



Hybrid DREAM Event

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Good farming practices, challenges, and proposed solutions, Somali Region

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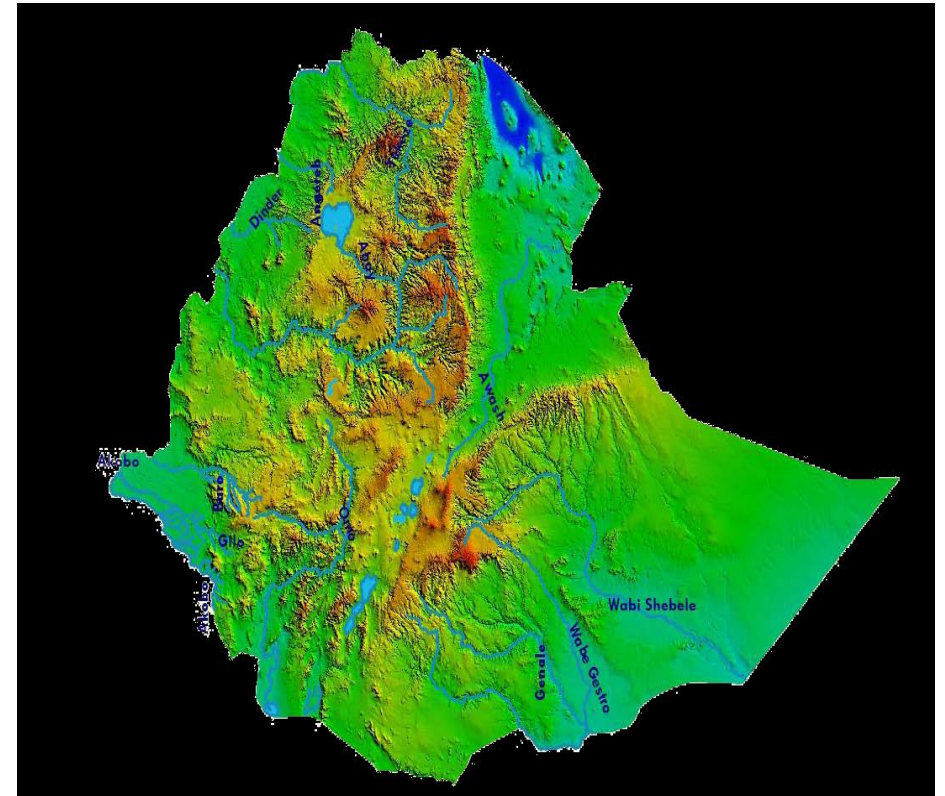
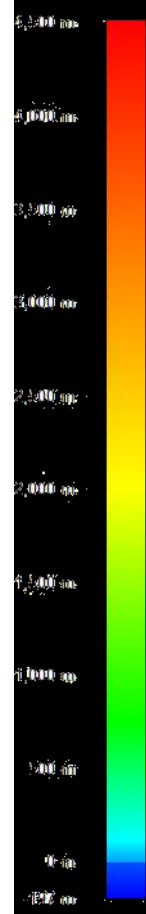
Contents

- **Characteristics of Ethiopian Lowlands**
- **Somali region: Area description & Resource base**
- **Crop production potential of Somali region**
- **Adaptable food & forage crops (SoRPARI & JJU)**
- **Major constraining factors**
- **Suggested solutions**
- **References**



Characteristics of Ethiopia's lowlands (Arid & Semi arid)

- land below 1,500 masl
- cover about 55% of the land mass of the country
- Rainfall is low in amount (200 to 700 mm) , erratic, and uneven in distribution
- high temperatures and strong winds-result in high evapotranspiration rates
- Very sparse vegetation cover
- Low soil fertility (low organic matter content)
- Soil erosion (wind & water)
- diverse and complex mix of pastoral, agropastoral, rainfed and irrigated farming practices.



The Somali Region, Description

- located in east and south-eastern part of Ethiopia (4° to 11° N I and 40° to 48° E)
- total area = 350 000 km²
- Most of the region lies below 900 masl although the altitude ranges between 500-1600 masl.
- The region has an extremely variable and low rainfall.
- The average annual rainfall ranges from less than 200 mm to 700 mm.
- Temperature in the region is usually high ranging from 20° to 45° c.



Cont'd

- **The region is said to have two generalized major climatic zones, viz hot arid and semi-arid climatic zones.**
- **About 60-80% of the region falls within hot arid climate with mean annual temperatures of about 23°C to 30°C and a mean annual rainfall of less than 200 mm.**
- **The hot semi-arid climate occupies areas adjacent to the high grounds of the eastern plateau**



Somali region, Resource Base

- **Center of livestock genetic diversity (Jijiga cattle, the black headed Ogaden sheep, the Somali goat and the camel resources)**
- **home to various types of plants (crops, medicinal plants, lowland forest tree spp)**
- **Four major perennial rivers (Wabi Shebelle, Genale, Dawa and Weyib)**
- **smaller seasonal rivers (Yerer, Daketa and Fafen).**
- **Irrigation potential = 600,000ha**
- **Vast rangeland resource**
- **Fertile cultivable land (suitable for mechanization)**
- **Huge renewable energy source (Solar, wind)**



Crop production potential of Somali region

- The major crops that can be grown in the region include the following:-
 - ✓ Cereal crops (maize, sorghum, millet , wheat and rice),
 - ✓ Oil crops (groundnut, sesame & castor oil),
 - ✓ Pulses (common bean, cowpea, pigeon pea, chick pea and mung bean),
 - ✓ Industrial crops (cotton, sugar cane, tobacco, sisal and kenaf)
 - ✓ Vegetables and fruits (green bean, tomato, onion, green pepper, sweet potato, watermelon, banana, papaya, guava and citrus),
 - ✓ Forage crops (various grass and legume fodder crops)



Farming system and practices

- **About 70% of the rural population are predominately pastoralists**
- **agro-pastoralist (18%)**
- **pure crop producers (12%)**
- **Farmers in all parts of the region are said to invariably practice intercropping .**
- **also practice double cropping during any given year using the two prevailing cropping seasons as well as the flood occurring twice during a year.**



- **As far as agricultural inputs are concerned, the Somali Region is one of the lowest user of improved seed, fertilizers, pesticides, herbicides and fungicides in the country**
- **Crop husbandry is generally poor and backward.**
- **Land preparation, planting/seeding, weeding, harvesting and thrusting, and storage are done following very backward traditional practice.**
- **Extension and credit services are far from adequate**



Major Adaptable food and forage crops (SoRPARI & JJU)



Adaptable Rice Varieties (SoRPARI)

Variety name	Yield (qt/ha)		Adaptation area
	On-station	On-farm	
Shabelle*	59	45	Gode, Kellafo, Dolla-Ado and Charati
Gode-1*	57	43	Gode, Kellafo, Dolla-Ado and Charati
Hoden*	47	40	Gode, Kellafo, Dolla-Ado and Charati
NERICA-1**	61	45	Gode, Kellafo, Dolla-Ado and Charati
NERICA-2**	69	47	Gode, Kellafo, Dolla-Ado and Charati
Kellafo-1**	65.56	50.23	Gode, Kellafo, Dolla-Ado and Charati
NERICA-14**	63.28	50	Gode, Kellafo, Dolla-Ado and Charati
NERICA-6 **	63.70	56.12	Gode, Kellafo, Dolla-Ado and Charati
NERICA-15**	62.69	50.45	Gode, Kellafo, Dolla-Ado and Charati



Adaptable Bread Wheat Varieties (SoRPARI)

Variety name	Yield (qt/ha)	Adaptation area
Pavon 76	22	Jijiga plains, Awberi, Tulu-gulid
Hawi (Har-2501)	25.5	Jijiga plains, Awberi, Tulu-gulid
Simba(Har-2536)	24.6	Jijiga plains, Awberi, Tulu-gulid
Kubsa(Har-1685)	21.17	Jijiga plains Awberi, Tulu-gulid
Amibara 1	15.29 ^b	Gode (under Irrigation)
Amibara 2	34.99^a	Gode (under Irrigation)
Fentale 1	26.44 ^a	Gode (under Irrigation)
Fentale 2	29.17^a	Gode (under Irrigation)



Adaptable Sorghum Varieties (SoRPARI)

Variety name	Yield (qt/ha)		Adaptation area
	On-station	On-farm	
Teshale	33.67	20.00	Jijiga plains, Fafen
Gambela-1107	41	25	Jijiga plains, Fafen
Seredo(3443-2-op)	42.67	25	Jijiga plains, Fafen
Meko-1(M-36121)	40.65	25	Jijiga plains, Fafen



Adaptable Maize Varieties (SoRPARI)

Variety name	Yield (qt/ha)	Adaptation area
ACV-3	20.5	Jijiga plains, Fafen, Kelafo, Afder, Liban
ACV-6	22	Jijiga plains, Fafen, Kelafo, Afder, Liban
Melkasa-2	30.40	Jijiga plains, Fafen, Kelafo, Afder, Liban
Melkassa-4	35.33	Jijiga plains, Fafen, Kelafo, Afder, Liban
BH546	44.90	Jigjiga, Dolo
BH547	48.78	Jigjiga, Dolo
BH661	44.48	Jigjiga, Dolo
MH140	65.00	Jigjiga, Dolo
GIBE.3 ((check)	40.91	Jigjiga, Dolo
Melkasa.2 (check)	37.54	Jigjiga, Dolo



Adaptable Quality protein Maize Varieties (SoRPARI)

Variety name	Yield (qt/ha)	Adaptation area
Melkassa 1Q	30.09	Jigjiga, Gode, Dolo ado
Melkassa 6Q	29.52	Jigjiga, Gode, Dolo ado
Melkassa 2	38.84	Jigjiga, Gode, Dolo ado
Melkassa 4	27.91	Jigjiga, Gode, Dolo ado
Local variety	19.07	Jigjiga, Gode, Dolo ado



Adaptable Haricot Bean Varieties (SoRPARI)

Variety name	Yield (qt/ha)		Adaptation area
	On-station	On-farm	
Awash melka	23.9	15.20	Jijiga plains & Fafen valleys
Awash-1	24.21	14.21	Jijiga plains & Fafen valleys
Ayenew	36.75	20.25	Jijiga plains & Fafen valleys
Naser	24	12.16	Jijiga plains & Fafen valleys



Adaptable Sesame Varieties (SoRPARI)

Variety name	Yield (qt/ha)	Adaptation area
Kelafo-74(BSC-003)	13	Shebele & Fafen valleys
Tate (BSC-003)	18	Shebele & Fafen valleys
S-Variety	16.66	Shebele & Fafen valleys
Mahado-80	14.33	Shebele & Fafen valleys
Barsan Sesame	9.63	Shebele & Fafen valleys
Iidan Sesame	10.8	Shebele & Fafen valleys



Adaptable Sesame varieties (SoRPARI), cont'd.

Genotypes	Yield (qt/ha)	Adaptation area
B/M#50	8.23	Gode, Kelafo, Dolo, Chereti
Acc-EW-009(5)	10.11	Gode, Kelafo, Dolo, Chereti
Acc-203-187	9.43	Gode, Kelafo, Dolo, Chereti
B/M#57-1	8.38	Gode, Kelafo, Dolo, Chereti
ABXM-80-Sel 3	9.03	Gode, Kelafo, Dolo, Chereti
Acc-203-623-3	9.36	Gode, Kelafo, Dolo, Chereti
Acc-111-512	9.79	Gode, Kelafo, Dolo, Chereti
Acc-205-188	7.52	Gode, Kelafo, Dolo, Chereti



Adaptable Groundnut Varieties (SoRPARI)

Genotype	Yield (qt/ha)	Adaptation area
BULKI	25	Fafen valleys
Lote	19.07	Fafen valleys
Roba	15.56	Fafen valleys
IMPROVED SPANISH 26-165	25.95	Gode, Kelafo, Dolo
PI-337409	36.13	Gode, Kelafo, Dolo
VA61-4	37.06	Gode, Kelafo, Dolo
FLOECENT USA	37.88	Gode, Kelafo, Dolo
AC-11	31.41	Gode, Kelafo, Dolo
ABADER	36.84	Gode, Kelafo, Dolo
BARBARTON	29.11	Gode, Kelafo, Dolo
PI-250680	44.88	Gode, Kelafo, Dolo
GRRP-16	43.18	Gode, Kelafo, Dolo
IGFDN		Gode, Kelafo, Dolo



Adaptable forage grasses (SoRPARI)

Variety	Yield (ton/ha)	Adaptation area
Buffel grass (<i>Cenchrus ciliaris</i>)	25	Rain fed area (Jijiga, Kebribeya, Lef-isa, Tulu-guled and similar agro-ecology) Irrigated area (Shebele, Siti, Liben zone and similar agro-ecology zone)
Rhodes grass (<i>Chloris gayana</i>)	26	
Panicum maximum L.	15	
<i>Panicum antidotale L.</i>	14	
Sudan grass	22	



Adaptable forage Legumes(SoRPARI)

Variety	Yield (ton/ha)	Adaptation area
Dolicius lablab (<i>Lablab purpureus</i>)	16 qt/ha	Rain fed area (Jijiga, Kebribeya, Lef-isa, Tulu-guled and similar agro-ecology)
Cowpea small (<i>Vigna unigiculata</i>)	30 qt/ha	Irrigated area (Shebele, Siti, Liben zone and similar agro-ecology zone)
Cowpea large (<i>Vigna unigiculata</i>)	20 qt/ha	
Alfalfa (<i>Medicago sativa</i>)	7qt/ha	



Adaptable Chickpea Varieties (Kabuli types) (JJU)

Variety name	Yield (qt/ha)	Adaptation area
Arerti	20.13	Jigjiga, Kebribeyah
Dhera	15.09	Jigjiga, Kebribeyah
Ejera	19.78	Jigjiga, Kebribeyah
Hora	22.31	Jigjiga, Kebribeyah
Habru	14.12	Jigjiga, Kebribeyah
Koka	24.50	Jigjiga, Kebribeyah
Kobo	18.17	Jigjiga, Kebribeyah



Adaptable Chickpea Varieties (Desi Types) (JJU)

Variety name	Yield (qt/ha)	Adaptation area
Dalota	20.62	Jigjiga, Kebribeyah
Dimtu	19.46	Jigjiga, Kebribeyah
Dz-10-11	12.86	Jigjiga, Kebribeyah
Geletu	14.60	Jigjiga, Kebribeyah
Natoil	14.26	Jigjiga, Kebribeyah
Teketay	19.37	Jigjiga, Kebribeyah
Local	10.69	Jigjiga, Kebribeyah



Adaptable Pearl millet Varieties (JJU)

Variety name	Yield (qt/ha)	Adaptation area
HuARC12	37.57	Jigjiga & Kebribeyah
HuARC19	24.65	Jigjiga & Kebribeyah
HuARC51	36.50	Jigjiga & Kebribeyah
HuARC55	24.05	Jigjiga & Kebribeyah
HuARC56	25.71	Jigjiga & Kebribeyah
HuARC57	23.88	Jigjiga & Kebribeyah
HuARC92	26.90	Jigjiga & Kebribeyah
HuARC94	29.51	Jigjiga & Kebribeyah



Adaptable Pearl millet Varieties (JJU) (Cont'd)

Variety name	Yield (qt/ha)	Adaptation area
HuARC96	30.63	Jigjiga & Kebribeyah
HuARC98	24.88	Jigjiga & Kebribeyah
HuARC105	27.85	Jigjiga & Kebribeyah
HuARC109	29.98	Jigjiga & Kebribeyah
HuARC112	30.45	Jigjiga & Kebribeyah
HuARC115	34.07	Jigjiga & Kebribeyah
HuARC117	27.25	Jigjiga & Kebribeyah



Adaptable Sweet potato varieties (JJU)

Variety name	Total Tuber Yield (qt/ha)	Adaptation area
Accn_Fafan_1	328.9	Kebribeyah
Accn_Fafan_2	514.5	Kebribeyah
Accn_Fafan_3	439.8	Kebribeyah
Accn_Fafan_3	325.1	Kebribeyah



Adaptable Onion varieties (JJU)

Variety name	Total onion bulb yield (qt/ha)	Adaptation area
Ade	564.5	Kebribeyah
Hadramout	344.5	Kebribeyah
Red Coach	815.5	Kebribeyah
Red Bombay	277	Kebribeyah



Major challenges & problems

- Scarcity of water resources
- Climate variability and change
- Natural resource degradation
- Pests and diseases
- Lack of improved agricultural inputs
- Lack of supportive services
- Poor marketing linkages
- Inadequate integration and coordination among development partners
- Low trained human power
- lack of information and poorly developed information sharing systems
- Lack of community participation
- Lack of diversified income generation



Suggested solutions

- **Enhancing an integrated approach of soil and water conservation practices for in situ and ex situ water harvesting**
- **Developing drought and heat tolerant crop varieties with high grain, biomass and nutrient content**
- **employing improved agronomic & pest management practices**
- **Conserving natural resources and reducing pressure on fragile ecosystem**
- **Improved data collection and storage, learning and communication**
- **improving integration and coordination among relevant development partners**
- **building the capacity of local authorities, experts & DAs**
- **Improving and strengthening the extension approach**
- **Enhancing participatory research & technology development, verification and dissemination**



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Thank you!

