

Intellectual Property and Sustainable Agricultural Practices: A Solution to Nigeria's Food Insecurity

Ogonna Annette Onwudiegwu*

Department of Law, Nnamdi Azikiwe University, Awka, Nigeria

INTRODUCTION

According to the State of Food Security and Nutrition, this report depicts not only the current situation in most developing countries like Nigeria, but also a gross aberration of human rights and dignity. To remedy this breach of fundamental human right to food, steps must be taken by all relevant stakeholders to improve methods of production, conservation and distribution of food. Gross domestic product originating in agriculture is four times more effective in reducing poverty than that originating outside the sector. Agriculture provides directly or indirectly the basic food needs of about 70% of poor and undernourished people. However, food security is not only dependent on food availability but also on its access and distribution. The World Food Summit defines food security as physical and economic access to sufficient, safe and nutritious food by all people to meet their dietary needs and food preferences for a healthy life. The UN 2030 Agenda for Sustainable Development stated that the "zero hunger" goal under SDG 2 is not only to end hunger but also to provide nutritious, and sufficient food for all people throughout the year and to eliminate all forms of malnutrition.

DESCRIPTION

IP dimension: Role of innovation

Intellectual Property (IP) and Food Security are closely interlinked. By providing legal protection for IPRs arising therein, the IP system provides an incentive for investments in agro-biotechnology and thus, its improvements. It affects the quantity and quality of food supply, facilitates technology transfer pursuant to the TRIPS agreement and protects environmental quality. In addition, its impact on biodiversity will affect the stability and long-term nature of food supply. IP affects who gets access, what is produced, how it is grown and where it is bought or sold. Thus, whilst food security can be referred to as the goal, IPRs are the instruments through which it can be achieved.

Patents protect gene sequences, tools and breeding methods used to develop varieties. It increases farmer's purchasing ability to obtain more seeds which in turn produces more food. The requirement of disclosure also facilitates access to information on new tools and techniques useful to other breeders. The patented Golden Rice, a transgenic variety modified with elevated levels of pro-vitamin A for countries with high dietary need is a case on point for Nigeria to learn from.

Through labelling, geographical indication preserves strict quality standards that have been adapted to suit local conditions and also ensure faster market penetration. Mexico's Tequila and India's Basmati rice command premium prices which increases the income of farmers, allows them to reinvest in their farms and improve their production methods.

Trademarks enable brand protection. In effect, farmers are incentivized to innovate in response to changing needs and demands, be rewarded for their innovation and build a reputation. For instance, rice and sugar-based products by Pecuria Development Co-operative Philippines has garnered a reputation for their signature healthy and value-added final products.

Other IPRs such as trade secret protect the parental lines of hybrid maize which is cross-pollinated to produce a variety with improved performance ('hybrid vigour') while Traditional Knowledge provides mechanisms for protecting rural farmers who use traditional knowledge to build resilient food systems and preservation techniques. For instance, the kimchi method used in Korea to preserve vegetables through fermentation creates a nutritious food source available all year round. Thus, the IP system enables recycling and preservation in the face of scarce resources and provides adequate access and benefit-sharing mechanisms for equitable distribution.

However, regardless of these benefits, the IP system is not without its challenges. Since varieties birthed from patented products are subject to same protection, what happens when multiple patented products and processes are used to breed a single variety? A possible answer to this vexing question is a web of overlapping claims known as patent thicket. Patent thickets

Correspondence to: Ogonna Annette Onwudiegwu, Department of Law, Nnamdi Azikiwe University, Awka, Nigeria, Tel: 9039505520; E-mail: ogonnannette@gmail.com

Received: 11-Dec-2024, Manuscript No. JFMSH-24-35824; **Editor assigned:** 16-Dec-2024, PreQC No. JFMSH-24-35824 (PQ); **Reviewed:** 30-Dec-2024, QC No. JFMSH-24-35824; **Revised:** 17-Mar-2026, Manuscript No. JFMSH-24-35824 (R); **Published:** 24-Mar-2026, DOI: 10.35841/2476-2059.26.11.388

Citation: Onwudiegwu OA (2026) Intellectual Property and Sustainable Agricultural Practices: A Solution to Nigeria's Food Insecurity. J Food Microbiol Saf Hyg. 11:388.

Copyright: © 2026 Onwudiegwu OA. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

create a barrier to entry for small and medium enterprises. Without lawyers, farmers may not know when they are infringing on the right of a patent-holder. The fear of high, avoidable litigation costs and damages makes them refrain from such activities entirely.

Even in the case of big enterprises, such companies would have to either pay high transaction costs associated with obtaining multiple licenses or undergo the cumbersome process of creating patent pools, negotiating cross-licensing agreements and partnerships just to obtain freedom to operate. In practice, private companies amass IPR through mergers and acquisitions thereby, leading to power concentration, monopoly and consequently, abuse. This will have an adverse effect on the global food chain supply in Nigeria.

Full implementation of the IP system will restrain farmers from free exchange of seeds via informal seed channels without

permission of the patent-holders and additionally, payment of royalties. Without access to modified seeds, farmers cannot integrate modern tools and varieties into the traditional varieties or adapt them to local conditions for better performance.

CONCLUSION

Food availability is an increasing concern, particularly in the face of the world's growing population. The IP system provides an opportunity to revolutionize the agriculture sector and make it more capable of combating food insecurity and preserving sustainable practices. This outcome would be impossible without sufficient investment in agro-biotechnology. This paper acts as a clarion call to the Nigerian government to legislate on key areas proffered in the recommendations to guide possible investors, reduce uncertainty and protect farmer's interest.