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Update on IFPRI Activities in Ethiopia, Tanzania and Ghana

Claudia Ringler, February 8th, 2016

Photo credit: IWMI Flickr, Ghana, 2011

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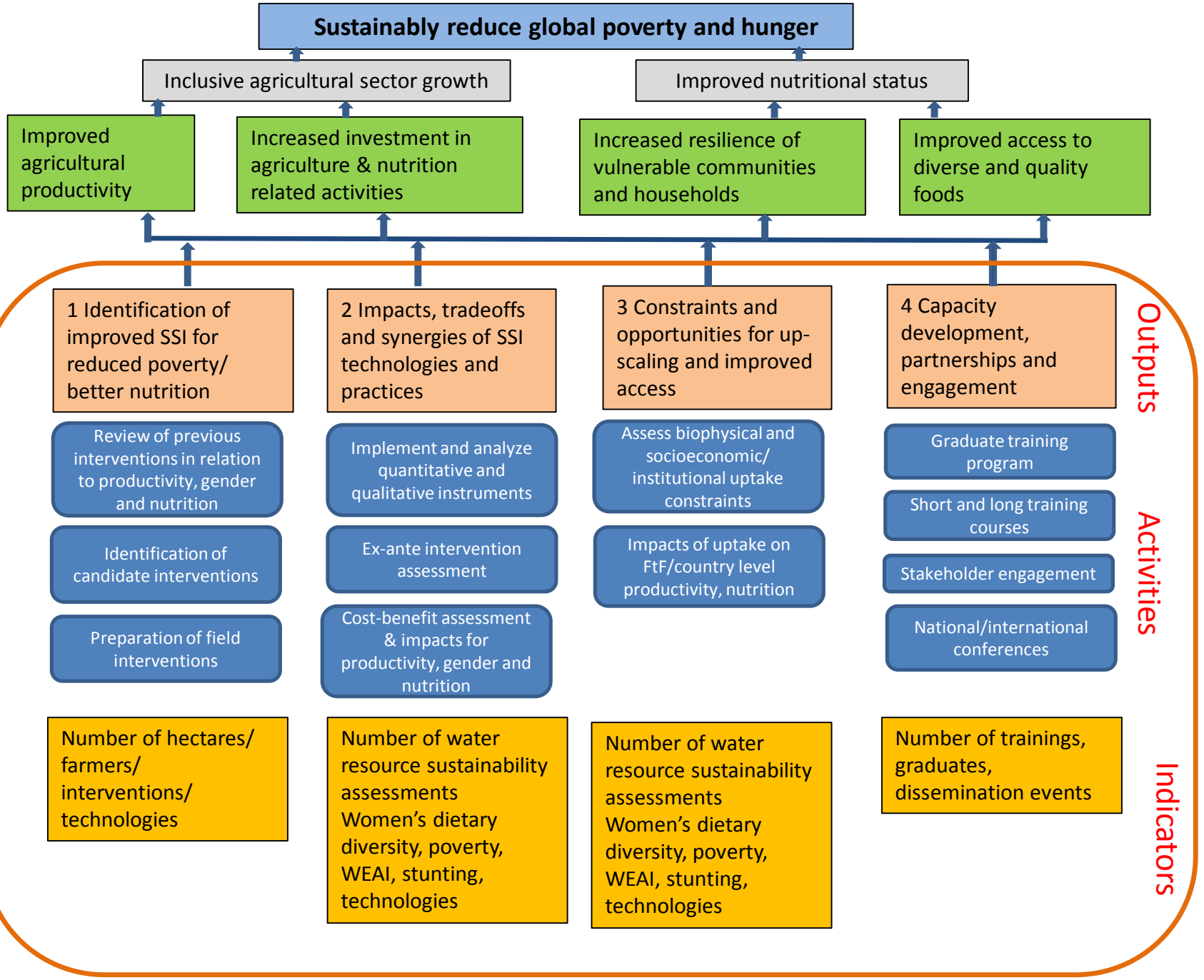
PRESENTATION

- Update on IFPRI Baseline Surveys in Ethiopia, Ghana & Tanzania
- Update on other activities: FGD's, Gender Trainings, Pro-WEAI and WLE-Experiment
- Findings from Ethiopia and Tanzania
- Upcoming Papers
- Conclusions
- Next steps


Sustainably reduce global poverty and hunger
Inclusive agricultural sector growth
Improved nutritional status
Improved agricultural productivity
Increased investment in agriculture & nutrition related activities
Increased resilience of vulnerable communities and households
Improved access to diverse and quality foods
1 Identification of improved SSI for reduced poverty/ better nutrition
2 Impacts, tradeoffs and synergies of SSI technologies and practices
3 Constraints and opportunities for up-scaling and improved access
4 Capacity development, partnerships and engagement
Outputs
Review of previous interventions in relation to productivity, gender and nutrition
Identification of candidate interventions
Preparation of field interventions
Implement and analyze quantitative and qualitative instruments
Ex-ante intervention assessment
Cost-benefit assessment & impacts for productivity, gender and nutrition
Assess biophysical and socioeconomic/ institutional uptake constraints
Impacts of uptake on FtF/country level productivity, nutrition
Graduate training program
Short and long training courses
Stakeholder engagement
National/international conferences
Activities
Number of hectares/ farmers/ interventions/ technologies
Number of water resource sustainability assessments
Women's dietary diversity, poverty, WEAI, stunting, technologies
Number of water resource sustainability assessments
Women's dietary diversity, poverty, WEAI, stunting, technologies
Number of trainings, graduates, dissemination events
Indicators
FtF Results Framework
SSI Innovations

GENDER-IRRIGATION LINKAGES

- Guided by the previous framework, there are several pathways by which we hypothesize gender and irrigation are linked:
  - Improved maternal and child nutrition through increased diversity and quantity foods and/or increased household incomes
  - Improved environmental conditions for better maternal and child health outcomes
  - Improved income generation and decision-making power for women
  - Enhanced time availability for women
- On the negative side, potentially:
  - Malaria
  - Pollution/contamination of water sources and environmental conditions

Photo Source: IWMI, Ethiopia

Source: Domenech (2015).

SURVEY UPDATE

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THE ILSSI SURVEY: UPDATE

- IFPRI has completed baseline data collection in Ethiopia, Tanzania and Ghana*
- We have now switched entirely to electronic data collection using Android tablets
- Baseline data for Ghana should be available for sharing end of February
- Topics of the survey include:
  - Crop & livestock inputs, production and practices
  - Household and women's dietary diversity
  - Child health, diet, feeding and anthropometry
  - Household shocks, assets, credit
  - Women's Empowerment in Agriculture Index (WEAI)
  - Additional modules for households in WLE-experiment on credit, food consumption and farmer networks

Photo Source: IWMI, Ethiopia

**Still have a few observations to add to Ghana data from field team*

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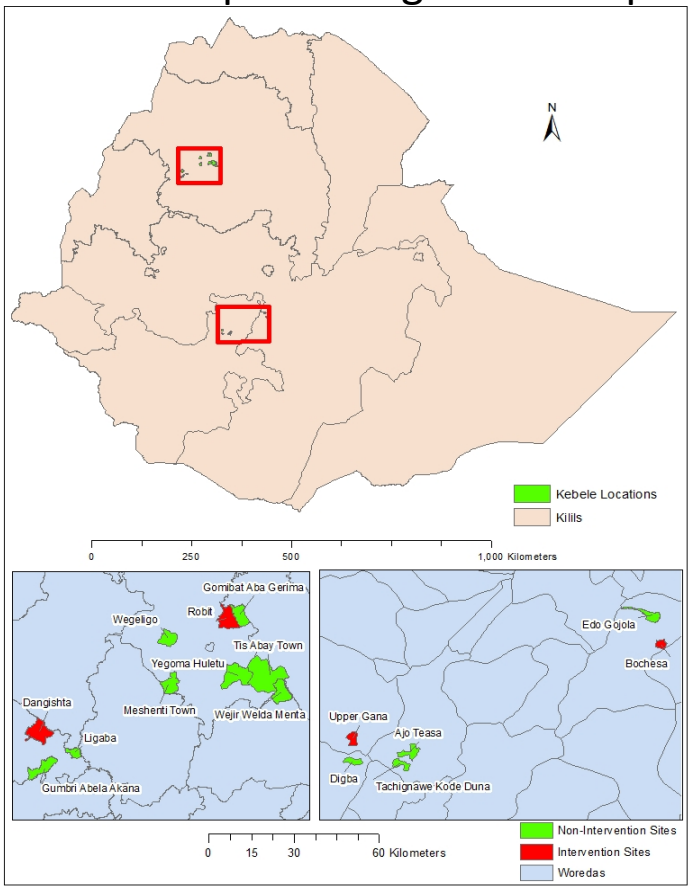
ETHIOPIA SURVEY

- 15 villages, including 4 ILSSI intervention villages
- 4 *woredas* surveyed include: Bahir Dar Zuria, Dangla, Adami Tulu and Lemu
- Period: November 14th - December 26th 2014 (covering 1 year)
- 439 households

Sampled Villages in Ethiopia

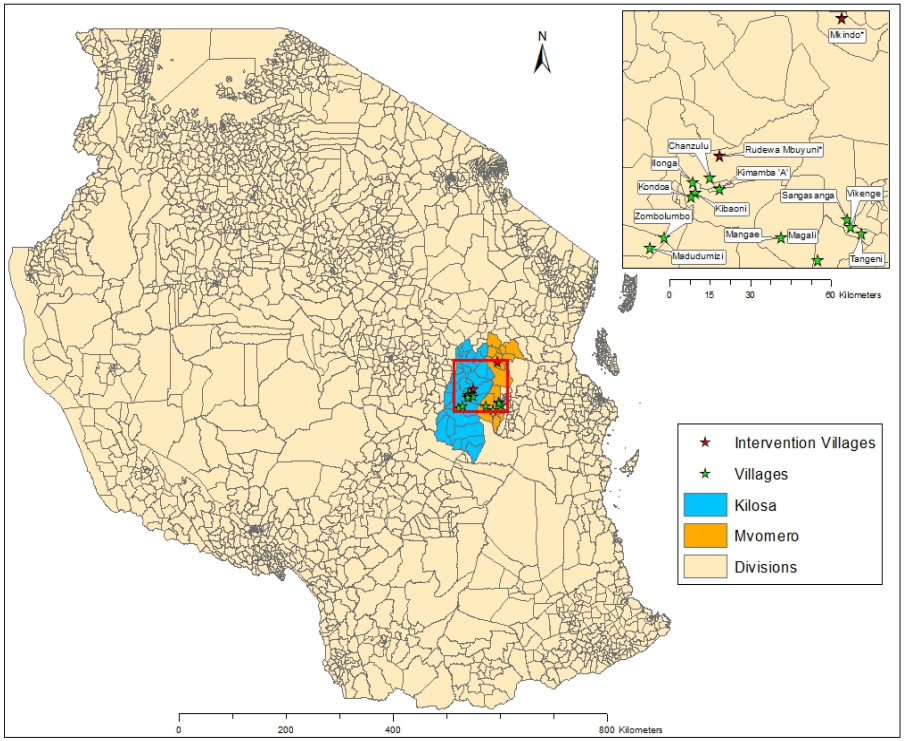


Source: IFPRI EPTD 2015

TANZANIA SURVEY

- 14 villages in Kilosa and Mvomero districts, 2 of which were ILSSI intervention villages
- Period: June 24th – July 11th, 2015 (covering 1 year)
- 451 households

Data Collection Sites in Tanzania

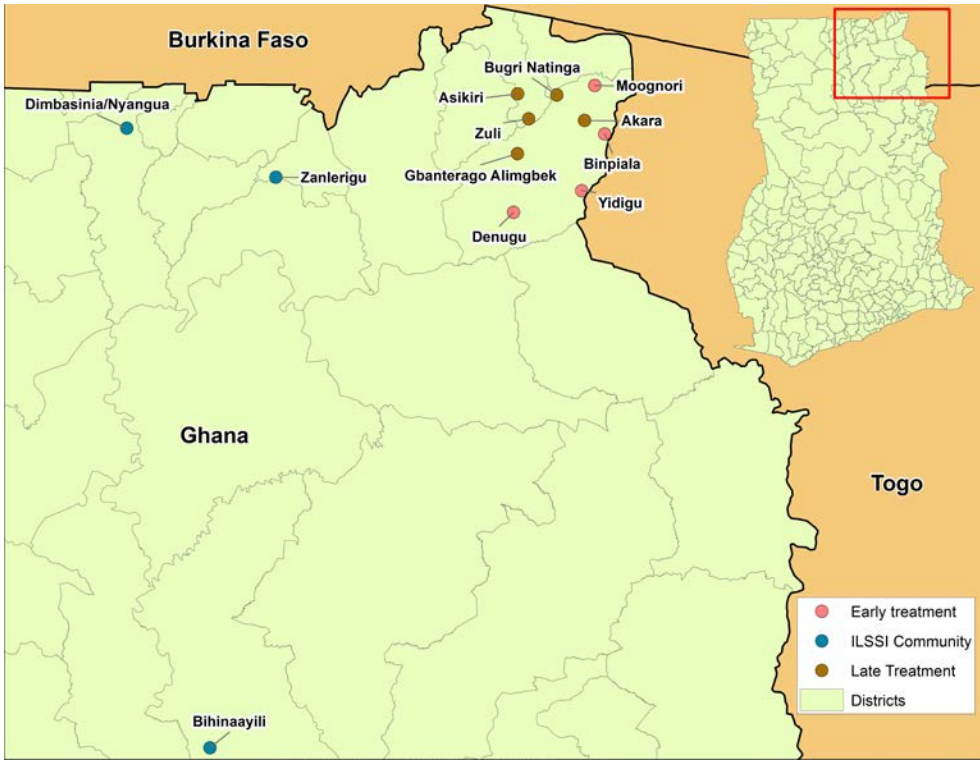


Source: IFPRI EPTD 2015

GHANA SURVEY

- Sample size = ~888 households (including both ILSSI and WLE experiment data collection)
- ILSSI villages include: Nyangua/Dimbasina, Bihinaayili and Zanlerigu, with 9 additional villages in the WLE experiment
- Data collection: From Nov/.2015 to Jan/2016 with selected re-collection of data.

Northern Ghana Survey Sites



Source: IFPRI EPTD 2016

SELECTED SURVEY RESULTS

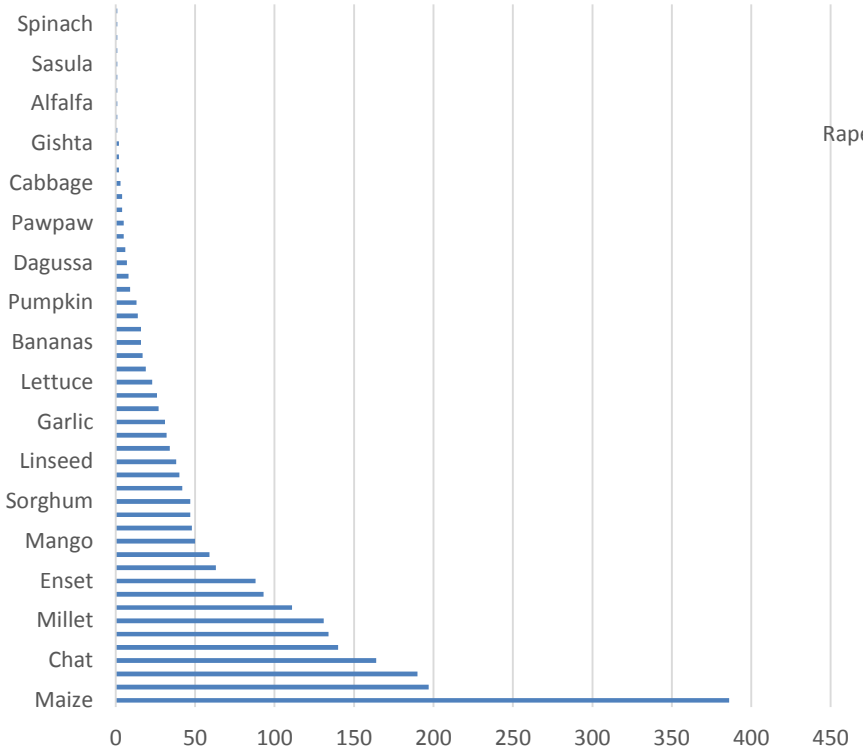
Household Survey Sample

	Ethiopia		Tanzania		Ghana	
	No.	Percent	No.	Percent	No.	Percent
Non-irrigating households	185	42.1%	224	49.7%	261	31.5%
Irrigating households	254	57.9%	227	50.3%	577	68.9%
Total	439		451		838*	
Number of ILSSI Intervention Households	*118*		*84*		*88***	

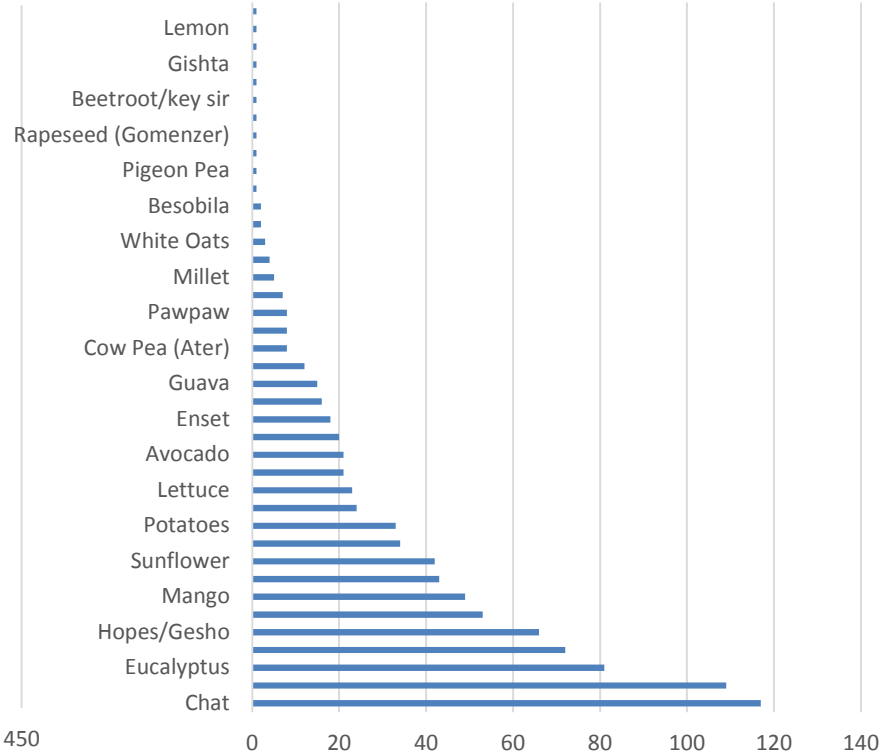
**Ghana numbers may change slightly; have a few observations to add*
***Some Ghana ILSSI farmers were part of the same joint household*

CROPS GROWN: ETHIOPIA

Ethiopia: No. of households growing crop in rainy season

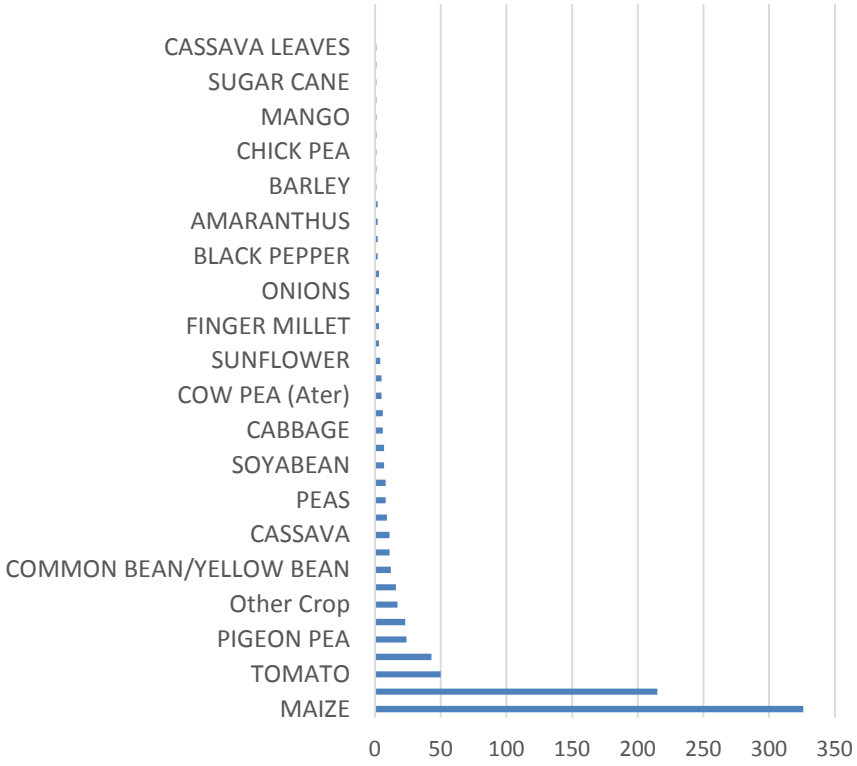


Ethiopia: No. of Households growing crop in dry season

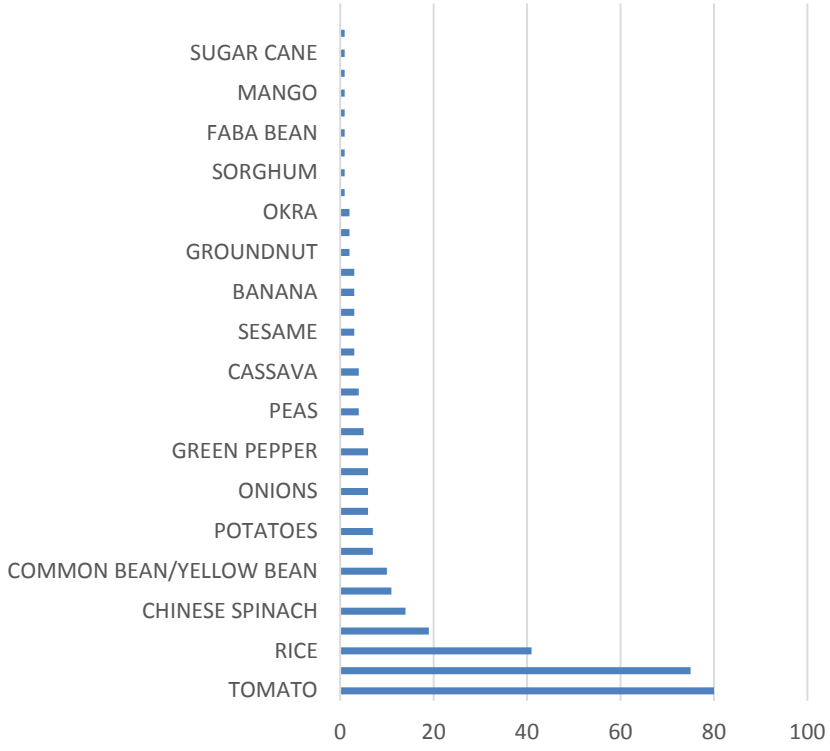


CROPS GROWN: TANZANIA

Tanzania:



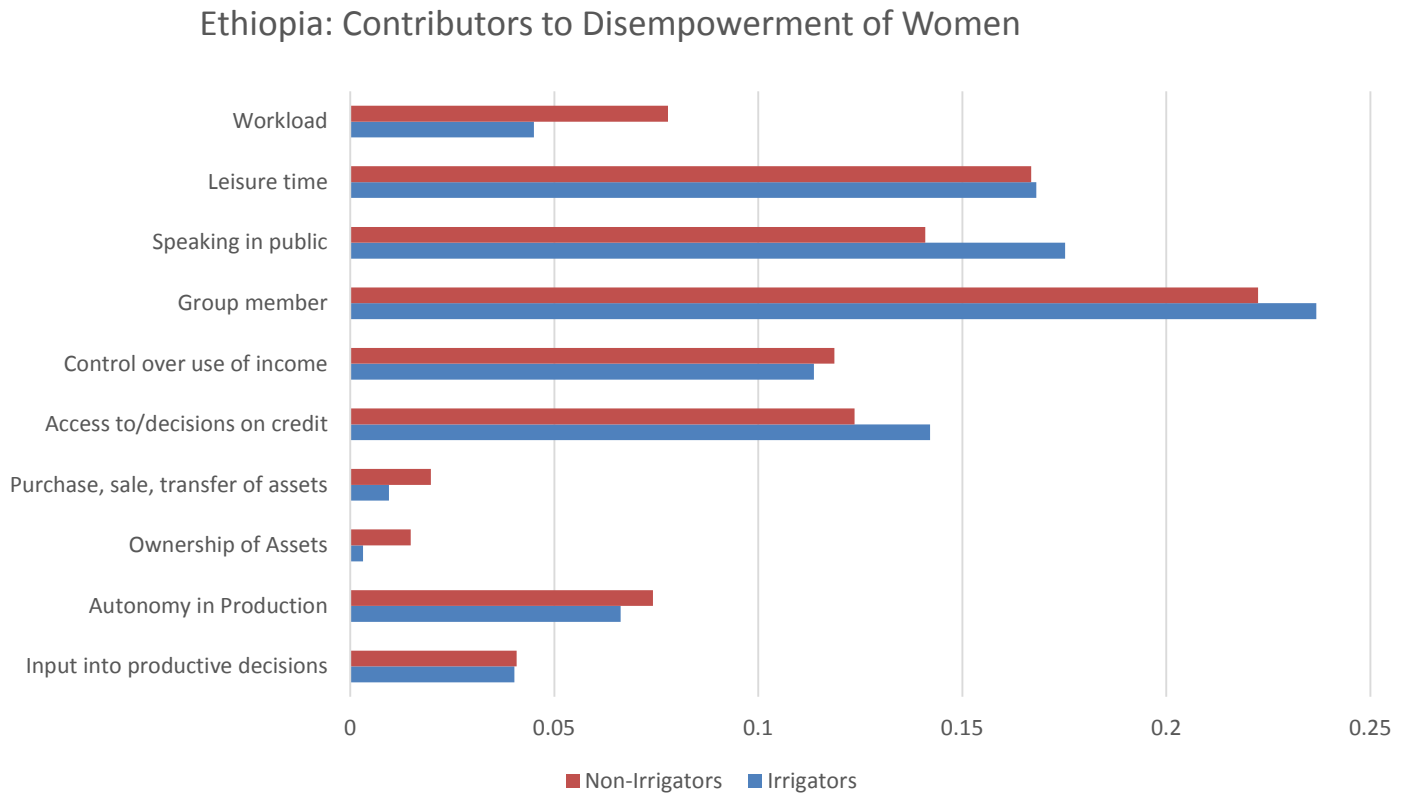
Tanzania: No. of Households Growing Crop in Dry Season



WEAI (WOMEN'S EMPOWERMENT IN AGRICULTURE INDEX) MODIFICATIONS

- Technically, we use a "**Modified WEAI**" for the ILSSI project in order to better capture linkages between irrigation and gender
- Modifications to the original WEAI include:
  - Role in decisionmaking: on irrigated food crop and cash crop farming
  - Autonomy in decisionmaking: types of crops to grow for irrigated vs. non-irrigated
  - Productive capital: also includes irrigation tank/pond and irrigation equipment
  - Access to information/extension: on irrigation methods
  - Time allocation: time spent irrigating/working with equipment
  - Added response options on irrigation topics for various questions on credit, savings, group membership

ETHIOPIA: CONTRIBUTORS TO DISEMPOWERMENT AMONG WOMEN IRRIGATORS/NON-IRRIGATORS



Source: IFPRI Ethiopia ILSSI baseline survey.

Initial WEAI Results from Ethiopia and Tanzania

WEAI	Irrigators	Gender Parity Index	Non-irrigators	Gender Parity Index	Contributors to disempowerment
Ethiopia	0.82	0.90	0.85	0.91	• Group membership • Leisure time • Speaking in public • Credit access • Control over use of income
Tanzania	0.88	0.96	0.86	0.92	• Group membership • Credit access • Leisure time • Speaking in public • Autonomy in production

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DECISION-MAKING ON IRRIGATION IN ETHIOPIA

	Women's Responses: Ethiopia			
	How much input did you have in making decisions about…		How much input did you have in decisions on the use of income generated from…	
	Irrigated food crop farming	Irrigated cash crop farming	Irrigated food crop farming	Irrigated cash crop farming
No Input	0%	2%	0%	1%
Input into very few decisions	14%	15%	13%	16%
Input into some decisions	52%	53%	51%	53%
Input into most decisions	23%	16%	23%	15%
Input into all decisions	11%	15%	13%	15%
Total	100%	100%	100%	100%

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DECISION-MAKING ON IRRIGATION IN TANZANIA

	Women's Responses: Tanzania			
	How much input did you have in making decisions about…		How much input did you have in decisions on the use of income generated from…	
	Irrigated food crop farming	Irrigated cash crop farming	Irrigated food crop farming	Irrigated cash crop farming
No input	0%	0%	1%	0%
Input into very few decisions	9%	11%	11%	14%
Input into some decisions	23%	31%	26%	30%
Input into most decisions	30%	24%	29%	23%
Input into all decisions	37%	34%	34%	34%
Total	100%	100%	100%	100%

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Food security & Dietary diversity in ETH & TZA

	Ethiopia		Tanzania	
	Non-irrigators n=185	Irrigators n=284	Non-irrigators n=224	Irrigators n=227
	Mean	Mean	Mean	Mean
Household food insecurity access scale, 0-27 [higher means worse]	5.78	4.04	3.92	2.58
Female dietary diversity score: number of categories consumed	3.69	3.58	3.71	4.20
Household dietary diversity: number of food categories consumed	5.69	6.06	4.88	5.63

Differences statistically significant, except diff FDDS in Ethiopia

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IFPRI Activities in ETH/ TZA/ GH Include

- *Household survey of ILSSI, all countries*

Additional Activities:

- WLE-iDE Irrigation Experiment in Ghana (ongoing)
- Focus Group Discussions, Tanzania (implemented Dec/2015)
- Gender Training, all countries (Spring/2016)
- Pro-WEAI Activity in Ghana (starting in 2016)

Group meeting with iDE Staff in Ghana

Photo Credit: Simone Passarelli

GHANA WLE EXPERIMENT

- Partnering with iDE-Ghana to encourage adoption of motor pumps among random set of farmer groups
- Through iDE's agricultural extension program, farmers are organized into Trust Groups of 5 members, receive agricultural training and are encouraged to save towards investments
- In intervention villages, half of trust groups are randomly selected to receive access to credit for a motor pump, to be shared among 5 members for irrigation, and the remaining villages will receive credit access at endline
- Randomization allows us to observe differences in nutrition, agricultural and gender outcomes in populations with similar levels of motivation to irrigate

Onion production in one of the communities involved in the iDE Experiment

Photo Credit: Simone Passarelli, IFPRI

FGDS: QUALITATIVE GENDER-IRRIGATION FIELDWORK

- Sex-disaggregated **focus group discussions** already conducted in Ethiopia (by IWMI) and Tanzania (through IFPRI); Ghana scheduled by IWMI
- **Purpose:** to investigate gender dynamics and irrigation technology, in ILSSI treatment and control sites
- FGDs ask questions about **gender-based differences** in:
  - **Access to technology** (e.g. access to credit, farmer groups, or information required to invest in irrigation technology?)
  - **Use of technology and technology preferences** (e.g. what type of crops and irrigation methods are preferred? Is irrigation water used for other purposes? What technology meets these needs?)
  - **Decision-making power** (e.g. over crop and irrigation choice; control over income from irrigated plots)
  - **Impacts and benefits from irrigation** (e.g. time-saving? More nutritious crops? More income?)

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GENDER-IRRIGATION TECHNICAL WORKSHOP SERIES

- **Three technical workshops** are being organized with IWMI in Ethiopia (March 9-10), Ghana (April 13-14), and with PAPAC in Tanzania (April 20-21)
- **Training and knowledge exchange:** gender training from IFPRI/IWMI and interactive presentations/case studies from government, NGOs, researchers, donors, and private sector sharing lessons learned on gender in irrigation interventions
- **Focus:** how to consider gender dynamics in various irrigation schemes for smallholder farmers (e.g. household irrigation, multiple use systems, small-scale, large-scale/PPP) and at different project stages (e.g. project design, M&E, impact evaluation)
- **Outputs:** validated, elaborated set of gender indicators for the irrigation sector

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INVITATION TO ATTEND THE GENDER-IRRIGATION WORKSHOP IN GHANA!!

- A two-day training: April 13-14 in Tamale (or Accra?)
- If you or your colleagues are interested in attending the gender-irrigation workshop, please contact Sophie Theis at s.theis@cgiar.org
- Knowledge sharing and practical tools!

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Pro-WEAI Project

- 3-year project funded by GAAP2 (a BMGF-funded Gender, Agriculture and Assets Project, jointly led by IFPRI and ILRI)
- Designed to test the Pro-WEAI (Program Women's Empowerment in Agriculture Index) using our irrigation-modified WEAI
- Creates a new community of practice around this WEAI tool
- IFPRI will produce a paper using the iDE experiment households with our modified WEAI

Photo Credit: IWMI Flikr, Ghana

ILSSI PAPERS UNDER PREPARATION

1. Passarelli, S., Mekonnen, D., Bryan, E. and C. Ringler. "Tapping Irrigation's Potential for Food and Nutrition Security: Evidence from Ethiopia and Tanzania."

2. Bryan, E., Passarelli, S., Mekonnen, D., Domenech, L. and C. Ringler. "Small-Scale Irrigation and Women's Empowerment: Measuring the Linkages."

3. Paper on constraints to irrigation adoption using data from FGD's, TBD authorship

CONCLUSIONS

- Large and significant differences between irrigating and non-irrigating household in terms of food security, dietary diversity and women's involvement in decision-making around specific crops
- Women are more involved in plot-level decisionmaking in households that irrigate compared to households that do not
- So far, our results have not found a direct relationship between irrigation and women's individual empowerment scores, but we are doing more analyses using specific technologies and crops

NEXT STEPS

- Development of SIPS-IN study arms and survey protocol – linkages to ILSSI
- Examination of linkages between specific crops and technologies and women's empowerment and decisionmaking
- Use irrigation potential to address the issue of self-selection of farmers into irrigation; this allows us to compare food and nutrition security indicators between irrigators and non-irrigators
- We welcome your feedback and suggestions for research directions and questions

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THANK YOU!

Source: IWMI.

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