

Poverty, Disease and Drugs in Regional Development Wilson O. Erhun

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It is indeed an honour and a great privilege to be given an opportunity to address such a select group of professional colleagues represented at this 24th Annual General Meeting and Scientific Symposium of the West African Post Graduate College of Pharmacists. In this presentation on poverty, disease and drugs in regional development I will start by describing the key words in the topic and then proceed to look at the interplay of these factors in the process of regional development through a concept I have tagged the tripod of underdevelopment and then end with the role of the pharmacist in regional development.

1. What is Development?

Development can be described as a cumulative, all-round, and integrated progress which occurs in societies and peoples. It can also be described in terms of achievement of poverty reduction and of the Millennium Development Goals (MDGs). A close look at the MDGs will reveal that at least 50% of the goals have to do with issues of poverty and disease.

"The basic purpose of development is to enlarge people's choices. In principle, these choices can be infinite and can change over time. The objective of development is to create an enabling environment for people to enjoy long, healthy and creative lives."¹

Economic growth is essential for a national economy to grow. However there should be conscious efforts to redistribute income, and invest in basic needs such as health care, shelter and education. Development may actually not take place in its true sense if attention is not paid to justice, and its political and psychological corollaries.

Development can also be seen in the context of the Human Development Index (HDI) which is a comparative measure of life expectancy, literacy, education and standards of living for countries worldwide. It is a standard means of measuring well-being, especially child welfare. It is used to distinguish whether the country is developed, developing or underdeveloped and also to measure the impact of economic policies on quality of life. The index was developed in 1990 by Pakistani economist, Mahbub ul Haq¹ and Indian economist Amartya Sen.² The Nobel laureate, Amartya Sen wrote "Human development, as an approach, is concerned with what I take to be the basic development idea: namely, advancing the richness of human life, rather than the richness of the economy in which human beings live, which is only a part of it."²

Countries are ranked as Very High Human Development, High Human Development, Medium Human development and Low Human Development.³

Human Development Index

Country	Ranking	HDI
Medium Human Development		
Ghana	135	0.541
Low Human Development		
Nigeria	156	0.459
Togo	162	0.435
Benin	167	0.427
Gambia	168	0.420
Cote De Voire	170	0.400
Sierra Leone	180	0.336
Liberia	182	0.329

2. What is Poverty?

Poverty has been described as a state of significant material deprivation, an inability to provide a family with adequate nutritious food, reasonable shelter and clothing i.e. those things our people know as the basic needs of life.

The poor are those who have inadequate income or education, or poor health, or insecurity, or low self-confidence, or a sense of powerlessness, or the absence of rights such as freedom of speech. Poverty is a complex phenomenon. It involves an interplay of many variables. It is also a subjective term. Variants of poverty occur at both the inter regional and intra regional levels.

What is regarded as poverty in the United States is different from what poverty is in our region. The US government in 2005 stated that the average household defined as poor lived in a house or apartment equipped with air conditioning and cable TV. The family had a car (a third of the poor have two or more cars). For entertainment, the household had two color televisions, a DVD player, and a VCR. If there were children in the home (especially boys), the family had a game system. In the kitchen, the household had a microwave, refrigerator, and an oven and stove. Other household conveniences included a clothes washer, clothes dryer, ceiling fans, a cordless phone, and a coffee maker.⁴ Can we describe such a household as poor in West Africa? Your guess is as good as mine. In fact, if we are to go by that definition, we may be tempted to describe the middle class in our region as poor at the very best. Rector and Sheffield in 2011 stated that “the actual standard of living among America's poor is far higher than the public imagines and that, in fact, most of the persons whom the government defines as “in poverty” are not poor in any ordinary sense of the term.⁵

In the West Africa region, poverty is a situation where money is not available for the essentials of life; right kinds of food, routine medicines, clothing, transportation, accommodation, school fees, school uniform, and even school books.

Hunger Statistics

- More than 800 million people go to bed hungry every day and 300 million are children.
- Of these 300 million children, only eight

percent are victims of famine or other emergency situations.

- More than 90 percent are suffering long-term malnourishment and micronutrient deficiency.
- Every 3.6 seconds another person dies of starvation and the large majority are children under the age of. ⁵ Above 80 percent of farmers in Africa are women.
- More than 40 percent of women in Africa do not have access to basic education.
- If a girl is educated for six years or more, as an adult her prenatal care, postnatal care and childbirth survival rates, will dramatically and consistently improve.
- Educated mothers immunize their children 50 percent more often than mothers who are not educated. Devastating effect of poverty on women.
- AIDS spreads twice as quickly among uneducated girls than among girls that have even some schooling.
- The children of a woman with five years of primary school education have a survival rate 40 percent higher than children of women with no education.
- A woman living in sub-Saharan Africa has a 1 in 16 chance of dying in pregnancy or childbirth.
- This compares with a 1 in 3,700 risk for a woman from North America.
- Every minute, a woman somewhere dies in pregnancy or childbirth. This adds up to 1,400 women dying each day—an estimated 529,000 each year—from pregnancy-related causes.
- Almost half of births in developing countries take place without the help of a skilled birth attendant.(<http://www.unmillenniumproject.org/documents/3-MP-PovertyFacts-E.pdf>) Essentially poverty in our region is synonymous with widespread hunger and starvation. The poor cannot improve upon his/her poor situation because he does not have the resources. Unfortunately, the one who has the resources to help our poor may not really understand what it is to be poor. This is a major challenge of depending on developed countries for the development of

3. Which Are The Diseases?

Diseases can be classified along the lines of development. There are diseases of the poor. There are diseases of the rich. There are tropical diseases. There are diseases that co exist with poverty. In fact there are diseases that are bred by poverty. These are regarded as Neglected Tropical Diseases, a.k.a “poverty diseases”. They exist in areas with poor sanitation, where insects and other disease-carrying animals thrive, where people have no political voice and little or no means of accessing essential medicines to prevent and treat such infections. These diseases spread because most of their victims are marginalized and forgotten by the people and organizations with the money, technologies, and influence to effect change. An extremely diverse group of parasitic, viral and bacterial infections, the Neglected Tropical Diseases are responsible for millions of cases of deformity, chronic disability, and social stigmatization every year. While they differ widely in terms of their impacts on human health, their common link is that these infections are only prevalent in conditions of extreme poverty. Poverty diseases are responsible for approximately 534,000 deaths annually worldwide and millions more, with serious but non-fatal illnesses.⁶

Measles, mumps, pertussis, polio, and diphtheria are among the familiar, vaccine-controlled diseases in developed countries but most of them remain a major challenge in our region. We are confronted with other diseases that are unfamiliar in some regions. These diseases include: human African trypanosomiasis, visceral leishmaniasis, Chagas disease, hookworm, schistosomiasis, lymphatic filariasis, onchocerciasis, dracunculiasis, and others.⁷

Health Statistics

- More than one billion people in the world live on less than one dollar a day.
- Another 2.7 billion struggle to survive on less than two dollars per day.
- Poverty in the developing world, however, goes far beyond income poverty.
- It means having to walk more than one mile everyday simply to collect water and firewood.
- It means suffering diseases that were

eradicated from rich countries decades ago.

- Every year eleven million children die—most under the age of five and more than six million from completely preventable causes like malaria, diarrhea and pneumonia.
- In some deeply impoverished nations less than half of the children are in primary school and under 20 percent go to secondary school. Around the world, a total of 114 million children do not get even a basic education and 584 million women are illiterate.
- Every year six million children die from malnutrition before their fifth birthday.
- More than 50 percent of Africans suffer from water-related diseases such as cholera and infant diarrhea.
- Everyday HIV/AIDS kills 6,000 people and another 8,200 people are infected with this deadly virus.
- Every 30 seconds an African child dies of malaria—more than one million child deaths a year.
- Each year, approximately 300 to 500 million people are infected with malaria. Approximately three million people die as a result.
- TB is the leading AIDS-related killer and in some parts of Africa, 75 percent of people with HIV also have TB.

<http://www.unmillenniumproject.org/documents/3-MP-PovertyFacts-E.pdf>

Development economists have recently turned to health and infectious diseases to try and find answers to the unpredictable global economic situations. The economic cost of a disease comes from its effect on mortality (infected individuals can die prematurely) and morbidity (lower productivity and/or lower flow of utility from a given consumption bundle).

Dr Margaret Chan, Director-General of the World Health Organization in her opening statement at the launch of the WHO report “Working to overcome the global impact of neglected tropical disease” stated inter alia. “Together, these diseases blind, maim, disfigure, disable, and otherwise impair the lives of an estimated¹²

billion people. Less visibly, they damage internal organs, cause anaemia, retard the growth of children, impair cognitive development, and compromise pregnancy outcomes. These diseases anchor large numbers of people in poverty. This is poverty passed from one generation to the next in a painful chain of illness, misery, blunted capacity, and lost productivity”

Human parasitic diseases account for approximately 100 million disability-adjusted life years (DALYs, the number of life years lost to premature death or disability), exceeding the DALYs from diarrheal disease, lower respiratory infections, or HIV/AIDS.¹⁰

4.0 The Drug Component

Drugs (including medicines) can be likened to a two face coin. Drugs can serve both as friend and enemy.

Drugs can be broadly classified into prescription medicines, non prescription medicines, narcotic or controlled substances.

4.1 Drug Trafficking And Drug Abuse

Drug trafficking typically refers to the possession of an illegal drug in a predetermined quantity that suggests the drug is going to be sold. It is an intention to sell, purchase, manufacture, deliver, possess transport or take delivery of a "trafficking amount" of drugs. Drug trafficking is an expensive activity that fuels underdevelopment. This it does in the following ways:

- threatens public health, spreads disease and causes death
- undermines human rights
- undermines international development and security
- promotes stigma and discrimination
- wastes billions on ineffective law enforcement
- creates crime and enriches criminals

It is sad that our region has become the preferred route for international drug cartels to smuggle narcotics into Europe. It has been estimated that the drug barons make about 680 million euros (\$880 million) a year with their illegal activities.¹²

Based on data from Interpol, the UN estimates that about 50 tons of cocaine worth US\$1.8 billion is trafficked through West Africa to Europe annually.¹³

West Africa is regarded as the shortest and most cost-effective route to Europe. Its geographic location, mid-way between South America and Europe, as well as its long coastline and largely porous national borders add value to this route for trafficking purposes. Most of the drugs entered West Africa since 2004 through Guinea-Bissau or near Ghana by sea, or were seized in Senegal, Nigeria, Mali and Guinea on commercial flights, according to the UN report, "Drug Trafficking as a Security Threat in West Africa".¹⁴

Drug trafficking is an expensive activity that fuels underdevelopment. The economic gains from the illicit drug industry should be seen against opportunity costs, i.e. what could have been achieved with the resources used by the illicit drug activity. The opportunity costs of the drug trade include: (a) lost investment in legitimate enterprise as farmers and processors funnel their savings into illicit drug cultivation and production; (b) lost investment in human capital as drug-related employment provides a false sense of security to its "workforce"; and (c) future costs to the quality of the workforce as children get caught up in the drug trade.

Development has been described as a process of enlarging people's choices by strengthening their capabilities and maximizing their use of those capabilities.¹⁵ In this sense drug trafficking can serve a means of promoting underdevelopment.

What is the attraction in cultivating illicit crops? Cultivating illicit crops could be compelling because they are generally less problematic to grow than many other primary agricultural commodities. They can be harvested where other crops cannot endure the rough terrain. They can be stored for long periods and they travel well. Raw opium, for example, can be stored for years. This is especially relevant in many developing countries where lack of infrastructure between rural areas and urban markets poses insurmountable transportation problems. The rural farmers may therefore see it as good business.

A study was carried out on the impact of the drug trafficking industry in Mexico. The analysis measured the number of drug-traffic employees, the amount of cash and investments generated by the drug-trafficking industry, the monetary costs of

violence and corruption, the estimated losses in foreign investment, and the costs generated by local drug abuse. The authors acknowledged that in some small and less diversified rural communities, drug-traffic cash flows may be helping to alleviate a grinding stage of poverty and underdevelopment. They concluded that the illegal-drug industry generated economic losses of about 4.3 billion dollars annually which is an impediment to the economic growth and development of the nation.¹⁶

The effect of illicit drugs has continued to grow, drawing an ever-larger number of people into a perpetual state of dependence, physiological as well as financial.

The negative impact of drug abuse becomes especially clear when the inevitable spillover effect of rising consumption is taken into account. Where trafficking takes root, drug consumption inevitably emerges which in turn directly impacts on the productivity of an affected country's citizens, including particularly its youth.

The African Union has responded to the problems of drugs, crime, corruption and terrorism as impediments to development. This position is clearly articulated in the AU's 2007-2012 Plan of Action on drug control and crime prevention. The primary goal of this Plan of Action is to reverse the current trends of drug abuse and trafficking amongst other things.¹⁷ Since 2006, between 20-40 tons of cocaine per year are transiting through the region en route to Europe. With 20 tons valued at approximately US\$ 1 billion on the wholesale market - a sum higher than the GDP of some West African countries - the criminal behavior and corruption that travels alongside cocaine have implications for national stability. An appeal has gone to the international community to support the sub region in facing the formidable challenge posed by drug trafficking, stressing the critical importance of building capacity in the countries of the sub region and mobilizing resources to help regional states in confronting the threat at the national and cross border levels.¹⁸

It is reported that there are about 14 - 22 million cannabis abusers, 160, 000 - 340,000 opiate addicts, and 640,000 - 830,000 cocaine users for the population aged between 15 - 64 in the West

African region in 2008, while the rate of abuse of drugs by youth is higher than the world average, especially for cannabis use, which went up to 12% for users aged between 15 - 64.¹⁹

Individual countries have continued to respond to this challenge. Many countries have enacted laws in this direction. Recently a new law was put in place in the Republic of Gambia to reduce drug possessions and trafficking in the country that will lead to death of anyone found in possession of at least 250g of Heroin or even Cocaine.

4.2 Counterfeit Medical Products

Counterfeit medical products remain a major challenge in the world. However its impact is greater in poorer countries who depend mostly on importation for the supply of their medical products. Medical products that are counterfeited include medicines, pharmaceutical ingredients, medical devices and diagnostics. The range of products counterfeited is highly varied. Medicines such as paracetamol, as well as limited-use medicines are counterfeited. Medical devices such as contact lenses, condoms, surgical mesh and diagnostic test strips used by diabetic patients to monitor their blood glucose concentrations are also being counterfeited. Thus, both expensive and cheap products, as well as generic and branded products are being counterfeited, and they are found in community pharmacies, hospitals, open markets, motor parks as well as other less-regulated settings.²⁰

The counterfeit problem is not boundary limited. The BBC carried an information that fake malaria drugs have entered into the territory of 10 countries in West Africa and could put the lives of millions at risk.²¹ A report quoted the President of Pharmaceutical Society of Ghana as saying "fake medicines have found their way into public hospitals as there have been instances where patients on effective antibiotics did not get well until there was a change in the brand of drug administered. This clearly showed that the first line of treatment used had been counterfeit drugs."²¹ The situation is not different in the other countries in the region. In 2010, the Pharmaceutical Society of Nigeria (PSN) disagreed with claims by the National Agency for Food and Drug Administration and Control (NAFDAC) that incidences of fake drugs

had reduced to 5 per cent in the country. PSN stated that the figure was 52 per cent based on their findings and realities on ground.²² However the larger the size of the country the greater the challenge. Commenting on the BBC report on the fake malaria drugs in West Africa, the President, Pharmaceutical Society of the Gambia, Mr. Coker was quoted as saying "Gambia is a small market and assured the general public that they will use all mechanisms necessary to avoid such drugs from reaching our markets"²³

4.2.1 Counterfeiters Are Murderers

The dividing line between counterfeiting and murder can be very thin.

A toxic chemical mixed into a teething medicine for babies killed at least 84 children in Nigeria in 2009. The children died after taking My Pikin Baby Teething Mixture, a syrup for teething pain, according to Nigeria's Health Ministry. Health officials said that a batch of the medicine that went on sale in November contained, diethylene glycol, an industrial solvent and an ingredient in antifreeze and brake fluid²⁴. During its 1995 meningitis epidemic, Niger unknowingly inoculated some 50,000 citizens with a fake vaccine, resulting in 2500 needless deaths. The same year, dozens of children in Haiti died after consuming a paracetamol cough syrup that contained a poisonous chemical used in antifreeze.²⁵

We do not have yet as a serious problem the online sales and purchase of medicines in our region. But it is worth noting that the WHO has estimated that 50% of medicines available from sites which conceal their physical address are counterfeit.²⁶

With global revenue of \$200 billion from fake and counterfeit drugs, there is indeed attractive incentive to continue in this notorious business of merchandizing of deaths.

Aside from the potential harmful effects that counterfeit drugs may have on the user's health, they also contribute to a financial burden on economies across the world. Estimated figures suggest that the market of counterfeit drugs is worth US\$32 billion on an annual level and there are estimates that in five years this figure could grow to \$62 billion a year. Transactions of counterfeit drugs on this level support international crime activities and they also

contribute to financial losses in the pharmaceutical industry. In addition, they are responsible for a burden on public health and law enforcement services, as well as being a significant cost to the health care delivery system. When counterfeit drugs are filtered through to the patient and pharmacy level, trust is lost in the health system.

The commitment to minimizing the presence of counterfeit medicines in the drug distribution chain should continue to be pursued through:

- Better control of manufacturing, importation, and distribution of medical products
- Increased collaboration among those involved in regulation, control, investigation and prosecution
- Collaboration and exchange of information between the public and private sectors
- International collaboration and exchange of information.
- Higher penalties for offenders.

5.0 THE TRIPOD OF UNDERDEVELOPMENT

A tripod is a portable three-legged frame, used as a platform for supporting the weight and maintaining the stability of some other object. A tripod provides stability against downward forces, horizontal forces and moments about the vertical axis. Underdevelopment is supported by a three legged frame of poverty, disease and drugs that needs to be removed for development to occur. The strength of the tripod would need to be weakened. Underdevelopment has an inverse relationship with development.

5.1 What Can Be Done To Poverty?

Financial aid going to African countries has often been mostly emergency food aid. The longer-term financial help has often been misappropriated for personal wealth by corrupt leaders. Such leaders are yet to yield to the wisdom of King Solomon when he wrote " He who trusts in his riches will wither, but the righteous will flourish like a green leaf. He who troubles his household will inherit wind, and the fool will be servant to the wise." It is not wisdom to divert the wealth of the majority for personal use. "It has been said that the rich man's wealth is his strong city: the destruction of the poor is their poverty."²⁷ "He that hasteth to be rich hath

an evil eye, and considers not that poverty shall come upon.”²⁸ Some of these loans also attract high interest rates that poor countries find too expensive to bear.

Nelson Mandela while speaking at the Trafalgar Square on the campaign to make poverty history said “overcoming poverty is not a gesture of charity. It is an act of justice. It is the protection of a fundamental human right, the right to dignity and a decent life. While poverty persists, there is no true freedom.”²⁹

We find a situation where African governments often have to sell their export crops for bargain prices to pay the interest on their foreign debt. The richer importing nations offer artificially low prices because they know that the poor nations (producers) have to sell. The conditions attached to these loans are such that debtor nations are made to reduce rather than increase spending on such critical sectors as education and health. This trend has to change if there is going to be any meaningful long term reduction in poverty. The richer nations should know that national boundaries are essentially porous to poverty, disease and illicit drugs. There is therefore the need for deliberate vertical, horizontal and complementary linkages to promote regional development.

There are lessons to learn from the global economic trends in the last few years. We are at the brink of a situation where the resilience of the global economy will be more of a reflection of the weakness of the poor nations rather than the strength of the rich nations.

5.2 What Can Be Done To The Disease Problem?

It has been estimated that of about 1,400 therapeutic drugs developed between 1975 and 1999, less than 1 percent can be used to treat or prevent poverty diseases. Clearly, these infections of poverty have been and continue to be ignored by the wealthiest countries. The majority of those affected live in sub-Saharan Africa, where it is estimated that more than 90 percent of the total impact of death and disability caused by neglected diseases occurs.³⁰

In communities where infectious diseases limit

cognitive abilities from the time of childhood, maim, blind, and kill, it is difficult for economic growth to thrive. If the wealthiest nations recognize that a nation's health is integral to its economic development, stability, and contribution to the global community, then they must accept that the health of the poor impacts the health of the wealthy – and vice versa. The richer nations must also recognize that addressing the neglected diseases of poverty is a critical first step in solving the most fundamental global health challenges of our era.

5.2.1 The Vaccine Option.

Vaccines offer a promising alternative to standard treatments of NTDs.³¹ Neglected tropical disease vaccines could potentially prevent 60% of global disability resulting from infectious diseases. Vaccines are in development for malaria, hookworm, schistosomiasis, and leishmaniasis. The development of NTD vaccines has continued to face significant economic challenges. Deliberate financial incentives would have to be provided for pharmaceutical companies to invest in vaccine production because of the limited market. The advance market commitments (AMCs) option, has the potential to guarantee commercial markets to manufacturers. Prior to product development, purchasers (governments and international organizations) agree to finance the purchase of vaccines for low-income countries. The market price is fixed and determined in advance.³² These commitments can reduce uncertainty on returns and give investors confidence.

5.2.2 More Funds For Research

More funds would need to be allocated for research into the poverty diseases. A situation where only 10% of global health research is devoted to conditions responsible for 90% of the global burden of disease, can only promote underdevelopment.³³

Developed nations must realize that the movement of viruses and vectors do not respect regional boundaries. We should not wait until a disease of poverty begins to affect the wealthy nations before attention is paid to them. Let me illustrate what I mean.

The mosquito-borne chikungunya virus has, in the

past, caused massive and sustained outbreaks in Asia and Africa, infecting more than two million people, with attack rates as high as 68% in some areas. While this virus was on the rampage it did not attract much attention outside those regions until recently. With the movement of travelers, new Guidelines for preparedness and response for chikungunya virus introduction in the Americas have been launched. They aim to help countries throughout the Americas to detect the virus and prevent and control the disease, should it appear. This was necessitated by the fact that many people who have traveled from the Americas to Asia and Africa in the past five years have become infected with the chikungunya virus.³⁴ While the virus has not spread locally in the Western Hemisphere, experts say there is a clear risk of its introduction into local mosquito populations. This natural instinct of self preservation is no longer fashionable.

5.2.3. Ethical Questions

The international community (developed and developing nations) will need to take a close look at some ethical questions regarding prevention, cure and research into NTDs. Does the pharmaceutical industry have any obligations to both local and global communities? Should the mega pharmaceutical companies not reinvest part of their profits in products targeted to underdeveloped countries? What is the scope of the social responsibility of the pharmaceutical industry? Should the pharmaceutical industry in developing nations not enjoy tariff concessions? Who should fix the drug prices? Who should guarantee the health of the average tax payer? The list is unending but we need to deeply reflect on the issues of equity, access and pricing of pharmaceuticals.³⁵

5.3 What Can Be Done To The Drug Question?

We have identified drug trafficking and counterfeit medical products as major challenges. It is worthy of note that there are very few pre-qualified quality-control medicine analysis laboratories in the whole of malarious parts of Africa.³⁶ More laboratories will need to be established. But there are some equally important challenges in the routine supply and administration of medicines

which are also very important.

5.3.1 Medication Errors

A medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use.

This is one aspect of medical costs that is still largely under reported in our region. But it does not serious the seriousness of the problem.

It has been reported that 44,000 - 98,000 Americans die each year from medication errors. One in fifty hospitalized patients experienced a preventable adverse event.³⁷ Serious errors occur during prescribing.³⁸ Drug-related morbidity and mortality has a reported annual cost of \$76.6 billion. The adverse drug events had been reported to nearly double hospital length of stay and double the risk of death.³⁹ In a more recent study carried out to measure the economic costs of medication errors, the costs of medical errors in the United States was put at \$19.5 billion during the year 2008. Of this amount, the vast majority identified (about 87% or \$17 billion) was a direct increase in the medical costs of providing inpatient, outpatient, and prescription drug services to individuals who are affected by medical errors. They also identified increases in indirect costs of approximately \$1.4 billion related to increased mortality rates among individuals who experienced medical errors and approximately \$1.1 billion related to lost productivity due to related short-term disability claims.⁴⁰

A reduction in medication error will translate into reduction in poverty, disease burden and drug costs. Pharmacists will play a pivotal role for this to be achieved.

6.0 The Seven Star Pharmacist And Regional Development

The International Pharmaceutical Federation (FIP) and World Health Organization (WHO) developed the concept of "The seven star pharmacist".⁴¹ The

concept is that a well-rounded pharmacist should meet seven important criteria

- i. Care giver
- ii. Decision maker
- iii. Communicator
- iv. Lifelong learner
- v. Manager
- vi. Leader.
- vii. Teacher

The seven star pharmacist has a major role to play in regional development. Pharmacy is a major factor in the attainment of Millennium Development Goals which we had earlier stated as an index for the measurement of development. Pharmacy can be involved in all the health related goals of

- Reducing child mortality through community pharmacy involvement in immunization activities;
- Improving maternal health educational intervention activities with respect to contraceptive prevalence;
- Combating HIV/AIDS, malaria, and other diseases through involvement in antimalarial drugs use as well as condom distribution and use;
- Ensuring environmental sustain ability through community pharmacy awareness creation on improved sanitation;
- Developing a global partnership for development through community pharmacy improved services as primary health care facility that could improve life expectancy.^{42,43}

Due to the increasing demand for pharmacists in public health, WHO has recommended a ratio of one pharmacist per 2000 population in order for optimal health care to be delivered. Meeting this pharmacist population ratio is a major challenge in our region. Besides their pivotal role in public health, pharmacists can also act as advisors to physicians and nurses and contribute to policy decisions.^{44,45} Increasing the participation of pharmacists in all levels of the public health system is fundamental to achieving substantial improvement in the health status of our population. This position was well articulated by Dr (Mrs) Dere Awosika at the 23rd AGM / Scientific Symposium of our College.

The Pharmacist is easily accessible. Any person can enter a community pharmacy to seek drug information and obtain assistance in selecting nonprescription medicines to care for common ailments. Any institutional health care worker can request pharmacist consultation for therapeutic drug monitoring or drug information. Few health care professionals routinely offer free services to the public as do pharmacists. Pharmacists have been providing public health services for decades and particularly now with greater frequency, with the paradigm shift to optimizing pharmaceutical care. The community Pharmacist is a community leader.

7.0 Conclusion

Poverty, Disease and Drugs constitute the tripod of underdevelopment. Drugs, if effectively managed and used will go a long way in reducing the effect of diseases particularly those that require the use of medication. Disease and poverty have a close link hence the term poverty diseases. If therefore Pharmacists who are the recognized, well trained health professionals on matters of drugs, are in the national system in the right quantity and quality the tripod of underdevelopment will suffer a major blow. Pharmacists therefore are a group of professionals that governments should not ignore if they have regional development as their goal. The choice of this topic by the leadership of the West African Post Graduate College of Pharmacists is therefore most appropriate.

Thank you for your patience and kind attention.

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