

Education at Bogor Agricultural University: Toward Sustainable Agricultural Development in Indonesia

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Abstract

Various definitions and methods of sustainable agricultural development have been proposed and implemented. In general, sustainable agricultural development is focused on agricultural activities that are environmentally friendly and financially meet the needs of community welfare, and its applied technologies are socially accepted by farmers. This paper describes the direction and current status of education, research, and extension programs focused on sustainable agriculture at Bogor Agricultural University, Indonesia. Our findings are based on content analysis of the last 10 years of secondary data collected and tabulated from the offices of academic affairs, research, and extension services, as well as faculties and departments. Core Scientific Model (*pola ilmiah pokok*) of Bogor Agricultural University is a guiding principle in the implementation of the Three Duties or Three Functions (*Tridharma*) of Higher Education in Indonesia, which consist of education, research, and community service. Because the university's Core Scientific Model is a sustainable agricultural system, the academic curricula should take into account sustainability in courses on agricultural development. Some undergraduate and graduate courses, such as the course on "Systems of Sustainable Agriculture", explicitly describe sustainable agriculture, whereas other courses, such as "Ecology of Tropical Forests", are more closely related to ecology and consider achieving an environmental balance as an important factor in utilizing natural resources. Most courses at the university consider the terms *environment* and *sustainable*. Some new graduate-level courses more comprehensively examine sustainable agricultural development, while considering the ethical, moral, and political implications of utilizing natural resources for agricultural development.

Research conducted and written by Bogor Agricultural University students as final assignments (undergraduate students) or theses and dissertations (graduate students) are easily accessible in the main library. Among the 23,000 undergraduate projects, few comprehensively describe sustainable agriculture, but instead generally discuss only one aspect of sustainability (e.g., environmental friendliness, economic feasibility, social acceptability). Among the 8375 thesis titles, only five dealt with sustainable agriculture research, 64 discussed two elements of sustainability (environment and economic or economic and social aspect), and the rest did not explicitly discuss sustainability. From among the 1287 dissertation titles, only 28 dissertations analyzed sustainable agriculture comprehensively and quantitatively investigated the three elements of sustainability. Ecological and environmental topics were given detailed examinations in 124 dissertations, whereas 1135 dissertations focused on other topics, especially

technology, modeling, and characterizing points of view. The lecturers or educational staff of Bogor Agricultural University have not necessarily carried out research on sustainable agriculture. Such studies are conducted only when proposals are approved and funded by competitive funding agencies. Nevertheless, 1506 final reports have been successfully written. Fisheries and marine science (13%) and animal husbandry (12%) studies accounted for the highest number of research projects conducted, whereas environmental pollution mitigation and natural resource conservation studies accounted for about 7%. The remaining studies were specific to agriculture: crop culture (10%), biotechnology (9%), technology development (9%), and other topics (1%-4%). (View PDF for the rest of the abstract.)

Keywords: [curricula](#), [ecology](#), [environment](#), [sustainable agriculture](#), [research](#), [extension program](#)