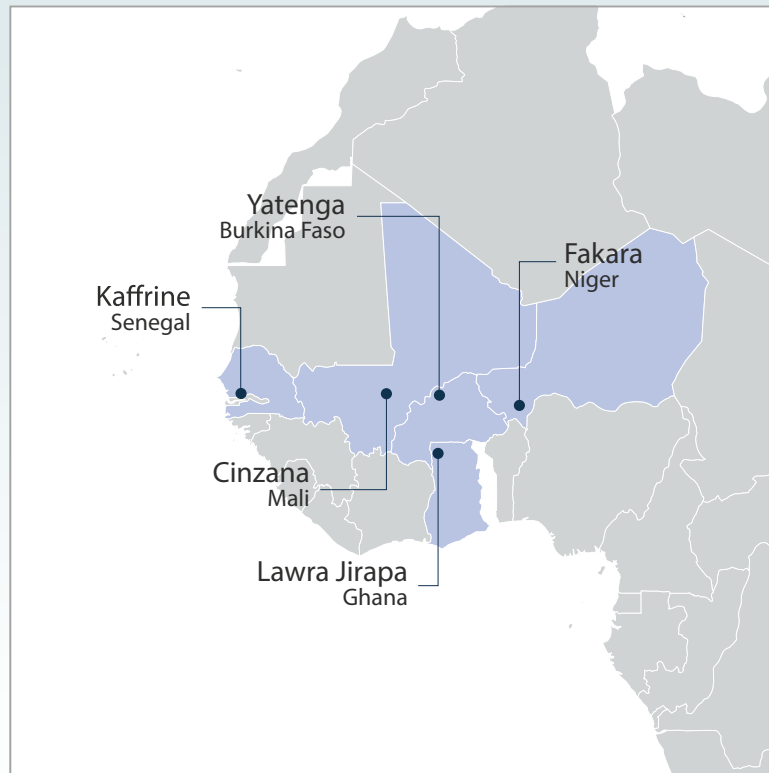


West Africa Climate-Smart Villages AR4D sites: 2017 inventory

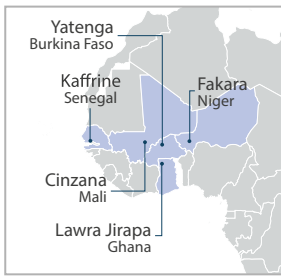


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**Climate Change,
Agriculture and
Food Security**



Citation

Bonilla-Findji O, Ouedraogo M, Partey ST, Dayamba SD, Bayala J, Zougmore R. 2018. West Africa Climate-Smart Villages AR4D sites: 2017 Inventory. Wageningen, The Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Available online at: www.ccafs.cgiar.org.



Inventory of CSA practices in West Africa's Climate-Smart Villages



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Total practices: 15

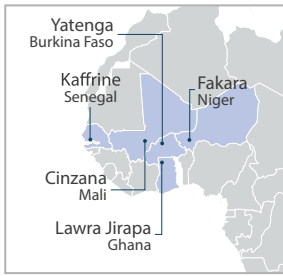
♀ Gender impact assessed for: 15

Practices with mitigation potential: 4

♀ Potential gender impact known for: 15

CSA sub-practice	Mitigation potential	Country	CSV sites	Crop	Tested	Evaluated	# HH ¹	Gender assessed	Potential gender impacts
Microdosing (DAP+Urea). use of Inorganic inputs mainly N, P and K	X	Mali	Cinzana	Sorghum, Millet and Cowpea	X	X		X	X
		Ghana	Lawra-Jirapa	Biofortied maize, orange flesh sweet potato, millet, non-shattering soybean	X	X	53	X	X
		Senegal	Kaffrine	Millet	X	X	40	X	X
Improved seeds	-	Mali	Cinzana	Sorghum, Millet, Cowpea, Pepper, var.	X	X		X	X
		Burkina Faso	Yatenga	Biofortified sweetpotato and millet	X	X	185	X	X
		Niger	Fakara	Biofortified millet and Maize	X	X	30	X	X
Farmer Managed Natural Regeneration	X	Senegal	Kaffrine	Millet	X	X	40	X	X
Manure	-	Senegal	Kaffrine	Millet	X	X	40	X	X
Intercropping (Mixed Legume/ Non Legume)	-	Mali	Cinzana	Sorghum or Millet + Cowpea	X	X	-	X	X
		Mali	Cinzana	Sorghum or Millet + Cowpea	X	X	-	X	X
Compost	-	Niger	Fakara	Maize and Millet	X	X	30	X	X
		Niger	Fakara	Chicken and Cock	X	X	40	X	X
Income Diversification (poultry coop)	-	Niger	Fakara	Chicken and Cock	X	X	40	X	X
Crop rotation (Mixed Legume/Non Legume)	-	Ghana	Lawra-Jirapa	Maize cowpea	X	X	53	X	X
Bund	-	Ghana	Lawra-Jirapa	Maize	X	X	53	X	X
Intercropping	-	Ghana	Lawra-Jirapa	Cowpea with Jatropha	X	X	53	X	X
Tied ridges	-	Ghana	Lawra-Jirapa	Maize	X	X	53	X	X
No or Zero Tillage	X	Ghana	Lawra-Jirapa	soybean	X	X	53	X	X
Inorganic fertilizers (NPK)	-	Ghana	Lawra-Jirapa	Maize	X	X	53	X	X
		Senegal	Kaffrine	Millet	X	X	40	X	X
Intercropping (tree planting)	X	Ghana	Lawra-Jirapa	Moringa and Cashew	X	X	53	X	X
Contour Ridges	-	Mali	Cinzana	Sorghum, millet + cowpea	X	X	72	X	X

¹ HH: households



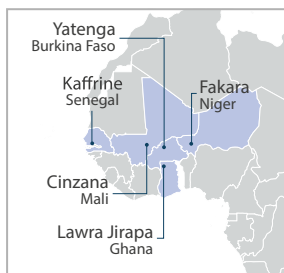
Inventory of CSA practices in West Africa's Climate-Smart Villages



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Food Security



Agro-Met service	Country	CSV sites	Available	Evaluated	# HH	Potential gender impacts
Agroadvisories on fertilizer and pesticide application	Ghana	Lawra-Jirapa	X	-	641	-
	Mali	Cinzana	X	-		-
	Niger	Fakara	X	-		-
	Senegal	Kaffrine	X	-	67	-
Agroadvisories on varieties applied under the forecasted information	Burkina Faso	Yatenga	X	-	110	-
	Mali	Cinzana	X	-		-
	Niger	Fakara	X	-		-
	Senegal	Kaffrine	X	-	67	-
Daily forecast	Ghana	Lawra-Jirapa	X	-	641	-
	Ghana	Lawra-Jirapa	X	-	641	-
	Burkina Faso	Yatenga	X	-	110	-
Seasonal forecast	Senegal	Kaffrine	X	-	67	-
	Ghana	Lawra-Jirapa	X	-	641	-
	Burkina Faso	Yatenga	X	-	110	-
	Mali	Cinzana	X	-		-
	Niger	Fakara	X	-		-
Weekly/10 day forecast	Senegal	Kaffrine	X	-	67	-
	Ghana	Lawra-Jirapa	X	-	641	-
	Burkina Faso	Yatenga	X	-	110	-



Inventory of CSA practices in West Africa's Climate-Smart Villages



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Food Security



Market services	Country	CSV sites	Available	Tested	Evaluated	# HH	Gender assessed	Potential gender impacts
Input subsidies	Ghana	Lawra-Jirapa	X	-	-		-	-
	Burkina Faso	Yatenga	X	-	-		-	-
Price support	Ghana	Lawra-Jirapa	X	-	-	641	-	-

Financial services	Country	CSV sites	Available	Tested	Evaluated	# HH	Gender assessed	Potential gender impacts
Government subsidies	Burkina Faso	Yatenga	X	-	-		-	-
Informal individual credits/loans	Ghana	Lawra-Jirapa	X	-	-		-	-
	Burkina Faso	Yatenga	X	-	-		-	-
Informal group loans	Ghana	Lawra-Jirapa	X	-	-		-	-
Informal saving groups	Ghana	Lawra-Jirapa	X	-	-		-	-
Weather-based insurance	Ghana	Lawra-Jirapa	X	-	-		-	-

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Acknowledgments

This CSV inventory was implemented as part of CCAFS Flagship 2 activities under the global and regional coordination of Osana Bonilla-Findji and Mathieu Ouedraogo, respectively. We would like to acknowledge the valuable support of our local partners and focal points from each site: André Babou Bationo (INERA), Saaka Buah (CSIR/SARI), Siaka Dembélé (IER), Abasse Tougiani (INRAN) and Diaminatou Sanogo (ISRA).

Climate-Smart Village Yatenga (Burkina Faso)



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



325
m.a.s.l



3 Ha
Farm size



367**
HH



2%
Headed HH



Photo: P. Caster (CGIAR)

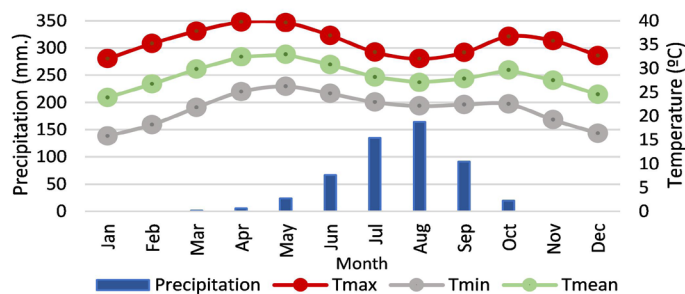
** Tibtenga and Ramdolla villages

Main crops and livestock

+♀ Gender specific

Food: millet, cowpea, sorghum, maize ♂, goat, chicken
Food/cash: sesame, onion ♂, cow/oxen ♂, sheep, donkey ♂

Climatic conditions



Source: www.worldclim.org

Parameter	Amount	Narrative
Total annual P	509 mm	A single rainy season of 390 mm (Jul–Sep) and a dry season of 119 mm (Oct–Jun).
Max # of consecutive dry months	10 months (< 100 mm)	
Max T rainy season	33.4°C	
Max T dry season	39.7°C	
Highest Tmin	26.2°C	May

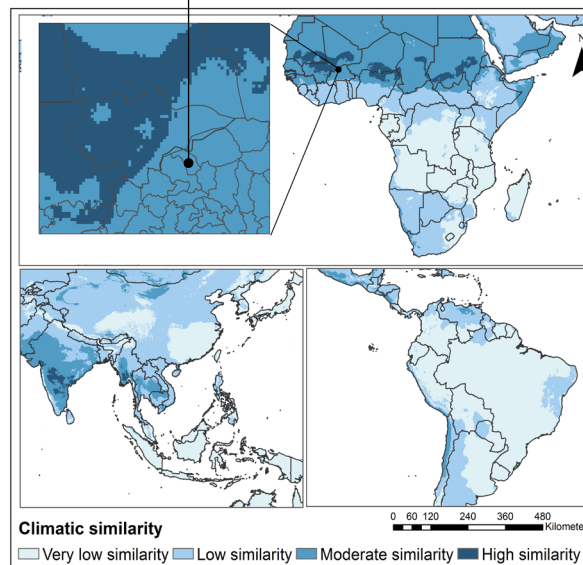
*CCAFS Household baseline (2013) and ImpactLite

Climate-related risks

High rainfall variability, drought spells during the cropping season and low levels of soil fertility. Widespread soil erosion. Nearly 70% of the land is unsuited for agriculture purposes.

Areas of climatic similarity

Yatenga-CSV
13.82°N -2.11°W



Areas whose future projected climate (by 2030) is similar to the current climate in this CSV

Source: www.ccafs-analogues.org

Climate-Smart Village Yatenga (Burkina Faso)



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Agriculture and
Food Security**



325
m.a.s.l



3 Ha
Farm size



367
HH

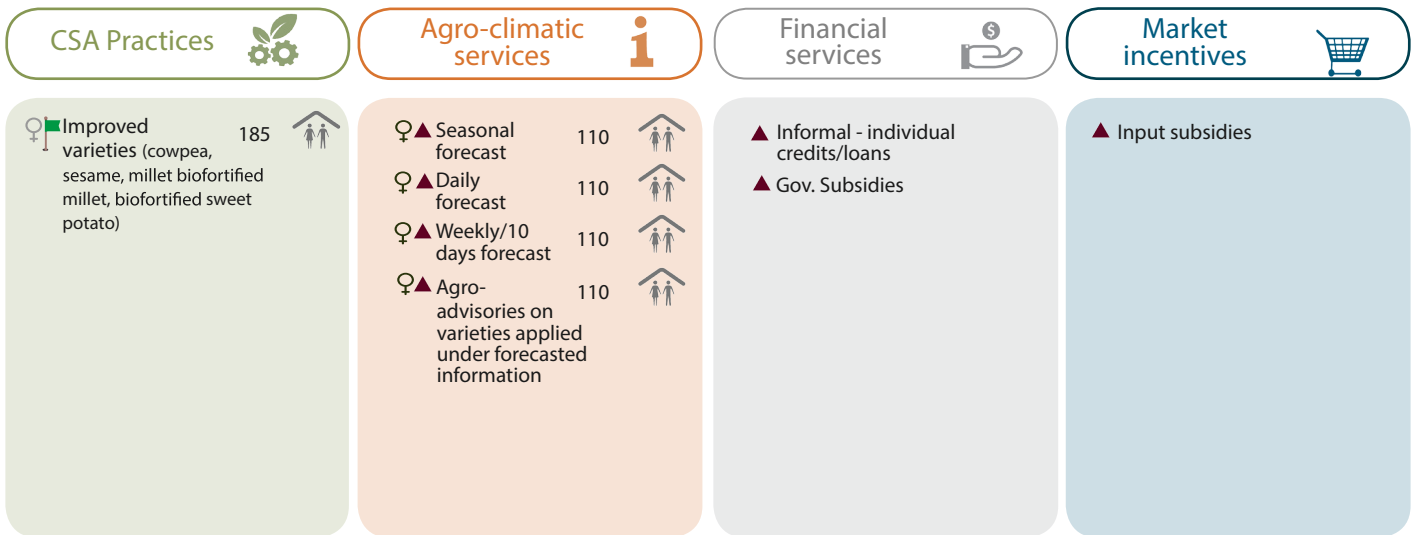


2%
Headed HH



2017: Field testing of CSA portfolio and # of farmers involved

i Tested
 🔄 Evaluated
 🚩 Tested & Evaluated
 U Mitigation potential
 🏠 Households
▲ Available in Site, not by CCAFS
 ♀ Gender aspect assessed
 ♀ Potential gender impact



Flagship projects

- [Regional/National synthesis, engagement and support](#)
- [Building resilient agro-sylvo-pastoral systems through PAR](#)
- [Capacitating African Smallholders with Climate Advisories and Insurance](#)

Partners



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ICRISAT, ICRAF, IUCN, INERA, Direction Nationale de la Météorologie

CSV profile developed by Osana Bonilla-Findji, Patricia Alvarez-Toro, Julian Ramirez-Villegas, Mathieu Ouedraogo and André Babou Bationo.

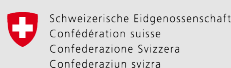
The CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a strategic partnership of CGIAR and Future Earth, led by the International Center for Tropical Agriculture (CIAT). CCAFS brings to scale climate smart agricultural practices, technologies and institutions which contribute to increased food and nutritional security, low emissions development, sustainable landscapes, and increased gender equity.

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Ministry of Foreign Affairs of the Netherlands



Investing in rural people

Climate-Smart Village Lawra-Jirapa (Ghana)



RESEARCH PROGRAM ON
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Food Security**



180-
300
m.a.s.l



3 Ha
Farm size



344**
HH



4%
Headed HH



Photo: P. Caster (CGIAR)

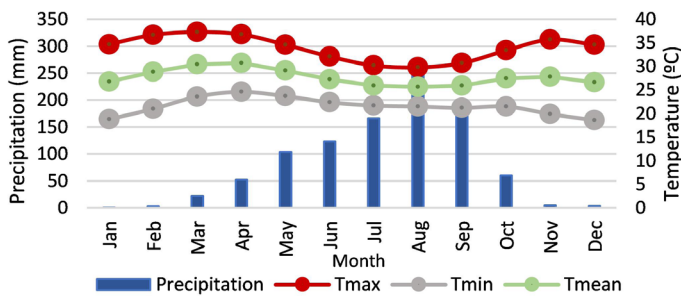
** Doggoh and Bompari villages

Main crops and livestock

+↔ Gender specific

Food/cash: millet♂, sorghum♂, maize♂, yam♂,
cowpea, chicken, Guinea fowls♂
Cash: groundnut♀, goat, sheep, cow♂

Climatic conditions



Source: www.worldclim.org

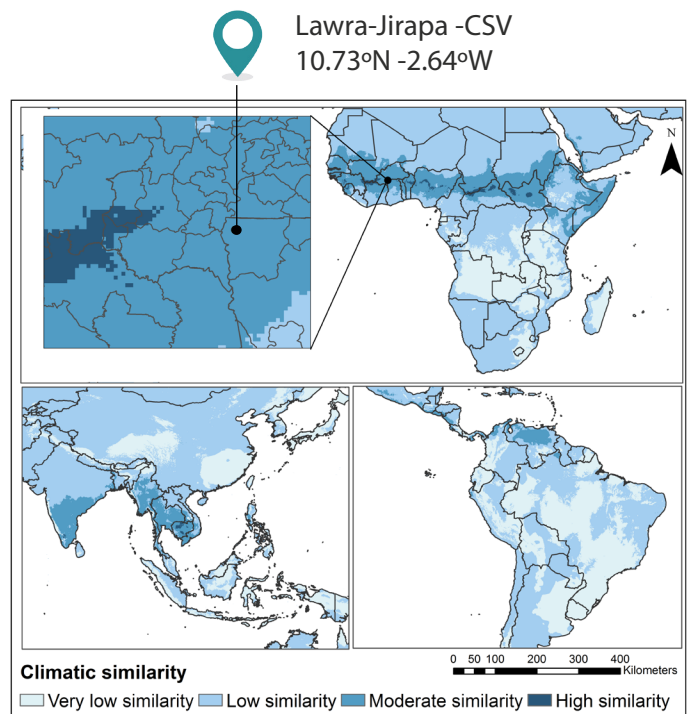
Parameter	Amount	Narrative
Total annual P	786 mm	A single rainy season of 599 mm (Jul– Sep) and a dry season of 374 mm (Oct–Jun).
Max # of consecutive dry months	7 months (< 100 mm)	
Max T rainy season	30.7°C	
Max T dry season	37.3°C	
Highest Tmin	24.6°C	April

*CCAFS Household baseline (2013) and ImpactLite

Climate-related risks

High rainfall variability, rainfall more erratic, more drought spells. Land degradation.

Areas of climatic similarity



Areas whose future projected climate (by 2030) is similar to the current climate in this CSV

Source: www.ccafs-analogues.org

Climate-Smart Village Lawra-Jirapa (Ghana)



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Agriculture and
Food Security**



180-
300
m.a.s.l



3 Ha
Farm size



344
HH

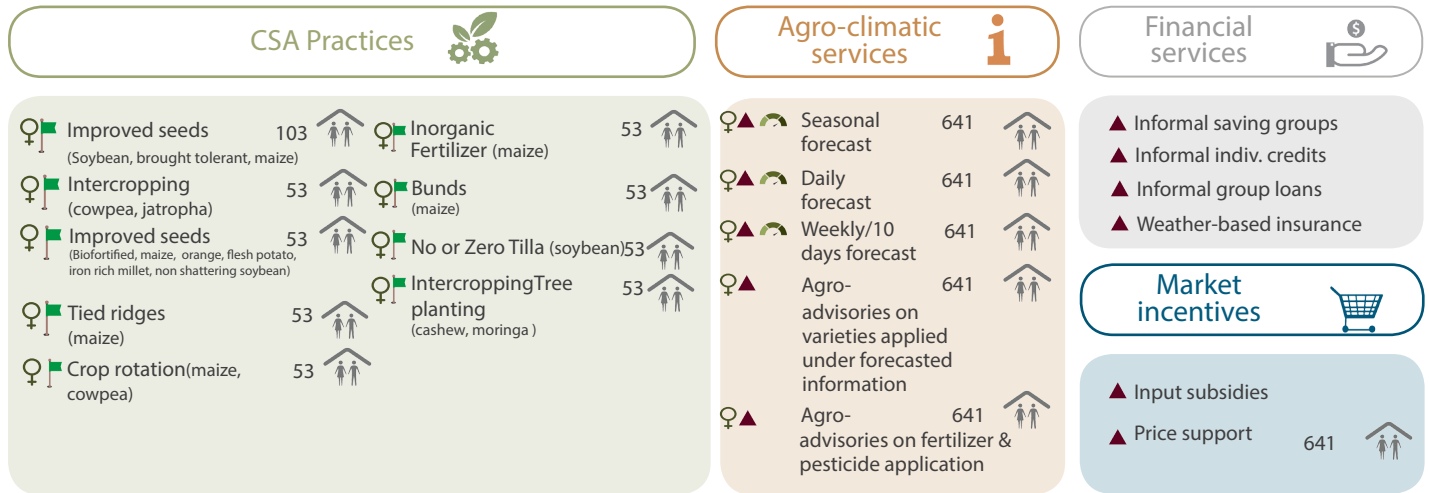


4%
Headed HH



2017: Field testing of CSA portfolio and # of farmers involved

- i Tested
- 🔄 Evaluated
- 🚩 Tested & Evaluated
- U Mitigation potential
- 👤 Households
- ▲ Available in Site, not by CCAFS
- ♀ Gender aspect assessed
- ♀ Potential gender impact



Flagship projects

- Regional/National synthesis, engagement and support
- Building resilient agro-sylvo-pastoral systems through PAR
- Capacitating African Smallholders with Climate Advisories and Insurance

Partners



ICRISAT, ICRAF, CSIR/SARI, MoFA, Esoko, Ghana Meteo Agency

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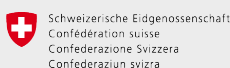
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j.bayala@cigar.org

CSV profile developed by Osana Bonilla-Findji, Patricia Alvarez-Toro, Julian Ramirez-Villegas, Mathieu Ouedraogo and Saaka Buah

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Climate-Smart Village Cinzana (Mali)



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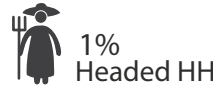


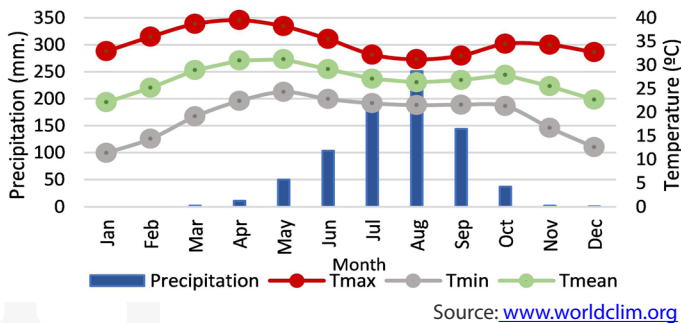
Photo: P. Caster (CGIAR)

**Tongo and Ngakoro villages

Main crops and livestock +♂→ Gender specific

Food: millet, sorghum
Food/cash: peanut ♀, maize ♂, cowpea
Cash: rice, goat, chicken ♀, sheep, oxen ♂, donkey ♂

Climatic conditions



Parameter	Amount	Narrative
Total annual P	786 mm	A single rainy season of 435 mm (Jul– Sep) and a dry season of 351 mm (Sep–Jun).
Max # of consecutive dry months	8 months (< 100 mm)	
Max T rainy season	32.2°C	
Max T dry season	39.5°C	
Highest Tmin	24.3°C	May

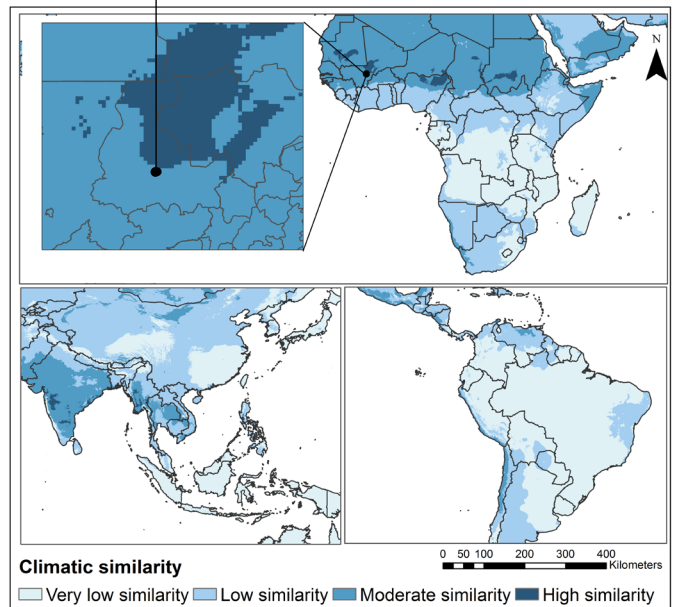
*CCAFS Household baseline (2013) and ImpactLite

Climate-related risks

High rainfall variability, low soil fertility and land degradation

Areas of climatic similarity

Cinzana-CSV
13.50°N -5.61°W



Areas whose future projected climate (by 2030) is similar to the current climate in this CSV

Source: www.ccafs-analogues.org

Climate-Smart Village Cinzana (Mali)



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Agriculture and
Food Security**



300
m.a.s.l



9 Ha
Farm size



305
HH



1%
Headed HH



2017: Field testing of CSA portfolio and # of farmers involved

i Tested
 📊 Evaluated
 🚩 Tested & Evaluated
 U Mitigation potential
 👤 Households
▲ Available in Site, not by CCAFS
 ♀ Gender aspect assessed
 ♀ Potential gender impact

CSA Practices	Agro-climatic services	Financial services	Market incentives
<ul style="list-style-type: none"> ♀ 🚩 Microdosing 72 (Sorghum, millet, and cowpea) ♀ 🚩 Compost 72 (sorghum, millet, cowpea) ♀ 🚩 Improved seed 134 (high yield, short growing season, early maturing sorghum, millet, cowpea) ♀ 🚩 Intercropping 72 (Mixed Legume/Non Legume (sorghum or millet+Cowpea)) ♀ 🚩 Contour Ridges 72 (Sorghum, millet, cowpea) 	<ul style="list-style-type: none"> ▲ Seasonal forecast ▲ Agro-advisories on varieties applied under forecasted information ▲ Agro- advisories on fertilizer & pesticide application 	None	None

Flagship projects

- Regional/National synthesis, engagement and support
- Capacitating African Smallholders with Climate Advisories and Insurance

Partners



ICRISAT, ICRAF, Institut d'Economie Rurale (IER)

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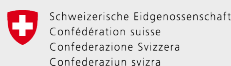
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Investing in rural people

Climate-Smart Village Fakara (Niger)



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



200
m.a.s.l



10 Ha
Farm size



254**
HH



4%
Headed HH



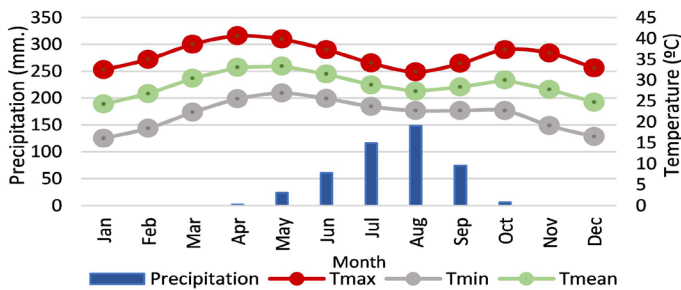
Photo: CCAFS

**Kampa Zarama, Bankadey villages

Main crops and livestock +♂♀ Gender specific

Food: millet, cowpea, sorghum♂, maize
Food/cash: peanut, maize♀
Cash: peanut♀, goat♀, chicken♀, sheep, cow/oxen♂

Climatic conditions



Source: www.worldclim.org

Parameter	Amount	Narrative
Total annual P	431 mm	A single rainy season of 246 mm (Jul– Aug) and a dry season of 167 mm (Sep–Jun).
Max # of consecutive dry months	10 months (< 100 mm)	
Max T rainy season	34.1°C	
Max T dry season	40.6°C	
Highest Tmin	26.9°C	May

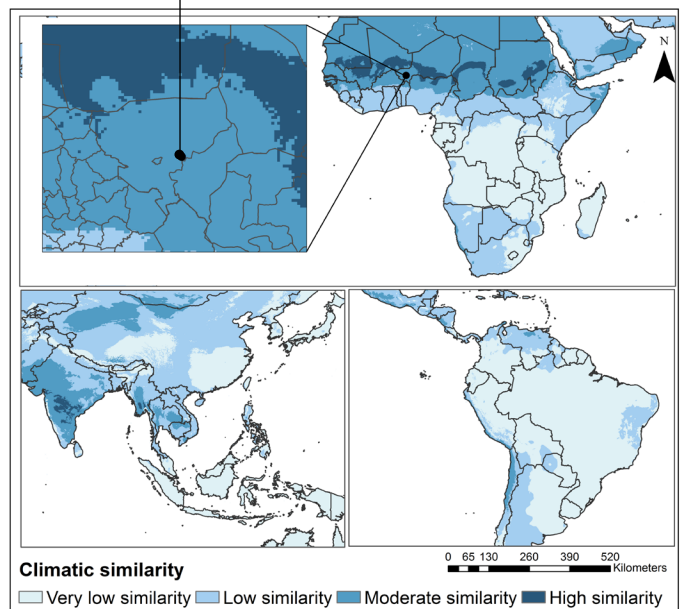
*CCAFS Household baseline (2013) and ImpactLite

Climate-related risks

High rainfall variability, low soils fertility, land degradation.

Areas of climatic similarity

Fakara-CSV
13.65°N -2.83°W



Areas whose future projected climate (by 2030) is similar to the current climate in this CSV

Source: www.ccafs-analogues.org

Climate-Smart Village Fakara (Niger)



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Agriculture and
Food Security**



200
m.a.s.l



10 Ha
Farm size



254
HH



4%
Headed HH



2017: Field testing of CSA portfolio and # of d farmers involved

i Tested
 🌱 Evaluated
 🚩 Tested & Evaluated
 U Mitigation potential
 👤 Households
▲ Available in Site, not by CCAFS
 ♀ Gender aspect assessed
 ♀ Potential gender impact

CSA Practices	Agro-climatic services	Financial services	Market incentives
♀ 🚩 Improved seeds (Biofortified maize, millet) 30 👤 ♀ 🚩 Compost (Maize, millet) 30 👤 ♀ 🚩 Income diversification (Poultry coop) 40 👤	▲ Seasonal forecast ▲ Agro-advisories on varieties applied under forecasted information ▲ Agro- advisories on fertilizer	None	None

Flagship projects

- [Regional/National synthesis, engagement and support](#)
- [Building resilient agro-sylvo-pastoral systems through PAR](#)
- [Capacitating African Smallholders with Climate Advisories and Insurance](#)

Partners



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ICRISAT, ICRAF, IUCN, INRAN, AGRYMET

CSV profile developed by Osana Bonilla-Findji, Patricia Alvarez-Toro, Julian Ramirez-Villegas, Mathieu Ouedraogo and Abasse Tougiani.

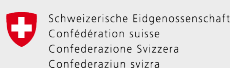
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Ministry of Foreign Affairs of the Netherlands



Climate-Smart Village Kaffrine (Senegal)



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



15-50
m.a.s.l



9 Ha
Farm size



406**
HH



2%
Headed HH



Photo: A. Jattus (CCAFS)

** Daga-Birame and Toune Mosquée villages

Main crops and livestock

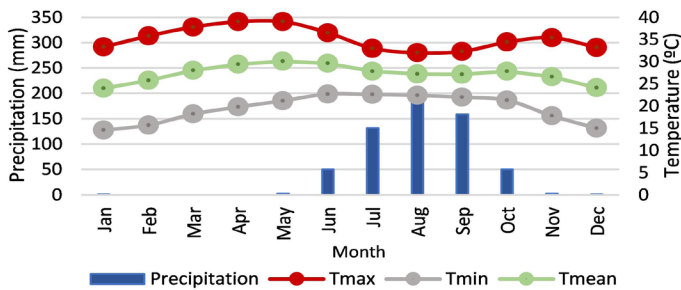
+↔ Gender specific

Food: millet ♂, sorghum ♂

Food/cash: peanut, maize ♀

Cash: horse ♂, donkey ♂, dairy cow ♂, goat ♀, sheep

Climatic conditions



Source: www.worldclim.org

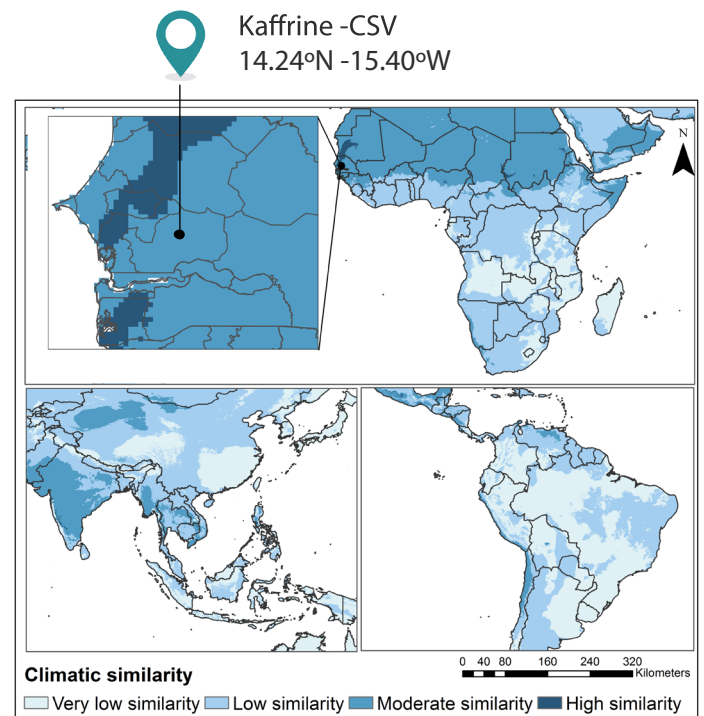
Parameter	Amount	Narrative
Total annual P	589 mm	A single rainy season of 483 mm (Jul– Sep) and a dry season of 106 mm (Oct–Jun).
Max # of consecutive dry months	9 months (< 100 mm)	
Max T rainy season	33.0°C	
Max T dry season	39.0°C	
Highest Tmin	22.7°C	June

*CCAFS Household and Gender baselines (2013)

Climate-related risks

Rainfall variability, droughts, floods and winds.

Areas of climatic similarity



Areas whose future projected climate (by 2030) is similar to the current climate in this CSV

Source: www.ccafs-analogues.org

Climate-Smart Village Kaffrine (Senegal)



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



15-50
m.a.s.l



9 Ha
Farm size



406
HH

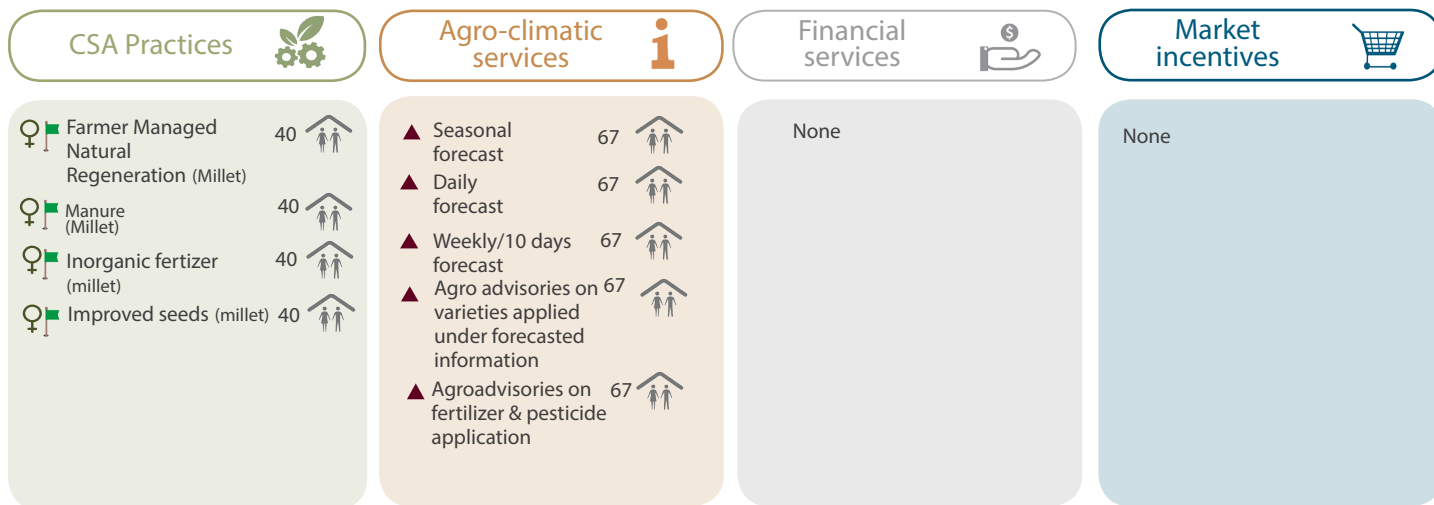


2%
Headed HH



2017: Field testing of CSA portfolio and # of farmers involved

- i Tested
- ◡ Evaluated
- f Tested & Evaluated
- U Mitigation potential
- ↑↑ Households
- ▲ Available in Site, not by CCAFS
- ♀ Gender aspect assessed
- ♀ Potential gender impact



Flagship projects

- [Regional/National synthesis, engagement and support](#)
- [Building resilient agro-sylvo-pastoral systems through PAR](#)
- [Capacitating African Smallholders with Climate Advisories and Insurance](#)

Partners



ICRISAT, ICRAF, IUCN, ANACIM, ISRA

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