

CCAFS WEST AFRICA

Site: Lawra-Jirapa/Lawra, Ghana



RESEARCH PROGRAM ON
**Climate Change,
Agriculture and
Food Security**



Photo: This is Africa

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Citation:

CCAFS 2015. CCAFS Baseline Survey Indicators for Lawra-Jirapa/Jirapa, Ghana. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark. Available online at: www.ccafs.cgiar.org.

Contact:

CCAFS Coordinating Unit - Faculty of Science,
Department of Plant and Environmental Sciences,
University of Copenhagen, Rolighedsvej 21, DK-1958
Frederiksberg C, Denmark. Tel: +45 35331046; Email:
ccaafs@cgiar.org.



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Introduction

The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a strategic partnership of CGIAR and Future Earth led by the International Center for Tropical Agriculture (CIAT). CCAFS brings together the world's best researchers in agricultural science, development research, climate science and Earth System science to identify and address the most important interactions, synergies and trade-offs between climate change, agriculture and food security.

CCAFS is focusing its research for development efforts in five regions, East and West Africa, South and Southeast Asia as well as Latin America, working in 25 research sites. The regions represent areas that are particularly vulnerable to climate change, and the sites are focal locations to generate knowledge and learning that can be applied and adapted to other regions worldwide.

Extensive baselines have been implemented at all CCAFS sites and consist of analysed information collected at three levels: households, communities and organisations. The baselines capture the big picture of how farmers are changing their practices in light of climate change and other pressures. The aim is to revisit the same communities and households in five and again in ten years to document changes in livelihoods, resource management practices and other factors over time

and update these indicator documents accordingly. The CCAFS baseline is a key component of the program's monitoring and evaluation system.

This document series compiles key indicators from the three levels of the baseline for each site. Indicators include: demography and basic site characteristics of each site, rainfall distribution, changes in farming practices and land management, income sources, food security and food sources, asset ownership by households and involvement in organisations and more.

This CCAFS baseline indicator document was developed for the CCAFS site at Lawra-Jirapa/Jirapa, in Ghana.

The baseline indicator series is complemented by CCAFS site atlases, that include site maps with climate information, biophysical characteristics and socio-economic factors. Site maps are available at: www.ccafs.cgiar.org/atlas-ccaafs-sites

Download the baseline tools, data and reports:
www.ccafs.cgiar.org/resources/baseline-surveys

Get in touch:
Science Officer Wiebke Förch (w.foerch@cgiar.org)

Sources

Throughout this document the sources of data for the indicators are colour coded as follows:



CCAFS Household baseline study



CCAFS Village baseline study



CCAFS Organisational baseline study

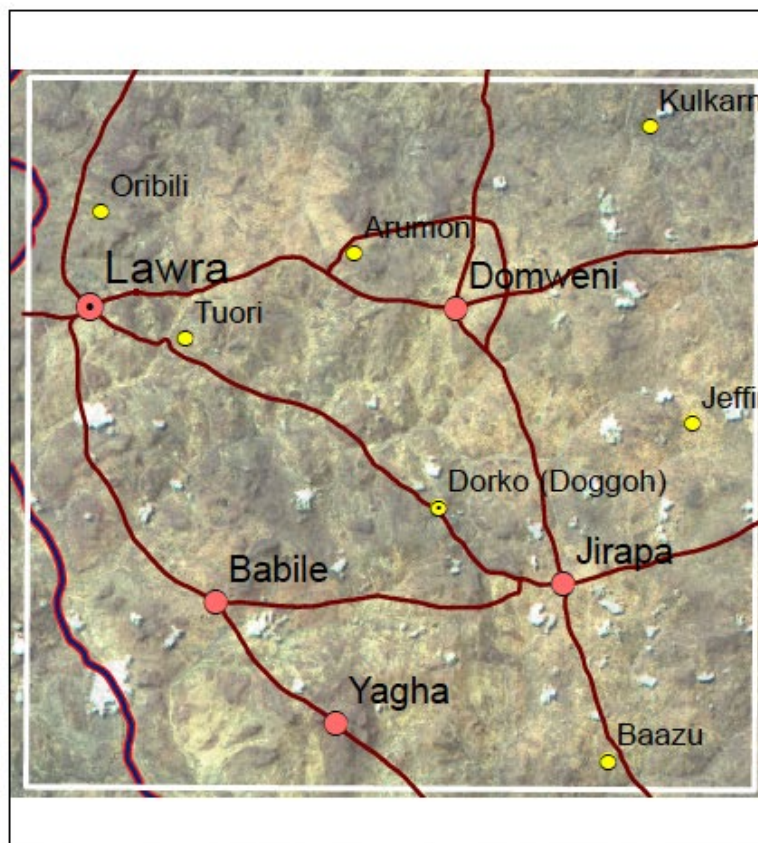
Map

Country: Ghana

CCAFS Sampling Frame: Lawra-Jirapa



□ Site location



CCAFS Site Name (ID):
Lawra - Jirapa (GH01)

CCAFS Sampling Frame
Name (ID): Lawra (08)

Road

Settlement

CCAFS VBS / OBS Village

CCAFS HBS Village

Coordinates of the CCAFS
Sampling frame

2.624W 10.735N

2.624W 10.455N

2.911W 10.455N

2.911W 10.735N

Source: L. Förch, W. et al. 2013. Core Sites in the CCAFS Regions: East Africa, West Africa and South Asia, Version 3. Copenhagen: Denmark. CCAFS

Demography and basic site characteristics

	Baseline	Mid-term	Final
Ratio of women headed households	4%		

% households of different sizes

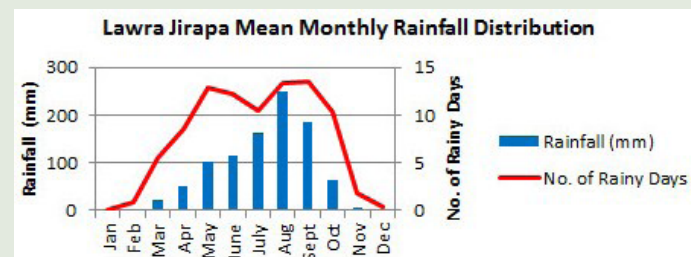
Number of people in the household	Baseline	Mid-term	Final
1	1%		
2	1%		
3	1%		
4	9%		
5	11%		
6	9%		
6+	68%		

Area of land cultivated (ha)*	418.22		
Average (mean) per household (ha)	2.99		

Highest level of education obtained by any household member

No formal education	5%		
Primary	56%		
Secondary	34%		
Post-secondary	5%		

*Area of land cultivated (ha) is the total amount of owned or rented land used for growing food or aquaculture



Source: MarkSim¹

Ratio of local organisations to total number of organisations named*

	Baseline	Mid-term	Final
Men's group	5/14		
Women's group	7/12		

* Organisations have been recoded by CCAFS researchers from original data (participant perceptions of community, local and beyond local) to categories of local and external.

¹Source: Jones P G, Thornton P K, Diaz W and Wilkens P W. 2002. MarkSim, a computer tool that generates simulated weather data for crop modeling and risk assessment. Version 1, 2002. CD-ROM and Users Manual. CIAT, AA6713, Cali, Colombia, 87 pp.

Changes in farming practices and drivers of changes in resources

% households introducing 3 changes or more

	Baseline	Mid-term	Final
Crop	85%		
Water	0%		
Soil	81%		
Tree/agroforestry	84%		
Livestock	74%		

Adaptation

% households reporting changes to their agricultural practices

0-1 change	0%		
2-10 changes	15%		
11 or more changes	85%		

Mitigation

% households doing

Tree management*

Yes	84%		
No	16%		

Soil management

None	3%		
Some	97%		

Intensification

None	0%		
Low	46%		
High	54%		

Productivity

No Increase	17%		
Some increase	83%		

Drivers of changes to crop production and land management

% households reporting this driver

	Baseline	Mid-term	Final
Markets	84%		
Weather/climate	100%		
Pest and Diseases	69%		
Labour	71%		
Land	99%		
Projects	28%		

Drivers of changes to livestock production*

% households reporting this driver

Markets	72%		
Weather/climate	37%		
Pest and Diseases	91%		
Labour	14%		
Projects	23%		

Drivers of change in the community

Frequency with which they were mentioned in group discussions

	Men			Women		
	Baseline	Mid-term	Final	Baseline	Mid-term	Final
Population Growth	2			2		
Deforestation	0			1		
Pest and Diseases	0			0		
Information/Knowledge	0			0		
Land Demarcation/fragmentation	0			0		
Soil degradation/Erosion	1			0		
Rainfall Changes	1			1		
Charcoal Burning/Fuel	1			1		
Government	0			1		
Forest Fire/Bush burning	2			0		
Overuse	0			0		
Spiritual/Cultural/Religious	1			0		
Invasive tree species	0			0		
Increase in wealth	0			0		
Increase in livestock	0			1		
Social/Community conflicts	0			0		
Infrastructure	0			0		

*For tree/agroforestry changes these are the households who have either planted or protected trees within the last year

*For livestock changes these are the households who have made 3 of more of the changes in the livestock section

Livelihood diversification

	Baseline	Mid-term	Final
Source of Cash Income other than own farm			
Employment on someone else's farm	61%		
Other off-farm employment	13%		
Business	52%		
Remittances/gifts	38%		
Payments for environmental services	6%		
Payments from government or other projects/programs	7%		
Loan or credit from a formal institution	9%		
Informal loan or credit	31%		
Renting out farm machinery	9%		
Renting out your own land	1%		
No off-farm cash source	14%		
Product diversification			
% of households			
1-4 products (low)	1%		
5-8 products (intermediate)	52%		
9 or more products (high)	46%		
Selling/Commercialization Diversification:			
% of households			
No products sold	4%		
1-2 products sold (low)	16%		
3-5 products sold (intermediate)	51%		
6 or more products sold (high)	29%		

Food security

Food Security Index

% households	Baseline	Mid-term	Final
More than 6 hunger months/year	9%		
5-6 hunger months/	38%		
3-4 hunger months/	42%		
1-2 hunger months/	10%		
Food all year round/No hungry period	1%		

Food security organisational linkages

Organisation receives

Men groups

	Baseline	Mid-term	Final
Funding	2		
Capacity Building	1		
Food	2		

Organisation provides

Funding	2		
Capacity Building	1		
Food	5		

Organisation receives

Women groups

	Baseline	Mid-term	Final
Funding	6		
Capacity Building	2		
Food	1		

Organisation provides

Funding	1		
Capacity Building	1		
Food	1		

Source of food during highest and lowest shortage months

	Baseline	Mid-term	Final
% households mainly consuming from own farm in the month of highest shortage	9%		
% households mainly consuming from own farm in the month of lowest shortage	100%		

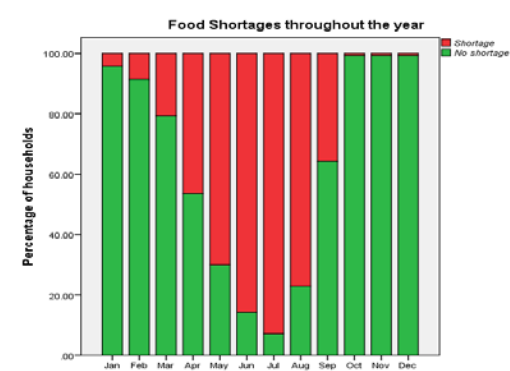
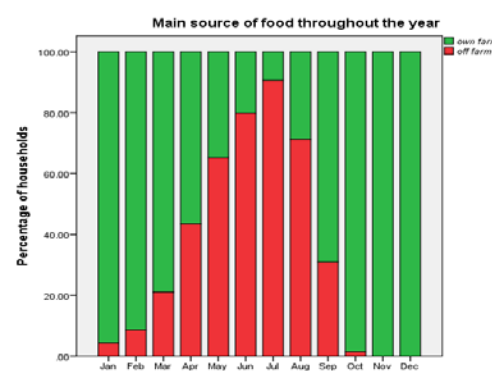
Ratio of local organisations to total number of organisations named in each area of food security work*

Men's group	Baseline	Mid-term	Final
Availability	3/7		
Access	2/5		
Utilisation	0/0		

Women's group	Baseline	Mid-term	Final
Availability	0/2		
Access	7/9		
Utilisation	0/3		

* Organisations have been recoded by CCAFS researchers from original data (participant perceptions of community, local and beyond local) to categories of local and external.

These charts are taken from the Household Baseline Survey - Food Security Section



Collective action in natural resource management (NRM)

Resource	Gender	Discussed	Baseline	Mid-term	Final
Is there an issue with the resource?					
Irrigation	M	Yes	Good quality		
	F	Yes	Seasonal rivers dry up in dry season. Farms have boreholes		
Farmland	M	Yes	Low soil fertility.		
	F	Yes	Low soil fertility, little rainfall, low production		
Forest	M	Yes	Not really a forest, scattered trees have been reducing in number over time.		
	F	Yes	Not enough for commercial purposes.		
Pasture	M	No			
	F	Yes	Pastures are not adequate		
Markets	M	No			
	F	No			
Is there a problem of access to the resource?					
Irrigation	M	Yes	Land owners may limit the access to water sources		
	F	Yes	Community owned and managed		
Farmland	M	Yes	Individual ownership		
	F	Yes	Individual ownership		
Forest	M	Yes	Private ownership		
	F	Yes	Community and privately owned, with rules for cutting down trees.		
Pasture	M	Yes			
	F	No	Community and privately owned		
Markets	M	No			
	F	No			
Is there any local action in place to address the problem?					
Irrigation	M	No			
	F	No			
Farmland	M	No			
	F	No			
Forest	M	No			
	F	No			
Pasture	M	No			
	F	No			
Markets	M	No			
	F	No			

Membership of organisations and organisational agendas

% households with at least one member belonging to organised groups

	Baseline	Mid-term	Final
Tree nursery/tree planting	4%		
Water catchment/management	0%		
Soil improvement related	1%		
Crop improvement related	1%		
Irrigation	1%		
Savings/credit related	34%		
Agricultural product marketing	11%		
Agricultural productivity enhancement related	31%		
Seed production	1%		
Vegetable production	6%		
Other group not mentioned above?	8%		
No groups	39%		

Ratio of local organisations involved in Natural Resource Management to total number of organisations involved in NRM*

	Baseline	Mid-term	Final
Men's group	1/6		
Women's group	6/10		

* Organisations have been recoded by CCAFS researchers from original data (participant perceptions of community, local and beyond local) to categories of local and external.

Household assets

% household with assets by type	Baseline	Mid-term	Final
Basic level	5%		
Intermediate level	62%		
High level	33%		

% households ownership

Transport

Bicycle	94%		
Motorcycle	16%		
Car or Truck	0%		

Production

Tractor	0%		
Mechanical Plough	1%		
Mill	9%		
Water pump/Treadle pump	0%		
Thresher	0%		
Boat	1%		
Fishing Nets	4%		

Energy

Solar Panel	2%		
Generator	1%		
Battery	5%		
Biogas Digester	0%		
LPG	1%		

Information

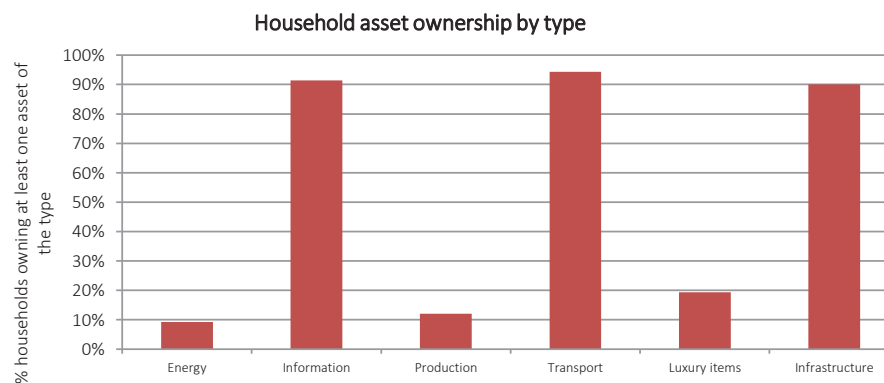
Radio	85%		
Television	5%		
Cell Phone	71%		
Computer	0%		
Internet Access	0%		

Luxury

Refrigerator	0%		
Air Conditioning	0%		
Electric Fan	1%		
Bank Account	19%		

Infrastructure

	Baseline	Mid-term	Final
Improved storage facility for crops	26%		
Water storage tank	1%		
Well/borehole	34%		
Running/tap water in dwelling	4%		
Electricity from a grid	2%		
Improved housing	52%		
Improved roofing	78%		
Separate housing for farm animals	71%		



Networks of information

Networks of information - Men Group

	Baseline	Mid-term	Final
Market information			
Family	No		
Friends	Yes		
Neighbours	Yes		
Organisations	Yes		
Radio	Yes		
Personal observation	No		

Networks of information - Men Group

	Baseline	Mid-term	Final
Rainfall			
Family	No		
Friends	No		
Neighbours	No		
Organisations	Yes		
Radio	Yes		
Personal observation	Yes		

Networks of information - Men Group

	Baseline	Mid-term	Final
Planting time			
Family	Yes		
Friends	Yes		
Neighbours	No		
Organisations	Yes		
Radio	Yes		
Personal observation	No		

Networks of information - Men Group

	Baseline	Mid-term	Final
Farm inputs (seeds & fertiliser)			
Family	Yes		
Friends	Yes		
Neighbours	No		
Organisations	Yes		
Radio	No		
Personal observation	No		

Networks of information

Networks of information - Women Group			
	Baseline	Mid-term	Final
Land preparation			
Family	No		
Friends	Yes		
Neighbours	No		
Organisations	Yes		
Radio	Yes		
Personal observation	Yes		

Networks of information - Women Group			
	Baseline	Mid-term	Final
Manure application			
Family	No		
Friends	Yes		
Neighbours	No		
Organisations	Yes		
Radio	Yes		
Personal observation	No		

Networks of information - Women Group			
	Baseline	Mid-term	Final
Weather information			
Family	No		
Friends	Yes		
Neighbours	Yes		
Organisations	Yes		
Radio	Yes		
Personal observation	Yes		

Networks of information

% of households receiving weather-related information			
	Baseline	Mid-term	Final
Start of the rains	44%		
Forecast of extreme events	76%		
Forecast of pest or disease outbreak	51%		
2-3 month weather forecast	26%		
2-3 day weather forecast	32%		

Of households receiving information, who in the family receives it			
	Baseline	Mid-term	Final
Start of the rains			
Men	58%		
Women	3%		
Both	39%		

Forecast of extreme events			
Men	65%		
Women	5%		
Both	31%		

	Baseline	Mid-term	Final
2-3 month weather forecast			
Men	56%		
Women	3%		
Both	42%		

2-3 day weather forecast			
Men	56%		
Women	2%		
Both	42%		

	Baseline	Mid-term	Final
Forecast of pest or disease outbreak			
Men	61%		
Women	7%		
Both	32%		

Organisational priorities

Relative importance in the portfolio of organisations
placed on climate or weather related activities

	Baseline	Mid-term	Final
Allocation of time			
Very high	13%		
High	50%		
Medium	13%		
Low	0%		
None	25%		
Allocation of staff			
Very high	13%		
High	38%		
Medium	25%		
Low	0%		
None	25%		
Allocation of budget			
Very high	0%		
High	13%		
Medium	0%		
Low	63%		
None	25%		

Organisational priorities

Match of organisational activities to perceived needs of communities			
Community issues about natural resources and infrastructure	Organisation activities		
	Baseline	Mid-term	Final
Woodlots, forest: Scattered trees have been reducing in numbers over time; deforestation	management of forests and woodlands; tree planting; training on nursery practices, planting, and tree healthcare skills; promotion of agroforestry principles and practices; anti-bush fire and against indiscriminate tree cutting campaigns; Establishment of woodlots through the provision of tree seedlings to farmers		
River: good for irrigation, ban on fishing	Management of water resources ; dam protection		
Seasonal rivers: dry up during dry season.	Management of water resources		
Boreholes: good condition	promotion of water conservation; provide tube wells and boreholes to communities		
Wetland: source of water for farming, good condition	Management of water resources		
Farmland: low soil fertility, low rainfall, low production.	Promotion of soil conservation and sustainable farming practices, including zero tillage, composting and mixed cropping; provide information on ridging, stone lining, bonding and tie ridging; promotion of recycling crop residue to improve poor soil fertility; Promotion of Agro-forestry fruit trees; Sensitization of farmers on pest and disease control measures in crop production		
Grassland: not adequate for pasture. Livestock are free ranging			
Degraded land: most land is degraded.	protection and regeneration of degraded lands, particularly via agroforestry, sustainable farming practices and sustainable energy; promotion of the use of vetiver to control erosion		
Roads: Bad condition, some impassable in rainy season			
Schools: Good condition	support schools across the district to plant moringa and fruit tree seedlings; Advocacy on rights to education/child rights; sensitize on the importance of girl-child education and their rights in schools; support to the Ghana Education Service, day nurseries and needy children		



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