

### The 12<sup>th</sup> International Conference on Ethiopian Economy and the 19<sup>th</sup> Annual Conference of the African Region Chapter of the Econometric Society in collaboration with EEA. July 16-19, 2014



Economists from all over Africa shared their research findings on the complex challenges Africa is facing in this fast moving global economy. Over 120 papers were presented with a total of 1450 people participating over four days. This conference was supported by ESSP.

### New ESSP Publications

- Structure and performance of Ethiopia's coffee export sector. 2014. Bart Minten, Seneshaw Tamru, Tadesse Kuma, and Yaw Nyarko. *ESSP Working Paper 66* and *ESSP Research Note 29*.
- Determinants and impact of sustainable land and watershed management investments. 2014. Emily Schmidt, Paul Chinowsk, Sherman Robinson, and Ken Strzepek. *ESSP Research Note 30*.
- Hydrological modeling of sustainable land management interventions in the Mizewa watershed of the Blue Nile Basin. 2014. Emily Schmidt and Birhanu Zemadim. *ESSP Research Note 31*.
- Efficiency and productivity differential effects of the land certification program in Ethiopia. 2014. Hosaena Ghebru Hagos and Stein Holden. *ESSP Research Note 32*.
- Perceptions, impacts and rewards of row planting of teff. 2014. Joachim Vandecasteele, Mekdim Dereje, Bart Minten and Alemayehu Seyoum Taffesse. *ESSP Research Note 33*.

### Capacity Strengthening

**Python Programming course**  
by Helina Tilahun. May-June 2014.

This training was delivered through the Department of Geography and Environmental Studies at Addis Ababa University. It follows the successful GIS training held earlier in the year at EDRI.

### Upcoming events:

- **“Improving nutrition in Ethiopia: How can bio-fortified crops play a role?”** organized by Harvest Plus and EIAR, with support by ESSP. October 1-3, 2014. Ellily Hotel, Addis Ababa.
- **15th Annual Conference of AESE** on ‘Performance of the Ethiopian agriculture in the face of climate change: Development challenges and options’. November 27-28, 2014, Addis Ababa (venue to be confirmed)

### Papers presented

[www.slideshare.net/essp2/presentations](http://www.slideshare.net/essp2/presentations)

- **The future in mind: Aspirations and forward-looking behaviour in rural Ethiopia.** Alemayehu Seyoum Taffesse
- **Cows, missing milk markets and nutrition in rural Ethiopia.** Mekdim Dereje
- **Diminishing returns from first stage land certification? Is there sufficient demand for second stage land certification in Ethiopia?** Bethlehem Koro
- **Decentralization of National Transfer Programs: compliance, local revealed equivalence scales, and efficacy of aid.** Andrew Simons
- **Digital soil mapping: Fertilizer recommendation for Ethiopian agricultural land.** Hailu Shiferaw
- **Effect of early age nutrition, shocks, and Ethiopia's productive safety net: Program on cognitive development of children in Ethiopia.** Mehari Hiluf
- **Women's empowerment in agriculture and nutritional outcomes in Ethiopia.** Fanaye Tadesse
- **Linkages between diet diversity and production diversity in Ethiopia.** Kalle Hirvonen.
- **Understanding urban distribution systems of coffee: The case of Addis.** Thomas Woldu
- **Dynamics in coffee production marketing in Ethiopia.** Ermias Engeda
- **Coffee trading through the ECX System: An overview of performance; abstract challenges and lessons learnt.** Endris Negus
- **Commodity exchange leading to better price transmission? The case of Ethiopian Commodity Exchange and coffee.** Seneshaw Tamru
- **Agricultural co-operatives, community discussion groups and production efficiency of teff in Ethiopia.** Getu Haile
- **Smallholder teff productivity and efficiency: Evidence from high-potential districts of Ethiopia.** Fantu Nisrane.
- **Teff production and market access in Ethiopia.** Helina Tilahun
- **Teff consumption in urban areas.** Yonas Alem

### Presentation highlights

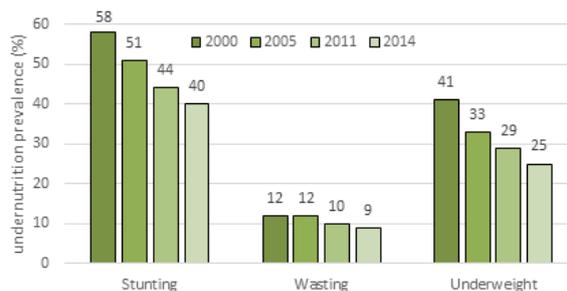
**The Productive Safety Net Programme and the nutritional status of pre-school children in Ethiopia: Preliminary results.** Guush Berhane. August 14, 2014. DfiD Ethiopia.

**Smallholder teff productivity and efficiency: Evidence from high-potential districts of Ethiopia.** Fantu Nisrane. August 25, 2014. Toulouse, France.

**The future in mind: Aspirations and forward-looking behaviour in rural Ethiopia.** Alemayehu Seyoum Taffesse. September 05-06, 2014. Helsinki, Finland.

### Results highlight

Solid progress has been made to diminish child undernutrition in Ethiopia.



**Trends in preschool children stunting, wasting and underweight prevalence, 2000-2014**

(Source: Ethiopia Mini Demographic and Health Survey 2014)

This study by Derek Headey reviews the trends and determinants of child undernutrition and the factors that drive nutritional changes. It considers child feeding practices and how these relate to household assets, parental education, cow ownership, antenatal care exposure and maternal age.

**New Working Paper – available soon**

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### 2014 Research Initiatives:

- Productivity, technology adoption, and agricultural transformation
- Agricultural markets, value chains, and agro-industry
- Food and agricultural prices
- Risk, insurance, and investment
- Land and water management
- Poverty, nutrition, and safety nets
- Productive Safety Net Program (PSNP) Impact Evaluation
- Agricultural Growth Program (AGP) Impact Evaluation
- Feed the Future (FTF) Program Impact Evaluation
- Social Cash Transfer Program (SCTP)

### 2014 Capacity Building Initiatives:

- **Ethiopian Development Research Institute (EDRI)**
  - Support to EDRI SAM/CGE analysis
  - Support policy analysis on agricultural productivity, markets, and economic growth
- **Central Statistical Agency (CSA)**
  - Support to GIS analysis and federal and regional GIS training
  - Support impact evaluation of FTF and PSNP
- **Ministry of Agriculture (MoA)**
  - Support analysis of impact of agricultural extension and impact of new agricultural technologies
  - Support impact evaluation of the Agricultural Growth Program (AGP)
- **Agricultural Transformation Agency (ATA)**
  - Support the establishment and scouting of the Ethiopian Soil Information System (EthioSIS) geo-database and survey through GIS analysis
  - Support the teff research
  - Support in GIS training delivery
  - Technical support in predicting and developing soil nutrient status of agricultural land of Ethiopia using field, laboratory, satellite image, and other secondary sources.
  - Support in identifying high agricultural potential woredas and nutrient deficit areas for further soil fertility mapping and producing fertilizer recommendations for policy inputs respectively.
- **Ethiopian Economics Association (EEA)**
  - Technical and financial support to the Price Dynamics Hub
  - Support the annual conference

## Policy-related research – Teff: its nutrition and health benefits

Teff has been cultivated and used for human consumption in Ethiopia for centuries. However, its global use for human consumption has been restrained partly due to the limited knowledge about its excellent nutrient profile and the processing challenges in making teff-based food products. As a gluten-free cereal crop, recent studies on teff suggest that its consumption can help in managing celiac disease as well as prevent and control iron deficiency and diabetes, demonstrating its potential to be a global functional food.

### Teff's nutritional value compared to other cereals

Compared to grain of other more common cereals, teff is superior in its nutrient composition. Its starch is slowly digestible; it is a good source of unsaturated fatty acids; it is high in fiber and it contains no gluten. In comparison to other cereals, teff is high in minerals, especially iron and calcium.

Minerals	White teff	Red teff	Mixed teff	Maize	Sorghum	Wheat	Rice
Iron	9.5-37.7	11.6- >150	11.5- >150	3.6-4.8	3.5-4.1	3.7	1.5
Zinc	2.4-6.8	2.3-6.7	3.8-3.9	2.6-4.6	1.4-1.7	1.7	2.2
Calcium	17-124	18-178	78.8-147	16	5.0-5.8	15.2-39.5	23
Copper	2.5-5.3	1.1-3.6	1.6	1.3	0.41	0.23	0.16

Sources: Abebe et al. 2007; Baye et al. 2014; Gebremariam et al. 2012; Kebede 2009; USDA 2013.

### Consumption of teff in Ethiopia

Although teff has valued nutritional attributes, its consumption in the past was determined by its production and the challenges of processing the grain. However, with improvements in market linkages and technology, the consumption pattern is changing. Teff is mainly used for making injera – Ethiopia's national dish – but its use is diversifying into making other foods such as teff-enriched bread. However, incorporating the grain into foods like bread to produce quality products, is challenging. The use of enzymes and hydrocolloids to improve the texture and sensory properties in the production process has made a significant impact.

### Health benefits

The unique qualities of teff's high mineral content and being gluten-free has been recognized globally. The attributable health benefits gained from its consumption in preventing diabetes, contributing to preventing anaemia through its property to absorb iron, and possible benefits in managing celiac disease, all point to the potential of teff to be a global functional food for health promotion and disease prevention.



### Teff : a future global food?

This study has highlighted teff's unique properties as a cereal whose geographical restriction (largely to Ethiopia and Eritrea) has limited its expansion in the global market. Overcoming the processing challenges and accelerating research into health benefits and prevention of disease, along with research into the variation in nutrient composition across teff varieties, could significantly impact Ethiopia's international markets and open up opportunities for human consumption at a global scale.

**New Working Paper 67- now available [www.essp.ifpri.info/publications](http://www.essp.ifpri.info/publications)**

### IFPRI – ETHIOPIA STRATEGY SUPPORT PROGRAM

<http://essp.ifpri.info>

Contact:

Bart Minten

IFPRI c/o ILRI

P.O. Box 5689, Addis Ababa, Ethiopia

Tel: +251 11 6 17 25 55 Fax: +251 11 6 46 23 18

Email: [mahlet.mekuria@cgiar.org](mailto:mahlet.mekuria@cgiar.org)

### INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE

<http://www.ifpri.org>

Contact:

2033 K Street, NW • Washington, DC

20006-1002 USA

Tel: +1 202 862 5600

E-mail: [ifpri@cgiar.org](mailto:ifpri@cgiar.org)

### ETHIOPIAN DEVELOPMENT RESEARCH INSTITUTE

<http://www.edri-eth.org>

Contact:

P.O. Box 2479,

Addis Ababa, Ethiopia

Tel: +251 11 5 50 60 66; +251 11 5 52 53 15

Fax: +251 11 5 50 55 88

Email: [info@edri-eth.org](mailto:info@edri-eth.org)