Perceptions regarding the status of women in selected careers in agriculture: implications to Agricultural education

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Perceptions regarding the status of women in selected careers in agriculture:

Implications to Agricultural Education

by

Annette Louise Kiefer

A Thesis Submitted to the

Graduate Faculty in Partial Fulfillment of the

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MASTER OF SCIENCE

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Signatures have been redacted for privacy

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Ames, Iowa
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CHAPTER I. INTRODUCTION

The workforce in the United States is changing. Malveaux (1990) concluded that women account for a growing share of the labor market, but, despite many improvements in the status of women, there remain pay gaps, occupation gaps, and unemployment gaps. To improve the status of women in the labor market, family and social policy reforms combined with labor market policies that provide women with equal access to education, as well as improving access to child care are needed. These actions could substantially increase the effectiveness of women in the labor force (Malveaux, 1990).

The status of women in agricultural careers is a concern among educators (Carter, Spotanski and Gooding, 1992). Carter et al. (1992) found that women graduates from Iowa State University with majors in agriculture tended not to take initial jobs related to their area of study. In another study, it was found that fifty percent (50%) of the women respondents who were graduates of agricultural education held positions that were outside of agriculture (Larke, Flinn and Falconer, 1990). Brown, (1981, as reported in Talley, 1988) and Fowler (1992) indicated that employed women, in general, appear to be concentrated in a narrow range of jobs, most of which fall into one of the following categories: clerical work, health-care, education, food service, or domestic service. In addition, the growth in the number of females employed at the managerial level has appeared not to have been proportional to the overall influx of women into the workforce (Brown, 1981).
The Problem

Women make up nearly half the work force and comprise up to forty percent of a grab-bag category of jobs which the United States Labor Department calls "managers and administrators" (Blair, 1990). However, in agriculture, women represent only 21 percent of all employed workers. Women comprise less than 5 percent of the scientists and professionals in agriculture and are concentrated in such areas as nutrition, social sciences, and food sciences (Collins & Pesek, 1983).

Several factors may affect the participation of women in agricultural careers. They may choose not to acquire jobs in agriculture. They may start their careers in agriculture and subsequently change employment. Some may postpone working or drop out of the work force because of marital and other familial factors. And, some may be limited by structural conditions such as the number of available agricultural jobs in various labor markets (Thomas, Cotten and Luedke, 1991).

In addition, there are a variety of job specific concerns related to women in the workplace. Men, in general, appear to be more comfortable dealing with other men than with women in an occupational setting. Morrison et al. (1987) found that the more vocal a woman was about her gender and her status in the company, the more likely she was to be derailed.

Fisher (1992) found that women earn about 74 cents for every dollar a man brings home. Pay for women in many cases appears to be lower than that of their male colleagues at the same level of management, even though women may have the same
qualifications, years of experience, educational level, and responsibility for providing the main financial support for their families.

Women are being found in greater numbers in the agriculture workforce as compared to a few years ago. However, traditional attitudes regarding care-giving, technical competence, professional involvement, and gender issues hinder the agriculture industry from establishing a longevity record for women (Whittington, 1990).

In 1991 the total enrollment of women in Colleges of Agriculture and Renewable Natural Resources in the U.S.A. was 47,451. Women accounted for 39 percent of the baccalaureate enrollment in colleges of agriculture in the Fall of 1991 as reported by the Food and Agriculture Education Information System (FAEIS) database sponsored by the United States Department of Agriculture (USDA) and housed at Texas A&M University (Litzenberg, Whatley and Scamardo, 1992). According to these same authors, there was a trend toward higher female enrollment in baccalaureate agriculture programs from 1983 to 1991.

In a study of agriculture graduates, Thomas, Cotten and Luedke (1991) found that women were less likely than men to attain employment and develop careers in agriculture. Women graduates tended to gain non-farm, non-agricultural employment in traditionally female-stereotyped jobs, such as clerical and sales jobs in the retail industry. Women also tended to receive starting incomes that were lower than those of males with comparable employment. Paret (1990), in a study of female agriculture graduates, found a high percentage of those females encountered difficulties in finding employment in their field
of study. A majority of these females felt they were treated differently while seeking employment because they were women in the field of agriculture. These comments indicated that it was more difficult for women to find employment in agriculture than men.

Whittington and Knight (1988) found that although women were found to be in greater numbers in the workforce, they tended to be employed in traditionally low-status and low-paying jobs. These authors noted that as financial demands had grown for families and as more families were being headed by women, the opportunity for women to be able to pursue and obtain employment in occupations that had traditionally been held by males became important from both an economic and a social point of view.

Paret (1990) found that half of the respondents in a study focused on females working in the agriculture career areas felt they were treated differently in their jobs because of being female. This finding seems to indicate a lack of acceptance of women in agriculture careers.

To understand why women may or may not be choosing agricultural careers and to determine the extent to which there were opportunities for women in the agriculture industry, it was first necessary to examine the current status of women in agricultural careers.
Need for the Study

Few studies have focused specifically on the careers of women in agriculture. Bunting (1986), in a study of young farmer attitudes and perceptions towards women working in agriculture, found that 90 percent of the respondents expressed positive opinions regarding the issue of women employed in non-traditional work roles. Bunting recommended that additional studies be done with other agricultural groups to determine whether or not attitudes and perceptions about women in agricultural careers were indeed changing.

Colleges of Agriculture have been seeing an increase of women enrolling in agriculture majors (Bruene, 1994; Litzenberg, Whatley and Scamardo, 1992). There have been more and more agricultural education students who are women. They want to know if there are job opportunities out there in the real world. If half of our employment base is made up of women, it seems logical to investigate the current situation (Litzenberg et al., 1992).

Bird (1981 as cited Talley, 1988) indicated that the number of females must be increased in the workforce before attitudes can be changed, which will then affect behavior. Kantor (in Bird, 1981, p.7) said that "discrimination declines only when newcomers get to be more than thirty percent of the workforce and in many areas this won't happen for some time".
The question remains then what is the status of women in agriculture careers? What are the perceptions of people working in agriculture regarding the status of women in this industry? What implications does this information have to agricultural education?

Purpose of the Study

The primary purpose of this study was to describe the status of women in agricultural careers. A secondary purpose was to determine the extent to which women have opportunity in professional agriculture careers and the barriers, if any, that exist for women in acquiring and advancing in these careers.

Objectives

The specific objectives of the study were as follows:

a). To identify perceptions of selected agricultural professionals regarding the status of women in selected agricultural careers.

b). To identify perceptions of selected agricultural professionals regarding factors that influence the advancement of women in selected agricultural careers.

c). To identify selected demographic data of agricultural professionals.
Operational Definitions

The study was framed by the following operational definitions.

Agriculture - a field of endeavor that encompasses the production of food & fiber and the processing, marketing, and other related sales and servicing needed to ready products for consumption.

Careers in agriculture - identified by the seven occupational areas of agriculture, eg. production, sales and service, products and processing, forestry, horticulture, mechanization, conservation and natural resources.

Advancement - the promotion or elevation to a higher rank or position.

Career - profession for which one trains; a field or pursuit of achievement in the public, professional, or business life.

NAMA - National Agri-Marketing Association organization focused on promotion and enhancing the professional development of agri-business professionals involved in marketing and public relations careers in agriculture.

Perceptions - experience-based interpretation of a phenomenon, event, or concept.

Barrier - an obstruction or restriction that impedes advancement in a career.

Professional - A "calling" requiring specialized knowledge and often long and intensive academic preparation for principal employment in agriculture.
Status - description of a situation relative to the level of acceptance of ideas, people, and practices compared to others.

Implications and Educational Significance

The status of women in agricultural careers has direct implications to the education of women in agriculture. At a time when secondary school programs in agriculture nationwide are experiencing an increase in enrollment, emphasis is being placed on those segments of the population which have traditionally been under-represented. One of these groups is women. To enhance the education of all students and to help more women to discover the career opportunities in agriculture, it is necessary to study periodically the status of women in agriculture careers. From this information, educators will be better prepared to assist students as they make career choices and adjust to the demands of the market place.
CHAPTER II. REVIEW OF LITERATURE

The primary purpose of this study was to describe the status of women in agricultural careers. A secondary purpose was to determine the extent to which women have opportunity in professional agriculture careers and the barriers, if any, that exist for women in acquiring and advancing in these careers. The objectives of this study were: 1) to identify perceptions of selected agricultural professionals regarding the status of women in selected agricultural careers. 2) to identify perceptions of agricultural professionals regarding the factors that influence the advancement of women in selected agricultural careers. and 3) to identify selected demographic data of agricultural professionals.

To develop a more thorough understanding for the rationale of the study, a review of the literature was conducted. A literature review was conducted to help frame the study and provide a theoretical basis for the investigation. The review was broken down into eight major sub-headings:

- The Situation
- Needs Assessment
- Careers in Agriculture
- Opportunities in Agriculture
- Women in Agriculture
- Barriers to Women in Agriculture
- The Importance of the Issue
- Summary
The Situation

Few researchers have closely examined the issues surrounding the phenomenon of women working in the agriculture industry. The researchers choosing to study issues related to women primarily examine sex discrimination, sex-role stereotyping, and sex biases. These studies have focused on the problems and obstacles found by women who are working in academic or scientific careers (Cooper and Henderson, 1989; Whittington, 1989; Benodraitis and Feagin, 1986; Collins and Pesek, 1983).

The world of work is changing. A statistical portrait from the United States Bureau of Census (1984, as cited in the Wisconsin Sex Equity Report, 1992) reported trends about women and men in the U.S. labor force. The family model consisting of two children at home, the husband as breadwinner, and the wife as a full-time homemaker exists for only 4% of all U.S. families.

The U.S. Bureau of Census (1984, as cited in the Wisconsin Sex Equity Report, 1992) reported 65% of employed women either support themselves, have children to support, or contribute in an essential way to family income. Forty-six percent of employed women are widowed, separated, divorced, or never were married.

According to the Bureau of Census, only 35% of employed women have husbands who earn more than $15,000. Family income is greatly increased when both adults work for pay. In 1983, the median income of families with a wife and husband both working was $32,107, compared with $21,890 in similar families without a second income (U.S. Bureau of Census, 1984). In addition, the gap between the
earnings of women and men has more than doubled since 1955. Women who work year-round at full time jobs earn only sixty-four cents for every dollar earned by men (U.S. Dept. of Labor 1984). By 1991 this amount had increased to 74 cents (Fisher, 1992). Women are providing for an increasing proportion of all family income.

In addition, poverty is a serious problem for many women. Women made up 61% of all people ages 16 and over who had income below the poverty level in 1983. There is general agreement that women's lower earnings result in large part from their concentrated employment in the lower-paying industries and occupations, where they make up a major portion of the work force. A good way for women to increase their earnings is to prepare for employment in nontraditional fields. One nontraditional field to enter is agriculture (Wisconsin Sex Equity Report, 1992).

To determine direction and what should be done to assist women in acquiring and retaining agricultural careers, an understanding of the process of needs assessment is critical.

Needs Assessment

Needs assessment is defined as the gap between a current and a desired situation as perceived by the learner and others. It should help define the "what is" and "what should be" (Galbraith, 1990, p.8).

There are differences between needs and wants. Needs are those things that if people don't have, their lives would be more difficult. Wants are those things for
which people choose to pay. Without "wants", people can still survive. A good idea for educating women about agricultural careers may fail for the wrong reasons. Recognition of this fact has propelled "needs assessment" into being a vital part of the program planning process and curriculum development in recent years (Voight, 1992).

Needs assessment helps review one's assumptions about educational needs of the participants. It helps educators to be responsive to the learner through the appropriate selection of topics and materials. It insures that program emphasis is matched to the educational needs identified. In this way the program focuses on meeting needs. Needs assessment is an on-going process during a program planning activity in an effort to ensure that individual and program desired outcomes are congruent (Galbraith, 1990).

Agricultural education professionals first must identify the "what is" regarding the status of women in agriculture before they can figure out the "what should be". We can work on the "what should be" in curriculum planning by identifying what problems or needs that women have for obtaining and retaining an agriculture career. One of the first steps is to determine the status of women in agriculture careers from which a foundation for education can be established.

Careers in Agriculture

Agriculture and careers in agriculture have in recent years suffered from a negative image. Many high school students are unaware of the range of opportunities
in agricultural careers. They equate agriculture with farming, or in some cases do not even know the meaning of the word (Lancaster and Riesenberg, 1992).

In a United States Department of Agriculture (USDA) report titled "Employment Opportunities for College Graduates in the Food and Agricultural Sciences: Agriculture, Natural Resources, and Veterinary Medicine, 1990-1995", eight educational clusters were identified to categorize degree specializations based on general areas of expertise. These eight clusters were (USDA, 1990, p. 22):

- Agricultural Economics, Business and Management,
- Agricultural Engineering and Mechanization,
- Agricultural Social Sciences and Communications,
- Animal Sciences, including Veterinary Medicine,
- Food Science, Food Engineering, and Human Nutrition,
- Forestry and Natural Resources,
- Plant Sciences,
- Soil Sciences.

Because part of the responsibility of the USDA through its Higher Education Programs (HEP) office is assessment of the availability of and employment opportunities for higher education graduates in the food and agricultural sciences, the USDA periodically presents statistical summaries of employment opportunities for graduates. The 1990 report indicates that more positions in agriculture are now available than has been the case in recent years. According to the USDA report of 1990-1995, there is a projected shortage of 4,000 college graduates for the 48,000 job openings available in the agriculture and food industry. Each year only 43,500 new graduates are expected, which leaves an annual shortage of 11 percent.
Nichols, Jimmerson, and Nelson (1993) found that the views of young female and male Hispanics tend to create barriers to careers in agriculture. These barriers included among other things, a negative perception of agriculture, as evidenced by the following statements: "agriculture is mainly farming"; "the highest you can go in agriculture is owning your own farm"; "there are many careers in agriculture which require a college degree"; "agriculture is mainly manual labor"; "agriculturally-related jobs are low-paying"; "many careers in agriculture require a strong science background"; "agriculture requires mainly unskilled workers". These perceptions reflect a narrow, limited knowledge of agriculture.

For example, Othel, Sorensen, Lierman, and Riesenberg (1989) reported that in Idaho the perceptions of both male and female high school students were very narrow with respect to the nature of the agricultural industry. These students perceived agriculture as farming and ranching only. The study indicated that students do not have factual information on which to base their perceptions. A negative opinion of pursuing a career in agriculture was also noted. Factors identified as influencing students' opinions dealt exclusively with production agriculture rather than, for example, marketing, transportation, etc.

The attitudes of other populations have also been studied. Lancaster and Reisenberg (1992) in their study of male and female college students found that college students rated careers in agriculture the highest in making a contribution to
society and lowest in providing a secure and stable future. These students felt that agricultural careers would not provide them with a large income.

In a study at Texas Tech University (as reported in Bunting, 1986) in which perceptions of female students towards Texas vocational agriculture were assessed, the results indicated that there were four factors limiting enrollment in agriculture. These factors were: (1) lack of acceptance by male vocational students, (2) inadequate opportunities for females to develop shop and livestock skills, (3) inadequate information on career opportunities, and (4) inadequate illustration of males and females performing the same agricultural tasks.

Bunting (1986) concluded that there was a real need for educating women about nontraditional career options and there are problems associated with women who pursue nontraditional careers because of outside barriers as well as psychological barriers the women themselves harbor.

These studies clearly show, regardless of gender, (1) generalized negative attitudes toward agriculture as a vocation, (2) limited knowledge of the wide variety of occupations in the field of agriculture, (3) limited perceptions of the required academic preparation for a variety of agriculture vocations, and (4) lack of awareness of the potential of agricultural occupations for satisfying monetary rewards. These studies also indicate that both males and females have an inadequate base for considering the field of agriculture as being an appropriate one for a career.
Opportunities in Agriculture

The agriculture recession of the 1980s contributed significantly to the current shortage of agriculture professionals. Many employers quit hiring or reduced their workforces during this time. Enrollments in agriculture colleges in the United States fell as a result of shrinking career opportunities. Now the trend is changing so rapidly that agriculture schools cannot produce an adequate number of graduates to meet the needs of the industry (USDA, 1990). The United States Department of Agriculture (USDA) predicts that over the next five years there will be a twenty percent shortfall in agriculture graduates trained to go into agribusiness (USDA, 1990, p.6). In the same report, the USDA stated that the problem is that the pipeline is not full yet. There are more freshmen enrollees, but there is a four year lag time before these freshmen become graduates.

Agriculture has become high-tech and the industry needs to attract quality people who will be good researchers and technicians. Agriculture needs creative talent to cope with the technical problems that the industry faces. College graduates with expertise in food, agricultural, and natural resource disciplines will experience a strong employment market through the mid-1990's. The future need of the nation and each state is for individuals with an education in agriculture. According to the USDA, the opportunities for those individuals with an education in agriculture has been well documented. The USDA conclusion is that the agricultural education programs at the university level as well as other levels, will not be able to prepare the agriculturists
needed in the future if young people do not have an interest in a variety of career areas.

The employment opportunities for 1990-1995 graduates in the food and agricultural sciences can be grouped into six employment clusters. These include:

1. Scientists, Engineers, and Related Specialists,
2. Managers and Financial Specialists,
3. Marketing, Merchandising, and Sales Representatives,
4. Communication and Education Specialists,
5. Social Services Professionals,
6. Agricultural Production Specialists.

In the same 1990 USDA report, the statement was made that marketing, merchandising, and technical sales positions will likely be the most difficult to fill. An annual 18 percent shortfall of qualified graduates is expected. Qualified graduates for priority positions as scientists, engineers, and related specialists will be difficult to find. An annual 15 percent shortage is expected.

The food, agricultural and natural resource professional employment market through the mid-1990's will reflect three principal characteristics: (1) stable number of professional opportunities, (2) shrinking supply of qualified graduates, and (3) fewer graduates from the colleges of agriculture, natural resources, and veterinary medicine.

Bruene (1994) stated that agriculture placement offices in several universities and community colleges have more job opportunities than graduates to fill them. Placement offices using on-campus job fairs or career days have seen increased participation in recent years.
Agriculture difficulties in the 1980's resulted in many parents discouraging their children from pursuing a career in agriculture. Agriculture enrollments are not meeting the demand for agricultural graduates. Pounds (1989, as reported in Miller, 1989) stated that "We need more agricultural students, in addition to people who want a career change or were forced out of agriculture in the '80s." Pounds is a counselor and assistant placement director at Kirkwood Community College in Cedar Rapids, Iowa.

In a study conducted at the University of Idaho, Whittington (1994) gathered information from 15 undergraduate women in agriculture, one each in 15 different states. The objectives of Whittington's study were to identify the individual career goals of these women, to identify the factors influencing their entrance into the field of agriculture and to discover how they learned about careers in agriculture. Although this continuing study has yet to yield complete results, Whittington indicated that there appears there are many opportunities for women in agriculture. She made the point that the dynamics of agriculture are not fading, just changing, and that as long as the population continues to grow, there will be an increasing need for the food industry. Although with modern technology it takes fewer producers to do the same job, she indicated a continuing need for producers, processors, and marketers. She also stated that high school programs must change to meet this need since a high percentage of agriculture students in college come through agricultural programs in high school. If we could get more women in the agriculture programs at the university, as well as
more women teaching high school agriculture, we would provide more role models, for young women in high school.

Women in Agriculture

A study by Lancaster and Riesenber (1992) regarding the University of Idaho college students' perceptions of agriculture and careers in agriculture concluded that females thought that careers in agriculture were for others to pursue. The study indicated that females had no interest in agriculture.

Whittington (1990) reported that women working in nontraditional agricultural careers constitute positive role models. Women who work in agriculture serve as role models for other women. Women are needed to bring different perspectives to a traditional field. Women have an opportunity to bring a different approach, a unique style, an unusual idea or noteworthy perspective to non-traditional occupational settings. Women are being found in greater numbers in the agricultural workforce (Whittington, 1990). However, traditional attitudes regarding care-giving, technical competence, professional involvement, and gender issues hinder the industry from establishing a longevity record for women. Women are a valuable part of the agriculture industry. Those involved in the industry, men and women, have an obligation to do everything possible to encourage the retention of competent women in agriculture (Collins and Pesek, 1989).
Cooper and Henderson (1989) support Whittington's general theme. In their study of "Career Perceptions of Women Faculty in Colleges of Agriculture," they found there were only 14 women at the professorial rank out of nearly 300 people in Departments of Agricultural Education at the university level in the United States.

The Idaho State Department of Education Sex Equity Office (1994, as cited in Breaking Out) reported that almost one-third of the students in the secondary school programs in agricultural education were women, while only 3.5% of the high school agriculture teachers in Idaho were women. Of 86 high school teaching positions in agriculture in Idaho during 1994, there were only 3 women teaching agriculture. While in Iowa, out of 260 high school teaching positions, only 10 were women (Department of Agricultural Education and Studies database, Iowa State University, Ames, Iowa, 1994).

Barriers to Women in Agriculture Careers

There appear to be many barriers for women seeking non-traditional careers. These barriers include the lack of familiarity with the corporate environment, the need for career guidance and role models, the turnover of positions held by women, traditional male perceptions of sex roles, the corporate culture, maternity leave, parental leave, virtual absence of quality child care, and the problems associated with relocation (Talley, 1988).
Talley (1988) reported that research has indicated that women have limited advancement in management because of intrinsic and extrinsic barriers. Harlan & Weiss (1981, as reported in Talley, 1989) studied both the intrinsic and extrinsic barriers. The intrinsic barriers focus on the woman herself and may be known as individual or psychological barriers. The intrinsic variables studied by Harlan and Weiss (1981) included early socialization, fear reactions, traditional role expectations, role conflict, dual career strain, stress of inadequate day-care needs, placement in low-level jobs and female coping behaviors. They also classified the extrinsic barriers as sociological or corporate variables, factors which were controlled by men in the organizational environment. The extrinsic variables included the old-boys network, glass ceiling phenomenon, salary, power, tokenism, reluctance to work for a female boss, less frequent mentoring, the male managerial model and corporate insensitivity to the needs of working mothers. These variables may be imbedded in habit and policy which are developed and executed by males in the corporation or may be a function of outmoded statistics about working women. The "old-boys" network is defined as the male support system which women have been relatively unable to penetrate or utilize. The network meshes power, mentoring, and other practices which have been treated singularly, including male bonding and peer alliance.

Benodraitis and Feagin (1986, as cited in Talley, 1988) noted that subtle sex discrimination takes the form of "collegial exclusion," which may be either physical or social/professional in nature. Physical exclusion may ignore the presence or
contributions of women at meetings, whereas social/professional exclusion deprives women of mentoring resources and interaction at professional and social functions.

These authors also found that the informal relationships which men share over business lunches, during sports, or sports events, or drinks after work generally exclude women, therefore depriving them of valuable information necessary for advancement. De Wine (1983, as cited in Talley 1988) stated "the U.S. Bureau of Labor reported that at least 48 percent of the job leads come from personal contacts and the higher up the executive ladder, the more likely that jobs are filled by word-of-mouth."

Robins and Terrell (1987) contended that for women to move into the power/positions traditionally held by men, they must recognize the members of the "old boys club," learn the rules of the club, and use the rules to gain visibility and to ascend to a leadership position. The "old-boys club" rules by which male-dominated organizations operate are not written, yet they are codified, understood, and adhered to in a consistent fashion. The basic rules are as follows:

1. Win at all cost.
2. Do not humiliate your opponents when you are winning.
3. Save face and allow others to do the same. Give people an out, and don't catch them off guard by surprising them.
4. Follow the chain of command. Never go over the head of an immediate supervisor for resolution of a problem.
5. Make all orders to your subordinates your orders.
6. Never admit your mistakes or those of your teammates.
7. Do not commit negative impressions to paper unless you are forced to.
8. When a choice must be made, loyalty to the organization and its members always supersedes integrity (Robins & Terrell, 1987, p.208).
Terborg (1977, as cited in Talley, 1988) identified a male managerial model. Terborg contended that a male style of management prevailed at one time in the corporate world, which women were often expected to adjust to or to emulate. This male model with its military and sports analogies and terminology was typically taught in business administration schools. It remains to be seen the extent to which change has occurred to any degree.

Additionally, O'Leary (1978) found that the prevalence of the male managerial model was a barrier that prevented women from advancing. Three external barriers identified by O'Leary were: (1) the prevalence of the male managerial model, (2) sex-role stereotypes, and (3) attitudes about female competence.

In a study of 24 corporate women, Gallese (1991) found that women may not be as ambitious or as qualified for top jobs, or that there is a glass ceiling (a point at which discrimination hampers their advancement). This idea gave way to another theory regarding the perception of how women attain and exercise power. In this study, the women who made it to senior ranks did so because their male bosses didn't allow for misconceptions about a woman's capacity for power to cloud their judgement and the women were comfortable with pursuing power. The women who didn't make it were held back by male superiors and their inability to aggressively pursue power.

Gallese (1991) also found that women move easily within the lower ranks of the corporate world because men have no trouble with technical experience, as is
required at the bottom, but when it comes to the higher levels, when games deal with exercising raw power, things get tense. In-so-far as mentoring is concerned, women not only have to take the initiative in finding a mentor, male or female, but older women also have to make themselves more available to the younger women. The entry of women into agriculture is affected by the absence of mentors (Collins and Pesek, 1989).

It is interesting to note the federal government has become aware of these circumstances and, according to Collins and Pesek (1983), has attempted to achieve equal employment opportunities for women through:

2. The Title VII program which prohibits discrimination in all phases of employment.
3. The Executive Order 11478 of the Equal Employment Act of 1972 which prohibits discrimination and promotes equal employment opportunities for all qualified persons.

The Importance of the Issue

Carter (1991) conducted a follow-up study of 1980 and 1985 College of Agriculture Bachelors of Science graduates at Iowa State University and performed an analysis by gender. The results raise some serious questions as to the effectiveness of
the undergraduate program in preparing females for entry and advancement in agricultural careers. For example, many females did not take jobs related to their majors at Iowa State University. When compared to males, females received lower salaries and were more likely to be employed on a part-time basis. In addition, more females were not employed outside the home and fewer females were employed in agriculture when compared to their male counterparts. Females more than males were made to feel uncomfortable or hindered in the workplace because of their gender and their supervisor.

As an example of what could be done to assist women to aspire to agriculture careers, Johnson (1980) identified three aspects of the problem which female agriculture graduates face in becoming professionals in an agriculture career. They were (1) scarcity of female role models, (2) social conditioning young women receive and (3) unfamiliarity with the male culture system.

Carter (1990) recommended that, with increasing numbers of females enrolling in Colleges of Agriculture, universities should be concerned how well they are preparing female graduates for the world of work. A study by Cooper and Henderson (1989) entitled "Career Perceptions of Women Faculty in Colleges of Agriculture", profiled women working today in colleges of agriculture at U.S. land-grant universities. The study described role models available to young women entering undergraduate and graduate programs in agriculture. Encouragement from parents and
teachers appeared to have a positive effect on a woman's decision to pursue an academic career in agriculture.

Johnson (1980) conducted an experimental course at the University of Nebraska. The course was a one credit hour class and was titled "Professional Women in Agriculture Careers". The class offering was much like a senior seminar that departments have for their department majors before graduating and assuming their professional responsibilities on the job. Course topics included career goals, career opportunities in the federal government, organizational structure, speech patterns and body language, risk-taking, mentoring, networking, androgyny, stress, and combining career and family. The last session was a two hour program with a panel of women who had followed different patterns in combining family and a career. The class used eight role models for guest speakers. The class members were also required to interview a professional woman and write a report about the interview. The results of this effort remain to be seen.

In summary, these studies show that although some efforts are being made at the university level to make the educational experience meaningful for women trainees, factors in the field continue to mitigate against success by career women agriculturists. The real issue in this situation is that of opportunity. The opportunity for education, experience, and professional development forms the basis for a focus on women in agriculture careers.
Keohane (1991) stated that education was the key to helping women acquire the necessary tools to advance up the career ladder. Education can also help other employees and their employers develop the atmosphere and environment to empower all workers to grow and develop to their potential. And in so doing we can be optimistic about the future, confident that any company or organization that draws on the full human race for talented leadership, instead of only half of the resource base, is doubling its own chances to be successful in the future.

Women have moved in vast numbers from the home into the workforce, making an irreversible occupational change from housewife/mother to salaried worker. Today the numbers of women in the workforce almost equal those of men, and it is the norm for young women to prepare themselves for careers.

Why should agriculture consider women for employment? The answer does not come as a result of humanistic interests or even in response to legislative pressure, but because women make up half of the human resources available to the agriculture industry. Agriculture has the choice of wasting this resource or of using it to its best advantage.

Summary

This study was developed to analyze the status of women in agriculture careers relative to a series of questions that reflect the situation in other career areas. The literature review underscored the fact that little had been done to study the status of
women in agriculture careers and that a need existed to do something to gather this information in hopes of establishing an educational strategy to fill a specific need.
CHAPTER III. METHODS AND PROCEDURES OF THE STUDY

The methods and procedures of this study were centered around the study's purpose and objectives. All of the procedures sought to address the specific objectives of the study. The primary purpose of this study was to describe the status of women in agricultural careers. A secondary purpose was to determine the extent to which women have opportunity in professional agriculture careers and the barriers, if any, that exist for women in acquiring and advancing in these careers. The objectives of the study were:

1). To identify perceptions of selected agricultural professionals regarding the status of women in selected agricultural careers.

2). To identify perceptions of agricultural professionals toward factors that influence the advancement of women in selected agricultural careers.

3). To identify selected demographic data of agricultural professionals.

Research Design

The study used a descriptive design focused on identifying perceptions held by selected professionals in agricultural careers. The researcher used a mailed questionnaire to collect the data. The data from this study reflect the perceptions at the time of the investigation.
Population

The population of this study consisted of the 1994 membership of the Iowa Chapter of the National Agri-Marketing Association (NAMA). The list of names and addresses were supplied by the leaders of the NAMA organization. The National Agri-Marketing Association has as its members, a variety of professional agri-business people. The broad spectrum of careers represented by this association provided a basis for collecting information useful to the issues involved in this study.

The names and addresses of the NAMA membership were entered into a database file program, alphabetized and numbered for tracking of non-respondents. These identifying numbers corresponded to the numbers written on the questionnaire. The total population size was 150. Because the population size was relatively small, the study focused on the total population and a sample was not drawn.

Instrumentation

The instrument used in this study was a questionnaire designed by the researcher and her major professor and was primarily used to identify perceptions (Appendix A). The questionnaire was developed to meet and address each of the objectives of the study.

The questionnaire was designed by the researchers following a review of literature, a search and review of related data-gathering instruments, (Astin and Leland, 1991) and input from a panel of experts in the field consisting of educators, managers, and professional personnel trainers.
The questionnaire consisted of four parts:

1. The first part of the questionnaire consisted of ten questions dealing with perceptions on selected concepts regarding the status of women in selected agricultural careers. This section used a 5 point Likert-type scale (5=strongly agree; 4=agree; 3= neutral; 2=disagree; 1=strongly disagree).

2. The second part of the questionnaire dealt with the factors that influence the advancement of women in agriculture. This section had 6 questions that presented a list of choices.

3. The third part of the questionnaire collected information relating to demographic data of the respondents:
   - Gender
   - Position
   - Number of employees in the organization/company
   - Type of business/organization
   - Educational level

4. The fourth part of the questionnaire asked the participants for their comments regarding the issue of women in agricultural careers.

The questionnaire was reviewed by a panel of experts in the field consisting of educators, managers, and professional personnel trainers. The individuals reviewed the
questionnaire and made comments regarding its content, readability, instructions, format, and validity. After corrections were made, the questionnaire (Appendix C) and a brief description of the procedures to be followed was submitted to the Human Subjects Review Committee at Iowa State University which approved the study (Appendix D).

Collection of Data

The questionnaire (Appendix C) was mailed to the potential participants on April 1, 1994. A cover letter (Appendix A) explained the purpose and objectives of the study. A self-addressed pre-paid envelope was included in the mailing. The potential respondents were asked to complete the questionnaire and return it to the researcher by April 15, 1994. A code number (01-150) was assigned to each individual and the number was marked on the top right hand corner of each questionnaire to identify non-respondents and conduct follow-up procedures. Upon receipt of the questionnaires, the researcher clipped off the number and marked the participant list to indicate return of the survey.

The first mailing yielded 64 returns within 15 mailing days. On April 15, 1994, a letter (Appendix C) was sent as a reminder to all of the non-respondents asking them to return the questionnaire. A second questionnaire was sent May 1, 1994. A total of 104 questionnaires were returned, representing a 70% response rate.

While all instruments were usable, it is important to note that some questionnaires had missing data. This fact explains why reports of the data may not always add up to be N=104.
Analysis of Data

The questionnaire was coded in such a way as to facilitate entrance of data into the computer. The analysis of the data included use of the following procedures:

1. The Statistical Package for the Social Sciences (SPSS) program and its subprograms, was used to assist in analyzing the data provided by the respondents.

2. Subprogram FREQUENCIES was used to assist in analyzing means, standard deviations, frequency counts, and percentages.

Limitations

The study had the following limitations:

1. The population of this study was narrowly focused on the members of the Iowa Chapter of the National Agri-Marketing Association.

2. The questionnaire was limited in its scope and may not have identified the full range of perceptions on the issues involved related to the topic.

3. It cannot be inferred that the findings of this study apply to any or all other agriculture professionals beyond those studied.
Assumptions

It was assumed that:

1. The participants in the study provided accurate information with a high degree of integrity.

2. A written questionnaire was the best means to obtain the necessary information.

3. The collective group information obtained from the questionnaire had the potential to influence the existing educational system.

4. The participants in this study fully understood and could interpret the questions in the questionnaire.
CHAPTER IV. FINDINGS

The primary purpose of this study was to identify the perceptions held by selected agricultural professionals regarding the status of women in agricultural careers. A secondary purpose was to identify the extent to which women have the opportunity for professional agriculture careers and the barriers, if any, that exist for women in acquiring and advancing in these careers.

Chapter 4 focuses on the findings based on the data collected from participants in the study. The findings of this study are presented in four sections:

1. Demographic information of respondents
2. Perceptions on selected concepts related to women in agriculture careers
3. Factors influencing women in agriculture careers
4. Comments from respondents

Demographic Data of Respondents

This section describes the demographic characteristics of members of the National Agri-Marketing Association, Iowa Chapter, who participated in the study. The distribution by gender of respondents is given in Figure 1. Of the 102 respondents sharing this information, 68 were males (66.7%) and 34 were females (33.3%).
I males n=68

66.7%

females n=34

33.3%

Figure 1. Gender of selected agri-business professionals in the Iowa Chapter of the National Agri-Marketing Association participating in a status of women in agricultural careers survey (N = 102).

The distribution of respondents by level of education is presented in Figure 2. Of the 103 respondents, 7 indicated they had a high school education (6.8%); 6 respondents indicated they had an associate's degree (5.8%); 71 respondents indicated they had received a bachelors degree (68.9%); 17 respondents indicated they had received a masters degree (16.5%), and 2 indicated they had received a doctoral degree (1.9%). It was interesting to note that over 93.2% of the respondents had education beyond high school.
Figure 2. Distribution by educational level of selected agri-business professionals responding to a survey on the status of women in agricultural careers (N = 103).

Distribution of respondents by their position is represented in Figure 3. Of the 104 respondents, 39 (37.5%) indicated they worked in upper management (i.e., CEOs, presidents, owners, division managers, and vice presidents; 12 respondents (11.5%) indicated they worked in middle management (supervisors, managers), 30 respondents (28.8%) indicated they worked in the marketing/sales area; and 23 respondents (22.1%) indicated they were in other position categories than those mentioned in the questionnaires.
Figure 3. Distribution by position held at the time of the study by of selected agribusiness professionals responding to a survey on the status of women in agricultural careers (N = 104).

The frequency and percentage distribution of respondents by number of employees in their organization is presented in Figure 4. Sixteen respondents (15.8%) reported they worked in a company or organization with 1-10 employees; 25 respondents (24.8%) indicated they worked in a company or organization with 11-50 employees; 16 responded (15.8%) that they worked in a company or organization with 51-100 employees; 15 responded (14.9%) that 101-500 employees worked in their company or organization; 7 respondents (6.9%) indicated they were employed by a company or organization with 501-1000 employees, and 22 respondents (21.8%) indicated they were employed by a company or organization with over 1000 employees.
Figure 4. Frequency and percentage distribution by number of employees in organizations/companies reported by selected agri-business professionals in a survey on the status of women in agricultural careers (N = 101).

Distribution of respondents by the company's business type is presented in Figure 5. Participants were allowed to check more than one answer in this section if they felt their company/organization represented more than one area of the industry. Thus, 10 respondents (8%) indicated they worked in a commodities business; 7 respondents (6%) indicated they worked in manufacturing; 27 respondents indicated their company/business was a marketing organization (22.0%); 11 respondents (9%) worked in a production; 17
40 respondents indicated they worked in a sales organization (14%); 13 respondents (11%) indicated they worked in a seed company; 14 respondents (11%) indicated they worked in a media organization; 11 respondents (9%) responded they worked in a communications company; 6 respondents indicated they worked in a management organization (5%); and 6 of the respondents (5%) indicated they were in other types of companies.

Figure 5. Number of respondents per business type as indicated by selected agri-business professionals in a survey on the status of women in agricultural careers.
Perceptions Regarding Women in Agricultural Careers

Respondents were asked to indicate the extent to which they agreed or disagreed with selected concepts regarding women in agricultural careers using a Likert-type scale. Table 1 presents data indicating the mean ratings and standard deviations of the ten statements from Section I of the questionnaire. The mean ratings for the top five statements in this section of the questionnaire ranged from 3.38 to 3.88. The respondents tended to show agreement with the concept that women are becoming more visible in agricultural careers (\(x = 3.88\)). The respondents tended to approve of putting more emphasis on educational programs about career opportunities for women in agriculture (\(x = 3.76\)) and they generally supported the idea that there are job opportunities for women in the agriculture industry (\(x = 3.56\)). Additionally, respondents tended to support the statement that agriculture is a viable career area for women (\(x = 3.52\)). Respondents seemed to be less sure or confident about the statement that women have to prove themselves to be competent more so than men in agriculture careers (\(x = 3.38\)). The standard deviation (S. D. = 1.21) indicated that there was some disagreement on this issue. Obviously, some respondents felt that women have a more difficult challenge of proving their capabilities in agriculture careers than men do. Additionally, there was some variation in the respondents' view on the barriers for women working in the agricultural industry (\(x = 3.29; \text{S.D.}=1.03\)).

Respondents indicated that they were somewhat uncertain about the extent to which women were treated with equal respect as men in agricultural careers (\(x = 2.67\)).
Table 1. Means and standard deviations on selected statements regarding the status of women in agricultural careers as perceived by agri-business professionals in the Iowa chapter of the National Agri-Marketing Association (N = 104).

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Women are becoming more visible in agriculture careers.</td>
<td>3.88</td>
<td>.77</td>
</tr>
<tr>
<td>2. All educational programs should include more information about career opportunities for women in agriculture.</td>
<td>3.76</td>
<td>.96</td>
</tr>
<tr>
<td>3. There are plenty of job opportunities in the agriculture industry for women.</td>
<td>3.56</td>
<td>.96</td>
</tr>
<tr>
<td>4. The agriculture industry is a viable career area for women.</td>
<td>3.52</td>
<td>.84</td>
</tr>
<tr>
<td>5. Women have to prove their capabilities in agriculture careers to a greater extent than men.</td>
<td>3.38</td>
<td>1.21</td>
</tr>
<tr>
<td>6. There are career barriers for women in the agriculture industry.</td>
<td>3.29</td>
<td>1.03</td>
</tr>
<tr>
<td>7. Men and women are treated with equal respect in agricultural careers.</td>
<td>2.67</td>
<td>.95</td>
</tr>
<tr>
<td>8. Women in agriculture careers have lower expectations of success than males.</td>
<td>2.26</td>
<td>.97</td>
</tr>
<tr>
<td>9. Women should not be encouraged to seek careers in the agriculture industry.</td>
<td>1.38</td>
<td>.59</td>
</tr>
<tr>
<td>10. Women are not qualified to work in the agriculture industry.</td>
<td>1.32</td>
<td>.63</td>
</tr>
</tbody>
</table>

Scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree
Additionally, respondents tended not to support the statement that women have lower expectations of success than males in agricultural careers \((x = 2.26)\).

Respondents indicated that they disagreed with the statement about discouraging women to seek careers in agriculture \((x = 1.38)\) and a related statement saying women were not qualified to work in the agriculture industry \((x = 1.32)\).

Factors Influencing the Status of Women in Agriculture Careers

The general literature review indicated that various factors had tended in the past to influence the status of women in the workforce. Some of these factors were pay, hiring practices, mentoring, networking, education and experience. None of these studies focused on the agriculture professional. To examine this issue the respondents were asked to record their perceptions regarding different factors influencing the status of women in agricultural careers. Part II of the questionnaire presented the five questions that were used to gather this information. Figures 6 - 10 present this data.

Figure 6 indicates how respondents rated their company or organization as a place for women to work. Forty-one respondents \((40\%)\) indicated that their company or organization was an excellent place for women to work; 35 respondents \((34\%)\) indicated their company was a very good place for women to work; 21 respondents \((20\%)\) indicated their company was a "fair" place for women to work; 4 respondents \((4\%)\) indicated their companies were poor places for women to work and 2 respondents \((2\%)\) reported their companies were very poor places for women to work.
Figure 6. Percentage of respondents' ratings of companies or organizations regarding the quality of the company/organization for women to work as perceived by selected agri-business professionals in a study on women in agriculture (N=103)
Figure 7 indicates the respondents perceived that companies or organizations were doing a considerably better job of hiring women for executive positions at the time of the study as compared to the previous five years. Sixteen respondents (16.5%) indicated their companies were doing much better at placing women in executive positions; 60 respondents (57.3%) indicated their companies were doing somewhat better; 22 respondents (21.4%) reported there had been no change; and 5 respondents (4.9%) reported that agricultural companies were somewhat worse in hiring women for executive positions.

![Pie Chart]

Figure 7. Frequency and percentage of respondents' ratings of agriculture companies or organizations regarding how these entities were performing in relation to hiring women for executive positions compared to five years previously as perceived by selected agri-business professionals (N=103).
Figure 8 indicates the percentages and frequencies of ratings of how agricultural companies were doing in relation to promoting women up the career ladder in agricultural careers compared to five years previously as perceived by agricultural professionals. Seventeen respondents (17%) indicated that agriculture companies were doing much better; 60 respondents (59%) indicated that agriculture companies were doing somewhat better; 22 respondents (21%) indicated there was no change; and 3 respondents (3%) indicated that agriculture companies were doing somewhat worse in promoting women up the career ladder.

Figure 8. Frequency and percentage of respondents' ratings of companies or organizations regarding how these entities were performing relative to promoting women up the career ladder compared to five years previously as perceived by selected agri-business professionals (N = 102).
Figure 9 indicates perceptions about agriculture companies providing opportunities for women to be promoted to management positions. Forty-two respondents (41.2%) indicated that there was great opportunity for women to be promoted to management; 35 respondents (34.1%) reported some opportunity for women to gain management positions; 10 respondents (9.8%) were neutral in their perceptions about management promotions; 10 respondents (9.8%) indicated minimal opportunity; and 5 respondents (5%) indicated no opportunity for women to be promoted to management positions.

![Pie chart showing the distribution of responses](image)

Figure 9. Frequency and percentage of respondents' ratings of agriculture companies or organizations regarding how these entities provided opportunity for women to be promoted to senior management as perceived by selected agri-business professionals (N =102).
Data in Figure 10 indicate the extent to which agri-business professionals in this study perceived how women would be paid in senior management positions compared to men. Sixty-four respondents (63%) indicated that they perceived that women would get the same salary; 38 respondents (37%) indicated that they thought women would get a lower salary. There were no respondents who reported women would get a higher salary.

Figure 10. Frequency and percentage of perceptions of agri-business professionals regarding the level of pay for women compared to men if promoted to senior management positions.
Rankings of specific factors influencing the status of women in agricultural careers are reported in Table 2. When the factors were ranked by the respondents, the number one factor that influenced the status of women in agriculture careers was experience. The other four factors in the top five were formal education, promotion practices, hiring practices, and mentoring. The first three items were valued more highly than all the other items. The bottom five factors that respondents perceived as not being as important were employee selection process, inservice training, pay, job screening process, and application process.

Table 2. Rankings of specific factors influencing the status of women in agricultural careers (N = 104).

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Specific Factor</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Experience</td>
<td>2.06</td>
</tr>
<tr>
<td>2</td>
<td>Formal education</td>
<td>3.73</td>
</tr>
<tr>
<td>3</td>
<td>Promotion practices</td>
<td>4.95</td>
</tr>
<tr>
<td>4</td>
<td>Hiring practices</td>
<td>5.01</td>
</tr>
<tr>
<td>5</td>
<td>Mentoring</td>
<td>5.04</td>
</tr>
<tr>
<td>6</td>
<td>Employee selection process</td>
<td>5.20</td>
</tr>
<tr>
<td>7</td>
<td>Inservice training</td>
<td>5.25</td>
</tr>
<tr>
<td>8</td>
<td>Pay</td>
<td>5.61</td>
</tr>
<tr>
<td>9</td>
<td>Job screening process</td>
<td>6.09</td>
</tr>
<tr>
<td>10</td>
<td>Application process</td>
<td>6.37</td>
</tr>
</tbody>
</table>

Scale: 1=high 10=low
Comparisons of Perceptions Based on Gender

Frequency of responses by male and female agri-business professionals regarding perceptions of selected statements on the status of women in agricultural careers is presented in Table 3.

More than half of the respondents agreed that women were becoming more visible in agricultural careers. However, differences appeared when asked if men and women were treated with equal respect in agricultural careers. A majority of the men and over one-half of the women indicated that they disagreed with the statement. With regard to the agriculture industry being a viable career area for women, over half of the men indicated that they agreed with this statement, while one-half of the women agreed and the other half said the industry was not a viable career area. This information may agree with the perceptions about job opportunities since the men perceived there were very good job opportunities in agriculture and the women were divided on this issue. It could be concluded that if women don't see job opportunities in agriculture, then they are unlikely to see agriculture as a viable career area.

Table 4 shows data pertaining to comparisons of means and standard deviations of male and female respondents on the initial perception statements. Of the original ten perception statements, males had an overall higher mean rating for statements regarding women becoming more visible in agricultural careers, men and women are treated with equal respect in agriculture careers, the agriculture industry is seen as a viable career area for women, women are not qualified to work in the agriculture industry, women in
Table 3. Frequency of responses by male and female agri-business professionals regarding perceptions of selected statements on the status of women in agriculture careers (n=102).

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Women are becoming more visible in agriculture careers.</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>2. Men and women are treated with equal respect in agriculture careers.</td>
<td>3</td>
<td>4</td>
<td>26</td>
<td>20</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>3. The agriculture industry is seen as a viable career for women.</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>9</td>
<td>41</td>
</tr>
<tr>
<td>4. There are plenty of job opportunities in the agriculture industry for women.</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>8</td>
<td>8</td>
<td>35</td>
</tr>
<tr>
<td>5. All educational programs should include more information about career opportunities for women in agriculture.</td>
<td>1</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>15</td>
<td>3</td>
</tr>
<tr>
<td>6. There are career barriers for women in the agriculture industry.</td>
<td>3</td>
<td>0</td>
<td>20</td>
<td>5</td>
<td>15</td>
<td>7</td>
</tr>
</tbody>
</table>

Scale: 1= strongly disagree, 2= disagree, 3=neutral, 4=agree, 5=strongly agree, M=male, F=female
agricultural careers have lower expectations of success than males, and women should not be encouraged to seek careers in the agriculture industry. One the other hand, females had a higher overall mean rating for the statements indicating that educational programs should include more information about career opportunities for women in agriculture, and there are career barriers for women in the agriculture industry.

Females strongly agreed (mean=4.24) and males tended to disagree (mean=2.98) with the statement about women having to prove their capabilities in agricultural careers to a greater extent than men.

Both males and females disagreed (mean=2.26) with the statement that women in agricultural careers have lower expectations of success than males. Females indicated there are career barriers for them, while the majority of the men indicated they felt less strongly about there being career barriers for women in the agriculture industry.
Table 4. Means and standards deviations of responses by male and female agri-business professionals regarding perceptions of selected statements on the status of women in agricultural careers (N=102).

<table>
<thead>
<tr>
<th>Statement</th>
<th>M</th>
<th>F</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Women are becoming more visible in agriculture careers.</td>
<td>3.95</td>
<td>3.67</td>
<td>3.88</td>
</tr>
<tr>
<td></td>
<td>.72</td>
<td>.84</td>
<td>.77</td>
</tr>
<tr>
<td>2. Men and women are treated with equal respect in agricultural careers.</td>
<td>2.81</td>
<td>2.32</td>
<td>2.67</td>
</tr>
<tr>
<td></td>
<td>.95</td>
<td>.88</td>
<td>.95</td>
</tr>
<tr>
<td>3. The agriculture industry is seen as a viable career for women.</td>
<td>3.61</td>
<td>3.32</td>
<td>3.52</td>
</tr>
<tr>
<td></td>
<td>.80</td>
<td>.91</td>
<td>.84</td>
</tr>
<tr>
<td>4. There are plenty of job opportunities in the agriculture industry for women.</td>
<td>3.64</td>
<td>3.35</td>
<td>3.52</td>
</tr>
<tr>
<td></td>
<td>.89</td>
<td>1.10</td>
<td>.84</td>
</tr>
<tr>
<td>5. All educational programs should include more information about career opportunities for women in agriculture.</td>
<td>3.64</td>
<td>3.97</td>
<td>3.76</td>
</tr>
<tr>
<td></td>
<td>1.01</td>
<td>.83</td>
<td>.96</td>
</tr>
<tr>
<td>6. There are career barriers for women in the agriculture industry.</td>
<td>3.10</td>
<td>3.68</td>
<td>3.29</td>
</tr>
<tr>
<td></td>
<td>1.02</td>
<td>.95</td>
<td>1.03</td>
</tr>
<tr>
<td>7. Women are not qualified to work in the agriculture industry.</td>
<td>1.35</td>
<td>1.24</td>
<td>1.32</td>
</tr>
<tr>
<td></td>
<td>.71</td>
<td>.43</td>
<td>.63</td>
</tr>
<tr>
<td>8. Women have to prove their capabilities in agriculture careers to a greater extent than men.</td>
<td>2.98</td>
<td>4.24</td>
<td>3.38</td>
</tr>
<tr>
<td></td>
<td>1.15</td>
<td>.78</td>
<td>1.21</td>
</tr>
<tr>
<td>9. Women in agriculture careers have lower expectations of success than males.</td>
<td>2.33</td>
<td>2.12</td>
<td>2.26</td>
</tr>
<tr>
<td></td>
<td>.93</td>
<td>1.1</td>
<td>.97</td>
</tr>
<tr>
<td>10. Women should not be encouraged to seek careers in the agriculture industry.</td>
<td>1.44</td>
<td>1.27</td>
<td>1.38</td>
</tr>
<tr>
<td></td>
<td>.65</td>
<td>.45</td>
<td>.59</td>
</tr>
</tbody>
</table>

Scale: 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree, M=Male, F=Female
A comparison of factors influencing women in agriculture careers by gender is illustrated in Tables 5 - 9. Data in Table 5 revealed male respondents rated their companies from very good to excellent as a place for women to work, while female respondents rated their companies from fair to very good as a place for women to work.

Table 5. Factors influencing women in agricultural careers

<table>
<thead>
<tr>
<th>Statement</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would you rate your organization or company as a place for women to work?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>excellent</td>
<td>29</td>
<td>10</td>
<td>41</td>
<td>39.8</td>
</tr>
<tr>
<td>very good</td>
<td>25</td>
<td>10</td>
<td>35</td>
<td>34.0</td>
</tr>
<tr>
<td>fair</td>
<td>9</td>
<td>12</td>
<td>21</td>
<td>20.4</td>
</tr>
<tr>
<td>poor</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>3.9</td>
</tr>
<tr>
<td>very poor</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>103</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale: 1= excellent, 2 = very good, 3 = fair, 4 = poor, 5 = very poor

Table 6 illustrates the responses by gender relative to how companies have hired women for executive positions compared to five years ago. Data revealed women and men both thought companies were succeeding in hiring women to executive positions. However, more males than females viewed companies as doing much better in this area. Compared to five years ago, male and female respondents perceived that agricultural companies were doing somewhat better at the time of the study in relation to hiring women for executive positions.
Table 6. Frequency of responses relative to rating the company for hiring women for executive positions

<table>
<thead>
<tr>
<th>Statement</th>
<th>Male</th>
<th>Females</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compared to five years ago, how do you think agricultural companies are doing in relation to hiring women in executive positions?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>much better</td>
<td>12</td>
<td>3</td>
<td>16</td>
<td>15.5</td>
</tr>
<tr>
<td>somewhat better</td>
<td>41</td>
<td>19</td>
<td>61</td>
<td>59.2</td>
</tr>
<tr>
<td>no change</td>
<td>11</td>
<td>10</td>
<td>21</td>
<td>20.4</td>
</tr>
<tr>
<td>somewhat worse</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4.9</td>
</tr>
<tr>
<td>Total</td>
<td>103</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale: 1 = much better, 2 = somewhat better, 3 = no change, 4 = somewhat worse, 5 = much worse

Table 7 illustrates the frequency of responses by gender relative to promotion of women up the career ladder. The majority (58.8%) of male and female respondents indicated that compared to five years ago agricultural companies were doing somewhat better in relation to promoting women up the "career ladder" in agricultural careers. There were a few (21.6%) of the respondents that felt there was no change in relation to promotion of women up the "career ladder".
Table 7. Frequency of responses relative to rating the company for promotion of women.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compared to five years ago, how do you</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>think agricultural companies in general are</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>doing in relation to promoting women up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>the &quot;career ladder&quot; in agricultural careers?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>much better</td>
<td>12</td>
<td>3</td>
<td>17</td>
<td>16.7</td>
</tr>
<tr>
<td>somewhat better</td>
<td>38</td>
<td>22</td>
<td>60</td>
<td>58.8</td>
</tr>
<tr>
<td>no change</td>
<td>15</td>
<td>7</td>
<td>22</td>
<td>21.6</td>
</tr>
<tr>
<td>somewhat worse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2.9</td>
</tr>
<tr>
<td>Total</td>
<td>102</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale: 1= much better, 2= somewhat better, 3= no change, 4= somewhat worse, 5= much worse

The data in Table 8 illustrates the frequency of responses of males and females relative to promotion of women to senior management positions. Females were evenly divided between stating that there was a great opportunity (n=11) or some opportunity (n=11) of women being promoted to a senior management position. Men indicated nearly the same type of rating as the women for this item. In their organizations at the time of the study, male respondents perceived that women had as great an opportunity as equally qualified men to be promoted to senior management positions. On the other hand, female respondents did not appear to agree as strongly as men that much progress had been made in this area.
Table 8. Frequency of responses relative to promotion of women to senior management positions.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>great opportunity</td>
<td>29</td>
<td>11</td>
<td>42</td>
<td>41.2</td>
</tr>
<tr>
<td>some opportunity</td>
<td>24</td>
<td>11</td>
<td>35</td>
<td>34.3</td>
</tr>
<tr>
<td>neutral</td>
<td>8</td>
<td>2</td>
<td>10</td>
<td>9.8</td>
</tr>
<tr>
<td>minimal opportunity</td>
<td>2</td>
<td>8</td>
<td>10</td>
<td>9.8</td>
</tr>
<tr>
<td>no opportunity</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>4.9</td>
</tr>
<tr>
<td>Total</td>
<td>102</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scale: 1=great, 2= some, 3= neutral, 4= minimal, 5= no

Table 9 shows the response of males and females relative to pay/salary of women promoted to senior management positions. The statement focused on salaries for senior management positions for men and women. There was an interesting difference between the male and female perception on this statement. Males overwhelmingly perceived that women would get the same pay as men (n=52) in a similar position. A large number of women, on the other hand, perceived that women would receive a lower salary than the males. None of the respondents thought that a woman would get higher pay than a male in the same position. There is a indication here salary differences are real and do influence the status of women in agricultural careers.
Table 9. Frequency of respondents relative to pay/salary of women promoted to senior management positions.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Males</th>
<th>Females</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>If women get promoted to senior positions, how do you think they will be paid compared to men in those positions?</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>higher salary</td>
<td>52</td>
<td>10</td>
<td>64</td>
<td>62.5</td>
</tr>
<tr>
<td>same salary</td>
<td>14</td>
<td>24</td>
<td>38</td>
<td>36.5</td>
</tr>
</tbody>
</table>

Scale: 1=higher, 2= same, 3=lower

Respondent Comments

This section reports information from section four of the questionnaire, where the respondents were asked for comments about women in agricultural careers. The following are those comments that were written on the questionnaire broken into what the researcher felt were positive or negative responses.

Positive Responses:

In our world today, it seems as if most agriculture companies are very fair and open about hiring women on an equal basis to men.
Having been involved in an agricultural career for 20 years, I feel tremendous progress has been made. At the beginning of my career, a woman working in this field was an oddity, now well accepted. Leaving the corporate world to form my own company, made my growth even faster. I have never experienced a "negative woman" syndrome with my clients (all agriculture and men).

How long do you have? This could be an excellent seminar.

Women have excellent opportunities in agriculture - especially marketing and communications. In fact, in large companies, they have a real advantage over men. It is "politically correct" to hire women -- I hope someday, we all just hire the best "person" for the job -- regardless of gender, race, or creed.

The industry has made significant progress. "Perceptual" barriers still exists, but performance suggests those barriers should not exist.

Women generally work harder than men and more willing to delegate. More women today are being advanced than ever before and are performing up to expectations. This is a great factor in being more useful. They deserve more attention and now should be represented on corporate ladders!

Agriculture is more open and available for women -- at least from what they (companies) are promoting.

Women should be judged by their knowledge and ability, as in any career.

I feel that women have the ability to go as far as they want in agriculture. If a woman is dedicated and positive about what she does, she can succeed. If she has a "chip" on her shoulder, she won't make it. It is a challenge to compete, but it has tremendous rewards!
I believe in hiring the best candidate, gender is not important. I think unfortunately it's hard for women to get the practical experience/training (sales) to move up the corporate ladder. Farmers, for example, in a sales situation have a hard time accepting a woman as a credible source/influence.

I don't feel women (or men) should be given special treatment in any career — just equal.

Relatively untapped potential.

It's a great business in which to work, and more women should actively pursue and be encouraged to pursue a career.

Women in the communications side of agriculture business have made great strides in 10 years. Parallel to the agency's utilization of women.

There are many opportunities for women in agriculture. I truly feel this market, especially the advertising, PR, and communications segment of agriculture is wide open to women with no glass ceilings or sexist barriers.

Women are well-suited for most agriculture careers. Most are in communications; more and more are going into sales.

A can-do attitude is most important.

Experience and/or education are high priorities since agriculture is quite technical.

Women are needed in agriculture -- on the farm and in the office. A new era of cooperation between producers and consumers will require women's abilities and sensitivity.
There's opportunity for women who are willing to work hard and be cooperative in a company and are willing to be flexible. There will be lots of opportunity working with computers & details and sales.

I am seeing more and more women in administrative positions.

Negative Responses:

The fact that women need time off for maternity leave (many women) and family affairs more than men seems to influence some employers' decision on whether or not to advance or hire women.

I find it somewhat vexing that ISU would spend its finite financial budget doing a survey that, if it reveals anything meaningful, cannot be made actionable. Women in the workforce, regardless of industry is a fait de complait. This survey can only be the work of a woman.

There are more women entering the agriculture business, but generally I'd say it's not seen as an area where women can advance equally with men. Many stereotypes remain.

Women are hired for many middle and low management positions because they do their jobs well. I don't believe they are ever compensated on a scale equivalent to that of a man in the same position. Women need a network/resource to help them better negotiate salary and to give them an idea of what the market really is for their level of expertise and responsibility.

Question #5 could have adverse impact in perpetuating sexism by implying women are better suited for some positions in agriculture than men. Positions/opportunities should be gender-neutral in promoting.

They do have to be "better" and prove it consistently. Very much a "male" dominated business as far as "field" workforce is concerned.
From my own impression, salary and work assignments continue to be the most obvious factors. However, what women need most to succeed seems to be what is keeping them down -- women.

I feel women are very capable and often equally qualified. I do, however, feel they now are often given preferential treatment because they are women. It is not uncommon to see a woman get the nod over a potentially more qualified male because the person is a woman - certainly a change from the past, but could it be that sex discrimination has begun to turn the tide?

While I have not personally encountered much adversity in agriculture, I know of many women, particularly in the science and agribusiness management sectors, who have endured a lot in their desire to work and grow in agriculture. While the "talk" is toward more diversity, agriculture remains to a very strong extent, a male world, managed and controlled by men, many who feel threatened and/or hostile toward the presence of women in these fields.

The "glass ceiling" still exists -- very much so! Women in senior management are rare but not so in Human Resources or Communications. Also, to some extent, legal.

I find agriculture communications an area in which women find few barriers and have excelled, both in terms of being selected for positions and performing in them. I believe my company gives a woman with the same education and experience as men, equal opportunity and also equal pay. I agree with that. However, I also have some concern that in society's mission to "right the wrongs" of the past, women are sometimes actually given preferential treatment over men in hiring and promotion. As a white male, I feel that is wrong and I find it somewhat disconcerting for the future. I currently supervise 3 female professionals, all of them EXCELLENT employees. I believe we are treating them fairly and rewarding them equally to men -- as we should.

Your survey shows too much bias to yield legitimate results. Obviously, to you, it is "better" for companies to hire more women for executive positions and better to promote women up the career-ladder. We hire, pay, and promote people based on their performance. Hiring and promoting less qualified individuals (instead) based on gender would not be "better" for either the company or the individual(s)!
Women must learn to deal with the "old-boy" network that still is in place. It's changing (for the better) but still is a factor... in the South, especially, but also Midwest.

I've seen little change in hiring & promotion practices for women in agriculture in the last 15 years.

The prevailing attitude is that women cannot fit in such a male dominated area. I hope this changes.

In corporate structure, I have had the opportunity to work with many highly qualified women. I feel they should be advanced and promoted equally with men. However, this has not been the case in many corporations. I hope the older, "without" an open mind managers, are out of the system soon.

Some of your questions are confusing & could be interpreted 2 ways!

It has been my experience that women have to be more qualified than a male counterpart to obtain an equal job -- the female will still be paid less. The woman has to continually "prove her worth" while the male is "accepted without question."

We don't care if a prospective employee is a man or a woman and neither do our clients. Job skills, ability to relate to and interact with other people, self-confidence and a willingness to see a job through count much more heavily than any administrative processes in either a man's or woman's success here. The thing that works most heavily against anybody (but particularly some women) is an attitude!

Most career and job problems which women face in agriculture are from CUSTOMERS, not co-workers. I've worked for two major agribusiness firms. Their policies FAVORED women and I resent that! Customers tended to cause women more problems.
A few have gone far. Sadly, they have, by and large, forgotten the others. They have fallen behind. Women, as a group, unlike the minorities, do not seem to practice the mentoring and networking skills that can help them, as a group, advance. This is unfortunate because the "Good Ole Boys" network is very much alive and well in agricultural business.

Women and men need to be made more aware of opportunities for careers in agriculture. We are now trying to hire at least one person with 7-10 years experience as a writer and account service person and having a difficult time finding a qualified candidate. The requirements - 1) ability to write well and 2) knowledge of agriculture.

A willingness and ability to "get the job done" is most important factor, by far. We too often are finding men and women who want the position and salary but are unable or unwilling to meet the job requirements for one reason or another.

For example, we've had numerous candidates who want to be writers, but even their resumes have spelling errors. And we've had art candidates who can't draw. No kidding.

I feel women are being treated fairly - if there is any discrimination it would be towards a white single male.

An analysis of the comments made by the respondents indicates a positive attitude regarding women in agricultural careers. To some degree, the respondents relate a displeasure of women receiving special treatment. Some respondents indicated a need for more women in agricultural careers. Many respondents indicated that they felt there is still room for improvement within the agriculture industry and that there is a need for change and more education in the future.
CHAPTER V. DISCUSSION OF RESEARCH FINDINGS

The primary purpose of this study was to identify the perceptions held by selected agricultural professionals regarding the status of women in agricultural careers. A secondary purpose was to identify the extent to which women have the opportunity for professional agriculture careers and the barriers, if any, that exist for women in acquiring and advancing in these careers. The specific objectives of this study were:

1. To identify perceptions of selected agricultural professionals regarding the status of women in selected agricultural careers.
2. To identify perceptions of agricultural professionals towards factors that influence the advancement of women in selected agricultural careers.
3. To gather selected demographic data of agricultural professionals.

This chapter is discussed and organized under the following sub-headings: (1) Demographic characteristics of the respondents, (2) Perceptions of respondents regarding the status of women in selected agricultural careers, (3) Perceptions of respondents regarding factors that influence the advancement of women in selected agricultural careers, and (4) Comparisons based on gender. Overall, respondents in this study indicated that agriculture as an industry is becoming more open and
available for women. However, experience and education were two factors that were rated as most important to respondents for career success. Comments from respondents also indicated that women and men need to be made more aware of opportunities available for careers in agriculture.

Demographic Characteristics of the Respondents

The characteristics of the group of respondents provided a variety of perspectives although the respondents had common professional interests in being members of the Iowa Chapter of the National Agri-Marketing Association. The group was made up of both men and women in the agri-business industry. A review of the demographics indicates that: (1) a wide variety of professional positions were held by the respondents, (2) respondents were from companies of various sizes, and (3) respondents were from a wide variety of business types. The data also revealed that the respondents formed a highly educated group as the majority of the group reported more than a high school education.

A wide variety of professional positions were held by the respondents and it was concluded that the people in these professional positions would be an excellent source of information relative to the status of women in agriculture careers. The various sizes of the companies represented in this study indicated that a broad spectrum of perspectives could be gained by surveying such a group of respondents. It was
concluded that information gathered in this study represented data from small and large companies.

Perceptions on Status

One of the objectives of this study was to determine the perceptions of selected agricultural professionals regarding the status of women in selected agricultural careers. Part one of the questionnaire had 10 general statements in which respondents were asked to indicate their perceived levels of agreement about selected concepts regarding the status of women in agricultural careers. Respondents' perceptions regarding the status of women in agriculture careers tended to be neutral to positive in this section. Although respondents indicated their agreement that women were gaining status in agricultural careers, they also indicated by their comments on the questionnaire that there is still room for improvement. For example, one respondent wrote, "The industry has made significant progress. Perceptual barriers still exist, but performance suggests that those barriers should not exist." The respondents seemed to strongly suggest that women have a place within the agriculture industry, as one respondent commented "they have relatively untapped potential."

Perceptions on Influencing Factors

Another objective of this study was to determine the perceptions of selected agricultural professionals regarding the factors influencing the advancement of women in
agricultural careers. In this section of the questionnaire respondents were asked to indicate their perceived level of agreement to six questions about the factors influencing the advancement of women in agricultural careers. A large majority of the respondents reported their place of work was a positive environment for women. Also, a large majority of the respondents reported that the company for which they worked was hiring more women for higher positions, and indicated that the company for which they worked was promoting women up the career ladder. This information could be interpreted as a positive sign that women were making progress in the agriculture industry especially since a majority of the respondents reported good opportunities for promotion of women to senior management positions. This progress provides the role models for others and provides the incentive to acquire and advance in agricultural careers.

This study indicated some changes in the situation reported by Carter (1991) that revealed unequal salaries between men and women was a major concern. There may have been some movement in this area but a close look at the results of this study indicate that it is still a major concern. A closer look at pay discrepancies showed female perceptions to be more negative than males. More research needs to be conducted in this area to find out why there are these discrepancies.

Experience and education were ranked as being among the most influential factors for women to advance in agricultural careers. In Bunting's (1986) study the young farmers group supported women in any career they choose as long as they acquire the "proper training" be it traditional or nontraditional work roles. The experience and
education issues have not changed. In this study, the agri-business professionals agreed with previous research findings that indicated that agriculture is an appropriate career area for women. A comment from one of the respondents supported this factor by saying, "experience and education are high priorities since agriculture is quite technical."

Implications to agricultural education based on these findings suggest that agriculture teachers should encourage women to enroll in agriculture classes because there is a greater acceptance of women in many areas of agriculture.

Comparisons Based on Gender

The demographic characteristic "gender" indicated several practical differences of perceptions regarding the status of women in agricultural careers. Females generally contended that they must do more than men to prove their capabilities in technical agriculture. Men generally did not support this concept. From this data it is also clear on a practical basis that men and women are not necessarily treated with equal respect in the agriculture industry. One of the respondents' comments indicated that "a woman had to continually prove her worth while a male is accepted without question in the agriculture industry." Another respondent commented that "women have to do better and prove it consistently. Agriculture is very much a male-dominated business as far as the field workforce is concerned."

Career barriers seemed to be an issue between men and women. Overall, men seemed to be more positive in general than women about the status of women in
agricultural careers. Overall, women tended to be less positive than men about career opportunities for women in the agriculture industry. Women reported higher concerns than men about barriers to growth and development in agriculture companies. Positive comments from respondents tended to reveal that the agriculture industry is accepting more women into professional positions. However, negative comments from respondents indicated an undercurrent of problems that are concerns of both men and women that undermine the perceived gains in the status of women in agriculture careers reflected in the data. One could conclude from the findings in this section that the status of women in selected agricultural careers is improving slowing, but some female respondents seemed to indicate that there are needs that are not being met. These needs could be met by targeting education and training programs in the agriculture industry. Since higher education tends to develop more open-minded individuals that would be more accepting of women in this field, education would appear to be a priority (Bunting, 1986). As Whittington (1988) stated, teachers play a tremendous socializing role in American culture and they are key to changing student concepts regarding sex role expectations. It is vital that they become aware of the current situation, and break the cycle of sex-stereotyping in education. Opportunities exist in the agriculture industry to break this cycle. Knowing the current status of women in agricultural careers will indicate the type of students currently being recruited and the route through which they are entering professions in agriculture. This valuable information could be utilized for
recruiting perspective students. Having female teachers in the profession provides the best role model for recruiting females into the agricultural education programs.

Through education and experience, perceptions can be changed. Perceptions about agriculture and perceptions about women in the agriculture industry presented in this study are indicators of need. These indicators suggest that more education, specifically focused on the essence of the agriculture industry and who works in it is critically important. These perceptions could easily be changed through agricultural education programming starting in kindergarten and continuing through high school and post-secondary systems. Awareness of what agriculture is must be the first step to combatting the negative image.
Purpose

The purpose of this study was to identify the perceptions held by selected agricultural professionals regarding the status of women in agricultural careers. A secondary purpose was to find the extent to which women have the opportunity for professional agriculture careers and the barriers, if any, that exist for women in acquiring and advancing in these careers. The specific objectives of the study were:

a). To identify perceptions of selected agricultural professionals regarding the status of women in selected agricultural careers.

b). To identify perceptions of agricultural professionals toward factors that influence the advancement of women in selected agricultural careers.

c). To identify selected demographic data of agricultural professionals.

Procedures

The population consisted of 150 National Agri-Marketing Association members from the Iowa Chapter located in Des Moines, Iowa. The instrument, a researcher developed mailed questionnaire, was mailed and initially yielded a total of 85 usable questionnaires. A follow-up letter was mailed to all remaining non-respondents. This yielded 4 more questionnaires. A second mailing to the non-respondents yielded a total of
104 questionnaires. This process resulted in a response rate of seventy (70) percent. A few questionnaires had incomplete data but all questionnaires were used in the analysis.

The data collected from the respondents were coded and entered into the computer and subjected to analysis using the Statistical Package for the Social Sciences (SPSS). The following statistical procedures were used to analyze the data: FREQUENCIES subprogram was used to produce means, standard deviations, frequency counts, and percentages.

Findings

The major findings of this study were as follows:

1. Sixty-eight of the respondents were male and thirty-four were female.

2. The majority of the respondents (88.4%) had an education beyond high school.

   Nearly 70% of the respondents had a B. S. degree, 16.5% had a master's degree, and 1.9% a doctoral degree.

3. Thirty-seven percent of the respondents worked in upper management, and 28.8% worked in marketing and sales.

4. The highest rated perception statements were:

   a) Women are becoming more visible in agricultural careers.

   b) All educational programs should include more information on career opportunities for women in agriculture.

   c) There are plenty of job opportunities in the agriculture industry for women.
d) The agriculture industry is seen as a viable career area for women.

5. The respondents generally believed that their company or organization was an excellent or very good place for women to work. Seventy-six percent of the respondents felt that there was improvement in hiring women for executive positions in agriculture organizations compared to the previous five years. Seventy-six percent of the respondents also believed that companies were doing better in promoting women up the career ladder, while seventy-five percent of the respondents thought there was great improvement in promoting women into management positions.

6. The most important factors influencing the status of women in agricultural careers were, in rank order, experience, education, promotion and hiring practices, and mentoring.

Conclusions

The following conclusions were drawn as a result of this study:

1. Women are slowly becoming more involved in agricultural careers.

2. Women are slowly being viewed as a valuable human resource in agricultural businesses.

3. Perceptions regarding the status of women in agriculture do vary in some circumstances, but overall there is some positive change.
4. As a group the respondents were highly educated.

5. A wide variety of professional positions were held by the respondents.

6. Respondents were from companies of various sizes.

7. Respondents were from a wide variety of businesses.

8. Perceptions, overall, regarding the status of women in agricultural careers tended to be neutral to positive.

9. A large majority of the respondents reported their place of work was a positive environment for women.

10. A large majority of the respondents reported that the company for which they worked was hiring more women for higher positions.

11. A large majority of the respondents reported that the company for which they worked was promoting women up the career ladder.

12. A majority of the respondents reported good opportunities for promotion of women to senior management positions.

13. A majority of the respondents reported salaries for senior management to be equal for men and women.

14. Experience and education were ranked as being among the most influential factors for women to advance in agricultural careers.

15. In general, men seemed to be more positive than women about the status of women in agricultural careers.
16. Overall, women tended to be less positive than men about career opportunities for women in the agriculture industry.

17. Women reported higher concerns than men about barriers to growth and development in agriculture companies.

18. Positive comments from respondents tended to reveal that the agriculture industry is accepting more women into professional positions.

19. Negative comments from respondents indicated an undercurrent of problems that are concerns of both men and women that tend to undermine the perceived gains in the status of women in agricultural careers reflected in the data.

Recommendations

The following recommendations were made based on the findings of this study:

1. Agricultural educators should work with book publishers, instructional materials developers, and magazine companies to make their products more gender friendly toward agriculture and less gender stereotyped.

2. All agriculture organizations should help create a new message regarding what agriculture is and show what great opportunities there are in agriculture for all kinds of people and that agriculture needs all kinds of talent.
3. Agricultural educators should seek to change the printed and broadcast media stereotypical image of agriculture especially as it pertains to women and career opportunities in agriculture.

4. Departments of Agricultural Education should work with existing educational programs to infuse agriculture into the general curriculum at the K-12, post-secondary, and higher education levels.

5. Departments of Agricultural Education should develop programs to help agriculture and other teachers to share information with their students, particularly females, about career opportunities in agriculture.

6. Departments of Agriculture Education and Colleges of Agriculture should develop and maintain an aggressive recruitment effort to encourage women to take advantage of career opportunities in agriculture.

7. Higher education institutions should conduct an audit or assessment of gender bias and stereotyping and develop educational programs that help women and men to adjust to the realities of the workplace.

8. Teacher training programs should conduct activities that assist teachers of agriculture to analyze their behavior and adapt new practices to be more gender friendly.
Recommendations for Further Research

The following recommendations were made to encourage further study related to this topic:

1. It is recommended that a state-wide, regional or national study be conducted regarding the status of women in agricultural education.

2. It is recommended that other agriculture organizations study the status of women in their organizations.

3. It is recommended that different levels of employment in selected agricultural organizations compare perceptions on the status of women.

4. It is recommended that a follow-up assessment of the participants in this study be conducted to evaluate change in perceptions of the status of women in agricultural careers.

5. It is recommended that a gender issue study be conducted focused on the perceptions of women who are entrepreneurs.

Significance and Implications to Education

The results of this study have implications to education and agriculture based on the development and full use of human resources. Men and women are critical resources in the industry of agriculture. The agriculture industry has responsibility through its educational channels to encourage awareness, development and enhancement of skills and knowledge in agriculture of those individuals, in particular women, who may not be aware
of the great opportunities in the industry. Agriculture has had a shortage of people with
an education in agriculture. According to recent surveys the number of jobs available in
the agricultural sector outnumber the graduates to fill those positions.

Educational programs and awareness efforts that show expanded opportunities and
showcase men and women as role models in the industry will go far in encouraging more
people to investigate the career opportunities in this industry. Women have a role in
agriculture, but education and opportunity must be demonstrated to fulfill this role.


Department of Agricultural Education and Studies (1994) Iowa Agricultural Education Teachers Database, Iowa State University, Ames, Iowa.

extrinsic barriers affecting the advancement of female managers (Doctoral dissertation, University of Delaware).


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ACKNOWLEDGEMENTS

I wish to take this opportunity to thank the various people who helped me struggle through this learning endeavor. First and foremost I want to thank my family: my parents, Robert and Marie Kiefer, for supporting me during the rough spots; my daughter, Amanda Kiefer, for trying to be patient with Mommy when she was doing anything related with finishing the thesis and you wanted to play; Suzette and Mike Striegal, and Rob and Tim Kiefer for helping me when they could.

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Thanks goes to Dr. Gaylan Scofield for his continuous support through the whole process and for helping me with the statistics! Thanks also to my office mate and friend, Dawn Hildebrandt, who helped pick me up when I was down, laughed with me, cried with me and overall helped me. Thanks to my other friends: Bonnie Smith, for love and support through it all and for help with putting the "book" together; Dick VanDuesen and Roger Coulsen for their assistance in editing and encouragement to see this project through; and Cathy Hobart for her assistance with Amanda when I needed it and for her support in finishing this project. Thanks to you all!!
APPENDIX A. COVER LETTER TO NAMA MEMBERS
March 22, 1994

Dear NAMA Member,

The Agriculture Education and Studies Department at Iowa State University is conducting a study to identify the perceptions held by selected agricultural professionals regarding the status of women in agriculture careers. The members of the National Agri-Marketing Association in Iowa have been selected to participate in this study. The status of women in agricultural careers cannot be studied without input from those people who work in these careers. Therefore, your perceptions and comments are critical to the study of this issue.

Please complete the enclosed questionnaire. The survey has four parts. Part I contains selected statements regarding the status of women in agriculture careers. Part II contains questions about factors that may influence the advancement of women in agriculture careers. Part III contains questions to identify selected demographic data about professionals in agriculture. Part IV allows you to share your ideas on this issue by making comments. Please complete all four parts of the questionnaire. The questionnaire should take approximately 10 minutes to complete.

The information you provide will be held in strict confidence. Individual responses will not be made available to anyone. We are only interested in group data. The individual questionnaires will be destroyed following analysis of the group data. The coding on the questionnaire is a means of contacting non-respondents. All coding will be removed upon receipt of the questionnaire. The data will be used to complete a Masters degree and provide information for developing educational programs. Participation is voluntary and if you do not wish to respond, please return the unused questionnaire.

We hope you will take a few minutes to help us. Please return the completed survey by April 15, 1994. A self-addressed return envelope is provided for your convenience in returning the questionnaire. We appreciate your participation.

If you have any questions, please feel free to contact us at anytime.

Sincerely,

Annette L. Kiefer
Research Assistant

Robert A. Martin
Professor
APPENDIX B. FOLLOW-UP LETTERS
April 20, 1994

To: Des Moines Chapter Nama Members

From: Robert A. Martin, Professor
       Annette L. Kiefer, Research Assistant

RE: Study on Perceptions Regarding the Status of Women in Selected Careers in Agriculture.

On April 1, 1994 you were sent a questionnaire on the "Perceptions Regarding the Status of Women in Selected Careers in Agriculture". Many survey participants have returned their questionnaires and we thank you for your input. Some participants, however, as of this date, have not returned the questionnaire. For the study to be successful, your input is needed. We recognize this is a busy time for you, but it will take only five minutes to complete. We would appreciate your input.

Please disregard this memo if you have already returned the questionnaire. If you have not yet completed and returned your survey, we would appreciate your doing so soon.

Thank you very much for your assistance and cooperation in this matter.
May 5, 1994

Dear NAMA Member,

We need your help!!! On April 2, 1994 you should have received a questionnaire about the Perceptions Regarding the Status of Women in Selected Careers in Agriculture. Many survey participants have returned their questionnaires and we appreciate their efforts. To our knowledge we have not yet received a questionnaire from you.

In order for this study to be successful it is important to have your input. We recognize this is a busy time for you, but we hope you will respond to the study. We really would appreciate having your questionnaire returned even if it is not fully completed or if you choose not to fill it out at all. In any case, please return the questionnaire.

We have enclosed another copy of the questionnaire and a self-addressed stamped envelope for your convenience in responding to this important study. We encourage you to take a few minutes time, today, to complete the questionnaire and mail it back to us by May 16, 1994.

Please disregard this letter if you have already returned the questionnaire. Thank you for your assistance and cooperation in this matter.

Sincerely,

Annette L. Kettel
Research Assistant

Robert A. Martin
Professor
APPENDIX C. QUESTIONNAIRE
Perceptions Regarding the Status of Women in Selected Careers in Agriculture


Instructions: Please indicate the extent to which you agree with each statement by circling one of the response options following each statement.

Key
1 = strongly disagree  4 = agree
2 = disagree          5 = strongly agree
3 = neutral

Example: (Circle One)
Women have not had substantial success in careers in agriculture.

1 2 3 4 5

1. Women are becoming more visible in agricultural careers.
   1 2 3 4 5

2. Men and women are treated with equal respect in agricultural careers.
   1 2 3 4 5

3. The agriculture industry is seen as a viable career area for women.
   1 2 3 4 5

4. There are plenty of job opportunities in the agriculture industry for women.
   1 2 3 4 5

5. All educational programs should include more information about the career opportunities for women in agriculture.
   1 2 3 4 5

6. There are career barriers for women in the agricultural industry.
   1 2 3 4 5

7. Women are not qualified to work in the agriculture industry.
   1 2 3 4 5

8. Women have to prove their capabilities in agricultural careers to a greater extent than men.
   1 2 3 4 5

9. Women in agricultural careers have lower expectations of success than males.
   1 2 3 4 5

10. Women should not be encouraged to seek careers in the agriculture industry.
    1 2 3 4 5
Part 2: Factors Influencing Women in Agricultural Careers

1. How would you rate your organization or company as a place for women to work? (check one)
   ___ a. excellent
   ___ b. very good
   ___ c. fair
   ___ d. poor
   ___ e. very poor

2. Compared to five years ago, how do you think agriculture companies are doing in relation to hiring women for executive positions? (check one)
   ___ a. much better
   ___ b. somewhat better
   ___ c. no change
   ___ d. somewhat worse
   ___ e. much worse

3. Compared to five years ago, how do you think agriculture companies in general are doing in relation to promoting women up the "career ladder" in agricultural careers? (check one)
   ___ a. much better
   ___ b. somewhat better
   ___ c. no change
   ___ d. somewhat worse
   ___ e. much worse

4. In your organization today, to what extent do women have the same opportunity as equally qualified men to be promoted to senior management positions? (check one)
   ___ a. great opportunity
   ___ b. some opportunity
   ___ c. neutral
   ___ d. minimal opportunity
   ___ e. no opportunity

5. If women get promoted to senior positions, how do you think they will be paid compared to men in those positions? (check one)
   ___ a. higher salary
   ___ b. same salary
   ___ c. lower salary

6. The following factors may influence the role of women in agricultural careers. Please rank the following items from 1=high to 10=low as to their impact on the advancement of women in agricultural careers.
   ___ a. inservice training
   ___ b. formal education
   ___ c. experience
   ___ d. mentoring
   ___ e. application process
   ___ f. job screening practices
   ___ g. employee selection process
   ___ h. hiring practices
   ___ i. promotion practices
   ___ j. pay
   ___ k. other (please specify)
Part 3: Demographic Information

1. Your gender is:
   ___ male
   ___ female

2. Your highest education level is:
   ___ a. high school
   ___ b. associate degree
   ___ c. bachelor's degree
   ___ d. master's degree
   ___ e. doctoral degree

3. What is the current position you hold:
   (example: salesperson)

4. The organization you work for has how many employees?
   ___ a. 0-10 employees
   ___ b. 11-50 employees
   ___ c. 51-100 employees
   ___ d. 101-500 employees
   ___ e. 501-1000 employees
   ___ f. more than 1000 employees

5. What kind of agricultural company do you work for?
   ___ banking
   ___ commodities
   ___ manufacturing
   ___ marketing
   ___ production
   ___ sales
   ___ transportation
   ___ other (be specific)

Part 4: Comments.

If you have any comments regarding the role of women in agricultural careers, please share them with us.

Thank you.
Please return completed survey questionnaire in the enclosed envelope by April 15, 1994.
APPENDIX D. HUMAN SUBJECTS FORM
Last Name of Principal investigator: Kiefer

Checklist for Attachments and Time Schedule

The following are attached (please check):

12. □ Letter or written statement to subjects indicating clearly:
   a) purpose of the research
   b) the use of any identifier codes (names, #’s), how they will be used, and when they will be
      removed (see item 17)
   c) an estimate of time needed for participation in the research and the place
   d) if applicable, location of the research activity
   e) how you will ensure confidentiality
   f) in a longitudinal study, note when and how you will contact subjects later
   g) participation is voluntary; nonparticipation will not affect evaluations of the subject

13. □ Consent form (if applicable)

14. □ Letter of approval for research from cooperating organization or institutions (if applicable)

15. □ Data-gathering instruments

16. Anticipated dates for contact with subjects:
   First Contact: 4/1/94
   Last Contact: 5/1/94

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual
    tapes will be erased:
    6/1/94

18. Signature of Departmental Executive Officer: Patricia M. Keith
    Date: 3/24/94
    Department or Administrative Unit:

19. Decision of the University Human Subjects Review Committee:
    □ Project Approved
    □ Project Not Approved
    □ No Action Required

   Name of Committee Chairperson: Patricia M. Keith
   Date: 3/24/94
   Signature of Committee Chairperson: