ICRISAT
Communication Resources Catalogue
Updated March 2019

To Order: Please contact B Jayashree, Lead-Communication Outreach, Strategic Marketing and Communication (b.Jayashree@cgiar.org)

Note: Products can be translated into French.
# Index

## Posters

- ICRISAT’s holistic approach to research for development  4
- Inclusive Market-Oriented Development (IMOD)  5
- Vision and mission  6
- What will make smallholder farming sustainable and profitable  7
- ICRISAT crops  8
- Statistics Posters  9
- Mandate Crop Food Posters  10
- Nutrition series  11
- Smart Food  12
- Smart Foods (millets)  13
- Smart Foods (millets) – In French  14
- Why Grain Legumes; Why Dryland Cereals  15
- Why the Drylands; Why Drylands are important  16
- EXPLORE it  17
- 100 Voices  17
- Take 2  17
- ICRISAT Ambassadors of Goodwill  18
- Prominent/influential people on agriculture  19
- VDSA Timeline  20
- Kothapally Timeline  21
- Research/Project  22
- Happenings newsletter pages made into posters  23
- ICRISAT Bilateral and CSR Donors  24
- CGIAR Fund Donors  25
- Digital Agriculture  26
- Re-Birth of the Yewol Watershed  28
- Impact Posters  29-31
- CSR Posters  32
- Integrating Gender  33

## Flyers

- About ICRISAT  35
- Digital Agriculture  35
- ICRISAT Development Center  35
- Holistic Approach to Nutrition  35
- Facilities and Services  35
- Kothapally watershed  35
- IYP message  36
- Doubling incomes through post-harvest interventions  36
- Ihub  36
- Smart food  37
- Smart food – Kenya  37
- Smart food – Global  37
- Recent donor and partner flyers  38-39
- Sustainability transitions for smallholder farmers (English)  40
- Sustainability transitions for smallholder farmers (Portuguese)  40
- Feeding degraded soils in Ethiopia to feed the people and the environment  41
- Implementing a Tablet-Based Baseline Survey for Nutritional Assessment and Intervention  41
- Delivering NUTRITION to the drylands  42
- Fall Armyworm: Combating the latest threat to standing crops  42
- Plant Quarantine Guidelines and Procedures for Germplasm Exchange of ICRISAT Mandate Crops  43
- The potential of systems modeling to inform farm decisions for higher resilience and profit  43
- FeFA Girls Iron for adolescents project  44
- Sorghum & Millet Compact – Food security for the Sahel  44
- Nudging sustainability transitions in Central Mozambique  45
- Using flock simulations for modern goat market systems in Central Mozambique  45
- Better management of common watershed infrastructure: Experimental games help communities explore solutions  46
- Who pays the price for water use in agriculture?  46

New logos are being inserted wherever old logos are appearing
Infographics

Productivity gains under the HOPE project in Africa (2009-2016) 48
Harnessing Opportunities for Productivity Enhancement (HOPE) Project milestones, 2009-2016 48
Combating Desertification - projects - BDL, Yewol, Chifra 49
Combating Desertification - Technologies overview 49
How improved chickpea varieties are changing farmers’ lives in Myanmar 50
NaSSARI-released sorghum varieties against their commercial counterparts 50
Demand Driven Innovation – Economic empowerment for women in Nigeria 51
Demand Driven Innovation – Improving health with high iron sorghum 51
Demand Driven Innovation – Tackling labor scarcity in Andhra Pradesh 52
Demand Driven Innovation – Tackling successive droughts 52
Celebrating Youth in Agriculture 53
Village-level wastewater treatment units 53
Pearl Millet: A grain of the future 54
LAMP: Visual, faster & cheaper dry root rot diagnosis 54
Bhoochetana: Scaling up a holistic approach in Karnataka, India 55
Watershed with a holistic approach 55
Boosting legume productivity in Myanmar 56
Biotechnology breakthrough can make groundnut immune to aflatoxin 56
Challenges faced by dryland communities 57
Tackling malnutrition through nutri-food basket 57

Folders

CSR Big Ideas For Sustainable Development 59
ICRISAT Big Ideas folder 59
VIP Folder 60

Booklets

ICRISAT Impact Highlights 62
Aflatoxin Timeline 62
Building Climate-Smart Villages 62
Pulses are smart food 63
Smart food Millet Recipes 63
Making a difference – ICRISAT’s work to help achieve SDGs 63
Visitors Handbook 64
Green Fodder Production – A Manual for Field Functionaries 64

Useful links

Links to key ICRISAT work 65
ICRISAT’s holistic approach to research for development
Inclusive Market-Oriented Development (IMOD)

IMOD
Inclusive Market-Oriented Development

From food deficit to surplus

Subsistence

Innovations

Re-invest gains: the engine of growth

Prosperity

Higher-value agriculture

Market-oriented

Harness markets

Science-based innovation

Manage risks

Resilience

Development assistance & safety nets

Access to inputs and market opportunities

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)

Back to Index
Posters

Vision/Mission

P6

P7

P9

P10

P11

P12

P13

Back to Index
What will make smallholder farming sustainable and profitable
Posters

ICRISAT Crops

Chickpea
High-quality protein
Nitrogen-fixing trait important in soil improvement
Huge international trade, potential income for rural communities
6.7 million tons global production in 2012

Pearl millet
High in iron and zinc—especially good for children and pregnant women
Well adapted to severe drought, poor soil fertility, and high temperatures
Major income source of over 50 million poor people in the drylands
Multiple uses—fodder, biofuels & fermentation, industries, food crops

Groundnut
Rich in protein, edible oil, essential nutrients, and anti-oxidants
Income and nutrition source of dryland farmers
Nitrogen-fixing trait important in soil improvement
Largely grown by women farmers

Pigeonpea
High levels of protein and amino acids
Climate resilient—resilient drought, salinity and diseases
Improves soil fertility and structure
Income and trade potential

Sorghum
Nutritious, rich in protein, fiber and minerals
Dietary mainstay of over half a billion poor people
Climate change-ready, grows well in hot, dry environments
Highly-valued as a source of feed and fodder for livestock

Finger Millet
Rich in calcium (x2 milk), zinc, iron and fiber—especially good for children and pregnant women
Hardy and well-adapted to drought, low soil fertility and high elevations
Important subsistence crop, grown by indigenous communities in 21 countries
High yield potential and store well

Back to Index
Posters

Statistics posters

P29

P30

P31

P32

P33

P34

P35

P36

Back to Index
Posters

Mandate Crop Food Posters

P37

P38

P39

P40

P41

Back to Index
Posters

**Smart Food**

P47

Food that is defined as:
*Good for you - the planet - the farmer*

Some of the **biggest global issues** are:
- poor diets (malnutrition to obesity)
- environmental issues (climate change, water scarcity and environmental degradation)
- poverty.

Smart Food is one of the **solutions** that contributes to addressing all these issues in unison.

The UN has identified the need for **Sustainable Diets** they define as “diets with low environmental impacts which contribute to food and nutrition security...”, and believes that it is essential to set targets to strive towards this.

JOIN IN: [www.icrisat.org/smartfood](http://www.icrisat.org/smartfood)

P48

P49

P50

Back to Index
Posters

Smart Foods (millets) In French

MILLETS
CRUCIAL POUR LUTTER CONTRE LA FAIM ET
DÉVELOPPER LA SÉCURITÉ ALIMENTAIRE

Nouvelles solutions nécessaires
pour nourrir 9 milliards en 2050

En indiquant une part de la croissance démographique en termes de croissance démographique, par le maintien de la production et la diminution de la perte alimentaire :

Ecart:

? RAJOUT

Énormes possibilités
pour la culture des millets

Nécessaires pour le maintien de la vie, l’alimentation, la sécurité alimentaire et la croissance économique.

? RAJOUT Le microdosage

Haut rendement potentiels
pour les millets

Il est nécessaire de promouvoir le seigle unique pour la plupart des usages existants, pour des usages multiples existants.

? RAJOUT

Base cruciale
pour des millions

Nourrir traditionnellement
pour 2,5 milliards

des centaines d’autres dans les zones arides

? RAJOUT

Des usages multiples existent
avec un marché inexistant

Fourrage
Produit de consommation
Biocarburants & fermentation

International Crops Research Institute
for Sustainable 
Development (ICRISAT)
Why Drylands are Important

**Why the Drylands?**

- **40%** of the world’s land area
- **2.5 billion people** live in drylands
- **1/3** of the people depend on agriculture

- **644 million out of poverty**

- **10%** increase of dryland areas of the world with climate change

- **Climate change** is making the drylands a tougher environment to develop and survive
  - Access to water becoming even scarcer
  - Increased evaporation
  - More variability and occurrences of extreme periods of extreme, or even-moisture drier and hotter periods during the crop growing season

**Why Drylands are Important**

- **40%** of the world’s land area
- **2.5 billion people** live in drylands
- **1/3** of the people depend on agriculture

- **644 million out of poverty**

- **42%** of children in the drylands are malnourished
- **10%** of children in the drylands are malnourished

**Climate change** is making the drylands a tougher environment to develop and survive

- Access to water becoming even scarcer
- Global climate in sub-Saharan Africa will be drier and hotter
- More variability and occurrences of extreme periods of extreme, or even-moisture drier and hotter periods during the crop growing season

**International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)**

![ICRISAT logo]

Learn more at [www.icrisat.org](http://www.icrisat.org)

ICRISAT's scientific information: [EXPLORER.icrisat.org](http://EXPLORER.icrisat.org)
100 Voices

Take 2

EXPLOREit

P59

P60

P61

Back to Index
ICRISAT Ambassadors of Goodwill

As an athlete, I work hard for the country, the farmers, so win laurels. I will try my best to promote the critical work ICRISAT does - meeting the needs of smallholder farmers, the value of scientific research, and the importance of nutritious crops that also are better for the environment.

- Saina Nehwal Olympic medalist and co-brand ambassador of ICRISAT

Research breakthroughs in agricultural biotechnology hold the potential for increasing crop productivity and the resistance of food crops to pests and diseases, thereby helping solve the food crisis.

The future food demand cannot be met merely from incremental gains through conventional plant breeding. A quantum change in yield improvement is needed.

- Dr AFI Abdul Kalam (1931-2015)
Revered scientist and 11th President of India
ICRISAT Ambassador of Goodwill

If agriculture fails, everything else will fail.

- M. S. Swaminathan
Fellow of India’s Green Revolution
ICRISAT Ambassador of Goodwill

ICRISAT crop crosses are great - as they target millions of smallholder farmers globally.

- Mr Bill Gates
Co-Chair, Bill & Melinda Gates Foundation
ICRISAT Ambassador of Goodwill

I stand and work tirelessly for the new future for Africa, one where the continent is able to feed itself, unlock its agricultural potential and use agriculture as the new driver of growth and prosperity.

- Dr. Ahmadu Adanu
President of the Mainstream Development Bank
ICRISAT Ambassador of Goodwill

I believe that ICRISAT has the solution and plays an important role in improving the lives of more than 500 million of the world’s poorest of the poor living in the drylands. I am pleased and proud to be an ICRISAT Ambassador, and to be a part of the solution.

- Dr Nigel Poole
Chairman, Oxfam
ICRISAT Governing Board
ICRISAT Ambassador of Goodwill

I am very pleased to take on the role as an ICRISAT Ambassador of Goodwill, to help support their important work. Not only does their research improve the lives of the poor, it is also helping farmers in Australia.

- Hon John Keats AM
Chancellor of the University of Canberra and former Assistant Minister for Agriculture
ICRISAT Ambassador of Goodwill

To overcome poverty, hunger and malnutrition, science is an essential component that must be behind all our efforts. ICRISAT plays an important role in this, particularly in the resource-poor, marginal environments of the world. I am pleased and proud to be an Ambassador of Goodwill for the work of ICRISAT.

- Rt Hon James Bolger
Former Prime Minister of New Zealand
ICRISAT Ambassador of Goodwill

Back to Index
Posters

Prominent/influential people on agriculture

P70

Make no mistake, it is the world’s most vulnerable people who will suffer most from the consequences of climate. 40% of the land now used to grow maize in sub-Saharan Africa will no longer be able to support that crop by the 2030s.

- Christine Lagarde
Managing Director, International Monetary Fund

P71

When women are involved in the design and field testing of new technologies, those technologies are actually adopted more rapidly, which increases productivity and incomes faster.

- Hillary Rodham Clinton
Former U.S. Secretary of State

P72

If all farmers, men and women, had access to the same resources, we could increase agricultural output by 20 to 30 percent. That would feed an additional 150 million people every year.

- Hillary Rodham Clinton
Former U.S. Secretary of State

P73

Our world is becoming a less predictable and more threatening place for the hungry and most vulnerable. We need to protect and empower them to be able to withstand shocks.

- Dr. Florence Chisamore
Director of Agriculture, CIP
Global agriculture innovation and human rights expert

P74

Food is the moral right of all who are born into this world.

- Norman Borlaug
Nobel laureate and Father of Green Revolution

P75

Agriculture is our wisest pursuit, because it will in the end contribute most to real wealth, good morals, and happiness.

- Thomas Jefferson
Third President of the United States of America

P76

Everything else can wait, but not agriculture.

- Jawaharlal Nehru
First Prime Minister of India

Back to Index
Posters

**VDSA Timeline** Four decades of village-level surveys showing impacts of different policies and developments on the livelihoods of the rural poor

P77
Posters

Kothapally Timeline

Back to Index
Innovating against poverty and hunger in Africa (Displayed at FARA 2014)
Posters

Happenings newsletter pages made into posters

Note: Any Happenings story can be made into a poster. Here are some samples:
ICRISAT Bilateral and CSR Donors

Bilateral Donors

CSR Donors

* Investing directly in ICRISAT
Current donors as of June 2016
Posters

CGIAR Fund Donors

P82

Back to Index
Digital Agriculture
Pathway to Prosperity

The greatest need is to deliver targeted and timely information to farmers based on their needs. The empowerment that comes from providing farmers with informed options is transformational, especially for women and youth.

www.icrisat.org

Back to Index
Posters

Re-Birth of the Yewol Watershed

Integrated watershed management in Ethiopia’s northern highlands

This work was done in partnership with the local administration of Womilia District, Wollo University, Sirrika Agricultural Research Centre, UNEP/ILRI and the farmers of the Yewol Watershed.

Back to Index
Holistic scaling up in Karnataka, India

Sorghum made more profitable in Eastern and Southern Africa

Short-season chickpea varieties bring prosperity to farmers

Pigeonpea in Eastern and Southern Africa

P104

P105

P106

P107

Back to Index
Posters

Integrating Gender

P111

Integrating gender

Innovation Platforms in Zimbabwe
- Established functional goat markets
- Feed, animal housing, veterinary challenges addressed
- Goat mortality fell, women sold their goats for a lucrative price.

Market-savvy seed producers in Niger
- Women access better varieties, trained in seed production
- Women association tie-ups aided by seed company
- Become major groundnut producers, processors, and marketers.

Game for innovation
- Training in sorghum use for household purposes
- Built the capacity of 1,200 rural women from 60 groups in Nigeria
- Sorghum value chain enhanced.

Developing on-farm technologies
- Beneficial to women farmers in Vietnam, Laos, Nepal and India
- Improved productivity and sustainability of rainfed agriculture.

Goeta Bai empowered
- Joined the watershed committee
- Responsibly completed water storage structures in her village in Madhya Pradesh
- Overcame male dominance and caste dynamics.

Eco-friendly is Sheila Sikandar’s way
- Adopted an integrated farming approach and diversified multiple cropping
- Her barren field turned into a profitable business model
- Annual earnings: ₹120,000 ($1,888).

Phaluta Women’s Group in Malawi
- 1000 women seed producers engaged
- Seed bought back using Seed Revolving Fund
- Led to increase in certified legume seed supply.

Nutri cereals for her
- Developed biofortified high iron and zinc pearl millet
- Combats anemia in women and children
- Adopted by Indian farmers.

Multi-cropping works for Sandra Bai
- Multi-cropping helped her barter for wheat
- Income from crop sales from her vegetable patch: ₹20 ($0.31) a kilo
- Income from crop bartered for wheat.
Flyers
ICRISAT’s message for the International Year of Pulses

Doubling incomes through post-harvest interventions

ihub
Flyers

Smart food

Smart Food is
food that fulfills all the criteria of being:

GOOD FOR YOU
GOOD FOR THE PLANET
GOOD FOR THE FARMER

Smart Food helps solve a number of our biggest issues in unison: rural poverty, malnutrition and adaptation to climate change and environmental degradation.

A major impact can be made if we not only popularize but also mainstream Smart Food – bringing diversity in diets and on the farm.

This must be undertaken, ensuring rural communities benefit through better health and livelihood improvements. Other global benefits will be new market development and growth and more sustainable diets.

Smart food - Kenya

Smart Food is
food that fulfills all the criteria of being:

GOOD FOR YOU
GOOD FOR THE PLANET
GOOD FOR THE FARMER

Smart Food helps solve a number of our biggest issues in unison: rural poverty, malnutrition and adaptation to climate change and environmental degradation.

A major impact can be made if we not only popularize but also mainstream Smart Food – bringing diversity in diets and on the farm.

This must be undertaken, ensuring rural communities benefit through better health and livelihood improvements. Other global benefits will be new market development and growth and more sustainable diets.

Smart food - Global

Smart Food is
food that fulfills all the criteria of being:

GOOD FOR YOU
GOOD FOR THE PLANET
GOOD FOR THE FARMER

Smart Food helps solve a number of our biggest issues in unison: rural poverty, malnutrition and adaptation to climate change and environmental degradation.

A major impact can be made if we not only popularize but also mainstream Smart Food – bringing diversity in diets and on the farm.

This must be undertaken, ensuring rural communities benefit through better health and livelihood improvements. Other global benefits will be new market development and growth and more sustainable diets.

Back to Index
Flyers
Recent donor and partner flyers (updated 2015 or 2016)

F13
Niger and ICRISAT
Mitigating poverty, enhancing prosperity

F14
Mali and ICRISAT
Mitigating poverty, enhancing food security and livelihoods for smallholder farmers

F15
Senegal and ICRISAT
Creating a brighter tomorrow for smallholder farmers

F16
Nigeria and ICRISAT
Creating wealth through agricultural value chains

F17
Zimbabwe and ICRISAT
Innovation Platforms improve livelihoods

F18
Malawi and ICRISAT
Enhancing seed production for improved resilience

F19
Kenya and ICRISAT
Improving lives with drought tolerant crops

F20
Ethiopia and ICRISAT
Working with partners for prosperous semi-arid tropics

Back to Index
Flyers

Recent donor and partners flyers

F21

F22

F23

F24

F25

F26

Back to Index
Sustainability transitions for smallholder farmers
(in English)

Executive summary

For many decades the goat sector provided huge opportunities for reducing rural poverty levels, improving food security and contributing to the national economy. Mozambique has a huge demand for goat meat and products. Large and medium size buyers tell us that they cannot source enough goats of the right quality and supply consistently. To meet the growing demand in urban markets, despite its potential, the goat sector is not fully developed. Improved goat production can provide an additional annual income of US$20 million at the national level. In the short term farmers can double their income from goats. Through breeding, farmers can increase the critical role of goats as a source of saving and possible source of investment, they do not invest much in goats and are not able to make an adequate profit from selling their goats. Mortality rates of around 25%, poor quality of goat meat outlets, and limited supply in urban rural economies. There are many reasons for the low productivity, the lack of a breeding system in which farmers and the private sector can interact, and a diverse mix of a guiding system that exists.

Sustainability transitions for smallholder farmers
(in Portuguese)

Sumário Executivo

O setor de caprinos em Moçambique tem grande potencial para redução dos níveis de pobreza rural, melhoria da segurança alimentar e contribuição para economia nacional. Moçambique tem uma demanda elevada pelo carne de cabra, que se tornou um mercado importante. A introdução de novos métodos de criação de caprinos pode proporcionar rendimentos adicionais anuais de US$20 milhões, no nível nacional. Nos primeiros anos, os agricultores podem duplicar a renda de suas propriedades de caprinos. No entanto, em muitas regiões, os agricultores não investem muito em caprinos, o que contribui para altas taxas de mortalidade. Em alguns locais, o abastecimento de carne de caprinos é insuficiente. Além disso, existem vários obstáculos ao desenvolvimento do setor de caprinos, como a falta de uma estrutura de criação sistemática entre os produtores e os setores privado e público.
Feeding degraded soils in Ethiopia to feed the people and the environment

The Challenge

Centuries of rainfed farming on fragile soils in the undulating landscape of Ethiopia has resulted in severely eroded and degraded soils that produce 40% less than the global average. The potential yield gap is huge, yields in farmers’ fields are three times less than what is recorded in research fields. Soil fertility decline is considered as the major cause for decline in per capita food production. Low crop response to fertilizers is a major concern despite the Ethiopian government investing in accelerating fertilizer usage and creating soil maps with recommendations to guide farmers. The need for fine-tuning the recommendations was identified following feedback from farmers and regional governments.

The Solution

Research organizations and development NGOs were consulted to address the issue. This report brings to you TWO STUDIES IN WHEAT-BASED FARMING SYSTEMS led by CRI SAT that offer solutions. Key finding of the studies: Site-specific nutrient management can double yields and reduce costs.

Implementing a Tablet-Based Baseline Survey for Nutritional Assessment and Intervention

Back to Index
Delivering NUTRITION to the drylands

Science-backed crop improvement technologies
Better crops, higher yields and safer foods
Enhanced nutrition through diet diversity
Creation of market demand for nutritious foods

ICRISAT's Approach

To tackle malnutrition – which includes undernutrition as well as overnutrition – ICRISAT employs a multi-pronged approach involving stakeholders throughout the agriculture value chain. Starting from land and water management; climate change adaptation technologies; science-based innovations for higher yields, more nutritious crops and safer foods; behavior change programs for increasing diet diversity for balanced nutrition; market-oriented development for farmer prosperity; and more.

Healthy soils, healthy crops, healthy people
Using traditional/indigenous farming practices and crops.

Brighter future with better nutrition
School children in Maharashtra, India, eating high-tomato dal rice initiated as part of their midday meal.

Driving diet diversity from farms to homes
Mr. Elizabeth Ruvuma feeds her 17-month-old daughter roasted sweet potato porridge in Kenya.

Safer crops for wider markets
Groundnut varieties and broccoli on Asteril control display island are sold.

Fall Armyworm: Combating the latest threat to standing crops

What is it?
- Fall Armyworm (L. mordax), or Spodoptera frugiperda, is an insect (moth) belonging to the Lepidoptera family Nociculea.
- It lays its eggs on plants, from which larvae (caterpillars) hatch and start feeding on the leaves and stems, destroying them in the process.
- It is highly destructive to about 80 crop species, including maize, rice, sorghum, sugarcane, and other millets.

Where is it?
- A native to tropical and subtropical regions of North and South America, FAA invaded the maize crop in Western and Central Africa in early 2016, beginning with Nigeria and spreading to almost all countries in sub-Saharan Africa by 2017.
- The female moth is a strong flyer and can cover over 100 km during one night. Thus it can lay its eggs in far-flung places within a short time.
- In India, FAA infestation was first reported on maize in Karnataka in July 2018, followed by Telangana. It is now reported in Tamil Nadu, Telangana, Andhra Pradesh, Maharastra, Odisha, Gujarat, Chhattisgarh, and parts of West Bengal.
Flyers

Plant Quarantine Guidelines and Procedures for Germplasm Exchange of ICRISAT Mandate Crops

The potential of systems modelling to inform farm decisions for higher resilience and profit

Back to Index
FeFA Girls Iron for adolescents project

Background:
Iron deficiency anemia is a condition in which blood fails to adequately deliver oxygen to the body's tissues. It affects more women than men and is common during adolescence and pregnancy, leading to sexual and physical problems. Iron deficiency in adolescent girls is an important component of the continuum cycle of malnutrition.

Our Approach:
To use a practical and locally available solution using biofortified crops rich in iron and dietary fibers that have been shown to improve the gut microbiome composition, to achieve sustainable hematocrit in adolescent girls with mild to moderate iron deficiency.

Project Goals:
- To determine the effect of national Fe supplementation programme on hematocrit improvement and gut microbiota modulation in premenstrual adolescent girls.
- Effect of peanut pearl millet (biofortified for iron) in Fe supplementation level on digestive fluids and iron on gut microbiota health and iron status among anemic adolescent girls.

Back to Index
Nudging sustainability transitions in Central Mozambique

Using flock simulations for modern goat market systems in Central Mozambique

Back to Index
Better management of common watershed infrastructure: Experimental games help communities explore solutions

Experimental games help communities explore solutions

Research Output

October 2018

Background

Recognising the close links between poverty and natural resource degradation, India invested more than US$ 500 million during the 1990s (Perrington et al., 1999) and more than US$ 2 billion in the following decade (DeShelfer and Harrington, 2006) in participatory watershed development. There is strong evidence that various interventions have the potential to achieve a wide range of societal goals such as food security, soil protection and efficient water use (Brown et al. 2000; Regendahm et al. 2001; Gang et al. 2005; Singh et al. 2014; Kelling et al. 2015). However, despite the obvious potential, many communities fail to sustain the benefits over time as they struggle to cooperate in the joint effort to run and maintain the structures (Wani et al. 2008; Joshi et al. 2009). Even though watershed projects use participatory approaches, 80% of attention is paid to the capacities of communities to design or change rules of use–benefit and enforce them in a way that is sustainable over time. These projects are complex. It is very common that infrastructure quality renders losing its capacity to consistently generate benefits.

A survey to assess the general state of water infrastructure and community attitude towards their maintenance was conducted between April to June 2017 in 90 communities in Mandla district in Madhya Pradesh. The results confirm that most communities cannot report the joint effort to run and maintain the structures (Wani et al. 2008; Joshi et al. 2009). Even though watershed projects use participatory approaches, 80% of attention is paid to the capacities of communities to design or change rules of use–benefit and enforce them in a way that is sustainable over time. These projects are complex. It is very common that infrastructure quality renders losing its capacity to consistently generate benefits.

Who pays the price for water use in agriculture?

Research Output

August 2018

Background

A majority of Indian rural households depend on the profitability of farming systems for their livelihood. Almost universally, the yield gap between potential and achieved productivity is large, and water and nutrient use efficiency is low and land degradation can be widely observed (Islam et al. 2009; Corinaldi and Steinfeld 2007). This applies also to the Indian state of Maharashtra. In Maharashtra, approximately two-thirds of the rural population depends on agriculture and related activities for their livelihood (Uttam and Parchal 2014). A large share of them are smallholder farmers with often low and unstable crop and livestock productivity. At the same time, there has been a steady increase in the area under water-intensive crops such as sugarcane and cotton in the recent decades (Gohil 2018).

Water use efficiency has national and global relevance given that India is one of the world’s most intensive water users. Surface water over-abstraction is projected for large parts of India for the coming decades (Wada and Bierkens 2014). No country is extracting more non-renewable water than India (Wada et al. 2014). Irrigation is by far the largest consumer of freshwater in India. Close to 80% of all groundwater abstracted in 2012 was used for irrigation (Wada and Bierkens 2014). Water over-abstraction will with high likelihood lead to water scarcity across many parts of India and affect most directly those depending on agriculture. Reduced food production, more unpredictable access to water, increase in water-borne disease, environmental degradation, as well as growing competition and social tensions over water use will most likely affect the Indian population (Pande and Qureshi 2010, Mehta 2012).

Back to Index
Infographics
Combating Desertification - projects - BDL, Yewol, Chifra

Combating Desertification - Technologies overview
Infographics

How improved chickpea varieties are changing farmers’ lives in Myanmar

NaSSARI-released sorghum varieties against their commercial counterparts

Back to Index
Infographics

Demand Driven Innovation – Economic empowerment for women in Nigeria

Demand Driven Innovation – Improving health with high iron sorghum
Demand Driven Innovation – Tackling labor scarcity in Andhra Pradesh

Demand Driven Innovation – Tackling successive droughts
Infographics

Celebrating Youth in Agriculture

Village-level wastewater treatment units

Back to Index
Infographics

Pearl Millet: A grain of the future

LAMP: Visual, faster & cheaper dry root rot diagnosis

Back to Index
Bhoochetana: Scaling up a holistic approach in Karnataka, India

Watershed with a holistic approach

Infographics

Back to Index
Infographics

Boosting legume productivity in Myanmar

Biotechnology breakthrough can make groundnut immune to aflatoxin

Back to Index
Infographics

Challenges faced by dryland communities

Tackling malnutrition through nutri-food basket

Back to Index
Folders
Folders

CSR Big Ideas For Sustainable Development

ICRISAT Big Ideas folder
(Note that this will be updated when the country strategies are further developed)

Back to Index
VIP Folder (used for sharing material with visitors)

**Fo3**

**Vision**
A prosperous, food-secure and resilient dryland tropics

**Mission**
To reduce poverty, hunger, malnutrition and environmental degradation in the dryland tropics

**Approach**
Inclusive Market-Oriented Development (IMOD)

**Fo4**

**Vision**
A prosperous, food-secure and resilient dryland tropics

**Mission**
To reduce poverty, hunger, malnutrition and environmental degradation in the dryland tropics

**Approach**
Inclusive Market-Oriented Development (IMOD)

Back to Index
Booklets
Booklets

ICRISAT Impact Highlights

Aflatoxin Timeline

Building Climate-Smart Villages
Pulses are Smart Food

Smart Food Millet Recipes

Making a difference – ICRISAT’s work to help achieve SDGs

Back to Index
Booklets

Visitor’s Handbook

Green Fodder Production – A Manual for Field Functionaries

Back to Index
Useful links

All communication resources: resourcespace.icrisat.org

ICRISAT Corp websites: www.icrisat.org and exploreit.icrisat.org
ICRISAT’s scientific platform

SlideShare: www.slideshare.net/icrisatsmco

You Tube: www.youtube.com/user/icrisatco

100 Voices video series: www.icrisat.org/100-voices/

Take 2 science seminars: www.icrisat.org/take-2-highlights-of-science-seminar/

International year of pulses: www.icrisat.org/iyp/ (video blog)

Flickr: www.flickr.com/photos/icrisatimages/

Back to Index
Links to key ICRISAT work

- CGIAR Research Programs on Grain Legumes (http://grainlegumes.cgiar.org/) and Dryland Cereals (http://drylandcereals.cgiar.org/)

- Impacts: Summary of full range http://www.icrisat.org/icrisat-impacts/
  - Holistic scaling up (Bhoochetana) http://www.icrisat.org/a-complete-farming-model-1/ (India)
  - Watershed work: Different watershed work (http://www.icrisat.org/a-complete-farming-mode-stage3/) (Asia and Ethiopia) and Kothapally in a timeline http://www.icrisat.org/PDF/A-journey-of-innovation.pdf (India)
  - Safe reuse of treated wastewater for agriculture (http://www.icrisat.org/safe-reuse-of-treated-wastewater-for-agriculture/)
  - Microdosing http://www.icrisat.org/microdosing-techniques/ Also our decades of work in a timeline http://www.icrisat.org/Timelines/microdosing/ (Africa)
  - Facilitating agribusiness http://www.icrisat.org/agribusiness-incubators/ and our general agribusiness website www.aipicrisat.org/ (India and Africa)
  - Developing the seed industry in Malawi http://www.icrisat.org/develop-seed-industries-helped-seed-industries/ (Malawi)
Links to key ICRISAT work

- **Crop breeding work**

[Back to Index](#)
Links to key ICRISAT work

- **Climate Change**: (including approaches for building climate smart villages) [http://www.icrisat.org/coping-with-climate-change/](http://www.icrisat.org/coping-with-climate-change/) *(Africa and India)*

- **Gender** work: (including examples across the whole value chain) [http://www.icrisat.org/empowering-women/](http://www.icrisat.org/empowering-women/) *(Africa and Asia)*


- **Malnutrition**: Efforts to reduce [http://www.icrisat.org/reducing-malnutrition/](http://www.icrisat.org/reducing-malnutrition/) *(Africa and Asia)*
  Example: see Nutrition Metrics [http://www.icrisat.org/nutritionmetrics/](http://www.icrisat.org/nutritionmetrics/) *(India)*


- **Smart Food**: Initiative page [www.smartfood.org](http://www.smartfood.org) *(full website being worked on now)* *(Global)*

- **ALSO** [http://exploreit.icrisat.org/](http://exploreit.icrisat.org/) for our work by TOPIC, CROP, COUNTRY, STATES in INDIA, & SYSTEM.