

Repositioning Agricultural Education for Nigeria's Future of Work: Preparing Graduates for Emerging Opportunities in Agrifood Systems

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Abstract: Nigeria's rural economy is evolving, with agricultural activity growing beyond core production to encompass processing, marketing, logistics, agribusiness, digital services, and other areas of the agrifood chain. However, agricultural education in higher education has not entirely adapted to this transformation, with the curriculum continuing to emphasize conventional production-oriented knowledge and skills. This position paper argues that repositioning agricultural education is critical in preparing graduates for Nigeria's future workforce. In response to concerns about the preparedness of agricultural education graduates for changing labour-market demands and emerging opportunities in agrifood systems, this paper proposes a framework that connects curriculum reorientation, experiential learning, employability skills, and graduate employment outcomes. The framework aligns with Nigeria's National Agricultural Technology and Innovation Policy and explores new opportunities throughout the agrifood value chain. According to the report, addressing youth unemployment requires more than just producing more agricultural graduates. Agricultural education must actively equip students with practical, entrepreneurial, digital, technical, and transferable skills to meet changing labor market demands. Such repositioning may enhance graduate employability and increase agricultural education's role in Nigeria's growing agrifood industry.

Keywords— Agrifood Systems, Agricultural Education, Future of Work, Graduate Preparation, Nigeria.

1. INTRODUCTION

Nigeria's agricultural industry is undergoing a tremendous shift, which has huge ramifications for the nation's economy and future prospects of labor. Agriculture can hardly be considered just as a subsistence activity based on primary production. It is rapidly becoming a key source of rural economic development, household livelihoods, industrial raw resources, and job possibilities (Olayemi & Mustapha, 2024). Changes in government policy, market expectations, and the rising need to boost domestic output have all pushed agriculture to become increasingly commercial. Smallholder farmers and various other players who were formerly connected with informal production are increasingly becoming part of larger commercial and industrial networks (Ezike et al., 2025). Meanwhile, agriculture is evolving into a more integrated agrifood system that encompasses input supply, production, processing, storage, marketing, distribution, and logistics (World Bank, 2024). The Federal Government's National Agricultural Technology and Innovation Policy (NATIP 2022-2027) seeks to increase agricultural output, technology adoption, value addition, and market possibilities (FMARD, 2022). These changes indicate that economic value in agriculture is increasingly being generated outside of the field, notably through processing, storage, transportation, financial services, and digital

technology. These improvements have also changed the skills necessary for work in the agrifood business. Agricultural work is progressively evolving away from the traditional emphasis on physical farm labor and toward jobs requiring technological knowledge, digital competence, entrepreneurial acumen, and management abilities.

Emerging potential include agribusiness management, farm logistics, financial services, online agriculture services, climate-smart advisory services, food processing, and other technology-enabled services. As a result, graduates entering the agricultural workforce are increasingly expected to have practical and analytical skills, in addition to disciplinary knowledge. The capacity to use technology, solve issues, run businesses, analyze data, and adapt to changing market dynamics is becoming more vital for employability and entrepreneurship (Powell & McGrath, 2022). However, advances in agricultural education in Nigerian higher education institutions have not completely matched the growing demands of the agrifood sector. Concerns have remained about higher education's ability to provide graduates with the practical skills required in today's occupations. In many situations, education is largely concerned with classroom-based theoretical learning, with little opportunities for students to apply their knowledge in real-world

agricultural and commercial contexts (Bello et al., 2021). This condition may lead graduates to feel unprepared for career and business opportunities after graduation. According to a study of agricultural graduates, inadequate practical and technical training may affect their motivation and aptitude to pursue agricultural careers (Oyawole et al., 2020).

Recent worries regarding falling young enthusiasm in traditional agricultural training highlight the need to reevaluate whether agricultural education is offered and provided (Bugaje, 2026). Against this backdrop, this position paper contends that repositioning agricultural education is critical for equipping graduates to seize new possibilities in Nigeria's agrifood systems. Repositioning should entail more than just updating course names or incorporating isolated technology-related themes into current programs. Curriculum modernization, enhanced experiential and competency-based learning, significant industry involvement, digital technology integration, entrepreneurial development, and more exposure to future vocations along the agrifood value chain should all be included. Such reforms can assist agricultural education transition from a mostly production-oriented strategy to one that educates graduates for a wide range of positions in production, processing, marketing, finance, logistics, technology, and agribusiness management. The key point is that the long-term significance of agricultural education is determined by the effectiveness with which higher education institutions adapt to developments in Nigeria's agrifood industry. If agricultural colleges continue to depend exclusively on outdated methodologies at a time when job possibilities and industry requirements are quickly changing, the gap among what students learn versus what the labor market requires will definitely expand. Repositioning agricultural education offers the chance to close this gap by linking teaching and curriculum to learning, industry demands, and new job prospects. This link is crucial to ensure that graduates are not just familiar with agriculture, but also prepared to thrive in Nigeria's thriving agrifood sector and future career opportunities.

2. NIGERIA'S CHANGING AGRIFOOD SYSTEMS AND THE EMERGING FUTURE OF WORK

Nigeria's rural economy is undergoing a significant transition as agricultural operations expand beyond core production to a far larger agri-food sector. Historically, smallholder farmers used less resources to cultivate crops and animals (Adebayo & Olorunfemi, 2022). This function is always evolving as population increase, urbanization, shifting consumer preferences, and economic restrictions place new demands on the agriculture industry. Agriculture is increasingly linked to a larger network that includes input supply, production, processing, transportation, storage, marketing, and retailing (World Bank, 2024). As a result, agricultural economic performance cannot be measured just based on what is generated on farms. Consideration must also be paid to how quickly agricultural goods travel through the various stages of

the worth chain and the extent to which value is added prior to when they reach consumers (Ezike et al., 2025). One of the most prominent manifestations of this transition is the growing significance of processing, value addition, marketing, and distribution. The growing demand for processed and packaged foods, particularly in cities, has opened new prospects outside the farm gate (Sahel Consulting, 2024). Agriculture goods are increasingly being processed domestically into higher-value commodities, resulting in employment creation and domestic industrial expansion (Olayemi & Mustapha, 2024). At the same time, agriculture marketing and distribution have become more efficient. Digital technology, enhanced product grading, monitoring systems, storage facilities, and overall cold-chain services are rapidly being deployed to improve agricultural product distribution and quality while reducing post-harvest losses (Amadi & Nwankwo, 2023).

The growth of the agrifood system has also opened up opportunities for enterprises and professional services that were previously hidden inside the conventional agricultural industry. These consist of digital agricultural advice services, agricultural financing technology, equipment rentals, logistical support, quality assurance, and various other specialized assistance services (ACED, 2024). These businesses may provide farmers with access to markets, funds, technology, information, and larger purchasers. As a result, technological and commercial activities have grown more integrated in agriculture (Amadi & Nwankwo, 2023). As a result, individuals with expertise in farm management, logistical management, marketing, finance, supply chain management, food processing, and other fields will have more career and entrepreneurial prospects. This diversification is especially crucial for young Nigerians looking for work or beginning their own business.

As the formal employment market struggles to keep up with the increasing number of graduates entering the labor force, the various stages of the agrifood value chain present alternative chances for young people to start careers and businesses (IJGARD, 2024). Farm ownership and employment are no longer the exclusive options. Graduates can pursue careers in processing, agricultural finance, digital marketing, logistics, quality assurance, input distribution, food packaging, and other emerging industries. Such participation can also help with economic diversification by lowering the country's reliance on crude oil and stimulating more investment in productive, value-adding industries (Olayemi & Mustapha, 2024). According to this perspective, a modern agrifood industry may help to create jobs, start businesses, and boost overall economic growth. These improvements have significant consequences for agricultural education. Nigeria's present agricultural policy emphasizes the need of developing practical skills but also making agricultural training more relevant to modern financial concerns. The National Agricultural Technology and Innovation Policy (NATIP 2022-2027), for example, creates a policy framework to increase agricultural output,

technological adoption, value creation, including human capital development (FMARD, 2022).

Recent changes have also stressed a more practical emphasis in agriculture training, such as the planned 80 percent practical and 20 percent theoretical strategy for replacing mostly classroom-based models (Bugaje, 2026). The implementation of value-chain-oriented curriculum and occupational standards emphasizes the need to equip students for specific skills and jobs in an evolving agricultural economy (Guardian Nigeria, 2026). However, modifying agricultural education on paper cannot guaranty that graduates will have the skills needed by employers and agrifood businesses. The sector's evolution has produced a demand for professionals who are capable of operating digital systems, manage agriculture supply chains, use contemporary processing technology, comprehend markets, manage businesses, and address climate-related production concerns. If higher education institutions continue to teach students only for conventional agricultural production, graduates may find themselves unprepared for many of the emerging opportunities in the larger agrifood system. The critical question, therefore, is not how Nigeria's agrifood business is changing, but whether agricultural education is moving quickly enough to prepare graduates to successfully engage in that shift. This mismatch between the changing structure of agricultural employment and the skills developed via current educational programs lays the groundwork for repositioning agricultural education for Nigeria's future workforce.

3. AGRICULTURAL EDUCATION AND THE EMERGING WORKFORCE: CURRENT ORIENTATION, GAPS AND CHALLENGES

Agricultural education in many Nigerian postsecondary institutions continues to reflect a traditional approach that was mostly created when agriculture was viewed mainly as primary product. A large percentage of the training remained focused on agricultural production, land management, livestock production, and traditional extension activities (Bello et al., 2021). Students in this approach are typically subjected to classroom lectures, tests, and practical exercises held on institutional farms and other controlled environments (UNN, 2022). These sorts of training remain useful because they provide students with a foundational grasp of agricultural ideas and production processes. However, they may not always provide students with a comprehensive understanding of the rapidly changing agrifood sector. As a result, food processing, digital value chain management, agricultural data analysis, modern finance systems, and numerous other technology-driven aspects of agribusiness may receive less attention than they now deserve. The challenge stems in part

from the conventional perception of agricultural work. For a long time, agricultural education was designed with the expectation that graduates would work in government agricultural firms or actively engage in farming (Adebayo & Olorunfemi, 2022). While they remain viable job options, they represent just a small portion of the opportunities available in today's agrifood business. The continued association of agriculture with physical farm work may influence how young individuals see agricultural initiatives.

Several prospective students may disregard agricultural education since they are ignorant of opportunities in agricultural technology, information management, food processing, transportation, agricultural finance, e-marketing, and agribusiness management (Powell & McGrath, 2022). Such narrow view of agricultural jobs has ramifications for the link between university education and job needs. Agribusinesses in today's marketplaces require personnel who can handle supply chains, utilise digital systems, assess production and market information, monitor quality, and interact with current business and logistics systems (ACED, 2024). However, curriculum development at universities may be delayed since new programs and substantial curriculum changes must typically go through many academic and governmental processes (West African Research and Innovation Management Association, 2022). As such, there may be a significant time lag between the creation of new industry needs and their implementation into educational programs. As a result, students may graduate with extensive theoretical knowledge but little experience to the technology, software, business processes, and operational procedures employed in today's agrifood firms. Another issue is the constant disconnect between what students' study in the classroom and how they are supposed to perform in the job. Practical training can be challenging due to limited financing, inadequate equipment, and a lack of access to current facilities (ResearchGate, 2026).

A student may comprehend the basics of food processing, watering, agricultural machinery, and farm finance management but not have enough experience applying those principles to modern industry equipment and processes. Such experiences can have an impact not just on students' technical skills, but additionally on their trust in using their knowledge once they reach the labor market. The concern is not only whether agricultural students receive practical training, rather if the practical experiences provided correspond to the technologies, processes, and employment settings they are anticipated to confront after graduation. The weak link between colleges and the commercial sector exacerbates the situation. Stronger university-industry links may enable students to complete appropriate internships, participate in industry-driven training, have accessibility to contemporary facilities, and collaborate on real-world challenges highlighted by agrifood enterprises. They may also encourage employers to participate in curriculum discussions and offer input on the skills needed by graduates.

However, communication between educational institutions and private-sector enterprises is still limited in many cases (Adebamiwa, 2026). The International Monetary Fund (2024) has also stressed the necessity of strengthening the relationship between developing abilities and labour-market demands. Where these linkages are inadequate, university research and instruction may stay disconnected from the operational issues that firms in the agrifood industry face. The repercussions of this mismatch are most evident when graduates seek to enter the labor market. Rather than presuming that all agriculture graduates have the same experience, current research indicates to particular challenges in the transition from school to job. For example, Nwakile et al. (2025) reported on the outcomes of a continuous tracer research that looked at the professional experiences of Nigerian vocational agriculture graduates. According to the poll, the great majority of participants selected occupations other than agriculture, with some unable to find positions that suited their skills. Concerns regarding the validity of university-acquired skills to contemporary industry demands were among the concerns mentioned, as were restricted possibilities to apply vocational capabilities in real-world manufacturing environments (Nwakile et al., 2025). These findings pose an essential dilemma for Nigerian agricultural education: while the agrifood sector becomes more technologically sophisticated, economically oriented, and diverse, should agricultural education still train students for conventional production responsibilities? The findings suggest that a more comprehensive strategy is necessary. Agricultural education must expose students to the whole range of vocations that today comprise the agrifood system, while also providing opportunity for them to acquire practical, digital, entrepreneurial attitudes, critical thinking, and job-related skills.

This type of repositioning would not imply forsaking the principles of agricultural production. Instead, it would include expanding on those foundations and linking them to the operations, commercial, technological, logistical, financial, and other options that are determining agriculture's future. The main issue is thus one of congruence. Agricultural education must stay relevant to the reality of the industry it is designed to serve. When curriculum content, teaching techniques, real-world experiences, and industry norms diverge, graduates may fail to translate their academic knowledge to successful employment or business development. Repositioning agricultural education according to the evolving agrifood system will help close this disparity and allow Nigerian tertiary institutions to create graduates who are not only prepared to comprehend agriculture, but additionally to actively engage in the agricultural industry's various careers and businesses.

4. WHY AGRICULTURAL EDUCATION MUST BE REPOSITIONED FOR NIGERIA'S FUTURE OF WORK

The changing nature of Nigeria's labor market necessitates a rethinking of how higher education institutions prepare students for careers in agriculture and associated industries. Although prospects in the agrifood industry have increased considerably, agricultural education at many institutions still represents a restricted notion of agricultural employment. Traditionally, students were trained for careers in public-sector farming services, extension work, or crop and livestock agriculture (Bello et al., 2021). These jobs are still necessary; nevertheless, they no longer cover the entire variety of possibilities accessible in the industry. The expansion of agro-processing, cold-chain services, digital agriculture platforms, e-commerce, logistics, and other value-added activities necessitates graduates with a wider variety of skills (Sahel Consulting, 2024). Repositioning agricultural education may help students perceive agriculture as more than just farming; it is also a varied economic system that offers professional, technological, management, and entrepreneurial options. This shift necessitates a reassessment of agricultural education delivery models. Many traditional university methodologies place a high value on lectures, evaluations, and theoretical knowledge. While students require a solid knowledge of agricultural science and principles, information gained without relevant application opportunities may not effectively equip them for work (UNN, 2022). Workers in today's agrifood industries must evaluate data, detect problems, make choices, manage risks, and use technology efficiently. Agricultural education should consequently place a higher focus on teaching methods that challenge students to use their knowledge in real-world situations.

Problem-based activities, case reports, projects, simulations, and additional inquiry-based techniques can enable students to investigate real-world agriculture issues and generate practical answers. Students may be expected to analyze a supply-chain problem, create a digital marketing strategy for an agricultural organization, construct a basic processing business structure, or assess different production risk management tactics. Experiential learning is being expanded as a related focus. Practical education ought not to be restricted to activities conducted in university farms or labs. Although these amenities are important for exposing students to agricultural activities, they do not entirely replicate the circumstances prevalent in commercial agrifood operations. Universities must consequently make improved arrangements for industry affiliations, internships, joint projects, field-based learning, and other types of workplace experience (World Bank, 2024). Opportunities to spend significant time at food-processing industries, agricultural technology corporations, logistics businesses, inputs companies, financial institutions, and additional agrifood enterprises would enable students to see how their academic expertise is put into effect. Such experiences can help to improve technical proficiency while

also fostering interaction, collaboration, solving problems, professional behavior, and other employability skills. Repositioning agricultural education necessitates a more comprehensive grasp of the agricultural value chain. Conventional agricultural policies have naturally focused increasing crop and animal production. Primary production is critical to food security and the correct operation of the agrifood system. Nevertheless, the economic potential associated with agriculture extends far beyond the production stage. Storage, processing, packaging, branding, marketing, transportation, finance, and distribution all open up new opportunities for employment and company growth (Ezike et al., 2025). The government's emphasis on value development and agricultural commercialization underscores the need of graduates understanding what happens to agricultural commodities when they leave the field (FMARD, 2022). A value-chain approach to agricultural education would teach students about the connections between agriculture, manufacturing, markets, finance, transportation, technology, and consumers.

This broader awareness may assist graduates in identifying opportunities for value generation and capture at various levels of the agrifood chain. Another important feature of repositioning is increasing collaboration among institutions, businesses, and nearby communities. Agricultural education will not remain relevant if curriculum development and research are performed without concern for the realities of the companies and communities to which graduates are expected to contribute. Partnerships with agricultural enterprises, farmer groups, co-operatives, government agencies, development organizations, and other relevant stakeholders can lead to fruitful joint possibilities. Such alliances might support industry-informed curriculum development, student internships, joint research, professional mentoring, innovation prizes, and the use of resources and tools. They may also aid institutions in recognizing possible skill gaps before they become major difficulties. This allows universities to become more engaged in solving real-world problems in localized agricultural communities, instead of only serving as classroom education centers. To ensure that these gains continue, agricultural curriculum must be more adaptable to technology and labor-market developments.

The development and certification of university curriculum can be time-consuming, making it difficult for schools to adjust rapidly when new technologies associated occupational needs arise. Artificial intelligence, drone technology, digitized farm management systems, precision agriculture, environmental risk instruments, online agricultural marketplaces, with current food safety systems are all transforming field capabilities (Amadi & Nwankwo, 2023). As a result, agriculture education requires more regular revisions of course materials. This does not imply abandoning traditional academic methodologies; rather, institutions among regulatory authorities should make place for fast

adjustments, elective modules, short professional courses, professional credentials, and various other adaptable curriculum delivery methods. Finally, repositioning agricultural education should be interpreted as a shift in priority rather than a rejection of conventional agricultural knowledge. Learners still require a solid foundation in crop production, animal management, soil science, rural economics, and other relevant topics. What has to alter is the interaction between these pillars with the bigger potential accessible in the modern agrifood sector. Agricultural education should teach graduates how agricultural goods are generated, converted, funded, marketed, transported, ultimately consumed. It should also provide students the courage and practical skills to take part in these procedures as employees, entrepreneurs, inventors, researchers, or managers. This reform will make agricultural education adaptable to Nigeria's changing labor market and better enable graduates to contribute towards the development and modernization of that country's agrifood industry.

5. REORIENTING AGRICULTURAL EDUCATION TOWARDS EMERGING AGRIFOOD OPPORTUNITIES

In order to make academic readiness more effectively contribute to economic growth, colleges must link what students' study with increasing commercial prospects in the larger agrifood sector. Agricultural education must therefore move beyond training graduates just for primary production but instead prepare them to engage in all phases of the agrifood sector. Agribusiness and enterprise growth are key areas. People who can find profitable market possibilities, create long-term business strategies, and manage processing and agribusiness operations are in demand in today's agricultural markets. Enhancing enterprise development in agriculture education can provide graduates with the ability to start and manage firms rather of relying primarily on paid jobs (IJGARD, 2024). Another critical area is food processing and value addition. Changes in consumption habits, particularly those related to urbanization, have boosted the demand for processed, stored, and readily packaged foods. This opens up chances for graduates with practical understanding of food processing, assurance of quality, preservation, and safety requirements (Sahel Consulting, 2024). Agricultural education programs should consequently give students hands-on experience with processing technology and food quality management. This type of education might prepare graduates to find jobs in or start local processing businesses, reduce post-harvest losses, and help contribute to the manufacture of items that are capable of competing with imported equivalents. Agricultural marketing and distribution are other viable options for graduates seeking jobs or starting their own enterprises. Agricultural products are increasingly being sold digitally and through structured distribution channels,

necessitating the skills of professionals in consumer behavior, product marketing, market analysis, and E-commerce (Adebayo & Olorunfemi, 2022).

Incorporating these abilities into agricultural education will enable graduates to better link producers and customers, as well as establish marketing strategies of agricultural goods. Marketing and agrifood supply chain leadership are inextricably linked. Food transportation from producing areas to consumers requires precise coordination of logistics, storing, inventory, and different distribution operations. As a result, learners must be taught to supply chain administration along with value chain synchronisation to be able to help decrease losses, boost efficiency, and lower distribution costs (Amadi & Nwankwo, 2023). There are also increasing prospects for agricultural consultancy and consulting services. The growing use of digital technology and data in agriculture has increased demand for services like as soil evaluation, field mapping, crop diagnostics, and other technical consulting (World Bank, 2024). farming education may adapt to this trend by integrating technical farming skills with fundamental consulting and business-management abilities. Graduates of such schools may create their own consulting firms or provide specialized assistance to commercial farms, food corporations, government agencies, and other agricultural groups. The expanding ramifications of climate change highlight the importance of understanding sustainable and weather-resilient agriculture techniques. Conservation measures, efficient irrigation, resource management, and the establishment of environmental accounting systems are all becoming increasingly important in agricultural enterprises (Kyari, 2025). Agricultural education should teach students about sustainable production methods and climate-resilient technology. Such training can broaden employment options in environmental groups, agricultural corporations, government agencies, and businesses looking to enhance their environmental effect and operations.

Agricultural finance and commercial services are another sector that need more attention. Agribusinesses demand personnel with expertise in both agricultural production and financial decision-making. Banks, development finance institutions, insurance companies, and investment firms require employees who can analyze agricultural risks,

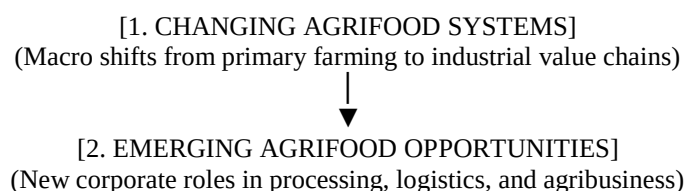
evaluate agribusiness projects, and grasp the financial consequences of biological production procedures (Olayemi & Mustapha, 2024). Courses in agricultural finance, risk control, agricultural insurance, including agribusiness investment might provide graduates with skills relevant to these expanding job prospects. Ultimately, agrifood innovation and rural enterprise growth should be part of this agricultural education repositioning process. Economic prospects should not be centered solely in big cities. Graduates may contribute to rural economic development by establishing processing enterprises, supporting community-based businesses, developing local value chains, and adopting appropriate energy solutions during agricultural production and processing (Ezike et al., 2025). Educating students for these occupations would enable agricultural education to benefit not just individual job opportunities, but also the whole rural economic growth. Taken together, these possibilities show that the next stage of agricultural education must educate graduates for a significantly larger agrifood industry. Rather of confining graduates to traditional agricultural occupations, colleges should prepare them to start and run businesses, provide professional services, engage in innovative supply chains, promote environmentally friendly farming, and contribute to rural growth. This repositioning will make agricultural education more flexible to changes in Nigeria's labor market, increasing its ability to generate jobs and drive economic progress.

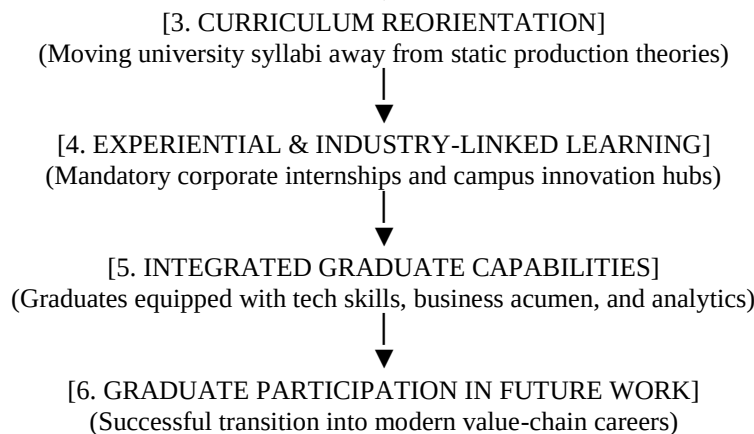
6. A PROPOSED FUTURE-ORIENTED FRAMEWORK FOR REPOSITIONING AGRICULTURAL EDUCATION

The key distinguishing feature of this study is the construction of a structured, prospective-centered conceptual framework for improving the linkages between higher education, the job market, and overall economic development. Existing research suggests that agricultural education may have a limited impact on food system development when universities, businesses, and innovation systems operate independently instead of together (ACED, 2024; Nwakile et al., 2025). The paradigm presented in this study solves this issue by connecting these different elements into a clear path for transformation. It discusses what should be altered in agricultural education, wherever such changes are needed, and how they may be linked to increasing career and entrepreneurial opportunities for graduates in Nigeria's burgeoning agrifood sector.

Figure 1

The Future-Oriented Alignment Model for Repositioning Agricultural Education





The structure begins with Changing Agrifood Systems, and serves as the fundamental motivator for the intended shift. This first stage recognizes that agriculture is evolving from primary crop and livestock farming to more commercialized and integrated value chains (Adebayo & Olorunfemi, 2022). Several factors are driving this transformation, including population growth, urbanization, altering consumer tastes, and government measures to promote local agricultural output and value addition. The National Agricultural Technology and Innovation Policy (NATIP 2022-2027) emphasize the need of improving local processing, reducing post-harvest losses, and increasing value generation in Nigeria's agricultural economy (FMARD, 2022). These economic upheavals create new areas of demand, which leads to the framework's next step, Emerging Agrifood Opportunities. At this point, focus switches to the many sectors where jobs and business prospects are emerging, such as agribusiness management, cold-chain based logistics, digital agricultural advisory services, climate-related services, and agricultural financing (Sahel Consulting, 2024). As these opportunities develop, the third stage, Institutional Curriculum Reorientation, becomes necessary. Universities and other higher education institutions must reevaluate curriculum that are overly focused on traditional production while paying little attention to the events that occur prior to and following production. A redesigned curriculum should teach students to the full value chain, covering topics such as digital agriculture, financial management, business development, marketing, and value-added technologies (Bello et al., 2021). The objective is not to remove the agricultural underpinnings of prevailing programs, instead choosing to combine them with the competences required in modern agrifood operations.

Without this adjustment, graduates may have extensive academic knowledge but lack the practical skills required by employers and new businesses. Curriculum improvement alone may not be adequate. It must be supported by the fourth step, Experiential and Industry-Based Learning. Students should be able to apply the knowledge they have learned in

contexts that are similar to those found in the job. This might include organized industrial attachments, internships within agribusinesses and agricultural technology enterprises, cooperative ventures, field-based assignments, even student-led company or incubation programs (Adebamiwa, 2026). Such experiences would enable students to face real-world manufacturing, marketing, financial, technical, and managerial difficulties while getting academic supervision. Stronger connection with business may also help colleges recognize changing employment requirements and tailor their coursework accordingly. The fifth level, Integrated Graduate Capabilities, is achieved by combining relevant courses with significant practical experience. This level focuses on bringing together the many competences graduates require to perform effectively in the evolving agrifood sector. In addition to solid agricultural knowledge, graduates should have digital literacy, problem-solving abilities, analytical skills, entrepreneurial competence, interpersonal abilities, and the ability to handle agricultural companies and technology (IJGARD, 2024).

The focus is thus on developing graduates who can use their knowledge in many circumstances rather than just demonstrating what they have learnt through tests. Graduate Participation in Future Agrifood Work is the framework's last stage, representing the intended outcome. Graduates who obtain relevant academic preparation along with significant industry experience should be better prepared to enter developing sectors of the agrifood economy. Their involvement can take several forms, involving employment in agribusiness and agricultural technology corporations, the formation of successful businesses, the supply of specialized consulting services, participation in value-added activities, and management in rural development projects. This paradigm connects advances in the agrifood industry to changes in higher education and graduate competencies. Its main premise is that agricultural education may contribute more effectively to job creation, food-system reform, and

financial diversification when institutional instruction is closely aligned with the realities of the future of employment.

7. INSTITUTIONAL AND POLICY APPROACHES TO IMPLEMENTING FUTURE-ORIENTED AGRICULTURAL EDUCATION

Implementing a future-oriented agricultural education paradigm entails integrated institutional and policy actions that address the changing needs of Nigeria's agrifood industry. Current reform discussions highlight the importance of adaptive training, practical skill development, and more collaboration among higher education institutions, government agencies, and businesses (Bugaje, 2026; Guardian Nigeria, 2026). Perhaps one of the most significant initiatives is to make agricultural education more adaptive to changing trends. Regulatory and university authorities must provide appropriate room for academic programs to cover pertinent issues such as online agribusiness, agricultural e-commerce, contemporary logistics, and global food-quality standards. A more flexible curriculum would allow institutions to respond more quickly to changes related to technology and job market needs, instead of relying on course designs that may no longer reflect today's realities. Curriculum change should be complemented by improved university-industry collaboration. Universities cannot sufficiently educate students for modern agrifood occupations if training is mostly detached from the companies and organizations wherever graduates are supposed to work. Formal collaborations with agriculture enterprises and other related organizations may enable cooperative curriculum creation, shared facilities, sector-specific research, professional mentoring, and hands-on training opportunities (Adebamiwa, 2026). Industrial attachments, internships, collaborative projects, and field-based work should be viewed as valuable aspects of agricultural education, rather than activities undertaken just to complete program prerequisites. Regular exposure to real-world workplaces will help students learn how agricultural knowledge is implemented in manufacturing, processing, marketing, finance, logistical management, and other aspects of the agrifood economy (UNN, 2022).

The efficacy of these enhancements is also contingent on lecturers' abilities to give contemporary agricultural instruction. Curriculum changes have minimal impact if academic workers are not well prepared to teach emerging subjects. The efficacy of these enhancements is also contingent on lecturers' ability to give contemporary agricultural instruction. Curriculum changes have minimal impact if academic workers are not well prepared to teach emerging subjects. Continuous professional development ought to introduce instructors to advances in digital agriculture, precise technology, value chain management, entrepreneurial education, and novel teaching methods. Institutions may assist with this endeavor by providing professional development programs, industry attachments,

brief courses, collaborative education, and academic exchange opportunities. Strengthening instructors' abilities will help them integrate established agricultural knowledge alongside developing technology and workplace demands. Universities could also explore creating agrifood and innovation hubs wherein students may go beyond studying about entrepreneurship and start experimenting with company concepts. Such centers might offer space and coaching for producing agricultural goods, testing value-added concepts, researching digital solutions, and launching small-scale agribusiness enterprises. Partnerships with industry and various external groups might give technical assistance, equipment, market knowledge, and opportunity for students to demonstrate their ideas in real-world contexts. As a result, entrepreneurship would become an experience component of agricultural education instead of a classroom subject. Sustaining these reforms throughout institutions would need more financial and infrastructure assistance. Universities' finances may not be adequate to supply the labs, processing equipment, digital technology, cold-chain facilities, and other resources required for modern agricultural education. Public-private partnerships can help to mobilize extra investment by having the government support suitable policies and infrastructure whilst private-sector groups offer knowledge, equipment, technology, and different resources (Kyari, 2025; World Bank, 2024). However, such collaborations should be regulated by unambiguous agreements that preserve educational objectives and guarantee that learners and institutions benefit for the long term. Ultimately, the success in agricultural education transformation should be measured by graduation outcomes. Universities require dependable ways for tracking what transpires for graduates after they complete their programs. Graduate tracer studies can give data on employment, entrepreneurship, additional training, career changes, and the extent to which graduates participate in the agrifood industry (Nwakile et al., 2025). Such data would give important input for curriculum evaluation and assist institutions in determining if their programs are genuinely meeting labor-market demands. Continuous monitoring would thus transform repositioning into a continuous activity instead of a single curricular effort.

8. CONCLUSION: REPOSITIONING AGRICULTURAL EDUCATION FOR NIGERIA'S AGRIFOOD FUTURE

The change of Nigeria's agrifood industry presents a compelling cause to reassess how agricultural education equips graduates for employment. The main point of this research is not that Nigeria simply requires more graduates from agriculture education programs. What is required is an educational system that more consciously links agricultural training to the constantly changing realities of employment, firm development, technology, and worth generation in the agrifood industry. Agriculture no longer refers solely to crop and livestock production. Although these sectors remain critical to food security, business opportunities are expanding

into processing, packaging, marketing, logistics, banking, digital services, agricultural technology, and other value-added businesses. Agricultural education must thus maintain its strong production underpinnings while providing students with the knowledge and practical skills required to engage in the broader agrifood system. The technique proposed in this article describes a mechanism for achieving this realignment. It connects changes in agrifood systems with new employment opportunities, curriculum reform, hands-on learning, integrated graduate competences, and participation in future agrifood occupations. Its core premise is that curriculum relevance, hands-on experience, technical proficiency, and actual industry engagement should be combined rather than executed individually. Universities, regulatory bodies, government agencies, businesses, and other stakeholders must all be dedicated to the effective implementation.

Flexible curricular formats, stronger university-industry relationships, continuous lecturer development, innovation clusters, appropriate infrastructure, and stringent graduate monitoring are all necessary. These measurements can help learners bridge the gap across what they study and what the present job market requires. Ultimately, repositioning agricultural education should not be perceived as abandoning conventional agricultural knowledge. Instead, it is about boosting the value of that information in the larger agrifood industry. Graduates should be able to not only produce agricultural commodities, but also convert, sell, finance, distribute, manage, and innovate around them. Such a move will make agricultural education more responsive to Nigeria's future workforce and increase its capacity to contribute to job creation, food-system resilience, entrepreneurship, and long-term economic growth.

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