



Farming and feeding the Ethiopian highlands

Practicing food security through time

GFS Coffee Break Friday 13 November 2020

Federica Sulas
McDonald Institute for Archaeological Research, University of Cambridge



FAO's Globally Important Agricultural Heritage Systems



African Orphan Crops Consortium
2019 Progress Report

2019



The 10 Elements of Agroecology

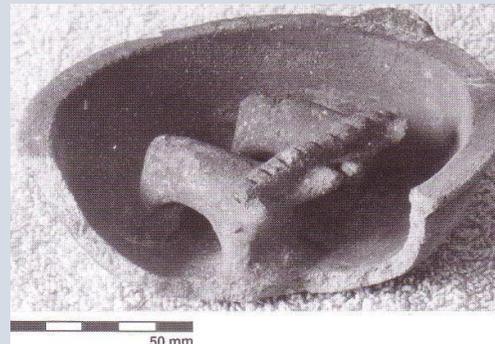
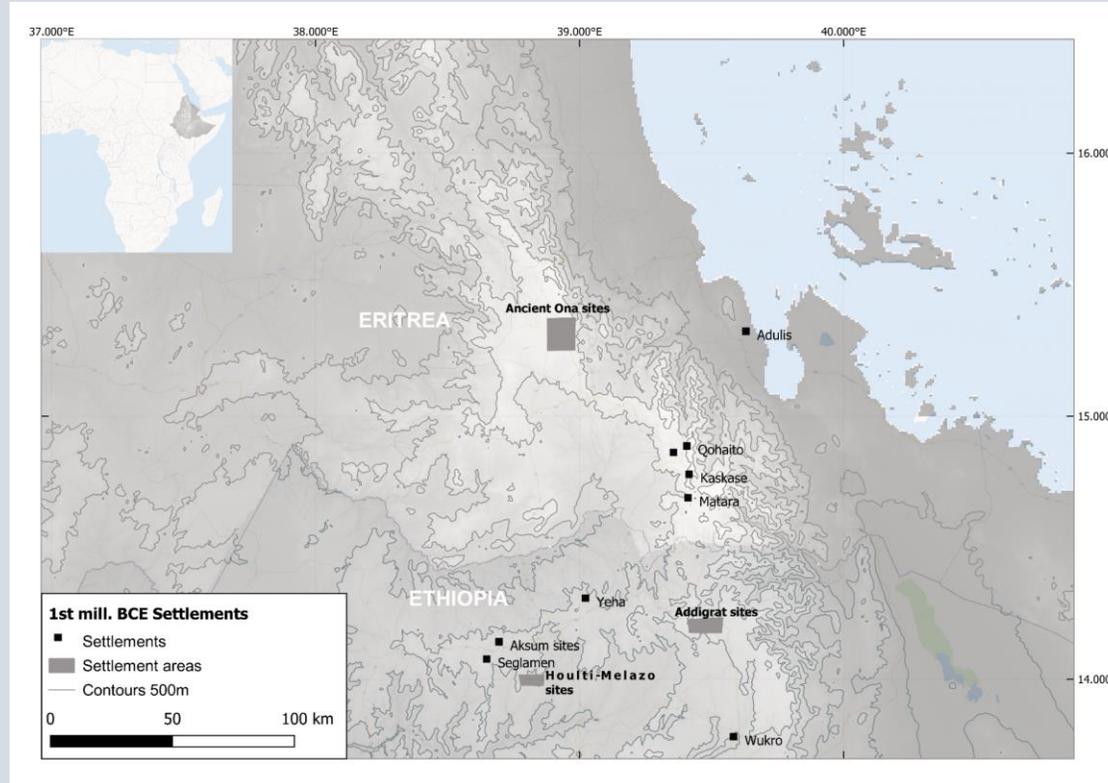
In guiding countries to transform their food and agricultural systems, to mainstream sustainable agriculture on a large scale, and to achieve Zero Hunger and multiple other SDGs, the following 10 Elements emanated from the FAO regional seminars on agroecology.

The **10 Elements of Agroecology** are interlinked and interdependent.

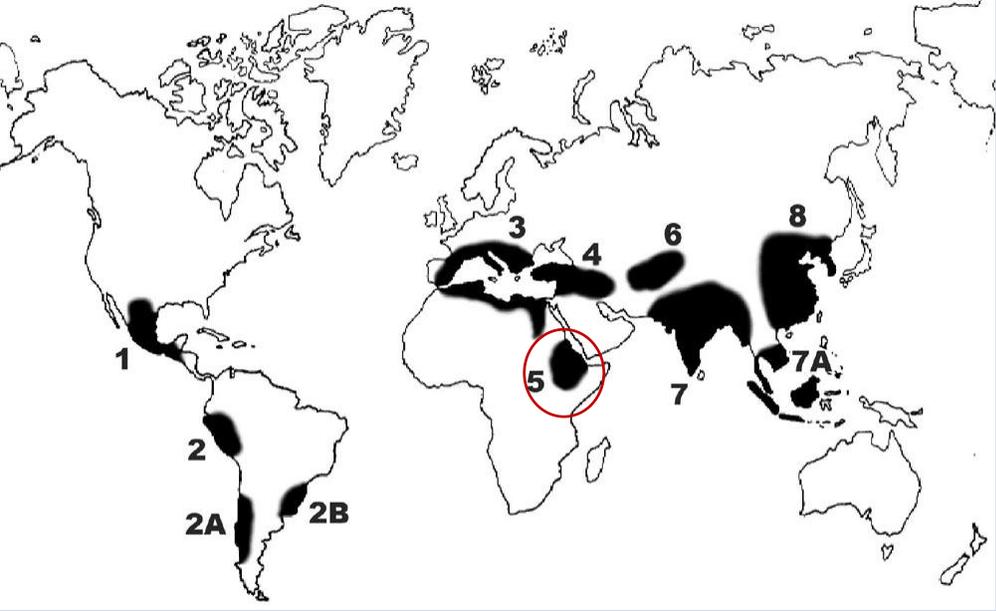
- **Diversity** species & genetic resources; inter-cropping; crop rotation
- **Co-producing & sharing knowledge** context-specific
- **Synergies** resource types; synchronization of practices
- **Efficiency** enhanced bio-processes and recycling
- **Recycling** 'waste is a human concept...'
- **Resilience** functional balance and biological complexity
- **Human and social values** equity; inclusion; well-being
- **Culture and food traditions** healthy & diverse diet
- **Responsible governance** inclusive and responsible; cooperation
- **Circular and solidarity economy** consumer-producer interactions



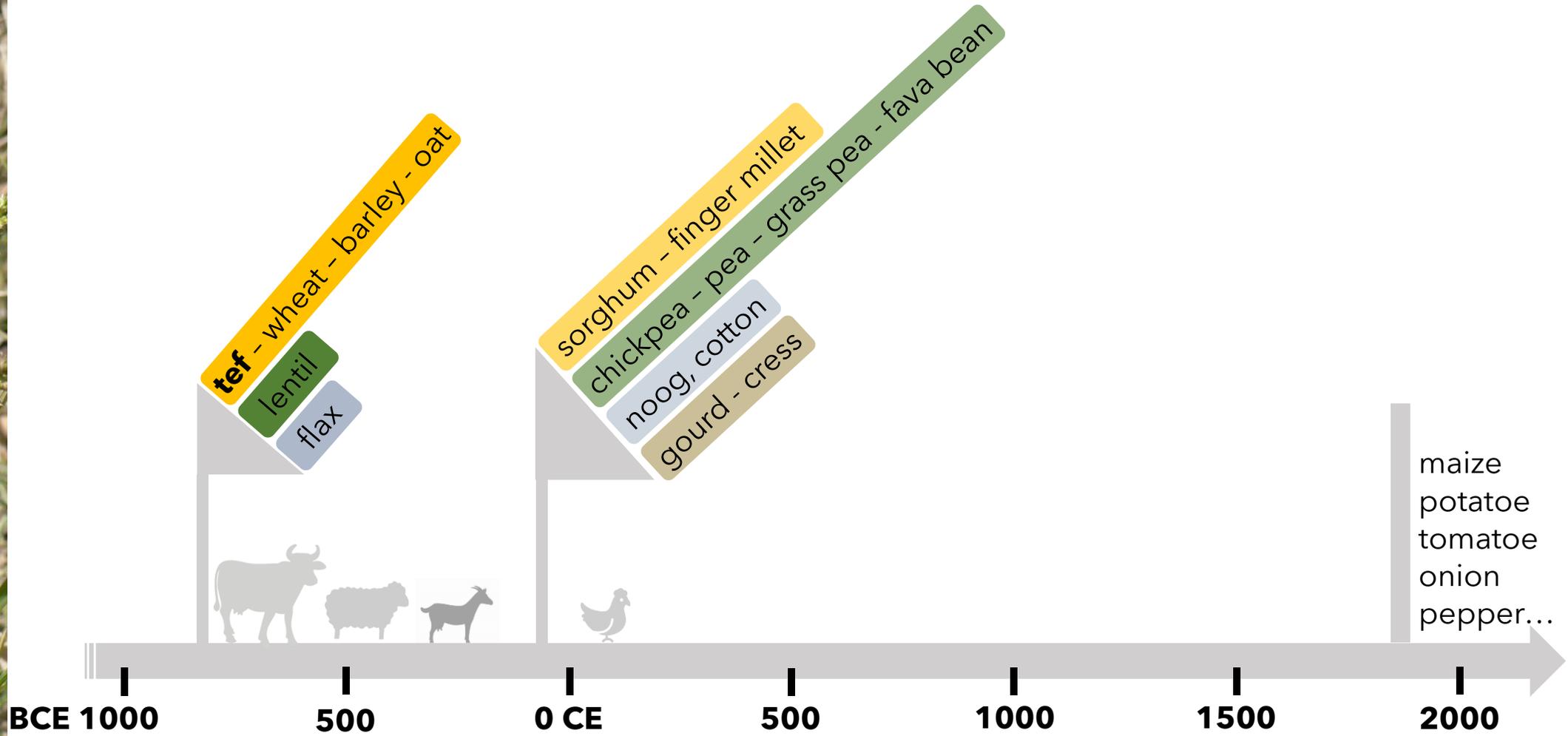
Ethiopia's first cities



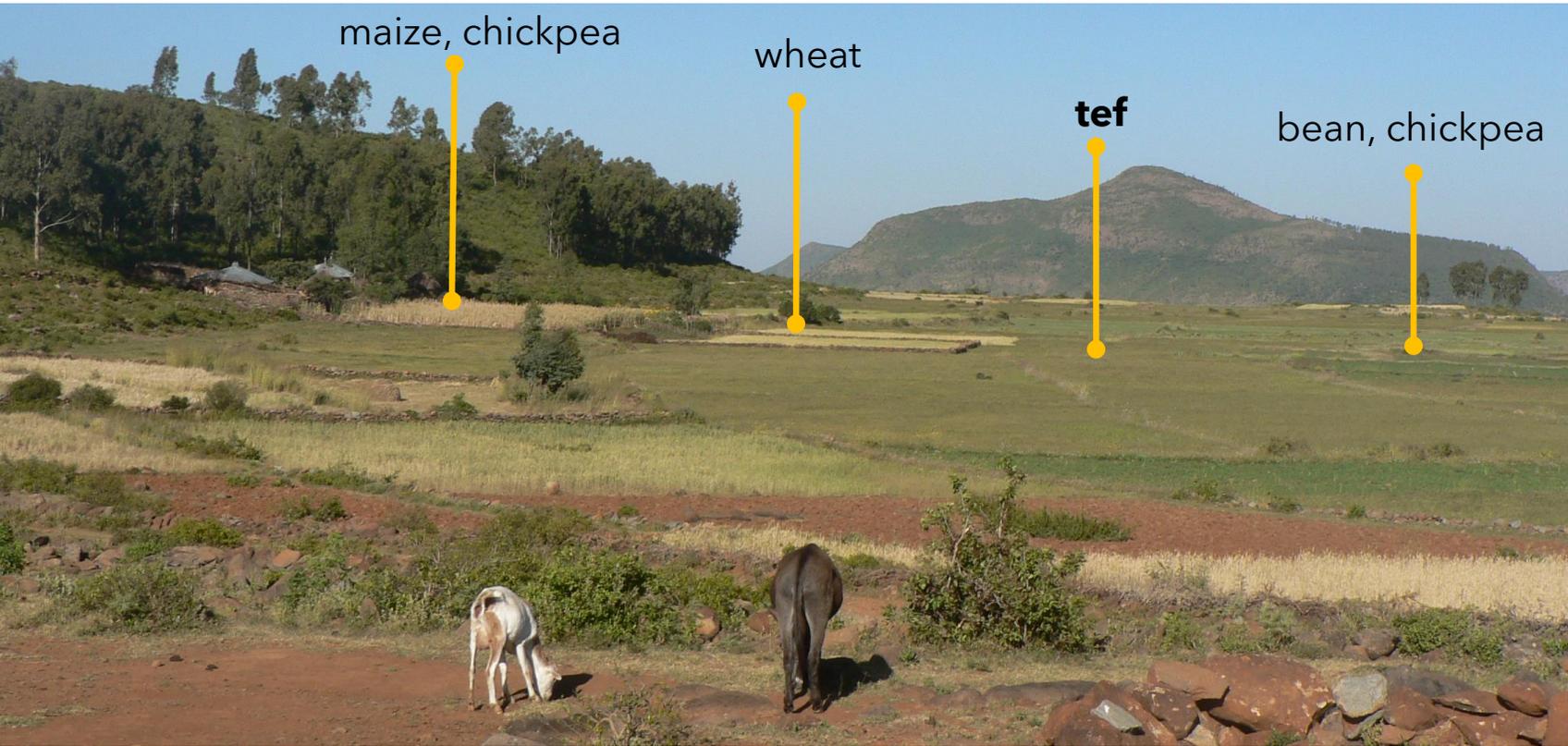
Phillipson 2012.



How does a crop feed cities over millennia?







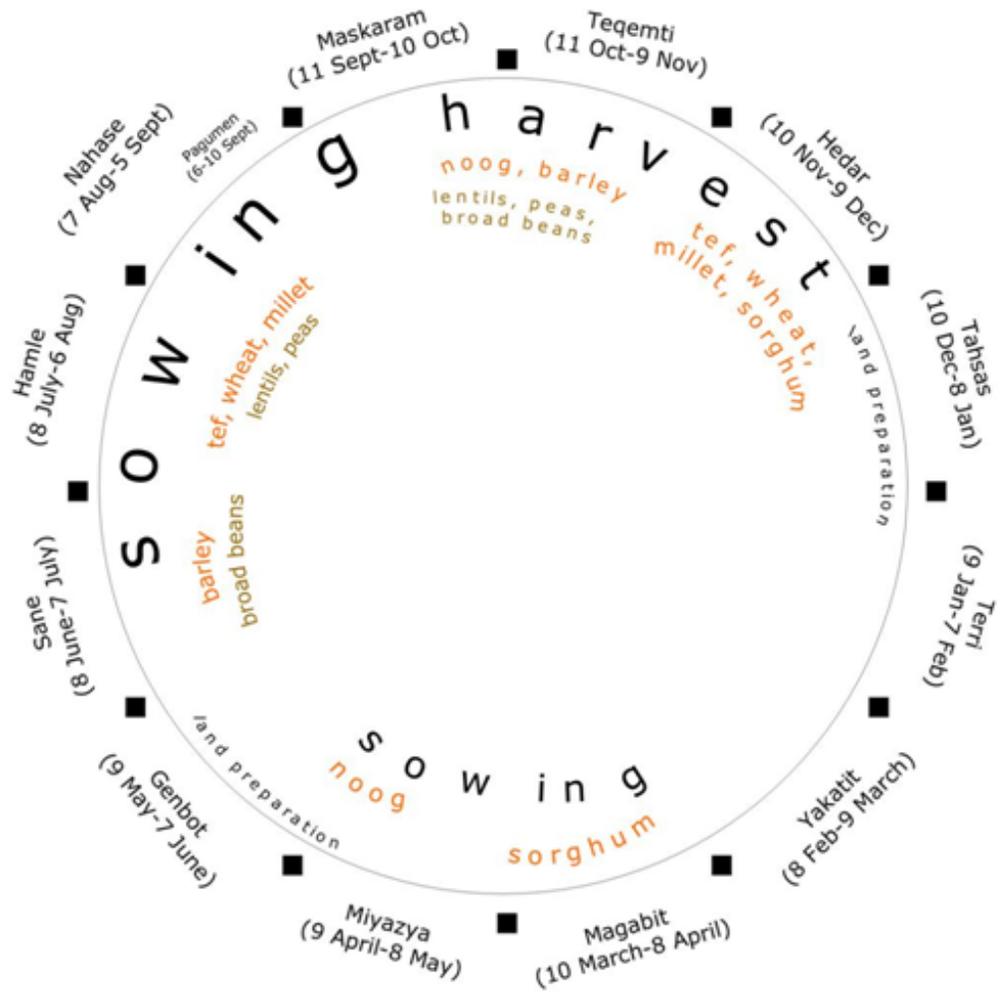
maize, chickpea

wheat

tef

bean, chickpea

50m



Ethiopia: Teff consumption in 2011

Food item	Urban		Rural		Total	
	Birr	Share (%)	Birr	Share (%)	Birr	Share (%)
Real per capita expenditures (birr per capita per year)						
Food						
White teff	45	4.4	13	2.0	18	2.5
Mixed teff	60	5.9	11	1.6	19	2.6
Red teff	25	2.5	17	2.6	19	2.6
Injera	93	9.1	23	3.4	34	4.7
Total teff	223	21.9	64	9.5	90	12.4
Wheat	98	9.6	48	7.1	56	7.7
Barley	9	0.8	20	3.0	18	2.5
Maize	24	2.4	63	9.4	57	7.8
Sorghum	16	1.5	41	6.2	37	5.1
Five major cereals	370	36.3	236	35.3	258	35.5
Other cereals, pulses, and oilseeds	176	17.3	109	16.4	121	16.6
Vegetables, fruits, roots, and tubers	191	18.8	133	19.9	143	19.7
Animal products	169	16.6	79	11.8	94	12.9
Other foods	111	10.9	112	16.8	112	15.4
Total food	1,017	100.0	669	100.0	727	100.0
Food versus nonfood						
Food	1017	37.7	669	51.2	727	47.2
Nonfood	1684	62.3	639	48.8	812	52.8
Total	2,701	100.0	1,308	100.0	1,539	100.0

- Over 50% consumption in cities
- 2013-14 crop value USD 2.5b (maize/wheat 1.59/1.57)



By Noah Bond

Published: Nov. 11, 2020 at 11:26 PM GMT



FALLON, Nev. (KOLO) -- We're featuring [Desert Oasis Teff and Grain](#) in the final Made in Nevada report of this series.

The family-owned business grows a crop called [teff](#).

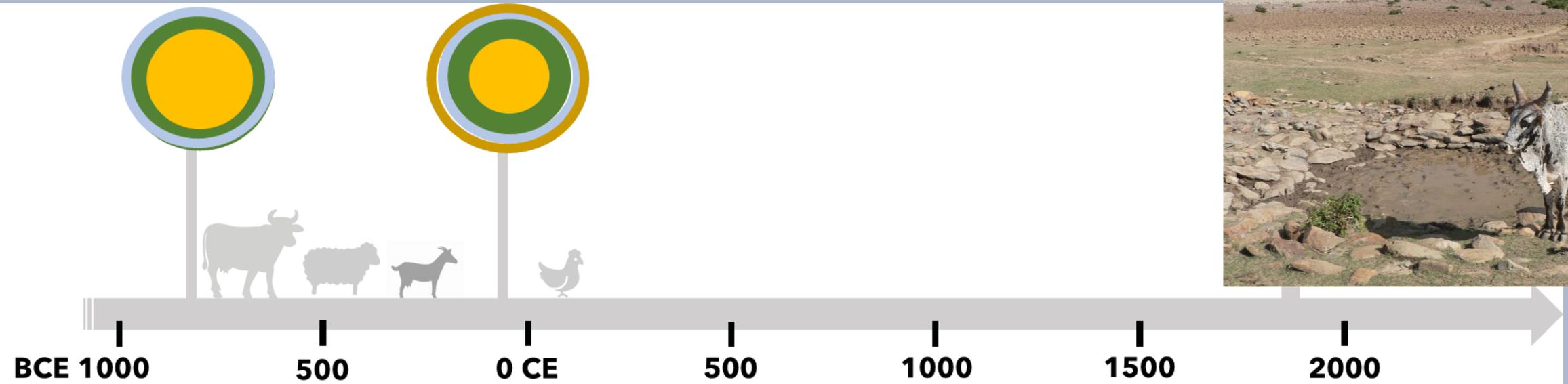
Minten et al. (eds.) 2018. *The Economics of Teff*, p. 23.

The legacy and promise of teff?



A screenshot of a website page from the CBI Ministry of Foreign Affairs. The page has a yellow navigation bar with links for 'Home', 'Market information', 'Projects', 'News', 'Events', and 'About CBI'. The main content area shows a breadcrumb trail: 'Home > Events > Webinar: Entering the market with teff and fonio (part 2)'. Below this is the title 'Webinar: Entering the market with teff and fonio (part 2)' in a large, bold font. At the bottom of the page is a photograph of two men in a rural, arid landscape. One man is in the foreground, wearing a patterned headband, and the other is in the background. There are tall, dry grasses and sparse trees in the background.

Centre for the Promotion of Imports from developing countries, NL

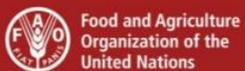




ETHIOPIA Food Security Outlook Update

August 2020

Flooding in August and below average deyr to contribute to high needs in late 2020



Ethiopia

DESERT LOCUST SITUATION REPORT - 18 August 2020 - Issue 10

IN NUMBERS



Total area treated since June 2019 is **4 197 km²**



FAO is leasing **2 helicopters** and **2 planes** to boost surveillance and control



70 000 households to receive livelihood assistance from FAO to improve food security



USD 79 million needed for control and livelihoods response in Ethiopia

KEY MESSAGES

- Since the beginning of August, mature swarms crossed from Yemen, reaching Afar (Afambo, Elidare, Mile, Adar, Chifra and Awar). FAO has repositioned two planes in Afar to intensify control operations
- Active movement of immature DL swarms between Somalia and eastern Ethiopia
- Continuous ground and aerial survey carried out in Afar, SNNP, Somali, Amhara, Oromia and Tigray regions
- Active aerial control operation continues in Afar, eastern parts of Somali and Oromia
- The situation in SNNPR is calm. A DIS alert is



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ARGUMENT

The African Union Needs to Resolve Ethiopia's Dam Dispute

U.S. diplomacy has failed. African diplomacy can't afford to.

BY OLA OWOJORI | SEPTEMBER 24, 2020, 11:32 AM



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Eritrea, Tigray and Ethiopia's brewing civil war

Fears grow fighting between Ethiopia's federal army and Tigray forces could draw in outside involvement.

8 November 2020

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GMO maize, its links to food security, and the key concerns

October 30, 2020 | by Bayush Tsegaye | 0 0

DE GRUYTER OPEN

Open Agriculture. 2017; 2: 411–416

Research Article

Beyenesh Z. Kidane*, Mereseit H.Hailu, Haile T. Haile

Maize and Potato Intercropping: A Technology to Increase Productivity and Profitability in Tigray

<https://doi.org/10.1515/opag-2017-0044>

received November 21, 2016; accepted May 22, 2017

1 Introduction

Fortune FORTUNE NEWS FEATURED AGENDA OP-ED COMMENTARY VIEWPOINT FINELINE MORE... Q

Ethiopia Kicks off Large-Scale Rice Production

July 10, 2020

By **HENOK TERECHA** (FORTUNE STAFF WRITER)

The Ethiopian Institute of Agricultural Research has begun working with farmers across regional states on large-scale rice production aiming to reduce its import.

With the project, a total of 4,500 farmers from Amhara, Oromia,

2 FRUIT AND VEGETABLE PRODUCTION

INCREASED ACCESS TO WATER HAS ENABLED FARMERS TO GROW A VARIETY OF FRUITS AND VEGETABLES AT HIGHER PROFIT MARGINS AND WITH HIGHER NUTRITIONAL VALUE.

Central to Farm Africa's work in Tigray was the aim of restoring the region-wide watershed, to support efforts to reduce poverty and improve food security. Our work included integrated watershed management and small-scale irrigation (covered in papers 1 and 6 respectively), which helped poor families to increase fruit and vegetable production. This paper focuses on tomatoes, onions and mangoes, that were the basis of an intensive value chain assessment undertaken in the final year of the project.

Our support given to vegetable production was closely linked to our

SUSTAINABLE AGRICULTURE FOR IMPROVED FOOD SECURITY IN TIGRAY, ETHIOPIA

Land in Tigray's rugged mountains is scarce, and many farm sizes are very small. Many women, especially widows, and young people who have little access to land struggle to produce enough to feed their families. With funding from Irish Aid and the UK Department for International

SESAME PRODUCTION IN TIGRAY REGION, ETHIOPIA



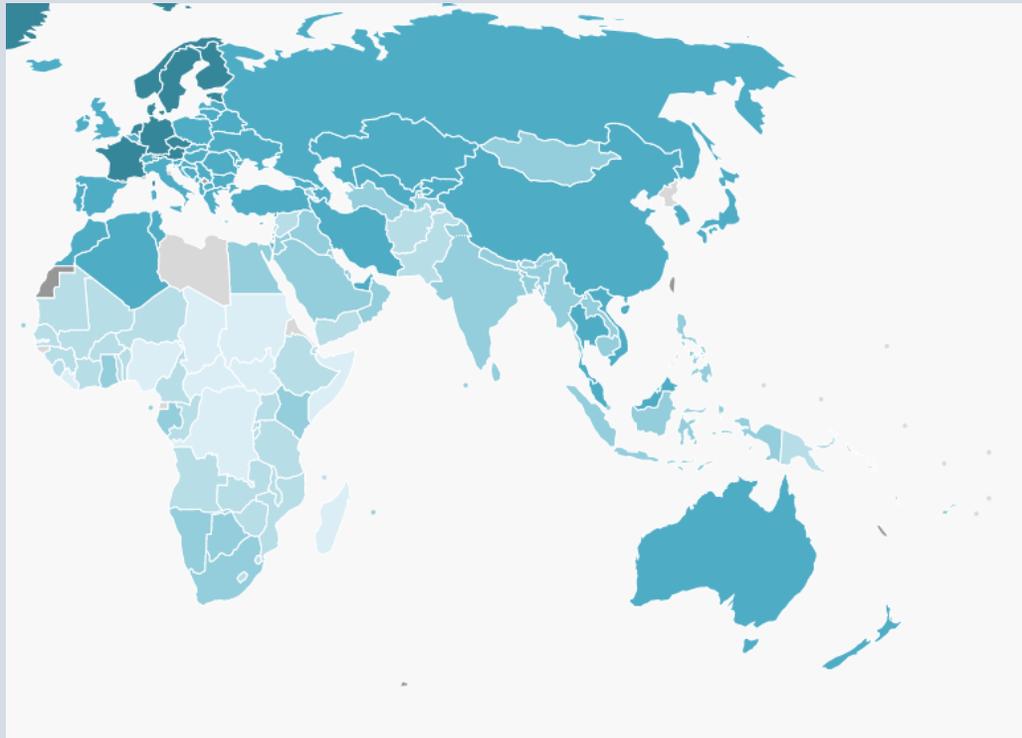
CASCADE BEST FIT MANUAL 4.6.4 JANUARY 2020, MEKELLE, TIGRAY

LESSONS LEARNT: TOMATOES AND ONIONS

Very real constraints to productivity exist for the farmers we worked with in Tigray. Low yields are constraining the growth of onion and tomato markets and hindering households' ability to grow and consume more, adding to their food security.

When surveyed, on average 63% of tomato and onion farmers complained that their principal challenge was diseases or pests, closely followed by a lack of appropriate technology and limited land. Overall, land availability is a constraint beyond the control of any one development organisation, and therefore the critical challenge is to improve productivity. Irrigation and soil fertility management was one major input of the programme to this, but the following gaps remain:

Crop	Average yield in Ahferom, Tigray in 2016 (a drought year)	Optimal yield
Tomatoes	6,500 kg / hectare	18,000 kg / hectare
Onions	4,080 kg / hectare	18,000 kg / hectare

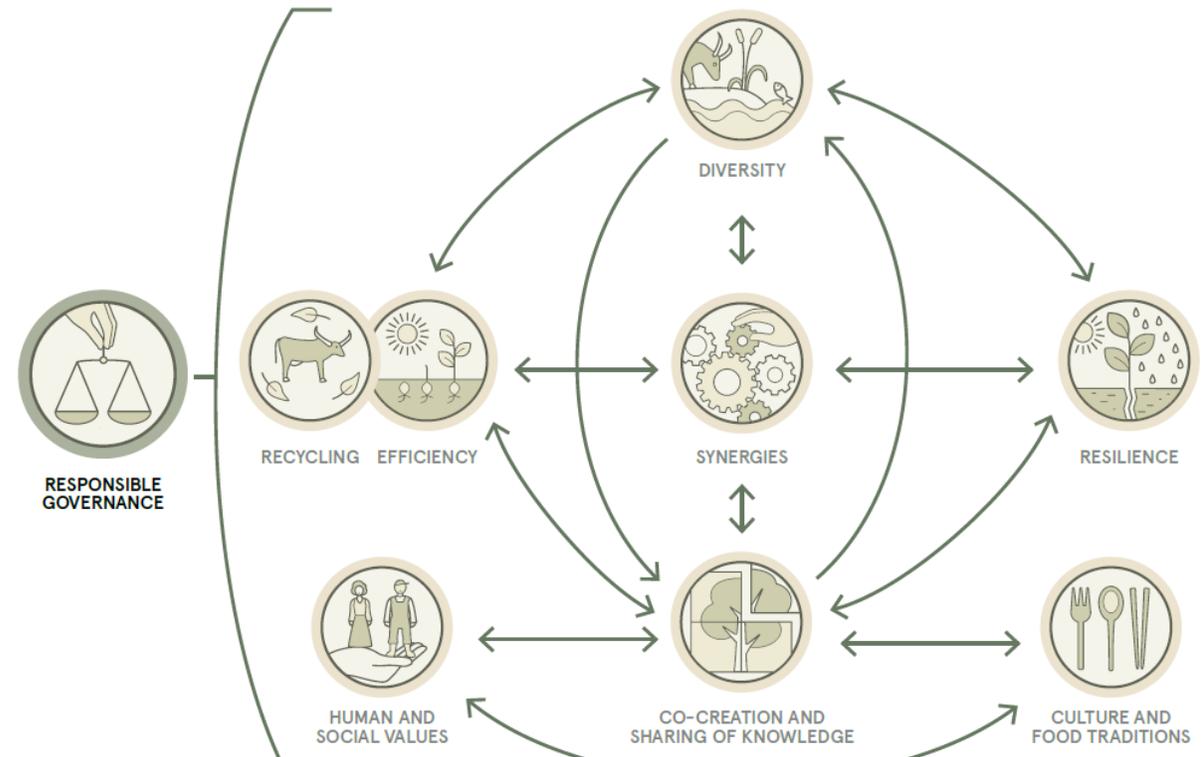


Performance Assessment



Small-scale farming: food security 3 ways?

- **Diversity:** grains, pulses & oil-seed plans + cattle & small livestock
- **Efficiency:** moisture management, rotation & intercropping
- **Synergies:** nature, culture & society





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