

FOOD SECURITY AND SUSTAINABLE LIVELIHOOD

DES 320

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Introduction

Welcome to DES: 320.**Food Security and Sustainable Livelihood**

Food Security and Sustainable Livelihood is a two-credit unit course available to all students offering Development Studies **(DES)**. It is a well-known field of Development Studies with particular emphasis on food availability, accessibility, stability and utilization. It is also involving an engagement in a diverse range of productive activities, both agricultural and non-agricultural as means of survival.

Course Content

Course Aims

The aims of this course are to give you in-depth understanding of the concept of food security and sustainable livelihood. It also aims at providing you necessary information about relevant actors working towards this direction.

Course Objectives

To achieve the aims of this course, there are overall objectives which the course is out to achieve though, there are set out objectives for each unit. The unit objectives are included at the beginning of a unit; you should read them before you start working through the unit. You may want to refer to them during your study of the unit to check on your progress. You should always look at the unit objectives after completing a unit. This is to assist the students in accomplishing the tasks entailed in this course. In this way, you can be sure you have done what was required of you by the unit. The objectives serve as study guides, such that student could know if he is able to grab the knowledge of each unit through the sets of objectives in each one. At the end of the course period, the students are expected to be able to:

- Explain the concepts of food security and sustainable livelihood
-

Working through the Course

To successfully complete this course, you are required to read the study units, referenced books and other materials on the course.

Each unit contains self-assessment exercises called Student Assessment Exercises (SAE). At some points in the course, you will be required to submit assignments for assessment purposes. At the end of the course there is a final examination. This course should take about 15 weeks to complete and some components of the course are outlined under the course material subsection.

Course Materials

The major component of the course, what you have to do and how you should allocate your time to each unit in order to complete the course successfully on time are listed follows:

1. Course guide
2. Study unit
3. Textbook
4. Assignment file
5. Presentation schedule

Study Units

There are twelve units in this course which should be studied carefully and diligently.

MODULE ONE: Concept of Food Security and Sustainable Livelihoods

- | | |
|---------------|---|
| Unit 1 | Concept of Food Security and Insecurity |
| Unit 2 | Food Security, Poverty and Famine |
| Unit 3 | Sustainable Rural Livelihood |
| Unit 4 | Livelihood and Rural Poverty Reduction in Nigeria |

MODULE TWO: Basic Concepts of Food and Nutrition

Unit 1	Malnutrition and Food Security
Unit 2	Households Food Security
Unit 3	Population and Food Security
Unit 4	State of Food Security and Nutrition in The World

MODULE THREE: Food Security and National Development in Nigeria

Unit 1	Concept of Agricultural Development in Nigeria
Unit 2	Relationship Between Climate Change and Food Security
Unit 3	Land Tenure and Land Reform
Unit 4	Role of FAO, WFP and World Hunger Relief Organizations in Food Security

Each study unit will take at least two hours, and it includes the introduction, objectives, main content, self-assessment exercise, conclusion, summary and reference. Other areas border on the Tutor-Marked Assessment (TMA) questions. Some of the self-assessment exercise will necessitate discussion, brainstorming and argument with some of your colleagues. You are advised to do so in order to understand and get acquainted with historical economic event as well as notable periods.

There are also textbooks under the reference and other (on-line and off-line) resources for further reading. They are meant to give you additional information if only you can lay your hands on any of them. You are required to study the materials; practice the self-assessment exercise and tutor-marked assignment (TMA) questions for greater and in-depth understanding of the course. By doing so, the stated learning objectives of the course would have been achieved.

Textbook and References

Assignment File

Assignment files and marking scheme will be made available to you. This file presents you with details of the work you must submit to your tutor for marking. The marks you obtain from these assignments shall form part of your final marks for this course. Additional information on assignments will be found in the assignment file and later in this Course Guide in the section on assessment.

There are four assignments in this course. The four course assignments will cover:

Assignment 1 - All TMAs' question in Units 1 – 4 (Module 1)

Assignment 2 - All TMAs' question in Units 5 – 7 (Module 2)

Assignment 3 - All TMAs' question in Units 8 – 10 (Module 3)

Assignment 4 - All TMAs' question in Units 11 – 12 (Modules 1, 2 & 3)

Presentation Schedule

The presentation schedule included in your course materials gives you the important dates for this year for the completion of tutor-marking assignments and attending tutorials.

Remember, you are required to submit all your assignments by due date. You should guide against falling behind in your work.

Assessment

There are two types of the assessment of the course. First are the tutor-marked assignments; second, there is a written examination.

In attempting the assignments, you are expected to apply information, knowledge and techniques gathered during the course. The assignments must be submitted to your tutor for formal Assessment in accordance with the deadlines stated in the Presentation Schedule and the Assignments File. The work you submit to your tutor for assessment will count for 30 % of your total course mark.

At the end of the course, you will need to sit for a final written examination of three hours' duration. This examination will also count for 70% of your total course mark.

Tutor-Marked Assignments (TMAs)

There are four tutor-marked assignments in this course. You will submit all the assignments. You are encouraged to work all the questions thoroughly. The TMAs constitute 30% of the total score.

Assignment questions for the units in this course are contained in the Assignment File. You will be able to complete your assignments from the information and materials contained in your set books, reading and study units. However, it is desirable that you demonstrate that you have read and researched more widely than the required minimum. You should use other references to have a broad viewpoint of the subject and also to give you a deeper understanding of the subject.

When you have completed each assignment, send it, together with a TMA form, to your tutor. Make sure that each assignment reaches your tutor on or before the deadline given in the Presentation File. If for any reason, you cannot complete your work on time, contact your tutor before the assignment is due to discuss the possibility of an extension. Extensions will not be granted after the due date unless there are exceptional circumstances.

Final Examination and Grading

The final examination will be of three hours' duration and have a value of 70% of the total course grade. The examination will consist of questions which reflect the types of self-assessment practice exercises and tutor-marked problems you have previously encountered. All areas of the course will be assessed

Revise the entire course materials using the time between finishing the last unit in the module and that of sitting for the final examination. You might find it useful to review your self-assessment exercises, tutor-marked assignments and comments on them before the examination. The final examination covers information from all parts of the course.

Course Marking Scheme

The Table presented below indicates the total marks (100%) allocation.

Assignment	Marks
Assignments (Best three assignments out of four that is marked) at 10% each.	30%
Final Examination	70%
Total	100%

Course Overview

The Table presented below indicates the units, number of weeks and assignments to be taken by you to successfully complete the course.

Units	Title of Work	Week's Activities	Assessment (end of unit)
	Course Guide		
Module 1			
1		Week 1& 2	Assignment 1
2		Week 3&4	Assignment 1
3		Week 5	Assignment 1
4		Week 6	Assignment 1
Module 2			
1		Week 7	Assignment 2
2		Week 8	Assignment 2
3		Week 9	Assignment 2
4		Week 10	Assignment 2

Module 3			
1		Week 11& 12	Assignment 3
2		Week 13	Assignment 3
3		Week 14	Assignment 3
4		Week 15	Assignment 3
	Total	15 Weeks	

How to Get the Most from This Course

In distance learning the study units replace the university lecturer. This is one of the great advantages of distance learning; you can read and work through specially designed study materials at your own pace and at a time and place that suit you best.

Think of it as reading the lecture instead of listening to a lecturer. In the same way that a lecturer might set you some reading to do, the study units tell you when to read your books or other material, and when to embark on discussion with your colleagues. Just as a lecturer might give you an in-class exercise, your study units provide exercises for you to do at appropriate points.

Each of the study units follows a common format. The first item is an introduction to the subject matter of the unit and how a particular unit is integrated with the other units and the course as a whole. Next is a set of learning objectives. These objectives let you know what you should be able to do by the time you have completed the unit.

You should use these objectives to guide your study. When you have finished the unit, you must go back and check whether you have achieved the objectives. If you make a habit of doing this you will significantly improve your chances of passing the course and getting the best grade.

The main body of the unit guides you through the required reading from other sources. This will usually be either from your set books or from a readings section. Some units require you to undertake practical overview of historical events. You will be directed when you need to embark on discussion and guided through the tasks you must do.

The purpose of the practical overview of some certain historical economic issues are in twofold. First, it will enhance your understanding of the material in the unit. Second, it will give you practical experience and skills to evaluate economic arguments, and understand the roles of history in guiding current economic policies and debates outside your studies. In any event, most of the critical thinking skills you will develop during studying are applicable in normal working practice, so it is important that you encounter them during your studies.

Self-assessments are interspersed throughout the units, and answers are given at the ends of the units. Working through these tests will help you to achieve the objectives of the unit and prepare you for the assignments and the examination. You should do each self-assessment exercises as you come to it in the study unit. Also, ensure to master some major historical dates and events during the course of studying the material.

The following is a practical strategy for working through the course. If you run into any trouble, consult your tutor. Remember that your tutor's job is to help you. When you need help, don't hesitate to call and ask your tutor to provide it.

1. Read this Course Guide thoroughly.
2. Organize a study schedule. Refer to the 'Course overview' for more details. Note the time you are expected to spend on each unit and how the assignments relate to the units. Important information, e.g., details of your tutorials, and the date of the first day of the semester is available from study centre. You need to gather together all this information in one place, such as your dairy or a wall calendar. Whatever method you choose to use, you should decide on and write in your own dates for working breach unit.

3. Once you have created your own study schedule, do everything you can to stick to it. The major reason that students fail is that they get behind with their course work. If you get into difficulties with your schedule, please let your tutor know before it is too late for help.
4. Turn to Unit 1 and read the introduction and the objectives for the unit.
5. Assemble the study materials. Information about what you need for a unit is given in the 'Overview' at the beginning of each unit. You will also need both the study unit you are working on and one of your set books on your desk at the same time.
6. Work through the unit. The content of the unit itself has been arranged to provide a sequence for you to follow. As you work through the unit you will be instructed to read sections from your set books or other articles. Use the unit to guide your reading.
7. Up-to-date course information will be continuously delivered to you at the study centre.
8. Work before the relevant due date (about 4 weeks before due dates), get the Assignment File for the next required assignment. Keep in mind that you will learn a lot by doing the assignments carefully. They have been designed to help you meet the objectives of the course and, therefore, will help you pass the exam. Submit all assignments no later than the due date.
9. Review the objectives for each study unit to confirm that you have achieved them. If you feel unsure about any of the objectives, review the study material or consult your tutor.
10. When you are confident that you have achieved a unit's objectives, you can then start on the next unit. Proceed unit by unit through the course and try to pace your study so that you keep yourself on schedule.
11. When you have submitted an assignment to your tutor for marking do not wait for it return before starting on the next units. Keep to your schedule. When the assignment is returned, pay particular attention to your tutor's comments, both on the tutor-marked assignment form and also written on the assignment. Consult your tutor as soon as possible if you have any questions or problems.

12. After completing the last unit, review the course and prepare yourself for the final examination. Check that you have achieved the unit objectives (listed at the beginning of each unit) and the course objectives (listed in this Course Guide).

Tutors and Tutorials

There are some hours of tutorials (2-hours sessions) provided in support of this course. You will be notified of the dates, times and location of these tutorials. Together with the name and phone number of your tutor, as soon as you are allocated a tutorial group.

Your tutor will mark and comment on your assignments, keep a close watch on your progress and on any difficulties, you might encounter, and provide assistance to you during the course. You must mail your tutor-marked assignments to your tutor well before the due date (at least two working days are required). They will be marked by your tutor and returned to you as soon as possible.

Do not hesitate to contact your tutor by telephone, e-mail, or discussion board if you need help. The following might be circumstances in which you would find help necessary. Contact your tutor if.

- You do not understand any part of the study units or the assigned readings
- You have difficulty with the self-assessment exercises
- You have a question or problem with an assignment, with your tutor's comments on an assignment or with the grading of an assignment.

You should try your best to attend the tutorials. This is the only chance to have face to face contact with your tutor and to ask questions which are answered instantly. You can raise any problem encountered in the course of your study. To gain the maximum benefit from course tutorials, prepare a question list before attending them. You will learn a lot from participating in discussions actively.

Summary

MODULE ONE: CONCEPT OF FOOD SECURITY AND SUSTAINABLE LIVELIHOODS

Unit 1	Concept of Food Security and Insecurity
Unit 2	Food Security, Poverty and Famine
Unit 3	Sustainable Rural Livelihood
Unit 4	Livelihood and Rural Poverty Reduction in Nigeria

UNIT 1 CONCEPT OF FOOD SECURITY AND INSECURITY

CONTENTS

1.0	Introduction
2.0	Objectives
3.0	Main Content
3.1	The Concept of Food Security
3.2	Measurement and indicators of food security
3.3	The Concept of Food Insecurity
3.4	Measurement and indicators of food insecurity
3.5	Concept of Food system
3.6	Principles of Community Food System (CFS)
3.7	Goals of Community Food System
3.8	Strategies for Community Food System
3.9	Rural entrepreneurship
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References / Further Reading
1.0	INTRODUCTION

This unit explains concept of food security and food insecurity in relation to rural community food system. Food insecurity measurement and indicators credited to Maxwell et al. and Vhurumuku including Campbell four essential components for measuring food security are provided. Relationship between community food system (CFS) and entrepreneurship are also treated.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- understand the concept of food security
- explain measurement of food security
- identify food security indicators
- understand the concept of food insecurity, its measurement and indicators
- define community food system (CFS)
- discuss relationship between food system and rural entrepreneurship

3.0 MAIN CONTENT

3.1 The Concept of Food Security

Food security has been defined by many scholars from different perspectives. Food security exists when all people at all times have physical and economic access to sufficient safe and nutritious food to meet their dietary needs. It also involves food preferences for an active and healthy life.

Food security was defined by the World Food Summit in 1996 as a condition that allows all people to have physical, social, and economic access to sufficient, safe and nutritious food at all times. The food should also meet the nutritional demands of an active and healthy life (FAO, 1996). World food summit reaffirmed this definition in 2009 and the concept was extended and specified by adding the following four pillars of food security; i. Availability, ii. Access iii. Utilization, and iv. Stability.

Okunmadewa et al. (1990) defined food security as the availability and access to food by any being who requires it.

Food security at international, national and household levels means that the world, nation, and households must produce or have access to enough food to meet its

growing population requirements and there must be unhindered trade in food products at relatively stable prices. This implies that there must be adequate availability of food from all sources to meet the per capital food requirements of the population over time. Food security however, is when all people at all times i.e., all year round have access to sufficient, safe, nutritious food to maintain a healthy and active life.

The report of 1992 by FAO/WHO international conference on nutrition defined food security in its most basic form as access by all people at all times to the food needed for a healthy life. Food security has three (3) dimensions: a. assurance of a safe, nutritionally adequate food supply at national and household levels; a reasonable degree of stability in the supply of food throughout each year and from one year to the next; every household having physical, social and economic access to food sufficient to meet its needs.

3.2 Food Security Measurement and Indicators

Food security measurement is required to classify food insecure households to assess the severity of their food shortages, and to depict the extent of their insecurity (Hoddinott, 2001). A number of methods can thus be used for comparison to measure the state of food insecurity at the household level. Considerations are given to costs, time requirement, skill, and susceptibility to misreporting among four outcome indicators namely; a. individual intake household b. calorie requisition c. dietary diversity, and d. index of coping strategies. But household calorie acquisition is found to be a better measurement. Campbell (1991) outlined four components for measuring food security at individual and household levels as follows; i. availability of sufficient quantity of food ii. quality of available food in terms of food types and variety of diet iii. Physiological acceptability relating to feelings of food deprivation, restricted food choice, and anxiety about quantity and quality of food on-hand in the household stores, and iv. social acceptability of consumption patterns determined by social norms in respect of meal frequency, composition and way of food acquisition such as being able to purchase foods instead of having to beg, scrounge or steal food. Several indicators or tools have been aggregated as there is no single indicator that is appropriate to measure household food security. However, efforts are being intensified to search for accurate, rapid and consistent indicators to measure food security. In a

bid to advance measurement indicator for food security, Barrett (2010) reported that the approaches being considered to follow four major 'pillars' (availability, access, utilization, and risk- i.e., stability or vulnerability) which in turn tend to follow different strands of analysis. Hence, the danger in using a single measure which is unrelated to a more holistic food security definition is the tendency for underestimating food insecure individuals.

3.3 The Concept of Food Insecurity

Food insecurity can therefore be described as a condition in which people lack basic food intake necessary to provide them with energy and nutrient required for productivity. United Nations reported that food insecurity entails the denial of choices and the opportunity of living a tolerable life. It is noteworthy that food security could be transitory; a situation whereby there is a temporary shortfall in access to adequate food because of instability in food production, increase in food prices, or income deficits (Omonona and Agoi, 2007). It has become clearer that production and availability alone do not lead to food security, since those who lack purchasing power (from permanent employment income) lack access to a balanced diet. It is therefore evident that where availability and access are satisfactory, necessary biological absorption of food requires clean drinking water, environmental hygiene, primary health care and education. Some observers argue that strategic food stocks of grain are of value only to alleviate temporary food insecurity, the prime purpose of strategic food stocks is to provide emergency reserves against regional, national, local and seasonal shortages to stabilize food prices and counteract fluctuations in supply and availability. Reserve food stocks are customarily controlled by government agencies, authorized to maintain quantities sufficient for defined time periods. Reserve stocks is essential in regions susceptible to frequent drought, provide short- term relief but cannot be considered a panacea for chronic food insecurity.

3.4 Food Insecurity Measurement and Indicators

Maxwell et al. (2013) compared seven different measures of food security which are; a. coping strategies index (CSI), b. reduced coping strategies index (RCSI), c. household food insecurity and access scale (HFIAS), d. The household hunger scale

(HHS), e. food consumption score (FCS), f. household dietary diversity scale (HDDS), and g. a self-assessed measure of food security (SAFS).

Vhurumuku (2014) also assessed FCS, HDDS, CSI, Individual Dietary Diversity Scale (IDDS), HHS, SAFS, RCSI and CSI as indicators of food security. Meanwhile food insecurity can set in supposed higher scores are recorded through aforementioned indicators.

3.5 Concept of Food system

Food system encompasses food, nutrition, health, community economic development and agriculture. It includes all processes involved in keeping people fed. These processes include growing, harvesting, processing, packaging, transporting, and marketing, consuming and disposing of food and food packages. It also includes the inputs needed and outputs generated at each step. The food system organization however, thrives in a favourable social, political, economic, and natural environment. Food is required for sustenance of life. Good food consumption pattern is linked with healthy living. The purpose of eating food is to maintain health, prevent diseases and enjoy productive living. Quite a number of people abuse this purpose and consume food only for survival. This is because most people lack the basic nutrition knowledge regarding the required food quantity and quality, food selection and its combination, cooking skills to make consumption of nutritious food a lifestyle. Inadequate nutrition knowledge coupled with inadequate access to food and supply thus results in food insecurity.

3.6 Principles of Community Food System

The principles of community food system include the following;

- (i) Food security: Local community food security addresses food access within country content especially for low-income households and also its goal to develop the rural food base.
- (ii) Proximity: It tries to bridge the gaps between the various components of food system. Therefore, the distance between various components is generally shorter than those in urban or natural or global food system.
- (iii) Self-reliance: It aims at increasing the degree to which community meets its food needs while selling excess to other communities.

- (iv) **Sustainability:** This focuses on the ability of the community to meet their food needs as well as that of future generations. The process ensures environmental protection, profitability, ethical treatment of food workers and community development.

3.7 Goals of Community food system

The overall goal of building a community food system is to meet the food needs of people living in a particular locality or rural area. The specific goals include:

- a. Provision of dietary change that complements the seasonal availability of food produced and processed by the local food and agriculture system.
- b. Improved access for all community members to adequate, affordable, nutritious diet and use.
- c. A stable increasing base of family farms that use integrated production practices to enhance environmental quality.
- d. A creation of marketing channels and processing facilities that directly links farmers and consumers thereby conserving resources needed for food transportation.

3.8 Strategies for Community Food System

The major strategies for community food system are as follows:

- i. **Community Supported Agriculture (CSA):** Under this strategy farmers and consumers come together in a mutual relationship that fosters opportunity for consumers to buy shares in the farming business thereby creating economic support for farmers to expand production and make food available. Activities embarked upon include:
 - Granting more access to low- income holders through sliding scale fee, friendly duration process, working shares and payment plans.
 - Empowerment programme to educate community members on sustainable agriculture, good nutrition and proper food handling.
- ii. **Farmers markets:** Through farmers market agricultural produce and products are purchased. This would improve farmers income while fostering availability and varieties of food. This strategy is strengthened through:

- Guidelines to ensure only locally produced products are sold in the market.
 - Provision of market information and avenues which enable farmers and consumers to share ideas and concerns about market operation.
- iii. Community Economic Development: Community economic development initiatives include projects that give people the opportunity to start or enhance food related small businesses and cottage industries as well as efforts to bring supermarkets, local fast food enterprises etc. This strategy focuses on:
- Initiatives that target job creation for people in low-income community.
 - Business that uses locally, regionally and sustainably grown food and market products.

3.9 Rural Entrepreneurship

Rural entrepreneurship is defined as adoption of new forms of business organisation, new technologies, producing goods not previously available at a location. Rural entrepreneurship is about creating rural wealth and high level of entrepreneurship capacity therefore tends to facilitate growth of the economy. Community food system initiative being created in rural areas serves as measure to enhance maximum contribution of rural sector to economic growth while improving rural productivity, income generation, employment opportunity and standard of living.

Relationship between community food system and rural entrepreneurship include:

- Mobilising rural resources to facilitate entrepreneurial jobs
- Creation of awareness
- Participation
- Legitimisation
- Sustainability

4.0 CONCLUSION

The unit has discussed food security through households' availability, access to nutritious food all the times or round the year while food insecurity could be as a result of instability in food production, increase in food prices or income deficits.

5.0 SUMMARY

Food security and food insecurity are concepts that require better understanding by the students in higher institutions of learning. Both concepts have a wider scope that translate to community food system and rural entrepreneurship. Students would be able to have in-depth knowledge of rural entrepreneurship and its contribution to rural economic growth by improving income generation, rural productivity and employment opportunity.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define briefly the following:
 - (a) Food security
 - (b) Food insecurity
 - (c) Community food system
2. Highlight components of measure of food security
3. Explain principles of community food system
4. What do you understand by rural entrepreneurship?
5. Describe relationship between community food system and rural entrepreneurship
6. Discuss strategies involved in community food system

7.0 REFERENCES/FURTHER READINGS

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UNIT 2 FOOD SECURITY, POVERTY AND FAMINE

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Concept of Food Security and Poverty

	3.2 Concept of Food Security and Famine
	3.3 Concept of Food Security, Income and Poverty
	3.4 Gender and Poverty
	3.5 Public Policy and Food Security
	3.6 Governmental Responsibilities
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Readings

1.0 INTRODUCTION

This unit explores the concepts of food security, poverty and famine and their interrelationship. The implications of these concepts on nation's building, virile economy and roles of government towards solving the problems of food insecurity are equally explained.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- understand the concept of food security, poverty and famine
- State the responsibilities of government on food security
- discuss public policy on food security
- give several reasons why poverty is predominant among women than men
- identify ways of reducing poverty among women
- explain steps in carrying women along during community projects

3.0 MAIN CONTENT

3.1 Concept of Food Security and Poverty

Globally, almost 852 million people are chronically hungry as a result of extreme poverty while up to 2 billion people lack food security intermittently due to varying degrees of poverty. Over 60% of the world's under-nourished people are in Asia and a quarter in Africa. The proportion of people who are hungry is greater in Africa (33%)

than Asia (16%). The FAO figures as at 2009 indicated 22 countries, 16 of which are in Africa where undernourishment prevalence rate is over 35%.

In sustainable development there is no precise, universally accepted definition of food security. But report of the 1992 FAO/WHO international conference on nutrition defined food security in its most basic form as access by all people at all times to the food needed for a healthy life. Food security has three dimensions: assurance of a safe, nutritionally adequate food supply at national and household levels; a reasonable degree of stability in the supply of food throughout each year and from one year to the next; every household having physical, social and economic access to food sufficient to meet its needs.

Poverty may be regarded as the incapability to access basic necessities of life. An individual is poor if he or she cannot access the following basic necessities of life: Food, Shelter and Clothing. Since 1981, the number of cases of extreme poverty (\$1.08 per day per person) has actually risen from about 848 million to about 873 million in 1999; and the cases of moderate poverty have risen by about 36 per cent in the same period from about 1.57 billion cases to about 2.1 billion cases. It is therefore, estimated that with the current economic models of development, \$166 of extra production would be needed to achieve a single dollar of poverty reduction. The conclusion is that production efficiencies would have to conform to an effort of holistic matching between what consumers need and what they get. Poverty has some patterns, that is why today, of every ten cases of extreme poverty (less than \$1.25 per day), seven would live in villages and rural areas all over the world. However, driven by the need for education, health care and better income, rural poverty is migrating to urban areas in the hope of getting a better chance and an equitable share in opportunities but often end in despair and destitution.

3.2 Concept of Food Security and Famine

While there is an agreement in broad principle on requirements for food security, concepts diverge significantly in semasiological and biological specifics, they change over time, and differ among specialists and agencies as to what constitutes a nutritionally adequate diet. Non-scientific and quasi scientific publications frequently

fail to make clear distinction among hunger, malnutrition, famine, and starvation; between chronic and transitory hunger.

The noun security derives from the Latin '*securus*' which means safe, free from worry and care. People blessed with food security are safe from the risk of famine, starvation, chronic hunger and malnutrition. Famine describes food scarcity among large populations. Starvation is derived from an old English word meaning to die a slow lingering death from cold, disease, insufficient food and / or water.

Food security is a concept that has evolved over time and it is the circumstance where everyone has physical and economic access to safe, adequate, culturally acceptable and healthy food to meet their dietary requirements for an active and healthy life (FAO, 2008).

Social hazards such as famine, warfare, acts of terrorism, and civil disorders originate in social systems. These types of hazards are also termed 'intentional hazards' as these are caused or exacerbated by human action. Contrary to popular belief, famine is a social hazard because it is not necessarily caused by drought. In analysing Great Bengal famine of 1943 on the basis of his entitlement approach, Sen (1981) concludes that famine was not caused by drought, but rather by the government's inability to take proper action against the massive hoarding of food grains by corrupt politicians and their associates whose primary aim was to gain wealth through inflated prices. He opined that famine is dependent on the pattern of individual legal entitlement to acquire enough food in order to avoid starvation. Sen further claims that famine is not entirely caused by drought; a weak and insufficient political system may also create such an outcome.

3.3 Concept of Food Security, Income and Poverty

In technical terms, food security depends upon a dynamic balance among disposable income, demand, supply and distribution. Production of food crops, livestock and fisheries must progressively increase to satisfy expanding and diversifying needs and demands of growing populations. Efficient post production systems, to ensure safe and effective protection, preservation, transformation and distribution must be economically integrated with production systems.

Food security need not be synonymous with food sufficiency, a nation's ability to produce all food required by its population. For different reasons: climate, topography, soil and climatic conditions, many nations cannot be self sufficient and must depend on food aid or imports. Then, substantial reduction in food spoilage after harvest could be realized by establishing primary food preservation and protection facilities in rural areas where crops are cultivated and animals husbanded. Food saved from spoilage increases total food available and enhances food availability and security.

Food security, chronic hunger and under nutrition are both dismal consequences and clear indicators of extreme poverty. People with money, power and control over negotiable assets rarely suffer from chronic hunger. Government politicians and military generals who suffer from chronic hunger are not a common spectacle around the world. Alleviation of food insecurity requires greater opportunities for paid employment and more equitable access to critical resources and assets among and within nations.

3.4 Gender and Poverty

Economists tend to view poverty as a distance on a continuum towards zero purchasing power while its polar opposite – *affluence*, is a distance on the same continuum toward full purchasing power. This conception of poverty in terms of purchasing power is useful when considering 'who is able to get what' in the society. Studies have revealed three major types of poverty namely; absolute, relative and zero-sum poverty.

- i. Absolute poverty or destitution is defined as misery linked to an insufficient resource base, lack of income, narrow margins, high risk of failure, hunger, disease etc.
- ii. Relative poverty is misery linked to experiencing outcomes which are less satisfactory than those of relevant others while not being able to do much about improving one's own outcome. This is because one has to adapt one's aroused aspirations to one's inescapable unsatisfactory outcomes instead of through innovation.
- iii. Zero-sum poverty on the other hand, is misery linked to patronage, oppression, exploitation, usurpation, extraction and abuse by powerful others.

Typically, poverty in the rural areas tends to be a compound of all of the above types.

Poverty also harms certain gender more than the other. It has been observed that poverty is more predominant among women than men due to the following reasons:

- a. Gender disparities in rural empowerment exist everywhere such as the burden of unpaid work at home, lack of education and bargaining power and lack of access to assets constitute significant economic disadvantages for women compared to men.
- b. Women tend to be more risk averse compared to men when engaging in rural works and farming. This is also recognized as a factor responsible for poverty among women.
- c. Gender dimensions of rural employment change over time and vary across nations.
- d. Women are less educated in most rural areas. Culture in more cases hinders women's education as most rural people prefer to educate their male children than the female ones.

Ways of reducing poverty among women:

1. Empowerment programmes targeted at women
2. Prioritising women education
3. Prioritising women employment
4. National budget for women's needs to be institutionalized in all the arms of the government
5. Women should be allowed to have a voice in projects or programmes that affect their lives.
6. Credit facilities or soft loans should be provided for women farmers by the government agencies, international donors and Non-governmental organisations.
7. Policy to mandate equal gender attention should be implemented alongside people with disabilities (PWD).
8. Fostering gender awareness among rural dwellers

Steps to carry women along in developmental projects: Participation of women in programmes and projects that affect their lives is a key factor in alleviating poverty in rural areas. Some of these steps are:

- i. Utilization of appropriate channels to communicate women
- ii. Facilitate women's participation in project meetings
- iii. Help women speak up through local dialect, dialogue and spokesperson where necessary
- iv. Hold separate meetings with women when necessary
- v. Both men and women should be involved in decision making process before and after the projects
- vi. Women should be given preferential treatment while voting for felt needs.

3.5 Public Policy and Food Security

Estimates of Global food security based on the quotient of total possible food production divided by world population may be a diverting statistical exercise and of little practical value. Equitable access to the planet's resources, though highly desirable, and never has been nor is ever likely to be a realizable objective. To suggest that over the next half -century world food production must exceed all that was produced since settled farming began 10,000 years ago is interesting but offers little practical guidance for long-term planning by national governments. Food security can only be assessed and assured for discrete nations, communities and families within communities, a process that is the responsibility of national and local governments. International agencies can help weak and inexperienced governments by defining criteria to be considered and by providing long-term development assistance. During the 1930s, the League of Nations Committee on Nutrition reported that 'In the past, movement towards better nutrition has been largely the result of unconscious, instinctive groping for a better, more abundant life. But what is needed now is planning for better nutrition policies based on (a) Consumption: bringing essential food within reach of all people; (b) Adequate supply: production and equitable distribution of all essential food sources. The report urges (a) recognition of nutrition policy as of primary national importance; (b) better, widespread education on human nutrition; (c) more equitable

distribution of income. 'It is however, the poorest people who are most nutritionally deprived.

3.6 Governmental Responsibilities

Reutlinger (1987) states that food insecurity results from inappropriate macro-economic policies, from local economic and political structures that restrict the ability of households and individuals to have access to foods sufficient to satisfy their needs. Food insecurity may be transitory, lasting for relatively short periods, or chronic and of long duration, a consequence of poor planning to ensure resources adequate to produce or purchase sufficient food. Transitory hunger frequently results from unstable food production systems, sharp rises in food prices or depression of disposable family income.

Sen (1986) relates food security to entitlements and ownerships; families and individuals must have adequate access and purchasing power. Food security depends not on estimates of national aggregate demand but on fair exchange in international trade of goods and services. The poor must inevitably rely on food aid provided by social programmes. Chronic hunger and malnutrition are less influenced by a nation's total food supply than the degree of equity with which available resources are distributed and made accessible. Food and agricultural policies to ensure food security for all citizens should be a high priority for every government since malnourished people, too weak to work effectively, eventually impose a financial burden on the nation's economy.

4.0 CONCLUSION

It is noteworthy that the concept of food security has been over flogged for decades due to its wide applications to issues of economic importance. Based on the discussions, it is not an understatement that synergic relationship exist among food security, poverty and famine.

5.0 SUMMARY

Concepts of food security, poverty and famine are clearly treated within the context of global events, reports and research findings. This has helped to shed more light on the

responsibilities of different actors toward sustainable food security. Gender issues relating to poverty were also discussed such as women's vulnerability to poverty unlike men.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define the term Famine with examples
2. Explain the reason why poverty is more predominant among women than men
3. What are the ways of reducing poverty among women
4. Define poverty in terms of purchasing power
5. What are the relationships between income and poverty
6. Discuss types of poverty, give examples

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UNIT 3 SUSTAINABLE RURAL LIVELIHOOD

CONTENTS

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1.0 INTRODUCTION

This unit intends to discuss concept of sustainable rural livelihood and its interconnection with rural development and sustainable agriculture. It explains sustainable development through the channels of economic, technological, social and environmental sustainability.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- define livelihood and sustainable livelihood
- understand concept of sustainable development
- explain principles of sustainable agriculture
- differentiate between livelihood strategies and livelihood activities

3.0 MAIN CONTENT

3.1 Concept of Sustainable Development

The demand for food, non-food grains and exports keep on increasing day by day while the resources are shrinking and the productivity of some resources already being utilized is threatened by environmental degradation. Growth in total factor productivity is reported to have declined slightly in major crops. Returns to investment in agricultural research and rural infrastructure are reported to be high but investments remain low.

The term ‘Sustainable Development’ is being widely used, as the world today has become very much concerned about the factors adversely affecting ecology and environment. The droughts, floods, scarcity of fuel fodder, pollution of air and water and the likes are engaging serious attention of people all the world over.

Sustainable Development may be defined as ‘development towards meeting the needs of the present generation without compromising the needs of the future generation’. It is a process in which development can be sustained for future generations. It affords to the future generations the same, if not more, capacity to prosper as the present

generation. Thus, sustainable development focuses on inter-generation equity in the exploitation of development resources and opportunities.

The definition of sustainable development has to take into account a network of parameters which will ultimately determine the feasibility of the model for direct beneficiaries, non-beneficiaries, national values, the environment and the stability of the system. In its actual sense, 'Sustainability' can be defined with the following constituents:

- i. **Economic sustainability:** This implies that the financial model of the development tool is sound and robust. It also implies that development tools are tuned to the core competency of the region marked for implementation; that the products are matched to market demand; and that linkage with market is well maintained. Moreover, sustainable development systems have to achieve financial stability over a period of time.
- ii. **Technological sustainability:** Technology will be the driving force behind the development tool employed. It will lead to better and faster operations, lower wastage, higher grade products and services and will cut down the costs. Modern sustainable development tools need to be technologically sustainable, which means that they should be upgradable and capable of applying competitive technologies.
- iii. **Social sustainability:** Modern institutions, whether private or government ought to accept that one of their primary interfaces comprise people who would not necessarily be their customers. The new requirement of sustainable development systems is to be a partner in the lives of the people, in order to bring about positive change in human development. This may come about not only as corporate social responsibility and welfare schemes, but also as dedicated enterprises in the area of societal uplift which would work closely with the local community, building capacities and living standards.
- iv. **Environmental sustainability:** One of the most crucial challenges of the twenty-first century is that of climate change due to global warming caused by man-made greenhouse gases. Globally, we release into the atmosphere close to 30 trillion kg of carbon dioxide-equivalent greenhouse gases which come from

our industries, power plants, vehicles, homes, shops and agricultural fields. Out of this, roughly half is absorbed by natural sinks like oceans, soil and forests while the rest is released into the atmosphere forming a 'blanket' of greenhouse gases which trap the infrared radiation from the earth's surface and prevent it from going out into space.

Sustainability Indicators: Some important indicators of sustainable development are as follows:

1. GDP growth rate, 2. Population stability, 3. Human resource development index, 4. Clean air index, 5. Renewable energy proportions, 6. Material intensity, 7. Recycled proportions, 8. Transport intensity, 9. Water use, and 10. Soil degradation.

There are several other indicators like forest coverage ratio, housing conditions, crime rates, cultural stability, and social tension. There will be difficulty of course, in the case of certain indicators like cultural stability index yet attempts should be made to conduct fairly detailed Environmental Impact Analysis (EIA) of developmental projects and programmes to ensure long-term sustainability of economic development.

Elements of Environmental Sustainability:

- a. Reducing emission, b. Reducing water and soil pollution, c. Protecting biodiversity, d. Preserving natural resources – flora and fauna, e. Waste recycling; waste to wealth using technology, f. Awareness of ecology in the community, and g. Accountability on environment.

Nexus between poverty and environment: The relationship between poverty, environment and development is quite complex and there is a huge diversity of its pattern and situation. To capture this diversity in terms of a single perception of 'vicious circle' (Poverty-Environment-Degradation-More poverty) would be naïve. The basis for vicious circle perception lies in the fact that in developing or relatively poor countries, the poor depends directly on natural resource environment for their livelihood while the degraded environments can accelerate the process of impoverishment.

3.2 Sustainable Livelihood

The concept of sustainable livelihood was firstly introduced by the Brundtland Commission on Environment and Development and the 1992 United Nations Conference on Environment and Development expanded it to capture advocacy on poverty eradication. The concept of sustainable livelihood is an attempt to go beyond the conventional definitions and approaches to poverty eradication.

Sustainable livelihood is regarded as the ability to cope and recover from unexpected shocks as well as enhancing current and future capabilities (UN-ESCAP, 2008). Sustainable livelihood is based on capabilities, assets (both material and social resources) and activities required for a living (DFID, 2019). Sustainable livelihood however, provides access to basic needs, opportunity to thrive alongside a sense of identity and belonging (Science Direct, 2019). Livelihood can only be pronounced to be sustainable when it can cope with and recover from the stresses and shocks; not only these but also when it is always being able to maintain or enhance its capabilities and assets (FAO,2014). Livelihood should not undermine natural resource base otherwise; it would not be regarded as being sustainable. Sustainable livelihood therefore, can be defined as a means of providing for living in a manner that it can withstand unforeseen adverse conditions and does not jeopardise the future generations' ability to provide for their needs. Many authors have worked and argued in different ways that, sustainability of rural livelihoods should form the basis for improved rural development and poverty alleviation (Batterbury, 2016).

Definitions of Livelihood

Livelihood has been defined in various dimensions by different authors. Bennell (2000) defined livelihood as it comprises the capabilities, assets, and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from the stresses and shocks and maintain or enhance its capabilities and assets both now and in the future without undermining the natural resource base (Bingen, 2000). However, household livelihood is secured through adequate and sustainable access to income and resources to meet basic needs (Frankenberger et al., 2000).

The International Federation of Red Cross and Red Crescent (IFRC) (2019) defined livelihood as those acts put together to earn a living and which encompasses people's capabilities, assets, income and activities for securing the necessities of life.

Moreover, livelihood entails those activities that are performed to live for a given life span while securing water, food, fodder, shelter, clothing, medicine and the capacity to acquire aforementioned necessities of life. This can be achieved either by working as an individual or as a group for meeting self-requirements and those of the entire household on a sustainable basis but with dignity. The social scientists have extended livelihood to include total way of living. This means that an individual, family, or other social groups must engage in activities that would yield income or resources that can be used or exchanged to satisfy other needs.

Butler and Mazur (2004) defined livelihood as assets, activities and access to both; to ensure a living is gained by an individual or household. In other words, livelihood here can be summarily defined as how an individual provides for his living or needs in a decent and dignified way and sustainable manner. Chambers and Conway (1991) stated that livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. It has therefore, become very important to protect, manage, and govern the environment for livelihoods to be sustainable and agriculture is the right channel to achieve this objective. Agriculture production ought to be sustainable even though it is being exposed to risks as a result of climate change, over exploitation, over use and direct loss of habitat and species. Changes in land use and biodiversity are mostly caused by agriculture which may degenerate to underground water depletion, agrochemical pollution, soil exhaustion including global climate change. Then. The conversion of natural habitats for the production of food, fibre, timber, fuel and animal feed has been the main driver of biodiversity loss (WWF, 2010). Hence, it is high time that we put sustainable agriculture into practice in order to overcome loss of biodiversity and severity of global warming.

3.3 Concept of Sustainable Agriculture

Sustainable has its roots from the word sustain which means keeping up, supporting, enduring and prolonging. Then, sustainable agriculture implies an agricultural system

that will be prolonged, that is, it will continue to operate over a long period of time (OSU, 2019). American Society of Agronomy stated that an agricultural system is said to be sustainable if the quality of the environment is preserved at the end of production cycle and the resource base on which agriculture depends is enhanced. It could be deduced from these definitions that sustainable agriculture attempts to strike a balance between the need for food production and the preservation of the ecological system within the environment. It is equally noteworthy that agriculture is the major factor that brought fundamental global challenges such as food security, economic development, environmental degradation and climate change. The world population is projected to expand beyond 9 billion by 2050 and feeding this huge number might require about 50 percent increase in total food production. About 20 to 60 percent of the Gross Domestic Product of many developing countries comes from agriculture, providing jobs to 2.6 billion of people and also forms engine room of rural economies, contributing to local employment and ensuring food security for poorer population (CEA, 2013). The consumption of natural resource commodities keeps on increasing under the high demand of a growing population and an increase in standard of living, there is a continuing pressure for agriculture to expand. Government, bilateral development agencies and multilateral financial institutions are only dedicating significant resources to increasing agricultural yields globally but no effort is being put forward to make agriculture to be environmentally sustainable. The pressure on natural resources will continue to grow with an increase in the global population and rise in income levels, hence, the need for sustainable agriculture (CEA, 2013).

Principles of Sustainable Agriculture:

FAO (2014) presented five principles of sustainable agriculture which are complementary of one another. The Principle 1 and Principle 2 directly support the natural system while Principle 3 supports the human system. But Principle 4 and Principle 5 combine both the natural and human systems. The full application of these principles requires certain actions to be taken in order to enhance sectoral as well as cross-sectoral productivity and sustainability. The followings are the key strategies, policies, and technologies required for achieving successful implementation of the principles.

Principle 1: Improving efficiency in the use of resources is crucial to sustainable agriculture. To achieve this, key steps are recommended in crop farming. The genetically diverse portfolio of varieties, conservation agriculture, efficient use of organic and inorganic fertilizers, improved soil moisture management, and integrated pest management (IPM). Likewise, livestock farming should entail a genetically diverse base of breeds, improved resource use efficiency, balanced and precision animal feeding and nutrition and integrated animal health control. In forestry, there should be sustainable management of natural and planted forests, reduction in deforestation, improved efficiency uses of wood- based energy, development of innovative renewable forest products and tree planting to support productivity and resilience. Aquaculture should embrace aqua feed management, integrated multi-trophic aquaculture, a robust biosecurity/aquatic animal health, use of best management practices, good aquaculture practices, domestication of aquaculture species, aquaculture certification for animal health, welfare and food safety including implementation of ecosystem approach to aquaculture.

Principle 2: Sustainability requires direct action to conserve, protect and enhance natural resources. Crop farming needs to utilize better biodiversity practices such as genetic resources, IPM, use of better practices for soil and land rehabilitation, appropriate cropping pattern, better water management practices, carbon sequestration as well as setting policies, incentives and enforcement of laid down procedure. Livestock production should include animal conservation and genetics, use of grassland for biodiversity, carbon storage and water services, protect water pollution through waste management, use better practices for reduced emission intensity, then, set policies and incentives to enforce those highlighted steps. For forestry, degraded landscapes should be restored, enhance role of forests in soil protection, conservation and water resources, and ensure adequate forest management. In aquaculture, conserve aquatic genetic resources, promote aquaculture certification for environmental protection, ensure biosecurity: pathogens, use of veterinary drugs, invasive species, use of integrated aquaculture-agriculture systems and implement ecosystem approach to aquaculture.

Principle 3: Agriculture that fails to protect and improve rural livelihoods, equity, and social well-being is unsustainable. For crops, increase or protect farmers access to resources e.g., through equitable land and water tenure systems, increase farmers access to markets through capacity building, credit, infrastructure, and increase in rural job opportunities, that is, in small and medium enterprises and improve rural nutrition. Livestock production should involve adequate access to resources such as pasture, water, credit, farmers market linkage, increase job opportunities and improve nutrition to include fruits and vegetables.

Principle 4: Enhanced resilience of people, communities and ecosystems is key to sustainable agriculture. For crops, there is a need to carry out risk assessment / management and communication, prepare for or adapt to climate change, respond to market volatility e.g., encouraging flexibility in production systems and savings, engage in contingency planning for droughts, floods and pest/disease outbreak. Livestock should cover risk assessment, adaptation to climate change, as well as savings and contingency planning for droughts, floods and pest outbreak. Forests should involve increased resilience of ecosystems to biotic and abiotic hazards including climate change, prevention of the transmission of pathogens to other countries through international trade and integration of risk prevention and management into sustainable land use planning. Aquaculture should include risk assessment for pathogens, food safety, ecological and environmental biodiversity, early warning, preparedness, surveillance systems and contingency plans for aquatic emergencies and implementation of ecosystem approach to aquaculture.

Principle 5: Sustainable food and agriculture require responsible and effective governance mechanisms. In crop farming, formation of association should be encouraged, frequency and content of consultations among stakeholders should be increased and decentralized capacity should be developed. Livestock farming should encourage effective participation and also encourage formation of associations. Forest management should entail the development of personnel and institutional capacity, and the same time support good governance of rural areas. Decision making should be decentralized and local communities be empowered to promote participatory forestry. Aquaculture should ensure compliance with international treaties, standards,

agreements on sustainable aquaculture while implementing ecosystem approach to aquaculture. For fisheries, develop local governance capacity, empower local communities, adopt good governance principles and decentralize decision making.

Sustainable Agriculture: Conservation and Preservation

As a general guide to what is sustainable, the following are deserving of particular attention.

***Soil health:** Physical, chemical, microbiological properties and susceptibility to erosion.

* **Water quality:** Water to be used for irrigation must be of low salt concentrations.

* **Plant health:** Crops must be protected from insects, other pests, pathogens and competing weeds. Pests can be persistent all year-round in tropical climates.

* **Genetic homogeneity:** Genetically homogeneous crop types cultivated over large areas are susceptible to pests and pathogens that eventually overcome a plant's natural resistances.

* **Abiotic stresses:** Soil salinity, flooding, water logging, periodic drought, chemical contamination are serious impediments to crop cultivation.

* **Post- harvest management:** Uniformity in maturity, appearance, post-harvest stability during storage and transportation are properties neglected by the governments and many donor agencies despite their greater importance to urban consumers and processing industries. All harvested crops, livestock and fisheries are in varying perishable degrees, critical conditions being active moisture content and ambient temperature. In perishable produce, deterioration starts soon after harvest and in tropical climates progresses rapidly if preservation processes are not applied.

Agricultural Resources

Resources essential to agriculture may be classified as:

- *Internal:* Resources that exist and are renewable within a farm's confines;
- *External:* Resources purchased, contracted for, and imported from outside the farm.

Resources can be sub-classed as (a). Natural (b). Synthetic and manufactured (c). Socio-economic (d). Human

3.4 Concept of Rural Livelihood

A livelihood comprises the assets (natural, physical, human, financial and social capital), the activities and the access to these (mediated by institutions and social relations) that together determine the living gained by an individual or household. Thus, livelihood, according to Rahman et al., (2007) is broader than income; it includes everything done to obtain a living. And from the foregoing, rural livelihood could be explained as ability of rural households to judiciously utilize resources at their disposal by engaging in activities that enable them make a living.

Livelihood Assets / Grassroot Resources

Members of a household combine their capabilities, skills, and knowledge with different resources at their disposal to create activities that will enable them to achieve the best possible livelihood for themselves and the household as a whole. Everything that goes toward creating that livelihood can be regarded as livelihood assets. The livelihood assets available to the household represent the basic platform upon which the household livelihood may be built (Ellis, 2000). Babulo et al., (2008) regarded livelihood assets as comprising both human and non-human resources upon which livelihoods are built and to which people need access. Rakodi (1999), livelihood assets constitute a stock of capital that can be stored, accumulated, exchanged or allocated to activities to generate flow of income or means of livelihoods or other benefits.

According to DFID (2002) framework, these assets can be divided into five different types and is sometimes represented as a pentagon constituting 5 vital assets namely: Natural, Physical, Human, Financial and Social assets.

Livelihood Strategies

Livelihood strategies can be regarded as the full portfolio of activities that people undertake in order to achieve their livelihood outcomes and objectives. In broad term, it is referred to as range and combination of activities and choices that people make and undertake, including ways of using and combining assets in order to achieve their livelihood goals (Babulo et al., 2008). Ellis (2000) in his contribution posited that, livelihood strategy does not encompass only activities that generate income but many kinds of choices, including cultural and social choices that come together to make up the primary occupation of a household. Examples of such socio-cultural choices among rural households include migration of male heads of household in pursuit of

better livelihood, reliance on remittances, and pensions by retired members of household and resorting to indecent acts of begging and prostitution, all in order to make a living.

Classification of livelihood strategies

Scoones (1998) classified rural livelihood strategies into three main types according to the nature of activities undertaken. These are: agricultural intensification and extensification, livelihood diversification and migration. These categories according to Morris et al., (2002) are not necessarily mutually exclusive and trade-offs between option types and the possibility to combine elements of different options will exist. The categories are summarily discussed below.

- a. Agricultural intensification / extensification: These involved continued or increasing dependence on agriculture either by intensifying resource use through the application of greater quantities of labour or capital for a given land area (intensification) or by bringing more land into cultivation or grazing (extensification). According to Hussein and Nelson (1999), agricultural intensification refers to the use of greater amount of non-land resources (labour, inputs e.t.c.) for a given land area, so that a higher output is produced.
- b. Livelihood diversification: Diversification, as livelihood strategy has been defined by Ellis (2000) as the process by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and improve their standard of living. Diversification may be to extend the range of on-farm activities (e.g., adding value to primary products by processing or semi-processing them) or to diversify off-farm activities by taking up new jobs.
- c. Migration: This is a livelihood strategy among rural households, may be voluntary or involuntary. As a critical strategy to secure off-farm employment (i.e., needs driven), it may rely on and /or stimulate economic and social links between areas of origin and destination. Migration will have implications for the asset status of those left behind, for the role of women and on-farm investments in productivity (Scoones, 1998). Akinyosoye (2005) noted labour shortages and cost of labour in rural areas among others, as consequences of migration.

Livelihood Activities

Livelihood activities include but not limited to the set of actions of activities through which households gain their means of living. Parrot et al., (2006) divided livelihood activities into four categories mentioned below.

- a. Production activities: These are those activities that produce goods and services that contribute to income. Production activities involve integrating the classical economic classification of production factors: labour, land and capital.
- b. Reproduction activities: These are sometimes referred to as household maintenance activities and are those activities such as childcare, cooking and cleaning. These are not generally tradable but are nevertheless essential for the well being of household members and the reproduction of conditions through which a family survives.
- c. Consumption activities: These activities can be seen as satisfying material wants and needs through the provision of items such as food, clothing or medical services.
- d. Exchange activities: This relates to transfer of goods, services, or information between individuals or groups of individuals. The activities include commercial trade, barter, and gift giving. They do not necessarily involve cash or reciprocity. The exchange of goods and services is very often a significant and dynamic component of rural economies.

4.0 CONCLUSION

Concept of sustainable rural livelihood has a global recognition because of its relevance to development may it be in social, agriculture and environment to mention a few. It is the development of a nation that influence the livelihoods of both urban and rural dwellers and this will have a spill over effects on their standard of living.

5.0 SUMMARY

Concept of sustainable rural livelihood is an attempt to go beyond the conventional definitions and approaches to poverty eradication. It is said to be an analytical framework that emerged from existing studies of rural livelihoods systems or agrarian

change and community development. Because of wide applications, sustainable agriculture, livelihood strategies, livelihood activities and sustainability were also discussed.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define the term sustainability
2. Explain five principles of sustainable agriculture
3. Highlight classes of livelihood strategies with examples
4. Define rural livelihood
5. What are the elements of environmental sustainability
6. Discuss sustainable livelihood

7.0 REFERENCES/FURTHER READINGS

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UNIT 4 LIVELIHOOD AND RURAL POVERTY REDUCTION IN NIGERIA

CONTENTS

1.0 Introduction

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3.0 Main Content

3.1 Definitions and Attributes of Poverty

3.2 Types and components of poverty

3.3 Correlates and consequences of poverty

3.4 Poverty eradication strategies in Nigeria

3.5 Social capital and safety-nets

4.0 Conclusion

5.0 Summary

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1.0 INTRODUCTION

Poverty has been a hydra headed problems facing the global world including Nigeria. It is a global problem that calls for an urgent attention and solution among the key actors in the world economy. That is the reason why this unit dissects rural poverty by mentioning its types, attributes and causes of poverty and its consequences on the nation's economy. Social safety nets to cushion the effects of rural poverty are equally discussed.

3.0 OBJECTIVES

At the end of this unit, you should be able to:

- define rural poverty
- differentiate between types and components of rural poverty
- identify correlates and consequences of rural poverty
- define different types of social capital
- explain methods of implementing safety-nets
- discuss poverty eradication strategies in Nigeria.

3.0 MAIN CONTENT

3.1 Definitions and Attributes of Poverty

Balami et al., (1999) opined that since poverty affects many aspects of the human condition including physical, moral and psychological, a concise and universally accepted definition of poverty is elusive. The Human Development report (1997) defined poverty as deprivation in the valuable things that a person can do or be. In other words, poverty is a socioeconomic condition of a person's inability to adequately cater for his basic needs of survival. The World Bank report (2001) classified poverty in terms of lack of access to resources by individuals which leads to a state of powerlessness, helpless, and despair, inability to subsist and protect oneself against economic shocks, social, cultural and political discrimination and marginalization among others.

The National Policy on Poverty Eradication in Nigeria (2000) summarises the main attributes of poverty as follows:

- Not having enough food to eat
- Poor drinking water
- Poor nutrition
- Unfit housing
- A high rate of infant mortality
- Low life expectancy
- Inadequate health care
- Lack of productive assets
- Lack of economic infrastructure
- Inability to participate in decision making process
- State of powerlessness and helplessness
- Deprivation and lack of rights
- Defenselessness, insecurity, vulnerability and exposure to risks, shocks and stress.

The World Bank report (2000) revealed that about 51% of Nigerians are without access to safe portable water while 56% do not have access to sanitation and hygiene. In Nigeria, incidence of poverty has been on the increase, rising from

28.1% in 1980 to 44% in 1992 and 65.6% in 1996 but reduced to 54.4% in 2004 (NBS, 2006). Moreover, 70.8% of the population reported to have lived on less than \$1.25/day (international extreme poverty line) in 2005 (UNDP, 2007). The recent multidimensional poverty indices developed and applied by Oxford Poverty Human Development Initiative (OPHI) for the UNDP estimated the Multidimensional Poverty Index (MPI) for the poor in Nigeria at 63.5% income poor (\$1.25 a day) at 64%, income poor (\$2 a day) at 84% and Human Development Index (HDI) at 0.511 (UNDP, 2009; OPHI, 2009).

However, poverty disproportionately affects women, children, the elderly, and people with disabilities (PWD). In some communities within Nigeria, women have low social status and are restricted in their access to both education and income generating work. Women without adequate income commonly depend on men for support, but often get little or nothing. Neither poor families nor the government of Nigeria can adequately support the non-working class while the poor children suffer the consequences through high rates of child morbidity and mortality. Thus, the rate of poverty in Nigeria has worsened since the late 1990s, to the extent that the country is now considered as one of the 20 poorest countries in the world. Over 70% of the population is classified as poor with 35% living in abject poverty (IFAD, 2007).

3.2 Types and Components of Rural Poverty

Economists tend to view poverty as a distance on a continuum towards zero purchasing power while its polar opposite – affluence, is a distance on the same continuum toward full purchasing power. The conception in terms of purchasing power is acceptable and useful when considering ‘who is able to get what’ in the society. Three major types of poverty have been revealed by previous findings. These are; a. Absolute, b. Relative, and, c. Zero-sum poverty.

- a. *Absolute poverty or destitution* is defined as misery linked to an insufficient resource base, lack of income, narrow margin, high risk of failure, hunger, disease etc.
- b. *Relative poverty* is misery linked to experiencing outcomes which are less satisfactory than those of relevant others while not being able to do much about

improving one's own outcome so that one has to adapt one's aroused aspirations to one's inescapable unsatisfactory outcomes instead of through innovation.

- c. *Zero-sum poverty* is also a misery on the other hand linked to patronage, oppression, exploitation, usurpation, extraction and abuse by powerful others.

Consequently, poverty in the rural areas is a combination of all the types mentioned above and for ease of assessment and measurement, the World Bank Glossary of Poverty and Human Development (1997) breaks down the concept of poverty into the following components;

1. Poverty line or poverty threshold: This is the basic or lowest amount of money an individual needs to survive by per day. In 1985, the World Bank set an international poverty line at US\$1 per person per day for the purpose of international comparison but presently, it has been reviewed to US\$1.25 per day per person. Notwithstanding, nations are expected to establish their own poverty lines using either 'cost of basic needs' (food and non-food items) methods, 'food or dietary energy intake' method, or 'food share' method.
2. Functioning and capability: The functioning of a person refers to the valuable things the person can do or be (such as being well nourished, living long and taking part in the life of his community) while the capability of a person stands for the different combinations of functioning the person can achieve.
3. Vulnerability: This is susceptibility to being poor. It has two faces – external exposure to shocks, stress and risk; and internal defenselessness, a lack of means to cope without suffering damaging loss. For instance, female-headed households are found to be particularly vulnerable to poverty.
4. Ultra-poverty: This is a condition where a household cannot meet 80% of the FAO-WHO minimum calorie requirements even when using 80% of its income to buy food.
5. Transient and chronic poverty: Transient poverty is short lived, temporary or seasonal poverty condition while chronic poverty is a long term or structural poverty.

6. Depth of poverty: Is the average distance below the poverty line expressed as a proportion of that line. This average is formed over the entire population, poor and non-poor. This is also referred to as poverty gap, it shows the average distance of the poor from the poverty line and it is able to capture a worsening of their conditions.
7. Incidence of poverty: This happens when poverty is expressed as a headcount ratio and it is simply an estimate of the percentage of people below the poverty line.

3.3 Correlates and Consequences of Poverty

Economic development experts, psychologists and sociologists have traced poverty in the past to the personal characteristics of the poor, lack of motivation to achieve, laziness, fatalistic outlook to life, etc. Political scientists also linked poverty to colonial exploitation, neo-colonialism, instability of government, internal colonialism, globalization, tribalism, corruption, etc. In most instances, the causes and effects of poverty interact in that what makes people poor also creates conditions that keep such people poor. Nevertheless, the major factors that correlate with (rather than directly cause) poverty include the following;

1. Overpopulation: A family with ten children will most probably be poorer than one with two, every other thing being equal. If two countries have the same aggregate GDP, the one with a smaller population will have a higher GDP per capita and therefore fewer poor citizens. Aside that, number of people to provide for, age, sex ratio and fertility rates equally affect the level of poverty.
2. Resource base: This refers to the amount and variety of natural resources that are potentially available in the society. It also includes the level of expertise or technology available locally to tap, exploit and develop.
3. Wars and instability of government: Frequent violent change in government and lack of continuity in government developmental programmes translate to perpetuation of poverty among the governed. Wars dislocate people, making them refugees and prevent them from making a living which produces orphans, widows and disabled that form the bulk of the poor.

4. Illiteracy, inadequate education and unemployment: Education has to do with the development of human capital, work skills and earning potentials. It has to do with social and political participation, that is, the latitude of freedom, self-respect and fundamental human rights a person can enjoy in his community.
5. Mismanagement and insensitive leadership: When funds meant for the execution of poverty alleviation programmes are diverted, the people cannot obviously move forward. When leaders are selfish and insensitive to the plights of those they rule, then poverty cannot be helped. Others are;
6. Neglect of rural infrastructure
7. Environmental problems
8. Civil unrest
9. Inequality in income distribution
10. Economic orientation
11. Rapid increase in population
12. Over-dependent on oil exports
13. Domestic policy mistakes, etc.

Consequences of Rural Poverty

The effects of poverty are evident in the inability to feed well, poor health and high susceptibility to health problems; infant mortality, low life expectancy, poor housing or lack of shelter, single parent families, street children due to parental neglect or abuse, inability to send children to school, high school drop-out rates, mental derangement, prostitution, development of slum settlements in cities, increased male out-migration from rural to urban areas in search of menial jobs, restiveness among unemployed youths, increase in drug abuse and violent crimes, loss of self-esteem, powerlessness or inability to participate meaningfully well in social and political life.

3.4 Poverty Eradication Strategies in Nigeria

Despite being a member of United Nations Organisation, several factors have kept Nigeria in the list of poverty striking nations. These include the long period of oppressive military rule which culminated in its exclusion from Commonwealth in 1995; corruption at high places; insincerity of implementers of poverty alleviation

programmes; gross under-development of natural resources; exclusion or inadequate involvement of stakeholders in needs identification, project execution and evaluation; international debt servicing burden etc. But over the years, Nigeria has embarked on various health, educational, economic, political, social and cultural reforms either on its own initiative or as a response to internationally agreed action plans on poverty alleviation. However, the United Nations through its development system in Nigeria and its development assistance framework is cooperating in joint and parallel development efforts to improve the standard of living of Nigerians. The UNDP, IFAD and the World Bank have assisted various states to execute poverty reduction projects by way of self-employment and increased food production. Foreign donors such as Global 2000 and other NGOs have achieved over 98% guinea worm eradication success as of 2003 and assisted in sinking boreholes for safe drinking water.

Nigeria has equally established specialized ministries at the federal and state levels for the Environment; Women and Youths and liberalized participation of women in all levels of governance. There are women ministers, legislators, senators, deputy governors, judges, heads of very sensitive organisations such as the customs, Drug Law Enforcement Agency and universities; women pilots, etc. First ladies at all levels have also engaged themselves in poverty alleviation programmes through their work with the girl child, rural women empowerment, prevention of prostitution and trafficking among young unemployed girls and abuse through sexual harassment and rape. Human Rights Lawyers have filed many litigations in the court of law to defend the voiceless and the vulnerable in the society. Federation of Women Lawyers has also defended the rights of widows and other women who are poor and defenceless. More classrooms are being built through Universal Basic Education and the World Bank and school enrolments have doubled in most states of the federation. Meanwhile, the poor include not only the rural dwellers but retirees who have not been paid their due retirement benefits and pensions including able-bodied unemployed, the majority of which are first degree holders. It is concluded that Nigeria is yet to move fully into gearing its resources to attain poverty eradication but owing to its consolidated democracy, Nigeria will eventually come to that stage within the century.

3.5 Social Capital and Safety-Nets

Social capital: is a sociological concept used in business, economics, organizational behaviour, political science, public health and the social sciences in general to refer to connections within and between social networks. It can be defined as general problems solving approach for the problems of modern society because it shares the core idea that social networks have value. Social capital refers to networked ties of goodwill, mutual support, shared language, shared norms, social trust, and a sense of mutual obligation that people can derive value from, hence, it is about value gained from being a member of a network. For instance, using a tractor for farming (physical capital) or university education (human capital) can increase productivity for both individual and group so do social contacts affect the productivity of individual and groups.

According to Woolcock (2001), there are three types of social capital. These are;

1. Bonding social capital: This refers to ties between people in similar situations such as immediate family, close friends and neighbours.
2. Bridging social capital: This encompasses more distant ties of like persons such as loose friendships and workmates.
3. Linking social capital: This implies ties among unlike people in dissimilar situations such as those who are entirely outside of the community.

Social Safety-Net: This is a system of available payments in cash or in kind which will keep people's incomes from falling below some socially accepted minimum level. It is a mode of payment that covers old people, the sick, disabled, unemployed etc. Social safety net is a non-contributory transfer programme seeking to prevent the poor or those vulnerable to shocks and poverty from falling below a certain poverty level. Safety net programmes are mostly executed by public sector (federal, state, or aid donors), private sector such as private firms, charity organisations, NGOs, and informal household transfer.

Methods of Implementing Social Safety-Nets

Adequate transfer programme incorporates at least a system to target beneficiaries, to register them, set up programme conditionality, to make payments and to monitor and evaluate its performance. More importantly, a stakeholders' strategy that clearly

assigns specific tasks and responsibilities to each agent is critical for the success of the programme. It is noteworthy to acknowledge that every intervention is unique in its complexity, needs to be adapted to local circumstances and requires a fluent communication mechanism and a solid data process system. The methods involved are as follows.

- Cash transfers
- Food based programmes such as supplementary feeding scheme and food stamps, vouchers, and coupons
- In-kind transfers such as school supplies and uniforms
- Conditional cash transfers
- Price subsidies for food, electricity or public transport
- Public works
- Fee waivers and exemptions for health care, schooling and utilities

Beneficiaries of Safety-Nets Programme

- a. The chronic poor: This is category of people who are extremely poor to the extent that hardly they can afford good meal per day. Even in good times these households are poor and can be mostly found in rural areas.
- b. The transient poor: This group lives near the poverty line, and may fall into poverty when an individual household or the economy faces hard times. Unemployed or underemployed households fall into this category.
- c. Those with special circumstances: These are sub-groups of the population for whom general stability and prosperity alone will not be sufficient. Their vulnerability may stem from disability, discrimination as a result of ethnicity, displacement due to conflict, drugs and alcohol abuse, domestic violence or crime.

4.0 CONCLUSION

Social safety-nets and social capital are very important and necessary particularly among the rural poor in order to lift their income above poverty level. There are different types and methods of implementation are very clear for any organisation or government to implement so as to assist the rural poor.

4.0 SUMMARY

Social safety-net and social capital are strategies that brings about poverty reduction among the households in social system. There are several examples such as cash transfer, conditional cash transfer, public work force, and food-based safety nets programme. Different types of social capital were equally discussed in this unit.

6.0TUTOR-MARKED ASSIGNMENT

1. Define the following terms.
 - (a) Poverty
 - (b) Social capital
 - (c) Social Safety-net
2. Explain consequences of poverty
3. Enumerate poverty eradication strategies in Nigeria
4. Discuss methods of implementing safety-nets
5. Who are the beneficiaries of safety-nets?
6. Highlight different types of social capital

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DEPARTMENT OF DEVELOPMENT STUDIES

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MODULE TWO: BASIC CONCEPTS OF FOOD AND NUTRITION

Unit 1 Malnutrition and Food Security

Unit 2 Households Food Security

Unit 3 Population and Food Security

Unit 4 State of Food Security and Nutrition in The World

UNIT 1: MALNUTRITION AND FOOD SECURITY

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2.0 Objectives

3.0 Main Content

3.1 Global trends in malnutrition

3.2 Malnutrition in Nigeria.

3.3 What is Malnutrition?

3.4 Linking Food security and Malnutrition

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/ Further Readings

1.0 INTRODUCTION

This unit discusses the trends in malnutrition in the world at large and in Nigeria. The link between food security and malnutrition is also highlighted.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Appreciate the current global trends in food security and malnutrition
- Understand the state of malnutrition in Nigeria.
- Have basic understanding of malnutrition and different forms of malnutrition.
- Understand the linkage between malnutrition and food security.

3.0 MAIN CONTENT

3.1 Global trends in malnutrition

Food systems and diets all over the world are changing as a result of uneven economic growth, social and economic transformations, climate change as well as rapid technological shifts. This has left to the question of how to feed the growing world population in a sustainable way.

All over the world, over 800 million people are considered to be undernourished. It is also estimated that there will be over 2 billion people who are likely to fall into starvation by the year 2050. Out of this, more than one eighth of adults are obese, one third of women of reproductive age are anemic due to malnutrition deficiencies and 151 million children under five are stunted. One in nine people in the world now faces hunger. Africa is the region with the greatest prevalence of hunger in the world with one in every five people experiencing hunger. The upward trend in the world hunger indicates that the goals of ending hunger and ensuring access to food for all by 2030, still remains a mirage. In other words, this right to adequate living standards for the people has however been violated in many developing regions of the world due to poverty, climate change, conflict and others. As a result, the then UN proposed 'Zero Hunger Challenge by 2012 could not be achieved.

Subsequently, in 2015, UN Member States(Nigeria inclusive) adopted the Sustainable Development Goals in which the eradication of world hunger was listed as Goal 2 , expected to:

By 2030 end hunger and ensure access by all people , (in particular the poor and people in vulnerable situations, including infants) to safe, nutritious and sufficient food all year round.

By 2030, end all forms of malnutrition, including achieving, by 2025, the internationally agreed targets on stunting and wasting in under five years of age, pregnant and lactating women and older persons.

The COVID -19 pandemic in 2020 and lockdown placed significant pressure on agricultural production, disrupted global value and supply chain, further raising the issues of malnutrition and inadequate food supply to households with the poorest of them all gravely affected. In other words, the food security and nutritional status of the most vulnerable population is likely to deteriorate further because of the pandemic

3.2 Malnutrition in Nigeria.

The most recent Nigeria Multiple Indicator Cluster Survey (MICS) 2016-2017 was conducted by the National Bureau of Statistics(NBS) in collaboration with UNICEF to collect data on main indicators related to the survival , development and protection of children, women and men.

(MICS) is a global programme developed by the United Nations Children's Fund (UNICEF) as an international household survey programme to support countries in the collection of internationally comparable data on a wide range of indicators which enable countries to monitor progress towards the Sustainable Development Goals (SDGS) and other internally agreed commitments of the government. The 2017 MICS report highlights nationwide increase in child malnutrition in Nigeria. The result of the survey revealed that three in ten of the under 5 years have acute or chronic malnutrition,two in five children under five years are stunted and i in 5 children under five are severely stunted.

Similarly, the most recent National Nutrition and Health Survey (NNHS) was conducted between February and June 2018 and it covered 37 domains (36 States and Federal Capital Territory(FCT). The main objective of the survey was to assess the

current nutrition status of the population (especially children and women of reproductive age) at state, zonal and national levels.

The result, of NHHS survey disaggregated by gender show children and women from states in the northern geopolitical zones, boys(as compared to girls), younger children(0-23 months old compared to the 24-59 months old) and teenage women(compared to older women 20-49) at a higher risk of malnutrition. The implication of this to all stakeholders is that efforts to invest in nutrition should be sensitive to geographic location, gender and age of target population in order to reduce acute and chronic malnutrition levels to below 5 percent and 20 percent respectively, as envisaged in the national and international goals And also, improving the first 1000 days window and in adolescent girls is critical to improving nutrition status of the entire population of Nigeria.

3.3 What is Malnutrition?

Malnutrition is a dietary deficiency which occurs occurs when the human body contains insufficient, excessive or imbalanced consumption of nutrients. It essentially means poor nutrition or a lack of food. Malnutrition happens when the intake of nutrients or energy is too low, too high or poorly balanced. Malnutrition can affect people of all ages and gender. It is however more prevalent in developing than developed countries. All forms of malnutrition stem from the same root causes: poverty, inequality and poor diets.

Types of Malnutrition

Malnutrition takes many forms:

Under-nutrition: Under-nutrition means inadequate energy or nutrients . This is when a person;s diet is lacking in nutrients and does not provide required amount of calories and protein for maintenance and growth. Under nutrition is also experienced when the body cannot make use of consumed food , perhaps as a result of illness.

Over-nutrition: This occurs when a person's diet is too much for the body to cope with. This usually happens when a person chooses to eat more food than the body needs. And in rare cases, over-nutrition is caused by excessive intake of supplements.

Acute malnutrition

Acute malnutrition takes place when people do not have adequate nutrition leading to rapid weight loss or 'wasting'.

Chronic malnutrition

The first 1000 days from conception to two years are pivotal in determining a child's destiny. In this short time frame, the damage done by poor nutrition can cause stunting-impaired development as a result of chronic malnutrition with irreversible damage to children's bodies and brains.

Vitamin and mineral deficiencies

Deficiencies of essential vitamins and minerals (micro nutrients) leaves people to susceptible to infectious diseases, impaired physical and mental development, reduced labour productivity and increased risk of premature death.

3.4 Linking Food security and Malnutrition

Whereas, food security is a situation when all people, at all times have physical and economic access to sufficient, safe and nutritious food that meets that dietary needs and food preferences for an active and healthy life, malnutrition results from deficiencies, excesses or imbalances in the consumption of macro and/or micro nutrients. The low affordability of certain food caused by poverty and income inequality contribute to undernourishment, obesity and other micro nutrient deficiencies.

Malnutrition is sometimes an outcome of food insecurity. Undernourishment on the other hand, is as a result of insufficient food intake leading to stunting or

wasting. Stunting is having low height for current age while wasting means having a low weight for current age. Food insecurity is demand or supply deficit relative to requirements at any time. And food insecurity more often than not includes malnutrition and under nutrition. Also, hunger can be felt over a short time periods while being well/ over- nourished is a longer term variable. One may be undernourished but not feel hungry and vice- versa.

The right to adequate food is universal and good nutrition is essential for all. Although young children are the most vulnerable to malnutrition, problems of malnutrition exist in all countries and cut across socio-economic classes. Besides being a source of energy to live and be active, good nutrition help defend the body against diseases. Inadequate diets can lead to many nutritional problems for. When this food deficits affect youngsters, their future could become compromised, perpetuating a generational cycle of poverty and malnutrition.

Whereas, individuals have access to to sufficient, safe and nutritious food that meets that dietary needs and food preferences, malnutrition is sometimes an outcome of food insecurity. It results from deficiencies, excesses or imbalances in the consumption of macro and/or micro nutrients. The low affordability of certain food is mostly caused by poverty and income inequality. As a result, the prevalence of overweight and obesity are increasing while under-nutrition and other micro nutrient deficiencies persist. Undernourishment on the other hand, is as a result of insufficient food intake leading to stunting or wasting. Stunting is having low height for current age while wasting means having a low weight for current age.

The lack of regular access to nutritious and sufficient food puts people them at greater risk of malnutrition. If current trends continues, it may be difficult to meet the 2030 SDG target of halving the number of stunted children and the 2025 World Health Assembly target to reduce the prevalence of low birthweight by 30 percent.

4.0 CONCLUSION

The upward trend of world hunger and malnutrition underscores the immense challenge of achieving the Zero Hunger target by 2030. This is because the number of

hungry people in the world is on the increase, making it difficult to end hunger and ensure access to food for all.

5.0 SUMMARY

The world over, food systems and diets are changing making as a result of many socio-economic factors. Food insecurity and malnutrition is increasing. The trends of overweight and obesity give us additional reason for concern. In every continent, the prevalence rate is slightly higher among women than men.

6.0 TUTOR-MARKED ASSIGNMENT

1. Give an overview of the current trend in global malnutrition and the state of malnutrition in Nigeria
2. Explain the term malnutrition and state the different forms.
3. Explain the relationship between food security and malnutrition.

7.0 REFERENCES/ FURTHER READINGS

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UNIT 2 : HOUSEHOLD FOOD SECURITY

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content

3.1 Defining household food security

3.2 Food security trends

3.2 Dimensions of food security

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/ Further Readings

1.0 INTRODUCTION

This unit explains the concept of household food security including the various dimensions of food security

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- explain the concept of household food security
- Understand the significance of the different dimensions of food security

3.0 MAIN CONTENT

3.1 Defining Household Food Security

Household food security exists when all the people living in the household have physical, social and economic access to sufficient , safe and nutritious food at all times that meets their dietary needs and food preferences for an active and healthy life (FAO, 2014).

Food security also implies that the people who produce,transport, process, retail and serve our food are able to earn a decent living wage doing these various activities along the food value chain. Multiple factors responsible for responsible for food

insecurity include population growth, climate change, increasing cost of food, unemployment, poverty and loss of biodiversity.

Food security involves more than the amount of food available. While food security is commonly defined as a dichotomy (either it exists or it does not), it can vary by degree, over time, from household to household, or among communities. The conceptualization of food security reflects an evolution in the field. In the 1970s, food security was considered largely a function of food production, as evident in the World Food Conference in 1974 (Anderson and Cook 1999; Maxwell 1996; Baro and Deubel 2006). Sen (1981) is widely credited for introducing the concepts of entitlements and access to food security scholarship. Hence the common definition of food security rests on three pillars: food availability, food access, and food utilization (Webb et al. 2006; Ericksen et al. 2011).

3.2 Food security trends

The right to adequate living standards for all people was first addressed as a fundamental human right in the Universal Declaration on the Eradication of Hunger and Malnutrition and has always been considered as one of the most important rights throughout history. However, this right in many underdeveloped regions of the world has been violated due to extreme poverty, population explosion, conflict and climate change.

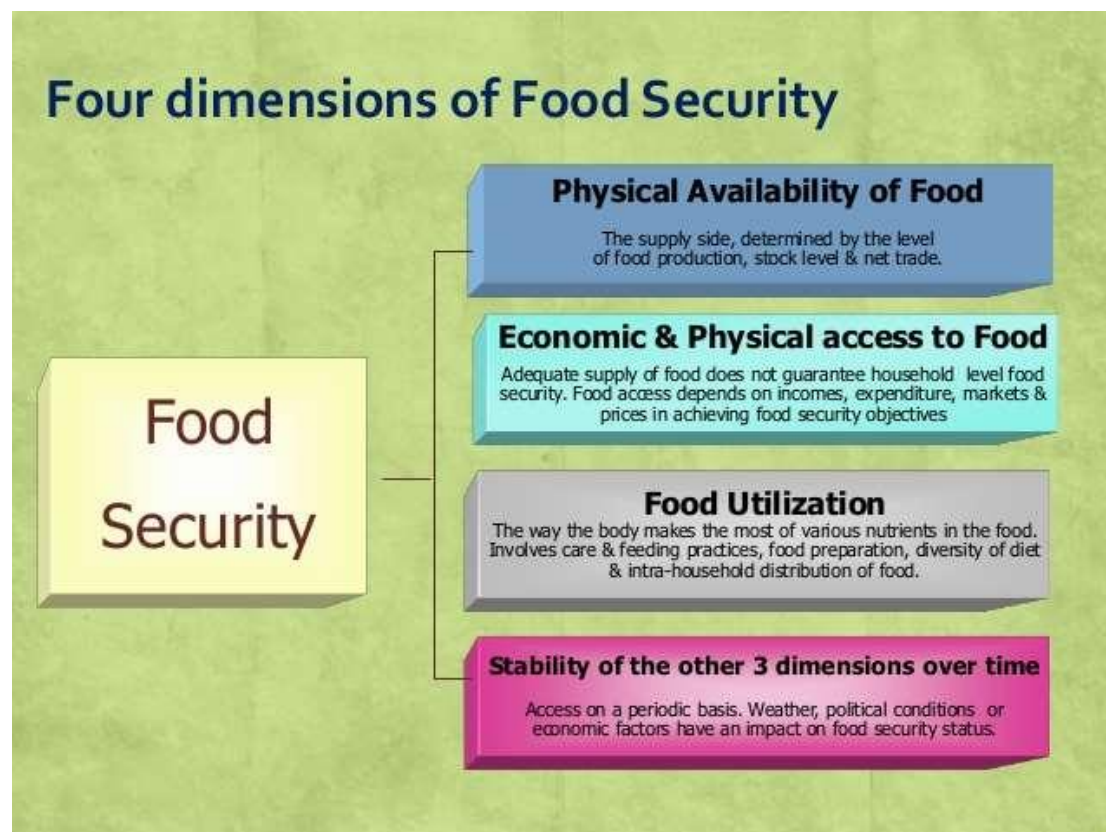
From the global data of 821 (Poulsen et-al 2015) million food insecure people, Asians, Sub-Saharan Africa and the Pacific Islanders make up 30 percent (276 million) of these food insecure population (Vallianatos, 2017). Women of reproductive age and children are reported to be exceptionally vulnerable to food insecurity. Due to social and cultural norms, women frequently reduce their own food intake to provide for their children thereby reducing their dietary intake and this leads to micro nutrient deficiencies.

In Nigeria, household food insecurity affected 13.6 percent of households with children in 2019. In some of these food-insecure households only adults were food

insecure, while in others children also experienced food insecurity. In 7.1 percent of households with children, only adults were food insecure.

3.3 Dimensions /Pillars of food Security

Food Security has four interrelated pillars: (1) food availability concerns production, markets and other issues that determine whether food is physically present in a given context; (2) food access concerns the factors which determine whether or not people can obtain sufficient food; (3) food utilization depends upon factors that determine how people store and use food, feeding practices and health status (e.g., elderly, lactating women); and (4) food Stability, which is the ability of people to rely on food's availability and access.



Physical and economic access: An adequate supply of food at national and international levels does not guarantee household level food security. In order to achieve food security objectives, there is need eliminate or reduce to the barest minimum, the problems of insufficient food access through policies that focus on income, expenditure, markets and prices

Physical availability of food addresses the supply side of food security and is determined by the level of food production, stock levels and net trade. Food can be accessed through collection of wild foods, barter, trade, gifts as well as community networks.

However, food access is influenced by market factors , price of food and individuals purchasing power(related to employment and livelihood opportunities).

Food utilization could mean the way the body makes the most of the various nutrients in the food. Food preparation, diversity of the diet, feeding practices and good care, intra-household distribution of food all determine whether or not,an individual gets sufficient energy and nutrient from food.

Stability is time-bound. That is how the other three dimensions of food security play out over time. If an individual's food intake is adequate today, he or she may still be considered food insecure if exposed to inadequate access to food on a periodic basis, with a risk on deterioration of nutritional status.. Other factors that may impact stability in food security status are adverse weather conditions and changes in climate (drought, floods), unemployment, rises in food prices as well as political instability (social unrest, conflict).

In defining food security, the phrase “all people, at all times” refers to the stability dimension of food security and is key to achieving national food security objectives. This is because different people are food secured to varying degrees and are affected by same adverse effects differently. In other words, assessment of food security status varies between different groups of people, differently located with varied wealth

status. As such, most humanitarian and development agencies differentiate between groups according to their source of livelihood (source of food and income). Thus, food availability at all times emphasizes the importance of having to reduce the risk of adverse effects on the other three dimensions: food availability, access to food and food utilization.

It is therefore important to note that each of the food dimension has added value to earlier understanding of food security and all must be fulfilled simultaneously for food security objectives to be realized. For example, while there has been a growing realization of the importance of the food access dimension, it has not displaced earlier concerns about adequate food availability. For example, even if people have money to buy food (accessibility), the food has to be available in the market else, the people are still at risk of food insecurity. Similarly, understanding about food utilization shows that food security is not only about the quantity of food consumed but also about the quality, and the body should be healthy enough to allow for absorption of the nutrients. Finally, all the three dimensions must be stable over time and not negatively affected by natural, social economic or political factors.

4.0 CONCLUSION

The lack of regular access to nutritious and sufficient food put people at greater risk of malnutrition. If current trends continue, neither the 2030 SDG target to halve the number of stunted children, nor the 2025 target to reduce the prevalence of low birthweight by 30 percent.

5.0 SUMMARY

Food security also involves issues of food accessibility and utilization. Food security is an integral part of people's well-being and this fundamental human rights remains a challenge till today.

6.0 TUTOR-MARKED ASSIGNMENT

1. Explain the concept of household food security.

2. The various dimensions of food security are interdependent. True or False, Explain .

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UNIT 3: POPULATION AND FOOD SECURITY

CONTENTS

1.0 Introduction

2.0 Objectives

3.0 Main Content

3.1 Population

3.2 Relationship between food security and population

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/ Further Readings

1.0 INTRODUCTION

This unit discusses population, food security and the interaction between the two.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Have an overview of population dynamics
- Understand why population matters to food security

3.0 MAIN CONTENT

3.1 Population dynamics

The United Nations develops low, medium, high, and constant population projections for every country and region in the world, and the UN medium projection estimates that population in sub-Saharan Africa will more than double by 2050 to almost 2 billion. This medium projection assumes that fertility will decline from 5.1 children per woman today to 3.0 children by 2050. Even the less-optimistic high population projection of 2.2 billion people in sub-Saharan Africa by 2050 assumes a decline to 3.5 children by 2050. One in seven people around the world today are chronically hungry, lacking enough food to be healthy and lead active lives.

The Food and Agriculture Organization projects that by 2050, population and economic growth will result in a doubling of demand for food globally. Population growth will greatly increase the amount of food needed to adequately feed sub-Saharan Africa's people. Despite impressive reductions in child mortality and improvements in life expectancy, Women's reproductive health lags behind and birth rates remain high. Women in the region have on average 5.1 children, a decline from 6.7 children in 1970 but still more than double the world average of 2.5 children. At the same time, almost 40 percent of sub-Saharan Africa's population is under age 15 and have yet to enter their reproductive years. Consequently, the reproductive choices of today's young people will greatly influence future population size and food needs in the region. 40% of the population is under age 15, and their reproductive choices will greatly influence future population size and food needs.

The rapid growing populations of developing countries, including that of Nigeria are worrying. This is because developing countries are characterized by a shortage of resources, developing infrastructures and increasing environmental degradation. In such a scenario, population growth simply means the division of already scarce resources, incremental environmental impacts and incremental strains on infrastructure. Moreover, the rate of population growth in most developing countries far exceeds the infrastructure growth. This translates into more traffic congestion, higher air pollution, higher rates of resource production, water scarcity and a greater burden on the environment and people.

Population expansion also means more mouths to feed, more children to teach and more job requirements. A combination of population growth and higher consumer expectations means there is the need to produce more food to be able to supply the growing population. This means that demand for food production and food will keep increasing, however, will supply be following it to meet an equilibrium?

Growing more food will create enormous strains on land, water, energy and other natural resources. The three main factors that have affected recent increases in world crop food production are increased cropland and rangeland area, increased yield per

unit area, and greater cropping intensity. Limitations on food production include shortages of fresh water, competing uses of land, land degradation and water degradation.

Factors responsible for population growth as examined by Chavis (2010) are many and this includes; lack of birth control, low mortality rate, religious beliefs and financial incentives. Tasim (2010) argues that population growth rate is influenced by the interplay of the three main demographic process of fertility, mortality and migration. Nigeria has the highest growth rate of an average of 2.54 of India and United State. Some of the factors leading to this include crude birth rate of about 44 per 1000, relative high fertility level with a rate of 6.0 live-births per woman in the 1990s (AbduRahaman, 2013). According to , multiculturalism and multi-religionism characterize Nigeria and this have potential impact on sustainable development which include food security Olagunju and Alaverdyan (2016) . Other factors that contribute to high population in Nigeria are the high rate of immigrants from neighboring countries of Niger, Chad, and Cameroun, low mortality rate due to improve sanitary conditions, medical facilities and absence of natural calamities in form of flood, earthquake, and other man-made calamities.

3.2 Relationship between Food Security and Population

Nutrition insecurity is growing worse in Africa due to increasing population growth and poor progress in efforts directed at reducing food insecurity in the continent. According to the empirical studies carried out by Ogunniyi et al., (2018) on 15 Sub-Saharan Africa countries, the average dietary energy supply adequacy of country and average value of food production continue to reduce as population continues to grow implying that reduction of hunger becomes more difficult with population growth. Increasing numbers of people often drive up demand for food, which typically results in additional use of arable land and water. This is especially true in the absence of

adequate food production technology and integrated programs that simultaneously address community needs for food and reproductive health.

Food security exists when people have unconditional access to adequate food with the necessary nutrients to sustain healthy life styles. According to FAO, food security is different from famine even though both states have some close relationship. Population refers to the number of people in a particular area at specific time. Population growth in turn explains the rate at which the occupants of a certain area increase over a specific period of time, like a year.

Food security as a function of population growth can be evaluated from the vulnerability point of view. Vulnerability is the reduced or diminished ability of the rising populations to cope with or resist the effects of increased numbers. A rapid population growth results to a direct mismatch between the resources against the population and this results in food insecurity. Food is a basic need for the survival of all humankind and continuity of life. High population growth triggers a state of self-insufficiency in food for the populace. The insufficiency results from the fact that the increasing populations exert excess pressure on the available resources which eventually translates into low food productions and food insecurity creeps in to the country as a result. Population outburst or any unmatched population growth in a country is deterrent to the achievement of food security (Shutao Gao, 2010)

Most of the countries with the highest numbers of people facing food insecurity also have high fertility rates and rapid population growth. This increases the challenge of adequately meeting nutritional needs. Sub-Saharan Africa has the highest population growth rate in the world. By 2050, even if fertility rates decline, the population of the region is projected to more than double. This area also holds the largest proportion of food-insecure people, with one in four people undernourished.²² Sub-Saharan Africa also has the lowest agricultural productivity in the world and the highest percentage of people living in poverty

Food production depends on croplands and water supply, which are under strain as human populations increase. Pressure on limited land resources, driven in part by

population growth, can mean expansion of cropland. This often involves destruction of vital forest resources or over exploitation of arable land. Globally, the world is becoming more urban. Although urban residents have access to a wider array of foods, without land to farm, their food security is dependent on their income and ability to purchase food products. Poor families in urban areas spend up to 60 percent of their budget on food, and low incomes combined with high prices can increase their risk of hunger and malnutrition.

Research has shown that there is a negative relationship between population growth and food security in Nigeria possibly due to the fact that majority of the active population are involved in non-farm activities. One percent increase in Nigerian's rate of population growth is actually associated with 29.9 units decrease in food output. It is therefore recommended that Nigeria should passively control her population if the country is serious about her food security pursuit.

4.0 CONCLUSION

There is a direct relationship between food security and population growth. The increased populations against unmatched expansion in the resource base results in undue pressure on the existing resources in the country. The net effect of the pressure on resources is a reduction in food or agricultural productivity. Large populations also cause a cost push demand which has seen the food prices on the rise.

5.0 SUMMARY

Population growth has a vital impact on the world. Food security is vulnerable to population growth. This is due to the constant growth of the world's population, and the rapid consumption of food. Furthermore, countries which do not have sufficient resources are under ongoing pressure. It is therefore important to resolve the problems associated with population growth.

6.0 TUTOR-MARKED ASSIGNMENT

1. Explain the link between population and food security

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POPULATION AND FOOD SECURITY:AFRICA’S CHALLENGE
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UNIT 4: STATE OF FOOD SECURITY AND NUTRITION IN THE WORLD

CONTENTS

1.0 Introduction

2.0 Objectives

3.0 Main Content

3. 1.Global trends in Food security and nutrition

3.2 Role of Food and Agriculture Organization (FAO) in Food Security and Nutrition

3.3 Role of Food and World Food Programme (WFP) in Food Security and Nutrition

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/ Further Readings

1.0 INTRODUCTION

This unit highlights global trends in food security and malnutrition. The roles of FAO, WFP and World Hunger Relief Organization in ensuring an hungry free world are explained.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Identify the different international programmes on food security and malnutrition
- Analyze the roles of FAO, WFP and other Organizations in the current food security and nutrition dynamics.

3.0 MAIN CONTENT

3.1 International programmes on Food Security and Malnutrition

The Universal Declaration on the Eradication of Hunger and Malnutrition was first adopted by the UN General Assembly in 1974. And in the declaration, ‘Every man, woman and child has the inalienable right to be free from hunger and malnutrition in order to develop fully and maintain their physical and mental faculties’. This declaration thus express the strong concern even by international communities in tackling food security issues.

Malnutrition causes health problems and losses in economic productivity, including GDP losses. Over the course of their lifetimes, malnourished individuals can earn 10 per cent less than those who are well-nourished. Without access to adequate, affordable, nutritious food, generations remain trapped in poverty, unable to take advantage of educational and job opportunities to fulfil their potential. And to end hunger, achieve food security ,ensure universal access to safe and nutritious food and to end all forms of malnutrition, SDGs also has programmes on nutrition. Specifically, by 2030, these programmes are expected to achieve certain objectives to:

- double the agricultural productivity and incomes of small-scale food producers (in particular women, indigenous peoples, family farmers, pastoralists and fishers), through securing equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment.

-ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.

- maintain the genetic diversity of (seeds, cultivated plants ,farmed and domesticated animals and their related wild species) through soundly managed and diversified seed and plant banks at the national, regional and international levels, and promote access to and fair and equitable sharing of benefits arising from the utilization of genetic resources and associated traditional knowledge, as internationally agreed.

-adopt measures to ensure the proper functioning of food commodity markets and their derivatives and facilitate timely access to market information in order to help limit extreme food price volatility.

3.2 Role of Food and Agriculture Organization (FAO) in Food Security and Nutrition

The Food and Agriculture Organization (FAO) of the United Nation's is a specialized agency of the UN that leads International efforts to defeat hunger and improve nutrition and food security. FAO also serve as a knowledge network; using the expertise of different professionals-crop scientists, livestock specialists,fisheries experts, nutritionists, social scientist -to collect, analyze and disseminate data that aid development.

FAO programme in nutrition

FAO Nutrition Strategy seeks to improve diets and raise nutrition levels using a demand driven or people-centered approach .In partnership with World Health Organization (WHO) and other key partners with similar mandate, FAO undertake research and release evidence-base data and guidelines on food -based nutrition

including food composition, nutrition assessment and food-based indicators, for human requirements. In addition, FAO help in developing capacities of countries to evaluate and monitor nutrition situations, analyze options and implement agricultural policies and programmes that impact positively on nutrition.

Other roles of FAO are:

Sharing political expertise and strengthening political will: FAO lends its years of experience to member countries in areas of agricultural policy, supporting planning, drafting effective legislation and creating national strategies to achieve rural development and hunger alleviation goals. FAO advocate for the implementation of these policies and programmes, encouraging sufficient resources to be made available, the right organizational structures to be in place and ensuring adequate human capacities.

Promotion of Public-Private Partnership to improve smallholder agriculture: FAO provides needed setting/ platform where rich and poor nations come together to build common understanding on achieving common goals. Food industries and non-profit organizations are also engaged to provide support and services to farmers in order to strengthen the food sector.

Fund Mobilization and Management: FAO mobilizes and manages funds provided by developed countries, development banks and other sources to ensure that projects achieve their goals. And in crisis situations, FAO work with WFP and other humanitarian agencies to protect rural livelihoods and help rebuild lives.

Prevention and Mitigation of risks: FAO has and uses mechanism to monitor and warn about risks and threats to agriculture, food and nutrition. The organization thus help inform countries on successful risk reduction measures that could be included in agricultural policies. And when needed, FAO coordinates disaster response plans at all levels

FAO programme in nutrition

FAO Nutrition Strategy seeks to improve diets and raise nutrition levels using a demand driven or people-centered approach .In partnership with World Health Organization (WHO) and other key partners with similar mandate, FAO undertake research and release evidence-base data and guidelines on food -based nutrition including food composition, nutrition assessment and food-based indicators, for human requirements . In addition, FAO help in developing capacities of countries to evaluate and monitor nutrition situations, analyze options and implement agricultural policies and programmes that impact positively on nutrition.

3.3 Role of World Food Programme (WFP) in Food Security and Nutrition

The Word Food Programme (WFP) is the food-assistance branch of the United and a consortium of UN entities that aim to fulfil the 17 Sustainable Development Goals (SDGs), with a priority on achieving SDG2. Goal 2-Zero Hunger- pledges to end hunger, achieve food security, improve nutrition and promote sustainable agriculture, and is the priority of the WFP and its partners work to bring the world closer to a zero hunger. As at 2019, WFP served 97 million people in 88 countries -thirds of its activities conducted in conflict zones.WFP operations are funded by voluntary donations principally from governments of the world, and also from corporations and private donors. In essence, the aim of WFP is to provide better value for people and donors,allowing for increased food choices for beneficiaries, while boosting local smallholder production, retail and financial sector.

Programs offered by the World Food Program (WFP) in Nutrition

In recent years, WFP has broadened its focus from emergency interventions to all forms of malnutrition including vitamin and mineral deficiencies, overweight and obesity. World Food Program works with other UN agencies, NGOs and the private sector, supporting nutrition interventions, policies and programmes that include nutritious school meals and food fortification.

Alongside, other international initiatives and platforms such as the committee on World Food Security, the Scaling Up Nutrition(SUN), and the UN Decade of Action on Nutrition, NGOs, local farmers, producers, retailers and communities.WFP also plays a leading role in bringing private sector partners into the fight against malnutrition as co-convener of the SUN Business Network.

Food assistance: cash-based and in-kind

WFP distributes food in areas where it is scarce. In places where food is available but unaffordable, WFP gives vulnerable people cash or vouchers to buy nutritious ingredients. These cash transfers give people more choice, protect them from financial exploitation, and support the local economy.

School meals

School meals encourage parents in vulnerable families to send their children to school, rather than work. They have proved highly beneficial in areas including education and gender equality, health and nutrition, social protection, local economies and agriculture. WFP works with partners to ensure school feeding is part of integrated school health and nutrition programmes, which include services such as malaria control, menstrual hygiene and guidance on sanitation and hygiene.

Food Fortification

Smallholder farmers produce most of the world's food and are critical in achieving a zero-hunger world. WFP's support to farmers spans a range of activities to help build sustainable food systems, from business-skills training to opening up roads to markets. WFP is among a global consortium that forms the Farm to Market Alliance, which helps smallholder farmers receive information, investment and support, so they can produce and sell marketable surplus and increase their income. World Food Program (WFP) connects smallholder farmers to markets in more than 40 countries. It procured 96,600 mt from smallholder farmers for a total of US\$37.2 million in 2019, helping improve the smallholders' livelihoods.

4.0 CONCLUSION

International agencies and other global partners have a common objective of improving availability and quality of food security and nutrition, in order to meet the goals of ending hunger and ensuring access to food for all.

5.0 SUMMARY

The current trend in food security and nutrition shows that this fundamental human rights is still a challenge. Worldwide, billions of people have poor-quality diets and also suffer from malnutrition deficiencies. Malnutrition causes health problems and losses in economic productivity, including GDP losses. In response to these complex challenges, international agencies and partners came together to invest in nutrition and food security through various programmes and policies. The goals of these programmes is to ensure sound development policies and good economies, so as to lift people out of poverty.

6.0 TUTOR-MARKED ASSIGNMENT

1. Give an explanation of the current trend in global food security and nutrition.
2. Identify and explain the roles of two international organizations in the fight against hunger and malnutrition in the world.

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MODULE THREE: FOOD SECURITY AND NATIONAL DEVELOPMENT IN NIGERIA

- Unit 1** Concept of Agricultural Development in Nigeria
- Unit 2** Relationship between Climate Change and Food Security
- Unit 3** Land Tenure and Land Reforms
- Unit 4** Role of FAO, WFP and World Hunger Relief Organisations in Food Security

UNIT 1 CONCEPT OF AGRICULTURAL DEVELOPMENT IN NIGERIA

CONTENTS

- 8.0 Introduction
- 9.0 Objectives
- 10.0 Main Content
 - 3.1 Approaches on Agricultural Development in Nigeria
 - 3.2 Rural Development and Agricultural Production in Nigeria
 - 3.3 Rural Development Concept and Processes in Nigeria
 - 3.4 Gender Issues in Agricultural and Rural Development
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References / Further Reading

5.0 INTRODUCTION

This unit depicts several approaches toward agricultural development in Nigeria through strategies adopted by various programmes and projects to achieve its main objective of massive production of food for the masses. its relationship with rural developmentand the active role gender plays in Nigeria’s agricultural development programmes.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- understand the concept of agricultural development
- explain the historical overview of agricultural development in Nigeria
- identify objectives and indicators of rural development
- Highlight various strategies employed by federal government of Nigeria to promote agricultural development
- discuss the challenges and opportunities for agricultural development
- understand the concept of gender in agricultural and rural development

3.0 MAIN CONTENT

3.1 Approaches on Agricultural Development in Nigeria

Generally, agriculture has been recognized as a key factor to wellbeing and economic development of any country. Agriculture is the major occupation of large number of people living in rural areas even it is a practice that engages majority of Nigerians for food security. According to Ujo (1999), about 80% of the Nigerian working population were into agriculture particularly when Nigeria became independent in 1960. Presently, it is the general belief that agriculture is the largest employers of labour among the rural poor in Nigeria by sustaining 90% and 70% of the rural and total labour force respectively. In those days, Nigerian farmers produced mainly for subsistence by using simple and traditional tools such as cutlasses and hoes. They were into production of major crops namely palm oil/kernels, cocoa, rubber, cotton, groundnuts, rice, guinea corn, maize, cassava etc., and some of these products served as raw materials for export.

Holistically, the term ‘development’ can be conceptualized as a process by which any group of people or society harnesses, mobilizes, and utilizes all resources available to it, both human and materials for the purpose of improving quality of life of its members, increased production of their needs and equitable distribution of same.

Similarly, agricultural development may also be conceptualized as one dimension of the multi-faceted process of development that aims at enhancing the productive capacity of the agricultural sector through transformation of rural economy from peasant and subsistence production to a commercialized agricultural enterprise. In

developing countries, agricultural development represents the main component of rural development programmes. Agricultural development aims to sustaining a vibrant and dynamic rural economy and also guaranteeing local food sufficiency and other products for export. In other words, agricultural development focuses on an improved quality of human life in the society most especially those of the rural farmers. However, agricultural development is increasingly being recognized as part of the larger national development plans or budget in which various development programmes are spelt out for accomplishment within specific period of time. Ekong (2003) had also observed that in such national development plans, agricultural development features prominently to include policies on land use, improvement in productivity, establishment of cottage industries allied to agriculture, irrigation schemes, marketing and pricing policies, agricultural education and rural development in general.

Decline

For decades there has been a sharp decline in Nigeria's agriculture. The situation had been attributed to many factors including neglect, insincerity and policy inconsistencies by the government, cultural inertia, illiteracy, and globalization etc. According to Idachaba (2006), he blamed the decline in agriculture to neglect by the government mainly as a result of foreign exchange from non- agricultural commodities especially crude oil. He also ascribed the agricultural decline to political instability resulting in discontinuity in agricultural policies in Nigeria with the attendant negative signals to potential investors in the agricultural sector.

Response

In response to the declining fortunes of agriculture in Nigeria and the attendant problems, the government, in addition to setting up the Ministry of Agriculture in 1973, initiated various agricultural policies and programmes within the framework of identifiable National Development Plans. These include the National Accelerated Food Production Programme (NAFPP) of 1973; the River Basin Development Authority (RBDA) of 1974; the Agricultural Development Programme (ADP) of 1975; the Operation Feed the Nation (OFN) of 1976 and the Green Revolution Programme of 1980. Other related programmes aimed at promoting agricultural

development in Nigeria include the National Special Programme on Food Security (NSPFS); National Agricultural Land Development Authority (NALDA); the School to Land programme in Rivers State and other parts of the federation; the Rural Banking Scheme in 1979 and the establishment of the People's Bank in 1987. In addition, Nigerian government has established a number of agricultural research institutes, Universities and Colleges of Agriculture, Faculty of Agriculture in conventional universities, Farm settlements and other small- and large-scale farms that abound in the country.

3.2 Rural Development and Agricultural Production in Nigeria

Rural Area: According to SARDF (1997), rural area is a sparsely populated area in which people farm or depend on natural resources, including the villages and small towns that are dispersed through these areas.

Rural Development

Rural development denotes the actions and initiatives taken to improve the standard of living in the rural areas i.e., the non-urban neighbourhoods and villages. South African Rural Development Framework (SARDF), (1997), defined rural development as helping rural people set the priorities in their own communities through effective and democratic bodies, by providing the local capacity investment in basic infrastructure and social services; justice, equity and security; dealing with the injustices of the past and ensuring safety and security of the rural population especially that of women.

Ekong (2003), defined rural development as 'a process by which a set of technical, social, cultural and institutional measures are implemented with and for the inhabitants of rural areas with the aim of improving their socio-economic conditions in order to achieving harmony and balance both on the regional and national levels.

Agbonifo (1987) therefore defined rural development as a general improvement in the life of rural inhabitants, namely their income, health and their intellect or capacity to sustain the improved living conditions. Since most of the agricultural activities in the developing world take place in the rural areas, the tendency for people to perceive rural development as being synonymous with agricultural development is high but agricultural development is only an aspect of rural development.

Need for Accelerated Agricultural Development in Nigeria

Agriculture is the principal source of livelihood in Nigeria and the sector employs nearly three quarters of the nation's workforce. Nigerian agriculture is mainly rain-fed and dominated by smallholder farmers with an average farm size that is less than 2 hectares.

The need for accelerated agricultural development in Nigeria would be better appreciated when considered against backdrop of the potential role of agriculture in the Nigerian economy especially within the context of local food supply, employment opportunities and foreign exchange earnings. Most importantly, an accelerated agricultural development in Africa and Nigeria in particular remains the only panacea for meeting Millennium Development Goals (MDGs) of poverty and hunger reduction.

The need for appropriate policies and plans for accelerated agricultural development by African countries would be better appreciated when critically examined against backdrop of increasing global decline in agricultural spending in Africa by the USAID and World Bank in recent time.

3.3 Rural Development Concept and Processes in Nigeria

Rural development involves the transformation of rural communities into a socially, educationally, economically, politically, orderly and materially desirable conditions with the purpose of improving the quality of life of the rural population. Rural development could also be viewed in terms of uniform distribution of natural resources which seeks to bring about a more equitable distribution of resources and incomes within a society. It involves the integration of the rural poor which constitutes the majority of the population of most developing countries into the national economy.

Objectives of Rural Development

The broad objective of rural development is to improve the quality of life of the rural populace. Some of the specific objectives are stated below.

- Full and productive employment in the rural community so as to change the situation in which many rural people are under employed and operate only at subsistence level.

- Increased food production. It is expected to lead to a state of improved quality and quantity of food available to the citizens. This is primarily an agricultural development aspect of rural development
- Increased productivity through sensitization of the rural people to their potentials for development and acquiring the education and training needed to translate the potentials into productive efforts.
- Provision of welfare needs in form of housing, health and infrastructural facilities such as motorable roads, clean regular water and electricity.
- Widespread literacy in order to allow rural people to participate intelligently in the political, economic and social activities of their society.

Indicators of Rural Development

The World Bank, United Nations Development Programme (UNDP), United Nations International Children Emergency Fund (UNICEF), United Nations Educational Scientific and Cultural Organisation (UNESCO) and World Health Organisation (WHO) came out with new blue-prints that assisted development planners to focus on some selected social indicators of development. These are;

- ✓ Life expectancy at birth
- ✓ Literacy rate
- ✓ Access to health facilities
- ✓ Access to safe water and sanitation
- ✓ Infant mortality per 1,000 live births
- ✓ Daily calorie intake per capita
- ✓ Residential floor space per capita
- ✓ Electric power consumption per capita
- ✓ Adequacy of other social infrastructures, most especially motorable road.

Challenges and Opportunities for Agric Development

The followings are some of the obstacles bedeviling agricultural development in Nigeria.

- ✚ Problems of soil infertility which are caused by water and wind erosion.
Problem of water erosion can be addressed by developing covers for the soil,

and improving soil structure through promotion of organic matter use and good agronomic practices.

- ✚ Wind erosion problems can be addressed by planting trees which are also of economic value and can provide cover for the soil.
- ✚ Inadequacy of rain fed agriculture. This can be addressed by providing more support for Fadama development and management
- ✚ None fine-tuning of macroeconomic and agricultural sector policies to meet the need of farmers and investors in agriculture.
- ✚ Uncontrolled food import including those with local substitutes. This can be addressed by discouraging food importation in order to allow local production to thrive in the market. Tariffs on imported goods can also be increased by the government.
- ✚ Local food production ought to be encouraged by making inputs more available, giving farmers access to cultivable farm land, providing soft loans at interest free rate, introduction of farmers to anchor / borrower programmes, supply of farm inputs at subsidized rate, supporting adequate processing and storage, farmers linkage to market, provision of market facilities

Problems of Agricultural Development in Nigeria

- a. Inadequate funding
- b. Inappropriate technology development
- c. High extension-farmer ratio
- d. Lack of functional institutions in the rural areas.

3.4 Gender Issues in Agricultural and Rural Development

The existence of gender inequalities has been discovered in all facets of women's lives for decades. This is the reason why gender issues were brought to limelight in realization of its attendance consequences on sustainable development. The increasing contribution of women in agriculture, rural development and other sectors has reached a peak that is crucial to sustainable development. Understanding women's contributions in development process would place them in the right perspective during policy formulation and development efforts. Hence, recognizing roles that women perform in socio-economic life is a pre-condition for rural development.

Women and Gender

Women and gender are mostly being misconstrued to be synonymous. The misinterpretation of women as gender emanated from a long-standing disproportionate gender relations and roles. But issues relating to women have been conceived as far back as 1975 in Mexico City during the first women conference. The conference was to call attentions to the growing deplorable state of women in the world resulting from discriminations, neglect, loss of dignity, lack of access to resources among other challenges. Different approaches in the past perceived women issues as a separate homogenous entity in isolation from global policies and these exacerbate existing forms of discriminations against women and under-funding of women programme. As a result of inadequate funds coupled with other problems, women and development unit created to take care of women welfare was eventually adversely strangled. It therefore, made little or no impact in policy and programme formulation.

Gender Disparities in Agricultural Development

The issues of gender cannot be divorced from the concept of agriculture as practiced in Nigeria, Africa and the global world. Traditional agriculture was characterized by gender division of labour according to tasks and crops. However, this has been greatly affected due to high involvement of men in other high income generating activities leaving almost all the agricultural activities to be performed by women. This consistently results in widening the disparities being observed between men and women and agricultural and rural development. Some of the disparities are as follows:

- ❖ About 60-80 per cent of all agricultural activities are carried out by women farmers in Africa.
- ❖ Women who are accounted for half the rural population spend more than two third of their time on food production activities.
- ❖ Africa women like their counterpart in other developing parts of the world are found to do most of the work in area of crop production, animal production, transportation of crops from farm to residence, processing, storage, and marketing.

- ❖ Nigerian women constitute 49.6 per cent of the total population in Nigeria and are responsible for 60-80 per cent of the food produced in addition to their reproductive roles.
- ❖ Out of 95 per cent small scale farmers who actually feed the nation, 55 per cent of them are women.
- ❖ While men are responsible for land clearing, burnings and making yam mounds, women do the planting, weeding, staking, harvesting and marketing of yam and cassava in the south-western Nigeria (World Bank, 2003)
- ❖ About 14 per cent of adult women own land, as opposed to 80 per cent of adult men.
- ❖ Women lack access to credit from the formal credit institutions.

Gender-specific Agricultural and Rural Development Efforts

Since international recognition of gender issues, responsibilities are placed on the world leaders to necessitate actions that would facilitate gender equality and women empowerment. Nigerian governments in the last few decades have seen the need to raise the consciousness of women and to integrate them into the socio-economic and political scheme of the nation through different agricultural development programmes. There are various programmes and projects that have been formulated and executed as a result of development initiatives aimed at improving the conditions of women in Nigeria. These are:

- Better life for rural women (BLF);
- Family Economic Support Programme (FESP);
- Women's Rights Advancement and Protection Alternative (WRAPA);
- Child Care Trust (CCT);
- Women Trafficking and Child Labour (WOTCLEF);
- Royal Advancement Programme (RADEV);
- Health is Wealth in Oyo State;
- Youth Empowerment Scheme in Niger State (YES);
- Women in Development (WID);
- Women in Agriculture (WIA);
- Women in Nigeria (WIN);

- Ministry of Women Affairs and Researches, etc.

4.0 CONCLUSION

The concepts of rural and agricultural development are key concepts that require serious attention from key actors in the economy that is, government, private individual and the non-governmental organisations (NGOs). Government needs to resuscitate some of the projects and programmes targeted at food and nutrition security in order to scale up rural and agricultural development trend in Nigeria.

5.0 SUMMARY

The unit has discussed concept of development as related to rural and agricultural development and how it affects women. The disparities between men and women clearly pin pointed and the strategies that government employed to tackle the challenges. Objectives and indicators of rural development were also highlighted including problems of agricultural development.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define briefly the following:
 - (a) Development
 - (b) Rural development
 - (c) Agricultural development
2. Highlight objectives and indicators of rural development in Nigeria
3. Explain challenges and opportunities for agricultural development
4. What do you understand by Gender?
5. Describe gender disparities in agricultural development
6. Discuss problems of agricultural development in Nigeria

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UNIT 2: RELATIONSHIP BETWEEN CLIMATE CHANGE AND FOOD SECURITY

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Climate change
 - 3.2 Climate change effect on food security
 - 3.3 Climate change and food system
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Readings

1.0 INTRODUCTION

This unit discusses the climate change trends and the impact of this on food security. The effect of the observed changes in climate and the impact on the different dimensions of food security is also discussed.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Appreciate the current global trends in climate change
- Understand the effect of changes in climate on food security and nutrition, in the short and long run.
- Understand how climate change affects food security dimensions.

3.0 MAIN CONTENT

3.1 Climate change

Among the scientific community, there is a general consensus that the climate is changing, and there are agreements also, about the ways through which these changes are taking place; for example through increasing global average temperature. According to the NOAA 2019 Global Climate Summary, the combined land and ocean temperature has increased at an average rate of 0.07°C (0.13°F) per decade since 1880; however, the average rate of increase since 1981 (0.18°C / 0.32°F) is more than twice as great. The resultant effect / outcome of climate change include drought, increased heat, declining water supplies, flooding as well as flooding.

Definitions: Climate change and climate variability

An important distinction should be made between climate change and climate variability. The former refers to the long-term trend in weather, generally over decades or centuries. This includes long-term changes or trends in the average climate (such as annual average temperature or precipitation) or trends in climate extremes (such as the frequency of intense rainfall events). However, people experience climate as individual weather events, which naturally fluctuate on an annual, seasonal and decadal basis. In addition to natural variation, climate change will mean a shift in the patterns of weather events, over the long term. The magnitude of these climatic changes over the following decades and towards the end of the century will depend on how successful policies are at reducing greenhouse gas emissions and how sensitive the climate system is. (cf. IPCC, 2007).

Long-term climate change: Temperature rise

Global average temperature is expected to rise as a result of climate change, and the spatial pattern of this rise is such that all areas will see an increase in temperature. By the 2050s the global average temperature is projected to have risen between 2–4 °C above the pre-industrial climate; however, this average value masks differences in local temperature rises. In general, the land will see greater increases than the oceans.

The largest increases in mean temperature are projected for the high latitude regions of the northern hemisphere, with lesser increases in tropical and sub-tropical areas.

Changes in precipitation patterns

There is less confidence in the climate model projections of changes in precipitation patterns than changes in temperature. Observed large-scale patterns of precipitation are represented well in many global climate models, leading to high confidence in projections of general circulation and large-scale precipitation patterns. However, there is less certainty in regional projections. Rainfall records in any parts of the world (e.g. Africa and the Middle East) are sparse, particularly with respect to intense events, and satellite measurements of rainfall over the oceans are still being developed. The lack of these types of data hinders climate model verification and development. An additional problem is that most climate models do not resolve monsoon events and hence their associated rainfall well (Randall et al., 2007). In general, increases in temperature will result in a more active hydrological cycle, meaning more rainfall overall. But changes in the patterns and seasonality of rainfall regionally, mean that some areas will still see less rainfall, and changes in the timing and intensity of rainfall events could also have a significant impact locally. (Meehl et al., 2007)

Changes in other variables and weather patterns

Changes in the climate will be felt not only through increasing temperatures and changing rainfall patterns, but also through rising sea-levels, changes in storms and storm tracks, glacier melt and changes in large-scale circulations. These changes to the global Earth system will be experienced locally as changes in water availability, drought, storm surge damage and

land loss. Although many aspects of these changes will be negative, for some areas there will also be positive changes, particularly at lower levels of climate change. (Parry et al, 2007)

Seasonal climate patterns

For the past few years seasonality has changed. Rural communities across the world report that both the timing and the pattern of seasonal rains are changing dramatically. For example, rainfall is reported to be more erratic, shorter and heavier; even within recognizable seasons, ‘unseasonal’ events such as heavier rains, drier spells, unusual storms, dense fogs and temperature fluctuations are increasing. (Devereux and Sabates-Wheeler, 2012).

3.2 Climate change effect on food security

Current knowledge of climate change is slowly revealing the severity of its impact and its contribution to the deteriorating food security situation. A major implication of climate change, which makes it a danger to future global security is the fundamental threat of this phenomenon to survival and sustainability of all life Leisner,*et al*,2019 . Projections suggest that the number of people at risk of hunger will increase by 10–20% by 2050 due to climate change, with 65% of this population in Sub-Saharan Africa. The number of malnourished children could increase by up to 21% (24 million children), with the majority being in Africa (Parry et al., 2009; Nelson et al., 2009).

Climate change exacerbates the risks of hunger and under-nutrition through two main mechanisms:

Extreme weather events

Under climate change, the frequency and intensity of some disasters such as droughts, floods and storms could increase, with an adverse impact on livelihoods and food security. Climate-related disasters have the potential to destroy crops, critical infrastructure, and key community assets therefore deteriorating livelihoods and exacerbating poverty.

Long-term and gradual climate risks

Sea-level will rise as a result of climate change, affecting livelihoods in coastal areas and river deltas. Accelerated glacial melt will also affect the quantity and reliability of water available. Under warming trends, glacial melt could accelerate, and the melt season would begin earlier in the year.

Where do the food insecure live?

The most food insecure people live in the poorest and most marginal areas of Asia, Africa and Latin America, where environmental degradation and climate change are likely to exacerbate current threats to food security. The majority of food insecure people live in Asia, where high poverty rates and high disaster magnitudes affect food security. In Sub-Saharan Africa, the most food insecure communities live in highly degraded environments where climate change could increase degradation rates. In Latin America, the most food insecure generally live in poor urban and rural settings where climate-related disasters affect poverty and food insecurity trends. Initial analysis by the United Nations World Food Programme and the UK Met Office Hadley Centre shows that current climate risks and food insecurity intersect in the most vulnerable areas of the world: West Africa, East Africa, Southern Africa, and South Asia. This is due to a combination of exposure to climate risks such as floods, droughts and storms, as well as high poverty rates and high sensitivity to climate change.

Climate change and food security

Climate change threatens to exacerbate existing threats to food security and livelihoods due to a combination of factors that include the increasing frequency and intensity of climate hazards, diminishing agricultural yields and reduced production in vulnerable regions, rising health and sanitation risks, increasing water scarcity, and intensifying conflicts over scarce resources, which would lead to new humanitarian crises as well as increasing displacement (IPCC, 2007). Climate change is expected to affect all of the components that influence food security: availability, access, stability and utilization.

Climate change and nutrition

There is also an increase in CO₂ emission which besides causing global warming, also reduces the nutritional value of crops. Beyond, the effect on plant- based nutrition, livestock, who rely on the same resources as humans to eat , grow and produce meat and/ or milk are also severely threatened by climate change. Also threatened by climate extremes are fish populations especially in Southeast Asia.

Thus, climate change is indeed a treat multiplier for hungry and undernourished people and countries are often highly vulnerable to changes in climate with limited capacity to adapt. And when combined with conflict, climate change destroys livelihoods, drives displacement and ultimately undermines the sustainable development goal of zero hunger by 2030. Besides, seasonal cycles of hunger and under-nutrition are generally strongly correlated with climatic-related factors, especially in rural areas. In Sahel and the Horn of Africa climate-related factors strongly influence crop and animal production, income, diseases and under-nutrition. Seasonal peaks of hunger and under-nutrition are also shaped by human or socioeconomic factors, such as high food prices or low income opportunities.

Nutrition and nutritional value is also impacted by climate change, especially in food-insecure areas. In Nigeria as is the case in most agrarian counties, the pattern of food consumption especially in the rural areas, is seasonal. During pre-harvest or ‘lean seasons’, families reduce their food consumption until the next harvest. With changes in climate and reduced harvest, the lean periods may become extended if due to lesser, or it may take longer time to get to adequate harvest.

Furthermore, climate change can adversely affect the nutritional value of food that is grown. Studies show that higher carbon dioxide concentrations reduce the protein, zinc, and iron content of crops. By 2050, an estimated additional 175 million people could have zinc deficiencies (which can, among other things, make them more susceptible to illnesses) and an additional 122 million people could be protein deficient. Communities relying largely on plant harvests for their nutrition will, again, feel this most acutely.

Beyond plant-based nutrition, this also has a ripple effect on livestock, who rely on the same resources as humans to eat, grow, and produce meat and/or milk. Livestock are also severely threatened by drought, accounting for 36% of drought-related losses (crops account for 49%). Climate extremes also threaten fish populations, especially in areas like Southeast Asia.

3.3 Climate change and food system

With the observed changes in climate, there is an increase in weather -related disasters resulting in reduced yields of major crops. Higher temperature, droughts, floods, water scarcity, increased CO₂ concentrations in the atmosphere negatively impact crop production and yield. According to the Food and Agriculture Organization, the unpredictable yield for cereal crops in semi-arid regions of the world is at least 89% the result of climate variability.

Climate change affects food production in complex ways. Direct impacts include changes in agro-ecological conditions; indirect impacts include changes in economic growth and distribution of incomes, which in turn affect demand for agricultural produce. Future changes in climate patterns coupled with population dynamics could result in higher vulnerability. In tropical latitudes, where much of the current food security problems exist, increases in temperature are expected to be predominantly detrimental. The quality and quantity of cropland available is projected to decrease under climate change: in Sub-Saharan Africa especially, land for double cropping could decline by between 10 and 20 million hectares and land suitable for triple cropping could decline by 5 to 10 million hectares (Fischer et al., 2002).

The overall availability of food is affected by changes in agricultural yields as well as changes in arable land. Changes in food production, together with other factors, could impact food prices, which would affect the ability of poor households to access food

markets and could reduce dietary diversity. Decreased water availability and quality in some areas could result in increased health and sanitation problems such as diarrheal disease which, together with changes in vector-borne disease patterns, has the potential to increase malnutrition, and negatively affect food utilization. Extreme weather effects disrupt the stability of food supply as well as people's livelihoods. Increases in extreme weather, such as floods and drought, as a result of climate change, would exacerbate this trend and could have a negative impact on livelihoods that depend on climate-sensitive activities such as rain-fed agriculture and livestock rearing. (cf. Schmidhuber and Tubiello, 2007)..According to the Food and Agriculture Organization of the United Nations, the unpredictable yield for cereal crops in semi-arid regions of the world (like the Sahel region of Africa) is at least 80% the result of climate variability.

Thus, climate change affects all dimensions of food system in complex ways : food production and availability, access, utilization as well as stability.

Food production

Changes in climatic conditions have already affected the production of some staple crops, and future climate change threatens to exacerbate this. Higher temperatures will have an impact on yields while changes in rainfall could affect both crop quality and quantity.

Food access

Climate change could increase the prices of major crops in some regions. For the most vulnerable people, lower agricultural output would also mean lower income. Under these conditions, the poorest people — who already use most of their income on food — would have to sacrifice additional income to meet their nutritional requirements.

Food access is also limited when weather disasters such as floods or drought lead to inflated prices of the food that is available. These price spikes leave the poorest households most vulnerable as these basic foods become inaccessible due to limited budget or reduced purchasing power.

Food utilization

Climate-related risks affect calorie intake, particularly in areas where chronic food insecurity is already a significant problem. Changing climatic conditions could also create a vicious cycle of disease and hunger.

FOOD SECURITY DIMENSION	CONSEQUENCES OF CLIMATE CHANGE
AVAILABILITY (sufficient quantity of food for consumption)	<ul style="list-style-type: none">• Reduced agricultural production in some areas locally (especially at tropical latitudes) could affect dietary diversity.• Changes in the suitability of land for crop production• Changes in precipitation patterns could affect the sustainability of rain-fed agriculture in some areas• Increases in temperature could lead to longer growing seasons in temperate regions and reduced frost damage• CO2 fertilization could increase yields for those crops with the physiology to benefit from CO2 enrichment .

STABILITY	
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(risk of losing access to resources
required to consume food)

4.0 CONCLUSION

Climate change affects the global food system in such a way that those who already suffer from hunger and under-nutrition are those most vulnerable to these added threats. In order to end hunger by the year 2030, there is need to also tackle the current climate crisis and the inequities that are raised by climate change. It is important to foster global solidarity with the most climate-vulnerable communities and countries, in mitigating causes of climate change and adapting to the effects of these changes.

5.0 SUMMARY

Climate change could affect staple crop production, especially in the most vulnerable and food insecure countries. Empirical evidence suggests that recent increases in temperature have already had a negative effect on yield for some key crops. In the future, higher temperature could result in even lower yields for some crops in some regions, while changes in precipitation could affect crop production in key areas. Nutrition is also likely to be affected by climate change through related impacts on food security, dietary diversity, care practices and health.

6.0 TUTOR-MARKED ASSIGNMENT

1. Give an overview of the current trend in climate change

2. Explain the relationship between food security and malnutrition.
3. Relate climate change with the different food security dimensions

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UNIT 3: LAND TENURE AND LAND REFORMS

CONTENTS

1.0 Introduction

2.0 Objectives

3.0 Main Content

3.1 Definition of Land Tenure

3.2 Why Studying Land Tenure?

3.3 Characteristics of Nigerian Traditional Land Tenure System

3.4 Tenure Innovations in Nigeria

3.5 Traditional land tenure systems in Nigeria

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/Further Readings

1.0 INTRODUCTION

Unit three will shed more light on the meaning of land tenure system in Nigeria and why the land is so much more important to us as a nation. Characteristics of Nigerian traditional land tenure system, tenure innovations and land reforms will equally be discussed.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- define land tenure system
- enumerate characteristics of Nigerian traditional land tenure system
- state the reasons why the study of land tenure is important
- explain tenure innovations in Nigeria
- discuss traditional land tenure systems in Nigeria

3.0 MAIN CONTENT

3.1 Definitions of Land Tenure

The term ‘Land’ is often used in the physical or geographical sense to refer to a wide variety of natural resources found in a profile from the atmosphere to some meters beneath the soil surface. Land embraces the soil up to root depth, vegetation, fauna,

water and surface minerals. However, in Nigeria the term 'Land' may also take on spiritual as well as socio-political meanings. In the submission of Famoriyo, the spiritual meaning derives from the rural dweller's belief that there is a deity in land who acts as the guardian of the earth and man. This guardian must be constantly appeased to avoid her wrath. The socio-political meaning considers land to be synonymous with a nation of people, a town or community.

Land Tenure refers to the rights to hold, use and possess the natural resources found in the land profile from the atmosphere to some few meters below the soil surface. Peter Dorner opined that these rights may consist of legal, contractual or customary arrangements. The prevailing system of land tenure constitutes the rules and procedures governing the rights, duties, liberties and exposure of groups and individuals in the use and control over the basic resource of land and water. Land tenure system embraces three basic components including ownership, transfer and use. According to Adegboye, 'Ownership' entails the right to have and retain land for certain uses. Ownership creates access to occupation, use, lease and redemption of a piece of land. 'Use' refers to the purpose for which land is put while 'Transfer' entails the conveyance of rights over a piece of land from one person or group to another on a temporary or permanent basis.

3.2 Why Studying Land Tenure?

Land has obviously become an important basic resource or facility for an individual or any group of people, particularly in Nigeria where the economy is largely depending on agriculture as means of survival. Land possession and control is very closely interwoven with the social life of the people most especially the rural dwellers. The reasons why land tenure system is important are as follows.

- i. It is on land that people settle and build themselves shelters
- ii. It is from land that people derive their basic subsistence needs. Therefore, land is a major factor of production.
- iii. It is in the land that the dead are buried
- iv. Land provides the basis for identity and association with one's relatives, lineage or clan. The strong identification of Nigerians with their village of

origin is rooted in the clan's rootedness in the soil which it occupied for decades.

- v. Wealth and prestige at the local level are measured in terms of the area of land a family possesses.
- vi. Land is a major factor in a nation's economic development. Apart from farming and the provision of raw materials for export and industries, it is on the land that industries are sited; important minerals are derived from the land and the infrastructure required for moving entire economy are laid on the land.
- vii. Land tenure is equally important as an area of enquiry to those concerned with land use planning, landscaping and wildlife conservation as changes in these activities have direct linkages and repercussions on the land tenure system of the people.
- viii. Land reform policy is also an important political tool for manipulating productive resource allocation.

3.3 Characteristics of Nigerian Traditional Land Tenure System

The Nigerian traditional land tenure system depicts the following general characteristics:

- a. Land is considered to be the property of the community, that is, family, village or clan, the inhabitants of which are related in one way or another. An individual's right to land co-exists with those of the community in which he belongs either by birth or adoption. And the essentials rights in land are those of use and not of final disposal.
- b. The rights to dispose of land are held by groups and not by an individual. These groups are in a hierarchical structure at the base of which is the elementary family. This is followed by the extended or joint family, the ward, the village, or town, the clan and the tribe. An individual may hold land as a member of any of these groups while the group may also hold land as a member of a large unit. But the only notable exception in Nigeria where families are not regarded under customary law as land owning unit is among the Fulani.

- c. Land is considered as a factor of territorial integrity and so there is a definite reluctance to sell it particularly to strangers. Where sales of land are accented, there must be consent to that effect from members of the family who have hereditary claims on the land.
- d. There is lack of defined basic concepts relating to such expressions as ownership, sale and purchase. In other words, when someone claims ownership of a piece of land, it is not immediately clear whether he means that he is a member of the group that holds particular piece of land or that it is his personal property.
- e. There is an unwritten character of the transactions involving land. The absence of land surveys, registration, deeds, and other legal documents in rural areas of Nigeria make many deals to be carried out on the basis of mutual trust and attestation of witnesses. Notwithstanding, the law of the nation recognizes the holding of land according to the rules of customary law which are largely unwritten.
- f. Until the enactment of the Land Use Decree in 1978, the Nigerian land tenure system operated under a dual legal system. That is, in urban areas commercial transactions involving land were done under the English legal system adopted in the country while in rural areas all issues relating to land were dealt with under the customary law.

Advantages of Traditional Land Tenure System

- i. It assures the right of utilizing a given piece of land to each member of the community and thus assures survival.
- ii. It prevents land speculation on a broad scale. That is, the fact that the land belongs to the community or the group and each member has use rights, discourages undue commercialization by speculators.
- iii. It constitutes a basis and condition for eventual land nationalization and possible creation of cooperative or collective forms of farming.

Disadvantages of Traditional Land Tenure System

- i. It makes it impossible to use land as collateral for loans. This makes it difficult to develop agricultural credit programmes or an input market.

- ii. The system of land inheritance within the family whereby a man's pieces of land are shared among his sons in diminishing sizes according to order of birth, perpetuates land fragmentation and subsistence level of production.
- iii. The system discourages the tenant cultivator from undertaking any investment in land improvement owing to the lack of assurance against various rights of other members of the society to the piece of land in question.

3.4 Tenure Innovations in Nigeria

Tenure innovations refer to land reform measures. Land reform or land policy involves a decision by the national government on the best way to bring about some modifications or change in the existing institutional and structural relationships among citizens in the use and control of land resources. In other words, land reform involves intervention in the prevailing pattern of land ownership, control and usage in order to change the structure of holdings, improve land productivity and broaden the distribution of benefits. In practice, land reform is pursued in response to political pressures for socio-economic changes arising from factors like increased population, pressure on limited land base, or an ideology of egalitarianism based on the need for more even distribution of land or income.

In land tenure system, there are several arguments for and against land reform policy in Nigeria. Therefore, the submissions of those who argued for land reform are as follows:

- a. The growth rate of population at 2.5 per cent coupled with demand for food and fibre accompanying with the need for increasing export crop production, a more rational land policy is needed.
- b. There is a gradual loss of the power of traditional authorities coupled with a general inadequacy of traditional or customary rules for conditions where monetization of agriculture is a reality. Hence, land reform is needed.
- c. There is an increase in inter-group litigation and bloody disputes not only in the growing urban areas but even in rural communities thereby calling for some formalized land policy.
- d. A more rational land policy would strengthen the role of the state in planning and implementing agricultural development programmes.

- e. There is need to re-organise the agrarian structure to counter or minimize the negative effects of the capitalist mode of production and private free enterprise economy.
- f. There is a need to bring to an end the undue fragmentation of farms to uneconomic sizes resulting from the traditional inheritance system and shifting cultivation practiced in Nigeria presently, so as to enhance large scale commercial agriculture.

The followings are the arguments of those who opposed land reform in Nigeria:

- a. There is an abundance land and land resources in Nigeria and so there is no immediate constraints.
- b. The production of export crops in Nigeria has in fact, increased considerably mainly through the expansion of acreage at an increasing rate, lack of land policy notwithstanding: that what Nigeria needs is agro-technical factors, better techniques of farming and adequate incentives, not land reform.
- c. Unlike the developing nations of Latin America, Nigeria has no problem of land owning and non-land-owning classes.
- d. A land policy which defers radically from the traditional system may produce large landlords and breed a class of non-land owners.
- e. Land reforms undertaken on a country-wide scale is very expensive. It calls for land surveying, setting of land registries, high cost of setting up farm settlements and overall development investments. Nigeria may not have adequate personnel to execute such a colossal venture even if it has the initial capital.

Outcome of Land Reforms by the Government in Nigeria

In spite of these arguments, a number of mini and major reform measures have been undertaken in Nigeria. The mini reforms were not actual reforms as such, since the traditional land tenure system itself was not disturbed. Rather such measures consisted of the establishment of farm settlements, group farms and government plantations on publicly acquired land. They did not tackle land tenure problems but merely experimented on large scale farming for various reasons.

The first concerted effort at a comprehensive land reform policy in Nigeria commenced in 1978 with the promulgation of the Land Use Decree No. 6 which vests all land in the territory of each state in the federation under Governor of that state to be held in trust and administered for the use and common benefit of all Nigerians. All land in urban areas is to be controlled and managed by the Governor assisted by the Land Use and Allocation Committee while those in rural areas are to be managed and controlled by the Local Government.

The general outcome of land reforms in Nigeria is that “All land users whether members of land holding groups or tenants have been reduced to mere lease holders and are now government’s tenants”.

4.0 CONCLUSION

Social safety-nets and social capital are very important and necessary particularly among the rural poor in order to lift their income above poverty level. There are different types and methods of implementation are very clear for any organisation or government to implement so as to assist the rural poor.

5.0 SUMMARY

Social safety-net and social capital are strategies that brings about poverty reduction among the households in social system. There are several examples such as cash transfer, conditional cash transfer, public work force, and food-based safety nets programme. Different types of social capital were equally discussed in this unit.

6.0 TUTOR-MARKED ASSIGNMENT

1. Define land tenure
2. Explain characteristics of traditional land tenure system
3. Enumerate advantages and disadvantages of traditional land tenure system
4. What are the arguments that favour land reforms in Nigeria?
5. What are the outcomes of land reforms in Nigeria?

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UNIT 4: ROLE OF IFAD, FAO, WFP AND WORLD HUNGER RELIEF ORGANIZATIONS IN FOOD SECURITY

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Need for Global Efforts in Food and Nutrition Security
 - 3.2 Role of International Fund for Agricultural Development (IFAD) in food security and nutrition
 - 3.3 Role of Food and Agriculture Organization (FAO) in Food Security and Nutrition
 - 3.4 Role of Food and World Food Programme (WFP) in Food Security and Nutrition

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/ Further Readings

1.0 INTRODUCTION

This unit highlights the need for global efforts in the fight against food and nutrition security. The roles of IFAD, FAO, WFP in ensuring hungry free world is also explained.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- Understand the need for global efforts in food and nutrition security.
- Analyze the roles of FAO, WFP and other Organizations in the current food security and nutrition dynamics.

3.0 MAIN CONTENTS

3.1 Need for Global Efforts in Food and Nutrition Security

Food and nutrition security is both an indicator and a driver of inclusive economic growth and sustainable development. It is also an investment in the future. For this reason, the scope of global malnutrition demands a robust and collaborative approach, driven by the local realities of smallholders and rural food systems. There now exist worldwide knowledge-sharing and collaboration. Governments and development partners around the world are increasingly focused on nutrition-enhancing agricultural investments. More than 50 countries have now committed to the Scaling Up Nutrition (SUN) movement, a clear demonstration that nutrition is high on the global agenda.

3.2 Role of International Fund for Agricultural Development (IFAD) in food security and nutrition

The International Fund for Agricultural Development (IFAD), is a specialized agency of the United Nations, was one of the major outcomes of the 1974 World Food Conference. IFAD was established to finance agricultural development projects, primarily for food production in the developing countries. The Fund provide financing primarily for projects and programmes specifically designed to introduce, expand or improve food production systems and to strengthen related policies and institutions.

The establishment of this agency by world leaders was borne from the realization that food insecurity and famine were not so much failures in food production but structural problems relating to poverty. This was compounded by the fact that the majority of the developing world's poor people lived in rural areas. Climate change exacerbates the already vast burden of malnutrition and undermines current efforts to reduce hunger and promote nutrition.

Functions of IFAD

Improving food security through better food production systems is at the heart of IFAD's work. IFAD is committed to providing resources for issues related to nutrition and is mainstreaming nutrition, gender and climate change actions across all of its programmes and projects. She also finances nutritional education and support actions that reshape food systems and improve nutrition security. The agency promote dialogue among concerned partners, including ministries of agriculture and health, as well as between other areas of government and civil society. This strengthens understanding, brokers collaboration, and promotes new pathways for nutrition- and gender-sensitive agriculture. The agency combines their solid technical knowledge with investments in nutrition- and gender-sensitive agriculture, through unique food-based approaches.

IFAD also pay special attention to the role of women and adolescent girls, who make up a large percentage of the workforce in agriculture and food systems in developing countries. They are also the safeguards of nutritious diets in their households. This is

done through empowering women by improving their knowledge of nutrition, as well as promoting maternal nutrition and nutrition of adolescent girls, dietary intake, and hygiene behaviour, can reduce under-nutrition for entire generations. Gender-sensitive agricultural projects help ensure women have more control over resources and that both rural men and women understand the important role that they can play in supporting good nutrition.

Again, IFAD also taps into other reservoirs of knowledge and collaborates with institutions with specialized research skills such as national agricultural research centers and international institutes. Finally, IFAD plays an active role in the United Nations Standing Committee on Nutrition (UNSCN), a platform dedicated to an open, substantive and constructive dialogue on global nutrition strategies and initiatives. The UNSCN is currently chaired by IFAD's Vice-President, Cornelia Richter.

3.3 Role of Food and Agriculture Organization (FAO) in Food Security and Nutrition

The Food and Agriculture Organization (FAO) of the United Nations is a specialized agency of the UN that leads International efforts to defeat hunger and improve nutrition and food security. FAO also serve as a knowledge network; using the expertise of different professionals-crop scientists, livestock specialists, fisheries experts, nutritionists, social scientist -to collect, analyze and disseminate data that aid development.

The unequivocal goal of the Food and Agriculture Organization of the United Nations (FAO) is to achieve a food-secure world, free from hunger and malnutrition for present and future generations. Since its founding more than 60 years ago, national and international action and advice on policies, programmes and research have been the driving forces of FAO's core programme in support of this goal. Today, an increased emphasis on securing household access to sufficient food and good nutrition is placing people much more at the heart of FAO's work.

As FAO's food security information and analysis work has expanded from concentrating on national food availability to include household and individual food

security, the livelihoods framework has helped refine socio-economic analysis. Disaggregating information by livelihood groups allows for the partial analysis of food security conditions in otherwise heterogeneous population groups and supports the design of more focused planning and actions that address the specific problems, as well as development potentials, of the different population segments.

Since operationalizing a livelihoods approach, FAO recognizes the added value of supporting and enhancing interdisciplinary work across its technical departments and divisions. Among the mechanisms it uses to increase its interdisciplinary capacity are formal and informal working groups that have a specific focus on livelihoods issues.

Traditional sectoral projects, particularly those working at local levels, have utilized the livelihoods approach to contribute to specific poverty reduction and food security objectives. FAO Representations also utilize the livelihoods framework for planning, managing and accessing FAO's country assistance programmes. The livelihood framework also helps foster partnerships among different actors, including the range of governmental institutions that participate in development activities, a process that is increasingly important within the "One UN" initiative.

FAO programme in nutrition

FAO Nutrition Strategy seeks to improve diets and raise nutrition levels using a demand driven or people-centered approach. In partnership with World Health Organization (WHO) and other key partners with similar mandate, FAO undertake research and release evidence-based data and guidelines on food-based nutrition including food composition, nutrition assessment and food-based indicators, for human requirements. In addition, FAO help in developing capacities of countries to evaluate and monitor nutrition situations, analyze options and implement agricultural policies and programmes that impact positively on nutrition.

Other roles of FAO are:

Sharing political expertise and strengthening political will: FAO lends its years of experience to member countries in areas of agricultural policy, supporting planning,

drafting effective legislation and creating national strategies to achieve rural development and hunger alleviation goals. FAO advocate for the implementation of these policies and programmes, encouraging sufficient resources to be made available, the right organizational structures to be in place and ensuring adequate human capacities.

Promotion of Public-Private Partnership to improve smallholder agriculture: FAO provides needed setting/ platform where rich and poor nations come together to build common understanding on achieving common goals. Food industries and non-profit organizations are also engaged to provide support and services to farmers in order to strengthen the food sector.

Fund Mobilization and Management: FAO mobilizes and manages funds provided by developed countries, development banks and other sources to ensure that projects achieve their goals. And in crisis situations, FAO work with WFP and other humanitarian agencies to protect rural livelihoods and help rebuild lives.

Prevention and Mitigation of risks: FAO has and uses mechanism to monitor and warn about risks and threats to agriculture, food and nutrition. The organization thus help inform countries on successful risk reduction measures that could be included in agricultural policies. And when needed, FAO coordinates disaster response plans at all levels

3.4 Role of World Food Programme (WFP) in Food Security and Nutrition

The World Food Programme (WFP) is the food-assistance branch of the United Nations and a consortium of UN entities that aim to fulfil the 17 Sustainable Development Goals (SDGs), with a priority on achieving SDG2. Goal 2-Zero Hunger- pledges to end hunger, achieve food security, improve nutrition and promote sustainable agriculture, and is the priority of the WFP and its partners work to bring the world closer to a zero hunger. As at 2019, WFP served 97 million people in 88 countries -thirds of its activities conducted in conflict zones. WFP operations are funded by voluntary donations principally from governments of the world, and also from corporations and private donors. In essence, the aim of WFP is to provide better value for people and

donors, allowing for increased food choices for beneficiaries, while boosting local smallholder production, retail and financial sector.

Programs offered by the World Food Program (WFP) in Nutrition

In recent years, WFP has broadened its focus from emergency interventions to all forms of malnutrition including vitamin and mineral deficiencies, overweight and obesity. World Food Program works with other UN agencies, NGOs and the private sector, supporting nutrition interventions, policies and programmes that include nutritious school meals and food fortification.

Alongside, other international initiatives and platforms such as the committee on World Food Security, the Scaling Up Nutrition (SUN), and the UN Decade of Action on Nutrition, NGOs, local farmers, producers, retailers and communities. WFP also plays a leading role in bringing private sector partners into the fight against malnutrition as co-convenor of the SUN Business Network.

Food assistance: cash-based and in-kind

WFP distributes food in areas where it is scarce. In places where food is available but unaffordable, WFP gives vulnerable people cash or vouchers to buy nutritious ingredients. These cash transfers give people more choice, protect them from financial exploitation, and support the local economy.

School meals

School meals encourage parents in vulnerable families to send their children to school, rather than work. They have proved highly beneficial in areas including education and gender equality, health and nutrition, social protection, local economies and agriculture.[37] WFP works with partners to ensure school feeding is part of integrated school health and nutrition programmes, which include services such as malaria control, menstrual hygiene and guidance on sanitation and hygiene.

Food Fortification

Smallholder farmers produce most of the world's food and are critical in achieving a zero-hunger world. WFP's support to farmers spans a range of activities to help build sustainable food systems, from business-skills training to opening up roads to markets. WFP is among a global consortium that forms the Farm to Market Alliance, which helps smallholder farmers receive information, investment and support, so they can produce and sell marketable surplus and increase their income. World Food Program (WFP) connects smallholder farmers to markets in more than 40 countries. It procured 96,600 mt from smallholder farmers for a total of US\$37.2 million in 2019, helping improve the smallholders' livelihoods.

4.0 CONCLUSION

International agencies and other global partners have a common objective of improving availability and quality of food security and nutrition, in order to meet the goals of ending hunger and ensuring access to food for all.

5.0 SUMMARY

The current trend in food security and nutrition shows that this fundamental human right is still a challenge. Worldwide, billions of people have poor-quality diets and also suffer from malnutrition deficiencies. Malnutrition causes health problems and losses in economic productivity, including GDP losses. In response to these complex challenges, international agencies and partners came together to invest in nutrition and food security through various programmes and policies. The goals of these programmes are to ensure sound development policies and good economies, so as to lift people out of poverty.

6.0 TUTOR-MARKED ASSIGNMENT

1. Give an explanation of the current trend in global food security and nutrition.

2. Identify and explain the roles of two international organizations in the fight against hunger and malnutrition in the world.

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