

Table 4. Historical Summary of Degrees Awarded as Reported by AASCARR Institutions Classified by Program Area and Degree Level: 1984 - Current Year

Degree Level and Program Area	Number of Degrees Reported by Year			
	1984 n = 59	1985 n = 54	1986 n = 46	1987 n = 44
Two Year Degrees				
Agriculture	189	159	125	65
Natural Resources	43	1	0	0
Other Programs	0	0	8	2
TOTAL DEGREES	232	160	133	67
Baccalaureate Degrees				
Agriculture	4,485	4,241	3,542	3,350
Natural Resources	1,131	875	793	713
Other Programs	479	406	574	645
TOTAL DEGREES	6,095	5,522	4,909	4,708
Masters Degrees				
Agriculture	423	358	271	269
Natural Resources	105	98	105	119
Other Programs	48	26	16	28
TOTAL DEGREES	576	482	394	416
Doctoral Degrees				
Agriculture	1	10	1	5
Natural Resources	3	5	8	7
Other Programs	0	0	0	0
TOTAL DEGREES	4	15	9	12

/1/Data prior to 1984 are unavailable. Caution is advised in comparing data across different years since the combination of survey respondents from the population may vary from year to year. Note: n denotes the number of survey respondents for the indicated year.

Table 6. AASCARR Historical Summary of Average Annual Starting Salaries of Employed Graduates, 1985-1987

Degree Level	1985	1986	1987
Bachelor Graduates			
Average Salary	\$16,617	\$16,121	\$17,084
Number of Students	919	625	632
Masters Graduates			
Average Salary	\$20,962	\$19,800	\$19,773
Number of Students	98	52	106
Doctorate Graduates			
Average Salary	\$27,000	\$30,000	\$32,500
Number of Students	10	5	6

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Minorities In Agriculture And the Undergraduate to Graduate School Transition

Lionel Williamson
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Aggregate undergraduate enrollment in agriculture campus curricula has generally been declining throughout the last decade, although there have been increases reported in the areas of agricultural economics/business (61% increase from 1975-1984, Allen, et al). Graduate programs have reportedly remained fairly constant in enrollment during the 1980's for agricultural curricula at four-year institutions. Of these students in graduate and undergraduate programs, fewer than 10% of the total enrollment in the respective categories are black minority students, and the percentages are declining further. Although the percentages are disproportionately low for the demographic composition of the college-age populace, the graduate school enrollment is skewed the most.

As representatives of the total educational framework (namely teaching, research and service), what can faculty, staff and friends of the college or university system do to encourage and facilitate an undergraduate to graduate school transition by minority students? Before addressing the transition, here are some findings which may be of special importance to minorities (Suarkasa, 1988):

1. From 1976 to 1984 total black enrollment in higher education declined from 9.4 percent to 8.4 percent. During this same time period undergraduate enrollment declined from 10.5 percent to 9.5 percent.
2. Since 1976 the proportion of black high school graduates who go on to college has declined from 33.5 to 26.1 percent.
3. In absolute numbers, there were 15,000 fewer black high school graduates entering college in 1985 than in 1976.
4. Only about 42 percent of the black students who enter college continue through graduation.
5. There is a direct correlation between levels of black enrollment and the level of funding and other federal support for institutions and students.
6. The decline in black enrollment in colleges and universities is directly related to the decline or change in the form of financial assistance provided.

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7. Nearly five times as many college-bound blacks as college-bound whites have family incomes under \$12,000. Thus, the ability to provide financial support is apparent.
8. Between 1976 and 1980, while black enrollment dropped steadily at white institutions, it remained stable at black institutions.

Transition for Minorities

Undergraduate to graduate school transitions appear at first glance to be consistent with the great American competitive spirit — the best jobs go to the better educationally prepared individuals. This concept alone should be incentive to acquire a Master's degree or a terminal Ph.D. For minorities, however, the issues are neither as succinct nor as persuasive for graduate school enrollment and the resulting degrees. There is unanimity among labor economists that the labor market prospects of participants depend heavily on the participant's characteristics. The basic dividing lines among labor market participants appear to be between male and female workers on the one hand, and between black and white workers on the other (Reynolds, 1974).

Conceptually, the labor market for minority graduates (the "carrot" for entering graduate school) can be examined with the framework of alternative economic paradigms, which are practical examples that illustrate abstract principles. A paradigm's intrinsic property is the correspondence between theory and praxis (Piore, 1983). Economic paradigms that fail to recognize the correspondence between labor market structure, conduct and performance as they might impact the black professional, are unlikely to advance understanding of the problems and key issues. As a result, any erstwhile discussion on the transition to graduate school by black students must meet the two functional tests of any social economic model — descriptiveness and predictiveness. That is, the discussion should attempt to offer an accurate picture of the economic relationships in question, while also making a reasonably accurate forecast.

Goals of Graduate Students

With the transitional process of entering and successfully completing graduate school eased by activities such as described by Suarkasa, the goals of

Table 1. Goals of Graduate Students

Employment	Black %	White % ¹
University Teaching/Research	29.2	23.5
Research in Gov't Agency	12.5	8.8
Private Business &/or Consultant	8.3	18.4
Professional in Private Business	16.7	19.8
Agricultural Extension	0.00	5.9
University Administration	0.0	0.0
Government Administration	12.5	2.9
Professional in International Development	20.8	16.9
Other	0.0	3.7

¹%s do not sum to 100 due to rounding.

graduate students (AAEA, 1986) should be more readily achieved, Table 1. When asked what were motivating incentives to pursue graduate degrees, 2/3 of the black students and 3/4 of the white students responded that the primary motivation was to achieve their career goals. Can colleges and teachers of agriculture afford to stand in these students' path, when they are the future to the food and fiber industry?

Benefit-Cost Realizations

Any individual making the decision to attend graduate school in all probability has determined that there are certain benefits to be gained. At the same time there must be the realization that there are costs and potential problems in achieving those benefits desired.

Benefits

Benefits typically associated with the attainment of a graduate degree include:

1. Availability of good job prospects.
2. Interest in the subject matter area.
3. Job security - Mobility - Flexibility - Marketability.
4. Opportunity to make contribution to society through the profession.
5. Employment requirement by the employer.
6. Improved skills.
7. Desire to buy time in current community and encouragement from family members.
8. Increased job opportunities with possibilities for professional growth and advancement.

Personal and Economic Costs

Several factors appear to have potentially negative impacts on minority students' abilities to make the transition from undergraduate to graduate curricula. A review of published reports and notes from interviews with minority students suggest the following factors which have a negative impact on the transition process.

1. Career opportunity or job availability versus future career goals. Is a bird-in-hand truly worth two in the bush?
2. Finances and stipends. Low family cash reserves or savings for an expensive education on the heels of a 4 or 5-year undergraduate degree may preclude the advanced degree, while colleges and universities are shifting the emphasis of their financial aid programs from grants to loans. The impetus by legislators to curb or curtail the federally guaranteed student loans through commercial lending institutions is also financially stressing.
3. Rising cost of college education. Not only are campus and vicinity living expenses rising (lodging, food, entertainment), so are textbook, tuition, activity/health fees and related college expenses on the rise at rates frequently exceeding the inflation changes.
4. Recruitment via one-time only incentives. Non-renewable one-year scholarships, one-year fee waivers, and funding declines in work-study programs, as well as the loss of tax deferments for

assistantship stipends have impeded commitment to graduate programs.

5. College admissions requirements. Inconsistencies and rules bending among campuses as to admittance testing and scores for admittance eligibility often make the degree not worth the hassle.
6. Family ties, responsibilities or obligations. The bond between family and the individual is closer among minorities than their non-minority counterparts, leading to an inherent allegiance to serve and care for the family "back-home," or assume the family business or occupation.
7. De-emphasizing affirmative action. Within the labor market for individuals with advanced degrees, the terms affirmative action and equal employment opportunity no longer carry the sting of non-compliance as racial discrimination may occur.
8. Lack of incentives. Starting wages for individuals with graduate status may not impute an incentive to delay entry into the job market nor redefine career goals and seek employment among firms, agencies or institutions utilizing advanced degree candidates.
9. Opportunity cost of graduate school delays. The foregone wages lost by staying in school versus the earnings potential with a graduate school degree, and the payback of the investment in the higher degree are genuine economic concerns.
10. Rigors of graduate school. Course loads, emphasis on academic excellence, stress of qualifying or prelim exams and the activity of thesis or dissertation writing, defense and completion take their toll on the individual.
11. Inadequate preparation at undergraduate level. Course selections at the undergraduate level often focus on completion of the degree requirements (hours) with the least difficulty — the emphasis by employers is on the degree and not the merit of the program. On the other hand, graduate courses and the individual study focus on reasoning and logic, application of the correct problem solving tool, and interpretation of the findings in a management-orientation, instead of rote memorization.
12. Institutional internal politics. Higher education, especially at the graduate school level, conveys a bias and propensity to count numbers... graduates, publications, courses (and credits) offered, FTE's.

Improving the Transition

In spite of the encumbrances facing minorities in the transition from undergraduate school, there are suggestions on improving the transition to graduate school. The suggestions are two-tiered: how might the college, university or institution of higher learning participate (including the faculty and staff), and what might the individual minority student do to ease the transition and find the rewarding outcome.

Colleges of Agriculture Activities

State governments, universities and respective colleges of agriculture can facilitate a minority student's transition into and success in a graduate school program by such activities as the following:

1. Increase and redirect financial aid to both students and academic institutions.
2. Identify, duplicate or modify successful transition programs.
3. Improve communications and collaboration of universities and colleges with high schools.
4. Collaborate between predominately black and predominantly white institutions to improve the chances of black student success in both institutions.
5. Improve efforts to employ blacks among the faculty and senior administrators at predominantly white institutions.
6. Support services geared to the needs of minority students.

Minority or Individual Student Involvement

The burden of the transition is not on the academic institution: rather the individual student has the final evaluation on a successful transition. Although the minority student "may not see the forest for the trees," teachers and advisors or counselors may assist the transition by encouraging or alerting the student to the following suggestions.

1. Don't be intimidated by the academic or social environment.
2. Develop friendships with other graduate students.
3. Improve communication skills: both written and oral.
4. Don't anticipate that all actions on the part of faculty, students and staff are racist in nature.
5. Don't be afraid to ask questions about course schedules as many professors have set patterns in setting course schedules.
6. Remember that your primary purpose for being in graduate school is to obtain your degree. You can get your degree without compromising your dignity of identity.
7. Don't enter graduate school expecting favoritism. Be prepared to make it on your own merits.
8. Practice time management. Remember that the pace in graduate school will be faster than at the undergraduate level.
9. Practice money management — remember that you will likely operate on a tight budget.
10. Get actively involved in the minority community: therein lies a support group often absent in the academic environment.
11. Visit the university, the agricultural college and your department before making a final decision about attending a particular university to make sure that you understand the university system and it's academic climate.

Summary

This article provides needed answers to questions about the recruitment and retention of minorities in graduate school programs. It prescribes ways to improve the transition from undergraduate to graduate studies. The article also provides teachers, counselors and advisors suggestions for individual student involvement in facilitating the process.

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Minority Apprenticeship Program

Boosting Agriculture and Natural Resources Enrollments

Eugene E. Trotter

Problem

Agriculture and natural resources industries are major employers throughout the world. Technological changes have increased the demand for college educated employees in these industries. Additionally, societal changes have increased the demand among both private and public employers for competent minority employees.

Yet, minority student enrollments in colleges of agriculture and/or natural resources at land grant universities historically have been low. Many explanations have been offered, but the greatest single factor seems to be a lack of awareness among minorities of the broad range of employment opportunities available to graduates of these college programs.

Solution: MAP

Operating on the theory that heightened career awareness boosts student enrollments, the College of Agriculture and Natural Resources at Michigan State University designed the Minority Apprenticeship Program (MAP) to inform minority high school students of careers in agriculture and natural resources. The intent of the program is to encourage minority students to pursue college degrees that will prepare them for employment in these careers.

In the five years since the program began, minority enrollment percentages in the college have doubled (see Table 1.)

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Table 1. Undergraduate Minority Enrollments at Michigan State University.

