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ARTICLE Subsistence Farming Towards Sustainable Economic Agriculture of Small Farmers in the Developing Countries

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ARTICLE INFO	ABSTRACT
Article history Received: 19 July 2020 Accepted: 30 July 2020 Published Online: 31 August 2020	Subsistence farming, a form of cultivation in which almost all crops or livestock are used to maintain farms and the farm family, leaving little, surplus for sale and trade. Pre-industrial farming peoples all over the countries of the worldwide apply subsistence agriculture system and take advantage of the possibilities available to them from land and water resources in all locations of agriculture sites. The agricultural production has become more specialized and developed in the subsistence farming system, and farmers have produced abundant production from many horticulture crops that are traded among them and achieve their self- sufficiency from those crops.
<i>Keywords</i> : Subsistence farming Agriculture sector Developing countries	

1. Introduction

Subsistence farming is self-sustaining farming, in which these farmers focus on growing foods that are sufficient for them to give an adequate amount of food themselves and other peoples. A regular subsistence farm includes a set of crops and animals the family needs to feed itself during the year. The decisions of agriculture are taken into account what the family will need during the next year in the first place, then market prices in the second place^[1].

The truth is that farmers of the so-called subsistence farming method are farmers who grow whatever their family needs; they build their homes and do not depend on purchasing the needs of their crops on the market permanently. Despite this, the priority that self-sufficiency imposes on subsistence agriculture, most subsistence farmers now participate primarily in trade with each other, but this is achieved relatively little. Most subsistence farmers now live in developing countries and some rural areas in many countries of the world. Although their trade volume, if measured in monetary terms, is relatively less than the size of consumer trade in countries with modern complex markets. Many of these farmers have essential business contacts and commercial goods that they can produce with their skills or in special access to valuable resources in their local markets ^[2].

2. Subsistence Farming System as a Review

The subsistence farming system now continues in many developing countries, such as some rural areas in Africa, Asia and also Latin America. The use of the subsistence farming system has significantly decreased in Europe with the start of the First World War, and in North America as well, with farmers and their partners moving from the

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south and central-western America during the 1930s and 1940s. Until around the 1950s, it was still customary that rural farmers in North America and Europe had most of the family food that met their needs. The extent of subsistence cultivation varies from one country to another in the economies that it passes from one stage to another transitional stage, but what is noticeable is its global presence to the present day in many rural areas. Indeed, it isn't easy to provide a complete picture of the situation in some regions of Europe. Still, it is worth noting that the relative size of subsistence agriculture is enormous and is growing day by day. More than half of the consumption of major agricultural products in some countries of the world, such as Bulgaria, is provided by small independent production units ^[3,4,5].

The authors argue that even if the farmers of small and semi-subsistence subsistence farming systems are less technically efficient and the effects of their existence in general, and that compared to traditional commercial farming completely they are very positive in terms of production and sustainable consumption and that achieve their self-sufficiency^[5].

Farmers in those densely populated countries like China and India use their small land holdings to produce enough of their needs. In contrast, they use little mutual production to barter for other goods for self-sufficiency. These farmers are trying to maximize the productivity of their available crops by intensifying farming methods and adopting modern agricultural practices, including preparing rice fields and some other crops that can be used year after year. In more severe cases, farmers may establish terraces on the steep areas for planting rice seedlings. These fields are found in populated areas in some countries such as the Philippines. Also, they can intensify agriculture using compost, modern industrial irrigation and animal waste as organic fertilizer.

3. Primitive Subsistence or Strolling Cultivation has the Following Advantages

Experienced older adults usually choose 1-Ladang locations in pristine forests. Hill slopes are preferred due to the better drainage. Many degrees are located in remote inland areas, away from major population centers.

There are three advantages to a sustainable livelihoods approach, in terms of focus Agency and methodology. First of all, livelihood strategies are usually diverse, with the drawing carries a range of profitable activities. In an agricultural context focused on consequently, the cash income generated by agriculture is very restricted; Researchers must consider the role of non-market production and family participation in the non-farm rural economy. Therefore, the focus should not be on specific sectors like agriculture or manufacturing in isolation, but rather people and families^[6].

Second, the literature on sustainable livelihoods recognizes that the results are based not only on structures but also on agency factors in the form of their livelihood ^[7]. In this context, the role of rural development is empowerment low-income families improve their welfare rather than the state current cash transfers or act as guarantors of specific social welfare outcomes ^[8,9].

Third, researchers should use methods that embody the heterogeneity of the poor documenting of the various sources of profitable activity and asset portfolios ^[10]. Consequently, researchers usually study in a specific area of a geographical area, a cross-section of poor and relatively affluent families in both the most disadvantaged and least disadvantaged villages ^[11,12]. Cluster analysis may be usefully used to determine family heterogeneity profiles ^[13].

It is partly due to historical reasons as most itinerant farmers have been forced into less fortunate regions by expanding more advanced farmers to less and better land. Their isolation impedes their progress and makes the spread of new ideas more difficult.

(2) Deforestation is usually caused by fire and ash, and this increases soil fertility and, consequently, increases the productivity of crops grown there. Unturned trees are broken to spoil naturally. Hence, these crops are also called mobile agriculture.

(3) A few crops are raised in nurseries. The major are those of starchy crops, such as tapioca, potatoes, cassava, beans, bananas, rice, and other vegetables. These crops are grown at calculated intervals, often among other plants, so that these crops can be harvested to provide food throughout the year for farmers and their families. The same types and varieties of crops are grown on all farms.

(4) Crops are rotated for cultivation in the same plot of land. When crop productivity no longer supports society due to poor agricultural soils or weeds growing significantly, fields are abandoned, and new areas are cleared. "Field rotation" is practiced instead of "crop rotation".

(5) This system, from "migratory agriculture" to now, is considered supportive of many indigenous tribes from the tropical rainforests, despite efforts by local governments to resettle them. Indeed, this system led to the depletion of nutrients in the soil and attack from insect pests, bacterial, and fungal diseases.

Another more developed and effective model of subsistence cultivation is "stable subsistence cultivation"

in the tropical lowlands. In this system of agriculture, nonfertile and weak lands are constantly reused, and society stays permanently in one place. In this agricultural system, crops are rotated in some areas, and more attention is given to lands and crops grown.

In the absence or weakness of technology in some regions, the amount of land that farmers can grow in each season of subsistence crops is limited by many factors such as available potential, quality and fertility of agricultural soils. The equipment and capabilities that subsistence farmer's use is often effortless. Many farmers do not have access to large domesticated working animals. Consequently, they perform agricultural service operations from growing crops, cultural practices, and harvesting using pointed sticks, primitive machines, or by hand.

Subsistence cultivation methods include "cutting and burning" disinfection as farmers clear their agricultural land by cutting all the brush, allowing debris to dry, and then burning the fallen waste. It makes the fields clean and more prepared for cultivation and abundant production, while the residue ash is an excellent organic fertilizer for the lands. Sub-tropical societies often use this clearing technology throughout the fertile regions of some parts of South America.

If subsistence farmers are not given enough food for farmers, due to the lack or weak fertility of soils, climatic conditions, and the lack of capabilities and modern agricultural tools, or types of high-yield crops, the farmer cannot do more than adapt to live. Under these conditions, the few years of harvest often lead to less food and may eventually lead to starvation.

Not all subsistence farmers can get as much land as possible. Often, socio-economic conditions prevent the expansion of agricultural plots and any increase in production levels. If the traditions of inheritance require that the plot be divided between the children of the owner upon the death of the owner, then the sizes of the land decrease steadily.

4. Conclusion

Subsistence farming means producing enough food and fibre for the needs of the farmer and his family. And this agricultural system was prevalent in many rural areas of the world, especially in many tropical regions. Where farmers work for a relatively few hours each week, they produce only enough and achieve self-sufficiency in cereal, oil and fibre crops. They played a fundamental role in the monetary economy of relatively low-income rural families, whether in developed or developing countries, and they must work to help them in achieving sustainability in achieving self-sufficiency in crops.

References

- [1] Tony Waters. The Persistence of Subsistence Agriculture: life beneath the level of the marketplace. Lanham, MD: Lexington Books, 2007.
- [2] Marvin P Miracle. Subsistence Agriculture: Analytical Problems and Alternative Concepts, American Journal of Agricultural Economics, 1968: 292-310.
- [3] Mishev; P., N. Ivanova, M. Tzoneva, P. Kostov. Influence of Structural and Income Policies on Size and Product Pattern of Production Units in Bulgarian Agriculture, Bulgarian Journal of Agricultural Science, 1999, 5(2): 337-45.
- [4] Mishev P., N. Ivanova, P. Kostov. Analysing Agricultural Policy Options Under Transition in View of Future Accession to EU: Partial Equilibrium Dual Structure Sector Model for Bulgaria, in Mergos, G. (ed.) EU Enlargement and the CAP. A Quantitative Analysis for Slovenia and Bulgaria, Kiel: Wissenschaftsverlag Vauk, 2002.
- [5] Kostov, P., J. Lingard. Subsistence Farming in Transitional Economies: Lesson from Bulgaria, Journal of Rural Studies, 2002, 18(1): 83-94.
- [6] Buchenrieder G, Mo. Ilers J, Happe K, Davidova S, Fredriksson L, Bailey A, GortonM, Kancs d'A, Swinnen J F M, Vranken L, Hubbard C, Ward N, Juvancic L, Milczarek D, Mishev P. Conceptual framework for analysing structural change in agriculture and rural livelihoods, Deliverable 2.1, SCARLED (Structural Change in Agriculture and Rural Livelihoods), 2007. http://www.scarled.eu/uploads/media/SCARLED D2.1 01.pdf.
- [7] Ansoms A, McKay A. A quantitative analysis of poverty and livelihood profiles: the case of rural Rwanda Food Policy. 2010, 35: 584-598.
- [8] DFID. Sustainable Livelihoods: Current Thinking and Practice Department for International Development, London, 2000.
- [9] Moser C. Assets and livelihoods: a framework for asset-based social policy, in Assets. Livelihoods and Social Policy Eds C Moser, A Dani (World Bank,Washington, DC), 2007: 43 - 81.
- [10] Ellis F. Rural Livelihoods and Diversity in Developing Countries (Oxford University Press, Oxford), 2000.
- [11] Bouahom B, Douangsavanh L, Rigg J. Building sustainable livelihoods in the Laos: untangling farm and non-farm Geoforum, 2004, 35: 607-619.
- [12] Ellis F, Mdoe N. Rural livelihoods and poverty reduction in Tanzania. World Development: 2003, 31: 1367-1384.
- [13] Petrovici D, Gorton M. An evaluation of the importance of subsistence food production for assessments of poverty and policy targeting: evidence from Romania Food Policy, 2005, 30: 205-223.