoli	12 (7F+5M)	7 owned 1.5 to 11 acres of land	Up to M.A	19.04.19
Nandura	Tikodi	12 (M)	4 owned 1 to 8 acres of land	Up to 12 th Standard	19.04.19
Deulgaon Raja	Paoali Shimoe	12 (F6+6 M)	7 owned 2 to 6 acres of land	Up to 12 th Standard	21.04.19
Buldana	Bhapgaon	12 (F5+M7)	9 owned 2 to 8 acres	Up to 12 th Standard	21.04.19

Note: All the participants were literate. 'M' indicates male, and 'F' indicates female.

All the participants were aware of the Government programmes being implemented in the village, viz., the PM Awas Yojana, Jalyukt Shivar, Indira Awas Yojana, Integrated Watershed Management Programme (IWMP), and Pradhan Mantri Fasal Beema Yojna (PMFBY), among others. More than 80 per cent of the participants were aware of the CAIM interventions. It was indicated that some of the ultra-poor households had received benefits for goatry, poultry birds, buffaloes, farm ponds, and fodder in the concerned villages. In the Kund village, 7-8 farmers received Low External input Sustainable Agriculture (LEISA) kits, while in Bhapgaon, six farmers received buffaloes. Most of the participants said that the ultra-poor families had received assistance like poultry birds and goats.

VII.3.1. Changes in Cropping Patterns

The crops grown varied across the villages. In the Bhapgaon and Yeoli villages, only about 10 per cent of the farmers were growing wheat in the Rabi season. In Satali village, about 10 per cent of the farmers were growing white Muesli, a medicinal plant, and 2-3 per cent of the farmers were growing turmeric, whereas in Yeoli village, some farmers were also growing oranges. In the Kharif season, almost all the farmers were growing cotton, soybean, tur, jowar, mung and urad. All the farmers were practising inter-cropping like cotton with tur and soybean with tur.

VII.3.2. Changes in Yields

In Buldhana district, all the six participants in the FGD indicated that the yield had decreased for

all the major crops grown in the villages. The main reason was the lack of irrigation and inadequate rainfall in the last 4–5 years.

VII.3.3. Changes in Area under Cultivation

In all the six villages of the district, the net area under cultivation had increased. In Satali and Kund (kh), 31 acres and 100 acres of fallow land, respectively, had been recovered and put under cultivation. In other villages too, tribal farmers started cultivating land in the nearby fringe areas of the forest. This was happening because of inadequate sources of income for such farmers.

VII.3.4. Changes in Input Use

The extent of use of fertilisers and pesticides had increased in all these villages over the last 4–5 years. Only in three villages, viz., Tikodi, Satali, and Kund (kh), about 10 per cent of the farmers used pre-treated seeds as they received some training from CAIM. All the other farmers used certified seeds. In all these villages, 80–85 per cent of the area was rain-fed. In village Satali, some farmers living near the river Purna started growing maize, availing of the river water.

There was no Krishi Sewa Kendra (Farmer Service Centre) in all these villages. The nearest one was located at a distance of 20 km from this village. Agricultural implements, like tractors and tubewells were not available in those KSKs but fertilisers, pesticides, and seeds were available in all the KSKs.

VII.3.5. Changes in Production Practices

During 2013-14, in Kund village, the Implementing Agency (IA) distributed LEISA kits to eight farmers in the village. However, due to lack of proper training, the recipients could not optimise the full utility of these kits.

In Satali village, during November-December, 2018, officials from the BCI organised a meeting with the farmers. Comprehensive training was imparted to 15 farmers on bio-dynamic compost. They started growing cotton following the procedure during the current season. The impact of this intervention could be assessed after harvesting of the crop commenced during the subsequent months of October-November. In these villages, most of the other farmers needed further hand-holding to adapt to the BCI, BBF, and IMP practices.

VII.3.6. Market Interventions

About 60 per cent of the farmers were selling their products in the local market (mandi). Some

of them had formed informal groups to reduce transportation costs. About 40 per cent of the farmers were selling their produce to the agents in the village itself. The white Muesli produced in Satali village was procured by the SHG from the adjoining village.

VII.3.7. Livestock Intervention

The extent of receipt of livestock benefits under CAIM varied across the villages. In Kund (kh) village, 10 farmers received 20 poultry birds each in 2012-13, and 11 farmers received 2 goats each in 2015-16. Most of the goatry beneficiaries repaid their dues to CAIM in 2017-18.

In Yeoli, two farmers received one buffalo each, while in Tikodi also, four farmers received buffaloes. All the other ultra-poor households received poultry birds and goats from CAIM.

According to the beneficiary farmers, goatry is the most popular activity, as it yields comparatively higher profits relative to its input cost. However, dairy activity (with buffaloes), though it generates adequate profitability, could not be promoted to its true potential due to the lack of adequate fodder in the village.

VII.3.8. Women's Empowerment

New activities for women's empowerment had been taken up across the villages due to interventions by CAIM. In Satali village, a woman member of an SHG, who was also the Chairperson of the Village Panchayat, secured a contract for the distribution of mid-day meals in the school located there. In Kund (kh) village, some of the women received land ownership rights from their respective families, a positive step towards women empowerment. In Tikodi village, some of the women were helping their husbands in cultivation by buying inputs like seeds and fertilisers. Most of the women had learnt banking activities. A large number of women also reported feeling more economically empowered after the CAIM intervention, and their mobility too had improved a lot.

VII.3.9. Soil and Water Conservation Work

The Soil and Water Conservation (SWC) work by CAIM varied across the six villages. In Kund village, in 2015-16, six farmers received assistance for digging farm ponds. One nala boundary, of 1 km length was also constructed in the village with CAIM assistance. In Satali village, in 2017-18, six farmers received assistance for digging farm ponds. Under IWMP, in 2015-16, 26 farmers received assistance for digging farm ponds. In 2018-19, under the

Jalyukt Shivar Yojana, two nala boundaries had been constructed in the village. In Bhapgaon village, assistance was provided for digging one farm pond, one well recharge, and recharge shaft in 2015-16. Some SWC work was also undertaken under the Jalyukt Shivar for, digging of four farm ponds, nala revival of 1.5 km length, and three Cement Nala Bunds (CNBs) in the village. In Paoali Shimoe village, farmers received assistance for digging two farm ponds, one well recharge, and the recharge of one well shaft. Under the Jalyukt Shivar, assistance was also provided for the construction of four farm ponds, nala revival, one CNB, and five graded boundaries up to a length of 6.2 km. In Tikodi village under CAIM, farmers received assistance for digging two farm ponds, a graded boundary of 1.5 km length and one well recharge. Under the Jalyukt Shivar, farmers received assistance for nala revival of 1.5 km, three CNBs, and four farm ponds. In Yeoli village, under CAIM, farmers received assistance for digging two farm ponds and nala revival of 1 km length in 2015-16. In 2017-18, under the Jalyukt Shivar, farmers received assistance for digging four farm ponds.

VII.3.10. Perceptions about Changes in Living Standards Brought about by the CAIM Programme

A large number of households reported that their savings had increased after implementation of the CAIM programme. About 20 -30 per cent of the households had undertaken the renovation of their kutcha houses to make them semi-pucca. Some of the households also acquired comparatively valuable assets like motorcycles, refrigerators, and water coolers. Most of the households had purchased consumer goods like fans and colour television sets, and almost all of them had mobile phones. Practices for promoting gender equality had been initiated, and it was observed that the CAIM households were increasingly extending equal opportunities to both boys and girls in their families in different aspects of life. Overall, the standard of living of the households had improved. However, some of the tribal beneficiaries who received poultry birds and goats did not seem to give a positive reaction when asked about their well-being.

VII.4 Summary of the FGDs Conducted in Amravati District

Six FGDs were organised in the following six villages of Amravati district: (i) Sindhi Bu, (ii) Kasampur, (iii) Harisal, (iv) Chandas, (v) Pardi, and (vi) Pahapal. A total of 74 members participated

in the discussion, of which about 60 per cent were women. A brief profile of the participants in the FGDs organised in Amravati district is given in Table VII.3.

TABLE VII.3: Brief Profile of Participants of the FGDs Conducted in Amravati District

Blocks	Names of the Villages Where the FGDs Were Conducted	Number of Participants	Size of Landholdings Owned by the Participants (acres)	Maximum Level of education	Date of Conducting the FGDs
Achalpur	Sindhi Bu	10 (M2 + F8)	7 owned 1 to 5 acres of land	Up to 12 th Standard	29.03.19
Daryapur	Kasampur	15 (F15)	14 owned 1 to 9 acres of land	B.A	25.03.19
Dharni	Harisal	12(M3+F9)	9 owned 1 to 3 acres of land	Up to 12 th Standard	04.04.19
Warud	Chandas	12 (M10 + F2)	5 owned 0.6-8 acres of land	Up to 12 th Standard	28.03.19
Morshi	Pardi	13 (M9 + F3)	10 owned 1- 8 acres of land	Up to 12 th Standard	29.03.19
Nandgaon (KH)	Pahapal	12 (M5 + F7)	7 owned 2-9 acres of land	Up to 12 th Standard	25.03.19

Note: All the participants were literate. 'M' indicates male and 'F' indicates female.

All the participants were aware of the Government programmes being implemented in the villages like the Water Cup competition arranged by the PANI foundation, PM Awas Yojana, Jalyukt Shivar, and Indira Awas Yojana. In this district, about 72 per cent of participants were aware of the CAIM intervention. Some of the participants said that CAIM had developed SHGs in their village. Some said that in their village, ultra-poor households had received some benefits like goatry, poultry, buffaloes, farm ponds, and fodder. In Kasampur village, only about six participants actively participated in the discussion whereas others just supported them. Some of the participants in Harisal village said that in their village, the ultra-poor families had received machines and equipment for noodle-making, chilli powder grinding, and packing, and three SHGs had received mini flour mills.

VII.4.1. Changes in Cropping Patterns

The farmers were growing cotton, soybean, tur, mung, jowar and urad during the Kharif season, and wheat and chana during the Rabi season. All the farmers were practising intercropping like cotton with tur and soybean with tur. In Harisal village, two SHGs were involved in mushroom cultivation on 2 acres of land. In Pardi village, most of the farmers were growing oranges on about 60 acres of land. Orange was the major source of income for the farmers in the location. In Sindhi Bu village, farmers were growing onion and maize.

VII.4.2. Changes in Yield

A close look at the changes that occurred in the yields for various crops revealed a mixed trend in Pardi village. The yields of oranges and vegetables had increased whereas the yields of cotton and soybean had decreased. A large number of participants reported a generally declining trend in the yields of cotton and soybean, with the main reasons being the inadequate availability of water for irrigation and dealing with pest attacks.

VII.4.3. Changes in the Area under Cultivation

Except for Pardi, in all the other villages, the net area under cultivation increased. In Harisal village, some of the tribals had started cultivation in about 200 acres of fringe areas of the forest. In Chandas village, farmers had started cultivating on grazing land (75 acres). In Pahapal, About 100 acres and 50 acres of fallow land in Pahapal and Kasampur, respectively, had been reclaimed and brought under cultivation. In Sindhi Bu also, an additional 40 acres of land had been reclaimed for cultivation.

VII.4.4. Changes in Input Use

The extent of use of fertilisers and pesticides had increased in all these villages over the last 4–5 years. About 10 per cent of the farmers in the four villages of Pardi, Sindhi Bu, Chandas, and Harisal were used pre-treated seeds after receiving training from CAIM. All farmers had used certified seeds. About 70 per cent of the area under cultivation was rainfed. Only two villages, that is, Pahapal and Harisal had KSKs in operation. For the other villages, KSKs were available at distances of 2 to 15 km from the respective villages. Agricultural implements, like tractors and tubewells were not available in the KSKs. However, fertilisers, pesticides, and seeds were made available by all the KSKs.

VII.4.5. Changes in Production Practices

Out of the six villages where FGDs were held, four were aware of the BCI cotton practices. Some of them had also received training from CAIM in 2014-15 but the training did not prove to be effective. The farmers were not using BCI citing low yield as the reason. Lack of awareness was observed in respect of the BBF and IPM practices in all these villages.

VII.4.6. Market Interventions

In Harisal village, two SHGs had organised mushroom cultivation on two acres of land. CAIM had distributed the seeds and helped in marketing the produce. About 70 per cent of the farmers were selling their products in the local market (mandi) as well as the nearby weekly market. In Pahapal village, most of the small farmers were selling their products to the local agents for meeting urgent cash requirements. However, in the latter case, the price realisation was lower than the prevailing market price.

VII.4.7. Livestock Interventions

Assistance for livestock activities varied across the villages. Under CAIM, two farmers received buffaloes only in two of the villages. In all the other villages, ultra-poor farmers received goats and poultry birds under the CAIM programme. Most of the beneficiaries' opined that goatry was the most popular mode of assistance since the activity helped to generate relatively steady returns as compared to the input costs required. It was also found that constraints regarding the availability of fodder adversely affected the adoption of dairy activity under the CAIM Programme.

VII.4.8. Women's Empowerment

Women's empowerment and new activities taking place in the village got a positive boost on account of the formation of SHGs under the

CAIM programme. In Pardi village, a hotel had been set up near the Upper Wardha dam by one of the constituent SHGs. In Pahapal village, some of the women members had started doing business by taking loans from the SHGs, two women had opened kirana (grocery) shops, one had opened a general store, and one woman had bought a sewing machine and started a tailoring business. In other villages, most of the women were developing the goatry business. Women had started participating in the households' decision making. All the villages had formed VDCs, which were, however, not active at the time of the study. Savings had increased. Most of the women had learnt banking activities and were much better off after the CAIM interventions. Their mobility had also improved a lot.

VII.4.9. SWC Work

The SWC work undertaken by CAIM varied across the six villages in Amravati. All the villages received support for: (i) digging farm ponds, (ii) nala desilting, and (iii) recharge shafts from CAIM, the Jalyukt Shivar, and PANI Foundation. These kinds of support helped the farmers to grow crops in the Rabi season. It also helped in the recharge of the subsoil water table, thereby positively

impacting the future prospects for farmers in the area.

VII.4.10. Perceptions about Whether CAIM Has Brought about a Change in Living Standards

In village Harisal, two SHGs had started practising mushroom cultivation in two acres of land since 2018-19. The cost of cultivation was Rs. 22,000 and the return was Rs. 70,000 per acre. In most of the households, savings had increased by up to 70–80 per cent. About 30 per cent of the households renovated their kuchcha house to pucca houses. Some of the households also acquired comparatively valuable assets like motorcycle, refrigerators, and water coolers. Most of the households also purchased fans and television sets. Almost all of them had acquired mobile phones. Practices leading to gender equality got promoted and the CAIM households were seen to increasingly extend equal opportunities to both boys and girls in their families in different aspects of life. About 90 per cent of the households had toilet facilities. These developments imply that overall there was an improvement in the standard of living of the CAIM households.

VII.5 Summary of the FGDs Conducted in Akola District

Six FGDS were organised across Akola district. The number of participants ranged from 9–16 per group. Women were the major beneficiaries of CAIM programme in this district. All the participants were aware of the programmes being implemented by the Government, and most of the

participants were aware of CAIM. The participants reported that some ultra-poor households had received the benefits of goatry, poultry, buffaloes, and farm ponds, in the various villages of the district. A brief profile of the participants in the FGDs organised in the Akola district is given in Table VII.4.

TABLE VII.4: Brief Profile of Participants in the FGDs Organised in Akola District

Blocks	Names of the Villages Where the FGDs Were Conducted	Number of Participants	Size of Land holdings Owned by the Participants (acres)	Maximum Level of Education	Date of Conducting the FGDs
Murtizapur	Langhapur	9(M)	6 owned 2 to 6 acres of land	Up to Graduation	04.04.19
Telhena	Toyegaon	14 (F)	12 owned 1 to 4 acres of land	Up to 12 th Standard	19.04.19
Akot	Bori	12 (F)	Joint owner	Literate	17.04.19
Barshitakali	Nimbhora	14 (F)	3 owned (2 acres each) of land	Up to 12 th Standard	17.04.19
Patur	Asola	16 (F)	All are landless	Up to 12 th Standard	17.04.19
Akola	Apoti	12 (F)	4 owned 1 to 2 acres of land	Up to 10 th Standard	17.04.19

Note: All the participants except three were literate. 'M' indicates male and 'F' indicates female

VII.5.1. Changes in Cropping Patterns

Various crops were being grown in the villages across the district of Akola. Farmers were growing cotton, soybean, tur and mung during the Kharif season, and wheat, chana, onion, and groundnuts grown during the Rabi season, except in Apoti where only chana was being grown in the Rabi season. All the farmers were practising intercropping like cotton with tur and mung, soybean with tur, and tur with urad. In Langhapur, only one participant was aware of BCI cotton.

VII.5.2. Changes in Yields

The yield patterns varied across the villages of Akola. In all the villages, the yields had increased. The yield had increased by 25–30 per cent in village Toyegaon; by 10–15 per cent in village Nimbhora; and by 10 per cent in village Asola, after the CAIM intervention. The yield of BCI cotton had increased in the Bori and Nimbhora villages, and farmers in these villages said that they would like to continue BCI farming here due to higher yields and other benefits like the receipt of BCI kits, dress, and hand gloves from CAIM. In village Asola, however, due to delay in payments, only a few farmers said that they would like to continue BCI in future, and in Apoti village, farmers were unhappy with the yield of BCI cotton as compared to conventional cotton and only a few of them wanted to continue with BCI cotton in future though the latter fetched them Rs 15-200 more than conventional cotton. Due to better irrigation facilities and the use of certified seeds, the yield had increased across the villages of district Akola.

VII.5.3. Changes in the Area under Cultivation

The net area under cultivation had increased in all the villages due to the increased yields of crops, and in village Bori, the net area under crops had increased by 50 per cent. In village Asola, the area under cotton and soybean had increased by 15-20 per cent, while in village Apoti, the area under cotton had increased by 70-80 per cent.

VII.5.4. Changes in Input Use

Most of the participants indicated that the use of chemical fertilisers had decreased while that of organic fertilisers like Nimboli Arks had increased. Very few farmers used pre-treated seeds and mostly all of them used certified seeds. The major sources of irrigation were borewells and canals across the villages except in Apoti, where only about 10 per cent of the area was being irrigated through farm ponds. There were four CAIM-supported SHGs in Langhapur from where credit could be availed of when required, but no SHG member received any

training. In Toyegaon, after the CAIM intervention, the interest rates had reduced from 14 to 7 per cent, and thereby no guarantor is required any longer, leading to reduced documentation and faster disbursement. In Bori, bank loans were available at an interest rate of 7 per cent and SHG loans at an interest rate of 2 per cent. In Nimbhora, loans from informal sources had stopped. In Apoti too, the interest rate was 7 per cent. Due to credit support from CAIM, farmers were able to save and access loans at lower interest rates. No KSK was located in Toyegaon but was situated at a distance of 6 km at Hiwarkhed. In Bori too, there was no KSK, which was located at the block level in Akot at a distance of 20 km. In Nimbhora, the KSK was not located in a village and the nearest one was situated at a distance of 5 km in Mahan village. In Asola, the KSK existed in the village but agricultural implements were not available there. In Apoti, there was no KSK in the village but was located at Atapada village at a distance of 1 km. Fertilisers, seeds, and pesticides were available in the KSKs.

VII.5.5. Changes in Production Practices

Farmers were aware about Low External Input Sustainable Agriculture (LEISA) in the villages of Bori, where the crops grown included cotton, wheat, chana and oranges, and Nimbhora, where the crops grown included cotton and groundnuts. The farmers here had received training in the use of organic fertilisers and organic pesticides, and had also received LEISA kits from CAIM. They were willing to continue LEISA farming because of better yields and lower input costs.

Farmers were aware about Broad Bed Furrow (BBF) in Bori, where 15-20 farmers had received training, and the crops grown under BBF included cotton, tur, and soybean. In Nimbhora, 30-40 per cent of the farmers received training on soybean and groundnuts grown under BBF. The farmers in these villages also said that they would like to continue BBF due to higher yields. A few farmers in Asola and Apoti knew about BBF, but due to the inadequate training imparted to them, farmers in Asola were not interested in using it. The lack of adequate water in wells and borewells adversely affected BBF grown under BBF in Apoti. In Apoti, the crops grown under BBF were cotton and soybean. Only a few farmers were aware of the practice of Integrated Pest Management (IPM), who had also received training in Bori, but the training was inadequate, and thus lacked application on the field.

VII.5.6. Market Interventions

In village Langhapur, in the case of cotton crops, Tata Trust had entered into an agreement with an agent due to which the cotton producers were getting INR 500 more per quintal than the market rates.

VII.5.7. Livestock Interventions

Some farmers received goats, poultry birds, and buffaloes from CAIM in Akola district. Most of the participants reported that goatry was the most popular activity as they earned more profits from it, and it entailed lower input costs. Rearing buffaloes was the second most popular activity, but due to the lack of adequate fodder in the villages, farmers were not being able to adopt it. Poultry was an unprofitable activity due to the high mortality rates.

VII.5.8. Women's Empowerment

After CAIM, almost all the women in the district had become literate in banking operations and had also gained in self-confidence with an increase in their savings. There was no longer any need to take informal loans at higher interest rates. Fifty families in village Apoti had taken action for joint ownership of dwelling houses. They were now increasingly participating in household decision-making and VDCs. Some women in Nimbhora village had also availed of loans from ICICI bank for the higher education of their children while some had taken loans to purchase goats.

VII.5.9. Soil and Water Conservation Works

In Asola, 'Nyakholikarani' work had been undertaken under CAIM due to which many families were benefiting. In Apoti, work on farm ponds, soil

testing, and 'Dhariche Bandh' was being done under CAIM. Due to these efforts by CAIM, the crop yield had increased and cultivation could also be done during the Rabi season in the villages of Apoti and Asola.

VII.5.10. Perceptions about Whether CAIM Had Brought about Changes in Living Standards

In most of the households, the standard of living had changed for the better after CAIM intervention in Akola. Savings rates and individual savings had increased for all the villages across Akola. Participants had made pucca houses and had bought household durables like mixers, refrigerators, television sets, fans, and mobile phones. They had taken LPG connections and their expenditure on clothing had increased. All the 25 members in Nimbhora village had opened their pension plans. They expected to receive INR 3000 per month after attaining 60 years of age. The level of education of the children had increased and girls and boys were being treated equally across the villages where the FGDs were conducted. Health services also improved and ASHA (for primary awareness of health) workers were now available in the six villages. Also, some private clinics had come up in village Apoti—a tribal-dominated village—indicating that the capacity of the villagers to spend on healthcare had improved on account of the CAIM interventions.

VII.6 Summary of the FGDs Conducted in Wardha District

Six FGDs were organised across the Wardha district. A brief profile of the participants in the FGDs organised in Wardha district is given in Table VII.5.

TABLE VII.5: Brief Profile of Participants in the FGDs Organised in Wardha District

Blocks	Names of the Villages Where the FGDs Were Con-ducted	Number of Participants	Size of Landholdings Owned by the Participants (acres)	Level of Education	Date of Conducting the FGDs
Ashti	Beloka (kh)	12(F12)	9 owned 1.5 to 4 acres of land	Up to 12 th Standard	09.04.19
Arvi	Tambhari	08 (F8)	5 owned 2.5 to 4 acres of land	2nd Up to 10 th Standard	10.04.19
Deoli	Talani Bhagvat	12 (M8+F4)	9 owned 2.5 to 3 acres of land	Literacy ranging from 10th Standard to BSc, and BA	12.04.19
Wardha	Paloti	14 (F))	5 owned 1 to 4 acres of land	Up to 12 th Standard	13.04.19
Karanja	Borgaon Dhole	12 (F)	5 owned land up to 2 acres of land	Lit Up to 12 th Standard	10.04.19
Seloo	Antargaon	12 (9F+M3)	10 owned land 3 to 16 acres of land	Lit Up to 12 th Standard	12.04.19

Note: All the participants were literate. 'M' indicates male and 'F' indicates female.

VII.6.1. Changes in Cropping Patterns

The villages in this district followed a similar crop growing profile. Cotton, soybean, and tur were being grown in the Kharif season, and chana and wheat were being cultivated in the Rabi season. Some farmers in village Paloti were also growing vegetables like brinjal, tomato, spinach, and ladyfinger. In the irrigated lands of village Belora, ladyfinger, rice, pulses, and onions were being grown. The mixed cropping system was being followed in all the villages. The following ratios were being followed for mixed crops: 85 per cent for cotton and 15 per cent for Tur, in case of intercropping of these two crops; 85 per cent for soybean and 15 per cent for tur in case of intercropping of these two crops. In Antargaon, only 4–5 farmers were cultivating bananas. Crops (minor millets) such as jowar, bajra, and mung were no longer being cultivated in these villages, mainly due to attack from wild animals such as pigs, and also because these crops need more water for cultivation.

VII.6.2. Changes in Yields

In Wardha district, village Talani Bhagvat reported an increase in income from INR 10,000 to 12,000 per year with some increase in yield due to the adoption of the BBF farming technique. The reason given was the availability of a spark unit. Village Belora also saw an increase in incomes of farmers as compared to the incomes they were getting five years back. This village was getting more benefits in the Kharif season due to the monsoons and less benefits in the Rabi season when they had to buy water.

VII.6.3. Changes in the Area under Cultivation

In village Talani Bhagvat, the area under cultivation had increased due to reclamation and was used for growing crops like wheat and chana. The area under cultivation of cotton crops in village Paloti had also increased.

VII.6.4. Changes in Input Use

All the villages in the district reported an increase in the use of fertilisers, which may be attributed to an increase in yield in the villages of Talani Bhagvat and Paloti. In Talani Bhagvat, 30 per cent of the households had used organic fertilisers while only five farmers did so in Belora village. The increased incidence of pests and diseases gave rise to the higher use of pesticides in the district. The sources of irrigation varied across the villages. The major source of irrigation for Paloti village was rain, with wells also being available. Village Talani Bhagvat reported canals as the major source of irrigation. Farmers in Tambhari village mainly irrigated their

lands with the dominant use of sprinklers. In Belora village, the area under irrigation was 40 per cent, with mainly sprinklers and borewells being used.

Villages Talani Bhagvat and Paloti reported the availability of credit for seeds, fertilisers, and pesticides through the KSKs. However, these KSKs were not facilitated by CAIM. In Paloti village, loans were available from SHGs for farming. Two out of four villages, namely, Tambhari and Belora, reported that there was no KSK in their respective villages. The nearest KSK was located at a distance of 1.1 km from village Tambhari and 15 km from Belora. Talani Bhagvat village had one KSK, which was not facilitated by CAIM and Paloti village had three KSKs. The KSKs in both these villages did not have any agricultural equipment. However, they had access to fertilisers, pesticides, and seeds.

VII.6.5. Changes in Production Practices

No contract farming was practised in any of the villages in this district. The villages of Paloti, Talani Bhagvat, and Belora did not have any knowledge about BCI Cotton. Paloti village reported no knowledge about LEISA and IPM. Respondents in Talani Bhagvat village respondents were also not aware of LEISA. However, all the villages knew about BBF. The lack of knowledge regarding some of the practices of farming, as mentioned above, is due to the fact that relevant training programmes had not been conducted in those villages.

VII.6.6. Market Interventions

There was no market intervention in the villages of Talani Bhagvat and Paloti. Villagers in Belora and Tambhari oversaw an increase in price realisation from their products. Farmers in Tambhari village sold their cotton through middlemen, thus saving on transportation costs.

VII.6.7. Livestock Intervention

Paloti village experienced a decrease in all sorts of livestock due to the problem of availability of fodder and high mortality rates of poultry. In Talani Bhagvat village, there was a decrease in the number of cows (from 120 to 60), buffaloes (from 175 to 50), and poultry birds (100 to 50) due to lower availability of fodder and the high mortality rate of poultry birds due to diseases. Here, goatry adaptation increased from 200 to 300, with higher benefits accruing to farmers. The numbers of cows and goats also decreased in Belora village due to the fodder issue. The populations of all types of livestock, however, increased in Tambhari village.

Villagers in Talani Bhagvat were trained to use organic compost from livestock to promote organic farming, which helped them save on the use of chemical fertilisers. They also received 50 per cent

subsidy on goatry and dairy (including both cows and buffaloes). Individual credit supply increased due to relevant enhancement by the SHGs and bank linkages. In Paloti village, two Pashu Sakhis were available as part of MAVIM along with veterinary support through Maharashtra State Rural Livelihood Mission (MSRLM). CAIM also provided financial support in Tambhari village along with livestock subsidy. In Belora, support from CAIM for livestock helped increase the income of the people by 10 per cent. However, they still needed fodder support for their livestock. In Borgaon, there was a milk collection centre of Mother Dairy.

VII.6.8. Women's Empowerment

Paloti village saw a positive change towards women's empowerment as they reported the presence of six SHGs with which 74 women members were associated. Here, 50 per cent of the households reported joint asset ownership with VDCs present in the village. The drudgery had also reduced. The incidence of 'Shri Bal Hatya' (female foeticide) had also reduced, with an increase in awareness, savings, and enhancement in the standards of living.

There was also a positive change in Talani Bhagvat village. There were 13 SHGs here, which had 136 members, all of whom were female. A total of 510 households reported joint asset ownership with linkages with Allahabad Bank. Women also received financial support for business ventures for stationery, dairy, goatry, livestock and paneer-making projects. There was an improvement in the confidence level among women, who also enjoyed an increasing role in decision-making in household matters. In Belora, people benefited from CAIM support with a decrease in drudgery and an increase in business initiatives such as tailoring, aata chakki, and livestock. Women participated more in festivals. Meanwhile, daughters received equal educational opportunities as sons in the family. Women also participated more in household decisions such as purchase of jewellery and durables.

In Tambhari village, 50-60 per cent of the households experienced a decrease in drudgery due to CAIM support. Women participated more in household decision-making along with the purchase of valuable assets such as gold and land. They participated more in community affairs and festivals. Male and female children availed of equal opportunities in education. In Borgaon, there were

ten SHGs supported by CAIM. All the members received training from CAIM for the management of SHGs and about 50–60 per cent of the households benefited from drudgery reduction activities under the CAIM programme.

VII.6.9. Soil and Water Conservation Work

In Talani Bhagvat village, farm pond and nala khocikaran initiatives as part of SWC had increased. The Nandi Foundation provided drip irrigation while the lakes and well with motor pumps were built under the Panlot scheme. There was also an increase in the water level of the village, and this water was used during the Rabi season for cultivation. Nala khocikaran (SWC) work was also undertaken in Paloti village. Through CAIM intervention, there was an increase in the water table and water availability for cultivation in the Rabi season.

VII.6.10. Perceptions about Whether CAIM Had Brought about Changes in Living Standards

In Paloti and Talani Bhagvat villages, CAIM had brought about a positive change in people's lives. Individual savings increased by Rs 1000 per month, and were linked with bank saving accounts. People also purchased household items such as television sets, mobile phones, and two-wheelers. Kuchcha houses were being converted into pucca houses. Educational opportunities for girl children had improved. Access to healthcare had also improved as ASHA workers were available in both the villages.

Villagers in Tambhari also reported a positive change. Every member reported having a bank account. However, some members reported that while they were able to borrow from the SHG, they were unable to avail of debt redemption benefits under CAIM. The savings of the villagers had increased. Generally, all categories of people (caste-wise) had benefited from the project. In Belora village too, most of the members reported having bank accounts with an increase in savings. However, in a few cases, food shortage was also reported. The respondents reported an improvement in general living standards, such as access to electricity connections, toilets, and piped drinking water facilities. There were two anganwadis but no sub-centre and no Primary Health Centre (PHC) facilities. However, debt redemption benefits from CAIM were not available.

VII.7 Summary of FGDs Conducted in Washim District

Six FGDs were organised across Washim district. A brief profile of the participants in the FGDs organised in Washim district is given in Table VII.6.

TABLE VII.6: Brief Profile of Participants in the FGDs Organised in Washim District

Blocks	Names of the Villages where the FGDs were Conducted	Number of Participants	Size of Landholdings Owned by the Participants (acres)	Level of Education	Date of the FGD
Malegaon	Amani	16 (F)	11 owned 1 to 8 acres of land	14 were literate up to 12 th Standard	15.04.19
Mangrulpir	Jogaldari	10 (F)	8 owned up to 9 acres of land	8 were literate up to 12 th Standard	16.04.19
Karanja	Shivnagar	12 (F)	7 owned 4 to 15 acres of land	3 had BA degrees	16.04.19
Manora	Girda	12 (M+F)	9 owned up to 14 acres of land	9 were literate up to 12 th Standard	16.04.19
Washim	Jumada	18 (F)	15 were landless, others owned 1 to 3 acres of land	10 were literate up to 10 th Standard	15.04.19
Risod	Asola	16 (F)	1 was landless, others owned 1 to 4 acres of land	4 were literate up to 10 th Standard	15.04.19

Note: 70 per cent of the participants were literate. 'M' indicates male and 'F' indicates female.

VII.7.1. Changes in Cropping Patterns

The major crops grown in the villages of Washim district were soybean and tur during the Kharif season, and wheat and chana during the Rabi season. Intra cropping was being practised with 15 per cent tur and 85 per cent soybean. The village of Jumada also grows oranges, beans, brinjal, coriander leaves, gourd, and turmeric. Vegetables like brinjal and tomato were also grown in Jogaldari village. All the villages in the district had stopped growing crops like jowar, urad, mung, and cotton due to low yield, low uncertain market rates, pest attacks, and the damage caused by wild animals such as wild pigs. The unavailability of water also led to a decrease in the production of cotton in these parts.

VII.7.2. Changes in Yields

The changes in the yield of crops due to CAIM intervention varied across the villages. The Amani and Jumada villages reported an increase in yield. In Amani, the yield was reported to have increased

by 10-15 per cent along with increased use of organic and biofertilisers. In Jumada, the increase in yield was attributed to training conducted by an NGO, which was the Implementing Agency (IA) for on seed processing and training. The yield had increased by 10-15 per cent after the CAIM intervention in Shivnagar and Jogaldari. However, in the Asola and Girda villages, no change in yield was reported.

VII.7.3. Changes in the Area under Cultivation

In Amani, in order to reap the benefits of low input costs, higher productivity and thereby income, there was a 100 per cent increase in net sowing, mainly because fallow land had been brought under cultivation. However, in other villages, no such increase in the area under cultivation was observed. In Shivnagar and Jogaldari, the areas under cultivation registered an increase, with the main driver being higher profitability due to low input costs and higher yield of crops.

VII.7.4. Changes in Input Use

All the six villages reported an increase in the use of organic and biofertilisers to increase the yield of the crop. The use of pre-treated seeds was prevalent in the villages of Amani, Jumada, and Asola. The seeds were provided by the KSK. In Asola, only two farmers reported using pre-treated seeds. In Girda, however, no farmer used pre-treated seeds.

All the villages had similar irrigation source profiles, with around 40 per cent area under irrigation and 60 per cent of it being rain-fed. Amani and Jumada had wells, dams and borewells as the main sources of irrigation, while Asola had wells and motor pumps. However, Girda reported having very poor facilities for irrigation. In Shivrinar and Jogaldari, irrigation covered around 60-75 per cent of the area under cultivation, and the rest of the areas was rain-fed. Dams and wells were the main sources of irrigation in these villages. In both villages, tap connections (piped water) were present in almost all households but the supply of water was available only twice a week in Jogaldari village. Credit facility was mostly not provided by CAIM in these villages. In Amani and Jumada, credit facilities were available with the KSKs whereas in Girda, no such facility was available. KSKs were not available in all these villages. In Amani and Jumada, the nearest KSK was 5 km away, while in Asola, it was 3 km away. The credit facility was available for farming inputs from KSKs in Jogaldari village, with the nearest KSK located at a distance of 6 km. In all the six villages, the agricultural equipment was not available at the KSKs but was available through rent from individual farmers and owners. However, KSKs supplied fertilisers, pesticides, and seeds in the Shivrinar and Jogaldari villages.

VII.7.5. Changes in Production Practices

There was a low level of awareness about LEISA farming among the villages. In Amani and Jumada, a few farmers were aware of it but none knew about it in Asola and Girda. In the former two villages, training had been conducted on it, but few farmers actually practised it. In Amani, a 10-20 per cent increase in yield had been achieved in vegetable production. However, an increase in growth of weeds was also observed. The same issue was observed in Jumada where farmers thus shifted to soybean cultivation. In both these villages, farmers were interested in LEISA for improving yield and profitability.

In Shivrinar, cotton and turmeric cultivation were taken under LEISA and the benefits accrued to farmers due to lower input costs with a higher yield. The practice was continued by a few farmers who were aware of the programme. None of the

villages was aware of the BCI, and very few or no farmers at all were aware of BBF except in Shivrinar. In Shivrinar, all the respondents were aware of BBF and had been trained under the CAIM programme. They had used this intervention mostly for soybean and planned to continue the practice. However, they felt that they needed more training. The same was true for Integrated Pest Management (IPM).

VII.7.6. Market Interventions

In all the four villages, there was no awareness or experience of the market interventions done by CAIM. In Jumada, farmers reportedly sold the farm produce in the "Krishi Utpanna Bazar Samiti" instead.

VII.7.7. Livestock Interventions

Livestock intervention by CAIM varied amongst the different villages. In Amani, , and Asola, a few ultra-poor households— five in Amani, eight in Jumada, and six in Asola, respectively, received benefits from goatry, while some farmers benefited from poultry, including 30 in Amani, 6 in Jumada, and 14 in Asola, respectively. In Amani, there was a significant decline in the livestock population due to the lack of government lands, fodder and water. Goatry was more popular in Jumada and Asola. Asola also had sufficient fodder. Poultry was not very popular in any of the villages due to the high mortality rates of the birds. These villages look forward to more goatry in the future in the expectation of higher incomes.

Goatry was preferred in village Jogalbari, as it needed less fodder and generated more income. Poultry was not adopted due to the risk of an animal attack. In Shivrinar, the farmers received more benefits from buffaloes and poultry, as they received more benefits from selling the milk of buffaloes and other dairy products like pure ghee, curd, and buttermilk while they could also sell chicken at a high price. The Killari breed cows were in demand as they fetched more benefits. There were some problems like the absence of milk collection centres in the village, and they had to supply the milk door to door. Girda reported no livestock intervention by CAIM.

VII.7.8. Women's Empowerment

The effect on women's empowerment due to CAIM intervention also varied across villages in the Washim district. In Amani, nine SHGs were developed by CAIM, with support from the VDC. However, there was no report of any joint asset ownership. One woman got a job in Gramin Bank, Malegaon, as a clerk. In Jumada, nine SHGs were developed by CAIM, with a total of 91 members associated with these groups. About 35 per cent

of the households had joint asset ownership. VDCs were also available in this village. They also reported an increase in savings and improved financial literacy. However, they required more government support for women's empowerment to reduce drudgery.

In Asola, four SHGs were available in the village, with 40 members associated with them. Some households reported having joint asset ownership and availability of VDCs. Most women could do banking and had hence developed self-confidence to make independent decisions pertaining to every aspect of their lives. This village, however, needed more policy support for women's empowerment to enable them to take more risks in business.

In Girda, about 50 per cent of the households had joint assets ownership with VDCs being available. Most women could do banking and hence developed self-confidence. This village also needed capacity building support for women's empowerment to enable them to take more risks in business. There was an improvement in the confidence levels of women, as they were able to improve their savings even if they were illiterate, like in Jogalbari, and had increased their savings both in banks as well as in SHGs. There was an improvement in lifestyles but in Jogalbari, they required more capacity building support. In Jogalbari, tree plantation programmes had also been undertaken and sugar testing was being organised every year. In Shivrinar, on the other hand, the savings amounts were used to build toilets, roofs, and for meeting the expenditure on marriages.

VII.7.9. Soil and Water Conservation Work

Only Amani reported soil and conservation interventions by CAIM. Farm ponds were developed and the heights of borders of farms were raised. In Girda, canal bunding was undertaken to increase the water levels. However, this work was not undertaken by CAIM, but by another NGO. No work was done in the Jumada, Asola, and Jogalbari villages. In Shivrinar, farm ponds, cement nala bunding were renovated under CAIM. Some of this work was done by CAIM while the rest was undertaken by the Gram Panchayat. There were a lot of benefits from irrigation, as it helped in increasing the yield and hence generated increased income for the farmers.

VII.7.10. Perceptions about Whether CAIM Has Brought about Changes in living Standards

All the villages reported an increase in savings due to the CAIM interventions. Some of the households were able to buy durable goods such as television sets, mobile phones, coolers,

motorcycles, and LPG connections. Households in Amani were able to build pucca houses from kuchcha houses. Girl children also reportedly got access to better education opportunities as compared to boys in all the villages except Jumada. In all the six aforementioned villages, almost all households had toilet facilities and ASHA workers were also available.

VII.8. FGD Conducted in Mukindpur Village, Nehr Block, Yavatmal District on 3rd April 2019

The total number of households in the village are 500, of which 14 belong to an ultra-poor category, and 20 and 15 households got assistance under CAIM for dairy and poultry activities, respectively.

Under MLP activity, 40 goats were given to four SHGs in the proportion of nine female goats and one male goat per SHG, covering 50 per cent of the unit cost of Rs. 60,000. However, there is neither any para-vet nor any pashu sakhi support in the village.

The agencies implementing different rural development schemes/programmes in the village are CMRCs, Tata Trust, Maharashtra Village Social Transformation Foundation (VSTF), and ATMA Foundation. All the households were aware of the implementation of the CAIM programme since 2012.

The major crops produced in the village included soybean, tur, cotton, chana, and wheat. Intercropping as a beneficial farming practice promoted by CAIM was being followed by the farmers in the village and the combination used included soybean and tur, and chana and wheat, among others. The nearest KSK was 5 km away in Nehr block, which caters to the needs of the farmers of the village.

Due to CAIM intervention, farm productivity had doubled due to the implementation of measures like IPM and certified seed production (undertaken by Tata Trust), BCI, training on the production and use of bio-compost (under CAIM) and soil testing (from the government). The number of BCI households increased to 80 in 2018 from 10 households in 2012. Every month, one BCI training programme (covering 40 farmers) was being conducted since the last three years. LIESA kits had also been provided through CAIM interventions in which a kit worth INR 5000 was given to eight households each. In addition, CAIM had provided assistance for a thresher through 40 per cent subsidy on the unit cost of INR 2,60,000, and a sprinkler set, for which an amount of INR 11,000 was provided against the unit cost of INR 14,500.

Support under CAIM support had helped farmers acquire livestock in the village by providing

a subsidy of 50 per cent of the cost of two buffaloes. CAIM had also provided assistance for creating one 100 by 100 m farm pond and 20 recharged shafts. House asset ownership was now joint in all the households but land asset joint ownership had been implemented only by four families.

Tata Trust had provided support through a 50 per cent subsidy for the cultivation of medicinal plants like Cabach Bheez, and Pashanbhed @ INR

15,000 per family to three families. The producer company constituted by Tata Trust, named Joys Agri Producer Company, with its headquarters at Nehr block, helped farmers to market their produce, that is, chana and tur at remunerative prices. Tata Trust also initiated the task of nala bundling, a soil conservation measure in the village. For the development of fishery, fingerlings and seeds worth INR 10,000 were given free of cost by Tata Trust.

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House asset ownership was now joint in all the households but land asset joint ownership had been implemented only by four families.

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TABLE VII.7: Brief Profile of Participants in the FGDs Organised in Yavatmal District

S. No.	Names of the Participants	Caste: G/ SC/ST/BPL	Age	M/F	Size of Land Owned (acre)	Level of Education
1	Charandas Avachi Arangari	SC	38	M	4	10
2	Revantak Avadhoot Choudhary	OBC	41	41	4	10
3	Nagarao Baka Ram Ishwarkar	OBC	54	M	5	12
4	Rajeshwar Namdev Gulhade	OBC	59	M	3	12
5	Aruna Arun Wankhade	OBC	46	F	4	9
6	Ajuba Ilbad Bhosle	ST	30	M	5	12
7	Guatm Avacheet Rangari	SC	56	M	4	10
8	Kishor Bhagwan Kodape	ST	52	M	4	6
9	Sachin Bhaskar Rao Wankhade	OBC	36	M	4	12
10	Vijay Saheb Rao Kade	OBC	31	M	4	12
11	Laxmi Mahila SHG	OBC				
12	Sankalp Mahila SHG	OBC				
13	Sangharsh Mahila SHG	ST				
14	Asha Nana Mohurle	ST				

VII.9 Focus Group Discussion Conducted in Langhapur Village, Block Murtizapur GD, District Akola, on 4th April 2019

The following programmes were provided assistance under CAIM in the village:

- Assistance to the ultra-poor for backyard poultry and goat-rearing;
- Vocational motor mechanic training (for three persons); and
- Capacity building on sustainable agriculture.

Under the backyard poultry scheme, 20 birds were given in 2012-13, out of which only five survived due to attacks from wild cats and mongoose. In 2012-13, the number of CAIM-targeted households in the village was 290. Out of these, 49 households got the CAIM benefits through the IA, Indian Grain Services (IGS). In July 2015-16, the contract of IGS was terminated. After that, no visible work was done in the village. All the staff employed was shifted to other villages. After

December 2016-17, DPMT was appointed as the IA and thereafter Village Level Workers (VLWs)) undertook the work. The following work was undertaken:

- A farmers' library or Village Information Centre (VIC) was set up.
- Fodder kits were distributed to 11 households owning milch animals and possessing some land in 2017-18—the benefit was subsequently extended to 60 more households. The seed of multi-cut grain bajra, also known as elephant grass, was provided to these households for improving cattle feed.
- For the poultry initiative in the village, 25 chicks were distributed in 2014-15, while training for rearing of the birds was also provided by the Animal Husbandry Department of the Government of Maharashtra. In all, 17 households of the village benefited from this activity. It was, however, observed that there were no para-vets and no pashu sakhis in the village, though appointing such personnel is imperative for any livestock development programme. For soybean cultivation, seeds were provided by the CAIM project.
- In the case soil and water conservation activity, seven farm ponds (30*30 m² square, depth 3 m) were constructed under the CAIM project and seven households benefited from this activity. On-the-spot inspection revealed that there was no proper maintenance of these farm ponds. Further, 20 more farm ponds (30*30 m², depth 3 m) were also constructed in the village with assistance from Arvind Cotton Mill, which also provided subsidy for the purchase of sprinkler pipe and engine to be used for irrigation purposes.

Details of the other interventions undertaken in the village under the aegis of the CAIM project are provided below.

Salinity of water was a major challenge in the village. The main sources of drinking water in the village included a water pipeline constructed under Jeevan Pradhikaran, a Government of Maharashtra scheme, and hand pumps. For accessing the water pipeline, however, a household had to pay a rent of Rs 100 per month. Hence, only households that could afford the rent were using water from the while the rest were using hand pumps.

The BCI work undertaken in the village was mainly through Cotton Connect (an enterprise with a clear mission to transform the cotton industry for good). Households were growing jowar, cotton, tur, soybean, chana, mung, and urad. The total cultivable land was 350-400 acre. Due to CAIM

intervention, productivity had increased but it was also largely dependent upon rainfall. Households were also doing border cropping of maize, barbatii (beans), and gwar.

Under the capacity building activity, CAIM provided training on sustainable agriculture, particularly on cropping techniques, cropping patterns, and crop diversification. These training programmes and workshops were conducted outside the village. In the case of crop diversification, the main crop grown was baby corn. The foundation seeds of soybean and chana were provided by CAIM, and a seed bank was established in the village.

Initially, seed production was started with the ADM Farm Company and Omar Jindal seed without any formal written contract between the participating farmer and Promoter Company. In the absence of any formal contract, the farmer had to identify and sell the seeds produced to different companies, other than the promoter ones. Subsequently, at the behest of CAIM, the promoter company entered into a formal written contract with the farmers and procured the seeds at a remunerative price.

The village had only school up to the primary level (class 5). Secondary and higher secondary schools were located at a distance of around 10 km away from the village that is, at Bearpur and Mana. For pursuing higher studies, the kids from the village had to go to remote locations like Murtizapur, Akola, and Amravati. There was no facility for providing primary health services in the village, and for accessing the latter, villagers had to travel to Mana, which is 3 km away, or Murtizapur, which is 20 km far from the village. The main market located in Murtizapur caters to the needs of the villagers. There were four CAIM-supported SHGs in the village. In the absence of any KSK in the village, the villagers were dependent on the KSK located in Murtizapur or in Mana.

The FGD also revealed that due to the construction of a dam in the village, many households had been displaced and others were not very enthusiastic about cultivation or any other activity because most of their land was slated to be acquired for construction of the dam, for which they also expected to receive a substantial compensation package. The farmers in the village were thus facing a quandary—while on the one hand, lack of business opportunities due to the absence of market linkages were preventing them from realising remunerative prices for their the produce, on the other hand, the prospect of getting lucrative compensation in return for acquisition of their lands for construction of the dam had dampened their zest for augmenting agricultural activity in the village.

TABLE VII.8: Brief Profile of Participants in the FGDs Organised in Akola District

S. No.	Names of the Participants	Phone No.	Caste: G/ SC/ST/BPL	Age	M/F	Size of Land Owned (acre)
1	Ramu S. Varghat	9921255115	SC	33	M	12
2	Sahis Rao Pachade	7775922092	OBC	65	M	9
3	Narendra P. Pachade	9767309342	OBC	51	M	6
4	Sham N. Pachade	9923390546	OBC	49	M	11
5	Bandu P. Avalankar	8459409522	OBC	53	M	6
6	Vashant Varghat	9552393976	SC	60	M	5
7	Ashok S. Pachade	9881382138	OBC	48	M	7
8	Nayum Shaw	9552313128	ST	29	M	3
9	Suhas R. Pachade	9552661065	OBC	37	M	9
10	Arif Shaw	9130993577	ST	36	M	2
11	Jakir Shaw	9623347812	ST	40	M	4
12	Prakash P. Varghat	9765884083	SC	37	M	3

Note: G= General Caste; SC= Scheduled Caste; ST= Scheduled Tribe; BPL= Below the Poverty Line; OBC= Other Backward Caste; M= Male; F= Female.

VII.10. Focus Group Discussion Conducted in Wai Village, Block Karanja, District Washim, on 5th April 2019

Wai village was adopted by the Chief Minister of Maharashtra in 2016-17. In order to trigger the development of agriculture, a coordinated programme for capacity building was initiated in 23 villages, including Wai village and capacity building programmes were undertaken in the areas of backyard poultry, goat-rearing, and cattle-rearing meant for ultra-poor households.

The CAIM programme provided support for the following multifarious activities in the village:

- Goat-rearing spark unit;
- Backyard poultry rearing;
- Under MLP Activities of 33 Household Provision of cattle-rearing facilities like chara dani, water stand, and animal shed to 33 households under MLP activities
- Ultra-poor support to 14 households, including provision of a sewing-cum-pico machine to one household;
- Joint ownership of house for most of the households and of land for four households, under the joint assets ownership scheme;

- Construction of nine recharge shafts under soil and water conservation activity;
- Provision of training to ten women on seed treatment for 15 days, for capacity building, which helped in substantial increase in the yield of crops;
- Provision of mushroom seeds for mushroom cultivation in the village, after which two households were engaged in mushroom cultivation, while others were growing cotton, soybean, tur and chana. However, lack of market demand for mushrooms was hindering promotion of the activity.

The villagers were receiving drinking water through a pipeline of the Gram Panchayat, for which they had to pay INR 1000 per year. Well repair was carried out in the village under the Tejaswini scheme. A Primary Health Centre (PHC) was available in the village where a residential doctor was attending to patients for general treatment. For specialised treatment, however, the villagers had to travel to Karanja, located 12 km away. Pashu sakhi on the rolls of the concerned CMRC was considered as a Community Resource Person, providing effective services for livestock development activities in the village.

TABLE VII.9: Brief Profile of Participants in the FGDs Organised in Washim District

S. No.	Names of the Participants	Year	Ultra-poor Support Amount (INR)
1	Sindhu Rajesh Sahare	2013	5000
2	Ujjvala Nana Wahade	2013	5000
3	Jai Mala Motiraj Shede	2013	5000
4	Sulochana Rajeshwar Kodape	2016	5000
5	Kalpana Vinod Mahadure	2016	5000
6	Shobha Bharat Kodape	2016	7000
7	Chabu Umesh Vasnik	2016	7000
8	Damyanti Suresh Rangari	2016	7000
9	Deepali Praful Suryavanshi	2017	10,000
10	Yashoda Ramesh Bagade	2017	10,000
11	Meera Motiram Nikode	2017	10,000
12	Sunita Gajanan Petkule	2017	10,000
13	Asha Nana Mahule	2017	10,000
14	Kalpana Vilas Vadhai	2018	10,000
15	Suvadi Praveen Wadhai	2018	10,000

CASE STUDIES AND SUCCESS STORIES

CASE STUDY 1

Ultra-poor Families in Kohala Village, Nehr Block, Yavatmal District, on 3rd April 2019

The village visited was in the Nehr block of Yavatmal district in the Vidarbha region. In this block, there are 48 CMRC villages and out of these villages, 34 were CAIM-supported villages. Among these villages, the ultra-poor case study was carried out in Kohala village. In this village, 17 households got specific support from CAIM since 2012, out of a total of 600 households. In 2012, four ultra-poor households received support worth INR 5000 each. In 2016, three ultra-poor households received INR 7000 each, and in 2018-19, 10 ultra-poor households got an amount of INR 10,000 each as support. This was based on the revolving fund concept, meaning thereby that the next support to the identified ultra-poor family would depend on repayment of the support amount received by the earlier beneficiary. The selection criteria of the ultra-poor family were that the family should:

- Have a kuchcha house;
- Be landless; and
- Have irregular income.

The NCAER team observed that despite the concept of the revolving fund, sanction of assistance to the new beneficiary would be subject to repayment of assistance received by the earlier beneficiary. Most of the earlier recipients were unwilling to repay the benefit even when they were capable of returning the same. This acted as a stumbling block in widening the scope and coverage of the support. For example, a particular household had five goats, and received an assistance of INR 7000 in 2016-17 for the purchase of goats. The aggregate number of goats owned by the family thereafter grew substantially to 25 goats. Although the venture proved profitable, yet the household had not repaid the assistance amount, which may be attributed to the beneficiary's lack of willingness to repay dues.

Goat-rearing was a promising livestock enterprise in the project area and CAIM supported

ultra-poor households for goat rearing. The specific benefits of this support can be gauged from the following findings:

- Children of all the ultra-poor households were seen to be receiving better quality education. Earlier, these children were acquiring education from the local school at the village level, but now they were attending an English medium school at the block level.
- One of the families had opened a bangle shop in the village, which generated a lot of footfalls during the marriage season and also attracted customers from other villages.
- Children of some of the ultra-poor families had graduated and post-graduated from Nagpur and Amravati, and got decent jobs.
- The living conditions had improved and the beneficiaries were able to avail of better housing by getting loans from Indira Awas Yojana (IAY), and by utilising additional savings generated from goat-rearing.
- One of the households had bought a wheat grinding machine and started doing business in the village.
- One of the households had also started a small grocery shop after receiving the support.

However, there were a few grey areas that needed attention to ensure long term sustainability of the goat-rearing activity. Goat health and growth were being compromised due to a lack of awareness about the comparative benefits that could be derived by using enriched feed. The villagers were feeding their goats through grazing in the forest area. For this purpose, the villager who took the responsibility of graze feeding was being paid INR 200 per month by each household availing of the service. Apart from carrying the risk of attack from wild animals on the herds, this practice also posed the problem of retarded growth of the stock. Moreover, the NCAER team felt that the animal health services,

shed facilities, and fodder development needed improvement for ensuring both animal productivity and sustainability. Veterinary services provided by para-vets and pashu sakhis were inadequate.

These services needed to be upgraded through the provision of qualified veterinary doctors and upgrading of skills of para-vets and pashu sakhis through training and demonstrations.

The following members were present during the discussion at Kohala village:

1. Nirmala Ramdas Talware
2. Annapoorna Sunil Agam
3. Varsha Rajendra Lohkare
4. Varsha Sanjay Lohkare
5. Sunita Ajab Talware
6. Kamlabai Shivling Khadse
7. Heeru Bai Kundali Talware
8. Sulachana Ashok Ingole
9. Seema Sudhir Talware
10. Ranjana Vikas Kudve
11. Vanita Udhav Rao Talware
12. Rama Sanjay Talware
13. Vandana Punjab Rao Talware
14. Ujjavala Bhim Rao Ingole
15. Bhima Govardhan Ingole
16. Rekha Gudvant Talware
17. Satya Bhama Talware
18. Chandra Kala Sudhakar Rathore
19. Sarla Deelip Talware
20. Bharti Mahadev Rana Deeve-CMRC Livelihood Coordinator
21. Maya Ram Rao Mishra-CMRC Grass root Institution Coordinator
22. Jaimala Khadse- CMRC Sahyogini
23. Malta Bai Basobnale

CASE STUDY 2

Ultra-poor Families in Nimbha Village, Block Murtizapur, District Akola, on 4th April 2019

The CMRCs and SHGs supported by the CAIM project were instrumental in identifying the ultra-poor in the beneficiary villages, and also in identifying members with poor credit history and overdue loans for selecting the appropriate poor households eligible for project support. The support provided was recovered from the beneficiary households and recycled among the other deserving members.

In Murtizapur block, there are 25 villages and 207 SHGs. Nimbha village in the block comprises 93 households with a total population of 650. There are nine SHGs and ten ultra-poor households in the block. Under the MLP activity of CAIM, out of 9 SHGs, one SHG got 30 per cent subsidy assistance for installation of a spark unit, comprising a tractor, rotavator, seed drill and cultivator, in 2012-13. In addition, one spiral separator for grading was installed by the same SHG for which CAIM provided a 30 per cent subsidy in 2012-13. Through CAIM support, two of

the households received sewing machines. Out of 10 ultra-poor households, six households received INR 5000 in 2012-13, two households received INR 7000 in 2016-17, and two households received INR 10,000 under CAIM in 2018-19, respectively. Using ultra-poor support of INR 10,000, one household opened a grocery shop. Although ultra-poor support was based on the revolving fund concept, there was very little awareness among the beneficiaries about this debt servicing obligation.

The extent of the positive impact of the SHGs activity may be gauged from the fact that the members could get their required funding through SHGs only, without depending upon the moneylender. The facility for goat insurance was available at a cost of INR 500 for three years. The members in the village with whom the NCAER team interacted were aware about the potential of the option to insulate distressed households against loss of stock due to different reasons, such as an attack by wild animals or diseases,

and this information needs to be disseminated to other villages. The effort made by CAIM officials was thus well reciprocated by the villages. This culminated in the villagers receiving support from

CAIM for goat-rearing, as well as the organisation of an agro-insurance camp, and initiation of different means of marketing of their produce for optimising remunerative prices.

The following members were present during the discussion at Nimbha village:

1. Ganga Bai Omkar Nakhote
2. Vaishali Shiv Hari Pandey
3. Deepali Mahadev Nitnore
4. Baby Tarshe
5. Tai Mahore
6. Sangeeta Nanote
7. Promila Dakure
8. Kamla Bai Dharpawar
9. Rekha Jadhav
10. Nirmal Kadu
11. Vanmala Thakare
12. Lata Jhadhav
13. Preeti Mahore
14. Rekha Dhar Pawar

CASE STUDY 3

Primary Cooperative Milk Collection Centre (PCMCC) at Bhamdevi, Washim District on April 5, 2019

Bhamdevi, a non-MAVIM village, was included under CAIM in the last phase of the programme implementation. This village was adopted by the Chief Minister of Maharashtra under the Jal Yukat Shivar Scheme of the State Government in 2017-18.

Under this scheme, 172 households received buffaloes. The eight SC/ST households in the village received six buffaloes each while the rest of the households received two buffaloes each. The average milk production per buffalo was four litres per day. CAIM provided support of INR 936,000 in 2018-19 for support to the programme. Under this support, an additional 36 households received buffaloes.

Since the period of the visit was the dry season, the total milk collection by the centre at the time of the visit, April 05, 2019, was 80 litres per day, including 40 litres in the morning and 40 litres in the evening. As per regular practice, the samples of milk were being checked and verified for fat and semi-solid contents by the head of the centre at the in-house laboratory. Apart from milk, value-added products like dahi, paneer, butter, and ghee were also being prepared on the demand of the local clientele.

During the flush season, the total milk collection of the centre would go up to around 400 litres

per day. Thus, during the dry period at the time of the NCAER visit, the centre was operating at an abysmally low level of capacity utilisation, adversely affecting its financial viability.

A private dairy had come up near Dhanak within a distance of around 10 km, and as a result, the milk collection quantity had come down drastically as the private dairy was giving money in advance to the households for procurement of the milk rendered by them to the dairy. The unit price (per litre) paid was also higher than that prevailing at the PCMCC at Bhamdevi.

Further, a producer company was registered at Varad to market the milk produced by the farmers in the area. It was planned that both the PCMCC and the producer company would be located in the same village, that is, Bhamdevi, and work in collaboration with each other. However, in practice, the above plan did not materialise and the producer company located itself away in a different locality, thus nullifying the prospect of working in unison with the PCMCC. In the process, the quantum of supply of milk by farmers to the PCMCC got adversely affected, and the processing facility of the PCMCC remained grossly under-utilised.

It was found during the discussion that the milk produced by the farmers was selling at INR 57 to INR 60 per litre in the Amravati township, where it was consumed mainly by the hotel and hospitality industry, which could afford substantially higher prices than the price of INR 40 per litre offered by the PCMCC. This further jeopardised the business prospects of the PCMCC even in the long term.

In order to be viable, the milk collection centre needed at least 500 litres of milk per day, which was not achievable in the near future. Mr Namdev Nagarappa, the chairman of the centre, admitted this limitation. The former District Collector planned to have a big set-up by coordinating the procurement of milk from the surrounding ten villages. However, the plan was not executed.

The project was conceived as an integrated milk collection-cum-processing plant. In view of the limitations in the quantity of milk supplied by the member farmers, as also the lack any existing marketing tie-up, the profits anticipated from the operations would also be limited. The project planning instead could have been done to only entail procurement of the milk from the farmers and supplying it to bigger dairy plants for further processing.

However, the collection centre-cum-processing plant is already in existence. Accordingly, the following work plan needs to be implemented for making any headway in the operational and financial performance of PCMCC.

- The quantity of milk supplied by the farmer members is much below the minimum economic capacity to ensure viable operations. Hence, all out efforts need to be made to enhance the milk collection of the centre. However, it is also imperative to take into account the following key factors to ensure viability of the project:
 - i. Fixing the cost of the milk, at the collection point, at an optimal level to ensure the loyalty of the member farmers;

- ii. Arranging and organising backward linkages with the member farmers by:
 - a) Extending quality and timely health services for the buffaloes owned by the member farmers, including artificial insemination at a reasonable cost.
 - b) Ensuring the supply of a ration balance feed for the optimal health and output of the animals owned by members.
 - c) Making of prompt payment of dues to the farmers for the milk supplied, keeping in view the practice followed by the local competitors.

- Even if the overall milk supply from members were to go up, there would be a substantial gap between the quantities supplied in the flush season and those supplied during the dry season. To ensure the consistent quantity of supply, the PCMCC would, therefore, need to arrange stocks of quality milk powder in the dry season.
- A rise in the production of milk and milk products of the PCMCC needed to be backed by a sound marketing plan. Identification and execution of a contract with bulk institutional buyers could be the key to success in this regard.
- The operation of the plant at very low capacity utilisation level, as reported by the PCMCC at Bhamdevi, had eroded its working capital base. There was thus an urgent need to infuse liquidity in the operations.
- The tasks of material handling and housekeeping needed upgradation to ensure hygiene, which is important for the dairy plant. It would thus be necessary to procure equipment that would ensure zero bacteria milk production.
- The project management aspect was being neglected, and needed a close review and strengthening.

CASE STUDY 4

Marketing Linkage and Sustainable Agriculture (Carried out on April 07, 2019)

In order to have a demonstrative effect on the utility of establishing (i) effective marketing linkages through alternate crops; and (ii) following an innovative and integrated approach to ensure

the sustainability of agriculture, under the CAIM programme, a baby corn production farm was promoted in Bori village, falling under the Akot taluka of Akola district.

The concerned farmer Shri Ganesh Shanwara started cultivation of baby corn in the year 2013. The yield was 20 quintals per hectare, which was quite appreciable in view of the national average of 15-18 quintals per hectare. CAIM provided assistance in the form of high quality seeds (300 kg).

In order to ensure ready marketing at remunerative prices and earn valuable experience, Shri Shanwara entered into a marketing tie-up with Farm Fresh, a renowned vegetable retail chain, through CAIM and supplied baby corn to the farm till 2016. The baby corn used to be delivered at Nasik on alternate days, for which CAIM provided INR 6000 per trip to Shri Shanwara. The cultivation of corn also created the scope of additional income in the form of green fodder (250-400 quintals per hectare), which contributed to his income.

After 2016, Shri Shanwara diversified and started producing sweet corn to optimise returns from his on-farm activities. The other crops he was growing on his farm included soybean, tur dal, and wheat. The fodder produced from baby corn cultivation was, in turn, profitably utilised in dairy farming. The milk was utilised for meeting domestic needs and selling the excess in the market while the cow dung was utilised for producing gobar gas for meeting household cooking needs. The resultant sludge was being ploughed back into the fields as organic manure. Sh. Shanwara also used his innovative ideas to instal solar panels to meet his electricity needs. The capital cost was met out of the surplus generated from his agriculture and allied activities.

The achievements of Shri Ganesh Shanwara showcase the worthwhile efforts made under the CAIM programme for the upliftment of the farmers in the distressed districts of Maharashtra.

SELECTED SUCCESS STORIES

Name: Mrs Varsha Rameshar Jane

Education: 12th class

Age: 33

Village: Wagholi

Block: Morshi

District: Amravati



Date of Interview: 2.4.19

Varsha was a landless wage earner in Wagholi village. Her wage earnings were not enough to meet the basic household needs. She was very depressed, and even thought of committing suicide at some point. However, in 2014-15, she got a new direction in her life. She was identified as ultra-poor and joined Sahyogini, an SHG developed by the Women's Financial Development Corporation (MAVIM) in the village. Subsequently, a new SHG, Savitri Bai Phule was formed with the help of Sahyogini. This SHG got business training through the Sahyogini group in the village. Varsha had knowledge of tailoring but due to her financial condition, she was not able to buy a sewing machine. Under the CAIM project, she received INR 7000 and decided to buy a sewing machine. Initially, she started stitching blouses free of cost in the village as other women had no faith in her stitching skills. But later, she started stitching 4-5 blouses per day, and her stitching skills were recognised by the villagers, generating a lot of demand for her work. She eventually stopped doing wage work to earn a livelihood.

She received a house under the Indira Awas Yojana (IAY) in 2014-15. Earlier she has zero balance in her bank account. Now she could save INR 30,000 to INR 40,000 per annum.

Her self-confidence too improved in accordance with her financial condition, and she became a much happier person.

Name: Mrs Pramila Bhagvat Landge

Education: 5th class

Age: 45

Village: Bhadgaon

Business: Farming

Block: Buldhana

District: Buldhana



Date of Interview: 23.4.19

Pramila had three acres of land in hilly areas. Due to lack of water, there was no cultivation. She had two daughters of marriageable age. Their financial condition was severely bad. In 2012-13, the Panchayat Samiti had set up a savings group in the village. Under the Samiti, INR 15,000 was available to the members as revolving funds. Pramila joined the group and took the INR 15,000 and bought a buffalo by adding some of her own money. She got a lot of benefits from the milk production from that buffalo.

In 2013-14, MAVIM encouraged her to set up an SHG in the village, and she got involved with MAVIM. The SHG received a loan for dairy management and bought a buffalo. Due to a management problem, she paid the share amount to the other members of the SHG to become the single owner of that buffalo. The milk production from the buffalo helped significantly improve her financial condition. There was no facility for milk collection in the village. So she would take the milk to the milk collection centre at a distance of 22 km. She also received training to prepare biofertilisers from buffalo dung in the village under the CAIM project. However, she used bio-fertilisers only for her own cultivation. Earlier her income was INR 30,000–40,000, but after assistance from CAIM, her income increased from INR 100,000 to INR 200,000 per annum.

She also had funds to arrange the marriages of both her daughters. Improvement in her financial condition helped her increase her stock of buffaloes in the shed to four. Her family was thus able to enjoy a financially secure life due to the CAIM intervention.

Name: Mrs Gumpha Manik Gedam

Education: 10th class

Age: 40

Village: Savargaon (Kale)

Block: Ner

District: Yavatmal



Date of Interview: 26.3.19

Gumpha was a landless agricultural wage earner living in the Savargaon village with her husband, three children, and in-laws. She had studied up to Class X. Her husband and father-in-law were also landless wage earners. After a few years of her marriage, her husband became an alcoholic, and so all the responsibility of sustaining the family fell on Gumpha's head. She used to earn INR 100-150 in a day from wage work, which was not sufficient to sustain the family. She asked her relatives for help but did not get any. She also had to arrange for expenditure on her children's education. Her dire situation even made her contemplate suicide.

Then in 2013, she was identified as ultra-poor and become a member of an SHG, developed by MAVIM in the village. She received INR 5000 from the SHG and bought a goat. After some time, her stock of goats increased to three. Out of three goats, she sold two goats and purchased a sewing machine and started working from home. Subsequently, she started earning a decent income from both goatry and stitching. Her stock of goats had gone up to 10.

She was able to save and look after her family. She even admitted her children to an English medium school. She stopped going for wage work outside. With both her jobs, goatry and tailoring, doing well, she became a more confident person, and even role model for other women in her village. Intervention from CAIM, therefore, helped Gumpha earn both respect and an improvement in financial condition.

Earlier she had zero balance in the bank. But after the CAIM assistance, she had started saving INR 5000 per month and INR 60,000 per annum. An improvement in her financial condition also led to a better social status for her family.

CONCLUSION AND OUTLOOK

The Convergence of Agricultural Intervention in Maharashtra (CAIM) project was envisaged as a development programme in the rural hinterland of Vidarbha. Its innovative features included the use of a pro-poor-private sector partnership for addressing the problems of marketing agricultural produce, providing a central role to the women Self-Help Groups (SHGs) for offering social and financial counselling to the distressed households, promotion of Soil and Water Conservation (SWC) to address water scarcity, and capacity building of farmers to enable them to reap the optimal benefits of new farming practices.

The CAIM project is well-recognised by the farmers of the region. It was initially slated to cover 128 clusters but was later curtailed to 64 clusters, covering six districts of the Vidarbha region of Maharashtra.

Farmers in the region have to use various marketing channels for different products. There were some initial attempts to promote contract farming in the region but they are not sustainable. The NCAER study identified various clusters of market initiatives. These included Better Cotton Initiative (BCI), non-BCI, and Low External Inputs Sustainable Agriculture (LIESA) areas that needed to be branded in terms of their diverse agronomy practices. It was also important to achieve stratification around the components. The objectives of the LIESA model were to:

- Gradually reduce input costs;
- Promote home-grown inputs; and
- Promote conservation of water.

The study found that BCI has brought about considerable changes in the region. The initiation of vibrant economic activities around components generated income for the local population in various ways, such as by ensuring better price for cotton. CAIM also introduced the contract farming initiative for organic cotton and other crops, with the main objective of reducing the cost of inputs along with dissemination of technology and information by combining newer methods of organic farming (for example, LEISA) and the soil enrichment process by growing cotton and soybean with inter-crops.

Under capacity development, the following specific activities were envisaged by CAIM:

- (a) Mobilising the village communities as well as the Gram Panchayats (GPs) to undertake in-situ Soil and Water Conservation (SWC) measures and low-input organic farming;
- (b) Organising informal, Village Development Committees (VDCs), including at least one in each targeted village to plan and implement the SWC activities, and plan and monitor integrated farming activities;
- (c) Organising women, into SHGs and linking them with Community Managed Resource Centres (CMRC) for building social and financial capital and also for enabling them to participate in end-to-end sub-projects, wherever feasible;
- (d) Organising farmer groups/Joint Liability Groups (JLGs) at the village level to build social capital, and to promote networking and access to technology, skills, and finance; and
- (e) Organising target group farmers into producer companies to allow them to reap the benefits of collective bargaining capacity for the marketing of agrarian produce at remunerative prices as a group, and to achieve economy of scale.

CAIM has, inter alia, helped strengthen the capacity of the rural poor, including women and their organisations through the formation of SHGs, JLGs, and CMRCs, which have helped to enhance the relationship with the village communities for improving performance. In this context, a case study for the ultra-poor in those areas also highlighted the kind of activities being pursued by them.

The CAIM project is well-recognised by the farmers of the region. It was initially slated to cover 128 clusters but was later curtailed to 64 clusters, covering six districts of the Vidarbha region of Maharashtra.

The CAIM programmes have helped develop linkages to improve knowledge sharing by actively involving the development partners. They have also enhanced meaningful beneficiary participation in the design and implementation of community infrastructure activities by ensuring that women and more vulnerable groups take an active part in the decision-making processes. All these activities and initiatives have helped improve the income levels and ensured sustainable livelihood opportunities among the poorest segments of the society. This is evident when we compare the results in the CAIM and control villages in terms of women's employment and income generation capacities.

The number of partnerships forged for marketing was around 16–17. However, all these were a part of smaller activities. The main focus of marketing was on cotton, with activities related to onion being prominently undertaken in Akola and those related to chili in Wardha.

It was found that the initiatives pertaining to marketing for spices and baby corn, among others, could not be continued for a sustained period due to the prevalence of a non-viable market scenario. A Direct Marketing Model had also been envisaged to send products to different terminal markets of the country like Mumbai, and Bengaluru, but it entailed huge costs for the project.

The number of partnerships forged for marketing was around 16–17. However, all these were a part of smaller activities. The main focus of marketing was on cotton, with activities related to onion being prominently undertaken in Akola and those related to chili in Wardha. The Focus Group Discussions (FGDs) on marketing revealed important insights on the pitfalls and prospects of the marketing initiatives. It may be noted that cotton was the chief component of the scheme-related assistance being offered to the farmers. Around 58 per cent of the farmers were engaged in cotton related activities, while BCI farming started only in 2014.

The study also found issues relating to programme management and design during implementation of CAIM. For instance, a long time was taken to identify the Implementing Agency (IA) and subsequently the Technical Agency for providing the relevant support to the project.

Earlier, there was a norm of engaging only one IA for one cluster, but later on it was relaxed and one IA could cover even five clusters. The Sir Ratan Tata Trust (SRTT), one of the partners of CAIM, undertook direct intervention in nine of the clusters for all the activities. The implementation of the programme was co-ordinated by a Project Management Unit (PMU) with the personnel employed on a limited tenure basis. The PMU was wound up on June 30, 2019 after completion of the programme on 30 December 2018. The temporary nature of employment offered by the PMU and its location at Amravati, a relatively remote place, failed to attract the requisite talent, and also fostered a large attrition rate, which definitely affected implementation of the project as also the records-keeping activity, mainly for the physical aspects of the programme. It is felt that creating a regular organisational structure like that of MAVIM would have better served the purpose.

Another sub-component is livestock. The Focus Group Discussion (FGD) on livestock was an important addition to the programme as it enabled the study team to learn how the programme was supplementing major agricultural activities and in which way. The other important area is Dairy which was studied at length in this report.

The CAIM Project reported to the Divisional Commissioner, and to the Secretary, Agriculture, of the Maharashtra Government, but the project was not directly a part of the Agriculture Department. It was found that excessive control exercised by the District Project Management Unit (DPMU) created problems as the DPMU had been ascribed extensive power. However, since the DPMU was located far from any major town, identifying and retaining skilled manpower remained a critical issue. Moreover, in the last one year, very little work has been carried out on the project. It was also noted that usage of the grant usage for important areas like capacity building was very low. Furthermore, the exchange rate gain of the international currency during the period 2017-19 was also not utilised appropriately. However, all these challenges notwithstanding, during the CAIM period, institutional engagement was strengthened by enhancing the capacity of the VDCs, and partnerships forged by securing synergy and complementarities with the private sector agencies such as organic produce buyers, exporters, and co-operative credit societies for enhancing access to the market for the rural poor. In spirit, the CAIM project was instrumental in bringing about a notable during its operation from 2012 to 2018 in the six districts of the Vidarbha region of Maharashtra. It is anticipated that the programme would have a sustainable impact in the convergence of its activities with other ongoing programmes in the course of time.

APPENDIX

Appendix 1: List of Selected CAIM and Control Villages

List of CAIM Villages

TABLE1: List of Villages Selected from Amravati District

CAIM S. No.	Block	Name of GP	Village Number	Name of Village	Village Code
2	Bhatkuli	Rama	1	Rama	AMBH01
7	Bhatkuli	Saur	2	Saur	AMBH02
23	Bhatkuli	Khalkoni	3	Adavi	AMBH03
29	Chikhaldara	Chichkheda	4	Chichkheda	AMCH04
47	Chikhaldara		5	Kalapani	AMCH05
54	Chikhaldara	Gaulkheda bz.	6	Gaulkheda bz.	AMCH06
107	Daryapur	Sanglud	7	Sanglud	AMDA07
115	Daryapur		8	Kasampur	AMDA08
120	Dhamangaon rly	Chinchapur	9	Chinchapur	AMDA09
133	Dhamangaon rly	Manglur dastagir	10	Manglur dastagir	AMDH10
141	Dharni	Hardoli	11	Hardoli	AMDI11
151	Dharni		12	Kusumkot kh.	AMDI12
163	Dharni	Harisal	13	Harisal	AMDI13
185	Chandur bazar		14	Hirapur	AMCB14
192	Chandur bazar	Kajali	15	Kajali	AMCB15
199	Chandur bazar		16	Muradpur	AMCB16
210	Chandur railway	Amla (vishveshwar)	17	Amla (vishveshwar)	AMCR17
218	Chandur railway		18	Nimla	AMCR18
236	Achalpur		19	Sahapur	AMAC19
243	Achalpur		20	Chanchodi	AMAC20
251	Achalpur		21	Shindi (bu.)	AMAC21
261	Amravati	Savanga	22	Savanga (asara)	AMAM22
271	Amravati	Shirala	23	Shirala	AMAM23
275	Anjangaon surji		24	Ratanapur	AMAN24
289	Anjangaon surji	Kalgavhan	25	Kalgavan	AMAN25
295	Anjangaon surji		26	Jawardi	AMAN26
301	Morshi	Naya wathoda	27	Naya wathoda	AMMO27
310	Morshi	Nimbhi	28	Nimbhi	AMMO28
321	Morshi	Pardi	29	Pardi	AMMO29
322	Nandgaon kh	Dhanora fasi	30	Dhanora fasi	AMNA30
328	Nandgaon kh	Paphal	31	Paphal	AMNA31
336	Nandgaon kh		32	Jayasinga	AMNA32
350	Tiosa		33	Varkhed	AMTI33
362	Tiosa	Mardi	34	Mardi	AMTI34
366	Warud	Chandas	35	Chandas	AMWA35
372	Warud	Wathoda	36	Musalkheda	AMWA36

Glossary from district

Amravati (*): AM- Amravati (District)

Blocks in Amravati district (14):

- | | |
|-------------------------------|-------------------------------|
| 1. BH-Bhatkuli (AMBH) | 8. AC- Achalpur(AMAC) |
| 2. CH- Chikhaldara(AMCH) | 9. AM-Amravati (AMAM) |
| 3. DA- Daryapur(AMDA) | 10. AN- Anjangaon Surji(AMAN) |
| 4. DH- Dhamangaon Rly(AMDH) | 11. MO- Morshi |
| 5. DI-Dharni(AMDl) | 12. NA- Nandgaon Kh(AMNA) |
| 6. CB- Chandur Bazar(AMCB) | 13. TI- Tiosa(AMTI) |
| 7. CR- Chandur Railway (AMCR) | 14. WA- Warud(AMWA) |

TABLE 2: List of Villages Selected from Akola District

CAIM S. No.	Block	Name of GP	Village Number	Name of Village	Village Code
783	Akola	Gandhigram	1	Gandhigram	AKAK01
798	Akola	Apatapa	2	Apoti Kh	AKAK02
805	Akola	Agar	3	Agar	AKAK03
683	Akot	Vastapur -Mankari	4	Vastapur -Mankari	AKAT04
691	Akot	Bori	5	Kund	AKAT05
744	Balapur	Mokha	6	Janorimail	AKBA06
752	Balapur	Naya Andura	7	Naya Andura	AKBA07
695	Barshitakli	Alanda	8	Alanda	AKBI08
703	Barshitakli	Lohagad	9	Lohgad tanda	AKBI09
718	Barshitakli	Kherda (Bhagai)	10	Kherda (Bhagai)	AKBI10
834	Murtijapur	Bramhi Khurd	11	Bramhi Khurd	AKMU11
852	Murtijapur	Langhapur	12	Langhapur	AKMU12
765	Patur	Chondhi Dharan	13	Chondhi Dharan	AKPA13
773	Patur	Asola	14	Beltala	AKPA14
808	Telhara	Pimparkhed	15	Nagartas	AKTE15
814	Telhara	Talegaon (Bk)	16	Talegaon (Bk)	AKTE16
822	Telhara	Chitalwadi	17	Sadarpur	AKTE17

Glossary from district Akola (*)

AK –Akola district

Blocks in Akola district (7)

- | | |
|--------------------------|-------------------------|
| 1. AK-Akola (AKAK) | 5. MU- Murtijapur(AKMU) |
| 2. AT- Akot(AKAT) | 6. PA- Patur(AKPA) |
| 3. BA- Balapur(AKBA) | 7. TE- Telhara(AKTE) |
| 4. BI- Barshitakli(AKBI) | |

TABLE 3: List of Villages Selected from Buldhana District

CAIM S.No.	Block	Name of GP	Village Number	Name of Village	Village Code
549	Buldana	Bhadgaon	1	Bhadgaon	BUBU01
556	Buldana		2	,Awalkhed	BUBU02
563	Buldana	Devpur	3	Devpur	BUBU03
657	Chikali		4	Medsinga	BUCH04
671	Chikali		5	,Dhuma	BUCH05
641	Deulgaon Raja	Padali Sinde	6	Padali Sinde	BUDE06
648	Deulgaon Raja	Andhera	7	Andhera,	BUDE07
614	JalgaonJamod	Nimbhori Bk	8	Nimbhori Bk,,	BUJA08
623	JalgaonJamod	Satali	9	Satali	BUJA09
630	JalgaonJamod	Akola Kh	10	Akola Kh	BUJA10
490	Khamgaon	Ghatpuri	11	Ghatpuri	BUKH11
504	Khamgaon	Rohana	12	Rohana	BUKH12
507	Lonar	Mandwa	13	Mandwa	BULO13
513	Lonar		14	gowardhannagar	BULO14
528	Lonar	Yeoti	15	Yeoti	BULO15
539	Malkapur	Kund kh	16	Kund kh,	BUMA16
547	Malkapur	Panhera	17	Panhera	BUMA17
590	Mehakar	Sarangpur	18	Sarangpur,	BUME18
609	Mehakar	Chincholi bore	19	Chincholi bore	BUME19
381	Motala	Didoda Bk	20	Didoda Bk	BUM020
389	Motala	Talkhed	21	Talkhed,	BUM021
404	Nandura	Tikodi	22	Tikodi	BUNA22
416	Nandura	Khadadgaon	23	Khadadgaon	BUNA23
432	Nandura	Bhui Shinga	24	Bhui Shinga,	BUNA24
436	Sangrampur	Sonala	25	Sonala	BUSA25
443	Sangrampur	Saikhed	26	Saikhed	BUSA26
466	Shegaon	Gaigon Bk	27	Gaigon Bk,	BUSH27
473	Shegaon	Titrav	28	Titrav	BUSH28
566	Shindkhed Raja	Pimpalgaon Sonara	29	Pimpalgaon Sonara	BUSD29
573	Shindkhed Raja	sakharkherda	30	sakharkherda	BUSD30
588	Shindkhed Raja	Sawadad	31	Sawadad	BUSD31

Glossary from district Buldhana (*)

BU – Buldhana district

Blocks from district Buldhana (13) (Block)

1. BU- Buldhana(BUBU)
2. CH- Chikali(BUCH)
3. DE- Deulgaon Raja(BUDE)
4. JA- JalgaonJamod(BUJA)
5. KH- Khamgaon(BUKH)
6. LO- Lonar(BULO)
7. MA- Malkapur(BUMA)
8. ME-Mehakar(BUME)
9. MO- Motala(BUMO)
10. NA- Nandura(BUNA)
11. SA- Sangrampur(BUSA)
12. SH- Shegaon(BUSH)
13. SD- Shindkhed Raja(BUSD)

TABLE 4: List of Villages Selected from Washim District

CAIM S. No.	Block	Name of GP	Village Number	Name of Village	Village Code
1145	Karanja	Shevti	1	Deochandi	WAKA01
1164	Karanja	Kini rokade	2	Kini rokade	WAKA02
1244	Malegaon	Jodgavan	3	Jodgavan	WAMA03
1251	Malegaon	Amani	4	Amani	WAMA04
1267	Malegaon	Dongarkinhi	5	Dongarkinhi	WAMA05
1170	Mangrulpir	Jogaldari	6	Jogaldari	WAMR06
1178	Mangrulpir		7	Murtizapur	WAMR07
1186	Mangrulpir	Dhotra	8	Dhotra	WAMR08
1117	Manora	Umari kh	9	Umari kh	WAMN09
1124	Manora	Girda	10	Girda	WAMN10
1141	Manora	Gondegaon	11	Gondegaon	WAMN11
1234	Risod	Mandava	12	Mandava	WARI12
1240	Risod		13	Asola	WARI13
1207	Washim	Jumda	14	Jumda	WAWA14
1213	Washim	Borala hisse	15	Borala hisse	WAWA15
1219	Washim	Devthana	16	Devthana	WAWA16

Glossary from Washim district (*)

WA- Washim district

Blocks in Wahim district (6)

1. KA- Karanja (WAKA)
2. MA- Malegaon(WAMA)
3. MR- Mangrulpir(WAMR)
4. MN- Manora(WAMN)
5. RI- Risod(WARI)
6. WA- Washim(WAWA)

TABLE 5: List of Villages Selected from Wardha District

CAIM S. No.	Block	Name of GP	Village Number	Name of Village	Village Code
940	Arvi	Bothali (kinhala)	1	Kinhala	WRAR01
961	Arvi	Wai	2	Wai	WRAR02
968	Arvi	Dhanodi	3	Dhanodi	WRAR03
856	Ashti	Peth ahamadpur	4	Peth ahamadpur	WRAS04
864	Ashti	Anandiwadi	5	Anandiwadi	WRAS05
879	Ashti	Ambikapur	6	Ambikapur	WRAS06
989	Deoli	Bopapur {D}	7	Bopapur {D}	WRDE07
998	Deoli	Borgaon aa.	8	Bhojankheda	WRDE08
1009	Deoli	Takli D.	9	Takli D.	WRDE09
882	Hinganghat	Chanki	10	Chanki	WRHI10
890	Hinganghat	Pimpalgaon (M)	11	Pimpalgaon (M)	WRHI11
907	Hinganghat	Takali	12	Nidha	WRHI12
1039	Karanja	Chincholi	13	Chincholi	WRKA13
1046	Karanja	Sawali (bk)	14	Sawali bk.	WRKA14
1059	Karanja	Borgaon gondi	15	Borgaon gondi	WRKA15
1066	Karanja	Kannamwargram	16	Kannamwargram	WRKA16
917	Samudrapur	Shedgaon	17	Menkhat	WRSA17
926	Samudrapur	Sujatpur	18	Sakurli	WRSA18
931	Samudrapur	Dahegaon	19	Dahegaon	WRSA19
1072	Seloo	Ridhora	20	Ridhora	WRSE20
1079	Seloo	Antargaon	21	Antargaon	WRSE21
1090	Seloo	Borkhedi(ka)	22	Borkhedi(ka)	WRSE22
1093	Wardha	Wadadh	23	Wadadha	WRWR23
1102	Wardha	Borgaon(me)	24	Borgaon (meghe)	WRWR24
1108	Wardha	Zadgaon	25	Zadgaon	WRWR25

Glossary from district Wardha (*)

Wardha – WR

Blocks in Wardha (8)

- | | |
|-------------------------|-------------------------|
| 1. AR- Arvi(WRAR) | 5. KA- Karanja(WRKA) |
| 2. AS- Ashti(WRAS) | 6. SA- Samudrapur(WRSA) |
| 3. DE- Deoli(WRDE) | 7. SE- Seloo(WRSE) |
| 4. HI- Hinganghat(WRHI) | 8. WR- Wardha(WRWR) |

TABLE 6: List of Villages Selected from Yavatmal District

CAIM S. No.	Block	Name of GP	Village Number	Name of Village	Village Code
1348	Arni	Khed	1	Beed	YAAR01
1357	Arni	Anjankhed	2	Anjankhed	YAAR02
1366	Arni	Warud	3	Warud	YAAR03
1672	Babhulgaon	Dabha	4	Dabha	YABA04
1686	Babhulgaon	Dehani	5	Dehani	YABA05
1693	Babhulgaon	Rani amravati	6	Rani amravati	YABA06
1405	Darwaha	Haru	7	Haru	YADA07
1412	Darwaha	Taroda	8	Taroda	YADA08
1424	Darwaha	Deolgaon walsa	9	Deolgaon walsa	YADA09
1696	Digras	Dolamba	10	Dolamba	YADI10
1702	Digras	Sawanga(bk.)	11	Sawanga(bk.)	YADI11
1708	Digras	Dhanora kh	12	Dabha	YADI12
1477	Ghatanji	Dahegaon	13	Dahegaon	YAGH13
1484	Ghatanji	Sayarkheda	14	Sayarkheda	YAGH14
1490	Ghatanji	Ghoti	15	Sari	YAGH15
1498	Ghatanji	Manusdhari	16	Kelapur chanda	YAGH16
1510	Ghatanji	Mowada	17	Mowada	YAGH17
1525	Kalamb	Pahur (i)	18	Pahur (i)	YAKA18
1537	Kalamb	Jodmoha	19	Jodmoha	YAKA19
1547	Kalamb	Khairi	20	Khairi	YAKA20
1566	Kalamb	Sheli	21	Khorad kh,	YAKA21
1427	Mahagaon	Hivara [s]	22	Rautwadi	YAMA22
1434	Mahagaon	Shirpur	23	Shirpur	YAMA23
1441	Mahagaon	Sarkinhi	24	Sarkinhi	YAMA24
1453	Maregaon	Kinhala	25	Dongargaon	YAMA25
1466	Maregaon	Hatwanjari	26	Hatwanjari	YAMA26
1474	Maregaon	Gaurala	27	Gaurala	YAMA27
1279	Ner	Indrathana	28	Fattepur	YANE28
1285	Ner	Shindkhed	29	Shindkhed	YANE29
1295	Ner	Savargaonkale	30	Savargaonkale	YANE30
1751	Pandharkawada	Kegaon	31	Malkapur	YAPA31
1759	Pandharkawada	Vrundvan takli	32	Vrundvan takli	YAPA32
1769	Pandharkawada	Telang takli	33	Telang takli	YAPA33
1303	Pusad	Adgaon	34	Adgaon	YAPU34
1310	Pusad	Nanad kh	35	Nanad kh	YAPU35
1325	Pusad	Pimpalkhuta	36	Bajrangnagar	YAPU36
1722	Ralegaon	Bori(echod)	37	Bori(echod)	YARA37
1732	Ralegaon	Valadhur	38	Valadhur	YARA38
1748	Ralegaon	Lohara	39	Eklara	YARA39
1369	Umarkhed	Warudbibi	40	Januna	YAUM40

(Contd.)

CAIM S. No.	Block	Name of GP	Village Number	Name of Village	Village Code
1386	Umardhed	Lohara	41	Lohara	YAUM41
1396	Umardhed	Bitargaon Bb	42	Bodkha (van),	YAUM42
1567	Wani	Nandepera	43	Nandepera	YAWA43
1576	Wani	Umari	44	Umari	YAWA44
1593	Wani	Mendholi	45	Mendholi	YAWA45
1594	Yavatmal	Hiwari	46	Hiwari	YAVA46
1602	Yavatmal	Naka pardi	47	Naka pardi	YAVA47
1611	Yavatmal	Murzadi(lal)	48	Murzadi(lal)	YAVA48
1634	Zari	Ardavan	49	Ardavan	YAZA49
1642	Zari	Lingati	50	Lingati	YAZA50
1663	Zari	Gawara	51	Gawara	YAZA51

Glossary from Yavatmal district (*)

YA- Yavatmal district

Blocks from Yavatmal district (15)

- | | |
|-------------------------|-----------------------------|
| 1. AR- Arni(YAAR) | 9. NE- Ner(YANE) |
| 2. BA- Babhulgaon(YABA) | 10. PA- Pandharkawada(YAPA) |
| 3. DA- Darwha(YADA) | 11. PU- Pusad(YAPU) |
| 4. DI- Digras(YADI) | 12. RA- Ralegaon(YARA) |
| 5. GH- Ghatanji(YAGH) | 13. UM- Umardhed(YAUM) |
| 6. KA- Kalamb(YAKA) | 14. WA- Wani(YAWA) |
| 7. MA- Mahagaon(YAMA) | 15. VA- Yavatmal(YAVA) |
| 8. ME- Maregaon (YAME) | 16. ZA- Zari(YAZA) |

List of Control Villages

TABLE 7: List of Villages Selected from Amravati District

Block	Village Number	Name of Village	Village Code
Bhatkuli	1	Takarkheda Shambhu	AMBHCON01
Chikhaldara	2	Nimbori	AMCHCON02
Daryapur	3	Sasan	AMDACON03
Dhamangaon Rly	4	Pimpalkhuta	AMDHCON04
Dharni	5	Uttavali	AMDCON05
Chandur Bz	6	Sonori	AMCBCON06
Chandur Rly	7	Sawangi Magrapur	AMCRCON07
Achalpur	8	Isapur	AMACCON08
Amravati	9	Devri	AMAMCON09
Anjangaon Surji	10	Vihigaon	AMANCON10
Morshi	11	Dhanora Kokate	AMMOCON11
Nandgaon Khandeshwar	12	Nandura	AMNACON12
Tiosa	13	Bhaiwadi	AMTICON13
Warud	14	Kurali	AMWACON14

TABLE 8: List of Villages Selected from Akola District

Block	Village Number	Name of Village	Village Code
Akola	1	Sangavi Kh	AKAKCON01
Akot	2	Ambadi	AKATCON02
Balapur	3	Bahadura	AKBACON03
Barshitakli	4	Donad	AKBICON04
Murtijapur	5	Jitapur Nakat	AKMUCON05
Patur	6	Umarwadi	AKPACON06
Telhara	7	Malthana Bk.	AKTECON07

TABLE 9: List of Villages Selected from Buldhana District

Block	Village Number	Name of Village	Village Code
Buldana	1	Dhasalwadi	BUBUCON01
Chikali	2	Dhanori	BUCHCON02
Deulgaon Raja	3	Baigaon	BUDECON03
JalgaonJamod	4	Borala	BUJACON04
Khamgaon	5	Chinchpur	BUKHCON05
Lonar	6	Devanagar	BULOCON06
Malkapur	7	Belad	BUMACON07
Mehakar	8	Umara	BUMECON08
Motala	9	Ridhora (Jahangir)	BUMOCON09
Nandura	10	Barafgaon	BUNACON10
Sangrapur	11	Paisoda	BUSACON11
Shegaon	12	Hingna Vaidyanath	BUSHCON12
Shindkhed Raja	13	Pangri Kate	BUSDCON13

TABLE 10: List of Villages Selected from Washim District

Block	Village Number	Name of Village	Village Code
Karanja	1	Shaha	WAKACON01
Mangrulpir	2	Poti	WAMRCON02
Manora	3	Sakhardoh	WAMNCON03
Risod	4	Jawala	WARICON04
Malegaon	5	Dharpimpri	WAMACON05
Washim	6	Panchala	WAWACON06

TABLE 11: List of Villages Selected from Wardha District

Block	Village Number	Name of Village	Village Code
Arvi	1	Pipari	WRARCON01
Ashti	2	Bhishnur	WRASCON02
Deoli	3	Kolana	WRDECON03
Hinganghat	4	Waldur	WRHICON04
Karanja	5	Ranwadi	WRKACON05
Samudrapur	6	Wagheda	WRSACON06
Seloo	7	Salai kala	WRSECON07
Wardha	8	Borgaon Sawli	WRWRCON08

TABLE 12: List of Villages Selected from Yavatmal District

Block	Village Number	Name of Village	Village Code
Ralegaon	1	Dapori	YARACON01
Zari	2	Mudhati (Juni)	YAZACON02
Pandharkawda	3	Kinhala	YAPACON03
Maregaon	4	Lakhapur	YAMACON04
Wani	5	Varzadi	YAWACON05
Kalamb	6	Pardi (Nakati)	YAKACON06
Mahagaon	7	Kaurwadi	YAMACON07
Umarkhed	8	Dindala	YAUMCON08
Pusad	9	Indira Nagar	YAPUCON09
Digras	10	Kandali	YADICON10
Arni	11	Bhansara	YAARCON11
Ner	12	Vhyahali	YANECON12
Darwha	13	Kinhi	YADACON13
Ghatanji	14	Junoni	YAGHCON14
Yavatmal	15	Arjuna	YAVACON15
Babhulgaon	16	Karalgaon	YABACON16

Appendix 2: Questionnaires

Preliminary (For Comments Only)

Response ID							
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Project: Convergence of Agricultural Interventions in Maharashtra (CAIM)

Impact Evaluation Survey January-February 2019

Village Questionnaire

National Council of Applied Economic Research
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The National Council of Applied Economic Research, (NCAER), New Delhi, is India's one of the largest independent research organizations. Founded in 1956, it has the long standing capacity to undertake primary survey for evident based policy initiatives. The following questionnaire, a perception and recall-based survey of the village-level respondent of the CAIM supported villages, is part of this exercise to assess the impact of such scheme-based benefit in the six distressed districts of the Vidharbha region of Maharashtra

AIM OF THE SURVEY: To have a better understanding of the impact of the CAIM supported programmes on the well-being of the targeted population at the ground level.

We assure the full confidentiality of your identification and information and seek your co-operation in furnishing the information sought by us.

Village Questionnaires to be responded by Senior Village Level Functionaries/ Village-Pradhan

Q. No.	Item	Specifics	2012-13	2015-16	2018-19
1	General Information of the Village		X	x	
1.1	District	Akola, Amravati. Buldhana, Wardha Wasim, Yavatmal	x	x	
1.2	Name of the Cluster/Block		X	X	
1.3	Name of the Gram Panchayat		X	X	
1.4	Name of the Village		X	X	
1.5	Village Code		X	X	
1.6	Total Population	In Number			
1.7	Total Female Population	In Number			
1.8	Total Households	In Number			
1.9	Total Female-headed Households	In Number			
1.10	Total landless households	In Number			
1.11	Total marginal land owner households (under 1 ha land)	In Number			

Q. No.	Item	Specifics	2012-13	2015-16	2018-19
1.12	Total small land owner households (1 to 2 ha land)	In Number			
1.13	Total large land owner households (over 2 ha land)	In Number			
1.14	Total cultivator households	In Number			
1.15	Total BPL households	In Number			
1.16	Total SC/ST households	In Number			
1.17	Total Cultivable Area of the Village	In Acres			
1.18	Total Cultivated Area of the Village	In Acres			
1.19	Total Fallow Land in the Village	In Acres			
2 Infrastructure					
2.1	Sources of Drinking Water Facilities in the Village		x	x	X
2.1.1	Government Well	In Number			
2.1.2	Government Pipeline	Number of water collection points			
2.1.3	Hand Pump/Bore Well	In Number			
2.1.4	Common Well	In Number			
2.2	Toilets in the Village (Common +Household)	In Number			
2.3	Does the Village has Electricity connection? (Yes/No)	Yes=1, No=2			
2.3.1	If Yes, since when	Mention the year			
2.3.2	If Yes, power supply during peak agriculture operation	1= Very Inadequate (with less than 8 hours of power supply per day), 2= Just Adequate (with 8 to 12 hours of power supply per day), 3= Adequate (with 12 hours or more of power supply per day)			
2.3.3	If yes - Households having Electricity connection	In Number			
2.4.1	Main Approach to Village	Pucca Road=1; Kuccha Road=2; Both=3, Other=4;			
2.4.2	Status of Transport Facility available in the village for goods	1=Very inadequate, 2=Just adequate, 3=Adequate, 4=None			
3 Household participation (omit for control group village)					
3.1	CAIM –Targeted Households – planned to participate in CAIM	In Number			
3.2	CAIM -Supported Households – who participated in at least one CAIM activity	In Number			
3.3	CAIM -Supported Landless Households	In Number			

Q. No.	Item	Specifics	2012-13	2015-16	2018-19
3.4	CAIM – Supported Marginal Landholding (less than 1 Ha) Households	In Number			
3.5	CAIM supported Small Landholdings (1-2 Hac) Households	In Number			
3.6	CAIM- Supported Large Landholdings (> 2 Hac) Households	In Number			
3.7	CAIM-Supported SC/ST Households	In Number			
3.8	CAIM- supported BPL Households	In Number			
3.9	CAIM- Supported Ultra-Poor Households	In Number			
3.10	CAIM- Supported Cultivator Households	In Number			
4 Empowerment Facilitating Activities					
4.1	Total SHGs in the Village	In Number			
4.2	Total number of SHG members	In Number			
4.3	CAIM SHGs in the Village - omit for control village	In Number			
4.4	Number of CAIM SHG members - omit for control village	In Number			
4.5	Joint Liability Groups (JLG)	In Number			
4.6	Number of JLG members	In Number			
4.7	Village Development Committee (VDC) formed	Yes/No			
4.8	Whether Village Development Committee (VDC) is active in your village (Yes/No)	Yes / no			
4.9	If Yes, please mention the number of meetings held in one year	In Number			
4.10	Village Development Committee (VDC) with women as Chairman	Yes/No			
4.11	Total number of women in the Village Development Committee (VDC).	In Number			
5 Production/Production Condition in Village					
5.1	General Crop Condition	1=Very Poor (yield is less than 60 per cent of normal), 2=Poor (Yield is between 60 per cent and 80 per cent of normal, 3=Fair (yield is 80 per cent to 100 per cent of normal, 4=Good (Yield is 100 per cent to 120 per cent of normal), 5=Excellent (Yield is over 120 per cent of normal)			
5.2	Major Field Crops grown in the village in terms of area				
5.2.1	Cotton intercropped with tur	In Acres			
5.2.2	Cotton with no intercrop	In Acres			
5.2.3	Soybean intercropped with tur	In Acres			

Q. No.	Item	Specifics	2012-13	2015-16	2018-19
5.2.4	Soybean with no intercrop	In Acres			
5.2.5	Tur with no intercrop	In Acres			
5.2.6	Gram	In Acres			
5.2.7	Wheat	In Acres			
5.2.8	Vegetables	In Acres			
5.2.9	Orchards and tree crops	In Acres			
5.2.10	Any Other crops	In Acres			
5.2.11	Total cultivated area of all crops	In Acres			
6 Availability of Inputs					
6.1	Total Irrigated Area in the Village	In Acres			
6.2	Area Irrigated by Source :				
6.2.1	River	In Acres			
6.2.2	Canal	In Acres			
6.2.3	Bore well	In Acres			
6.2.4	Open / dug well	In Acres			
6.2.3	Farm Pond	In Acres			
6.2.4	Any Other	In Acres			
6.2.5	Availability of water for Agriculture	1= Totally depending on rainfall, 2=10-30 per cent is met through irrigation while rest is depending on rainfall, 3=30-50 per cent is met through irrigation while rest is depending on rainfall, 4=More than 50 per cent from irrigation			
6.3	Fertiliser Shops in the Village	In Number			
6.3.1	Availability of Chemical Fertiliser	1= Regularly available, 2=Not so regularly available, 3= Not at all available			
6.3.2	Availability of Bio and Organic Fertiliser	1= Regularly available, 2=Not so regularly available, 3= Not at all available			
6.3.3	Availability of Pesticide	1= Regularly available, 2=Not so regularly available, 3= Not at all available			
6.3.4	Availability of Seeds/Planting Materials	1= Regularly available, 2=Not so regularly available, 3= Not at all available			
6.3.5	Availability of Farming Tools and Machinery	1= Regularly available, 2=Not so regularly available, 3= Not at all available			
6.3.6	Availability of adequate labourer	1= Regularly available, 2=Not so regularly available, 3= Not at all available			
6.4	Availability of Godowns	Yes/No			
6.4.1	Capacity of Godowns	In Metric Tonnes			

Q. No.	Item	Specifics	2012-13	2015-16	2018-19
6.5	Availability of Grading Facilities	1= Regularly available, 2=Not so regularly available, 3= Not at all available			
6.6	Availability of Soil Testing Facilities	1= Regularly available, 2=Not so regularly available, 3= Not at all available			
7 Market Proximity and Disposition (Please mention against each year)					
7.1	Distance of the Nearest Mandi for the Field Crops produced	Kilometres			
7.2	Food Crops goes to market from village	1=20-40 per cent of the total produce, 2=40-60 per cent of the total produce, 3=60-80 per cent of the total produce, 4=more than 80 per cent			
7.3	Distance of the Nearest Mandi for the Vegetable/Horticulture crops produced	Kilometres			
7.4	Vegetable/Horticulture crops going to market from the Village	1=20-40 per cent of the total produce, 2=40-60 per cent of the total produce, 3=60-80 per cent of the total produce, 4=more than 80 per cent			
7.5	Distance of the Nearest Mandi for the Cotton produced	Kilometres			
7.6	Cotton goes to market from village	1=20-40 per cent of the total produce, 2=40-60 per cent of the total produce, 3=60-80 per cent of the total produce, 4=more than 80 per cent			
8 Livestock					
8.1	Number of livestock in village	Cow	Number		
8.2		Buffalo	Number		
8.3		Goats	Number		
8.4		Poultry	Number		
8.5	Distance of the Nearest Mandi for the Livestock	Kilometres			
8.6	Distance to nearest milk collection centre	Kilometres			
8.7	Does collection centre have a bulk milk chilling facility	Yes / no			
8.8	Fish Farming for commercial Purpose in the Village	Yes/No			
9 Information on CAIM Intervention – omit for control village					
9.1	Village Information Centres (VIC)	In Number			
9.2	Name of the Bulk Milk Chilling Centre/s	In Number			

Q. No.	Item	Specifics	2012-13	2015-16	2018-19
9.3	Number of Households linked to Bulk Milk Chilling Centre/s	In Number			
9.4	Fodder development (Area)	Acres			
9.5	Para vets engaged	In Number			
9.6	Pashu Sakhis trained	In Number			
9.7 Soil and Water Conservation					
9.7.1	Rain Water Harvesting Structures/ Farm Pond/Village Pond	In Number			
9.7.2	Cement Nala Bunds (CNBs)De-silted	In Number			
9.7.3	New Cement Nala Bunds (CNB) construction	In Number			
9.7.4	Well recharge	In Number			
9.7.5	Recharge Shaft	In Number			
9.7.6	Nala Revival	In Kilometre			
9.7.7	Graded Bunding	In Kilometre			
9.7.8	Sowing across the slope	In Acres			
9.7.9	Contour Sowing	In Acres			
9.7.10	Total area benefited by Soil and Water Conservation (SWC) activities	In Acres			
9.7.11	Total number of households benefiting from SWC works	In Number			
9.8 Market Linkages and Value chains					
9.8.1	Rural Godowns/CFCs (Common Facilities Centre) supported	Yes/No			
9.8.2	Agriculture Input Centres (Krishi Sewa Kendra)	Yes/No			
9.8.3	SPARC (Small Producer Agricultural Resource Centre) Units supported	In Number			



Project: Convergence of Agricultural Interventions in Maharashtra (CAIM)

Impact Evaluation Survey February-March 2019

Beneficiary Questionnaire

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AIM OF THE SURVEY: To have a better understanding of the impact of the CAIM supported programmes on the well-being of the targeted population at the ground level.

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Respondent Details

a. Name of Respondent	
b. Gender of Respondent	Male/Female
c. Relationship of the Respondent with the Head of the Household	Self/ Son/ Brother/ Father/ Mother/ Daughter/ Daughter in Law, Others
d. Age of Respondent	Years
e. Mobile Number	
f. Date and Time of Interview	

1. Household Profile

General Information			Details		Response
1.1 District Name					
1.2 Block Name					
1.3 Village Name			Add village code		
1.4 Name of the head of household:					
1.5 Household CAIM Unique ID No			Omit for control group		
1.6 Gender (sex) of the household head			Male=M, Female=F		
1.7 Number of household members		Adult	Child 5 to 15 years	Child under 5 years	total
	Male				
	Female				
1.8 Caste, ethnic group			Scheduled Cast=1, Scheduled Tribe=2, Other (Specify)=3		

2. Group Membership

In which of the following institutions do you or any family member belong to?

Type of group	Member at present time	Not a member now, but was a member at some time in last 6 years	Not a member now or in the past
2.1 Village Development Committee			
2.2 Self Help Group/ CMRCs			
2.4 Joint Liability Group			
2.4 Producer or Farmer Group			
2.5 Producer Company			
2.6 Cooperative			
2.7 BCI Learning Group			
2.8 Other (specify)			

3. Training and Capacity Building

3.1 What training and workshops have members of your household participated in? Please indicate the exact number of courses / events in each of the three periods

Category of training subjects	Between 2010 and 2013	Between 2014 & 2016	Between 2017 & 2018	Have you benefited from this training?
3.1 Self-help group management and financial services				Yes/No
3.2 Crop and Horticultural production				Yes/No
3.3 Marketing Interventions				Yes/No
3.4 Processing/Grading/Packaging/SMEs				Yes/No
3.5 Livestock Development and Production				Yes/No
3.6 Natural Resource Management / Soil and Water Conservation (SWC)				Yes/No
3.7 Social rights, Empowerment and Health				Yes/No
3.8 Other (please specify)				Yes/No

4. Financial Services

4.1 Do you have a Savings/Bank account?		(a) At the current time Yes / No				(b) Prior to 2012 (start of CAIM) Yes / No	
4.2 Do you have any savings?		(a) At the current time Yes / No					
4.3 If yes, where		Bank=1, Post Office=2, Micro Finance Institute (MFI)=3, SHG=4, other institution=5, cash=6 (MULTIPLE RESPONSE POSSIBLE)					
4.4 Have you taken any formal loans in the last 2 years?		Yes / No					
4.5. If yes, details of formal loans in last two years		Bank	Post Office	Micro Finance Institute (MFI)	SHG	Other institution	
		Number of loans					
		Total value of loans Rs					
		Uses of loans Codes for use of loans: Crop farming & horticulture=1, Livestock, poultry, fish pond=2, Non-farm income generating activity or business=3, Other investment=4 House and property=5, Health expenses=6, Education=7, Weddings and social events=8, Other consumption=9, Repayment of other loans & on-lending =10. MULTIPLE RESPONSES POSSIBLE					
		Bank	Post Office	Micro Finance Institute (MFI)	SHG	Other institution	
4.6 Took Formal loan from this source before 2012		Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	
4.7 Have you taken any informal loans in the last 2 years?		Yes / No					
4.8 If yes, details of informal loans in last two years		Friends & family	Money lender	Trader / crop buyer	Shop / input seller	Landlord	Other
		Number of loans					
		Total value of loans					
		Uses of loans Codes for use of loans: Crop farming & horticulture=1, Livestock, poultry, fish pond=2, Non-farm income generating activity or business=3, Other investment=4 House and property=5, Health expenses=6, Education=7, Weddings and social events=8, Other consumption=9, Repayment of other loans & on-lending =10. MULTIPLE RESPONSES POSSIBLE					
		Friends & family	Moneylender	Trader / crop buyer	Shop / input seller	Landlord	Other
4.9 Took Informal loan from this source before 2012		Yes / No	Yes / No	Yes / No	Yes / No	Yes / No	Yes / No
4.8 Do you have any Insurance policies?		(a) At the current time Yes / No			(b) Prior to 2012 (start of CAIM) Yes / No		
4.9 What type of policy you have taken?		Life=1, House or property=2, Health=3, Crop=4, Livestock=5, Accident=6, Savings/pension linked=7 MULTIPLE RESPONSE POSSIBLE					

5. Women Empowerment

5.1 From which of the following CAIM activities has your household benefited? OMIT FOR CONTROL GROUP MULTIPLE RESPONSES POSSIBLE		Debt Redemption=1, Drudgery Reduction =2, Micro Livelihood Plan=3, Ultra-poor Support=4, Social Enterprise =5, Joint asset ownership=6
5.2 How has the income generating work of women on the household farm and non-farm enterprises changed since 2012		Code: Increased significantly=1 Increased slightly=2, No change=3, Decreased=4 ENTER ONLY ONE FOR EACH QUESTION
5.3 How has the wage employment of women outside the household changed since 2012 (start of CAIM)		
5.4 How has the overall workload of women (including both domestic and income generating work) changed since 2012?		
5.5 How has the position of women changed since 2012	Decision making within the household	Code: Improved significantly=1 Improved slightly=2, No change=3, Worsened=4 ENTER ONLY ONE FOR EACH QUESTION
	Mobility outside the home	
	Ownership of assets	
	Status outside the home	

6. Soil and Water Conservation and Irrigation

6.1 Have there been any Soil and Water Conservation (SWC) that effect the land that you farm? Yes / no

6.2 If yes - Please provide detail of benefits accrued under the following activities

of Soil and Water Conservation (SWC) activities	What types of Soil and Water Conservation (SWC) works have been carried out	If yes, are works functional?	If functional, how have you benefited?
Rain Water Harvesting Structures			
6.2.1 Farm pond/Village Pond	Yes / No	Yes / No	
6.2.2 Well Recharge	Yes / No	Yes / No	
6.2.3 Nala Revival	Yes / No	Yes / No	
6.2.4 Graded Bunding	Yes / No	Yes / No	
6.2.5 Sowing across the slope / contour sowing	Yes / No	Yes / No	
6.2.6 Cement Nala Bunding (CNB) De-silted	Yes / No	Yes / No	
6.2.7 New Cement Nala Bunding (CNB) construction	Yes / No	Yes / No	
6.2.8 Irrigation equipment facility support	Yes / No	Yes / No	
Codes for benefits: Increase in water table =1, Increase in supply of domestic water=2, Increase in supply of irrigation water=3 , Increase in area of land irrigated=4, Improvement in drainage=5, Reduced flooding =6, Reduction in soil erosion =7, Able to grow second crop with SWC measures=8 ENTER ALL THAT APPLY			

7. Agricultural Development

	Detail			Response
7.1 Does your household cultivate field crops?	Yes/No			
7.2 Since when you are growing these crops	Year			
	Area (acre)			
	2012-13	2015-16	2018-19	
7.3 Area of land used to cultivate crops (field + vegetable) and orchards				
7.4 Of which, irrigated area				

7.5 Please provide area under field crops

Crop Name	Area (acre)		
	2012-13	2015-16	2018-19
7.5.1 Cotton intercropped with tur			
7.5.2 Cotton not intercropped			
7.5.3 Soybean intercropped with tur			
7.5.4 Soybean not intercropped			
7.5.5 Tur (not intercropped)			
7.5.6 Gram			
7.5.7 Wheat			
7.5.8 Vegetables			
7.5.9 Orchards / tree crops			
7.5.10 Fodder crops			
7.5.11 Any other crop (Specify)			
7.5.12 Total area of all crops			

7.6 Production and sales value of field crops

Crop Name	Production (qtl)			Total value of sales (Rs per year)		
	2012-13	2015-16	2018-19	2012-13	2015-16	2018-19
7.6.1 Cotton						
7.6.2 Soybean						
7.6.3 Tur						
7.6.4 Gram						
7.6.5 Wheat						
7.6.6 Vegetables						
7.6.7 Orchards / tree crops						
7.6.8 Other Crop (specify)						

Enumerators – check that answers make sense in terms of expected unit prices if 100 per cent of produce is sold.

7.7 Area of different types of cotton

Particulars	Area (acre)		
	2012-13	2015-16	2018-19
7.7.1 Better Cotton Initiatives (BCI) cotton			
7.7.2 Organic cotton			
7.7.3 Other LEISA cotton			
7.7.4 Conventional cotton			
7.7.5 Total cotton (=7.5.1+7.5.2)			

LEISA (Low External Input Sustainable Agriculture)

7.8 Cotton production cost and yield

	Production cost Rs/acre	Yield Qntl/acre
7.8.1 Better Cotton Initiatives (BCI) cotton		
7.8.2 Organic cotton		
7.8.3 other LEISA cotton		
7.8.4 Conventional cotton		

If they are able, this data can be provided by farmers who do not grow these different types of cotton

7.9 BCI cotton

	Details	Response
7.9.1 Has your household tried BCI cotton?	Yes/No – if no skip to question 7.10	
7.9.2 When did you first grow BCI cotton?	Year	
7.9.3 Are you still growing BCI cotton?	Yes/No	
7.9.4 Have you adopted all aspects of BCI or just some?	Adopted all aspects=1, Adopted some aspects=2, No longer use BCI methods=3	
7.9.5 Change in yield per acre due to adoption of BCI	Increased=1; Stayed the same=2 and Decreased=3	
7.9.6 Change in production cost with adoption of BCI	Increased=1; Remained same=2, Decreased=3	
7.9.6 Change in net income (profit) per acre with adoption of BCI	Increased=1; Remained same=2, Decreased=3	
7.9.8 Did you get any training on BCI?	Yes/No	

7.10 Broad Bed and Furrow (BBF)

	Details	Response
7.10.1 Has your household tried BBF?	Yes/No – if no skip to question 7.11	
7.10.2 When did you first try BBF?	Year	
7.10.3 Are you still using BBF?	Yes/No	
7.10.4 Change in yield per acre due to adoption of BBF	Increased=1; Stayed the same=2 and Decreased=3	
7.10.5 Change in production cost with adoption of BBF	Increased=1; Remained same=2, Decreased=3	
7.10.6 Change in net income (profit) per acre with adoption of BBF	Increased=1; Remained same=2, Decreased=3	
7.10.7 Did you get any training on BBF?	Yes/No	

7.11 Seed treatment

	Details	Response
7.11.1 Has your household using treated seeds?	Yes/No – if no skip to question 7.12	
7.11.2 When did you first use treated seed?	Year	
7.11.3 Are you still using treated seed?	Yes/No	
7.11.4 Change in yield per acre due to adoption of treated seed	Increased=1; Stayed the same=2 and Decreased=3	
7.11.5 Change in production cost with adoption of treated seed	Increased=1; Remained same=2, Decreased=3	
7.9.8 Change in net income (profit) per acre with adoption of treated seed	Increased=1; Remained same=2, Decreased=3	
7.9.9 Did you get any training on seed treatment?	Yes/No	

7.12 Biodynamic compost (BDC)

	Details	Response
7.12.1 Has your household tried BDC?	Yes/No – if no skip to question 7.13	
7.12.2 When did you first use BDC?	Year	
7.12.3 Are you still using BDC?	Yes/No	
7.12.4 Have you adopted all aspects of BDC or just some?	Adopted all aspects=1, Adopted some aspects=2, No longer use BDC=3	
7.12.5 Change in yield per acre due to adoption of BDC	Increased=1; Stayed the same=2 and Decreased=3	
7.12.6 Change in production cost with use of BDC	Increased=1; Remained same=2, Decreased=3	
7.12.7 Change in net income (profit) per acre with adoption of BDC	Increased=1; Remained same=2, Decreased=3	
7.12.8 Did you get any training on BDC?	Yes/No	

7.13 Organic farming

	Details	Response
7.13.1 Has your household tried organic farming?	Yes/No – if No, skip to question 7.14	
7.13.2 When did you first adopt organic farming?	Year	
7.13.3 Are you still using organic farming methods?	Yes/No	
7.13.4 Have you adopted all aspects of organic farming or just some?	Adopted all aspects=1, Adopted some aspects=2, No longer use organic farming methods=3	
7.13.5 Is any of your land certified for organic production?	Yes / No - if Yes, what area in acres?	
7.13.6 Change in yield per acre due to adoption of organic farming methods	Increased=1; Stayed the same=2 and Decreased=3	
7.13.7 Change in production cost with use of organic farming methods	Increased=1; Remained same=2, Decreased=3	
7.13.8 Change in net income (profit) per acre with adoption of organic farming methods	Increased=1; Remained same=2, Decreased=3	
7.13.9 Did you get any training on organic farming methods?	Yes/No	

7.14 Integrated pest management (IPM) – other than that used in BCI and organic farming

	Details	Response
7.14.1 Has your household tried IPM on crops other than BCI cotton and organic farming?	Yes/No – if No skip to question 8	
7.12.2 When did you first use IPM?	Year	
7.12.3 Are you still using IPM?	Yes/No	
7.12.4 Have you adopted all aspects of IPM or just some?	Adopted all aspects=1, Adopted some aspects=2, No longer use IPM=3	
7.12.5 Change in yield per acre due to adoption of IPM	Increased=1; Stayed the same=2 and Decreased=3	
7.12.6 Change in production cost with use of IPM	Increased=1; Remained same=2, Decreased=3	
7.12.7 Change in net income (profit) per acre with adoption of IPM	Increased=1; Remained same=2, Decreased=3	
7.12.8 Did you get any training on IPM?	Yes/No	

8. Livestock Development

Questions	Details	Response
8.1 Does your household keep any livestock (including poultry)?	Yes/No - if No skip to question 9	
8.2 Since when you are keeping livestock	Year	

8.3 How many animals does your household keep?

Animals	2012-13	2015-16	2018-19
8.3.1 Cow (local breeds)			
8.3.2 Cow (improved breeds)			
8.3.3 Buffalo			
8.3.4 Goats			
8.3.5 Poultry			

8.4 Sales of livestock products

	Value of sales per year (Rs)		
	2012-13	2015-16	2018-19
8.4.1 Cow Milk			
8.4.2 Buffalo Milk			
8.4.3 Goats			
8.4.4 Eggs			
8.4.5 Poultry birds			
8.4.6 Fish			

8.5 What support have you had from CAIM for livestock?

Questions	Detail	Response
8.5.1 Has Livestock been supported by CAIM Project.	Yes/No Omit for control group HH	
8.5.2 If Yes, type of support Omit for control group HH	Dairy development=1, Goat rearing=2, Commercial poultry=3, Backyard poultry=4, any other (specify)=5 ENTER ALL THAT APPLY	
8.5.3 If yes from which year you are getting these support	Year Omit for control group HH	

8.6 Adoption of improved livestock production/Value Addition methods

Improved production/ Value Addition method	Methods used in:		
	2012-13	2015-16	2018-19
8.6.1 Sell milk by measuring fat content	Yes / No	Yes / No	Yes / No
8.6.2 Sell goats by weight	Yes / No	Yes / No	Yes / No
8.6.3 Improved goat house	Yes / No	Yes / No	Yes / No
8.6.4 Vaccinate cow/ buffalo	Yes / No	Yes / No	Yes / No
8.6.5 Vaccinate goats	Yes / No	Yes / No	Yes / No
8.6.6 Vaccinate poultry	Yes / No	Yes / No	Yes / No
8.6.7 Deworm cow / buffalo	Yes / No	Yes / No	Yes / No
8.6.8 Deworm goats	Yes / No	Yes / No	Yes / No
8.6.9 Improved breeding (Artificial Insemination) Cow / buffalo	Yes / No	Yes / No	Yes / No
8.6.10 Improved breeding goats	Yes / No	Yes / No	Yes / No
8.6.11 Improved fodder crops	Yes / No	Yes / No	Yes / No

9. Marketing Support

Marketing channels	Details	Response
9.1 What are the preferred channels/ ways for marketing of your production?	Farm gate sale=1, Take to a market and sell there=2, Pool production and market in a group=3, Supply to a processing entity or collection centre=4, Contract farming=4 INCLUDE ALL THAT APPLY	
9.2 For which of these marketing channels have you had support from CAIM Project? Omit for control HH	Farm gate sale=1, Take to a market and sell there=2, Pool production and market in a group=3, Supply to a processing entity or collection centre=4, Contract farming=4 INCLUDE ALL THAT APPLY	
9.3 Do you get a better price as a result of using new marketing channels?	Yes / no Omit for control group HH	

9.4 Which marketing channels do you actually use?

Marketing channels	Used channel in:			per cent of sales via channel in 2018-19
	2012-13	2015-16	2018-19	
9.4.1 Farm gate sale	Yes / No	Yes / No	Yes / No	
9.4.2 Take produce to market and sell there	Yes / No	Yes / No	Yes / No	
9.4.3 Pool production and market in a group	Yes / No	Yes / No	Yes / No	
9.4.4 Supply to a processing entity or collection centre	Yes / No	Yes / No	Yes / No	

9.5 What marketing infrastructure to you use? Do you aggregate input purchase?

Question	Detail	Response
9.5.1 Are you using any new marketing infrastructure?	Yes / No – if No, skip to 9.5.6	
9.5.2 What are new infrastructure are you using to help in marketing your production?	Grading and Packaging=1, Value addition facilities= 2, Economic Transportation=3, Technology to avoid wastage and contamination=4, Better storage facility=5 INCLUDE ALL THAT APP	
9.5.3 Which of these new infrastructure been supported by the CAIM project? Omit for control group HH	Grading and Packaging=1, Value addition facilities= 2, Economic Transportation=3, Technology usage to avoid wastage and contamination=4, Better storage facility=5 INCLUDE ALL THAT APPLY	
9.5.4 Have your marketing costs been reduced as a result of using the new infrastructure?	Yes/No Omit for control group HH	
9.5.5 Do you get a better price as a result of using the new infrastructure?	Yes/No Omit for control group HH	
9.5.6 Are you aggregating your input requirements?	(i.e. collective/group purchase of inputs) Yes/No	
9.5.7 If yes, what was the result?	Reduction in input cost=1, Better quality input leading to higher yield=2 No change in input cost or yield=3	

10. Non-farm enterprise

Question	Detail	Response
10.1 Does your household have income from a non-farm enterprise, business or income generating activity?	Yes/No – if No, skip to 11.1	
10.2 If yes from which year you are getting income from a non-farm enterprise?	Year	
10.3 What type of enterprise is this? (or enterprises if household has more than one type of non-farm enterprise)	Shop=1, Other trading business=2, Food/crop processing=3, Manufacture (including tailoring, weaving, handicraft)=4, Transport=5, Other=6 ENTER ALL THAT APPLY	
10.4 How has the total income from these non-farm enterprises changed during the project period?	Increased=1, Stayed same=2, Decreased=3	

Question	Detail	Response
10.5 Has CAIM provided any support for a non-farm enterprise?	Yes/ No Omit for control group HH	
10.6 From which year you are getting support from CAIM?	Year Omit for control group HH	
10.7 Are you still getting support from CAIM?	Yes/No Omit for control group HH	
10.8 Have you been benefited from this support?	Yes/No Omit for control group HH	
10.9 Will you continue with these activities beyond the project period?	Yes/No Omit for control group HH	

11. Income and assets

11.1 What is your annual household income?

Activities	Annual Income	What are the three most important sources of income? (enter 1, 2 and 3 below)	
		2018-19 (based on data to the left)	2012-13
	Rs per year		
11.1.1 Crops and horticulture (net income after deducting expenses)			
11.1.2 Livestock and poultry (net income after deducting expenses)			
11.1.3 Fishing and aquaculture (net income after deducting expenses)			
11.1.4 Farm labour			
11.1.5 Other daily labour			
11.1.6 Skilled labour			
11.1.7 Salary or regular job			
11.1.8 Remittances			
11.1.9 Pension			
11.1.10 Small shop (net income after deducting expenses)			
11.1.11 Handcrafts, weaving, tailoring (net income after expense)			
11.1.12 Other non-farm enterprise (net income after expenses)			
11.1.13 Other			
11.1.14 Total annual income			

11.2 How has total household income changed since 2012-13?

Question	Detail	Response
11.2.1 How has total household income changed since 2012-13?	Big increase=1, Small increase=2, No change=3, Small decrease=4, Large decrease=5	
11.2.2 If income has increased, what is the main reason for this?	Improved income from farming=1, Improved income from non-farm enterprise=2, Increased wages and salaries=3, Other=4 ENTER ONE	
11.2.3 If income has decreased, what is the main reason for this?	Drought=1, Low price of farm products / High price of farm inputs=2, Pests, Diseases =3, Lack of household labour force=4 , Other =5 ENTER ONE ONLY	

11, 3 What you consider your socio-economic or wealth category to be, and how has this changed?

	Socio-economic category (Rich=1, Medium=2, Poor=3 and Very Poor=4)		
	2012-13	2015-16	2018-19
Enter category for each year			

11.4 How have your housing conditions improved?

Question	Detail	Response
11.4.1 What type of house do you live in?	Kuchha=1, Semi-Pucca=2 and Pucca=3	
11.4.2 Has your house been enlarged or improved during the project period?	Yes/No	
11.4.3 What is your main source of drinking water	Piped into house or near=1, public tap=2, tube well with pump=3, protected dug well=4, tanker/water vendor=5, unprotected wells, Canal and river=6, other =7 ENTER ONE ONLY	
11.4.4 What are the sanitation arrangements for your household?	None/bush/field=1, open pit/traditional latrine=2, improved latrine=3, flush toilet=4 ENTER ONE ONLY	
11.4.5 Does your house have electricity?	Yes – grid connection=1 Yes – home solar system =2 No =3	

11.6 What assets do you own?

Question	Detail	Response
11.6.1 Does your household own land?	Yes/No	
11.6.2 If Yes, what area?	Area in acres	
11.6.3 Radio	Yes/No	
11.6.4 TV – black and white	Yes/No	
11.6.5 TV - colour	Yes/No	
11.6.6 Refrigerator	Yes/No	
11.6.7 Mobile phone	Yes/No	

Question	Detail	Response
11.6.8 Sewing machine	Yes/No	
11.6.9 Fan	Yes/No	
11.6.10 Bicycle	Yes/No	
11.6.11 Motorbike	Yes/No	
11.6.12 Vehicle (3 or 4 wheel)	Yes/No	
11.6.13 Farm tractor	Yes/No	
11.6.14 Sprayer	Yes/No	
11.6.15 Bullock cart	Yes/No	
11.6.16 Irrigation equipment	Yes/No	
11.6.17 Micro-irrigation equipment	Yes/No	

12. Food Security

Question	Detail	Response
12.1 Did your household suffer from any shortage of food?	Yes/No	
12.2 Did you household face any hunger due to non-availability of food?	Yes/No	
12.3 How has the overall availability of food changed during the project period?	Increased=1, Stayed same=2 and Decreased=3	
12.4 How has the quality and type of food consumed by your household changed during the project period?	Increased=1, Stayed same=2 and Decreased=3	
12.5 Does your household have a PDS ration card?	Yes/No	
12.6 if yes – are your satisfied with the food you get from the PDS	Yes/No	



Project: Convergence of Agricultural Interventions in Maharashtra (CAIM)

Impact Evaluation Survey January-February 2019

MAVIM Questionnaire

National Council of Applied Economic Research
Parisila Bhawan, 11-I. P. Estate, New Delhi - 110 002
Phone: 011-23379861-3 Fax: 011-23370164

The National Council of Applied Economic Research, (NCAER), New Delhi, is India's one of the largest independent research organizations. Founded in 1956, it has the long standing capacity to undertake primary survey for evident based policy initiatives. The following questionnaire, a perception and recall-based survey of individual respondent of the CAIM supported Schemes, is part of this exercise to assess the impact of such Schemes in the six distressed districts of the Vidharbha region of Maharashtra

AIM OF THE SURVEY: To have a better understanding of the impact of the CAIM supported programmes on the well-being of the targeted population at the ground level.

We assure the full confidentiality of your identification and information and seek your co-operation in furnishing the information sought by us.

Questionnaire for MAVIM

This questionnaire is targeted towards the MAVIM Officials

a. Respondent Name	
b. Respondent Designation	
c. Email and Mobile Number	
d. District	
e. Date of Interview	

General

1. Formal Inclusion of MAVIM in the CAIM project (Date/Month/Year)_____
2. MAVIM's acceptance and actual commencement of work for the project(Date/Month/Year)_____

Physical Progress of MAVIM during the Project Period

Q. No	Physical Progress	Number (Cumulative figures)		
		2010- 2013	2010- 2016	2010- 2019
3	Number of professionally qualified personnel employed for the CAIM project			
4.1	Number of Community Managed Resource Centre (CM-RCs) Registered under the project			
5.1	Number of New SHGs formed under the project			
5.2	Number of Old SHGs adopted			
5.3	Total Number of Members of SHGs			
5.4	Number of SHGs with large number of Marginal Farmers (>=50 per cent)			
5.5	Number of SHGs with large number of Landless Farmers (>=50 per cent)			
5.6	Number of SHGs with large number of SCs (>=50 per cent)			
5.7	Number of SHGs with large number of STs (>=50 per cent)			
5.8	Number of SHGs with large number of Distress Farmers (>=50 per cent)			
5.9	Total Number of Distress Farmers			
5.10	Number of SHGs with large number of Ultra-poor Households (>=50 per cent)			
5.11	Total Number of Ultra Poor Families			
5.12	Total Number of Village Level Committee (VLC) Formed			
6.1	Number of SHGs linked to Bank			
6.2	Number of SHGs repaid the Loan			
6.3	Is bank linkage is beneficial (Yes/No)			
7.1	Number of CMRCs with 100 per cent and above cost coverage			
7.2	Number of CMRCs with 75 per cent to 100 per cent cost coverage			
7.3	Number of CMRCs with 50 per cent to 75 per cent cost coverage			
7.4	Number of CMRCs with less than 50 per cent cost coverage			
7.5	Number of CMRCs earning surplus			
Staff				
8.1	Number of CMRCs having full complement of Staff			
8.2	Manager			
8.3	Accountant			
8.4	Coordinator Sahyoginies ((Management Information System(MIS), Livelihood & Capacity building))+ 3 Sahyoginies each CMRCs			
8.5	Institution building Community Resource Person (CRP) Honourium (1 CRP for 15 SHG)			

Q. No	Physical Progress	Number (Cumulative figures)		
CMRC				
9.1	Number of viable CMRCs (earning surplus and having sufficient number of staff)			
9.2	Number of CMRCs with more than 200 SHGs			
9.3	Number of CMRCs with less than 200 SHGs			
	Gradation			
10.1	Number of A Graded SHGs			
10.2	Number of B Graded SHGs			
10.3	Number of C and D Graded SHGs			
10.4	Number of A Graded CMRCs			
10.5	Number of B Graded CMRCs			
10.6	Number of C and D Graded CMRCs			
Training				
11.1	Number of SHGs received trainings (training in all aspects of management)			
11.2	Number of SHGs received exposure			
11.3	Number of CMRCs received cash less transaction promotion			
11.4	Number of CMRCs staff training received			
11.5	Number of CMRCs staff exposure visit			
11.6	Number of Livelihood Sahyoginies received capacity building training			
	Support System			
12.1	Number of CMRCs received Seed Money Support from CAIM project			
12.2	Business started with Seed Money Support			
12.3	Total Profit after started business with Seed Money Support			
Debt Redemption				
13.1	Number of CMRCs funded for Debt Redemption Fund from CAIM project			
13.2	Total SHGs benefited for Debt Redemption			
13.3	Total families benefited for Debt Redemption Fund			
13.4	Total SHGs has revolved fund to CMRCs			
13.5	Total Number of CMRCs received Revolving Fund to CMRCs from SHGs			
13.6	Total Revolving Fund received to CMRCs (Rs)			
Business Started after Debt Redemption Support				
13.7.1	Total SHGs started new business after Redemption of Debt by CAIM			
13.7.2	Goat rearing (Number of SHGs)			
13.7.3	Poultry			
13.7.4	Dairy			
13.7.5	Grocery Shop			

Q. No	Physical Progress	Number (Cumulative figures)		
13.7.6	Other- 1 Specify			
13.7.7	Other- 2 Specify			
13.7.8	Other- 3 Specify			
13.7.9	Number of SHGs coming out from debt			
Economic Support to Ultra Poor				
14.1	Economic Support to total number of Ultra Poor Households from CAIM			
14.2	Total Ultra Poor households started new business after getting Economic Support			
14.2.1	Goat rearing (Number of Households)			
14.2.2	Poultry			
14.2.3	Dairy			
14.2.4	Grocery Shop			
14.2.5	Other- 1 Specify			
14.2.6	Other- 2 Specify			
14.2.7	Other- 3 Specify			
14.2.8	Number of Household coming out from ultra-poor category			
Drudgery Reduction & Business Support				
16.1	No of CMRCs benefited for Drudgery Reduction support from CAIM			
16.2	No of SHGs benefited for drudgery reduction support			
16.2.1	Number of SHGs started Business Activity from drudgery support			
16.2.2	Activity Business 1 Specify			
16.2.3	Activity Business 2 Specify			
16.2.4	Activity Business 3 Specify			
16.2.5	Activity Business 4 Specify			
16.2.6	Activity Business 5 Specify			
16.3	CAIM Support (in Rupees)			
16.4	Bank investment (in Rupees)			
16.5	Beneficiary Contribution (in Rupees)			
16.6	Total Profit to CMRCs (in Rupees)			
CMRCs Business with Social Enterprises Activity Fund from CAIM				
17.1	Number of CMRCs received Social Enterprises Activity fund			
17.2	Number of CMRCs Started business			
17.2.1	Business 1 Specify			
17.2.3	Business 2 Specify			
17.2.4	Business 3 Specify			
17.2.4	CAIM Support (in Rupees)			
17.2.5	Bank investment (in Rupees)			

Q. No	Physical Progress	Number (Cumulative figures)		
17.2.6	CMRCs Contribution (in Rupees)			
17.2.7	Total profit to CMRCs (in Rupees)			
SHG level Business				
18.1	SHGs level business started			
18.2.1	Goat rearing unit			
18.2.2	Dairy			
18.2.3	Other 1 Specify			
18.2.4	Other 2 Specify			
18.2.6	Other 3 Specify			
18.3	CAIM Support (in Rupees)			
18.4	Bank investment (in Rupees)			
18.5	Total Profit to CMRC (in Rupees)			
Gender Activities				
19.1	Gender Activity (7/12 (land), 8A (House property))			
19.2	Number of CMRCs benefited for gender activity			
19.3	Activity implemented under gender equality			
19.3.1	Activity 1 Specify			
19.3.2	Activity 2 Specify			
19.3.3	Activity 3 Specify			
19.3.4	Activity 4 Specify			
19.3.5	Activity 5 Specify			
Joint Asset				
20	Total families registered asset jointly			
20.1	Total families registered asset jointly-Land			
20.2	Total families registered asset jointly-House property			
21	Number of CMRCs having Paravet services			
22	Common Facility Centers (CFCs)			
Linked CMRCs Activities				
23.1	Total CMRC level business started			
23.2.1	Other 1 Specify			
23.2.2	Other 2 Specify			
23.2.3	Other 3 Specify			
23.3	Total CAIM Support (in Rupees)			
23.4	Total Bank investment (in Rupees)			
23.5	Total Beneficiary Contribution			
23.6	Total Profit to CMRC (in Rupees)			
Micro Livelihood Plan (MLP) & Linked SHGs Activity				
24.1	No of SHGs covered in MLP activity			
24.3	CAIM Support (in Rupees)			
24.6	Bank investment (in Rupees)			

Q. No	Physical Progress	Number (Cumulative figures)		
24.6	Beneficiary Contribution (In Rupees)			
24.7	Total Profit to CMRC (in Rupees)			
24.8	Number of CMRC having Paravet services			
24.9	CFC Common Facility Center			

Financial Progress of MAVIM during the project period

Q. No	Financial	Rs		
		2012-13	2015-16	2018-19
25.1	Financial outlay approved for MAVIM to carry out functions for the CAIM project			
25.2	Financial outlay actually provided to MAVIM to carry out function for the project			

26.1 Did the delay /lack of funds affected project implementation (Yes/No) _____

26.2 If yes, the extent of adverse effect (Tick any one)

- Severe (=>30 per cent allocation) =1,
- To a great extent (=>20 per cent to <30 per cent) allocation) =2,
- Somewhat effected (=>10 per cent to <20 per cent allocation) =3
- and Within manageable limit (=>5 per cent to <10 per cent)=4)

26.1 Name of the Agencies conducting Audit of MAVIM_____

26.2 Whether action taken for fulfilling the audit observation (Yes/No)_____

26.3 Any pending Issues related to audit_____

26.4 Expected time for fulfilling the pending issues (Days/Months)_____

27 Action Taken on the following aspects during the project period

27.1 Group Strengthening

27.1.1 Development of performance standards

27.1.2 Monitoring and ensuring participatory grading

27.2 Procuring/providing auditing, grading, rating and training services for the group

27.3 Enable members /SHGs to participate end to end sub-project

27.4 Procurement of need based business development services with the support of NGOs/MAVIM

27.5 Enable linkages with marketing services for the enterprises undertaken by the members

27.6 Undertaking joint procurement of Inputs

27.7 Undertaking joint Marketing of Outputs of member household

27.8 Procurement/Organization of financial services of groups

27.9 Government programme with which convergence affected

28 Achievements of MAVIM during the project period (Please share success stories)

Activities	Target level fully (100 per cent) achieved=1	Target level moderately (>50 per cent) achieved=2	Target level partially (<50 per cent but > 30 per cent) achieved=3	Target level remained far below (below 30 per cent) the achievable target=4
28.1 SHGs Established				
28.2 Bank Linkages				
28.3 Ultra-Poor Support				
28.4 Debt Redemption				
28.5 Drudgery Reduction				
28.6 MLPs				
28.7 Joint asset ownership				
28.8 Dairy Development				
28.9 Poultry Development				
28.10 Goatry				
28.11 Small and Micro enterprises				
28.12 Dal Mill				
28.13 Milk Collection Centre				
28.14 Grading Unit				
28.15 Common Facility Centre				
28.16 SHGs Marketing				

29. What are (List five major) constraints faced by you during the project period.

29.1 _____

29.2 _____

29.3 _____

29.4 _____

29.5 _____

30. Please list five major best practices followed by you during the project period

30.1 _____

30.2 _____

30.3 _____

30.4 _____

30.5 _____



Project: Convergence of Agricultural Interventions in Maharashtra (CAIM)

Impact Evaluation Survey January-February 2019

CMRCs Questionnaire

National Council of Applied Economic Research
Parisila Bhawan, 11-I. P. Estate, New Delhi - 110 002
Phone: 011-23379861-3 Fax: 011-23370164

The National Council of Applied Economic Research, (NCAER), New Delhi, is India's one of the largest independent research organizations. Founded in 1956, it has the long standing capacity to undertake primary survey for evident based policy initiatives. The following questionnaire, a perception and recall-based survey of individual respondent of the CAIM supported Schemes, is part of this exercise to assess the impact of such Schemes in the six distressed districts of the Vidharbha region of Maharashtra. This particular questionnaire is aimed at assessing activities and the performance of the Self Help Groups (SHGs) to create tangible impact on the lives of the people, especially women in the villages under the CAIM project.

AIM OF THE SURVEY: To have a better understanding of the impact of the CAIM supported programmes on the well-being of the targeted population at the ground level. We assure the full confidentiality of your identification and information and seek your co-operation in furnishing the information sought by us.

Questionnaire for CMRCs

This questionnaire is targeted towards the CMRC office bearers in each of the selected CAIM villages

a. Respondent Name	
b. Respondent Designation	
c. Email and Mobile Number	
d. District	
e. Block	
f. Date of Interview	

1. General Information about SHGs

General		Number (cumulative figures)		
		2010-13	2010-16	2010-19
1.1	Number of SHGs in the project Block/Cluster			
1.2.1	Number of New SHGs formed			
1.2.2	Number of Old SHGs adopted			
1.3	Do you get any support from CAIM (Yes/No)			
1.3.1	If yes, since when?	YEAR		
1.3.2	If yes, the mode of support received 1= Cash support for maintaining liquidity, 2=Specialised support to maintain proper account 3=Helping grow membership through door to door campaign 4=Maintaining regular relation with bank staff to leverage facilities for the SHGs 5=All the above 6=None of the above	MULTIPLE OPTIONS		
1.4	Number of SHGs with large number of Marginal Household (>=50 per cent)			
1.5	Number of SHGs with large number of Landless Household (>=50 per cent)			
1.6	Number of SHGs with large number of SCs/STs (>=50 per cent)			
1.7	Number of SHGs with large number of Distress Household (>=50 per cent)			
1.8	Number of SHGs with large number of Ultra-poor Households (>=50 per cent)			

2. Financial Information about SHGs

Financial		Number		
		2010-13	2010-16	2010-19
2.1	Number of bank linked SHGs			
2.1.1	Number of SHGs with no bank linkage			
2.1.2	Number of SHGs avail 1 time loan			
2.1.3	Number of SHGs avail 2 time loan			
2.1.4	Number of SHGs avail 3 time loan			
2.15	Number of SHGs avail more than 3 time loan			
2.16	No of SHGs repayed the Loan			
2.17	Is bank linkage beneficial (Yes/No)			
2.2	Number of SHGs taking up regular savings and internal credit			
2.3	Number of SHGs with outstanding bank loan			
2.4	Number of SHGs with non-performing assets (NPA)			

Financial		Number		
		2010-13	2010-16	2010-19
2.5	Number of SHGs not taken any loan			
2.6	Number of SHGs members with joint asset ownership			
2.6.1	Number of SHGs members with joint asset ownership of Land			
2.6.2	Number of SHGs members with joint asset ownership of House			
2.7	Number of SHGs members not taking loan from money lenders			
2.8	Number of bank branches in project block which are participating in SHG bank linkage programme			
2.9	Loan Utilisation (both bank loan and internal loans of SHGs)	X	X	X
2.9.1	Amount of loans used for consumption			
2.9.2	Amount of loan used for agriculture			
2.9.3	Amount of loans used for goat rearing			
2.9.4	Amount of loan used for poultry			
2.9.5	Amount of loan used for livestock			
2.9.6	Amount of loans used for other off-farm			

3. Capacity Building of SHG Member through CAIM project

Training		Number		
		2010-13	2010-16	2010-19
3.1	Number of SHG members trained in savings and Credit			
3.2	Number of SHG members trained in banking procedures			
3.3	Number of SHG members trained in Vocational Training			

4. Livelihood support to SHG Member through CAIM project

Support		Number		
		2012-13	2015-16	2018-19
4.1	Number of SHGs Member supported under debt redemption			
4.2	Number of SHG Members under debt redemption			
4.3	Number of SHG Member supported for Drudgery reduction			
4.4	Total Household benefited for debt redemption fund			
4.5	No of SHG benefited for drudgery reduction			
4.6	Number of SHGs covered in MLP activities			
4.7	Number of SHGs member benefited by MLP activities			

5. SHGs involvement in project activities during the project period

Activities	Since when you are involved in these activities YEAR	Are you still part of these activities YES/NO	Have you benefited from these activities (Yes/ No)	Do you want to continue these activities after the project period (Yes/No)
5.5 Dairy Development				
5.6 Poultry Development				
5.7 Goatry				
5.9 Micro Finance				
5.10 Small and Micro enterprises				
5.11 Dal Mill				
5.12 Milk Collection Centre				
5.13 Grading Unit				
5.14 Common Facility Centre				
5.15 SHGs Marketing				
5.16 Krishi Sewa Kendra				
5.17 MLP activities				

6. Household Benefited from SHGs during the project period

Benefited		Number		
		2010-13	2010-16	2010-19
6.1	Number of household joined the SHGs			
6.2	Number of household trained in community and SHGs management activities			
6.3	Number of household trained in vocational training			
6.4	Number of community Resource Person (CRP) trained			
6.5	Number of Household Trained in micro finance plan (MFP)			
6.6	Number of households trained in business/ entrepreneurship			

7. Household receiving support from SHGs during the project period

Support		Number		
		2010-13	2010-16	2010-19
7.5	Number of households receiving support for Dairy Development			
7.6	Number of households receiving support for Poultry Development			
7.7	Number of households receiving support for Goatry			
7.9	Number of households receiving support for aggregating input requirements			
7.10	Number of households receiving support for aggregating produce for sale			
7.11	Number of households receiving support for branding and packaging of produce			

8. Grading of SHGs based on their performance during the project period

Grading of SHGs		Number		
		2010-13	2010-16	2010-19
8.1	Number of A Graded SHGs in project Block			
8.2	Number of B Graded SHGs in project Block			
8.3	Number of C and D Graded SHGs in project Block			

9. What are (List five major) constraints faced by you during the project period.

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____

10. Please list five major best practices followed by you during the project period

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____

Guidelines for Focus Group Discussion for CAIM study

Please Organise Six FGD per District

Address

Name of the Village:

Block

District

Place of the FGD

Participants' profiles

	Name of the participants	Phone No.	Caste : G/ SC/ST/BPL	Age	M/F	Size of land own	Level of Education
1							
2							
3							
4							
5							
6							
7							
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The ideal number of participants for one group should be 8 -12 members. **Time 60 minutes to 90 minutes.**

Please start with introduction of the moderator and purpose this discussion

1. General Questions

- a. Are you aware of any Government programme implemented in your village? Yes/No
- b. If Yes, name few programme being implemented.

(Please Note: (i) How many participants made a mention of CAIM programme in response to above two questions and find out the source and mode through which they know about CAIM Programme; (ii) Since when they got involved in CAIM programme)

2. Impact of CAIM programme

2.1 Change in cropping pattern

- a. Number of crops grown
- b. Whether intercropping developed; and
- c. Any other please specify.

2.2 Change in Yield

- a. Whether yield has changed after CAIM Intervention; and
- b. Reasons leading to change in yield.

2.3 Change in Area

- a. Increase in net cultivated area; and
- b. Reasons for increase in cultivated area.

2.4 Change in Input use

- a. Fertilizer use- Increased/decreased
- b. Pesticide use- Increased/decreased
- c. Seed: Whether pre-treated seed introduced
- d. Source of seed: Whether certified seed used
- e. Major Source of irrigation: Rain fed or irrigated
- f. If irrigated source of irrigation
- g. Credit availability: Whether credit is facilitated by CAIM
- h. Whether Krishi Sewa Kendra is located in your village
- i. If not, how far it is located
- j. Whether agricultural implements (tractor, tube well, drip irrigation, sprinkler irrigation, thresher etc) being made available through Krishi Sewa Kendra; and
- k. Whether fertilizer/pesticide/seed are available from Krishi Sewa Kendra.

2.5 Change in Production Practices

2.5.1 Low External Input Sustainable Agriculture (LEISA)

- a. Awareness level of LEISA farming
- b. Whether training programme conducted
- c. Which are the crops grown under LEISA
- d. What are the benefits of LEISA farming
- e. What are the short- comings of LEISA farming
- f. Whether inclined to continue with LEISA; and
- g. If yes, reasons thereof.

2.5.2 Better Cotton Initiative (BCI)

- a. Awareness level of BCI farming and source of awareness
- b. Whether training programme conducted
- c. Which type of Cotton grown and reason for adoption? BCI Cotton/Organic Cotton/Conventional Cotton/LEISA Cotton
- d. What are the benefits of BCI farming
- e. What are the short- comings of LEISA farming
- f. Whether inclined to continue with LEISA; and
- g. If yes, reasons thereof.

2.5.2 Awareness about Broad Bed Furrow (BBF)

- a. Awareness level of BBF farming
- b. Whether training programme conducted
- c. Which are the crops grown under BBF
- d. What are the benefits of BBF farming
- e. What are the short- comings of BBF farming
- f. Whether inclined to continue with BBF; and
- g. If yes, reason thereof.

2.5.3 Awareness about Integrated Pest Management (IPM)

- a. Overall impact observed
- b. Should the IPM practices be continued
- c. Whether training programme conducted; and
- d. Remarks about effectiveness of the training programme conducted.

2.6 Market Interventions

- a. What are the new initiatives brought out under CAIM programme to market the produce? Please mention
- b. Whether new market initiatives proved beneficial or not
- c. If profitable, what are the suggestions for further improvement; and
- d. If not, what are the reasons/short- comings?

2.7 Livestock Interventions

- a. Type of support on livestock received from CAIM programme
- b. Specific livestock development activity (Goatry/ Poultry/ Dairy/ Fishery) taken place in the village
- c. Reason for the livestock activity popularly adopted in the village
- d. Reason for the livestock activity not adopted/continued in the village; and
- e. Perception about future prospects of livestock activity in the village.

2.8 Credit Support

- a. Is there any improvement in credit services after CAIM intervention
- b. Any improvement observed in saving of the participants
- c. Type of financial support for different activity made available under CAIM; and (Please mention the activity/business supported).
- d. Whether terms of financial support (security, rate of interest etc) are attractive or not.

2.9 Women Empowerment

- a. Whether CAIM programme has resulted in greater participation on women in the activity supported Under CAIM (like SHGs, Joint Assets Ownership, Village Development Committee (VDC) and CMRCs)
- b. The perceived benefits of having women empowerment
- c. Does it require further policy support.
- d. List out the new initiatives started in your village for women empowerment.

2.10 Soil and Water Conservation Work

- a. Please mention the soil and water conservation work (SWC) undertaken in your village;
- b. Whether these SWC works done by CAIM or by other Government Programmes; and
- c. Benefits of these SWC works.

2.11 Perception about whether CAIM has brought about change in living standard

- a. Whether individual household saving has increased
- b. Assessment of creation of assets
- c. Improvement in dwelling house
- d. Whether education of children has been facilitated
- e. Whether girl and boy are given equal opportunity.
- f. Improvement observed in health services.



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