

Intellectual property Rights and Food Security:
Implications for Africa's Agriculture

By

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1. **INTRODUCTION**

Food security and Africa's capability to feed its population has been a matter of concern to successive Government since independence . The situation has not been helped by widespread incidence of conflicts, military interventions in governance, other political upheavals , natural disasters (floods and draught), the Aids pandemic (disease and ignorance) and extensive crop failures. The currents situation in southern Africa and the offer of the controversial GMO food grain aid has called the issue to even more focus. Africa has suffered from more famine and food shortages in the last forty years than any other continent in the world. It is therefore understandable that there should be renewed efforts to "invent " more innovative mechanisms to deal with the problem.

The growing dependence of nations and peoples of developing countries in general and African in particular on food aid has become logistically very problematic and precariously unsustainable. The scourge of foods deficiency had grown worse in the last two decades.

In the on-going debate, several strategies have been proposed for the achievement of food security in developing countries. There is however general agreement that there is no quick fix solution to the achievement of food security for all in Africa. It is attainable in the long run, through basic investment in research to develop high yielding, ecologically adaptable and socially acceptable food crop varieties, water development (Conveyance and distribution), accelerated education of farmers and advisory service personnel, researcher and policy makers. It requires the organization of support services that can ensure timely delivery of farm inputs, storage facilities, processing and marketing infrastructure.

It has been suggested that the path to sustainable food security in African should emphasize a transformation process that can move agriculture from its subsistence level trough improved traditional farming , market and cash oriented agriculture to a market oriented specialized agriculture. This approach subsumes the application of modern technology (Biotechnology and genetic engineering) to the agricultural production process.

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This is because small farmer agriculture needs to be transformed into an agricultural production BUSINESS (ENTERPRISE). This conception of agriculture though objective in western agriculture is unrealistic in Africa's farming systems of today and the very near future. The reasons are obvious.

In the past decade, Africa has been confronted with a difficult choice of application of intellectual property rights to agriculture and solution to its food security problem. The proponents of this idea argue the application of IPRS in agriculture will result in agricultural development and increased food production by encouraging private sector development and transfer of appropriate technology. The counter argument indicates that any attempt to privatize Africa's innovative practices and biological resources and reorganize its seed market for the benefit of a "supposed efficient" private sector will be counter productive. African's small farmer knowledge and rich plant biodiversity which they have nurtured and maintained over the years will most likely be undermined in the process and therefore aggravate Africa's already fragile food security.

African countries are in a decision dilemma – between two conflicting processes to agricultural development and food security. The first anchored in the age long and familiar practice of traditional agriculture and the other dependent on the application of intellectual property rights technologies. While I accept that Africa' cannot continue to survive on the practice of an insecure, high risk subsistence agriculture, characterized by low yield levels and technology applications, for too long, I submit that an agricultural development and food security system based on the privatization of knowledge and the exclusion of weaker groups (nations) from access to new technologies through an oppressive IPR system is not a better option. The challenge facing Africa's agriculture is not the absence of an appropriated IPR system (Patents on plants and animals is alien to Africa), but the non-adoption and use of existing conventional technologies and production practice by a large number of small farmers in Africa.

In this paper an attempt will be made to discuss the classical concept of intellectual property Rights and efforts at its globalization and harmonization. A definition of food security will be provided and the relationship between intellectual property right and foods security discussed. The paper takes the position that the introduction of classical intellectual property rights into African agriculture will not ensure sustained food security. It calls for additional research and continued dialogue and negotiation to facilitate a better understanding of Africa position Vis-à-vis the international version of Intellectual Property Rights.

2. **CLASSICAL CONCEPT OF INTELLECTUAL PROPERTY RIGHTS AND IT'S EXTENTION TO AGRICULTURAL INNOVATION.**

Formal intellectual property rights (IPRs) exemplified in this discussion as "Patent" is justified as protection of and incentive to creativity. In return, society expects innovators to make their works available for the benefit of humanity. While society would encourage creativity, its abhors monopoly. Consequently, the state in granting IPRs, limits the rights granted to the inventor in time and space. Theoretically, they are

intended to provide recognition for all products of the mind such as inventions , music and books etc.

In its contemporary interpretation, a IPR regime is intended to "promote the progress of science and useful arts, by securing for a limited time, the exclusive rights of authors and inventors to their respective writing and discoveries. The purpose was to stimulate invention and creativity.

Intellectual Property Rights (IPRs) may by itself not have been a problem as a concept. What has become a contentious issue is the nature of the meaning and interpretation it has taken on in recent times, its contemporary application and its extrapolation beyond mechanical and literary inventions to the biological science and agriculture. This apparent imposition has tended to marginalize weak developing countries as well as impact negatively on their agriculture and food security.

Since independence, many developing countries have experimented with different policy options of agricultural development to achieve food security. In the sixties, the international/national agriculture policy was predicted on the research achievements of the green revolution and the development of high yielding varieties (HYV). The strategy was the adoption and use of improved crop varieties (Mono-culture) complimented with organic fertilizer, water management and crop protection chemicals to endure increased yields and food self-sufficiency . The strategy was underpinned by the establishment of internationally funded agricultural research institutes and a virile foreign aid programme by friendly developed countries.

The projected benefits of the green revolution were short lived as interest in the sustained provision of foreign aid waned . One explanation was donor fatigue. But more importantly, it become known that the expressed high productivity of the green revolution on farmer plots was a gross exaggeration and at best a misleading myth.

There is evidence (Vandana Shiva and several others) to show that the methods used for the comparative analysis of yields of traditional and green revolution system is flawed, exaggerating the yields of improved agriculture while underestimating traditional yields. The apparent failure of the green revolution to address the problems of food security coincided with supposed benefits of the application of biotechnology in agriculture. Most of the donors were fascinated with the potentials of biotechnology . It provided a good alternative, enabling them to withdraw from the provision of aid and the funding of agriculture in order to empower the private sector take over full responsibility. It was also consistent with the ongoing world economic order.

The first stage of globalization of agricultural policies emerged as components of the structural adjustment programmes of the world bank. Most developing countries including the new independent nations of sub-sahara African had to accept these policies as pre-condition to qualify for international credit facility essential for the acquisition of agricultural technology and skills. Typically, the policy framework and package included cut backs in government expenditures on agriculture and the rural sector development, reduction in agricultural subsidies, liberalization of agricultural imports and privatization of government institutions etc. There is a general agreement among developing countries

in general and sub-sahara Africa in particular that structural adjustment led to widespread public discontent, unrest and sharp decline in public investment in agricultural research, extension and food production programme.

More recent analysis of the experience of developing countries and some African countries seem to suggest that the implementation of intellectual property rights protection in agriculture made it more difficult to improve food security and environmental sustainability. As Vandana Shiva has indicated on several occasions, intellectual property rights (IPRs) tend to connote "Intellectual Piracy Rights (IPRs).

The controversy with the extension of the concept of intellectual property rights to agriculture is highlighted by the simplistic economic importance and interpretation that is sometimes assigned to it. The contradiction is accentuated by the globalization of the concept and the problematic assertion of the TRIPs Agreement suggesting that "Intellectual Property Rights are individual rights" In the African context, this mere assertion does not make it so. In most parts of the continent, improved varieties (land races) of foods crops cultural stories and practice, traditional knowledge etc are considered as community owned rather than individual property. For example, a bioresource prospector may collect, identify and create nomenclature for a series of Africa food and medicinal plants and through compilation and authorship of the resultant publication claim exclusive intellectual property rights which excludes the originators from its use. This scenario can be cited for several instances where resource flow from Africa are transferred by external entrepreneurs, authors and inventors through IPR regimes resulting in products priced beyond the reach of those from whom the knowledge originated. There could be worse problems associated with the distributive effect of harmonized IPR regimes. Drahos alluded to the possibility of new plant varieties developed by multi nationals using germplasm obtained from developing countries. These new plant varieties may be sold back to these countries resulting in royalty (revenue) out flow from the south to the north in relation to products that would not have been possible without the contribution of the south. In this case, globally harmonized IPR regimes have major implications for access and equitable sharing of benefit. As globalized intellectual property regimes set minimum standards of protection, traditional territorial notions of sovereignty are eroded contrary to the basic tenets of the convention on Biological Diversity (CBD). This is because those who hold large blocks of intellectual property are not sovereign nations but multi-national corporations. With Africa holding less than 1% of the worlds intellectual property rights, it may well be true to infer that the development path of African States will be determined by those IPR owners who together have exclusive right to the worlds stock of knowledge and the technologies associated with it.

This contemporary concept of intellectual property rights which recognize the individual as the source of knowledge is new to Africa where the source of knowledge is both the community and the individual and the understanding of property goes beyond individual ownership. Such knowledge is orally transmitted and is characterized by investment of what Carl Sagan referred to as "Extra-somatic knowledge "(Traditional knowledge) passed from one generation to another. It is anchored in a context that perceives the world in terms of social and spiritual relationships between all life forms. These

relationships are built on reciprocity and obligations towards both community members and other life forms and community resource management institutions based on shared knowledge and meaning. In this culture science and art are inseparable. Process and product are identical.

It is this understanding of the African society that makes the extension of contemporary IPR regime to the patenting of life forms problematic with possible negative impact on agricultural production and food security.

3. **INTELLECTUAL PROPERTY RIGHTS AND FOOD SECURITY**

Food production in most of Africa is through subsistence and traditional agriculture by small farmers who constitute over 70% of the population. It is undertaken within a high risk, complex and diverse production system. The production environment is characterized by a complex socio-economic condition, insecure price structure and seed (planting material) is the cheapest factor of production accessible to the farmer. The seed is therefore HIS life. The imposition of an IPR regime that ascribes ownership of seed to a private individual/company to the exclusion of the small farmer in Africa is the best prescription for disaster and food insecurity.

Food security as been described severally as a situation in which:

- Access by all people at all times to enough food for an active and healthy life is assured.
- All people at all times have both physical and economic access to the basic food they need
- All people at all times have access to sufficient food and nutrition for a healthy and productive life.
- All people at all times have access to sufficient food to meet their dietary needs for a productive and healthy life.
- All people at all times have both physical and economic access to sufficient food to meet their dietary needs for productive and healthy life.
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There are three distinct factors in the achievement of adequate food security.

- Food availability
- Access to the available food and
- Appropriate utilization to the available food.

Therefore, for an intellectual property rights regime to adequately address the problem of food security, it must adequately address the tripartite issues of food availability, access and appropriate utilization. The IPR system about which we speak can only marginally assume provision of food through the availability of improved seed and production techniques. It is only by a stretch of imagination to food processing storage and distribution can any IPR system contribute to the enhancement of national foods security. There is very little conclusive evidence that intellectual property right has led to increased food production in developing countries in general and Africa in particular. If

there are benefits from the protection of plant varieties in developing countries, such benefits have accrued to commercial farmers and the seed industry directly, rather than the small farmers nor has it provided the desired solution for food security. The African small farmer has rarely benefited from an IPR system. If anything, he stands the risk of adverse effect occasioned by restriction by the IPR system on his freedom to save and exchange seeds.

There is currently no clear consensus among agricultural scientists in Africa of the extent to which IPR regimes occasioned by advances in biotechnology can ensure food security. A recent review published by the United States Department of Agriculture concluded that “Whether the current intellectual property regime is stimulating agriculture is unclear”. Also a recent report of commission on intellectual property rights (U.K September 2002), indicated that “at present, there appears to be little evidence that providing patent protection for biotechnology – related inventions is really in the interest of the majority of developing countries which have little or no capability in this technology”. Herein a recent publication argued that “The IPR regimes do not address the real cost of food insecurity. For example, the cost of the technologies protected by IPRs e.g. those meant to reduce use of toxic chemicals, herbicides and insecticides are extremely high”. He suggested that “Organic, ecological and biological agriculture are the only systems that promote environmentally, socially, and economically sound production of food. He indicated that by respecting the natural capacity of plants, animals and the landscape, the systems aim at optimizing quality in all aspects of agriculture and the environment. Fred Kalibwani, an ecologist from East Africa puts it pointedly when he wrote “the patented GMO seeds in effect placed food security in the hands of a few corporations, This will be tragic for Africa in the next few years. Devlin Kuyek (August 2002), opined that “Western technology and models have not offered much help to the average African farmer. Rather, African farmers have done an excellent job of looking after the continent’s food security”. He suggested that after forty years of breeding new and improved sorghum varieties, only 5% of the crop land area is planted to such materials, because it does not meet the farmers needs. The informal seed sector in Africa still prevails and the small farmer still constitute the largest informal sector of seed breeders. The small farmer, on whom the food security of the continent depends obtains his seeds from within his own community for over 90% of his crop area.

There is ample evidence that the expansion of intellectual property rights to seeds and other agricultural inputs in Africa and most developing countries is not likely to result in increased food output and substantial improvement in food security. Rather it has been suggested that it would generate higher production cost. It could make poverty more difficult and food security more problematic. As I had indicated at another forum the type of rights Africa needs are not IPRs, monopolized through privatization, but rights that support local communities, farmers, indigenous peoples and their efforts over the past millennia to conserve and enhance biodiversity for the benefit of humankind. Africa’s response to this dilemma has been the development of a *sui generis* “model law on the protection of the rights of local communities, farmers and breeders and the regulation of access to biological resources”.

4. SUMMARY AND CONCLUSION

The globalization of standardized intellectual property regimes may arguably benefit intellectual property providing nations and transnational corporation. It could, however, detract from the sovereignty of States in favour of the political strength and economic power of multi-national entities. Of particular concern is the incursion of intellectual property rights into products and process derived from biodiversity. Under these provisions, corporations have the right to patent products that have traditionally been treated as common heritage of local communities. In Agriculture and food security, the two categories of interest in this discussion paper are :

- ❖ Patents
- ❖ Plants breeders right.

Patents allow the appropriation of indigenous knowledge as a western invention through minor tinkering and trivial translations. Plant breeders rights on the other hand, as a form of protection of knowledge, ignores the contribution of small farmers to world agriculture as breeders and custodians of biodiversity and thereby undermines their rights.

Africa's food security has been guaranteed over the years by the small farmer. It is only when there is natural disaster or national/international conflict that interferes with agricultural production that food crises ensues and the fragile food security status disrupted.

The thrust of western IPR regimes in agriculture and food production do not recognize indigenous knowledge systems. Knowledge is considered as product of individual creativity based on western scientific thought and systems of knowledge creation and gathering whereby the resource base is viewed merely as a "raw material". This perception of knowledge completely ignores the creativity of nature and non-western systems. Yet most African countries have built their food security machines on traditional knowledge and the effective management of the natural environment.

There is evidence that the globalization of IPR regimes is not in the best interest of developing countries and its expansion to agriculture and biodiversity will exacerbate the problems of food security. Africa needs to evolve a system off protection and a concept of property that is truly African and negotiable at the international level. The African model law on the protection of the rights of local communities, farmers and Breeders and the regulation of access to biological resources provides one frame work for this purpose. Africa and most developing countries object to the current understanding of intellectual property rights. Their objection is based on the perceived moral, humanitarian, past and potential impact of the new workings of the IPR system on their economies and lives. Their concerns are realistic and should receive a fair hearing. They have made it quite clear that living organisms ,plants and animals as well as their derivatives should not be patented.

There is need for more research and dialogue, better understanding and collective resolve on the stakes posed by intellectual property rights and the narrow and inflexible interpretation that it currently has. For Africa, major issues related to intellectual property rights in agriculture and biodiversity needs to be resolved as the continent strives to achieve food security in a globalized world.