

The Context of Development: An Analysis of the Environmental Linkages of the Ghana-Guelph Project.

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The maturity and success of international development projects depend in part on the wider environment in which they are nurtured. This is especially crucial in the field of technical assistance projects targeted at Third World educational institutions which constitute part of a system of unstable environments.

This paper is an analysis of one of the most farreaching technical assistance projects involving the University of Ghana and the University of Guelph. Initiated in 1970 and funded by the Canadian International Development Agency, the Ghana-Guelph Project entailed the provision of technical assistance from the University of Guelph to upgrade the teaching, research, and extension capabilities of five departments in the faculties of Agriculture and Science at the University of Ghana.

Specifically, the paper will examine the set of environmental linkages that were associated with the implementation of the Ghana-Guelph Project. Environmental linkages refer to four related set of variables: enabling linkages; functional linkages; normative linkages; and diffused linkages. These variables typify the points of contact which existed between the Ghana-Guelph Project and its related environment. The analysis of these linkages, then, would provide insights into an understanding of the interaction between an international development project and its environment.

The first indentifiable set of linkages in such an interaction is the *enabling linkages*. In relation to the Ghana-Guelph Project, the enabling linkages comprise the relationships the project had with organizations, group, and individuals who controlled the allocation of authority and resources needed by the Project in order for it to exist and to continue to function properly. At its very basis was the financing grant by the Canadian International Development Agency (CIDA) which facilitated the initiation of the Project. CIDA made available a total of \$3,159,771.00Cdn for the eight year duration of the Ghana-Guelph Project.¹ This investment was complemented by the financial contributions from the University of Ghana. The Ghanaian contribution to the Project was drawn, as needed, from the university's operational budget.²

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Several mechanisms characterized the translation of CIDA's and the Government of Ghana's financial resources into technical assistance input for the Project. The University of Guelph constituted one of the critical enabling linkages between CIDA resources and the Project and concurrently, the University of Ghana assumed an equally significant enabling role in the Project. In turn, these universities established enabling linkages with Canadian and Ghanaian governmental and non-governmental institutions that were associated with the Project. The enabling linkages at the University of Ghana consisted mainly of the relationships established between the Project and the senior administrators of the university. As with the University of Ghana, enabling linkages at the University of Guelph consisted mainly of the relationships between the project and the senior administrators of the university. In order to understand the impact of these linkages on project implementation, it is important to examine the extent to which formal and informal relationships were cultivated and the perception of individuals and groups regarding the project's output.

The cultivation of relationships refers to the process by which individuals, groups, and organizations interacted in establishing a network of communication during the implementation of the Project.

At the University of Ghana, the cultivation of relationships between the authorities of the university and the Canadian Project team members progressed in two directions: (1) a direct relationship in the field; and, (2) an indirect relationship through the University of Guelph.

Throughout the duration of the Project, relationships were facilitated by the involvement of Canadian team members in all of the activities of the University of Ghana. They were integrated into the university structure and were considered equal to their Ghanaian colleagues as members of the university staff. Canadian team members sat on various university committees, administered some departments as departmental heads, were involved in research and extension, acted as consultants for agriculture and animal production in the name of the university, and organized symposia on the findings of their research.³

Although the cultivation of relationships was undertaken primarily through the official channels of communication, relationships were also established informally. The return of Ghanaian university staff who visited the University of Guelph also influenced the relationships between the Canadian team members and their host university in various ways. The returning Ghanaians, having been to the University of Guelph, gained a better understanding of the operational principles and procedures of their Canadian counterparts. Consequently, they were in a position to

appreciate the perceptions of their Canadian counterparts, thereby fostering a better atmosphere for the cultivation of both formal (work) and informal (social) relationships. The University of Ghana thus served an effective enabling role as it was these relationships which facilitated the implementation of the project.

At the University of Guelph, the Project Director was the linchpin in the cultivation of both formal and informal relationships. From his initial involvement during the feasibility study until the end of the project, the project Director in Guelph cultivated relationships with individuals and groups who possessed authority and allocated resources to the project. In this task, he was assisted by Canadian team leaders and team members. In this manner, the Project Director ensured, through oral and written communication with individuals and groups on campus, the establishment of a support network for the Project

The ease with which formal and informal relationships were cultivated in the field between Canadian team members and their hosts in the University of Ghana, and in Guelph between the Project Director and groups in and outside the university had a significant impact on the perception of the Project. Perception regarding output refers to the extent to which the organizations providing resources for the Project perceived it as performing worthwhile services.

The University of Ghana regarded the Project as providing a worthwhile service. This perception was substantiated by written and oral testimonials regarding the Project. A positive reaction to the Project's output can be deduced from essentially three elements: (1) the Project was extended in 1974 to include the Short Courses in Extension; (2) the Department of Political Science of the University of Ghana sought a twinning arrangement with the Department of Political Science of the University of Guelph; and (3) towards the end of the Project, various requests were made for its continuation. ⁴

The perception of the University of Guelph regarding the Project's output as providing a worthwhile service to both universities was judged by the University of Guelph's willingness to commit resources to the Project and to continue the Project for an eight year period. The university stated both orally and in writing that the Project conformed to the University of Guelph's need to become involved in an international development effort and to train some members of its staff in the field of international agriculture. Also, written and oral testimonials were available to indicate that the University of Guelph was providing a worthwhile service to the University of Ghana. ⁵

In general, the Project received enthusiastic support from most individuals, groups, and organizations concerned, including governmental agencies such as the Ghana Ministry of Agriculture and the Ontario Ministry of Agriculture and Food. Once the initial difficulties were resolved, the Project quickly acquired a strong foundation within the University of Ghana, and subsequently developed further positive relationships with governmental ministries. In the University of Guelph where the Project had its strongest commitment and support, the initial enthusiasm for it never diminished throughout the life of the Project.

Despite the initial difficulties, the Canadian International Development Agency supported the Ghana-Guelph Project during the eight year span of the Project's existence. This support was a confirmation that the Ghana-Guelph Project was viewed by CIDA as providing a worthwhile service to the University of Ghana and that the University of Guelph was capable of effectively implementing the mandate outlined by CIDA. Also, this support was a confirmation that the Project was consistent with the priorities of CIDA in the field of institution building for agricultural and rural development. ⁶

Once the enabling linkages were established, the actual delivery and consequent absorption of technical assistance inputs depended on the establishment of *functional linkages*. These linkages refer to relationships with organizations that supply the inputs, other than the financial resources, and absorb the outputs of the Project. It was assumed that the degree of flexibility in obtaining the required resources for the Project and in utilizing the outputs of the Project would indicate effective functional linkages.

The inputs to the Project came essentially from the University of Ghana and Ghanaian ministries, and from the University of Guelph and other Canadian organizations. The inputs from the University of Ghana consisted essentially in the provision of senior research fellows and students to be trained in Canada through the Ghana-Guelph Project. Some difficulties were encountered in obtaining these resources. One such difficulty centered on the number of Ghanaian staff who came to Canada. Although the Project provided up to twelve senior research fellowships, only four Ghanaians availed themselves of these research opportunities. The relatively small number of Ghanaian staff who went to Canada as senior research fellows was due in part to the lack of endogenous resources in the five departments concerned with the Project. ⁷

Despite the limitations to the obtention of inputs from the University of Ghana, the Project was able to effectively maximize the use of the limited inputs and adapt the study programs to Ghanaian needs. This was particularly evidenced by the fact that most trainees were encouraged to

focus their research activities on issues relevant to the Ghanaian developmental experience, problems and prospects.

The inputs from the University of Guelph consisted of faculty and research assistants who went to work at the University of Ghana within the framework of the Ghana-Guelph Project. Faculty for the Project were recruited, whenever possible, from within the university. However, in fields where the university experienced a shortage of personnel, it became necessary to recruit from outside of the university. Efforts made to recruit research assistants for the Project were limited in success since fewer than the required number of research assistants were hired to fill all the positions.⁸ Out of a possible twenty four person-years provided for by the Project, only seven were utilized.⁹

With regard to teaching, research, and extension activities, Guelph faculty taught courses which could not have been provided at the university at that time.¹⁰ This was particularly true in the case of the departments of Agricultural Extension and of Home Science for which the Project provided thirty and one half person-years of faculty time out of a total of forty six and one half person-years. In fact, the Department of Home Science alone accounted for more person-years of faculty time (seventeen and one half) than the departments of Crop Science (six), Animal Science (five) and Nutrition and Food Science (five) combined.¹¹

The above analysis reveals that the required human, financial, and physical resources needed for the implementation of the Project were provided by the University of Ghana as well as the University of Guelph. Faculty members from Canada were always present in sufficient numbers throughout the duration of the Project. After initial delays in the early years of the Project, the nomination process for qualified Ghanaian students for training at the University of Guelph posed no insurmountable difficulties.

The only cases where the Project clearly fell short of its target were in the utilization of research fellowships by Ghanaian senior staff members and in the utilization of research assistantships by University of Guelph students. This notwithstanding, the Project appears to have benefited from adequate resource allocation, and even acquired additional resources as was the case in the provision of instructors and trainees in agricultural extension by the Ghana Ministry of Agriculture and in the form of book donations by the community of the University of Guelph. These resources combined to produce tangible outputs for the Project.

The outputs of the Project consisted of University of Ghana staff and students trained under the auspices of the Project. These trained personnel formed part of the project's objective of making the participating

five departments in the University of Ghana self-sufficient in teaching, research, and extension capabilities. As a result, the four senior research fellows who went to the University of Guelph for a one year period returned to their staff positions at the University of Ghana, and latter went on to further their research activities and to assume the headship of their respective departments.

Thirty-nine Ghanaian students came to Canada to receive training through the Ghana-Guelph Project. The primary purpose of this human resources development aspect of the Project was to provide adequate skills for prospective professionals to assume specific positions upon completion of their training. This was the case with Ghanaian junior staff at the University of Ghana who occupied specific positions upon returning to Ghana, often positions which had been held during their absence by Canadian faculty. This was also the case with three technicians from the University of Ghana as well as with three extension and two veterinary officers from the Ghanaian Ministry of Agriculture who went to the university of Guelph for training. Other participants in the Project were trained as part of a general pool of talent from which the university could recruit needed human resources in the future.

The experience acquired by the senior research fellows and trainees in Canada led to institutional self-sufficiency in the Department of Home Science, as well as the Department of Animal Science.¹² In particular, the departments of Crop Science, Nutrition and Food Science benefited most since they provided trainees in excess of their projected needs.

These tangible outputs of the Project were not realized in a vacuum. They were derived from a coherent set of *normative linkages*. These linkages refer to those relationships with organizations incorporating values and norms that impinged on the purpose and programs of the Project. The significant organizations with which the project had normative linkages were identified as: (1) educational institutions; (2) Ghanaian ministries; and, (3) Ghanaian associations in fields related to the Project. Normative linkages were critical to the success of the Project as they could either enhance or inhibit the implementation of the Project.

Willis argues that normative linkages are weakened when an institution ignores or violates societal expectations.¹³ The consequences of such actions could result in the reduction of the impact of the institution on its environment and a probable restriction in the growth of the institution. Accordingly, a project viewed as good by the significant organizations with which it has normative linkages would have a higher level of environmental impact, and simultaneously, one viewed by the significant organizations with which it has normative linkages as corresponding

closely to societal expectations would have a greater probability of continued viability.¹⁴

The most significant normative linkages existed between the Project and the universities of Ghana and Guelph. The various dimensions of these linkages have already been analysed in the section on enabling linkages. It is important to note, however, that the Project relied on both universities for support and for its continued existence and, as such, the Project channelled its activities towards fulfilling the societal expectations of both universities.

Normative linkages cannot be analysed solely in relation to the organizations directly connected to the Project. Some reference should be made to other organizations whose activities may impinge upon the project. Educational institutions with which the Project could have had normative linkages were the other two universities in Ghana namely, the University of Cape Coast and the University of Science and Technology; and the Winneba specialist Training College and the agricultural colleges.

The normative linkages with the University of Cape Coast were minimal despite attempts to develop such linkages. They seemed to have been limited to the exchange of external examiners and to periodic meetings between staff of both universities to exchange views on programs.¹⁵ Similar linkages existed between the University of Ghana and the University of Science and Technology in Kumasi.¹⁶

The project had significant relations with the Winneba Specialist Training College for which the Department of Home Science at the University of Ghana was awarding a Diploma.¹⁷ Through the Department of Agricultural Extension, the Project also established relations with the four agricultural colleges under the Ministry of Agriculture through short courses given to students in the final year at the agricultural colleges.¹⁸ The enhancement of the University's prestige, through diverse contributions of the Project, ensured that all five departments concerned would eventually establish normative linkages with numerous related private and public professional organizations and associations.

Also, there were various governmental organizations and professional associations which exercised considerable influence on the normative linkages of the Project. Foremost among those organizations with which the Project had established linkages significant for its existence and operation were the Ministries of Agriculture, Education, and Health.

The normative linkages with the Ministry of Agriculture were particularly important. The Ministry contributed to the design and implementation of the Short Courses in Extension which were offered jointly by the

Department of Extension of the University of Ghana and the Ministry of Agriculture with the assistance of the Ghana-Guelph Project. The Ministry also supplied extension officers and staff whose participation and contribution proved to be worthwhile for the implementation of the Short Course in Extension. Consequently, during the five year period in which the Canadian personnel were involved in the Short Courses in Extension, 1857 technical officers of the Ministry of Agriculture were trained. Indeed, the fact that the Short Courses in Extension recorded such successes can be attributed in large measure to the supportive normative linkages that the Project had in its relations with the Ministry of Agriculture. Similarly, the Ministry of Education had an encouraging and supportive impact on the Project, particularly with respect to the Home Science programs.

These linkages led to Ministry of Education personnel being trained under the auspices of the project and to the secondment of Ministry personnel to the Department of Home Science. Simultaneously, these linkages led to the employment of Home Science graduates by the Ministry of Education and latter by the nutrition division of the Ministry of Health.¹⁹ Another aspect of the linkages with the Ministry of Education was that the Department of Home Science performed a consultancy role for the Ministry in the periodic review of the Home Science curriculum throughout the school system in Ghana.²⁰

Normative linkages were also established with various professional associations working in fields related to the project, particularly with the Ghana Home Science Association. There is sufficient indication that these associations inevitably had an influence on the project, although the nature of their influence was difficult to determine owing to the lack of documentation on the precise nature of their interactions with the Project.

In summary, there was a positive perception of the Project by the educational institutions and ministries concerned. This positive perception encouraged the educational institutions and ministries to contribute inputs to, and utilize the outputs of the Project. Through their respective contributions, these organizations enhanced the purpose and programs of the Project. The utilization of Project resources and the provision of resources for the project by relevant organizations in the environment constitute evidence of the Project's positive environmental impact as well as its viability. The Project did not only sustain itself within an unstable environment, it also met the society's expectations as reflected in the utilization of its outputs.

While the normative linkages of the Project were more precise, its perception by the wider society, the *diffused linkages* were more fluid and imprecise. Diffused linkages describe relationships with identifiable

elements in the immediate environment and in the larger society not directly associated with the Project. Diffused linkages, as far as the Ghana-Guelph Project was concerned, consisted mainly of public opinion and relations with individuals, groups, and organizations who indirectly influenced the Project through the dissemination and interpretation of information. These amorphous linkages, which could create support or resistance to the Project, stemmed from the relationship between the Project and the expectations of the individuals and groups in the wider environment around it. The goals of such linkages was to obtain a positive response to Project activities in order for the project to function effectively. Thus, the greater the degree of interaction between team members and individuals and groups in the environment, the greater the probability of obtaining support for the Project, and consequently, the greater the degree of societal involvement, the greater the probability of obtaining support for the Project.

The means by which the team members in Ghana exchanged ideas with organizations outside the University of Ghana centered on lectures, the system of external examiners, international as well as national workshops and seminars, and the media, particularly, through radio and information bulletins. The team members in Ghana demonstrated a conscious commitment to the development of relationships with individuals and groups in the immediate environment of the Project and in the larger society not reflected in formally organized networks.

The team members in Ghana were also encouraged to develop relationships with individuals and groups outside the University of Ghana in order to publicize the activities of the Project and to obtain support for the project. The involvement of team members with community activities included the participation in the work of Ghanaian associations in areas related to the Project and with foreign development groups working in Ghana. These included some team members' participation in research efforts of the International Institute of Tropical Agriculture (IITA) and the Food and Agriculture Organization of the United Nations (FAO).

In this article, empirical evidence has been provided for the analysis of the complex linkages which characterized the implementation of an international development initiative: the Ghana-Guelph Project. Barring a few disarticulations, this article has demonstrated that the Ghana-Guelph Project was adequately anchored into the immediate and wider society around it through its diverse environmental linkages. By examining the enabling, functional, normative, and diffused linkages, it has been shown that the Project generated adequate financial and material resources, cultivated appropriate relationships, utilized available resources, and produces acceptable and desirable outputs for the wider society. In turn, individuals, groups, and organizations which benefited from the Project's

outputs reciprocated by providing both material and moral support for the Project. Thus, the Project was sustained and legitimized by its environment.

NOTES

1. University of Guelph, "The Ghana-Guelph Project: A Story of International Co-operation, Final Project Report," n.d., Ghana-Guelph Project papers, Archival Collection, University of Guelph Library, Guelph, p. 46 (Mimeographed.)
2. It is difficult to be specific about the financial contribution of the University of Ghana since there was no specific allotment as in the case of the Canadian International Development Agency.
3. Canadian team members sat on university committees such as the university's Academic Board and Library Board; the boards of the faculties of Agriculture, Social Studies, and Science; and the research committees of the Nungua, Kpong, and Kade research stations. They served as Head of the Department of Home Science and Head of the Department of Biochemistry, Nutrition, and Food Science. Their research and extension activities included research on various crops such as corn, sorghum, soya bean, and cassava; on the training needs of agricultural extension officers; on the relationship of community structures to health services; as well as extension activities including a small-farm project called Getting Extension Moving (GEM). They served as consultants for several agencies including the Ministry of Agriculture and the Ministry of Education, and as external examiners for the University of Science and Technology at Kumasi and the Specialist Training College at Winneba. Finally, they contributed to the organization of numerous symposia such as Ghana's first national conference on maize production and the Ghana Home Science Association's conferences and meetings. University of Guelph, "The Ghana-Guelph Project: A Story of International Co-operation, Final Project Report," passim.
4. For instance, the Ghanaian High Commissioner in Canada told the President of the University of Guelph how much his government would like to see the Project continue; J.C.M. Shute, Project Director, Ghana-Guelph Project, University of Guelph, to J.J. Hagarty, Team leader, Ghana-Guelph Project, Ghana, 27 January 1977, Ghana-Guelph Project papers, Archival Collection, University of Guelph Library, Guelph.
5. The confirmation that the Ghana-Guelph Project was providing a worthwhile service is best illustrated by the discussions and correspondence regarding an extension to the project beyond 1978 for a period of two to four years to provide assistance to the departments of Agricultural Extension, Agricultural Economy, and Farm Management; E.N.W. Oppong Dean, Faculty of Agriculture, University of Ghana, to J.C.M. Shute, Project Director, Ghana-Guelph Project, University of Guelph, 10 January 1977, Ghana-Guelph Project papers, Archival Collection, University of Guelph Library, Guelph.
6. Canadian International Development Agency, *Canada: Strategy for International Development Co-operation, 1975-1980*. (Ottawa, Canada: Information Division, Communication Branch, Canadian International Development Agency, 1975), p. 25.
7. Interview with D. Dako, Department of Nutrition and Food Science, University of Ghana, Legon, Ghana, 3 May 1982.
8. The agreement between the University of Guelph and CIDA stipulated that all research assistants had to be recruited from the University of Guelph; "Agreement Between the Canadian International Development Agency and Guelph University," 4 December 1970, Ghana-Guelph Project papers, Archival Collection, University of Guelph Library, Guelph.
9. "Final Report to Senate on the Ghana-Guelph Project," n.d., Ghana-Guelph Project papers, Archival Collection, University of Guelph Library, Guelph, p. 1. (Mimeographed.)
10. Interview with S. Sinnadurai, Department of Crop Science, University of Ghana, Legon, Ghana, 28 April, 1982.
11. University of Guelph, "Ghana-Guelph Project: A Story of International Co-operation, Final Project Report," pp. 12, 16, 23, 32.
12. Training for the staff in the Department of Home Science was limited to the attainment of MA degrees. As such the staff of the department lacked seniority and doctoral degrees thereby limiting departmental self-sufficiency.
13. Wesley Robert Willis, "An Adaptation of the Institution-Building Model and Field Test at Fort Wayne Bible College" (Ed. D. dissertation, Indiana University, 1978), p. 67.
14. *Ibid*, p. 66.
15. Interview with J.K. Geker, Department of Agricultural Extension, University of Ghana, Legon, Ghana, 3 May 1982.
16. Interview with J.K. Geker, Department of Agricultural Extension, University of Ghana, Legon, Ghana, 3 May 1982.
17. Interview with J. Nsarkoh, Department of Home Science, University of Ghana, Legon, Ghana, 29 April 1982.
18. Interview with J.K. Geker, Department of Agricultural Extension, University of Ghana, Legon, Ghana, 3 May 1982.
19. Instrumental in the development of these relations was the work of Dr. Lila Engberg who ran a workshop on Home Science education for educators and staff from the Ministry of Education. As stated in the University of Guelph's "Guelph-Ghana Project: Third Annual Report," her efforts also led to the development of the Family Life Education Project in collaboration with the Ministry; University of Guelph, "Ghana-Guelph Project: Third Annual Report, September 1972-September 1973." 1973, Ghana-Guelph Project papers, Archival Collection, University of Guelph Library, Guelph, p. 9 (Mimeographed.)
20. Interview with J. Nsarkoh, Department of Home Science, University of Ghana, Legon, Ghana, 29 April 1982.