

# DEVELOPING ALTERNATIVE TEACHING CONTINUITY PLANS TO MOVE CLASSROOMS ONLINE AT COVID-19 ERA IN NIGERIA

## CHAPTER EIGHT

### COVID-19 PANDEMIC ON STUDENT FARM PRACTICAL, RESEARCH PROJECTS, FIELD TRIP AND INSTITUTIONAL MITIGATION EFFORTS: THE CASE OF AGRICULTURAL TECHNOLOGY DEPARTMENT DELTA STATE POLYTECHNIC, OZORO, NIGERIA.

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#### **Abstract**

The paper x-rayed the renewed prominence of the Agricultural sector during COVID-19 era and its attendant effects. The paper noted the avalanche of comments that trailed the COVID-19 era, which suggests that agriculture should no longer be perceived as a job for the uneducated, since it involves scientific, technological and socio-economic challenges. The paper further observed that the acquisition of basic agricultural knowledge and skills via farm practical, research projects and field trips annually organized by the Department of Agricultural Technology, Delta State Polytechnic, Ozoro, in order for students to be engaged in the farming industry as professionals, was disrupted during the COVID-19 lockdown. Consequently, significant losses in farm produce and on-going student research projects were recorded. The major message of this paper, is for management of tertiary agriculture institutions to emulate the various palliative measures adopted by government of different nations of the world to cushion the impacts of COVID-19 on agriculture and food security and do the needful, by addressing the inadequacies in the training and also strengthening departmental frame works for students farm practical, research projects and field trips aimed at producing proficient prospective agriculturists in order to ensure food security on a sustainable basis. The paper concludes with a call for a true commitment from all stakeholders towards tertiary agriculture since, they are faced with special circumstances as revealed during the COVID-19 era. It is suggested that improved provision of all relevant resources be given due attention.

**Keywords:** COVID-19, Mitigation, Tertiary Agriculture, Food security, Student project.

#### **Introduction**

The lockdown of the COVID-19 pandemic precipitated both direct and indirect effects in the farming industry and tertiary agriculture. The effects also differed among different fields of human endeavor. The indirect effects on the farming industry are due to the

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existence of distribution chains. Amidst, the renewed prominence of the farming industry since the COVID-19 outbreak, there have been several disruptions in the students farms practical and research project activities of the Department of Agricultural Technology, Delta State Polytechnic, Ozoro, Nigeria.

In pursuit of demonstrating the agricultural technology foremost outcome, this paper was partly designed to express awareness and show understanding of the interrelationship between Agricultural Technology Departments, society and the agricultural environment in line with objective of establishment. While it is certain that the impacts of the COVID-19 manifested on almost every field/ academic departments and several aspects of daily life in Nigeria, the effects are more prominent in the food production systems and the agricultural value chains. The various speculations that the said severe COVID-19 impacts on the Agricultural sector, will probably take a longer period to re-cover and stabilize, made it imperative to communicate the experiences of the Department of Agricultural Technology with Institutional mitigation in- view.

### **COVID-19 Lockdown: Disruptions of Farming and Student Research Projects and Field Trips in the Department of Agricultural Technology**

The Polytechnic management has over the years been assisting the Agricultural Technology Department for the release of school buses for the annual student field trips and procurement of improved cassava stem cuttings just to mention a few. But several incidences of flood and cattle invasion in the past, have not allowed the student farms to stabilize. The COVID-19 pandemic came at a time when the Agricultural Technology Department intensified efforts at increasing the level of crop & livestock productivity on their farms, preparatory for re- accreditation exercise by the National Board for Technical Education scheduled to hold in late 2020. Onuekwusi and Okorie (2008) opined that practical skills training of agriculture is also expected to motivate and generate entrepreneurial skills among students of tertiary agriculture. These revelations informed the establishment of a well-planned and fenced departmental demonstration farm already being implemented until COVID-19 outbreak. It is apparent that practical lessons or tasks and projects prepares and equip prospective farmers for proficiency in the farming industry. According to Meyer et al; (1997), project work is structured around student's questions, lives, experiences and abilities, and allows students to have control over their own learning process. Ultimately, successful project execution leads to increasing student's level of engagement, self- confidence, and intrinsic motivation to learn. Ryan and Deci (2000).

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Farm practical activities enable students to acquire relevant practical skills and engage themselves in agricultural enterprises (Darko et al; 2016 and Blackie et al; 2009). According to Colline; 2011, Osborne and Collins (2001), Jenkins and Nelson, 2005, Hudson, 1990, Swain, Monk and John, 1999, the practice of experimental learning of agriculture, is the best way of learning agriculture. Loretta, Hofstein and Clough, (2007), jointly emphasized the importance of practical learning and teaching towards becoming a successful practitioner. Field trips are important to help bridge the gap between education and hands-on experience. Field trips are crucial for every student to acquire increased knowledge, culture and hands- on experience. Hands- on experience produce questions and answer that would have shaped students' future/career.

As early as fourth week of February, 2020 the said effort commenced with the tractorization of ten (10) hectares of arable land. In the first week of March, 2020, perimeter fencing made of iron bars and diamond link wires erected. This is to prevent a reoccurrence of cattle invasion. In the third week of March, massive intercropping of maize and egusi-melon commenced. This again was to avoid damage due to flooding. Within the same period, several vegetables seedlings have been raised and planted where necessary. These were accompanied with relevant agronomic operations such as application of pre-emergence herbicides and several tonnes of organic manures. The said vegetables include: tomatoes, okra, egusi-melon, cucumber and pumpkin, water melon and lettuce.

However, being that these farm activities/operations were time dependent, the intensified cropping could not progress as planned, since the required labour and finance for moving forward were disrupted by the lockdown owing to the outbreak of COVID-19 lockdown. The several research projects bothering on chick hatching; breed/variety trials; provenance trials; field germplasm or screening trials; fertilizers/ feeding trials and cultural/ farm practices/ agronomic trials were all halted. All the experimental materials eventually became destroyed and dead due to the forceful closure of the department. The non-availability of human (Labour/ Field Assistants) resources/ support for maintenance of both crops and animals' farms compounded the referenced losses.

The farm worker's role includes maintaining the school farms/ gardens and assisting lecturers/ instructors and student's to carryout practical tasks: This inadequate labour farm workers explains why all the experiments and on- going research on crop and livestock became abandoned and destroyed/ failed during the COVID-19 era. This state of affairs must not continue to repeat itself. The losses could have been avoided or reduced to the barest minimum of the department of agricultural technology had reasonable number of labourers/ field assistants.

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### **Imperatives, Challenges and Opportunities in the Wake of COVID-19: Implications for Re-visiting Issues within the Agricultural Environment.**

The effort of key players globally to respond to the several lockdown measures to contain the spread of the COVID-19 pandemic has presented a number of new imperatives, opportunities and challenges across nations and fields of human endeavors. A careful perusal of the various attestations owing to the challenges posed by the COVID-19 pandemic revealed that the farming industry and tertiary agriculture have issues, and questions that are yet to be viewed in their proper perspective.

Some of these issues and questions about the agricultural sector are outlined below:

- i. Some industries can be put on hold in order to contain the spread of COVID-19, but not agriculture (Elsevier, 2020 and Ivanov, 2020). The purchases and transport of agricultural products amongst others exempted from travel restrictions is a case-in-point.
- ii. Without farmers, the whole world would be in a very “sticky” situation.
- iii. Agriculture is the most challenging profession
- iv. The COVID-19 economic implications are repeatedly catapulting agriculture in the mainstream discourse globally (Laborde, 2020 and Torero, 2020).
- v. The COVID-19 pandemic is making it worthwhile for nations to revisit the role of agriculture in economic development to throw light into the policies the sector so desire to adopt to recover and stabilize better (Elsevier, 2020 and Ivanov, 2020).
- vi. Majority of the donated palliatives across the globe, were mostly in form of food items. Thus, putting more pressure on the food source, storage, or reserve, for subsequent farming activities for some specialty crops.
- vii. It is certain that agriculture have been more prominent in the COVID-19 era.
- viii. COVID-19 has reinvented the importance and prominence of agricultural sector as the one profession in which the labour force of a Nation can resort to in the event of crisis.
- ix. A common consensus amongst observes, stakeholders, experts and government, is that reviving the agricultural sector will be the key in the post COVID-19 phase of most Nation’s economy.
- x. Youth involvement in agricultural career and enterprises
- xi. Ascertaining the awareness of the potential benefits associated with the agricultural career.
- xii. The calls for agriculture and agricultural students to be recognized as a special sector and segments respectively not out of place.
- xiii. Retaining the view that the farming industry and agricultural career is strictly or mostly for the poor and uneducated

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- xiv. That institutional inspiration and incentives are capable of making the career more attractive and valued, thus, contributing maximally in a nation's food security challenges.
- xv. That the provision of relevant infrastructure has the capacity to improve and increase agricultural productivity and ensures sustainable food security.

COVID-19 pandemic and the attendant lockdown measures therefore, provide further need for the exploration of the farming industry and tertiary agriculture. All the activities and investigations carried out during agricultural project execution according to Blumenfield et al (1991), Katz and Chard (2000), somehow provide answers to questions and issues within the agricultural environment and lived experiences.

*“When the COVID-19 lockdown was announced, none of us rushed to buy Gold, Land, Car, or Expensive mobile phones but all of us rushed to buy food (fruits, vegetables, meat, bread etc.). Farmers are the soul of a nation. Respect them!”*

### **Complete Farmer.**

The above message of the complete farmer, besides being a call for the recognition of the agricultural profession and the farming industry, it also serve as an encouragement to the tertiary agriculture students to be more passionate and committed to the full exploitation of the Agricultural disciplines and thus, reposition them for meaningful contribution to the society's food security challenges. Expectedly, these COVID-19 imperatives also provide the needed impetus for a positive change in attitude of youths (students) towards the farming industry and the pursuit of tertiary agriculture. From the evolving prominence, the farming industry will hardly be viewed as an outdated and unprofitable enterprise and career henceforth. These revelations perhaps explain the moves by States Government in Nigeria (Edo and Ekiti) and other stakeholders to re-focus on developing the human capital in food production system and agricultural value- chains preparatory to the emerging agriculture- based economy.

### **Institutional Mitigation Efforts and Covid-19 Impacts on Future Agricultural Practitioners**

School farms otherwise called field laboratories are critical in the teaching of agricultural practical skills and the evolvement of future agricultural practitioners (Robert, 2004). Prior to the COVID-19 era, self-employed farming was already on the decline and affordable farmland was also hard for young farmers to acquire. This challenge should serve as a clear direction for any form of government intervention. As various government searches for alternative sources of revenue owing to the COVID-19 pandemic, the seemingly consensus is that the agricultural sector remains a promising area. Cases of temporary cash handouts

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by some governments for poor farmers as well as grants to restart production are worthy of note. Since farm practical and research projects activities in the Department of Agricultural Technology are time dependent, the advent of COVID-19 pandemic made it impossible for the recommended farm practical that governs the production of crops and animals during the period under review to be carried out. Consequently, significant losses were incurred in the several farm practical and students research projects. Recouping the significant losses incurred by the Department of Agricultural Technology, Delta State Polytechnic, Ozoro, will require inspiration and institutional mitigation. The COVID-19 era has prompted the need for administrators/heads of tertiary agriculture and aspiring agriculturists to work smarter and more innovative as well as pursuing an enduring administrative mechanism and other workable institutional arrangement. In trying to recover from the impacts of COVID-19, there is need for urgent rethinking, and reshaping the way tertiary agricultural is delivered through an intensification of agricultural activities in the Department of Agricultural Technology.

Given the right institutional frame work, no piece of land is expected to be unnecessarily underutilized, since the Delta Sate Polytechnic, Ozoro is a “Centre of Excellence in Agriculture”. Indeed, modern agriculture depends on a continuous stream of new technologies if it is to remain productive, competitive and profitable. The Agricultural Technology Department Farms should be such that they do not only demonstrate sound commercial practice, but also provide an excellent resource for teaching and researching and ensuring optimum production while maximizing profits on a sustainable basis. Once, students see that there is a greater opportunity to earn living by farming; they become more passionate and attracted to the agricultural profession either as owners of farm enterprises themselves or as employees. As the school farm continues to be productive, its comparative advantage in agricultural products increases (Fred, 1999; Claudio, 2006). Effort should not be spared in ensuring that the departmental farm is able to produce most of the resources necessary for its students, staff and the polytechnic community and thus, remove the wide spread ignorance of the complex functions provided by a productive school farm under the right institutional frame work. The referenced farm is expected to provide students and staff access to detailed records of production, marketing, financial activities and estate enterprises for appraisal purposes. Any effort to encourage practical agriculture will certainly give the desired results (Melaku, 2007).

The major message of this paper, is for management of tertiary agriculture institutions to emulate the various palliative measures adopted by government of different nations of the world to cushion the impacts of COVID-19 on agriculture and food security and do the needful, by addressing the inadequacies in the training and also strengthening departmental frame works for students farm practicals, research projects and field trips aimed at



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producing proficient prospective agriculturists in order to ensure food security on a sustainable basis.

### **Conclusion**

Agricultural Technology Departments are faced with special circumstances and needs as revealed during the COVID-19 era. There is wide spread ignorance of the complex functions provided by a productive school farm under the right institutional frame work. Reviewed literature attested to key features of project work, benefits and challenges of implementing it, ways to initiate and manage project work. Hence, a true commitment to agriculture and food security must of a necessity make provisions among others for basic infrastructure, skill acquisition/ capacity building and attitudinal change from all concerned. The evolvement of an institutional policy frame work geared towards empowering aspiring agriculturists through micro credits and other incentives is a welcome development.

### **Suggestions**

In order to recover the losses from the adverse effects of the COVID-19 on the Department of Agricultural Technology student farms, field trips and research project activities, the under listed is hereby suggested:

1. Improved provision of inputs such as fertilizers (Organic& Inorganic), Pesticides, etc.,
2. Encourage local fabrication of farm machines equipment and donation of tractor to the Department of Agricultural Technology.
3. There should be several farm labourers for crops and animals which is not the case currently.
4. Any unskilled staff already on government pay-roll within the polytechnic should be re-deployed as field assistants/labourers to the department of agricultural technology to work in the agricultural enterprises lacking due attention.
5. There should be financial support for departmental student's field trips in addition to the usual releases of costal buses.

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