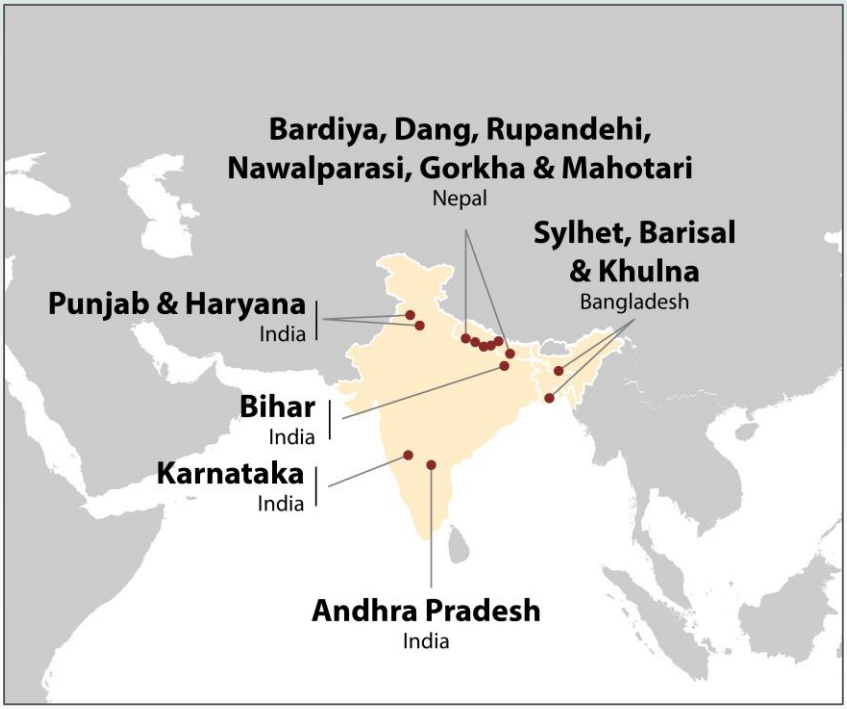
# South Asia Climate-Smart Villages AR4D sites: 2016 Inventory

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security




*India*

*Nepal*

*Bangladesh*

**Citation**
Bonilla-Findji O, Khatri-Chhetri A. 2017. South Asia Climate-Smart Villages AR4D sites: 2016 Inventory. Wageningen, The Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).


# Inventory of CSA practices in South Asia's Climate-Smart Villages

CGIAR

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CCAFS

## Total Practices: **29** …. with mitigation potential: **15**

Gender impact assessed for **18** ♀ Potential gender impact known for **18**

| CSA sub-Practice | Mitigation potential | Country | CSV AR4D sites | Crop | Implemented | Evaluated | Impl. & Evaluated | # of Hholds | Gender Assessed | Potential gender impacts |
|---|---|---|---|---|---|---|---|---|---|---|
| **Agroforestry Fallows** | x | India | Punjab | Wheat, fodder | - | - | x | 150 | x | x |
| **Conservation Agriculture** | x | India | Bihar | All crop | - | - | x | 35 | x | x |
| | | | Haryana | All crops | - | - | x | 1745 | x | x |
| | | | Punjab | All crops | - | - | x | 68 | x | x |
| | | Nepal | Mahotari | Wheat, Rice, Maize | - | x | - | 30 | x | x |
| **Crop Residue retention /incorporation** | x | India | Bihar | All crop | - | - | x | 55 | x | x |
| | | | Haryana | All crop | - | - | x | 300 | x | x |
| | | Nepal | Mahotari | Wheat | - | x | - | 25 | x | x |
| | | | Nawalparasi | Wheat | - | - | x | 9 | - | - |
| | | | Dang | Wheat he/dg | - | x | - | 3 | x | x |
| | | | Bardiya | Rice | - | - | x | 3 | x | x |
| **Crop Rotation** | - | India | Bihar | Maize and mustard | x | - | - | 45 | - | x |
| | | | Haryana | Maize and mustard | - | - | x | 18 | x | x |
| | | | Punjab | Maize and mungbean | x | - | - | 23 | x | x |
| | | Nepal | Mahotari | Wheat, Maize, Vegetables | x | - | - | 157 | - | - |
| **Fisheries intensification** | - | Bangladesh | Barisal | Indigenous fish | - | - | x | 546 | x | x |
| **Flood risk Management (Bank cultivation)** | - | Nepal | Mahotari | Vegetables | x | - | - | 21 | - | - |
| **Flood risk Management (Vegetable tower)** | - | Bangladesh | Barisal | Sweet gourd, bottle gourd, better gourd, green chili, yard longbean, Indian spinach | - | - | x | | x | x |
| | | | Sylhet | Sweet gourd, bottle gourd, better gourd, green chili, yard longbean, | - | - | x | 30 | x | - |
| | | | Khulna | Sweet gourd, bottle gourd, better gourd, green chili, yard longbean, Indian spinach | - | - | x | | x | x |
| **Fodder Shrubs** | x | Bangladesh | Khulna | Nepiar, Pari, Jambo grass | - | - | x | 100 | x | x |
| **Green Manure** | x | India | Bihar | Moong, Sesbenia | x | - | - | 25 | - | - |
| | | | Punjab | Dhaincha | x | - | - | 82 | x | x |
| **Improved Fallows** | x | Nepal | Bardiya | lentil, chickpea | x | - | - | - | - | - |
| **Improved Varieties** | - | Bangladesh | Khulna | Okra, Red amaranth | - | - | x | 100 | x | x |
| | | India | Bihar | All crop | - | - | x | 300 | - | x |
| | | | Haryana | All crop | - | - | x | 285 | x | x |
| | | | Punjab | All Crop | - | - | x | 425 | x | x |
| | | Nepal | Mahotari | Wheat, Rice, Maize, Vegetables | x | - | - | 157 | - | - |
| | | | Nawalparasi | Wheat, Maize | x | - | - | 150 | - | - |
| | | | Bardiya | wheat, rice, potato | x | - | - | 203 | x | x |
| | | | Gorkha | maize | x | - | - | 102 | - | - |
| **Inorganic Fertilizer** | - | Nepal | Mahotari | Wheat, Rice, Maize, Vegetables | - | x | - | 157 | x | x |
| | | | Dang | Rice and Wheat | - | - | x | 25 | x | x |
| | | | Bardiya | rice, wheat, maize | - | - | x | 33 | - | x |
| | | | Gorkha | maize, rice | - | x | - | 5 | x | x |
| **Integrated Nutrient Mngt** | x | India | Bihar | Rice, Wheat and Maize | - | - | x | 156 | x | x |
| | | | Haryana | Rice, Wheat and Maize | - | - | x | 183 | x | x |
| | | Nepal | Mahotari | Wheat, Rice, Maize | - | x | - | 10 | x | x |
| **Integrated Nutrient Mngt** (Greenseeker) | x | India | Haryana | | | | | | | |
| | | | Punjab | Rice, Wheat and Maize | - | - | x | 84 | x | x |
| **Integrated Water management** (Village scale) | - | Nepal | Mahotari | Vegetables | x | - | - | 46 | - | - |


# Inventory of CSA practices in South Asia's Climate-Smart Villages

CGIAR

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CCAFS

| CSA sub-Practice | Mitigation potential | Country | CSV AR4D sites | Crop | Implemented | Evaluated | Impl. & Evaluated | # of Hholds | Gender Assessed | Potential gender impacts |
|---|---|---|---|---|---|---|---|---|---|---|
| **Irrigation** | - | India | Bihar | All crop | x | - | - | 20 | - | - |
| | | Nepal | Mahotari | Wheat, Rice | - | x | - | 14 | x | x |
| **Mulching** | x | Bangladesh | Barisal | Sweet gourd,Bottle gourd,Better gourd,Green Chili,Yard | - | - | x | 50 | x | x |
| | | | Khulna | Sweet gourd,Bottle gourd,Better gourd,Green Chili,Yard longbean,Indian spinach, spinach | - | - | x | 100 | x | x |
| | | India | Haryana | | - | - | x | | - | - |
| | | India | Punjab | | - | - | x | | - | - |
| | | Nepal | Mahotari | Ginger | x | x | - | 6 | - | - |
| **No/Reduced Tillage** | x | India | Bihar | All crop | - | - | x | 247 | x | x |
| | | | Haryana | All crop | - | - | x | 1551 | x | x |
| | | | Punjab | All Crop | - | - | x | 110 | x | x |
| | | Nepal | Mahotari | Wheat, Rice, Maize | - | x | - | 25 | x | x |
| | | | Nawalparasi | Wheat | - | - | x | 25 | x | x |
| | | | Dang | Rice hekuli | - | x | - | 2 | - | - |
| | | | Dang | Wheat | x | - | - | 11 | x | x |
| | | | Bardiya | wheat | - | - | x | 29 | x | x |
| **New cropping system & additional crops (Home gardens)** | - | Nepal | Mahotari | Wheat, Rice, Maize, Vegetables | x | - | - | 567 | - | - |
| | | | Nawalparasi | Mainly vegetables | x | - | - | 605 | - | - |
| | | | Bardiya | vegetables (for kitchen gardening: summer (bean, cucumber, bitter gourd, bottle gourd, okra, cowpea, pumpkin) ,, winter (cauliflower, cabbage, chilli, | x | - | - | 643 | x | x |
| | | | Gorkha | Vegetables | x | - | - | 102 | - | - |
| **Organic Fertilizer** | - | Nepal | Mahotari | Wheat, Rice, Maize, Vegetables | - | x | - | 90 | x | x |
| **Raised beds** | - | Bangladesh | Barisal | Seedling (Chili,Brinhal) | - | - | x | 50 | x | x |
| | | | Khulna | Seedling (Chili,Brinhal) | - | - | x | 100 | x | x |
| | | India | Bihar | Maize and mustard | - | - | x | 93 | x | x |
| | | | Haryana | Maize and mustard | - | - | x | 7 | x | x |
| | | | Punjab | Maize | - | - | x | 12 | x | x |
| | | Nepal | Mahotari | Tomato, cauli and cabbage | x | - | - | 46 | - | - |
| **Rice cum fish farming** | - | Nepal | Mahotari | Rice and fish | x | - | - | 5 | - | - |
| **Rice Management** (Direct seeded) | x | India | Bihar | Rice | - | - | x | 126 | x | x |
| | | | Haryana | Rice | - | - | x | 128 | x | x |
| | | | Punjab | Rice | - | - | x | 45 | x | x |
| | | Nepal | Mahotari | Rice | - | x | - | 5 | x | x |
| **Rice Management** -Alternate Wetting and Drying (AWD) | x | India | Haryana | Rice | - | - | x | | - | - |
| | | | Punjab | Rice | - | - | x | | - | - |
| | | Nepal | Mahotari | Rice | - | x | - | 17 | x | x |
| | | | Bardiya | Rice | - | - | x | 6 | x | x |
| | | | Gorkha | Rice | - | x | - | 1 | x | x |
| **Rice management** (Residue management) | x | Nepal | Mahotari | Rice | - | x | - | 17 | x | x |
| | | | Bardiya | Rice | - | - | x | 6 | x | x |
| | | | Gorkha | Rice | - | x | - | 1 | x | x |
| **Solar based irrigation** | x | India | Haryana | | - | - | x | | - | - |
| | | | Punjab | | - | - | x | | - | - |
| | | Nepal | Nawalparasi | | - | - | x | 40 | x | x |
| | | | Dang | Wheat,vegetables | x | - | - | 40 | x | x |
| | | | Bardiya | Rice, vegetable | - | - | x | 24 | x | x |
| **Water Harvesting** | - | Nepal | Mahotari | Vegetables | x | - | - | 581 | - | - |
| | | | Gorkha | Vegetables | x | - | - | 10 | - | - |
| **Water saving- Laser land leveling** | x | India | Bihar | All crop | - | - | x | 25 | x | x |
| | | | Haryana | All crop | - | - | x | 5816 | x | x |
| | | | Punjab | All Crop | - | - | x | 407 | x | x |


# Inventory of CSA services in South Asia's Climate-Smart Villages

CGIAR

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CCAFS

| Agro-Met Service | Country | CSV AR4D site | Agro-Met Service Implemented | Agro-Met Service Evaluated | # of households | Potential gender impacts known |
|---|---|---|---|---|---|---|
| **Agroadvisories on fertilizer and pesticide application** | India | Bihar | - | - | | - |
| | | Haryana | x | x | | x |
| | | Punjab | x | x | | - |
| | Nepal | Nawalparasi | - | - | | - |
| | | Dang | x | - | | - |
| | | Bardiya | x | - | | - |
| | | Mahotari | x | - | | - |
| **Weekly/10 day forcast** | India | Haryana | x | x | 424 | x |
| | | Punjab | x | x | 424 | - |

| Market Services | Country | CSV AR4D site | Available | Implemented | Evaluated | # of households | Gender Assessed | Potential gender impacts known |
|---|---|---|---|---|---|---|---|---|
| **Input subsidies** | Nepal | Bardiya | X | - | - | - | - | - |
| | | Dang | X | - | - | - | - | - |
| | | Mahotari | X | - | - | - | - | - |
| | | Nawalparasi | X | - | - | - | - | - |
| | | Gorkha | X | - | - | - | - | - |
| | India | Haryana | X | - | - | - | - | - |
| | | Punjab | X | - | - | - | - | - |
| **Market information** | Nepal | Bardiya | X | - | - | - | - | - |
| | | Nawalparasi | X | - | - | - | - | - |
| | | Mahotari | X | - | - | - | - | - |

| Financial Services | Country | CSV AR4D site | Available | Implemented | Evaluated | # of households | Gender Assessed | Potential gender impacts known |
|---|---|---|---|---|---|---|---|---|
| **Capacity Building/Technical Assistance (by Dev agencies/programs)** | Nepal | Mahotari | X | X | - | | - | - |
| | | Nawalparasi | - | X | - | | - | - |
| | | Bardiya | X | X | - | 193 | - | - |
| **Financial support for solar irrigation** | Nepal | Mahotari | X | X | - | | - | X |
| | | Nawalparasi | - | X | - | | - | X |
| | | Dang | - | X | - | | - | X |
| | | Bardiya | X | - | - | | - | - |
| **Informal individual credits/loans** | Nepal | Bardiya | X | - | - | | - | - |
| **Informal credits** | Nepal | Mahotari | X | - | - | | - | - |
| | | Nawalparasi | - | X | - | | - | - |
| **Informal group loans** | Nepal | Bardiya | X | - | - | | - | - |
| **Weather-based insurance** | India | Haryana | - | X | X | 80 | X | X |
| | | Punjab | X | X | X | 30 | - | - |
| **Promotion of custom Hiring centers** | India | Bihar | X | - | - | | - | - |

## Contacts

Regional Program Leader for SA
Pramod Aggarwal
(p.k.aggarwal@cgiar.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)

**Acknowledgments**
This CSV inventory was implemented as part of CCAFS Flagship 2 activities. We would like to acknowledge the valuable support of our local and national governmental/non-governmental partners including private sector participants, CGIAR Centers (CIMMYT, IFPRI, IRRI, IWMI WorldFish) and focal points from each site.

# Climate-Smart Village
## Haryana (INDIA)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

230-285 m.a.s.l | farm size 2.5 Ha | >1000 HH | 3% headed

## Main crops and livestock

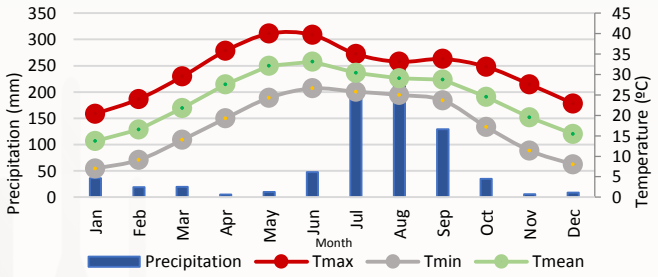
specific

- **Food/Cash**: Rice, Wheat, Maize, Mustard, and Pulses,
- **Cash**: Cow, Buffalo

## Climate-related risks

Drought and depletion of group water resources, heat stresses.

## Climatic conditions

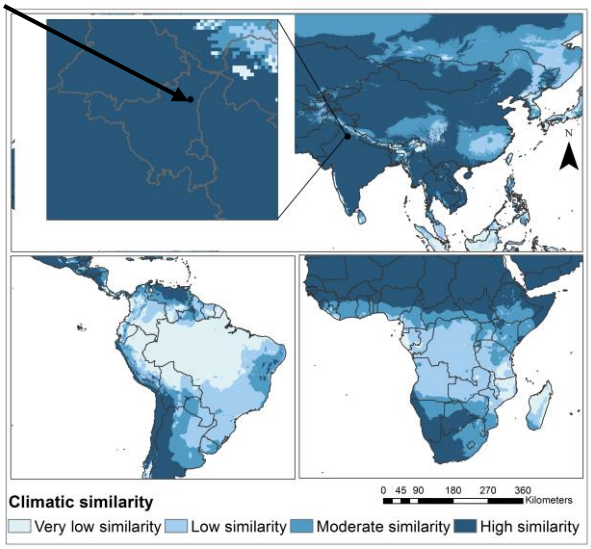



*(Source: www.worldclim.org)*

| | Parameter | Amount | Narrative |
|---|---|---|---|
| | Total annual P | 756 mm | In a single rainy season of 568 mm (Jul– Sep) and a dry season of 188 mm (Oct-Jun). |
| | Max # of consecutive dry months | 9 months (< 100 mm) | |
| | Max T rainy season | 35.0 °C | |
| | Max T dry season | 40.0 °C | |
| | Highest min T | 26.6 °C | June |

## Areas of climatic similarity

Haryana-CSV
29.79 N 76.94 W




***Areas whose future projected climate (by 2030) is similar to the current climate in this CSV*** *(Source: www.ccafs-analogues.org)*

* *CCAFS Household baseline (2013)*

# Climate-Smart Village
## Haryana (INDIA)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

230-285 m.a.s.l | farm size 2.5 Ha | >1000 HH | 3% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

! Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available in Site (Not CCAFS) | Gender aspect assessed | Potential gender impact

### CSA Practices

- Crop Residue retention/ incorporation 300
- Conservation Agriculture 1745
- No/Reduced Tillage 1551
- Integrated Nutrient Management- *Geenseeker* (Rice, Wheat, Maize) 183
- Crop Rotation (Maize and mustard) 18
- Direct seeded rice 128
- Improved varieties 285
- Raised beds (Maize and mustard) 7
- Laser land leveling 5816
- Crop diversification
- Alternate Wetting and Drying (AWD)
- Mulching
- Solar based irrigation

### Agro-climatic services

- Weekly/ 10 days forecast 424
- Agro advisories on fertilizer and pesticide application

### Financial services

- Weather-based insurance 80

### Market incentives

- Input subsidies (machinery, fertilizers)

## Flagship projects

- Developing, adapting and targeting portfolios of CSA practices for sustainable intensification of smallholder and vulnerable farming systems in SA (P25)

## Partners

- CIMMYT, IFPRI, IWMI, IRRI
- Department of Agriculture
- Haryana Agriculture University
- ICAR
- Farmers org.
- Private companies

## Contacts


Project Leader (CIMMYT)
Mangi Lal Jat
(M.Jat@cgiar.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)


CIMMYT | IWMI International Water Management Institute | IFPRI | IRRI | ICAR


**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas


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.


This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by:

USAID FROM THE AMERICAN PEOPLE | CGIAR | Australian Government Australian Centre for International Agricultural Research | Irish Aid Government of Ireland Rialtas na hÉireann | Ministry of Foreign Affairs of the Netherlands | NEW ZEALAND MINISTRY OF FOREIGN AFFAIRS & TRADE MANATŪ AORERE | Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra Swiss Agency for Development and Cooperation SDC | UKaid from the British people | IFAD

# Climate-Smart Village
## Bihar (INDIA)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

39-66 m.a.s.l | farm size 0.4 Ha | >1000 HH | 1% headed



## Main crops and livestock

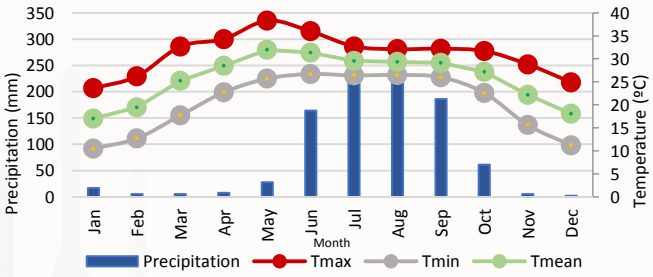
specific

- **Food/Cash**: Rice♂, Wheat♂, Maize, Potatoes, Oil crops and vegetables farming ♀
- **Cash**: Cow, Goat, Buffalo, Chicken ♀

## Climate-related risks

Frequent droughts, water logging and flooding, decreasing annual rainfall and heat/cold stresses.

## Climatic conditions

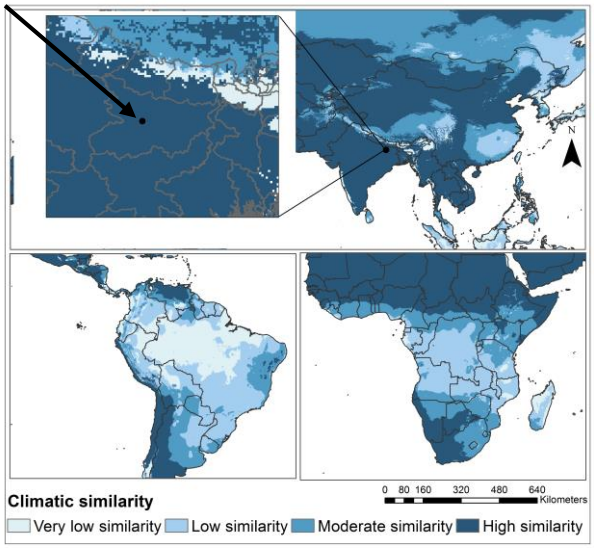



*(Source: www.worldclim.org)*

| Parameter | Amount | Narrative |
|---|---|---|
| Total annual P | 999 mm | In a single rainy season of 868 mm (Jun– Sep) and a dry season of 131 mm (Oct-May). |
| Max # of consecutive dry months | 8 months (< 100 mm) | |
| Max T rainy season | 36.0 °C | |
| Max T dry season | 38.3 °C | |
| Highest min T | 26.7 °C | June |

## Areas of climatic similarity

**Bihar-CSV**
25.75 N 85.34 W




***Areas whose future projected climate (by 2030) is similar to the current climate in this CSV*** *(Source: www.ccafs-analogues.org)*

* *CCAFS Household baseline (2013)*

# Climate-Smart Village
## Bihar (INDIA)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

39-66 m.a.s.l | farm size 0.4 Ha | >1000 HH | 1% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available in Site (Not CCAFS) | Gender aspect assessed | Potential gender impact

### CSA Practices

| | |
|---|---|
| Crop Residue retention/ incorporation | 55 |
| Conservation Agriculture | 35 |
| No/Reduced Tillage | 247 |
| Integrated Nutrient Management (Rice, Wheat, Maize) | 156 |
| Green Manure (Moong, Sesbenia) | 25 |
| Crop Rotation (Maize and mustard) | 45 |
| Improved varieties | 300 |
| Raised beds (Maize and mustard) | 93 |
| Laser land leveling | 25 |
| Direct seeded rice | 126 |
| Irrigation | 20 |
| Intercropping | 120 |

### Agro-climatic services

- Agro-advisories on fertilizer and pesticide application
- Linking farmers to government's seasonal weather forecasts

### Market incentives

- Working with FPOs (Farmers Producers Group)

### Financial services

- Promotion of Custom Hiring Centers

## Flagship projects

- Scaling up/out Climate-Smart Agriculture Technologies, Practices and Services Across South Asia - P259

## Partners

- CIMMYT, BISA
- ICAR
- IFPRI
- Bihar Ag. University

## Contacts


Project Leader (CIMMYT)
Mangi Lal Jat
(M.Jat@cgiar.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)



**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas



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.

This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by:

# Climate-Smart Village
## Punjab (INDIA)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

230-430 m.a.s.l | farm size 2.5 Ha | >500 HH | N.A% headed

Photo Credit: CIMMYT

## Main crops and livestock

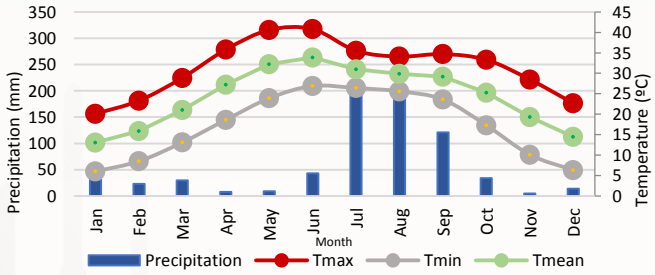
specific

- **Food/Cash**: Rice, Wheat, Maize, Mustard, and Pulses, Buffalo ♀, Cow ♀, Goat, ♀, Fish ♂

## Climate-related risks

Drought and depletion of group water resources, heat stresses .

## Climatic conditions

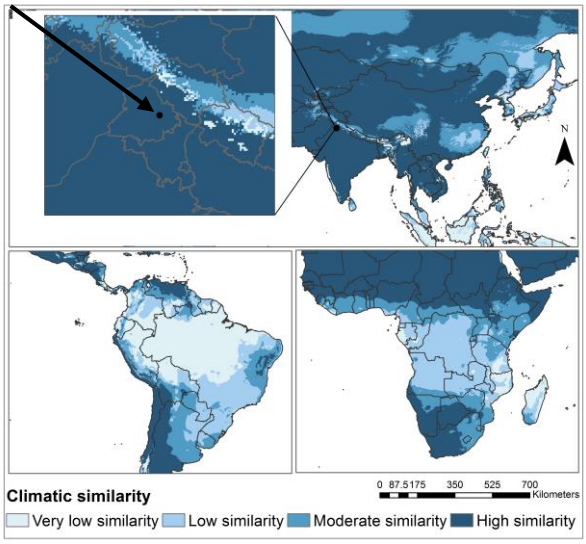



*(Source: www.worldclim.org)*

| | Parameter | Amount | Narrative |
|---|---|---|---|
| | Total annual P | 733 mm | In a single rainy season of 535 mm (Jul– Sep) and a dry season of 198 mm (Oct-Jun). |
| | Max # of consecutive dry months | 9 months (< 100 mm) | |
| | Max T rainy season | 35.5 °C | |
| | Max T dry season | 40.8 °C | |
| | Highest min T | 26.9 °C | June |

## Areas of climatic similarity

**Punjab-CSV**
30.82 N 76.04 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
## Punjab (INDIA)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

230-430 m.a.s.l | farm size 2.5 Ha | >500 HH | N.A% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

! Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available in Site (Not CCAFS) | Gender aspect assessed | Potential gender impact

### CSA Practices

- Crop Residue retention/ incorporation — 54
- Conservation Agriculture — 68
- No/Reduced Tillage — 110
- Integrated Nutrient Management -*greenseeker* (Rice, Wheat, Maize) — 84
- Crop Rotation (Maize and Mungbean) — 23
- Direct seeded rice — 45
- Laser land leveling — 407
- Improved varieties — 425
- Raised beds (Maize) — 12
- Intercropping — 6
- Green manure (Dhaincha) — 82
- Agroforestry fallows (Wheat, fodder) — 150
- Crop diversification
- Alternate Wetting and Drying
- Solar based irrigation

### Agro-climatic services

- Weekly/ 10 days forecast — 424
- Agro advisories on fertilizer and pesticide application

### Financial services

- Weather-based insurance — 30

### Market incentives

- Input subsidies (machinery, fertilizers)

## Flagship projects

- Developing, adapting and targeting portfolios of CSA practices for sustainable intensification of smallholder and vulnerable farming systems in SA (P25)

## Partners

- CIMMYT, BISA
- Department of Agriculture
- Punjab Agricultural University
- ICAR
- Farmers org. and private companies

## Contacts


Project Leader (CIMMYT)
Mangi Lal Jat
(M.Jat@cgiar.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)



**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas


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.


This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by:

# Climate-Smart Village
## Bardiya (NEPAL)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

138-1279 m.a.s.l

farm size 0.5 Ha

677 HH

45% headed


## Main crops and livestock

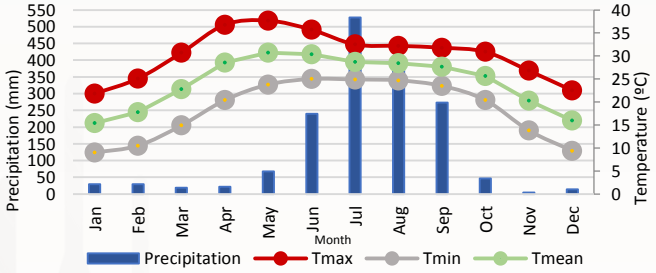
specific

- **Food:** Rice, Wheat, Lentil, Potato, Mustard, Pigeon Pea,
- **Food/Cash**: Seasonal Vegetables
- **Livestock**: Buffalo, Cow, Goat, Chicken, Ox ♂

## Climate-related risks

Drought, flood near to the river, insect disease, pest infestation.

## Climatic conditions

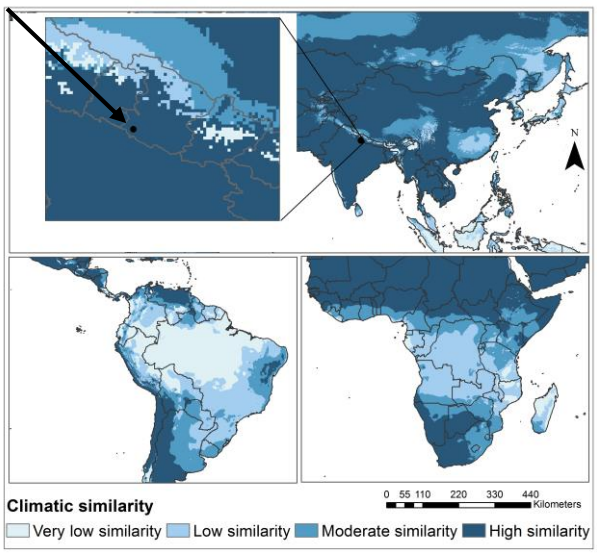



(Source: www.worldclim.org)

| | Parameter | Amount | Narrative |
|---|---|---|---|
| | Total annual P | 1.663 mm | In a single rainy season of 1.431 mm (Jun – Sep) and a dry season of 232 mm (Oct-May). |
| | Max # of consecutive dry months | 8 months (< 100 mm) | |
| | Max T rainy season | 35.7 °C | |
| | Max T dry season | 37.7 °C | |
| | Highest min T | 25.5 °C | June |

## Areas of climatic similarity

**Bardiya-CSV**
28.37 N 81.41 W




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

(Source: www.ccafs-analogues.org)

* *CCAFS Household, Community ( 2015)*

# Climate-Smart Village
## Bardiya (NEPAL)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

138-1279 m.a.s.l | farm size 0.5 Ha | 677 HH | 45% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available in Site (Not CCAFS) | Gender aspect assessed | Potential gender impact

### CSA Practices

- Crop Residue retention/ incorporation (Rice) — 3
- Rice Management — 6
- No/Reduced Tillage (Wheat) — 29
- Solar energy (irrigation pumps) (Rice, Vegetables) — 24
- Inorganic Fertilizer (Rice, Wheat, Maize) — 33
- Intercropping (Maize-cowpea, maize-ginger kidneybean-ginger, rapeseed-lentil) — 3
- Improved varieties (wheat, Rice, potato) — 203
- Increased Farm Diversity (summer: bean, cucumber, bitter gourd, bottle gourd, okra, cowpea, pumpkin; winter: cauliflower, cabbage, chili, tomato) — 643
- Legume integration (lentil, chickpea)

### Agro-climatic services

- Provision of agro-advisory on fertilizer and pesticide application (ICT-based)

### Financial services

- Capacity building Tech assistance — 193
- Informal indiv. and group credits
- Financial support for solar system

### Market incentives

- Input subsidies (machinery, fertilizers and solar irrigation)
- Market information (ICT based)

## Flagship projects

- Scaling up/out Climate-Smart Agriculture Technologies, Practices and Services Across South Asia - P259

## Partners

- LI-BIRD
- Ministry of Agricultural Development (MoAD)
- Nepal Agricultural Research Council
- District Agriculture Development Office (DADO)
- Village Development Committee (VDCs)
- Farmers group

## Contacts


Bikash Paudel (Li-BIRD)
(bpaudel@libird.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)



**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas



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.

This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by:

# Climate-Smart Village
## Dang (NEPAL)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

213-2058 m.a.s.l | farm size 0.5 Ha | 1076 HH | 45% headed

Photo Credit: CCAFS-SA

## Main crops and livestock

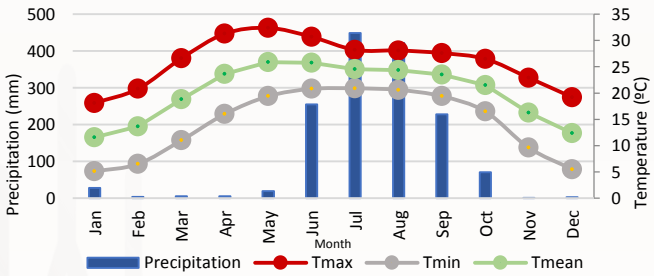
specific

- **Food:** Rice, Wheat, Maize, Potato, Mustard, Pigeon pea, Lentil,
- **Food/Cash**: Seasonal vegetables
- **Livestock**: Buffalo, Cow, Goat, Ox ♂, Chicken

## Climate-related risks

Drought, flood

## Climatic conditions

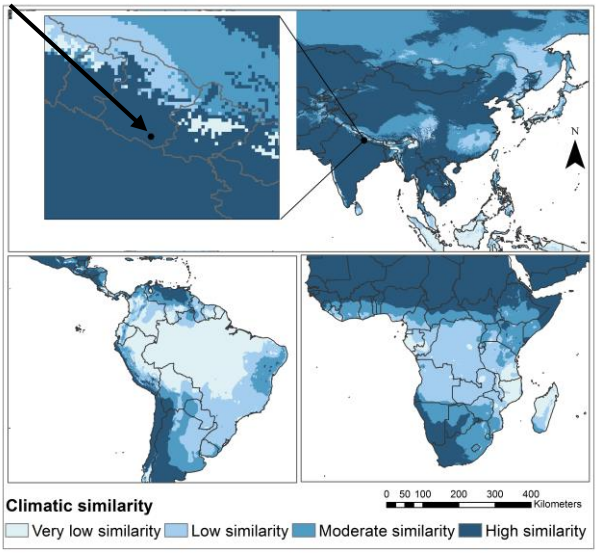



*(Source: www.worldclim.org)*

| | Parameter | Amount | Narrative |
|---|---|---|---|
| | Total annual P | 1.663 mm | In a single rainy season of 1.354 mm (Jun – Sep) and a dry season of 136 mm (Oct-May). |
| | Max # of consecutive dry months | 8 months (< 100 mm) | |
| | Max T rainy season | 30.7 °C | |
| | Max T dry season | 32.4 °C | |
| | Highest min T | 20.9 °C | July |

## Areas of climatic similarity

**Dang -CSV**
27.96 N 82.41 W




***Areas whose future projected climate (by 2030) is similar to the current climate in this CSV*** *(Source: www.ccafs-analogues.org)*

* *CCAFS Household, Community (2015) and Gender(non CCAFS) baselines (2013)*

# Climate-Smart Village
## Dang (NEPAL)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

213-2058 m.a.s.l | farm size 0.5 Ha | 1076 HH | 45% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available in Site (Not CCAFS) | Gender aspect assessed | Potential gender impact

### CSA Practices

- Intercropping (Mustard-lentil, Mustard-pea Maize-ginger) — 45
- Inorganic Fertilizer (Rice, Wheat) — 25
- No/Reduced Tillage (Wheat) — 11
- (Rice hekuli) — 2
- Crop Residue retention incorporation (Wheat he/dg) — 3
- Improved varieties (Wheat, Rice, Maize) — 170
- Solar Energy (Wheat, Vegetables) — 40

### Agro-climatic services

- Provision of ICT based agro-advisory and market information services

### Financial services

- Financial support for solar irrigation system to the farmers group including women farmers

### Market incentives

- Input subsidies (machinery, fertilizers and solar irrigation)
- Market information

## Flagship projects

- Scaling up/out Climate-Smart Agriculture Technologies, Practices and Services Across South Asia - P259

## Partners

- LI-BIRD
- Ministry of Agricultural Development (MoAD)
- Nepal Agricultural Research Council
- District Agriculture Development Office (DADO)
- Village Development Committee (VDCs)
- Farmers group

## Contacts

Bikash Paudel (Li-BIRD)
(bpaudel@libird.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)

**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas

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.

This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by:

# Climate-Smart Village
## Gorkha (NEPAL)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

300-5000 m.a.s.l | farm size 0.4 Ha | 191 HH | 72% headed


## Main crops and livestock

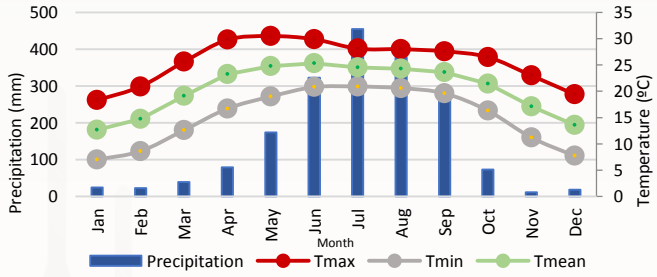
specific

- **Food:** Maize, Cowpea, Rice, Tomato, mustard
- **Food/Cash**: Seasonal Vegetables
- **Livestock**: Buffalo, Cow, Goat, Chicken

## Climate-related risks

Drought, Earthquake

## Climatic conditions



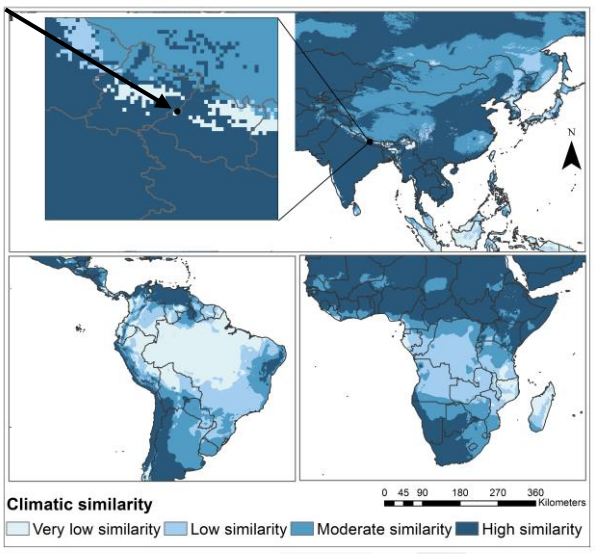

(Source: www.worldclim.org)

| | Parameter | Amount | Narrative |
|---|---|---|---|
| | Total annual P | 1.861 mm | In a single rainy season of 1.420 mm (Jun – Sep) and a dry season of 441 mm (Oct-May). |
| | Max # of consecutive dry months | 7 months (< 100 mm) | |
| | Max T rainy season | 29.9 °C | |
| | Max T dry season | 30.5 °C | |
| | Highest min T | 20.9 °C | July |

## Areas of climatic similarity

**Gorkha -CSV**

27.84 N 84.67 W




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

(Source: www.ccafs-analogues.org)

* *CCAFS Household, Community (2015) and Gender(non CCAFS) baselines (2015)*

# Climate-Smart Village
## Gorkha (NEPAL)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

300-5000 m.a.s.l | farm size 0.4 Ha | 191 HH | 72% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available in Site (Not CCAFS) | Gender aspect assessed | Potential gender impact

| CSA Practices | | Agro-climatic services | Financial services | Market incentives |
|---|---|---|---|---|
| Rice Management | 1 | None | None | Input subsidies (fertilizers) |
| Inorganic Fertilizer (Maize, Rice) | 5 | | | |
| Intercropping (Maize) | 4 | | | |
| Increased Farm diversity (vegetables) | 102 | | | |
| Improved varieties (Maize) | 102 | | | |
| Water Harvesting (Vegetables) | 10 | | | |

## Flagship projects

- Scaling up/out Climate-Smart Agriculture Technologies, Practices and Services Across South Asia - P259

## Partners

- LI-BIRD
- Ministry of Agricultural Development (MoAD)
- Nepal Agricultural Research Council
- District Agriculture Development Office (DADO)
- Village Development Committee (VDCs)
- Farmers group

## Contacts


Bikash Paudel (Li-BIRD)
(bpaudel@libird.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)


LI-BIRD | NARC Nepal Agricultural Research Council


**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas



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.

This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by:

USAID FROM THE AMERICAN PEOPLE | CGIAR | Australian Government Australian Centre for International Agricultural Research | Irish Aid Government of Ireland Rialtas na hÉireann | Ministry of Foreign Affairs of the Netherlands | NEW ZEALAND MINISTRY OF FOREIGN AFFAIRS & TRADE MANATŪ AORERE | Schweizerische Eidgenossenschaft Confédération suisse Confederazione Svizzera Confederaziun svizra Swiss Agency for Development and Cooperation SDC | UKaid from the British people | IFAD

# Climate-Smart Village
## Mahotari (NEPAL)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

300-1000 m.a.s.l | farm size 0.4 Ha | 555 HH | 44% headed


Photo Credit: LI-BIRD

## Main crops and livestock

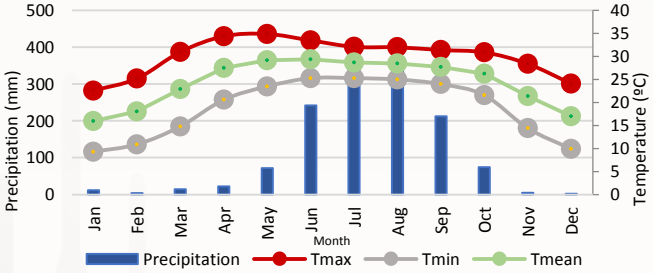
specific

- **Food:** Rice, Wheat, Maize, Potato, Mustard, Pigeon pea
- **Food/Cash**: Seasonal vegetable and pulses
- **Livestock:** Buffalo, Cow, Goat, Chicken

## Climate-related risks

Drought, flood, insect pest.

## Climatic conditions

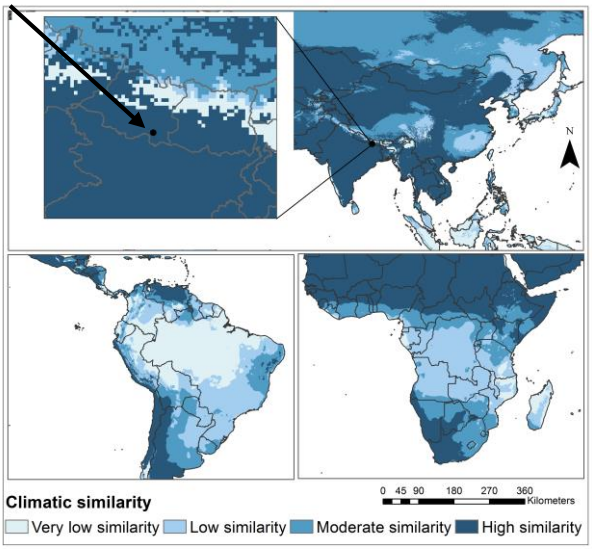



*(Source: www.worldclim.org)*

| | Parameter | Amount | Narrative |
|---|---|---|---|
| | Total annual P | 1.424 mm | In a single rainy season of 1.219 mm (Jun – Sep) and a dry season of 205 mm (Oct-May). |
| | Max # of consecutive dry months | 8 months (< 100 mm) | |
| | Max T rainy season | 33.5 °C | |
| | Max T dry season | 34.9 °C | |
| | Highest min T | 25.3 °C | June, July |

## Areas of climatic similarity

**Mahotari -CSV**
26.88 N 85.81 W




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

*(Source: www.ccafs-analogues.org)*

* *CCAFS Household, Community (2015) and Gender (non CCAFS) baselines (2013)*

# Climate-Smart Village
## Mahotari (NEPAL)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

300-1000 m.a.s.l | farm size 0.4 Ha | 555 HH | 44% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

! Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available | ♀ Gender aspect assessed | ♀ Potential gender impact

### CSA Practices

| | | |
|---|---|---|
| ♀ Crop Residue retention incorporation (Wheat) | 25 | |
| ♀ No/Reduced Tillage (Wheat, Rice, Maize) | 25 | |
| ♀ Inorganic Fertilizer (Wheat, Rice, Maize, Vegs) | 157 | |
| ♀ Intercropping (Maize) | 3 | |
| ♀ Conservation agriculture (Wheat, Rice, Maize) | 30 | |
| ! Mulching (Ginger) | 6 | |
| ♀ Integrated Nutrient Mngt (Wheat, Rice, Maize) | 10 | |
| ! Bank Cultivation | 21 | |
| ♀ Direct seeded rice | 5 | |
| ! Improved varieties (Wheat, Rice, Maize, Vegs) | 157 | |
| ! Raised beds (Tomato, Cauli, Cabbage) | 46 | |
| ♀ Organic Fertilizer (Wheat, Rice, Maize, Vegs) | 90 | |
| ! Crop rotation (Wheat, Maize, Vegs) | 157 | |
| ! Increased Farm Divers. | 567 | |
| ! Water Harvesting | 581 | |
| ! Integrated water mngt at village scale | 46 | |
| ♀ Irrigation (wheat, Rice) | 14 | |
| ! Rice cum fish farming | 5 | |

### Agro-climatic services

! Provision of agro-advisory (ICT-based)

### Financial services

! ▲ Capacity building tech assistance

▲ Informal credits

♀ ▲ Financial support for solar system

### Market incentives

▲ Input subsidies (machinery, fertilizers and solar irrigation)

▲ Market information (ICT-based)

### Flagship projects

- Scaling up/out Climate-Smart Agriculture Technologies, Practices and Services Across South Asia - P259

### Partners

- LI-BIRD
- Ministry of Agricultural Development (MoAD)
- Nepal Agricultural Research Council
- District Agriculture Development Office (DADO)
- Village Development Committee (VDCs)
- Farmers group

### Contacts


Bikash Paudel (Li-BIRD)
(bpaudel@libird.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)



**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas



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.

This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by:

# Climate-Smart Village
## Nawalparasi (NEPAL)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

300-1000 m.a.s.l | farm size 0.58 Ha | 646 HH | 47% headed


Photo Credit: Neil Palmer

## Main crops and livestock

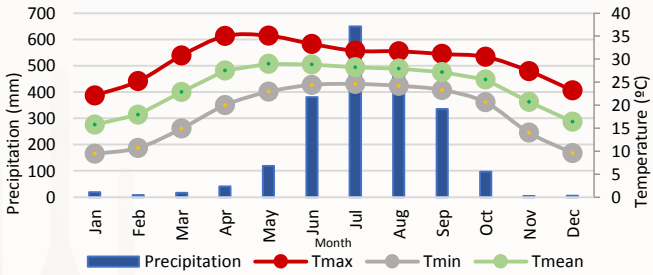
specific

- **Food:** Rice, Wheat, Maize, Potato, Pigeon pea, lentil
- **Food/Cash**: Seasonal vegetables and Pulses
- **Livestock**: Buffalo, Ox, Goat, Chicken

## Climate-related risks

Drought, flood, hailstorm, insect pest.

## Climatic conditions

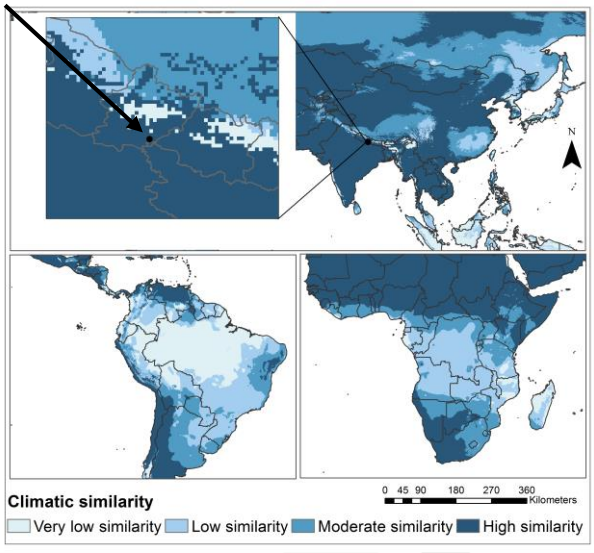



(Source: www.worldclim.org)

| Parameter | Amount | Narrative |
|---|---|---|
| Total annual P | 2.158 mm | In a single rainy season of 1.848 mm (Jun – Sep) and a dry season of 310 mm (Oct-May). |
| Max # of consecutive dry months | 7 months (< 100 mm) | |
| Max T rainy season | 33.3 °C | |
| Max T dry season | 35.1 °C | |
| Highest min T | 24.6 °C | July |

## Areas of climatic similarity

**Nawalparasi -CSV**
27.60 N 84.00 W




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

(Source: www.ccafs-analogues.org)

* *CCAFS Household, Community (2015) and Gender (non CCAFS) baselines (2015)*

# Climate-Smart Village
## Nawalparasi (NEPAL)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

300-1000 m.a.s.l | farm size 0.58 Ha | 646 HH | 47% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available in Site (Not CCAFS) | Gender aspect assessed | Potential gender impact

#### CSA Practices

- Crop Residue retention incorporation (Wheat) — 9
- No/Reduced Tillage (Wheat) — 25
- Intercropping (Maize-ginger, Maize-cowpea) — 9
- Improved varieties (Maize, Wheat) — 150
- Increased farm divers. — 605
- Solar energy — 40

#### Agro-climatic services

- Provision of ICT based agro-advisory

#### Financial services

- Capacity building Tech assistance
- Informal credits
- Financial support for solar system

#### Market incentives

- Input subsidies (machinery, fertilizers)
- Market Information (ICT based)

### Flagship projects

- Scaling up/out Climate-Smart Agriculture Technologies, Practices and Services Across South Asia - P259

### Partners

- LI-BIRD
- Ministry of Agricultural Development (MoAD)
- Nepal Agricultural Research Council
- District Agriculture Development Office (DADO)
- Village Development Committee (VDCs)
- Farmers group

### Contacts


Bikash Paudel (Li-BIRD)
(bpaudel@libird.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)



**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas



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.

This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by:

# Climate-Smart Village
## Khulna (BANGLADESH)*

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

7 m.a.s.l | farm size 0.5 Ha | 1250 HH | 5% headed




## Main crops and livestock

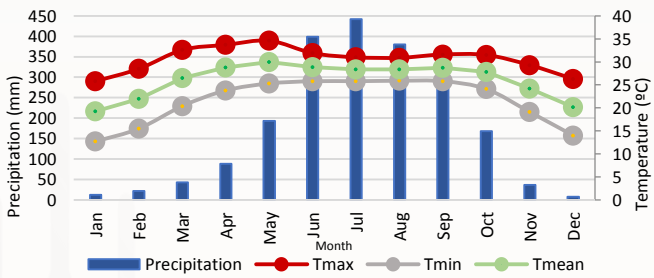
specific

- **Food/Cash**: Rice, Wheat, Chili, Brinjal ♂,Cucumber ♂ Cauliflower ♂, Poultry ♀, Cow, Tilapia, Magur, Carp ♂
- **Cash**: Goat

## Climate-related risks

Extreme vulnerability to natural calamities droughts, storm and cyclones, risks of flooding/waterlogging, severe salinity problems, water pollution, sea-level rise.

## Climatic conditions

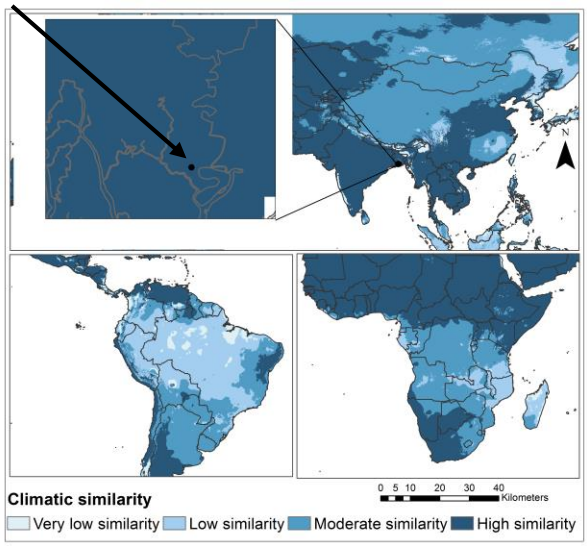



*(Source: www.worldclim.org)*

| | Parameter | Amount | Narrative |
|---|---|---|---|
| | Total annual P | 2.067 mm | In a single rainy season of 1.496 mm (Jun– Sep) and a dry season of 571 mm (Oct-May). |
| | Max # of consecutive dry months | 6 months (< 100 mm) | |
| | Max T rainy season | 31.6 °C | |
| | Max T dry season | 34.6 °C | |
| | Highest min T | 25.9 °C | August |

## Areas of climatic similarity

**Khulna-CSV**
22.50 N 89.86 W




***Areas whose future projected climate (by 2030) is similar to the current climate in this CSV*** *(Source: www.ccafs-analogues.org)*

* *CCAFS Household and Community baselines (2013)*

# Climate-Smart Village
## Khulna (BANGLADESH)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

7 m.a.s.l | farm size 0.5 Ha | 1250 HH | 5% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available in Site (Not CCAFS) | Gender aspect assessed | Potential gender impact

| CSA Practices | Agro-climatic services | Financial services | Market incentives |
|---|---|---|---|
| Mulching 100 (Sweet gourd,Bottle gourd, Better gourd,Green Chili,Yard longbean,Indian spinach, spinach) | Capacity building and linking with government's services | Not Available | Not Available |
| Raised beds 100 (Seedling Chili,Brinhal) | | | |
| Improved varieties (Okra, Red amaranth) 100 | | | |
| Vegetable tower (Sweet gourd, Bottle gourd, Better gourd, Green Chili, Yard longbean, Indian spinach) | | | |
| Fodder Shrubs 100 | | | |

### Flagship projects

- Scaling up/out Climate-Smart Agriculture Technologies, Practices and Services Across South Asia - P259

### Partners

- WorldFish
- Ministry of Agriculture
- People's Development Foundation

### Contacts


Project leader
Michael Phillips (WorldFish)
(M.Phillips@cgiar.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)



**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas



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.

This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by:

# Climate-Smart Village
## Barisal (BANGLADESH) *

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

11 m.a.s.l | farm size <1 Ha | 2400 HH | 8% headed

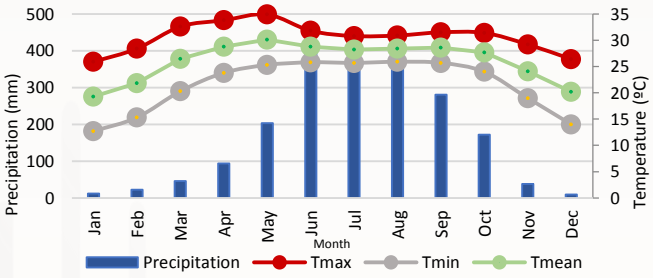

♦ *Villages: Biraljuri, Shuktagar, Neikathi, Galua, Nangguli, Bagari, Jagannathpur*

## Main crops and livestock

specific

- **Food/Cash**: Rice, Pulses, sweet gourd, Bitter gorud ♂ Brinjal, Poultry, Tilapia, Carp ♂, Catfish ♂
- **Cash** : Cow, Goat ,

## Climatic conditions




*(Source: www.worldclim.org)*

| | Parameter | Amount | Narrative |
|---|---|---|---|
| | Total annual P | 2.117 mm | In a single rainy season of 1.521 mm (Jun– Sep) and a dry season of 596 mm (Oct-May). |
| | Max # of consecutive dry months | 6 months (< 100 mm) | |
| | Max T rainy season | 31.8 °C | |
| | Max T dry season | 34.9 °C | |
| | Highest min T | 25.9 °C | August |

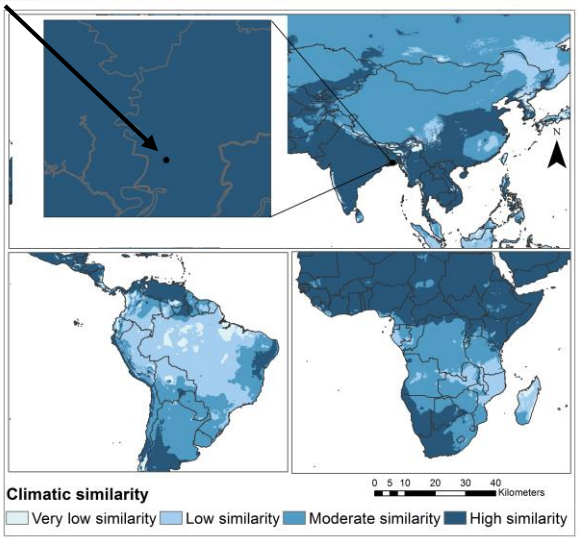
* *CCAFS Household Survey (2015)*

## Climate-related risks

Flood, waterlogging, drought, erratic rainfall and high temperatures.

## Areas of climatic similarity

**Barisal-CSV**
22.59 N 90.02 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
## Barisal (BANGLADESH)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

11 m.a.s.l | farm size <1 Ha | 2400 HH | 8% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available in Site (Not CCAFS) | Gender aspect assessed | Potential gender impact

| CSA Practices | Agro-climatic services | Financial services | Market incentives |
|---|---|---|---|
| Mulching (Sweet gourd,Bottle gourd, Better gourd,Green Chili,Yard longbean,Indian spinach, spinach) 50 | Capacity building and linking with government's services | None | None |
| Raised beds (Seedling Chili, Brinhal) 50 | | | |
| Fisheries intensification (Indigenous fish) 546 | | | |
| Vegetable tower (Sweet gourd, Bottle gourd, Better gourd, Green Chili, Yard longbean, Indian spinach) | | | |

## Flagship projects

- Scaling up/out Climate-Smart Agriculture Technologies, Practices and Services Across South Asia - P259

## Partners

- WorldFish
- Ministry of Agriculture
- People's Development Foundation

## Contacts


Project leader
Michael Phillips (WorldFish)
(M.Phillips@cgiar.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)



**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas



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.



This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by:

# Climate-Smart Village
## Sylhet (BANGLADESH)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

3 m.a.s.l | farm size <1 Ha | 143♦ HH | 5% headed

Photo Credit: WorldFish

♦ *Anowarpur village (Sunamganj District)*

## Main crops and livestock

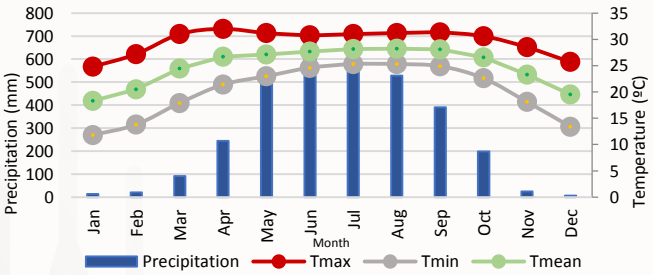
specific

- **Food/Cash**: Rice♂, Wheat♂, Bean♂, Pulses♂ Poultry♀, Cat fish♂, Carp♂
- **Cash**: Betel leaf♂, Pine apple♂, Cow, Goat, Buffalo

## Climate-related risks

Flash flood, waterlogging, erratic rainfall.

## Climatic conditions

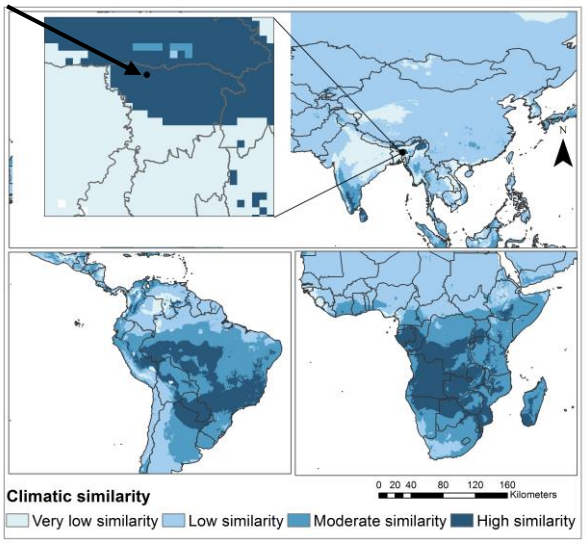



*(Source: www.worldclim.org)*

| | Parameter | Amount | Narrative |
|---|---|---|---|
| | Total annual P | 3.392 mm | In a single rainy season of 2.793 mm (May– Sep) and a dry season of 599 mm (Oct-Apr). |
| | Max # of consecutive dry months | 5 months (< 100 mm) | |
| | Max T rainy season | 31.2 °C | |
| | Max T dry season | 32.0 °C | |
| | Highest min T | 25.3 °C | July, August |

## Areas of climatic similarity

**Sylhet-CSV**
25.06 N 91.40 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
## Sylhet (BANGLADESH)

RESEARCH PROGRAM ON Climate Change, Agriculture and Food Security

CGIAR CCAFS

3 m.a.s.l | farm size <1 Ha | 143 HH | 5% headed

## CSA Portfolio

### Field testing and # of households involved (2016)

Implemented | Evaluated | Implemented & Evaluated | U Mitigation potential | Available in Site (Not CCAFS) | Gender aspect assessed | Potential gender impact

| CSA Practices | Agro-climatic services | Financial services | Market incentives |
|---|---|---|---|
| Vegetable tower 30 (Sweet gourd, Bottle gourd, Better gourd, Green Chili, Yard longbean, Indian spinach) | Capacity building and linking with government's services | None | None |

## Flagship projects

- Scaling up/out Climate-Smart Agriculture Technologies, Practices and Services Accross South Asia - P259

## Partners

- WorldFish
- Ministry of Agriculture
- People's Development Foundation

## Contacts


Project leader
Michael Phillips (WorldFish)
(M.Phillips@cgiar.org)

Regional CSV Coordinator
Arun Khatri-Chhetri
(A.Khatri-Chhetri@cgiar.org)



**CSV profile developed by** Osana Bonilla-Findji, Patricia Alvarez-Toro and Julian Ramirez-Villegas


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.


This work was implemented as part of CCAFS Flagship 2, which is carried out with support from CGIAR Fund Donors and through bilateral funding agreements. For details please visit https://ccafs.cgiar.org/donors.
CCAFS is supported by: