

Perceptions of Teacher Educators in Agriculture
Relating to Agricultural and Rural **Improvements** in Developing Countries

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Institutions of higher learning in the United States have been involved in international agricultural activities for decades. The primary objective of their involvement has been to foster the development of agriculture and improve the condition of rural life in developing countries. Various agricultural professionals, including teacher educators in agriculture, have been involved in overseas international activities.

Thuemmel and Welton (1983) and Meaders (1982) conducted national studies on the involvement and interest of teacher educators in international agriculture **activities**. Teacher educators who had been involved in international assignments or who had an interest in becoming involved were identified in those two studies. These efforts are to be commended. However, in order to bring about the greatest improvement in developing countries, teacher educators in agriculture need both an interest in international development and a knowledge of the problems which exist in developing countries.

Two of the major steps the profession could take to help developing countries are: (a) the identification of the critical problems or causes of underdevelopment, and (b) the proposing of possible solutions to overcome those constraints. In this article these two issues are addressed.

Objectives

The primary purpose of this research was to assess the perceptions of agricultural teacher educators who had experience in international activities relating to the development of agriculture and improvement of the well-being of the rural populations in less developed nations. Specifically, the research was designed to identify:

1. Factors which constrain agricultural development in developing nations.
2. Domestic activities that would promote agricultural development in developing nations.
3. International activities that agricultural educators could implement to promote agricultural development in developing nations.

Methodology

Data Sources

A survey of teacher educators in agriculture within the continental United States was conducted. The 1981-82 Directory of Agricultural Teacher Educators (Rogers, 1981) was used to identify professionals

employed during the 1981-82 school year. Two hundred forty-six teacher educators were identified in the population.

A package of instruments was then sent to the head teacher educator at all teacher education programs in the continental United States. Each head teacher educator was asked to distribute the instruments to the faculty who were to complete the questionnaires and collect and return them to the researchers. Three mail follow-ups were made: a reminder and two mailings of the questionnaire. A response rate of 71.5% (N = 176) was obtained. One hundred sixty-three cases were usable. Fifty-four of the respondents had been on international assignments. In this article, only the perceptions of the internationally experienced teacher educators are described. While the views of the teacher educators without international experience are interesting, this article is limited to the perceptions of those teacher educators with international experience. It was decided they would have a more accurate perception of the needs of developing countries since they had first-hand experience.

Instrumentation

A researcher-designed survey instrument was employed in data collection. The initial instrument was reviewed for content validity by a panel of agricultural teacher educators who were noted for their involvement and interest in international activities.

The final instrument contained two parts. Part A asked for demographic data. Part B contained 91 statements relating to agricultural development of developing nations. The 91 statements were grouped into 10 major categories. For each statement, respondents were asked to indicate their degree of agreement using a five-point Likert-type response. Additionally, respondents were asked to indicate their degree of certainty (or confidence) for each response using another five-point scale. A brief description of the theoretical basis for this certainty-uncertainty continuum using the certainty of response rating technique (CRRT) can be found in bin Yahya and Moore (1984).

Data on both scales were transformed from the 5-point scales to 13-point scales using the certainty method of assigning values to responses as suggested by Warren, Klonglan, and Sabri (1969). The basic assumption of this technique is that response values have unequal intervals. Therefore, the tails of the original scales are spread out while the middle is pushed together.

The instrument was reliable. Cronbach's alpha for the agree-disagree scale was .89 and for the certain-uncertain scale was .98. The data were coded and then analyzed using the Statistical Package for the Social Sciences. Descriptive statistics were computed.

Findings

What Problems Hinder Development?

The survey instrument contained 17 possible endogenous factors which might limit development. The greatest problem in developing countries, according to experienced teacher educators, was social stratification. This statement received a mean rating of 9.65 on the 13-point scale. In many developing countries, it appears there are basically two groups of people--the "haves" and "have-nots." Other factors which were perceived as major limiters of agricultural and economic development were low agricultural productivity per worker, poorly developed transportation systems, lack of qualified manpower base, and the general

Table 1

Perceptions of Agricultural Teacher Educators With International Experience Concerning Agricultural and Educational Development in Third World Countries (N = 54)

Statement	Mean ^a	S . D .
The factors most responsible for the general underdevelopment of developing countries:		
1. The impact of social stratification based on wealth and education	9.65	2.88
2. Very low agricultural productivity per worker of the agricultural population	9.25	2.67
3. Lack of or poorly developed roads, railways and, where appropriate, waterways	9.11	2.87
4. Lack of adequate qualified manpower base	9.07	2.77
5. General political instability in these countries	9.04	2.82
This policy or factor should be given top priority by governments of developing countries for the desired agro-development.		
6. The emphasis on increased quantity and improved quality of food production	10.85	2.30
7. The improvement of the marketing and distribution systems	10.53	2.80
8. The training and preparation of more practical minded persons for all levels of agricultural manpower	10.38	2.61
9. The need for a stable, more representative government	10.33	2.36
10. The establishment of more agricultural institutions at the secondary and post-secondary levels	10.09	2.67
11. The provision of farm credit to the average rural farmer	10.02	2.61
12. The transfer of only that technology that is adaptable, useable, can be maintained, and less expensive	9.95	2.66
13. To make more available agricultural inputs to farmers	9.93	2.54
14. The need for an equitable price mechanism	9.76	2.60
15. The provision of more all-weather roads, railroads, and waterways where feasible	9.73	2.89
16. The adoption of the American land-grant college concept for resident teaching in agriculture, its re-research and experimentation and extension	9.25	3.18
17. The encouragement and sustenance of rural non-farm (or cottage) industries	9.11	2.51
This activity should be given top priority by U.S. institutions involved in international agricultural programs for developing countries.		
18. Consulting with national governments regarding agricultural and rural development	10.37	2.54

(table continues)

Statement	Mean ^a	S . D .
19. Working directly with the rural farmer alongside indigenous personnel	9.93	2.95
20. Teaching assignments in all 'post-elementary institutions in these nations as members of a team with the nationals	9.11	2.87
The following are often considered as general characteristics typical of life in most developing countries. To what extent do you agree with each?		
21. These are societies in which persons and values are more important than material wants	6.85	2.90
22. Bondage and servitude of women	6.20	2.68
23. Retrogressive beliefs, values, and practices	6.02	2.49
24. Close-mindedness of the rural majority toward modernization	5.04	2.68
25. Laziness of the economically active population	4.49	2.86
The following statements relate to the agricultural education profession in the U.S. as opposed to other technical areas of agriculture regarding its international dimension.		
26. The future of the Agricultural Education profession in the U.S. is bleak	11.15 ^b	3.05
27. Developing countries need more of the generalized agricultural education professionals from the U.S. such as the vo-ag teacher for their secondary school agriculture programs	10.41	2.74
28. I would very much like to be an advisor to international students who major in agricultural education	10.40	3.22
29. International agricultural education in the United States institutions must be a total inter-departmental program involving all departments of the college or faculty of agriculture	10.20	2.68
30. Practically all international agricultural programs by U.S. institutions must involve all their agricultural and extension education departments	10.02	2.72
31. Non-Ph.D. agricultural education professionals such as extension agents must be involved in the U.S. international programs to help these countries achieve their immediate goals of increased food production	9.85	2.82
32. I would be very willing to accept a teaching assignment on a course in international agricultural education on campus	9.79	3.29
33. The U.S. agricultural education profession must transfer the concept of SOEs of vocational agriculture to developing countries	9.67	2.58
34. The U.S. agricultural teacher educators, compared to his/her more technical counterparts, is most capable of inspiring, motivating, and activating the rural farmer in the developing countries	9.26	2.64

^aThe highest possible score is 13 which indicated strong agreement. A score of 6.5 is neutral, and 1 is strongly disagree. ^bThe scoring on this item was reversed. The higher the mean, the stronger the disagreement.

political instability of developing countries. The mean ratings of these items are presented in Table 1.

What Policies Should be Given Top Priority for Desired Agro-economic Development?

The involvement of national governments of developing countries in the development of their societies is important. Government policies, programs, and projects directed toward national development are not necessarily universal. Nonetheless, some degree of prioritization of policies and programs is essential. Teacher educators were, therefore, presented with 18 suggested priorities which could constitute the role of the national government. Twelve of the 18 items were rated as agree (9.00) or higher. Refer to Table 1. Statements 6-17. The teacher educators were in strong agreement ($\bar{X} = 10.85$) that increasing food production was the top priority. This was followed closely (10.53) by improving the marketing and distribution systems. The need for training and preparation of practical-minded agriculturalists was rated third (10.38). Other factors rated above 10.0 were the need for stable governments (10.33), more agricultural institutions (10.09) and extending farm credit (10.02). The other factors are in Table 1.

How Should U.S. Institutions Help Developing Countries?

Teacher educators with international experience indicated U.S. institutions should consult with national governments regarding agriculture and rural development ($\bar{X} = 10.37$). It appears in certain instances that the U.S. may decide what is best for developing countries. The teacher educators believed U.S. institutions should work directly with the rural farmers (9.93) and should use differentiated staffing (Americans and natives) at post-elementary institutions (9.11).

What are the Characteristics of People in Developing Countries?

People often tend to have stereotyped impressions of people in other countries. Five statements on the instrument were used to determine whether agricultural educators agreed with some commonly held perceptions about people in developing countries. In general, the teacher educators disagreed with the statements. They did not necessarily believe that people in developing countries were lazy, closed-minded and retrogressive. The five statements and their mean ratings are found in Table 1, Items 21-25.

What are the Views of the Agricultural Education Profession in Regard to International Development?

Fourteen statements concerned specifically with agricultural education and international development were included on the original instrument. Nine of the statements were rated higher than 9.00. One statement, "The future of the agricultural education profession in the U.S. is bleak," was included because many developing countries look to the U.S. for leadership. If the future of agricultural education in America is bleak, then the situation in developing countries would probably be even bleaker. Since this was a negative statement, the scoring was reversed. A high score indicates strong disagreement. The mean rating of 11.15 was the highest score of any of the 91 items on the original instrument. Teacher educators do not believe the future of the profession in the U.S. is bleak.

The second highest rated item in this section of the instrument was related to the use of vocational agriculture teachers on international assignments. The teacher educators believed developing countries need
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more generalized agriculturalists, such as vocational agriculture teachers ($\bar{X} = 10.41$) and extension agents ($\bar{X} = 9.85$).

Agricultural teacher educators with international experience also believed that future development activities in Third World nations should be a combined effort utilizing the combined expertise of all departments within a college of agriculture ($\bar{X} = 10.2$), including agricultural education. The concept of supervised occupational experience programs (SOEP) needs to be introduced into developing countries (9.67). The teacher educators thought the SOEP concept could be a beneficial way the profession could help developing countries. The other items relating to the role of agricultural education in international development are listed in Table 1, statements 26-34.

Conclusions and Recommendations

The problems of agricultural and educational development in the Third World are not simple. A myriad of factors, such as social stratification, political instability, transportation, and national education policy, appear to be responsible for the development problems according to the perceptions of teacher educators. There are no simple solutions to the problems. However, based upon the responses of agricultural teacher educators with international experience, it does appear that the agricultural education profession could provide some help toward overcoming the problems.

According to teacher educators with international experience, the agricultural education profession can (or should) help increase the quantity and quality of food in less-developed nations. Agricultural educators can help in this endeavor by assisting in the establishment of agricultural institutions at the secondary and post-secondary level. The agricultural instruction in these institutions needs to emphasize the practical aspects of agriculture and not be steeped in theory. Supervised occupational experiences should be a component of the education. Thought must be given to the level of information and technology that will be taught and used. What works in America may not work in a less-developed nation. Only the technology that is adaptable, usable, cost effective, and can be maintained after the agricultural educator(s) leave should be taught. Additionally, the team providing assistance to developing nations needs to contain non-Ph.D. professionals, such as vocational agriculture teachers and county extension agents.

Agricultural educators should work directly with the native people and through their government. The agricultural educators need to work alongside the indigenous personnel when they work directly with the rural farmers. In the secondary and post-secondary agricultural schools, the faculty should be a mix of natives and American personnel. The national government should be consulted about program development. The success or failure of a program often depends upon the support of the national government.

Agricultural educators should be part of a team to help overcome the problems in developing countries. In the past, there has been a tendency to concentrate on the technical aspects of agricultural development and slight the social sciences. All departments in an agricultural college have a role to play in international development. One single discipline cannot adequately address the problems. Agricultural educators can play an important role, as part of a team, in helping to improve the agriculture and education of developing countries.

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