Sustainable Family Farming: Is it Viable? Is it Resilient?

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Agriculture for Impact
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Family Farming and Research
Montpellier, France
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What is Family Farming?

- Family farming is a means of organizing agricultural, forestry, fisheries, pastoral and aquaculture production which is managed and operated by a family and predominantly reliant on family labour, including both women’s and men’s.

- Both in developing and developed countries, family farming is the predominant form of agriculture in the food production sector.

IFAD
Shetland
Family Farming in a harsh environment
c.2000BC    Bronze Age Family Farm
C18th A Family Farm – 4 acres
A Modern Croft
High value Shetland wool

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Today, worldwide:

- 1.5 billion people are involved in family farming
- 500 million small farms
- About half of the farmers are women
- Most of the poorest people depend in agriculture
- Over 800 million people are hungry, most in rural areas
- 1 in 3 children under 5 are malnourished
Javanese Home Garden, Indonesia
Conservation Farming in Zambia

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Chiang Mai, Thailand
Chiang Mai: Irrigation for Family Farms
Chiang Mai: Family Farm Livelihood

3 crops a year:
- sticky rice,
- vegetables,
- HYV rice

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http://americanexpatchiangmai.com/sweet-exotic-healthy-longan-fruit/
Elements of a Viable Livelihood for a Family Farm

• Basic
  • Food security for all family members, including sufficient nutrients
  • Cash income for schooling and medical expenses
  • Insurance

• Plus
  • Savings for marriages and funerals
  • Investments in farm and dwelling
Mrs Namarunda

A single mother farming one hectare on a hillside in Western Kenya

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An Insecure Farm

Potential harvest (tons/ha)

Survival line

Weeds

Pests & Diseases

Drought

1

2

3

1 2 3 4

1 2 3 4 Months

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Modern Maize Hybrids in Ethiopia

DAP
2-3 tons/ha

Appropriate N,P,K + Boron
6-8 tons/ha
A Secure Farm

Soil Fertility

Survival line

Weeds

Pests & diseases

Drought

Actual harvest

Potential harvest (tons/ha)

1

2

3

>2 t/ha

1 2 3 4

1 2 3 4

Months

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Is One Acre (~½ ha) Viable?
We must produce more with less!

- More food and other agricultural products
- More nutritious foods
- Higher farm incomes
- Greater diversity of production

On the same amount of land or less
With the same amount or less of water

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Intensification must be Sustainable

- With efficient and prudent use of inputs
- Minimising emissions of Greenhouse Gases
- While increasing natural capital and environmental services
- Reducing environmental impact
- Strengthening resilience
Multiple Approaches

Genetics  
Socio-economics  
Agro-ecology
Sustainable Ecological Intensification

- Use ecological principles to design agricultural practices, such as:
  - Agroforestry
  - Integrated Pest Management
  - Organic farming
Sustainable Genetic Intensification
Orange Fleshe Sweet Potatoes
Sustainable Socio-economic Intensification

Linking farmers and linking farmers and markets

Farmer Associations, Cooperatives, Cereal Banks, Contract Farms, Outgrowers

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Pests, Diseases and Weeds

Black Sigatoka on Bananas

Wilt of Bananas

Maize Lethal Necrosis

Striga

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Changing Climate: Increasing Stress

Shortening of Growing Period

Source: ILRI, 2006, Mapping climate vulnerability and poverty.

Source: Thornton et al. 2006. (Printed with permission)
Increasing and more volatile food prices
Warehousing Systems

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How do we build Resilient Livelihoods?

Farmer Innovation in the Sunderbans India

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An Enabling Environment for Family Farms
Northern Ghana

Family Farms

- Farmers Associations
- Brokers
- Agro dealers
- Savannah Seed Co

Warehouses
- Savannah Farmers Market Company

Markets
- Evangelical Presbyterian Development & Relief Agency

Financial Institutions
- Stanbic Bank
- Unique Trust Bank
- DANIDA microcredit facility

Supporting Institutions
- Savannah Agricultural Research Institute

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Thank You

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www.canwefeedtheworld.org
Twitter hashtag: #1billionhungry