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Endangered crop species and peasants' food consumption change: Insights from Ethiopia

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1. Background

- Preventing the extinction of species and preserving as many varieties as possible of crop plants is fundamental to maintain agricultural production and to keep options for future possible uses of the species by the future generations (IUCN, 1980).
- Research, however, on preventing local crop varieties from extinction and preserving them in the developing countries so that farmers can maintain their usual food consumption is limited.
- Priority is given to high yield varieties (HYVs) at the cost of local varieties. This gap should be filled.

2. Objectives

- To identify endangered local crop varieties while using hybrid varieties in the efforts of Ethiopia to improve its agricultural productivity (yield/hectare);
- To identify the consequences of these endangered local crop varieties on farmers' food habit and their families health; and
- To identify the dominant approaches of preserving local varieties in the districts and examining its effects.

5. Conceptual framework:

- **Societal Argument:** Public conceptualization of "endangered" was used as a framework to identify crops with the risk of survival in five districts. According to the farming community (public), "endangered" is conceptualized as:
- The incapability of the crop to grow (germinate) when planted;
- If the crop germinates, its failure to give yield since it is attacked by different diseases and viruses in the flowering or after flowering stages;
- Reluctance of farmers to plant the crop since it fails to give yield;
- Scarcity of the crop in the local market and its price increase from time to time;
- Shortage of land and farmer's priority to other crops; and,
- Preference to hybrids though they are less tolerant to climatic shocks and stresses.
- Thus, the research was framed within these conceptualizations of "endangered " crop species.

10. Conclusion: Currently, more emphasis is given to hybrid varieties with the intention of increasing productivity (yield/hectare) in the districts. However, balance is needed between the endangered local crop varieties and those of hybrid varieties. Farmers are experiencing food consumption change which is followed by health problems of adults and stunted growth in children. Because, these endangered local varieties are rich in nutritious values.

Figure 2. Sample pictures: Broad beans (Vicia faba) & Flax (Linum usitatissimum)

3. Research Questions

- Which varieties of crops are used by the public for food consumption and with the high risk of survival in the districts?
- What are the consequences of those crops with the high risk of survival on the food habit and health of the farming community?
- Which approach is dominantly used in the districts; particularly, as related to preserving crop species? Why is it used dominantly and what is its effect?

4. Study

- The need to introduce sustainable intensification (SI) with its core three principles: increased yield/hectare, sustainable use of natural resources, and, resilience to shocks and stresses including climate change.
- The need to reform agriculture extension services which are currently advocating wider use of hybrid varieties and chemical fertilizer instead of organic farming...which has the potential to save local communities.
- The need to exploit the potential use of these local varieties to improve farmer's and their families health through ensuring balanced diet (nutritious diet) and prevent stunted growth of children.

6. Literature sources:

(a) World Conservation Strategy (ICUN, 1980);
(b) Cost-Benefit Analysis (CBA) approach (Tisdell, 1990);
(c) Safe Minimum Standard (SMS) Approach (Bishop ,1978); and
(d) Agricultural ethics (Esquinas-Alcázar, 2005).

7. Methods of Data Collection

- Interview (experts), FGDs (farmers), and Local market observations.

8. Methods of Data Analysis: Qualitatitive (Content analysis)

9. Findings: Crops with high risk of survival are identified.

(a) Millet (*Panicum miliaceum*); (b) Red teff (*Eragrostis tef*); (c) Bean (*Phaseolus vulgaris*); (d) Broad beans (*Vicia faba*)

(e) Pea (*Pisum sativum*); (f) Nueg (*Guzotia abyssinica*); (g) Flax (*Linum usitatissimum*)

(h) Rape seed (*Brassica napus*); and, (i) Sunflower (*Helianthus annus*)…These are used for food consumption in the locality. And, two additional crops with medicinal value are found nearly to disappear: Feto (*Lipidium sativum*), Abish (*Brassica juncea*) & Tikur Azimud (*Nigella sativa*) which commonly are called Garden cress, Fenugreek seeds, Black cumin respectively.

References

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Acknowledgements

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