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Mary E. Templeton

About 15 years ago a national effort was mounted to provide equal employment opportunity to any person based on the individual's qualifications without regard to race, color, creed, religion, sex, age or national origin. This effort included executive orders which contained guidelines for hiring, promotions, transfers and discharges.<sup>1</sup> The orders specified that additional job opportunities would be made available to persons who had not previously been given adequate opportunities.

What has been occurring in the opportunities for employment of women since these executive orders and affirmative action were initiated? Are the national efforts to improve equal opportunities being noted in various professions, especially agricultural subject matter disciplines? This question can be partially answered by examining enrollments in Agriculture and employment of female graduates.<sup>2</sup> At a time when college enrollments generally have been leveling off or declining, enrollments in agricultural colleges have been increasing. Additionally the agricultural schools are attracting two groups of students who were not attracted in the past—women and city or suburban dwellers. Enrollments in the agricultural schools of the 72 land-grant colleges has risen to 98,519 in 1977, up 52 percent from five years before and more than double the figure of a decade ago.

The number of women enrolled in these schools had risen to 30,989, about 30 percent of total enrollment, and up from 13,953 which was about 19 percent of the total four years earlier. Thus, women have penetrated into fields considered non-traditional (Angrist, Carnegie Commission, Gordon).

To improve on the levels of understanding about job opportunities and problems that are encountered by women in agriculture, adequate and current data are needed. Further, basic information is needed to provide competent and effective counseling and guidance to women students in agriculture.

A major purpose of this study was to determine relatively how many females graduated from 1970 through 1976 in agricultural economics, agricultural education and agricultural engineering by utilizing the number of male graduates for comparative purposes. Library research indicated a lack of data on the number of female graduates in such disciplines at the various institutions in the United States. In view of this circumstance it was decided that the study would be based on surveys. Both department chairmen and women graduates were surveyed.

#### THE SURVEY OF DEPARTMENT CHAIRMEN

To obtain the desired information a survey was conducted of chairmen of all departments of agricultural economics, agricultural education and agricultural engineering where degrees are conferred. Chairmen were asked to provide a list of names and current addresses of all female graduates since 1970 by year and,

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<sup>1</sup>Executive Order 11246: September, 1965. Equal Employment Opportunity.

<sup>2</sup>This study does not review problems associated with black Americans, Spanish speaking Americans or other minorities.

also, a list of the number of male graduates for the same time period. The request was mailed to 574 departments (land grant and other cooperating state institutions) throughout the United States. A summary of the results is shown in Table 1.

The data from department chairmen indicated a gradual increase in the number of women earning degrees in the disciplines of agricultural economics, agricultural education, agricultural engineering.

Changes in employment opportunities for women appear to have been a contributing factor in the increased enrollments in the fields studied. Positive gains were made in these professions, where women had been either poorly or slightly represented. The total number of women employed continues to be small but the relative changes are pronounced. In the last twenty-five years a very large proportion of the increases in employment of female college graduates (88 percent) was in the professional and technical group. This employment outlet had increased hiring of female graduates relative to employment of men (Jusenius, Kilson). Thus, the historical data tended to coincide with information provided by department chairmen.

#### SURVEY OF WOMEN

A questionnaire was designed and mailed to all of the women graduates in the three areas studied. The survey involved five general inquiries:

1. Why did the graduate choose the field of Agricultural Economics—Agricultural Education—Agricultural Engineering?
2. Did the graduate encounter any problems in obtaining employment since receiving her degrees; if so explain.
3. The respondent was asked to indicate the type of employment she had accepted.
4. Did the degree holder believe that being a female gave her an advantage?
5. Each graduate was asked to list highest degree earned, the institution and date of the degree.

The response was not as large as expected (27.4 percent from agricultural economics, 46.6 percent from agricultural education and 30.7 percent from agricultural engineering). However, several questionnaires were returned for insufficient addresses; approximately six percent of the agricultural economics, 3.6 percent of the agricultural education and 15.3 percent of the agricultural engineering questionnaires were returned. Although the number of responses was relatively small, they provided useful information.

#### Reasons for Selecting Field

Each graduate was asked to indicate why she chose the field of agriculture that she did. Only four percent of the agricultural economists, 7.4 percent of the agricultural educators and less than one percent of the agricultural engineers indicated that employment opportunities was the reason for majoring in the field. Thus, if the graduates were cognizant of the employment opportunities, they did not indicate that in their reasons for choosing the agricultural disciplines being discussed.

TABLE 1.  
Number of Male and Female Students Receiving Degrees  
in Agricultural Economics, Agricultural Education and Agricultural Engineering  
1970-1976

Year	Agricultural Economics		Agricultural Education		Agricultural Engineering	
	Male	Female	Male	Female	Male	Female
<b>Bachelor of Science Degree</b>						
1970	533	5	915	9	549	2
1971	696	12	980	6	612	0
1972	678	7	973	16	577	1
1973	621	13	882	12	578	3
1974	637	20	878	43	517	1
1975	609	29	893	57	532	4
1976	518	38	807	70	334	10
<b>Master of Science and Ph.D. Degrees</b>						
1970	263	12	9	0	83	0
1971	326	9	27	0	111	0
1972	286	11	26	0	108	2
1973	290	17	33	1	110	0
1974	275	16	32	3	99	1
1975	232	19	26	3	106	0
1976	163	26	18	7	56	2

The reasons which stimulated their choice of agriculturally related fields were as follows:

General reasons named for all areas:

Spurred by interest in gardening and working part-time on cranberry bogs and other crops at harvest time.

Agriculture majors in these fields have many options (back to farm, service type jobs, teaching and self-employment).

Fields are just opening up for women and promise numerous opportunities.

Switched from other majors (pre-veterinary, art, general economics) because of competition or dissatisfaction.

Concerned about world food, economic, and environmental problems. Feel these fields can help solve such problems in the United States and developing countries.

Raised on a farm, or with parents who were in a particular field, enjoyed the work and decided to major in the field.

Flexible degrees enabling a woman to obtain work in many different communities.

Loved the outdoors and felt agriculture would be rewarding.

Specific area reasons:

Agricultural Education: offered a chance to educate youth in agricultural methods and modern practices.

Agricultural Economics: Enrolled in a good agricultural class and the teacher sparked an interest in the subject.

Required to take a course in Agricultural Economics for another major and decided to double major—interest in business and finance.

Enjoyed the blend of Agriculture and Business.

Interested in land use planning and natural resource economics.

Obtained degree in economics, employment opportunities were limited accidentally pursued Masters and Doctorate in Agricultural Economics.

Agricultural Engineering: Had a love for math, science and outdoors.

#### Employment Problems

An inquiry was made into the problems that each graduate experienced in obtaining employment and approximately two-thirds of the agricultural economics, one-half of the agricultural education and three-fifths of the agricultural engineering graduates indicated they had no problems obtaining employment. This substantiates the data published by the Carnegie Commission on Higher Education where the agricultural scientist had the lowest unemployment rate (0.9 percent) in 1971.

It is noteworthy, however, that of those women who encountered employment problems a number of items were listed which, in their opinion, imposed "barriers to entry." These problems should be of interest to employers, students, and advisors, who should be made aware of these problems. Prospective students also should be informed. Among the problems the following were listed:

1. Encountered department heads who indicated that there were no positions while actively recruiting males for openings in these departments.
2. Employers' interviewers did not take me seriously, asking if I could do and would do typing and if I would be getting married and leaving. Interviewers implied they expected single females, if hired, to get married and leave in a short period of time.
3. Employer generous in pay and titles but extremely reluctant to give work with real responsibility. Believes the lack of stimulating work discourages women

from pursuing their career in a traditionally male dominated field like agriculture.

4. Most administrators feel that a man can do a better job.
5. Asked in a interview if I would like to work my way up as that was how all their female employees got to be professionals.
6. In the male dominant agriculture industry many assume that the female "really" does not know as much as the average male.
7. Real but subtle discrimination like women should be in the home, etc.
8. If you lack knowledge in a certain field it is your fault—they do not give women the same training as men.

9. When employed in a male dominated industry the female has difficulty in determining whether she was hired to meet affirmative action requirements or whether she was employed because she was qualified.
10. People are hesitant to hire women in a man's field.

Some female agricultural economists stated that many agribusinesses have not really begun to actively recruit women and of the few who have, their "female positions" are in personnel and research labs. They stated that credit agencies and cooperatives had interviewed several women graduates, but did not employ the female unless she had farm experience, a high GPA and was willing to travel. In addition if she possessed all these qualities she was required to serve a probationary period. Such requirements may be common for male applicants, too.

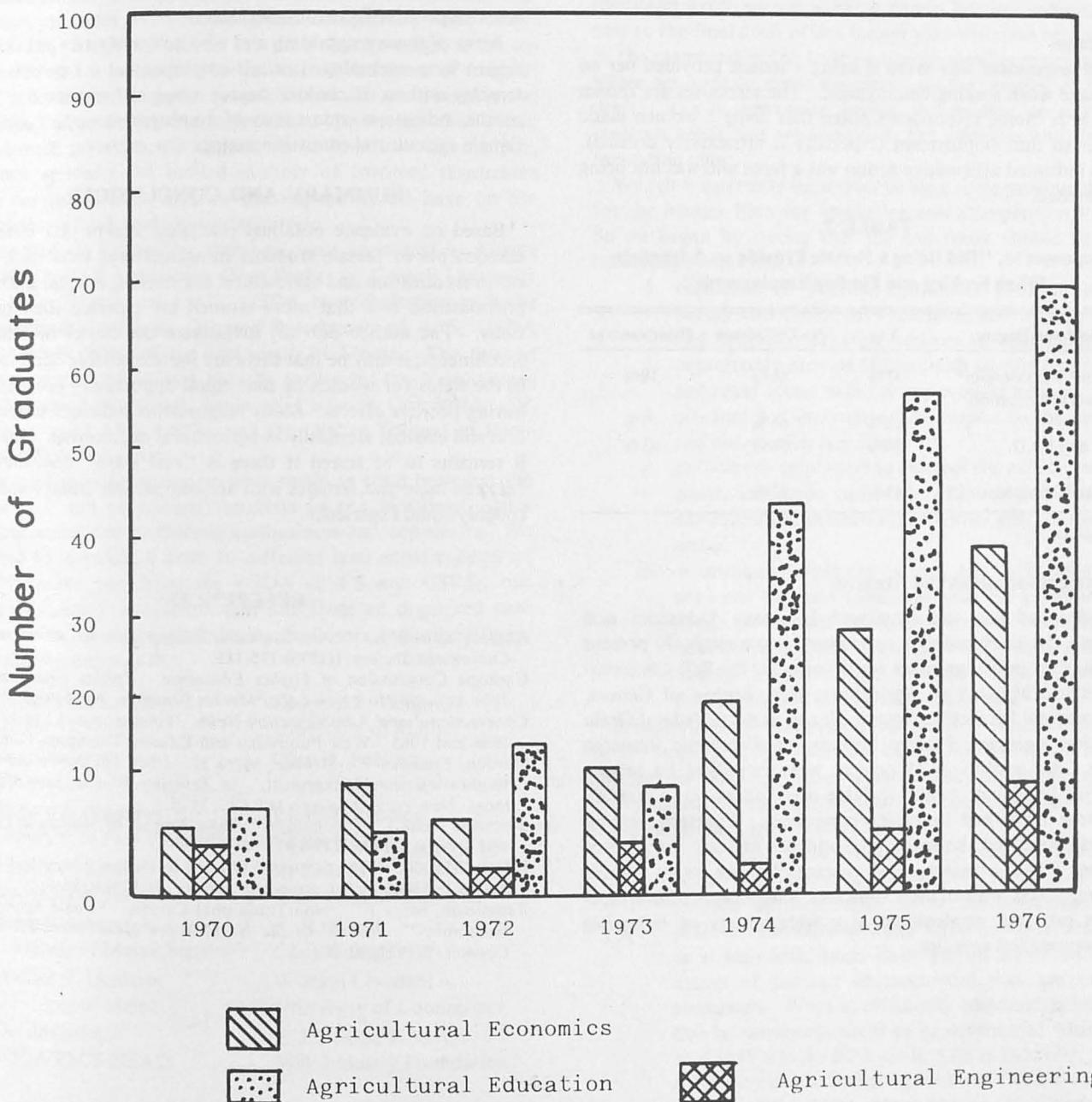


FIGURE 1. COMPARISON OF NUMBERS OF FEMALE GRADUATES WITH B.S. AND B.A. DEGREES IN AGRICULTURAL ECONOMICS, AGRICULTURAL EDUCATION AND AGRICULTURAL ENGINEERING.

According to those responding there is significant discrimination being employed in the employment of agricultural engineers. Some 43 percent of agricultural engineering graduates indicated they had suffered discrimination in their efforts to find employment.

Low wages, lack of responsibility and nominal titles were the most prevalent problems cited by women. Low wages were a problem for 20 percent of the agricultural economics majors, while agricultural education and agricultural engineering majors considered low wages an insignificant problem. Approximately 16 percent of the agricultural education graduates and three percent of the agricultural economics graduates stated that they had encountered discrimination when seeking employment. It is likely that affirmative action played a small part in keeping the percentage of discrimination problems low.

#### Advantages

Each respondent was asked if being a female provided her an advantage when seeking employment. The responses are shown in Table 2. Some respondents noted that being a women made it easier to find employment (especially if attractively dressed). Others indicated affirmative action was a farce and was not being implemented.

TABLE 2.

#### Responses to, "Did Being a Female Provide an Advantage When Seeking and Finding Employment?"

Field and Degree	Yes	No Difference	Disadvantage
Agricultural Economics*	35%	46%	19%
Agricultural Education			
B.S.	18%	66%	5%
M.S. and Ph.D.	14%	50%	43%
Agricultural Engineering*	43%	57%	—

\*All degrees.

#### Employment Industries and Agencies

Female graduates are employed by many industries and agencies. Of the responding agricultural economists, 30 percent were hired by public agencies which included the Soil Conservation Service, Ministry of Agriculture, U.S. Bureau of Census, Environmental Protection Agency, Forest Service, Federal Grain Inspection Agencies, Foreign Service and Economic Research Service. An additional 25 percent were employed by private industries including, banks (private and federal land banks), real estate firms and insurance companies. Fourteen percent were self-employed, however, they did not indicate the type of business. The remaining one percent did not reply to this question. This information indicates female agricultural economists can find employment in a wide variety of industries and governmental agencies.

The majority of the female agricultural engineers are hired by federal and state agencies (71.4 percent), including Soil Conservation Service, state government, and extension services. Educational institutions such as colleges and universities employ 14 percent and another 14 percent are unemployed. None of the respondents were hired by private industry or were self-employed.

As would be expected the major source of employment for agricultural education graduates is educational institutions (69.1 percent B.S. and 78.5 percent M.S. and Ph.D.). Private industries including florists, professional gardens, management positions, hardware companies, breeding experiment and land survey firms hired 11.1 percent of Bachelors and 7.1 percent of the Masters and Doctoral graduates. Public agencies accounted for 4.9 percent of those graduates with a Bachelors and 14.2 percent of those persons holding a Masters or Doctorate degree. These included USDA, Peace Corps, State Office of Education and Cooperative Extension Services.

None of those responding and who held a Masters or Doctorate degree were unemployed or self-employed but 6.1 percent of the females with a Bachelors degree were self-employed. These results indicate a wide range of employment opportunities for female agricultural education majors.

#### SUMMARY AND CONCLUSIONS

Based on evidence obtained one must accept that increasing enrollments of female students in agricultural economics, agricultural education and agricultural engineering is a real and recent phenomenon and that more women are entering these professions. The author did not investigate the causes of increased enrollments; it may be that there are more available opportunities in the fields for women or that equal opportunity programs are having positive effects. Many respondents indicated discrimination still existed, especially in agricultural engineering. However, it remains to be tested if there is "real wage" discrimination between male and females who are comparably trained and with roughly equal experience.

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