

ATVETs under a university umbrella: The Division of Agricultural Colleges at Ahmadu Bello University, Nigeria

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History

The history of the Colleges of Agriculture that make up the present-day Division of Agricultural Colleges of Ahmadu Bello University dates back to 1921. It started when the British Cotton Growers Association (BCGA) introduced an inservice training centre at Maigana, on the outskirts of Zaria, in the then Zaria Province. Traditional practices of cotton growing were modernised by introducing the concepts of commercial agriculture. It became a formal school in 1928 under the responsibilities of the Federal Department of Agriculture and it was moved from Maigana to the present soil survey laboratory in Samaru. The first students undertaking formal training admitted in 1931 were sponsored by their various Native Authorities and Northern Regional Government becoming Agricultural Assistants on graduation in 1932. This Centre later metamorphosed into the Samaru School of Agriculture, which later became the present Samaru College of Agriculture (SCA), with the primary objective of training middle-level manpower for agricultural development in Nigeria.

In 1951, the Livestock Services Training Centre, Mando Road, Kaduna, was established to train livestock personnel, later becoming the College of Agriculture and Animal Science (CAAS). In 1964, a third School was established with the assistance of the US Government at Kabba, in Kabba Province, to cater specifically for horticulture and the needs of riverine agriculture in Northern Nigeria. This later became the Kabba College of Agriculture (KCA).

After independence in 1960, the regional authority was dissolved in 1966 and the states created. The schools of Agriculture and Ahmadu Bello University (ABU) were assets of the Northern Regional Government that could not be shared by the newly created states and were therefore transferred to be managed by the Interim Common Services Agency (ICSA). With the dissolution of ICSA, these schools were then transferred to ABU in 1968 as part of the Institute for Agricultural Research (IAR). To manage these colleges, an autonomous unit called the Division of Agriculture and Livestock Services Training (DALST) was established in 1971. A fourth school was founded in 1972 at Bakura with the assistance of the Dutch government. This fourth school was to take care of the need for technical staff with expertise in irrigation agronomy as a result of the prevailing draught experienced in the Northern States at the time, although this school was closed in 1994 due to insufficient funding from the Federal Government.

The DALST was later renamed as "Division of Agricultural Colleges" (DAC) and referred to as "The Division" in 1977. The Division with its Colleges was gazetted as a national middle-level manpower training institute with its own Board of Governors and Academic Board but still as an academic division of ABU established by Statute 16 of ABU laws. When ABU could not

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sustain funding of the Colleges, DAC became autonomous under the National Universities Commission (NUC) as an Inter University Centre. Thus the DAC is an academic division of ABU although funded by Federal Government of Nigeria through NUC as an Inter University Centre (IUC) of the NUC. The Division is not the only IUC under NUC, others are French Village, Badagry; National Mathematical Centre, Abuja and Arabic Village in Borno State. However, because the Colleges of DAC offer National Diploma and Higher National Diploma programmes, these are not regulated and accredited by NUC, but by the National Board for Technical Education (NBTE).

The DAC as part of the "Agricultural and Veterinary Complex" of ABU

The primary function of the DAC as an academic division is to coordinate the academic activities of the Colleges. The (DAC) is an integral part of the "Agriculture and Veterinary Complex" in Ahmadu Bello University, Zaria, which also includes the Institute for Agricultural Research (IAR), the National Animal Production Research Institute (NAPRI), the National Agricultural Extension and Research Liaison Services (NAERLS), the Faculty of Agriculture (FOA), the Faculty of Veterinary Medicine (FVM) and the Veterinary Teaching Hospital (VTH). The integration of these seven units offers opportunities for collaboration and technological development, ease of administration, lower investment costs, more influence over policy development, by bringing together key players along the value chain (researchers, extension agents, farmers, students, policy makers and the private sector).

Although each unit of the complex has its mandate, their common mandate includes working within the regional structures in cooperation with Ministries of Agriculture, Agricultural Research Council of Nigeria (ARCN), agricultural stations within and outside the country aimed at facilitating the training of scientists, academics, agriculture and veterinary officers. At the same time, the complex undertakes and implements research programmes under close supervision and collaboration with universities, private, national and international donor agencies. Of the units within the complex, DAC, FOA, FVM and VTH are under the Federal Ministry of Education coordinated by the NUC, while NAPRI, NAERLS and IAR are under the Federal Ministry of Agriculture and coordinated by the ARCN.

The DAC has its Headquarters at Zaria, headed by a Director, while each of the Colleges is headed by a Provost. Although the Provosts are appointed by the Vice Chancellor, they report directly to the Director. A Board of Governors chaired by the Vice Chancellor of ABU, formulates policies and guidelines which are implemented by the management of the Division, while a Professional and Academic Board chaired by the Division's Director is in charge of supervising the professional and academic activities in the Division.

The integration with ABU gives the Colleges in the DAC the advantage of having joint teaching and administrative staff, access to laboratories, farms and libraries. The technologists and technicians of other units in Agric/Vet Complex are often trained by the Colleges. Students of the Colleges undergo four months industrial training on requisite practical and technical skills at these institutes under the SIWES (Students Industrial Work Experience Scheme) funded by the Industrial Training Fund (ITF). Most of the academic staff domiciled in DAC are trained for higher degrees at FOA, FVM and other faculties of ABU.

The Provosts of the three Colleges meet quarterly to present reports on their activities to the DAC management. Facilities are shared where necessary among the Colleges. A sports competition between the Colleges, tagged the Director's Cup, rotates between the Colleges and provides a means of social interaction.

Programmes and training activities

The DAC Colleges have the mandate of training middle-level manpower in various fields of agriculture. The Colleges run certificate courses, pre-national diploma (Pre-ND) and various courses in agriculture at both National Diploma (ND) and Higher National Diploma (HND) levels. Curriculum standards are set and regulated by the National Board for Technical Education (NBTE).

Admission of students is coordinated by the Joint Admissions and Matriculation Board (JAMB) along with other tertiary institutions in Nigeria and requirements for admission to the Colleges are the same. Matriculation ceremonies are conducted independently but convocation ceremonies are combined for the Colleges while the venue is rotated.

The curriculum being used at the three Colleges is monitored by the Ahmadu Bello University (ABU) Quality Assurance Committee (QAC). This curriculum, accredited by the NBTE, places emphasis on the conduct of practicals and is tailored towards self reliance and employment generation. The DAC has a QAC that has representatives from individual Colleges who serve as a link between ABU QAC and College QAC. The Quality Assurance Committee of each College understands the peculiarity and ensures that practicals are conducted by adequately trained technologists, while the academic staff give the theoretical background.

The combined farms of the Colleges spans over 100ha of land, providing staff and students the opportunity to learn new technologies in agricultural practices. The livestock section of SCA has over 70 heads of cattle, 50 goats and 50 sheep, as well as layers, broilers, rabbits, pigs and fish. The rearing of these animals is mandatory for NBTE accreditation. All these animals are used for teaching, research and production. An engineering workshop at SCA allows fabrication and maintenance of machinery. A veterinary hospital at CAAS provides veterinary services within the College community and the neighbourhood. In addition, the clinic also provides ambulatory services while a 13 hectare plot is used for growing pasture. The KCA college manages five research farms to provide research education and knowledge linked primarily to its research programmes.

Extension and training programmes

The Colleges also organize tailor-made trainings and advisory services, both locally for neighbouring farmers and for nationally important development programmes. For example, SCA has organised tailor made trainings for Zamfara State Youth Empowerment Programme in Agriculture (150 participants), Kaduna State Women and Youth Empowerment Training on Aquaculture (334 participants) and extension agents from 36 states of Nigeria. Farmers from Bauchi and Kaduna states were trained on agricultural value chains, good agricultural practices and contract farming, in collaboration with various development programmes. These tailor-made practical trainings use a “competency-based training” (CBT) approach, emphasizing the specific skills required by the trainees. At the end of the training, guides for crop production, animal production, and pesticide application have been developed by SCA.

KCA has also collaborated with key national development programmes. Under the National Fadama III Programme on the Graduate Unemployed Youth and Women Support (GUYS) project in 2017, 300 beneficiaries were trained on improved and sustainable rice, yam, cassava, maize, and livestock production. Under the Agro-Processing, Productivity Enhancement and Livelihood Improvement Support (APPEALS) Project, supported by the

World Bank, Federal Ministry of Agriculture and Kogi State Government, 1,200 people were trained in 2019 on sustainable agricultural production, processing, business development and marketing. After these trainings, participants were able to develop business plans to apply for startup funds.

The major challenge for these short course trainings (at e.g. KCA) is the limited facilities to cater for large number of trainees at once. However, the College trains in batches and uses facilities of nearby private farms to solve the inadequacies. The College partnered with Kogi State Government to establish cocoa plantations and its value chains. The KCA further partnered with Nigerian Institute of Horticulture (NIHORT) to develop improved seedlings of various horticultural crops and research collaborations.

In general, the Colleges provide advisory services to many farmers. An active network of alumni has made it possible to maintain close relationships with various agricultural agencies.

Linkages with international agencies

From 2013 till date, SCA has worked with Winrock International (USAID sponsored NGO) through Volunteer Technical Assistance (VTA) programme of the Farmer-to-Farmer Programme for Agricultural Education and Training (F2F for AET)/Nigeria. From this collaboration, SCA academic staff and technologists have benefited immensely in capacity building on programme development and planning; building pedagogical skills; agricultural leadership and communication; grant proposal writing and beekeeping. Also, SCA has collaborated with the German Agency for International Cooperation (GIZ), with staff of SCA being trained as trainers by and for GIZ in contract farming and good agricultural practices for maize. Such programmes develop staff capacity and provide some income for the Colleges, as well as increasing farmer productivity and income. SCA has now proposed the inclusion of contract farming in the NBTE curriculum.

SCA also collaborates with many private agro-allied companies, including Premier Seeds, Value Seeds, Sun Seed, Saro Agro-sciences, African Agro, East-West Seeds and Indorama Fertilizer. The College provides training for staff of these companies, and the companies provide internships for students and provide job opportunities for diploma graduates. Some of these companies also provide the post-diploma, 1-year industrial training which is mandatory in Nigeria. These collaborations further resulted in technology development through establishment of research for these companies in addition to providing advisory services to them.

In 2020, East-West Seeds established a learning site at SCA where technologies for the production of cucumber, tomato, pepper and cabbage were showcased. The learning site, beside a main trunk road, provides maximum visibility to the public as well as opportunities for learning by staff and students. Field days allow exposure of East-West products to neighbouring communities.

CAAS has in the past collaborated with several international and national organisations such as: Overseas Technical Trainers Award (OTTA) U.K in 1994; the Songhai Centre for Excellent Entrepreneurship Studies and Farming, Portnovno, Benin Republic in 2007; the Centre for Animal Disease Control Unit, Cuba; the Avian Artificial Insemination Unit (IVM) organization, France; Spartsholt College, U.K; University of Wolverhampton, U.K; Nigeria National Petroleum Cooperation Nigeria (NNPC), Central Bank of Nigeria (CBN), Red Cross Nigeria,

Youth Empowerment Scheme, Military Retirees Formation, Lagos; Industrial Training Fund (ITF), among others. Cooperation with these institutes has provided College staff the opportunity to learn innovative techniques in animal health and production technology, diagnosis and treatment of diseases, artificial insemination in poultry and sperm collection from cocks.

Advantages and disadvantages of the DAC model

The DAC model and its association with Ahmadu Bello University has advantages and disadvantages.

Advantages include:

- **Staff employment conditions.** Academic and non-academic staff at the DAC colleges enjoy equal rights, privileges and responsibilities with those of Ahmadu Bello University. Academic staff in the DAC enjoy the same promotion criteria and same salary structure as their colleagues in the faculties, which is significantly higher compared to other colleges of agriculture in Nigeria.
- **Staff mobility.** Staff can easily transfer within faculties and be accepted in other universities as visiting lecturers as well as on sabbatical. Academic staff in DAC can rise to Professorial level. There is a pool of staff in other faculties and institutes from which specialists can be drawn when needed.
- **Staff development.** Due to the fact that staff members domiciled in the Colleges are subjected to the same conditions of service as those in the faculties, the staff of the colleges are encouraged to develop themselves and their qualifications are enhanced. Academic staff at DAC Colleges are trained free of charge at the various faculties in ABU.
- **Branding and image.** As components of the University, the popularity of the colleges is increased, and it is more attractive to prospective students. In the award of certificates, while the NBTE regulations apply the representative of ABU senate at DAC's Professional and Academic Board ensures that the certificates awarded meet ABU senate minimum standards for all approved results.
- **Academic progression.** On completion of their diploma programmes, some students further their education in degree programmes. Diploma graduates from DAC colleges who have acquired more practical skills transfer these to their classmates when they enrol for degree programmes, thus assisting students in faculties of ABU to learn practical skills. Students that graduate from DAC Colleges and enrol at the university are more mature and better able to cope with the rigors of campus life.
- **Better integration with other knowledge and development actors.** The DAC structure enables better networking of staff, and integration of the DAC Colleges with other key national and international knowledge institutes, international and government development agencies, and private sector companies. This integration in turn leads to improved research and extension activities, information flow, and feedback from other actors, which in turn improves teaching programmes.
- **Alumni networking.** Graduating students from DAC increases the categories and spread of students graduating from ABU. This further increases the Alumni base of the University as graduates of DAC colleges are by extension Alumni of ABU.

On the other hand, the disadvantages of the DAC structure include:

- **Loss of independence.** Being in the university means that the Colleges lose their independence, and Heads of the Colleges become answerable to the DAC Coordinating Director. At times, the Director being appointed for a 2-year tenure is from another unit of the University, and it may take a while before he or she understands the peculiarities of the system.
- **Funding** for the Division that houses the three colleges is not commensurate with the requisite funding that each of the colleges would have had if they were separate from the university.
- **Work burden on academic staff.** The academic staff at DAC have to supervise and participate to see that adequate practicals are conducted for diploma programmes. At the same time, they are also expected to teach undergraduate and postgraduate courses, supervise undergraduate and postgraduate students so as to be promoted. This is irrespective of their teaching load at the various Colleges. As such, academic staff at DAC are forced to learn to teach practically even when they interact with the undergraduate students. Also when academic staff are invited from faculties or other units to teach specified courses, the College QAC makes sure requisite practicals are conducted. However, such staff get used to such practices with time.

While the DAC model in Nigeria has its shortcomings, we believe the advantages outweigh the disadvantages.