Published September, 2012

CONCEPTUAL ANALYSIS OF RURAL FARMERS' HEALTH AND ITS IMPLICATION ON AGRICULTURAL PRODUCTIVITY

Idio[1]*, A. D. and Adejare[2], G. T.

ABSTRACT

Department of Agricultural Economics/ Extension, University of Uyo, Uyo. Nigeria. Email: anietieidio@yahoo.com Phone: +2348161852237
Department of Agricultural Extension and Rural Development, University of Ibadan. Nigeria.

A review of the status of rural farmers' health and its implications on agricultural productivity in Nigeria was carried out. The growing knowledge of the contribution of good health of farmers to the sustainability of agricultural production and improved productivity prompted this review. Rural farmers who produce eighty percent of food and raw materials in Nigeria are being denied basic healthcare facilities and services which is a fundamental human right. The paper aimed at re-awakening rural farmers' health issues in the minds of policymakers and technical subject matter specialists at various levels who are concerned with the provision of these basic facilities and services to re-engineer their healthcare implementation strategies and save the role of agriculture in the country's economy, agricultural development strategies and issues of agricultural production sustainability through restoration of good health to Nigerian rural farmers. It highlights the concepts of health, qualities of good health, causes of farmers' health depletion and the impact of poor health on agricultural productivity in Nigeria. Suggestions for achieving good health for improvement in agricultural productivity have also been given.

Keywords: Farmers' Health, Agricultural Productivity.

INTRODUCTION

The state of health of a farmer is directly related to his efficiency in the field (Adejare, 2001). The vulnerable group of men and woman farmers incapacitated by poor state of health are found mostly in the rural areas (Babalaola, 2002). Majority of these vulnerable groups play undoubtedly critical roles in the cycle of food production. Sagan (1987) lists poor state of health of a farmer to include illness, disability, injury and stress. Anyanwu, (1993) observed that the prevailing conditions in Nigeria have denied a significant proportion of Nigerians the level of health that can enable them live socially and economically productive lives. It is sad that almost three decades after the Alma Ata Declaration of 1978 elevated health to the state of basic fundamental human right and explicitly recognized its relationship with economic development; Nigerians are still witnessing a record high health and development challenges. The right to health is the most basic of all human rights and is a fundamental objective of social and economic development. The constitution of the world health organization maintains that 'the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic and social condition (WHO, 1992). This means that every human being has right to live in an environment with minimum health risk, have access to health service that can prevent or alleviate sickness, treat diseases and help an individual to maintain and enjoy good health throughout the individuals' life. Rural farmers who produce eighty percent of food and raw materials in Nigeria are being denied this basic human right (Killen, 2005).

Killen (2005) also indicates that rural farmers in Nigeria incur heavy losses due to poor health through expensive healthcare fees and the menace of fake drugs, adding that the millennium development goals for health only entails rising challenges of illness and premature deaths for the vulnerable group as the goals are either difficult to access or complete inaccessible to them. This poses a significant constraint to economic and agricultural productivity. It is therefore the concern of this paper to present the concepts and issues of farmers' state of health to guide understanding of the features, challenges and the way forward for rural farmer's health in Nigeria.

The concept of health

This papers' interest under this section is to examine what farmers health is all about, identify the fundamental health features that are necessary for efficient agricultural production and discuss the utilization of health status by rural farmers in Nigeria. We may therefore begin by asking, what is health?

An array of definition can be found in the literature on the subject. A brief review of some of these definitions shows that traditionally, health is considered from both physical and social dimensions. Some authorities have now included spiritual and even moral dimensions, resulting in tridimensional and multidimensional definitions of health.

Some of these definitions of health

Health is a quality resulting from the total functioning of the individual in his environment that empowers him to achieve a personally satisfying and socially useful life (Johns et al, 1995)'.

Health is a condition that is more than the absence of disease or its symptoms, but an undisrupted unity of all aspects of an individual - mind, body and spirit (Mareyan and Joslin, 1980).
Health is state of complete physical mental and social well-being of an individual, not merely of the absence of disease or infirmity (Copplerstone, 1991).
Health means being well and using one's power to the fullest extent (Nightingale, 1860).
Health is a state and process of being and becoming integrated and whole (Calista Roy, no date).
It is clear from the definitions listed above that heath is a state, quality or condition which enables an individual to face up to crisis, carry on ones' daily responsibilities efficiently and relate to other persons effectively. It is a state of soundness of the body, freedom from illness, disease attacks, disorders, pains and weakness. It is in fact, a variable condition of the body as in good, bad or ill – state. At its best, it is the state of being, the condition of the body and its various parts and functions which are favorable for efficient and prolonged life. Health, therefore, is perceived as:
The state of the individual as a unit.
The quality of life of the individual
An achievement of personal satisfying life and;
An achievement of social useful life.
Health considers the totality of an individual – physical, mental and social conditions - and not just a part. These dimensions are inseparable. They are factors which make an individual a unique personality and which sets him out from any other individual.
The concept of quality of life implied that what is important is not necessary longevity, that is, how long one lives, but how well one lives; how productive and how satisfactory has the existence been. The achievement of needs and desires as well as getting at the goal one established for oneself leads to achievement of personal satisfying life. The implication here is that a person has to work hard to achieve and maintain a satisfactory quality of life. Health is a commodity necessary for the achievement and maintenance of productive and satisfactory existence. It is a state of complete physical, mental and social wholeness. While the concepts of health obviously have several dimensions, its key purpose is to enable an individual engage in productive activities to create wealth, alleviate poverty and raise ones' standard of living. This broad purpose largely emphasizes good health and the relevant question one may now ask is, what qualities best describe good health that a farmer suppose to have? To this now we turn.

QUALITIES OF GOOD HEALTH

Looking at the literature one sees the consensus that a rural farmer should possess wholesome, safe and efficacious health characteristics as well as the right education and skills that will enable him work productively and creatively as he seeks to achieve his full potentials. With respect to wholesome state of health, Sagan (1987) observed that the more the rural farmers possesses the required holistic health qualities that will favorably impact on other behaviors, the better the chances of securing the desired results from targeted activities. Implicitly, for a rural farmer to be healthy to work, he should be one who:
is free from disease attacks, illness, disability, injury, occupational hazards and all forms of infirmities
eat balanced meals or have good plane of nutrition
have access to healthcare
have clean and safe water to use
have a good shelter
lives in a clean environment
have stable psychological frame of mind
have good mental relaxation
have good social disposition and amenities to exercise
have clothing and other essential and economic commodities that positively affect the state of health of a person.
With regards to the right education and skills, such a farmer should have proficiency of the following:
reading
writing
second language
record keeping (economics / management)
attitudes, believes and norms of the society (sociology)
history
logic and scientific methods of farming
the business his immediate society performs
objective of farming
imagination

courage and enthusiasm

More than three quarters of Nigerians, over ninety eight million small farmers, live without these qualities. Not surprisingly, most of Nigerian rural farmers' health problems are unleashed by non possession of many or all of these qualities.

CAUSES OF FARMERS' HEALTH DETERIORATION IN NIGERIA

Malnutrition

IITA (2004) observed that rural farmers in Nigeria - and their numbers runs into millions - suffer from poor nutrition. They do not get their meals regularly, but when they do, they are haunted with the fear of where their next meal will come from. When the price goes up the quality and quantity of their food goes down because their income can no longer buy them the food they need. The resultant state of malnutrition leads to steady depreciation mentally and physically, of large numbers of the country's rural farming population. Low protein and caloric intake poses a constraint to increased productivity, as the rural farmers under this condition are unable to devote more productive hours to their farm work.

Specifically women are known to contribute major proportion of family farm labor to the production of food crops as well as providing major support to livestock production in Nigeria (Adisa and Okunade, 2005). The consequence on their health is inadequate body reserves. The consequences of inadequate body reserves and dietary intake are low birth weight and low fecundity, two well known problems of maternal depletion.

Healthcare delivery problems

As Shaw and Elmendor (1994) and Oyebola (1980) observed, rural farmers in Nigeria are vulnerable to various disease infections. Prenatal infections and parasitic diseases are common among their children while hormonal deficiency, circulatory disease, injuries and cancers inflict some scars on adults. Whenever they fall ill, they can only have a worse fate. Healthcare facilities (maternity homes, health centers, clinics and hospitals) are sited far from farming settlements. Some of the rural healthcare facilities do not have access roads hence getting to them during emergency situations is difficult because of lack of motorable road and unavailability of the means of transport. Where a means of transport is seen, it is always very expensive. Nigeria have a good number of primary, secondary and tertiary health care facilities in the populated or urban centers with adequate staff strength but most farming communities have never had a doctor while others have a ratio of one doctor to 80,000 people or more. Attempts to persuade doctors to serve in rural healthcare facilities have so far failed because of medical education that does not equip doctors with the skills to work in rural communities (Uchegbu, 2006). Nigeria has five times more nurses than doctors but they are not well distributed. Many rural health centres throughout Nigeria are manned by few nurses who have limited expertise and only provide healthcare to the best of their ability. Other major problems include lack of drugs supply to the health facilities and equipment to use for treatment. When rural farmers struggle to get to this health facilities, staffs are not prompt and regular on duty. Their attitudes to patients are discouraging. Worse still, rural farmers neither have nor can pay fees to a doctor, or buy the prescribed medicine where they are fortunate to have a doctor's prescription. Given this conditions, they take to self medication and even worse, traditional treatment. Many of their kin never even see the gate of general hospital.

Traditional beliefs

Rural farmers believe more on prenatal and mystical causes of illness than natural factors. Oyebola (1980) lists natural factors that cause illness to include poor nutrition, insect bites, filthy and unsanitary conditions, lack of exercise, emotional, mental and respiratory disorders among others and the mystical factors to include interference of supernatural or cosmic forces, witchcraft, and evil machinations of enemies.

Rural farmers' reproductive lifestyle

In many farming communities, women are made to spend close to half of their adult lives in childbearing, for reasons of raising a large family size to cater for farm labor. WHO (1992) observed that reproductive infection have been hidden in their culture of 'silence'. They are known to all women in the world, when left untreated because of lack of skilled staff in rural health facilities, lack of equipment, lack of drugs and wrong attitude of health workers, they present a vast reservoir of infection with serious short term and long term effect on women's overall health status - hemorrhage, obstructred labor, anemia, hypertensive disorder of pregnancy, miscarriage and other reproductive tract infections - leading to a range of issues, including maternal dysfunctions, sexually transmitted diseases including HIV and AIDS, fatigue and low chances of new born babies' survival.

Occupational hazards

Rural farmers in Nigeria are exposed to occupational hazards. Sims (1994) listed occupational hazards to include exposure to pesticides and herbicides. These have adverse effects on pregnancy outcomes on women farmers. Adejare (2001) revealed that processing cassava into garri in Nigeria causes exposure to cyanide, heat and burns. Making naked fire from fuel wood for cooking, carrying heavy load of firewood and farm produce on the head

also have implication on women health status, causing back aches and pains. Prolonged exposures to naked fire and smoke are also considered to be responsible for respiratory disease, migraine and heat exhaustion.

Injuries and accidents are sustained by rural farmers in Nigeria from crude implements that they are still using (Okoruwa and Agulana, 2004). These causes disability, cuts and abrasion. Air inhaled during bush burning and pesticides and herbicides applications are toxic and have harmful effects when large amounts are absorbed (Sims, 1994). Toxic air is absorbed into the body through three routes: inhalation (lungs) ingestion (stomach) and dermal abortion (through skin, eyes and mucous membrane of the respiratory tract). The symptoms are abdominal pains, vomiting (nausea), headache, dizziness, violent muscular spasm, delirium, fever, watery or bloody diarrhea, difficulty in speaking, swallowing, breathing and movement, sweating profusely and sometimes convulsion which reflect direct injury to the central nervous system in addition to cellular electrolyte disturbances and shock, showing chemical poisoning. Since most of the rural farmers are subsistence farmers with unmechanized practices, it is quite unavoidable that some of them would be bitten by snakes, insects and may also contract zonotic materials which causes diseases and infections, with resultant expression of symptoms earlier listed. These impair their potentials for productive purposes and shorten their life span.

Environmental pollution

Fee and Brown (2005) noted that rural farmers in Nigeria live in polluted environment. Health problems do not arise as a result of industrial pollution only but can also be caused by domestic pollution of drainages, and stench from refuse dumps near farmers' residences. No one consider the health hazard of working in smoke- filled room when cooking, yet people inhale up to forty times the volume of suspended particles considered unsafe by the world health organization (Sims, 1994). During the dry season in many rural areas in Nigeria, the scarcity of water and the quality of water used by rural households impose health risk on the local inhabitants. Water from pools, streams and rivers are frequently dirty, polluted and disease- causing organisms' ridden. Not surprisingly, most of Nigeria's water sources pollution stems from human waste disposal and livestock droppings. Water borne diseases such as guinea worms, tapeworms, flukes, roundworms, diarrhea, cholera and schistomiasis are often contracted.

Poor housing and improper sewage disposal

Some Nigerian rural farmers live in huts where squalor perpetually surrounds them and have no sanitation facilities (IITA, 2004). Those with low- income houses are having their houses succumbing to severe dilapidation and decay. Many of the rural farmers live six to eight to a room. A population density of two thousand people per hectare is common. Houses have collapsed and more are deteriorating. Of serious sanitary concern is the lack of toilet facilities. Human feces are passed in the nearby bushes surrounding the farmers' house. Several hundred rural farmers' rely on rivers and drainages for defecation of excreta. Poor housing and improper sewage disposal have its impact on rural farmers' health. Crowded living conditions increase the rate of transmission of communicable diseases (WHO, 1992). For example, the incidence of tuberculosis increases with increased crowding condition. This is as a result of defective ventilation, also including all other attendant problems like suffocation, sweating and development of rashes. Lack of toilet facilities enables the spread of harmful organisms, air and water pollution. All these constitute constant threat to rural farmers' health. The adverse effect of poor housing and improper sewage disposal is not limited to physical health deterioration; it can also have serious psychological consequences. Lamenting, Shaw and Elemendor (1994) said that poor sanitation and inappropriate fecal disposal complicated health problems particularly in rural areas and peri-urban slums where sewage and run-off contaminate ponds, streams, rivers and wells. 'Fecal oral transmission of diseases have become a more serious problem as they result in infection with helminthes, liver flukes and other intestinal worms reported in our health facilities on more frequent basis' they noted.

Harsh climatic conditions

Nigeria receives high solar radiation, low humidity and high temperatures during dry season months of November to March and a good amount of rainfall during the rainy season months of April to November. This favors the breeding of disease vector of which the most problematic are malaria transmitting mosquitoes. Malaria is Nigeria's most persistent and frequently occurring disease (Okoruwa and Agulana, 2004). Other disease vectors are houseflies, cockroaches, bedbugs, lice and rodents. The long periods of rainfall, short but intensively hot dry season and reliance on subsistence agriculture combine to make the Nigerian rural farmers highly vulnerable to deteriorating health conditions. Mosquitoes and other vectors breeding in this condition constantly preys on the farmers body both at home and in the farms causing the rural farmer to constantly fall ill. Nigeria has a national policy on stopping malaria, and one of the implementation approaches is through the distribution of mosquito treated bed nets. Considerable efforts have been made on implementing this policy but some bad health workers will never allow government gestures to get to the target rural dwellers.

The scourge of HIV/ AIDS

Agriculture is the largest sector on most African economies, accounting for a large portion of production and employment of the majority of workers. Earnings from agricultural exports pay for essential raw materials and imports necessary for development (World Bank, 1999). Recognition of the impact of HIV/AIDS epidemic on

African agricultural is growing as is the fact that the costs of the epidemic are largely borne by rural communities (Topouzis, 1998). The epidemic affects farm households by depleting both the "human capital base" through reducing the availability of labor, skills and time, and the capital available through remittances or savings which may disappear or be diverted to cover costs related to sicknesses and the death (Guerny, 2000; UNAIDS, 2000; Bollinger et al, 1999; Egal et al, 1999).

Aids impact on agricultural production by reducing the area of land under cultivation. If less farm labor is available, then more remote fields will be left to fallow and those under cultivation will receive less timely attention for tillage, planting and weeding, resulting in declining yields (UNAIDS, 2000). Crop varieties will decline and changes in cropping patterns will occur. Cash crops will be abandoned in favor of less labor intensive subsistence crops (Guerny, 2000). Livestock production will also be affected as animals will be sold to generate cash. Thus, the quality and quantity of food will rapidly decline in the country with high HIV/AIDS prevalence. This will result in malnutrition and reduction in food security. At the macro-economic level, changes in the supply and quality of farm labor as well as changes in the supply and demand for agricultural produce entailed by the epidemic alters the relative price of commodities in local and international markets, as well as interest rates and wages (Cohen, 1992).

HIV/ AIDS epidemic has put enormous changes on the quality of health care delivery to the agricultural sector in Nigeria. Aids affect typically the prime working age (25-45years) farmers who are mostly required in agricultural production. Since AIDS patients often succumb to opportunistic infection, they often require medical attention. Many studies revealed the reality of withheld treatment, non-attendance of hospital staff to patients, lack of confidentially and denial of hospital facilities and medicine once a patient is suspected to be HIV positive (Uchegbu, 2006; Okoruwa and Agulana, 2004). This push up the mortality and morbidity levels of young farmers since emergencies may not be promptly handled until and unless the retroviral status of the patient is known. Even presently in many private hospitals, HIV/AIDS patients are immediately referred out once their status is known to be positive. Pregnant women in agriculture have also been denied continued care by healthcare professionals, even at 7^{th} month gestation once their screening test proves positive. A survey carried out by Reis (2005) among health care providers in some Nigerian States indicated that while most healthcare professionals reported being in compliance with their ethical obligation despite the lack of resources, discriminatory behavior and attitude towards patients with HIV / AIDS exist among significant proportion of healthcare professionals.

Suggestion for achieving good health improvement in agricultural productivity

Access to good health in a sustainable manner is a fundamental human right. Realizing this, NGOs, community organizations, research institutions and governments in Nigeria have been testing alternative health technologies and approaches for over a decade now. Such approaches as "every local government area headquarter, a primary health centre" and programs like" kick polio out" and 'eradiate malaria' are becoming part of the technical packages of both federal, state and local governments and extension institutions. It is this growing experience and interest that has prompted the following suggestions as further possible steps towards achieving fundamental and lasting improvement of farmers' health for increased agricultural productivity.

(a) Intuitional Framework

One laudable strategy of government has been the building of primary health centre in all 774 local government areas in the country. However, great distances between population centers and remote fields and communities where farmers are mostly found in these local government areas exist.

Health institutions should be unbundled like it is done with the police. Rural health post should be established in all farm settlements and remote communities of the country to carter for immediate health needs of the resource-poor farmers in Nigeria. Nigeria has abundant health personnel (nurses and doctors); some of whom are grossly underutilized in the health centers at the population centers in the country. These personnel should be decentralized and be re-deployed to mann the healthposts and take health services to the farmers at the grassroots. In this way, farmers for once will have a health facility at their domain, be visited by health workers both at home and in the fields and all health consumables like mosquito treated bed nets, etc given by the government will hopefully get to the target recipients rather than stop at city centers in the hands of some bad health personnel who turn these items into wealth for themselves.

(b) Exchange of Information

One of the greatest hurdles to improving rural farmers' health in Nigeria is the level of formal education the rural farmers have. A large majority of rural farmers are illiterates. Their general mentality is that of "this is the way our great grand fathers had been treating this ailment and had always been successful". The question is: what was the level of their success? This is why, coupled with the high cost of medical services in Nigeria, discriminatory attitudes and practices by health workers and the dearth of health facilities in the farm communities, they are apathetic to western medications. As part of a preventive rural healthcare effort, rural farmers should be taught basic health care and given instruction in dental care, nutrition and hygiene. Health extension workers should use several communication media for dissemination and exchange of health information in the rural communities and

farm settlements. In agricultural settlements, information exchange is best achieved through interpersonal conversation / discussions, interviews and small group meetings.

POOR HEALTH AND RURAL AGRICULTURAL PRODUCTIVITY

Productivity and health are intricately related (Amanze, 2006). Good health contributes directly to high agricultural productivity while poor heath brings low productivity. The capacity and ability for productive agricultural and non-agricultural rural activities are endangered by poor health. A number of studies, notably, Adejare (2001) and Okoruwa and Agulana (2004) have shown that poor health affects individuals'hours of work. Okoruwa and Agulana (2004) reported the debilitating effect of sickness on farm labor and its reducing effect on farmers' efficiency level which cause low productivity. The importance of health as a determinant of labor supply has also been documented by Sagan (1987). In areas endemic to malaria, 30 to 40 percent of people are incapacitated by it at anytime during the year. This prevents people from working due to long period of fever. Frequent absenteeism due to malaria therefore reduces productivity of farmers and cause economic burden which makes developing country like Nigeria poorer. One percent growth of gross domestic product (GDP) reduction in Nigeria is caused by malaria which paralysis agricultural production and makes the profession unprofitable. Also, in Nigeria, guinea worm infection temporarily incapacitated 2 million people in 19887, and a cost benefit study in one area revealed that apart from shortage of funds for financing agricultural activities, the infection was major impediment to production that year (Sagan,1987). Thus, the negative effect of poor health on agricultural activities is enormous as workers lost days of work and cost of treating illness may be significant in the farmers' per capita GDP (Spore, 2002).

CONCLUSION

Undoubtedly, a number of indicators have suggested that poor health is a serious constraint to agricultural productivity. The adverse effect of poor health on agricultural productivity is an economic justification for the need to provide healthcare facilities and services to rural farming communities. This will require a large number of interrelated actions, ranging from the formulation of comprehensive healthcare policies to identify the disadvantaged groups whose health status must be clearly defined, to the use of information, education and communication programs to improve health related practices of individuals, households and communities. This must be seen as a panacea to effectively deal with health problems. Health information programs must be organized as well as presented in such a way that it will motivate individuals particularly those in the rural areas to use such information for their personal benefit and the benefit of their families and community.

REFERENCES

Adejare, G. T. F 2001. Health Problems of Women Cassava Processors in Oluyole Local Government Area of Oyo State. Unpublished M.Sc Thesis. Department of Agricultural Extension and Rural Development, University of Ibadan. Nigeria.

Anyanwu,C. N. 1993: The Human Commonwealth for a Humane Society. Inaugural Lecture, Department of Adult Education. University of Ibadan. Nigeria. Pp 20.

Central Bank of Nigeria 2004. Annual Report and Statement of Account for the year ended 31st December, 2004. CBN, Garki, Abuja. Nigeria.

Chinai, R. 2005. Getting Healthcare to Vulnerable Communities. International Journal of Public Health, Bulletin of the World Health Organization Vol. 83, No 11 pp 804-805.

Copplerstone, J. F. 1991. What is Health? World Health Forum. International Journal of Health Development. Vol. 12, No 4. World Health Organization, Geneva. pp 440.

Fee, E and Brown, T. 2003. Public Health Classic: The Public Health Bulletin of the World Health Organization. Vol. 83. No 11

IITA 2004. An Approach to Hunger and Poverty Reduction for Sub-Saharan Africa. IITA Research to Nourish Africa. Hartmann, Ibadan. Nigeria. p6.

Johns, G. B. Sutton, W.C and Cookey, B.A (1975): Health for Effective Living. Mcgraw- hill Book Company. New York

Killen, B. 2005. The Millennium Development Goals for Health. International Journal of Public Health. Bulletin of World Health Organization Vol. 83. No 10 pp 876.

Mareyan, S. M and Joslin, D. J. 1980. Crisis Theory and Interventions. A Critique of Medical Mode and Proposal of a Holistic Nursing Model. Advances in Nursing Science Vol. 2 no 4

Okoruwa, V. and Agulana, F. 2004. Sickness and Labor Productivity among Farmers in Oyo and Osun States of Southwest Nigeria. ARPAN, Dept of Agricultural Economics. University of Ibadan. Nigeria, p 16.

Oyebola, D. D. O. 1980. Traditional Medicine and Its Practitioners among the Yorubas of Nigeria. A Classification of Journal of Social Science and Medicine. Vol.14 pp 8.

Sagan, L. A. 1987. The Health of Nations: True Causes of Sicknesses and Wellbeing. Bac Books Inc. New York. pp 8

Sen, A 1999. Health in Development. International Journal of Public Health. Bulletin of World Health Organization incorporating World Health Forum and World Health Statistics. No 8, pp 61.

Shaw, R. P and Elmedor,. A .E.. 1994. Better Health in Africa. Experience and Lessons Learnt.The World Bank, Washington D.C p109.

Sims, J. C. 1994. Women, Health and Environment Anthropology. World Health Organization. Geneva.

Spore, 2002. Energizing Agriculture. They Never Said It Would Be Easy". Information for Agricultural Development in ACP Countries. No 101 p1.

World Health Organization WHO, 1992. Women's Health: Across Age and Frontier. Geneva. P5.

Adisa, B. O and Okunade, E. O (2005): Women in Agriculture and Rural Development. In: Adedoyin,F S (ed): Agricultural Extension in Nigeria. Agricultural Extension Society of Nigeria, ARMTI. Illorin. Nigeria. Pp 69-77.

Uchegbu, D. C 2006. Nursing Profession and Healthcare Problems in Developing Countries. In: Daura, M. M (ed): Nigeria's Technical Aid Corps: Issues and Perspectives. Dokun Publishing House, Ibadan. Nigeria p 101-114.

World Bank (1999): Intensifying Action against HIV/AIDS in Africa. Responding to a Development Crisis, Africa Region (Washington,D.C: The World Bank). Retrieved from http://www. worldbank.org/htm/exdr/offrep/afr/aidstrat.pdf

Topouzis, D 1998. The Implications of HIV/AIDS for Rural Development Policy and Programming: Focus on Sub- Saharan Africa. Study Paper No 6 UNDP. Retrieved from http://www.undp.org/hw/publications/study/englsh/spbe.htm

Guerny, ,J. 2000 AIDS and Agriculture in Africa: Can Agricultural Policy Make a Difference? Retrieved from http:/www.fao.org/ docrep/14390e 02.htm

UNAIDS, 2000. HIV and AIDS - Related Stigmatization, Discrimination and Denial: Forms, Contexts and Determinants, 2000:1-8.

Bollinger, L and Stover, J. 1999. The Economic Impact of AIDS. The Futures Group International. Glastonbury,CT.

Egal, F and Valstar, A 1999. HIV/AIDS and Nutrition: Helping Families and Communities to Cope. Retrieved from http:/www.fao.org/news/2000/000608- e.htm

Cohen, C. 1992. The HIV Epidemic and The Education Sector in Sub-Saharan Africa. Issues Paper No 32 UNDP.

Reis, R 2005. Discriminatory Attitudes and Practices by Health Workers Toward Patients with HIV/AIDS in Nigeria, PLOS Med.2005:2(8):743-752.