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gender & diversity

A PROGRAM OF THE CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH (CGIAR)

Gender and Diversity in the CGIAR:

A NEW BASELINE

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working paper

CGIAR

The Consultative Group on International Agricultural Research (CGIAR) was created in 1971 from an association of public and private members that support a system of 16 international agricultural research centers known as Future Harvest Centers. Working in more than 100 countries, The Future Harvest Centers mobilize cutting-edge science to reduce hunger and poverty, improve human nutrition and health, and protect the environment. The Centers are located in 12 developing and 3 developed countries and are sponsored by The World Bank, the Food and Agriculture Organization (FAO), and the United Nations Development Program (UNDP) The CGIAR budget in 2000 was US $340 million. All new technologies arising from the Center's research are freely available to everyone. For more information about the CGIAR, see: www.cgiar.org

GENDER AND DIVERSITY PROGRAM

The CGIAR Gender and Diversity Program serves to cultivate a workplace where diversity is celebrated and all staff are empowered to give their best to enrich future harvests. Its overall goal is to assist the 16 CGIAR Centers to seek out and collectively gain from the diversity inherent within the global organization. The Gender and Diversity Program grew out of a 1991 CGIAR initiative on gender staffing aimed at assisting the Centers to promote the recruitment, accomplishment, advancement and retention of women scientists and professionals

In 1999, this program was broadened to include diversity. The program provides support to the Centers through small grants, technical assistance, and management consulting, training, and information services. The CGIAR Gender and Diversity Program is hosted by ICRAF (Nairobi, Kenya) and the Program Leader is Vicki Wilde (v.wilde@cgiar.org).

The Gender and Diversity Program seeks to use diversity to strengthen internal and external partnerships that enhance the relevance and impact of the Centers, by creating and maintaining an organizational culture that:

- Attracts and retains the world's best women and men;
- Encourages the recruitment and promotion of under-represented groups;
- Establishes a workplace climate of genuine respect, equity and high morale;
- Promotes a healthy balance between professional and private lives;
- Inspires world-class competency in multi-cultural teamwork, cross-cultural communication and international management;
- Empowers and enthuses all women and men in the system to maximize professional efficacy and collectively contribute their best; and
- Rewards leadership, creativity and innovation that employs and celebrates diversity in the Centers.

CGIAR CENTERS	
CIAT	Centro Internacional de Agricultura Tropical (COLOMBIA)
CIFOR	Center for International Forestry Research (INDONESIA)
CIMMYT	Centro Internacional de Mejoramiento de Maiz y Trigo (MEXICO)
CIP	Centro Internacional de la Papa (PERU)
ICARDA	International Center for Agricultural Research in the Dry Areas (SYRIA)
ICLARM	World Fish Center (MALAYSIA)
ICRAF	World Agroforestry Centre (KENYA)
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics (INDIA)
IFPRI	International Food Policy Research Institute (USA)
IWMI	International Irrigation and Water Management Institute (SRI LANKA)
IITA	International Institute of Tropical Agriculture (NIGERIA)
ILRI	International Livestock Research Institute (KENYA)
IPGRI	International Plant Genetics Resources Institute (ITALY)
IRRI	International Rice Research Institute (PHILIPPINES)
ISNAR	International Service for National Agricultural Research (THE NETHERLANDS)
WARDA	West Africa Rice Development Association (COTE D'IVOIRE)

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To you, and to all senior managers of the CGIAR, our greatest hope is that this working paper will be useful to you.

Vicki Wilde
Program Leader
CGIAR Gender and Diversity Program

Executive summary

Executive summary

The Compensation Survey relevant to CGIAR internationally-recruited staff, conducted in 1999, presented an opportunity to update three earlier surveys on representation in the CGIAR Centers by gender and diversity of national origin. It also made possible an initial look, given limitations in the available data, at the question of equity in both compensation and classification in position groups (referred to in the following as "positional equity"). The survey can thus serve as a new baseline for the CGIAR Gender and Diversity Program, which was established on July 1, 1999, to succeed the Gender Staffing Program.

This report presents an analysis of the CGIAR System as a whole, providing general guidance to individual Centers and to the Gender and Diversity Program. However, since action to address questions related to gender and diversity lies with the management and boards of individual Centers, each unit of the System also will receive a Center-specific analysis of the issues covered in confidential reports to senior management.

In drawing a general profile of internationally-recruited staff members (IRS) in the CGIAR System, the report looks at representation by gender and by country of origin, using the World Bank's (WB) Part I, Part II designation. Part I includes generally industrialized, donor countries (predominantly northern), while Part II includes generally lesser developed countries that are the recipients of IDA loans (predominantly southern) (See Appendix 1 for list of countries by World Bank designation). The data show that the total complement of 966 IRS is comprised of 162 women (17 percent) and 804 men (83 percent). This is an increase in the percentage of women from the 1991 date when statistics were first collected. At that time, women represented 12 percent of total staff. The diversity of the staff has also increased, from 43 percent staff from WB Part II countries in 1991 to the current 47 percent.

Results of the survey data are also presented regarding the position group (See Appendix 2 for description of position groups) of staff members by gender and WB Part as well as disciplinary area, level of last degree, country of last degree, years of relevant professional experience, tenure at the respective Center, age and personal status.

The report scrutinizes the data, first with respect to gender, then with respect to diversity of country of origin. It considers the implications for the System's goal of representational

equity and puts forward a series of questions that invite further investigation at both Center and System level.

Section V presents an analysis of compensation and positional equity by gender and diversity, with "equal-pay-for-work-of-equal-worth" as the standard of compensation equity. Using regression analysis to control for permissible factors (position group, last degree acquired, years of relevant professional experience and tenure at the respective Center), it investigates how well the compensation and position group structure of the CGIAR System accords with this equity standard with respect to the following comparisons:

Women as compared to men;

Staff members of WB Part II origin as compared to staff members of WB Part I origin;

Staff members of WB Part II origin, who are now citizens of WB Part I countries, as compared to staff members who have both WB Part I origin and citizenship;

Staff members of WB Part II origin who are posted to their home regions as compared to other staff members of WB Part II origin (i.e. not posted to their home regions);

Staff members in each of the three disciplinary areas (I: management and information, II: social sciences, III: natural sciences) as compared to staff members in the other disciplinary areas.

The internationally-recruited staff members of the CGIAR System, in the aggregate, tend to have the following characteristics:

- Predominately male (83%);
- Fairly evenly divided between those from WB Part I and WB Part II countries, with 100 individual countries of origin represented;
- About half are in Position Groups IV (Senior Scientists/Professionals) and V (Scientists/Professionals), the levels where bench scientists tend to cluster (48%);
- A large majority are natural scientists (70%);
- Most hold PhD degrees (78%);
- PhDs and other terminal degrees tend to be from academic institutions in WB Part I countries (86%);
- Most have ten or more years of relevant professional experience (61%);
- They are relatively mature, with 53% over age 45, 92% over age 35;
- A substantial majority (80%) are accompanied at post by a spouse/partner, while 51% have children with them;
- About half have been at their respective Center fewer than three years (45 percent).

The report acknowledges that no data is available for two variables that would, and should, influence compensation and advancement to higher positions: merit or performance quality

and evidence of specific managerial skills (e.g. interpersonal or supervisory skills, the ability to manage financial resources) needed for positions increasing in responsibility and authority. It is important to note that there is no reason to believe the unmeasured variables would impact systematically across each Comparison.

With these caveats in mind, when controlled for the above-listed factors, the principal findings relative to compensation equity are:

- There is no significant difference in salary between groups in Comparisons A, C, D or E; (This is particularly encouraging with respect to Comparison A; the fact that the CGIAR Centers are largely equitable in their financial treatment of women professionals makes them exceptional in the world of science.)
- It appears that staff members of WB Part I origin have a highly significant salary advantage (6.5 percent) over staff coming from a WB Part II county.

In considering positional equity, the most significant findings are:

- Women are 12 percent less likely than men to be Research Program/ Administrative Heads or Principal Scientists (Position Groups II-III) or higher, and 15 percent less likely than men to be Senior Scientists/ Professionals (Position Group IV) or higher; although the CGIAR women are generally younger than the men, this finding remains true when the analysis is extended to include a control for age;
- Staff members from WB Part II countries are 14.9 percent less likely than those from WB Part I countries to be Senior Scientists/Professionals (Position Group IV) or higher, and 6.5 percent less likely to be Scientists/Professionals (Position Group V) or higher; when considered with age (WB Part II staff tend to be older), it appears this staff group has remained in a relatively steady state;
- Natural scientists are 15.3 percent less likely than other staff members to be Research Program/Administrative Heads or Principal Scientists (Position Groups II-III) or higher, and 19.6 percent less likely to be Senior Scientists/ Professionals (Position Group IV) or higher.

While there is good news in the findings of this survey to be celebrated, clearly results have emerged that suggest further investigation and assertive follow-up action on the part of the Gender and Diversity Program. Among the actions suggested are the following:

- Continue to expand and diversify recruitment strategies to "cast the net ever more widely" to attract more women natural scientists, more women social scientists and more women in the fields of management and information.
- Focus especially on the identification of sources of qualified women from developing countries (WB Part II countries).
- Explicitly support CGIAR women's advancement, aiming to bring more women into positions of mid-level and senior management.
- But also encourage training in managerial skills for men with degrees in the natural sciences.
- Research and communicate best practices of sister Centers and of other organizations with respect to policies, practices and workplace cultures to ensure that women are retained; include in-depth studies on work/family balance.
- Seek and promote ways to respond to the needs of dual-career families.
- Investigate more closely the question raised about the dominance of staff members with degrees from European and North American universities; consider a conscious effort to identify high value PhD programs offered by academic institutions in the South.
- Similarly, investigate more closely reasons for the disparity between WB Part I and Part II staff members in position levels above Scientists/Professionals (Position Group V), as well as apparent discrepancies in compensation for WB Part II staff members at all levels.
- Work to ensure accountability of CGIAR managers on gender and diversity issues.

CHAPTER 1: *Introduction*

Introduction

The CGIAR is sometimes perceived as an exclusive club of white males from selected United States universities. Is this true? Or does the CGIAR--as an international system covering five continents--fully tap into the global workforce to attract the world's best scientists and managers, regardless of nationality or gender, and, in turn, benefit from their diverse skills and perspectives. Are CGIAR women and men, and developing and developed country nationals, treated equitably in terms of compensation and position classification?

Based on a foundation of CGIAR data, there is encouraging news in this report. The facts show that not only are the Centers highly diverse in their staffing, they are largely equitable in their financial treatment of women professionals. That makes the CGIAR exceptional in the world of science. But the facts also show that progress is often much too slow, and that persistent issues of fairness require our immediate attention.

The CGIAR's Gender Staffing Program, the forerunner of the Gender and Diversity Program, conducted surveys in 1991, 1994 and 1997. Those surveys gathered data about the women and men among the internationally-recruited staff members (IRS), their nationalities, their hierarchical levels and the disciplines they represented. The System drew significant lessons from those numbers, including the need to search aggressively for new sources of female candidates. Now, a new CGIAR Human Resources Survey has been conducted and is presented in this paper. This survey was designed to update the earlier figures but, additionally, to take an intensive look at the question of equity in compensation and classification in position groups (referred to below as "positional equity") from the perspectives of both gender and diversity of national origin.

The Gender and Diversity Program began its on work July 1, 1999. It builds on the previous program while incorporating new objectives and strategies mandated by an Inter-Center Consultation held in The Hague in 1998. In its new incarnation, the Program will assist the 16 agricultural research centers of the CGIAR as they respond to the urgent need to attract, value and manage gender as well as all other attributes of staff diversity, and thus fully utilize the skills and resources found within a global workforce. Importantly, the Program will also be concerned with issues relevant to the Centers' nationally-recruited staff members (NRS). The survey reported

here, however, continues the original focus on those brought on board through international recruitment. It will serve as a new baseline for work to achieve "excellence through equity" for this group of staff members.

The data on which this report is based were collected from the Centers during the course of work on the recent CGIAR Compensation Survey and are comprised of figures valid as of September 1, 1999. The report takes a broad view of the CGIAR System as a whole. This is an important lens for the Gender and Diversity Program Leader and Advisory Board, and of undoubted interest to donors. However, since action to address gender and diversity issues lies with the management and boards of individual Centers, each unit of the System will also receive a Center-specific analysis of representation, compensation and positional equity using the statistical methodology of labor economics.

CHAPTER 2: *General profile of the internationally-recruited staff in mid-1999*

General profile of the internationally-recruited staff in mid-1999

Internationally-recruited staff members (IRS) totaled 966[1] in mid-1999, distributed among the 16 Centers as indicated in Table 1.

Table 1. *IRS by gender and World Bank Part, country of origin (percent representation at respective Center)*

Center	Total	Women	Men	WB Part I	WB part II
CIAT	84	19 (23%)	65 (77%)	47 (56%)	37 (44%)
CIFOR	35	10 (29%)	25 (71%)	23 (66%)	12 (34%)
CIMMYT	99	20 (20%)	79 (80%)	49 (49%)	50 (51%)
CIP	62	12 (19%)	50 (81%)	30 (48%)	32 (52%)
ICARDA	76	6 (8%)	70 (92%)	28 (37%)	48 (63%)
ICLARM	23	3 (13%)	20 (87%)	16 (70%)	7 (30%)
ICRAF	50	7 (14%)	43 (86%)	32 (64%)	18 (36%)
ICRISAT	47	4 (9%)	43 (91%)	22 (47%)	25 (53%)
IFPRI	67	19 (28%)	48 (72%)	45 (67%)	22 (33%)
IITA	100	18 (18%)	82 (82%)	53 (53%)	47 (47%)
ILRI	95	16 (17%)	79 (83%)	54 (57%)	41 (43%)
IPGRI	39	9 (23%)	30 (77%)	22 (56%)	17 (44%)
IRRI	104	11 (11%)	93 (89%)	48 (46%)	56 (54%)
ISNAR	37	6 (16%)	31 (84%)	24 (65%)	13 (35%)
IWMI	23	2 (9%)	21 (91%)	15 (65%)	8 (35%)
WARDA	25	0 (0%)	25 (100%)	8 (32%)	17 (68%)
TOTAL	*966*	*162 (17%)*	*804 (83%)*	*516 (53%)*	*450 (47%)*

In 1991, the CGIAR Centers employed 1,295 internationally-recruited staff members, including 153 women, 12 percent of the total. By 1994, with a slight overall decline to 1,224, the number of women had grown to 173 or 14 percent. Another small decline to 1,190 in 1997 saw a further increase in the number of women to 188 or 16 percent. Today, as shown in Table 1, the total of 966 includes 162 women, nonetheless an increase to 17 percent. The 25 percent reduction in the total staff during the eight years in question stems principally from constraints in System funding, but also in part from the increasing availability of well-trained, nationally-recruited scientists. Further analysis of attributes with respect to gender is in Section III.

Diversity over time is viewed in this report from a number of perspectives, detailed in Section IV. Worthy of note here (also in Table 1), is that current data counts 450 staff members, 47

[1] The actual total is 976; ten entries have been dropped from this analysis due to incomplete data.

percent of the total, as originally from World Bank Part II countries. The World Bank (WB) categorizes countries as Part I, generally industrialized countries that are donors to the International Development Association (IDA), and Part II, generally lesser-developed countries that are the recipients of IDA loans. A complete list of the WB Part I and Part II countries is in Appendix 1.

Although the earlier surveys did not use this World Bank indicator, they did take into account country and region of citizenship. The 1991 survey of 1,191 internationally-recruited staff members showed that 57 percent were citizens of Europe (358), North America (258), Australia/New Zealand (41) and Japan (20), while only 43 percent were from Asia/Oceania (204), Sub-Saharan Africa (159), the Latin American/Caribbean region (108) and West Asia/North Africa (43).

The tables and analyses in this survey report focus on country of origin rather than citizenship, in the belief that the former is the more relevant measure of ethnic diversity. Respondents were instructed to define and report "origin" as country of birth, unless that country did not represent the staff member's true nationality, e.g. those born as refugees or as the child of expatriates working abroad. In the end, however, the difference between origin and citizenship was slight. The survey found only a 3 percent net change of citizenship from WB Part II to WB Part I countries, four women and 26 men. Overall, the CGIAR System Centers employ staff members from 100 countries of origin (19 WB Part I, 81 WB Part II) who are citizens of 97 countries (18 WB Part I, 79 WB Part II).

In compiling data for this survey, respondents were asked to place their staff members in one of seven standardized position groups, carefully defined by levels of responsibility and authority as well as basic qualifications, in order to maximize the validity of comparison (see Appendix 2). This is at once the most important and most difficult part of any human resources survey, because personal judgement is determinate in the final analysis. However, the position classification system outlined follows a pattern that is generally, although not uniformly, applied in the Centers. The 1999 breakdown by position group is shown in Table 2. It is important to note that Position Group I, the Executive Staff level, does not include Directors General. There is currently one woman among the 16 Directors General in the CGIAR System.

There is a notable variation across Centers in the distribution of individuals into position groups. For example, IRRI and ILRI, respectively, have 72 percent and 74 percent of internationally-recruited staff members in Position Groups V,

VI and VII, whereas only 15 percent of ICRISAT's staff members occupy these position groups. In addition, ICARDA has only one out of 76 staff members in Position Group I, compared to ICLARM with 4 out of 23. This may reflect differences in the nature of the work being done by the Centers and the ratio of international to national staff members at these Centers, or it may stem from the difficulties of fitting the staffing scales of disparate organizations into the same taxonomy.

Table 2. *Position group of IRS by gender and World Bank Part,country of origin (percent of group)*

Position Group	Total	Women	Men	WB Part I	WB Part II
I Executive Staff	61	5 (8%)	56 (92%)	37 (61%)	24 (39%)
II Research/Admin. Heads	117	13 (11%)	104 (89%)	61 (52%)	56 (48%)
III Principal Scientists	126	8 (6%)	118 (94%)	63 (50%)	63 (50%)
IV Sr. Scientists/Profs.	238	34 (14%)	204 (86%)	140 (59%)	98 (41%)
V Scientists/Professionals	225	47 (21%)	178 (79%)	124 (55%)	101 (45%)
VI Assoc. Scientists/Profs.	80	23 (29%)	57 (71%)	45 (56%)	35 (44%)
VII Post-doctoral Fellows	119	32 (27%)	87 (73%)	46 (39%)	73 (61%)
TOTAL	966	162 (17%)	804 (83%)	516 (53%)	450 (47%)

Staff disciplines recorded in the survey were coded into three general categories, as shown in Table 3: I, fields relevant to management and information sciences; II, social sciences; III, natural sciences. Table 3 displays the breakdown of disciplinary area by gender and World Bank Part in 1999. A review of past surveys indicates that there has been a growth in the percentage of social scientists compared to natural scientists, the result of an increasing recognition of the role of policy research in development impact. In 1991, 77 percent of staff members were natural scientists, while 14 percent were social scientists. By 1999, natural scientists represented 70 percent, and social scientists represented 21 percent of the total staff complement. The share of the staff population with management or information science degrees has remained roughly constant.

Table 3. *Disciplinary area of IRS by gender and World Bank Part, country of origin (percent in area)*

Disciplinary Area	Total	Women	Men	WB Part I	WB Part II
I Mgmt./Inform.	88	28 (32%)	60 (68%)	56 (64%)	32 (36%)
II Social Sciences	204	47 (23%)	157 (77%)	120 (59%)	84 (41%)
III Natural Sciences	674	87 (13%)	587 (87%)	340 (50%	334 (50%)
TOTAL	966	162 (17%)	804 (83%)	516 (53%)	450 (47%)

Table 4 provides a breakdown of internationally-recruited staff members according to the level of last degree received. The most notable feature is the increase in the percentage of staff members with PhD degrees, from 73 percent in 1991 to 78 percent in 1999, with a corresponding decrease in percentage of those with master's degrees.

Table 4. *Degree level of IRS by gender and World Bank Part, country of origin (percent holding respective degree)*

Degree	Total	Women	Men	WB Part I	WB Part II
PhD or equivalent	757	103 (14%)	654 (86%)	385 (51%)	372 (49%)
MA/MS or equiv.	109	34 (31%)	75 (69%)	71 (66%)	37 (34%)
BA/BS or equiv.	46	11 (24%)	35 (76%)	28 (61%)	18 (39%)
Other	54	14 (26%)	40 (74%)	31 (57%)	23 (43%)
TOTAL	966	162 (17%)	804 (83%)	516 (53%)	450 (47%)

In Table 5, "Years of relevant professional experience" represents the number of years since achieving the last degree, adjusted to take account of the length of the respective program. This assumed that staff members had been employed in their professions without interruption since receiving their degrees.[2] The numbers were derived by subtracting the reported date of last degree from 2000. To account for the time taken to achieve a PhD, four years were subtracted from the resulting number in the case of those whose last degree was reported as "master's or equivalent" and "other". Five years were subtracted in the case of those at the bachelor's level.[3] Using this computation, 36 percent of staff members have between 10 and 19 years of experience, while 25 percent have 20 or more years, 21 percent have from 5 to 9 years, and 18 percent have fewer than five years experience. Fully 60 percent bring more than ten years of experience to their current work at the Centers.

Table 5. *Years of relevant professional experience, by gender and World Bank Part, country of origin (percent of experience cohort)*

Number	Total	Women	Men	WB Part I	WB Part II
Less than 5	175	53 (30%)	122 (70%)	100 (57%)	75 (43%)
5 to 9	207	44 (21%)	163 (79%)	114 (55%)	93 (45%)
10 to 19	346	46 (13%)	300 (87%)	198 (57%)	148 (43%)
20 or more	238	19 (8%)	219 (92%)	104 (44%)	134 (56%)
TOTAL	966	162 (17%)	804 (83%)	516 (53%)	450 (47%)

The principal message that emerges from the tenure profiles in Table 6 is one of brevity. Almost one half of the

[2] This is a reasonable assumption in the case of CGIAR staff. Although women are more likely than men to take time out of their careers (typically for child rearing), a relatively small percentage of female staff in the Centers has children (see table 11).

[3] For comparison, John J. Siegfied and Wendy A. Stock, "The Labor Market for New PhD Economists," *Journal of Economic Perspectives*, vol. 13.3 (1999), pp. 115-34, report that those receiving US economics PhD's in 1986 had taken an average of 6.3 years from the bachelor's level.

internationally-recruited staff members (45 percent) have assumed their current positions within the last three years prior to the survey date. High turnover could be a consequence of the success of the CGIAR System in recruiting first-class scientists and managers; good people move around because they can.[4] When compared with years of relevant professional experience in Table 5, these profiles suggest that many new recruits are already well along in their careers.[5] Tenure is another important area of variability across Centers, however. ICRAF has recruited 30 percent of its international staff members in the last four years. For IWMI, this figure is 74 percent.

Table 6. *Tenure at Center by gender and World Bank Part, country of origin (percent of tenure cohort)*

Years	Total	Women	Men	WB Part I	WB Part II
Less than 1	111	18 (16%)	93 (84%)	55 (50%)	56 (50%)
1 to 3	325	73 (22%)	252 (78%)	192 (59%)	133 (41%)
4 to 6	166	27 (16%)	139 (84%)	95 (57%)	71 (43%)
7 to 9	119	9 (8%)	110 (92%)	58 (49%)	61 (51%)
10 or more	245	35 (14%)	210 (86%)	116 (47%)	129 (53%)
TOTAL	966	162 (17%)	804 (83%)	516 (53%)	450 (47%)

Table 7, which highlights the IRS by age group, indicates that 53 percent are between the ages of 45 and 65, the retirement age mandated by many Centers, with 92 percent over age 35. These figures tally with the findings relevant to years of experience.

Table 7. *Age of IRS by gender and World Bank Part, country of origin (percent of age cohort)*

Years	Total	Women	Men	WB Part I	WB Part II
25-34	81	27 (33%)	54 (67%)	51 (63%)	30 (37%)
35-44	373	81 (22%)	292 (78%)	235 (63%)	138 (37%)
45-54	388	44 (11%)	344 (89%)	183 (47%)	205 (53%)
Over 55	124	10 (8%)	114 (92%)	47 (38%)	77 (62%)
TOTAL	966	162 (17%)	804 (83%)	516 (53%)	450 (47%)

[4] The kind of turnover implied in Table 6 is not unusual. In the US, about 30 percent of workers are not in the same job one year later. This figure includes reasons for which worker and job separate, i.e. job destruction, resignation, termination, retirement and layoff. See S.J. Davis and J. Haltiwanger, "Gross job creation, gross job destruction and employment reallocation," *Quarterly Journal of Economics*, vol. 107 (1992), pp. 819-63.

[5] The survey asked only when staff members had been employed at their current Center, although it is known that an indeterminate number have moved from Center to Center in the course of their careers.

A set of comprehensive tables laying out system wide findings on a range of variable staff attributes in 1999 is in Appendix 3, while Appendix 4 includes data from the three prior surveys. The attributes selected for analysis in the sections that follow, and the grouping within attributes, are those that the authors consider most illustrative of the issues under consideration, recognizing that other perspectives are possible. A complete list of the fields used in the survey is in Appendix 5. The Gender and Diversity Program will provide assistance in utilizing the 1999 survey data for different analyses upon request.

All of the attributes discussed above, together with those referred to in Sections III and IV, play a role in the statistical analysis of compensation and positional equity presented in Section V.

The internationally-recruited staff members of the CGIAR System, in the aggregate, tend to have the following characteristics:

- Predominately male (83%);
- Fairly evenly divided between those from WB Part I and WB Part II countries, with 100 individual countries of origin represented;
- About half are in Position Groups IV (Senior Scientists/Professionals) and V (Scientists/Professionals), the levels where bench scientists tend to cluster (48%);
- A large majority are natural scientists (70%);
- Most hold PhD degrees (78%);
- PhDs and other terminal degrees tend to be from academic institutions in WB Part I countries (86%);
- Most have ten or more years of relevant professional experience (61%);
- They are relatively mature, with 53% over age 45, 92% over age 35;
- A substantial majority (80%) are accompanied at post by a spouse/partner, while 51% have children with them;
- About half have been at their respective Center fewer than three years (45%).

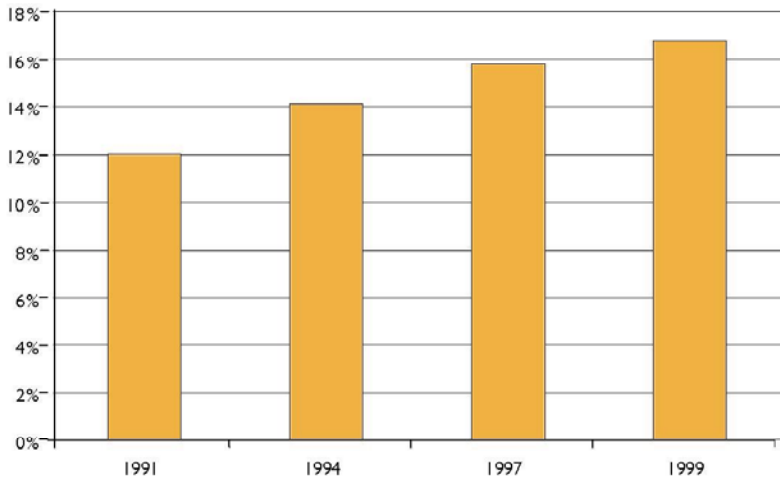
CHAPTER 3: *Gender profile and issues*

Gender profile and issues

The examination of gender in the CGIAR Centers focuses on two issues. First is the matter of gender representation, which looks at the numbers within the internationally-recruited staff complement of the System and in individual Centers. Second, there is the matter of gender equity of opportunity.

As seen in Table 1, women now represent 17 percent of the IRS, an increase from 12 percent in 1991, when the focus on gender was first sharpened. This, in all likelihood, reflects the effort in the Centers to "cast the net widely"[6] as they recruit new staff. Nonetheless, the progression has been slow, as highlighted in the bars of Chart I

Chart 1. *Percent of women among internationally-recruited staff in the CGIAR system by survey date*



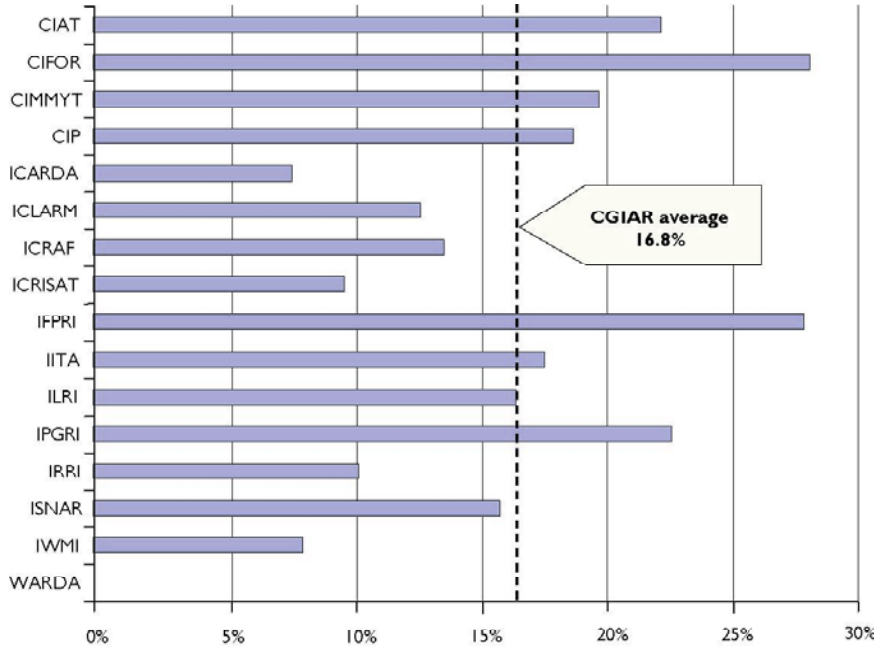
Some Centers have been more successful than others in recruiting women, again as seen in Table 1 and in Chart 2 below. Currently, CIFOR with 29 percent female staff members, IFPRI with 28 percent, CIAT and IPGRI, each with 23 percent, are ahead of other Centers. ICRISAT and IWMI, each with 9 percent female staff members, ICARDA with 8 percent and WARDA, without female representation at the moment, fall well below the System average. The question is, why are women so underrepresented in certain Centers? Is it insufficient effort to recruit? Is the alleged "old boys network" operative here? Or, do other factors constrain the numbers?

A look at representation by national origin, for example, tells a different and more positive story. Table 1 indicates that the internationally-recruited staff members are fairly evenly

[6] This is a phrase adopted by the original Gender Staffing Program to refer to the need to seek female candidates from new and previously untapped sources.

divided between those originally from countries in WB Part I and those from WB Part II countries. The current 47 percent WB Part II representation is an increase from 43 percent in 1991, a laudable move toward an important System objective. In this case, WARDA with 68 percent and ICARDA with 63 percent exceed the average.

Chart 2. *Representation of women across centers*

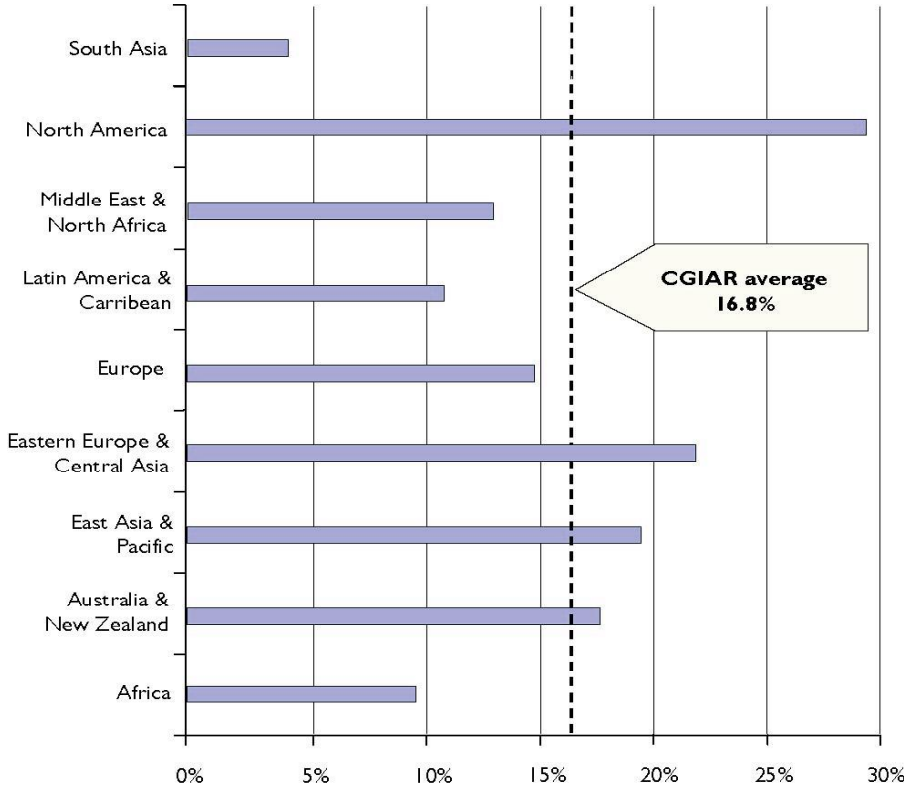


It appears that achievement of diversity by national origin is more easily attained at this point than gender balance. For example, Table 8 shows that, while men are evenly divided between WB Part I and WB Part II countries, only 31 percent of women are from WB Part II countries, with 69 percent from WB Part I countries. From another perspective, women represent 22 percent of the total WB Part I complement, but only 11 percent of the WB Part II total. Chart 3 looks at the origin of women from a regional perspective.

Table 8. *Country of origin of IRS by World Bank Part (percent of gender)*

Gender	Total	Country of origin	
		WB Part I	WB Part II
Women	162	111 (69%)	51 (31%)
Men	804	405 (50%)	399 (50%)
Total	966	516 (53%)	450 (47%)

Chart 3. *Percent of female staff by region of country of origin*



Part of the explanation here comes from the nature of the Centers' research work itself. The under-representation of women in science is very much an international phenomenon. In a table of female members of national scientific academies that appeared in the journal *Nature,*[7] the percentage of women among these senior scientists did not exceed 14.6 percent for any country listed. The highest percentage was, indeed, for Turkey, but other WB Part II countries showed far lower percentages. India, for example, reported 3.1 percent women among its senior scientists; China reported 5.1 percent, and the Third World Academy of Sciences showed 3.9 percent.

It is reasonable to assume that the figures will change as younger generations move into senior positions. According to the same report, the US National Academy of Sciences has only 6.2 percent women among its members, while the US National Science Foundation reported in 1995 that, of all people with PhDs employed in the US in the life sciences, 24 percent are women; in the social sciences, the percentage is 31 percent.[8]

Table 9 reports the UNESCO Gender Parity Index (GPI) for various parts of the world. The GPI is a measure of female access to education: the secondary education enrolment ratio for girls divided by the enrolment ratio for boys. Except for the

[7] "Gender discrimination 'undermines science'," *Nature*, vol. 402, 25 November 1999.
[8] National Science Foundation/SRS 1995 SESTAT Integrated Data Files.

East Asia and Pacific region (which unlike the UNESCO figure includes Japan), there is surprisingly strong accord between high school attendance by girls and the CGIAR representation of women. Those regions of the world where girls go on to secondary school tend to have a higher proportion of women among the internationally-recruited staff members.

Table 9. *Gender parity index for various parts of the world, 1992*[9]

Region	Gender Parity Index
Developed Countries	1.03
Sub-Saharan Africa	0.78
Arab States	0.78
Latin America/Caribbean	1.09
Eastern Asia/Oceania	0.85
Southern Asia	0.63
World Average	0.85

Some of the international organizations that strive for national diversity also have been notably successful in improving their gender balance (see Table 10). On the whole, however, the staff members of these institutions are recruited from a broader range of disciplines than is the case with the CGIAR Centers.

Table 10. *Gender profile of staff in international organizations*[10] *(percent female staff)*

Organization	Management	Professional
UNDP*	25.2	34.5
UN Secretariat**	24.6	38.1
World Bank**	19.0	35.4
IADB*	11.9	35.5
FAO**	9.6	23.5
African Dev. Bank*	8.9	22.0
Asian Dev. Bank**	0.0	22.0
*12/98 **12/99		

The figures in Table 10 prompt a second look at the gender aspects of Table 2. Table 2 shows the breakdown of CGIAR staff members by position group. "Management" in the United Nations personnel system includes staff in levels D1 and D2; "professional" includes those classified as P1 through P5.[11] It is thus apparent that these organizations have brought a higher percentage of women into the managerial ranks than have the CGIAR Centers.

Currently, women at the Centers fill only 8 percent of Position Group I, i.e., Executive Staff, and 11 percent of the jobs ranked in Position Group II, i.e., Research Program and Administrative

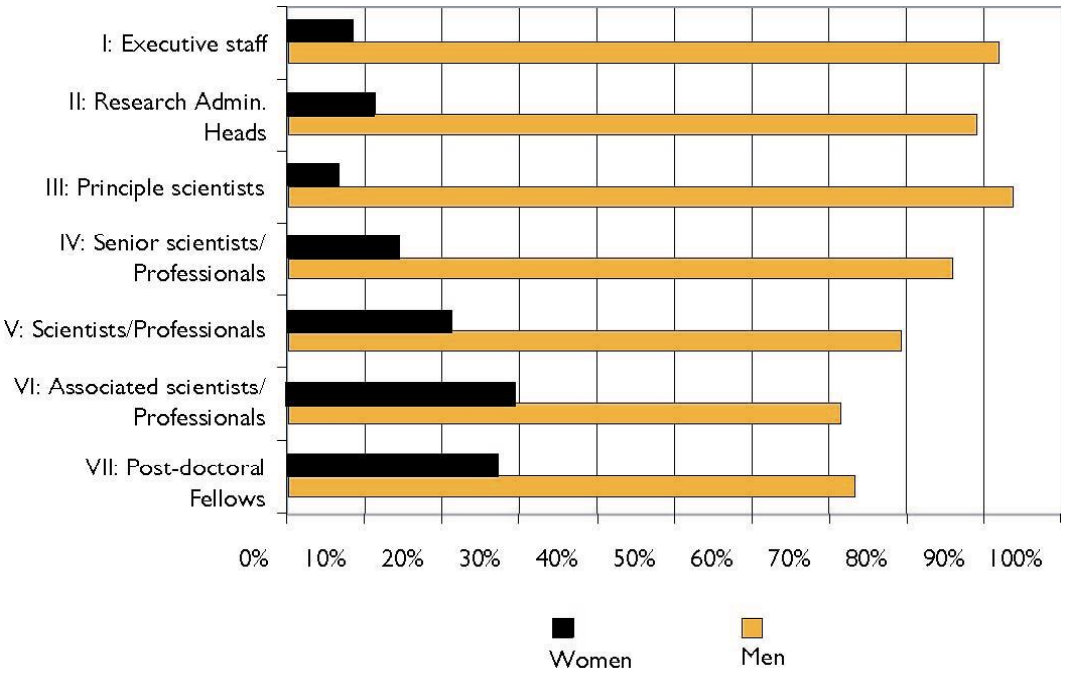
[9] UNESCO World Education Report 1995.

[10] Organizational Gender Issues Network, ORIGIN, Member Fact Sheet, 1999.

[11] United National human resources staff compare CGIAR Position Group I to D2, Position Groups II and III to D1, and Position Groups IV through VII to P5 through P2. CGIAR women comprise 8.5 percent of the staff in Position Groups I, II and III, comparable to UN D1 and D2 as in "Management" in Table 10. See 1999 CGIAR Compensation Survey.

Heads. In 1991, the figures were 2 percent and 6 percent, respectively. This shows an increase, but somewhat smaller than might have been expected, given the focus on this issue and the management training directed to women over these years. Chart 4 highlights this issue.

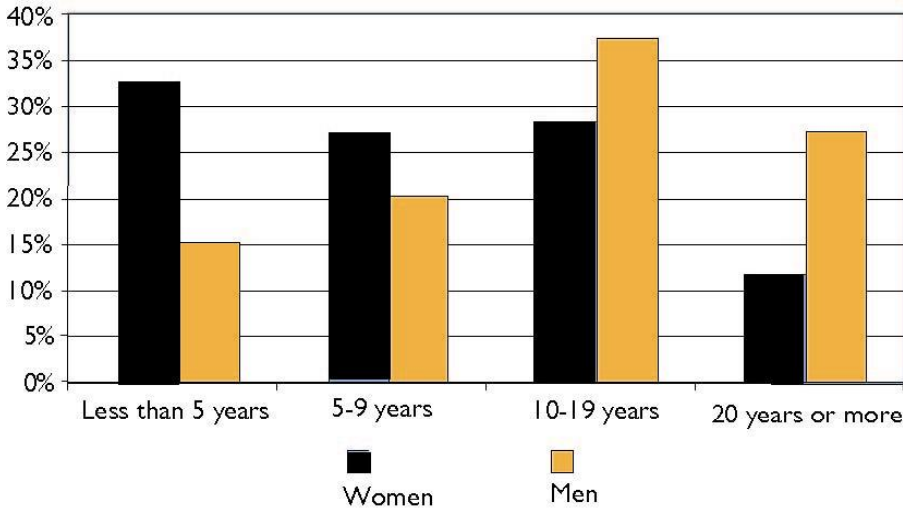
Chart 4. *Percent of women and men in each position group*



There is a harbinger of change in this matter of gender balance, because women in the CGIAR System tend to be younger and have fewer years of relevant professional experience than the men. The figures in Tables 5 and 7, viewed from another perspective, show that 60 percent of women have from zero to 9 years of experience, while 35 percent of men are in this cohort. In addition, 67 percent of women are under age 44, as compared to 43 percent of men. Chart 5 depicts the experience comparison.

The figures in the survey data set display a relationship between disciplinary area and degree level by gender. Women are more highly represented than men in the fields of management and information (17 percent of women to 7 percent of men), where the terminal degree is likely to be at the master's level. This at least partially explains the disparity in percentages holding the PhD: 81 percent of men and 64 percent of women (see figures in Table 4).

Chart 5. *Comparing years of relevant professional experience for women and men*



Women are also more likely than men to be in the social sciences (29 percent of women to 20 percent of men), and, concomitantly, less well represented in the natural sciences (54 percent of women to 73 percent of men; see results reported in Table 3). The introduction of new disciplines into Center research may have helped open the door to female candidates, but in addition, the pool of qualified women in the natural sciences is growing rapidly. According to the National Science Foundation in the United States, for example, only 4 percent of the doctoral degrees awarded by US universities in agricultural sciences went to women in the early 1970s. By the early 1990s, that number had increased to 19 percent. In the biological sciences relevant to Center research, women earned 20 percent of the doctorates in the early 1970s, 40 percent by the early 1990s; in the socio-economic disciplines, the percentages increased in the same period from 15 percent to 35 percent.[12]

Chart 6 and the survey results presented in Table 6 compare the tenure distributions of women and men. In 1999, the rate at which women were hired was in line with their representation in the CGIAR System as a whole. However, the fact that 45 percent of women and only 31 percent of men in the System had been hired between 1 and 3 years prior to the survey is indicative of a conscious effort to recruit women. Whether this effort is likely to have a long-term effect depends on the retention rate of women versus men. If women do not remain in the System as long as men, a higher recruitment rate is required just to keep their representation constant.

[12] D. Merrill-Sands, "1997 CGIAR Human Resources Survey".

Chart 6. *Comparing tenure: distribution of women and men across tenure ranges*

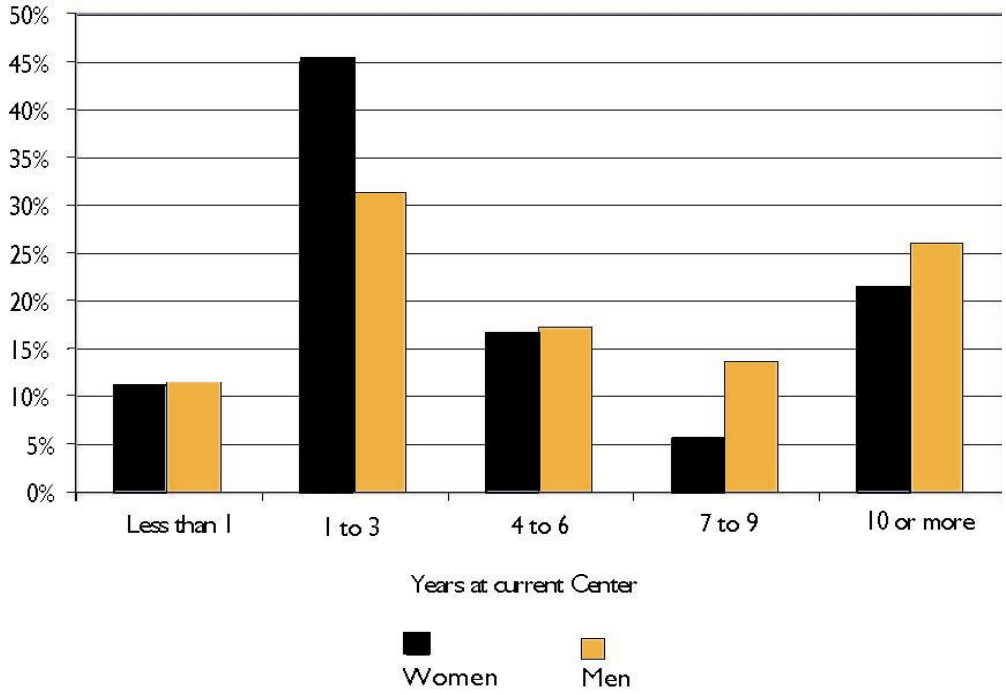


Chart 7 provides a comparison of retention profiles. The profiles are calculated by looking back at the tenure histograms from previous survey summaries. For instance, in 1991, there were 377 male staff members who had been at their Centers for between 1 and 3 years. These men, therefore, had begun their employment in 1988, 1989 or 1990. The 1999 survey reports that 79 current male employees joined their Center in those years. Thus the retention rate for men since 1991 is 21 percent. The profiles indicate that, over the long-term (since 1991), women have not been leaving any faster than men.

However, considering the specific staff members who had been at their Centers for between 1 and 3 years when the 1994 survey was conducted, there is a large and unexplained disparity in the proportion of those women and men who have been retained through 1999. If the higher rate of hiring of women evident in Chart 6 is to translate into higher overall female representation, the issue of the retention of women must be addressed.

Section V will look at whether equal qualifications, of which degree level, years of relevant professional experience and tenure at the Center are the most important factors, result in compensation and positional equity for women and men.

Chart 7. *Comparing retention profiles: percent of women and men recorded as having tenure in the range 1-3 years and who will remain at their Center, by original survey date*

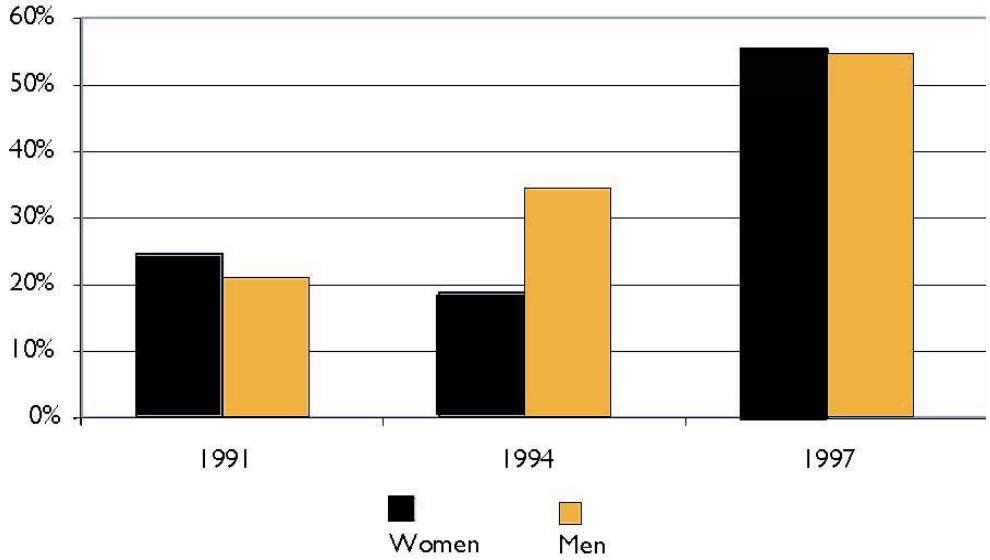


Table 11 compares the personal status of internationally-recruited women and men, highlighted in Chart 8. According to survey data, women are much more likely to be single, widowed or divorced, which is to say living alone at their posting, than men. For both groups, those who have a spouse or partner have a higher than 90 percent chance of being accompanied to the post, but women have a slightly higher probability (9.4 percent) of living apart from their spouse or partner than men (7.6 percent).

Table 11. *Personal status of IRS (percent of number of staff)*

		Marital Status			Children	
Gender	Total	Spouse/ partner in residence	Spouse/ partner *not* in residence	Single/ divorced/ widowed	Residing at post	*None* at post
Women	162	96 (59%)	10 (6%)	56 (35%)	59 (36%)	103 (64%)
Men	804	681 (85%)	56 (7%)	67 (8%)	438 (54%)	366 (46%)
TOTAL	966	777 (80%)	66 (7%)	123 (13%)	497 (51%)	469 (49%)

Women are also less likely to have children in residence with them at post. Although 59 percent are married, only 36 percent are accompanied by children. This disparity could be due to the fact that women in the CGIAR System are younger than the men, but it is not so. Chart 9 investigates this by plotting parental status by age and gender. The hypothesis is not supported by the data, surprisingly, since men in the System appear to have children at a younger age than do the women.[13]

[13] Although the survey only asked whether or not staff had children with them in residence at post, there is no reason to believe that women are more likely to live apart from their children than men.

Chart 8. *Comparing personal status of women and men*

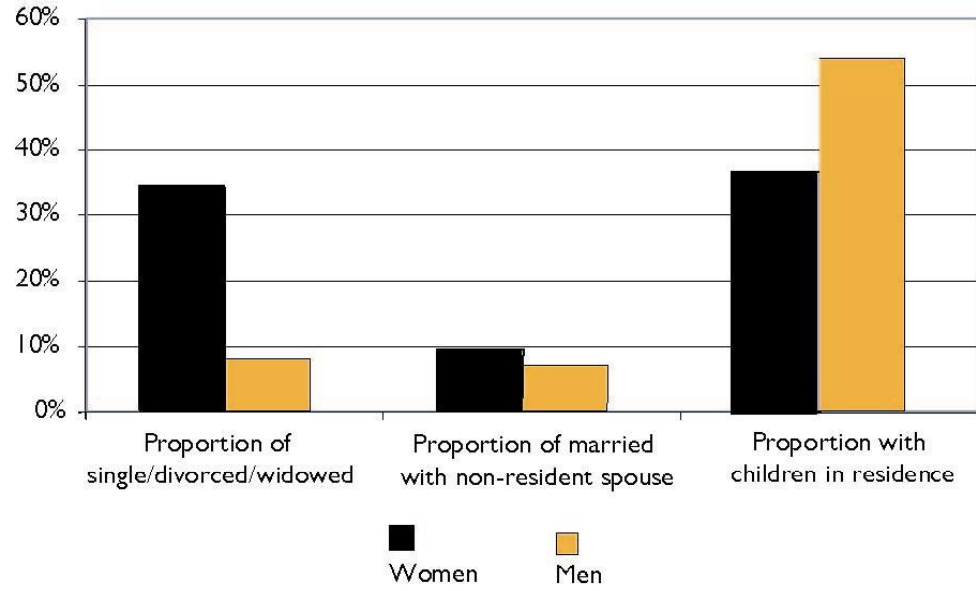
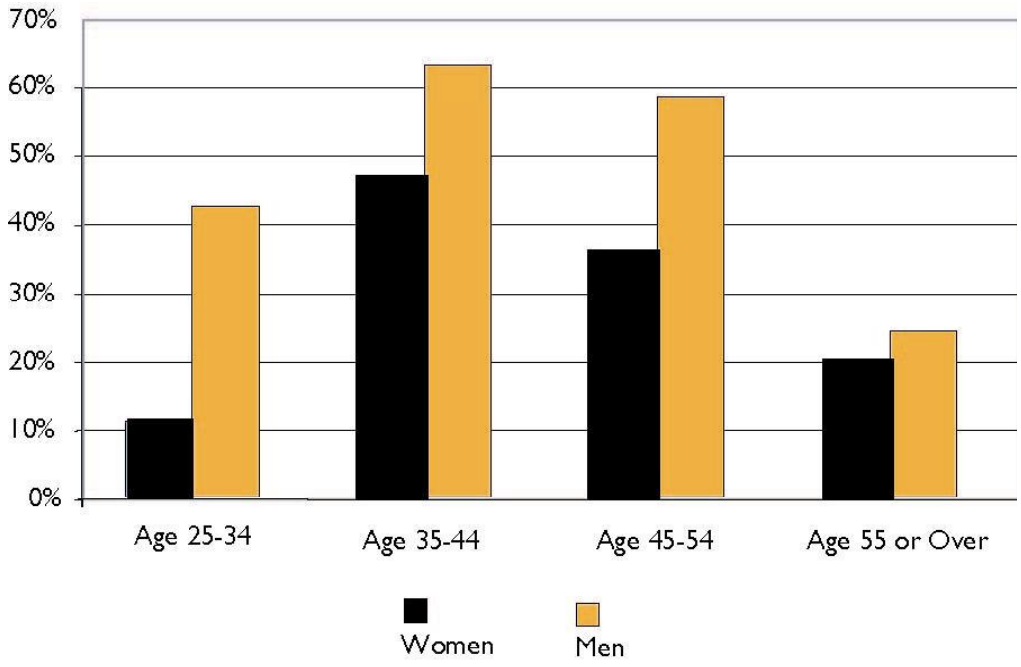


Chart 9. *Percent of women and men in each age group with children in residence*



The results reported in Table 11 and Chart 8 bring into focus one of the most difficult issues relative to the recruitment and retention of women faced by the System, one that is changing but likely to be around for another generation. The increasing number of dual-career families and the difficulty of finding suitable employment for the spouse/partner of Center staff members is a constraint to the recruitment/retention of men, to be sure. But it is far more of a constraint to the recruitment/retention of women, for societal reasons in all

parts of the world. Spouses and partners of staff members at Centers located in major cities, as are the international organizations referred to above, have a better chance of finding career opportunities than those in more remote postings. In the remote postings especially, job opportunities are fewer and/or spouse employment often is not legally permissible. Some Centers have developed spouse/partner employment policies and services that address this issue, but the search for creative responses to this real problem must proceed unabated.

The analysis of data on women's representation, leaves the Centers with several vital questions:

Since gender balance among internationally-recruited staff appears more difficult to achieve than balance by national origin, what new recruitment techniques can be designed to uncover the sources of qualified WB Part II women?

What new recruitment techniques can be designed to attract more women natural scientists? More women social scientists? More women in the fields of management and information?

Is there a bias against women when it comes to the recruitment for, or promotion to, top management positions?

What changes are needed in Center policies, practices and work culture to ensure that women are retained?

What changes in host country relationships or in Center services are required to respond to the needs of dual-career families?

Are IRS women discouraged from childbearing by some unspoken convention? If so, what can be done to change this?

CHAPTER 4: *Diversity profile and issues*

Diversity profile and issues

The two issues examined in regard to staff diversity are the same as those examined with respect to gender: is there appropriate representation and is there equity of opportunity?

As Table 1 shows, 47 percent of the internationally-recruited staff members are originally from countries classified by the World Bank as Part II. This is an increase from the 43 percent reported by the 1991 survey and a positive development from the System perspective. Nonetheless, the distribution across Centers is less favorable (see also Chart 10 below). While WARDA and ICARDA have 68 percent and 63 percent WB Part II staff members, respectively, ICLARM has only 30 percent, and CIFOR and IFPRI have 33 percent each. Gender questions posed in Section III are relevant here, however, as WARDA has no IRS women on staff and ICARDA only 8 percent.

As discussed in Section III, statistics tell only part of the story. Certainly, the needs of any given Center at a particular point in time, and the characteristics of the pool from which candidates in a specialized field must be drawn, are the critical factors in any recruitment effort. Percentage "quotas" are not the objective.

Beyond the rubric of World Bank Part, representation across world regions is of interest and is depicted in Charts 11 and 12. Chart 11 highlights the fact that 37 percent of WB Part II staff members originally come from countries in Africa; Chart 12 portrays the dominance of Europeans among WB Part I staff.

Chart 10. *Representation of WB Part II staff across Centers*

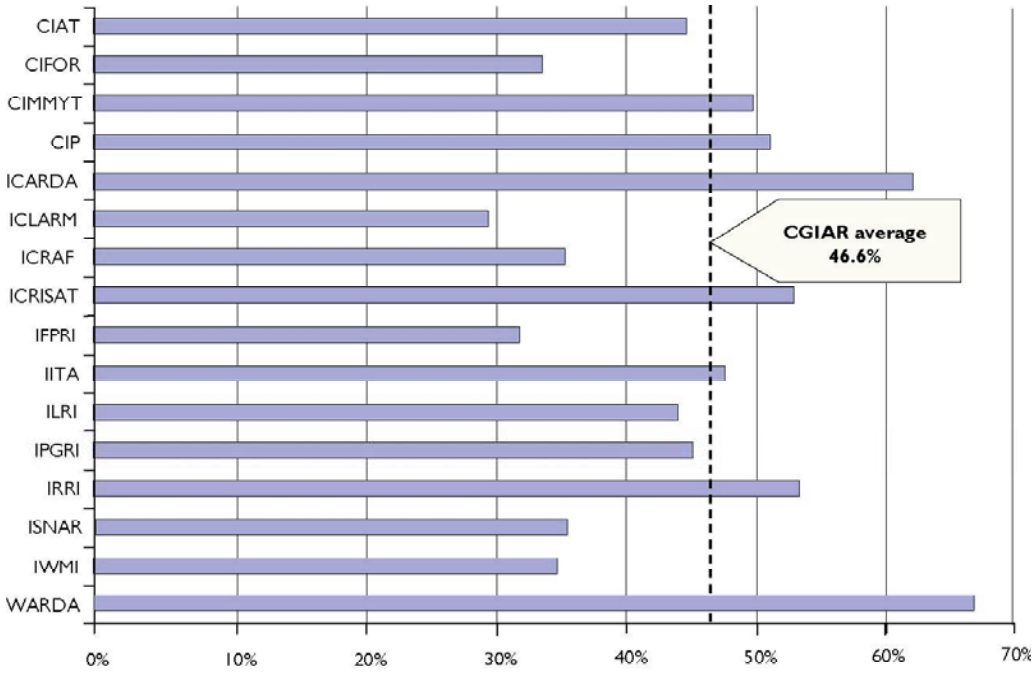


Chart 11. *Percent of WB Part II by region of country of origin*

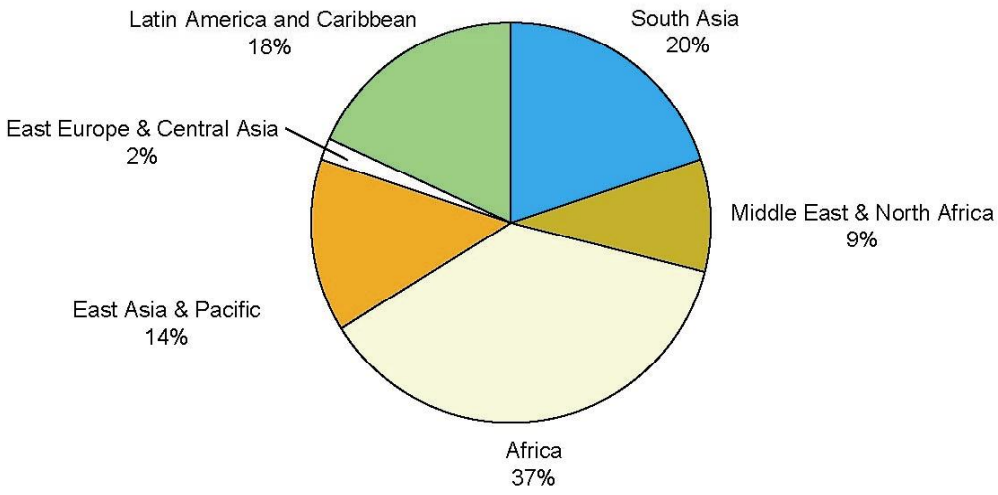
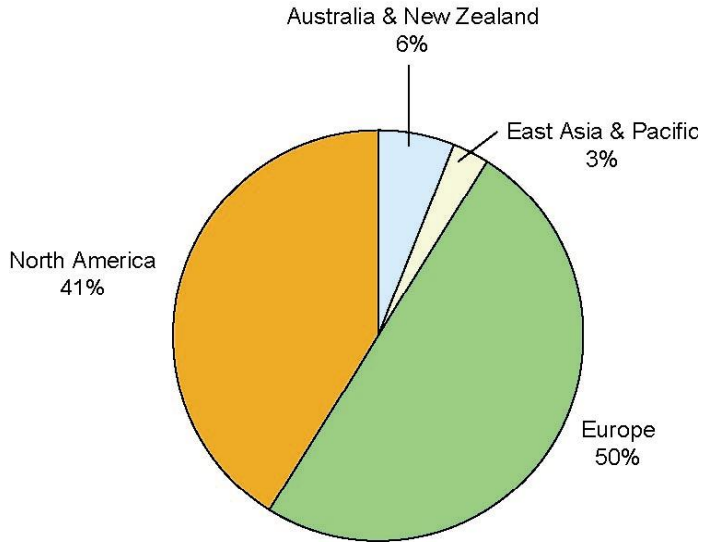


Chart 12. *Percent of WB Part I by region of country of origin*



One of the major diversity issues ("is there appropriate representation?") arises in Table 12. Table 12 looks at the country of last degree and country of origin by World Bank Part. The results show that, with a roughly equivalent split between WB Part I and Part II staff members, 86 percent have their last degree from countries in WB Part I, while only 14 percent have their degrees from WB Part II countries.

Table 12. *Country of last degree and origin by World Bank Part(percent of gender)*

Gender	Total	Country of Degree		Country of Origin	
		WB Part I	WB Part II	WB Part I	WB Part II
Women	162	144 (89%)	18 (11%)	111 (69%)	51 (31%)
Men	804	689 (86%)	115 (14%)	405 (50%)	399 (50%)
Total	966	833 (86%)	133 (14%)	516 (53%)	450 (47%)

Chart 13. *Regional comparison: country of last degree vs. country of origin*

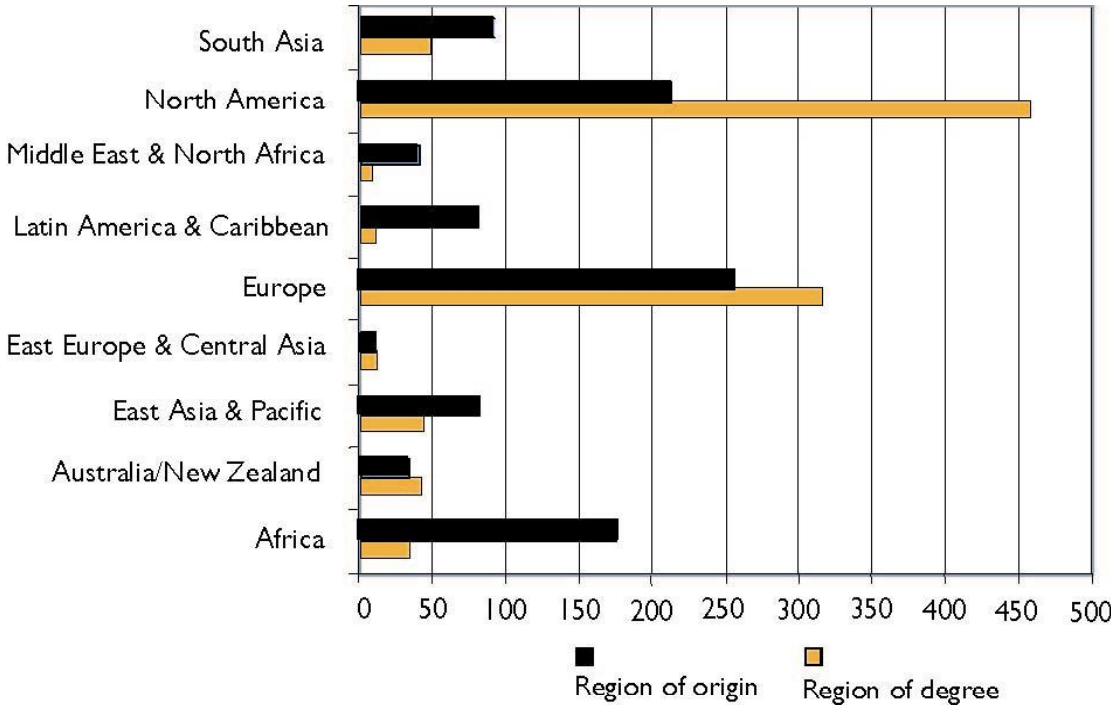


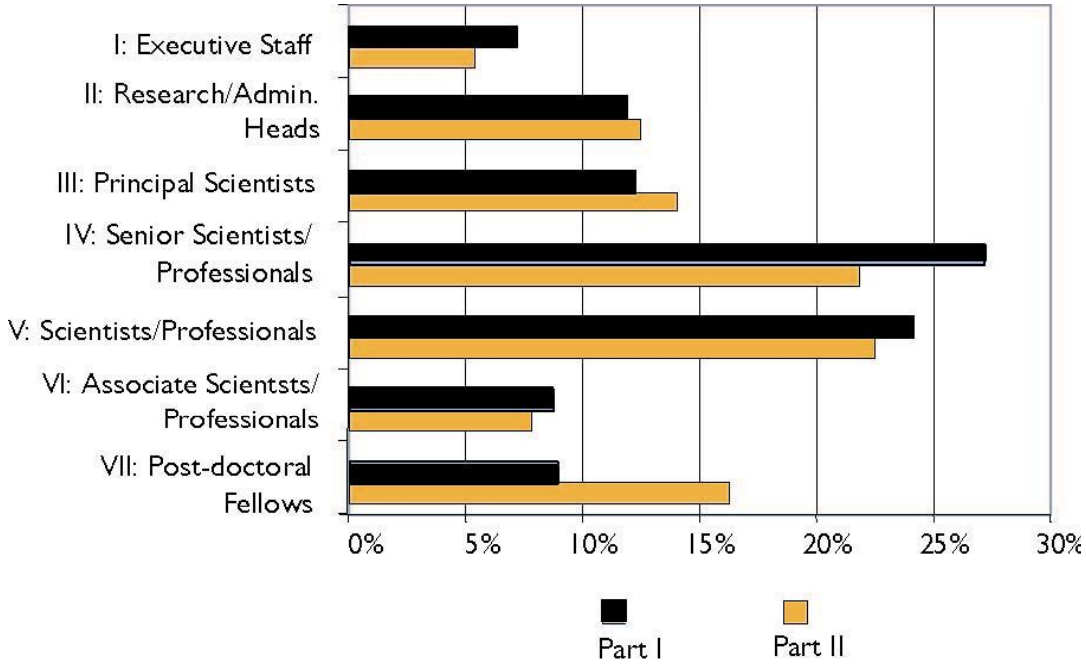
Chart 13 looks at the same question from a regional perspective. It shows that, although 90 internationally-recruited staff members are originally from countries in South Asia, only 47 completed their last degrees in the region. Of the 173 internationally-recruited staff members from countries in Africa, all but 33 took their degrees elsewhere. In fact, 80 percent of current IRS have terminal degrees from either European (315 or 33 percent) or North American universities (457 or 47 percent), while only 48 percent of the staff members are originally from countries in those regions.

Clearly, students from a number of countries must look outside to pursue higher studies, either because opportunities are not available in their country or region, or not available in the specialization sought. What must be considered is whether there is an unjustified predilection in the recruitment process to

discount advanced study from WB Part II countries and to favor candidates who bring degrees from Europe or North America.

Table 2 and Chart 14 show a breakdown of internationally-recruited staff members by position group, and both show little difference worthy of note except for Position Groups I and VII. At the Executive Staff level, Position Group I, albeit a small group overall, 61 percent of the positions are held by staff members from WB Part I countries, 39 percent by staff members from WB Part II countries. Among the Post-doctoral Fellows, exactly the reverse percentages are evident.

Chart 14. *Percentage of WB Part I and II staff in each group*



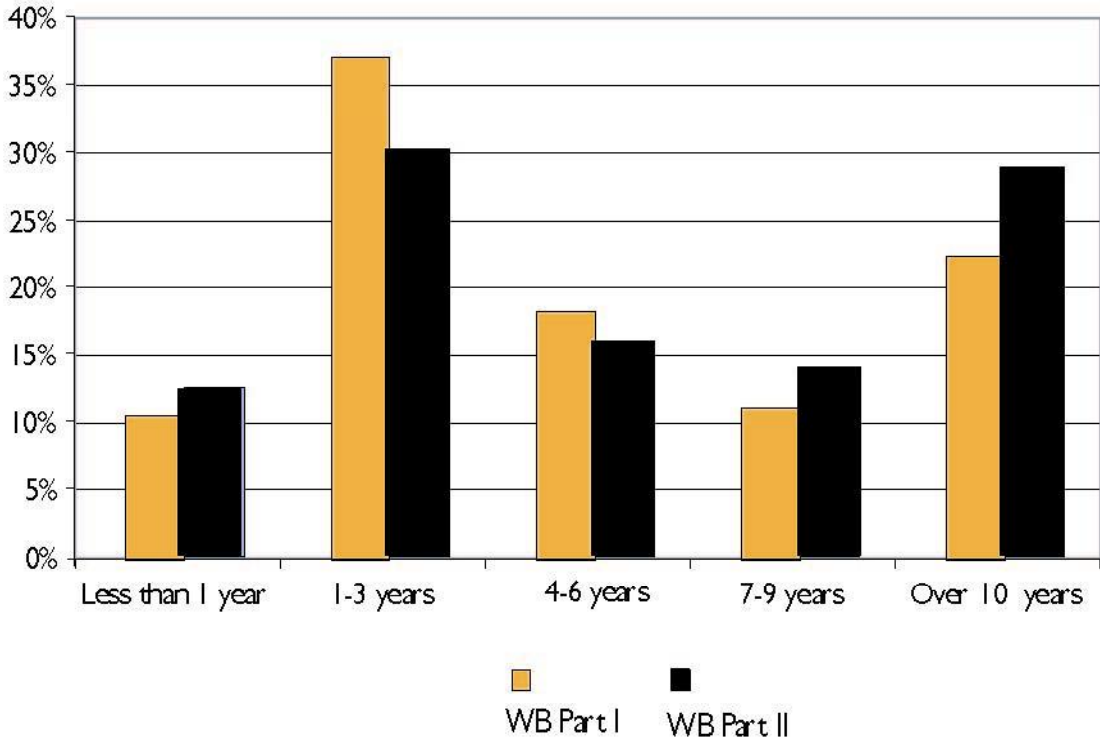
A review of the results reported in Table 5 (on years of relevant professional experience) reveals close parity of those from WB Parts I and II countries, while that of the results on Table 7 (on age) indicates that WB Part II staff tend to be somewhat older than those from WB Part I countries. Only 37 percent of all staff members under age 45 are from WB Part II countries, while 55 percent of staff members over age 45 come from these countries. On average, staff members from WB Part II countries are 46.9 years old, 2.8 years older than their WB Part I colleagues.[14] The gender discussion in Section III noted

[14] Both these differences between means are statistically significant at the 95% confidence level.

that the comparative youth of female staff, in age and experience, could augur a future increase in the percentage of women on the Executive Staff. In this case, the parity of WB Parts I and II staff in experience, taken with the greater age of those in WB Part II, may suggest the need to review promotion and recruitment criteria for top management positions.

Again, disciplinary area and degree show a relationship (see Tables 3 and 4). Only 7 percent of all WB Part II staff members are in the fields of management or information, with a normal terminal degree at the master's level, compared to 11 percent of the WB Part I staff members. This tallies to some degree with the percentage of WB Part II staff members holding the PhD degree at 83 percent to 75 percent of those from WB Part I countries. The relationship in the social sciences is 19 percent of all WB Part II, 23 percent of all WB Part I staff members; in the natural sciences, the relationship is 74 percent of all WB Part II, 66 percent of all WB Part I staff members.

Chart 15. *Comparing tenure: distribution fo staff from WB Parts I and II across tenure ranges*



Internationally-recruited staff members from WB Part II countries tend to have slightly fewer years of tenure than those from WB Part I countries (see Table 6): 58

percent of all WB Part II staff members have been at their Centers six years or fewer, while 66 percent of WB Part I staff members are in that tenure category. On the other hand, 42 percent of WB Part II staff members have seven or more years tenure (many over ten years), while only 34 percent of those from WB Part I countries have more than seven years. Viewed from the perspective shown in the table and in Chart 15, recruitment in the year immediately prior to the survey was close to parity; in the last six years, more staff members were recruited from WB Part I than from WB Part II countries.

These figures suggest that the overall improvement in diversity percentages between 1991 and 1999 (43 percent to 47 percent) results less from efforts to recruit from WB Part II countries and more from the lower departure rate of older staff members from those countries.

Section V will look at whether compensation and positional equity for staff members from countries in WB Parts I and II are systematically influenced by degree level, years of relevant professional experience and tenure at the Center.

The analysis of data on diversity elicits four questions:

As asked in Section III, how can the Centers come closer to a balance of both gender and diversity?

What new recruitment techniques can be designed to uncover the sources of qualified WB Part II women?

Are higher degrees earned outside Europe and North America overly discounted in the recruitment process?

In the recruitment for, or promotion to, top management positions in the Centers, does national origin play an inadvertent role?

CHAPTER 5: *Analysis of compensation and positional equity by gender and diversity*

Analysis of compensation and positional equity by gender and diversity

OVERVIEW

This section examines the performance of the CGIAR System with regard to equity in compensation and classification within the position group framework (the latter referred to below as "positional equity").

The standard of compensation equity used is "equal-pay-for-work-of-equal-worth". This requires that compensation be based solely on non-occupation-relevant characteristics of the job (such as level of responsibility and authority) and employment-relevant characteristics of the worker (such as academic credentials). In the context of the CGIAR, this means that salary should depend solely on position group, level of last degree acquired, years of relevant professional experience and tenure (i.e. years at the current Center). Specific disciplinary area should not be a factor. Thus, for example, a natural scientist and a social scientist who have otherwise identical characteristics should receive the same compensation. Similarly, gender and country of origin, as variables, should bear no correlation with compensation. On the other hand, it is important to note that the analysis that follows had no way to control for performance quality over time. This is a highly relevant factor, in view of the practice in most CGIAR Centers to adjust salaries annually on the basis of merit. For this reason, this analysis can only serve to highlight those areas within the compensation structure that warrant more detailed attention.

The analysis of positional equity controls for the same three worker-related characteristics (degree level, years of relevant professional experience and tenure). It assumes that persons of identical characteristics in these respects should be in the same position group. Again, a performance quality measure is absent, as is evidence in a given staff member's performance of the specific managerial skills needed for positions increasing in responsibility and authority. Clearly, observed interpersonal or supervisory skills, as well as the ability

to manage financial resources would play appropriate roles in determining the appointment of staff members to leadership positions. Thus, again, the findings on positional equity must be considered preliminary to further investigation.

Regression analyses were carried out to assess both compensation and positional equity in the CGIAR System with respect to the following comparisons:

- Women as compared to men;
- Staff members of WB Part II origin as compared to staff members of WB Part I origin;
- Staff members of WB Part II origin, who are now citizens of WB Part I countries, as compared to staff members who have both WB Part I origin and citizenship;
- Staff members of WB Part II origin who are posted to their home regions as compared to other staff members of WB Part II origin (i.e. not posted to their home regions);
- Staff members in each of the three disciplinary areas (I: management and information, II: social sciences, III: natural sciences) as compared to staff members in the other disciplinary areas.

In each Comparison A through D, the group listed first is *hypothesized* to be disadvantaged; thus the second is the *baseline group* in each case. In Comparison E, there is no reason to suppose that any group is disadvantaged. The group of staff members whose most recent degrees are in fields that fall into disciplinary area I (management and information) was arbitrarily chosen to be the baseline group.

DATA AND METHODOLOGY

Individual compensation is made up of basic salary, cost of living allowance (COLA) and other sundry benefits such as subsidies for children's education. The principal difficulty in addressing the issue of equity in the CGIAR System with these income measures is that a dollar in Kenya is not the same as a dollar in India--actual cost of living matters.[15] This means that compensation

[15] Cost-of-living indices are published by the European Centre for Worldwide Cost of Living Comparisons and the UN, but they differ significantly. Furthermore, even if such indices were consistent and reliable, it would be difficult to select which index to apply (that of the posting

measured in US dollars is not directly comparable across Centers. The analysis reported in the subsection below on compensation equity circumvents this problem by allowing for systematic pay differentials among the Centers. This still leaves the problem of which measure of income to use. The data on the sundry components are inconsistently reported and have been ignored.[16] The remaining possibilities are the *annual cash income* (which is the basic salary plus COLA) and basic salary alone. The CGIAR Compensation Survey of 1999 used the former. For the objectives of this study, however, it should be clear that *within* any Center, the choice is arbitrary. The *regression analysis* used to allow for systematic pay differentials among the Centers effectively means that the whole workforce can be viewed as being at the same Center (actually CIAT was used as the base).[17] Consequently, system wide analyses can be carried out, and the choice between measures of income is again arbitrary. Indeed, annual cash income could be used for one Center and basic salary for another; the difference would merely be reflected in the individual Center's systematic pay differential. Since annual cash income is, in some cases, built up from several other measures, basic salary was deemed to be less likely to suffer from errors and, therefore, is used in the following analysis.

Table 13 provides a summary of staff numbers in each position group as well as basic salary compensation across the CGIAR System. Because of the shortcomings of basic salary as a measure of compensation discussed above, little inference about the treatment of men versus women, or of staff members who originate from WB Part I countries versus those from WB Part II countries, can be drawn from this table. Some general themes do emerge, however.

Table 13. *CGIAR base salary by country of origin and gender*

location or the home country) for a workforce that repatriates much of its income. Further discussion of the indices is provided in the 1999 CGIAR Compensation Survey.

[16] Since the sundry component is generally needs-based, inclusion could generate misleading results if the needs differ systematically across groups for which the extent of discrimination is being assessed. For example, in certain locations women may have higher security requirements than men, or those employees with families (predominantly men and staff from WB Part II countries) may make greater use of educational subsidies.

[17] Technically, this is carried out by introducing dummy variables for each Center into the regression analysis.

Position Group[18]	Aggregate		Diversity: Country of origin				Gender			
			WB Part I		WB Part II		Female		Male	
	#	Average Base Salary, $	#	Average Base Salary, $	#	Average Base Salary, $	#	Average Base Salary, $	#	Average Base Salary, $
I	61	98,546	37	101,697	24	93,689	5	92,570	56	99,080
II	117	67,762	61	69,443	56	65,932	13	67,365	104	67,812
III	126	68,373	63	68,515	63	68,231	8	68,004	118	68,398
IV	238	57,274	140	58,000	98	56,237	34	55,321	204	57,600
V	225	48,341	124	49,225	101	47,256	47	48,851	178	48,206
VI	80	35,282	45	37,963	35	31,835	23	35,591	57	35,157
VII	119	31,104	46	36,788	73	27,523	32	31,707	87	30,882
All	966	55,472	516	58,023	450	52,548	162	48,721	804	56,833

Table 13 also highlights the apparent discrepancies that motivate the statistical analyses in the remainder of this section. The bottom row shows that on average, CGIAR staff members originally from WB Part I countries receive US$5,475 *per annum* more in basic salary than do the staff members originally from WB Part II countries. In addition, on average, men are US$8,112 better off than are women. The following subsections look at whether these discrepancies can be explained by other factors (such as differences in years of relevant professional experience).

One example of such an explanation is already evident in Table 13; the discrepancy between male and female salaries (Comparison A) is much smaller when we look within position groups. This indicates that the difference that emerges in the global average is largely due to the fact that women are more heavily represented in the lower position groups. In other words, when a *control* for position group is introduced, the male/female pay differential is reduced. Of course, controlling for other factors (e.g. individual characteristics) could reverse this result. In this way, the statistical analyses of the following subsections use *regression analysis* to control for the permissible factors discussed above (degree level, years of relevant professional experience, tenure) in order to ascertain the extent to which compensation and positional attainment

[18] Position Groups are as follows: I: Executive Staff, II: Research Program/Administrative Heads, III: Principal Scientists, IV: Senior Scientists/Professionals, V: Scientists/Professionals, VI: Associate Scientists/Professionals, VII: Post-doctoral Fellows.

differ across the groups in the five comparisons considered.[19]

COMPENSATION EQUITY

The salary differential reported in Table 14 measures the extent to which the baseline group receives higher (or lower) basic salary solely as a consequence of membership. The p-value represents the reliability of the measured pay advantage.[20] It is the probability that there is no systematic pay differential. Thus a p-value of 0.05 or lower is usually considered statistically significant (such figures have been highlighted in bold type). A p-value in the range 0.05 to 0.1 may be considered "borderline" significant.

Table 14. *Measuring salary discrepancies*

Comparisons	Salary advantage	p-value
A Women vs. men	0.7%	0.686
B WB Part II vs. Part I	6.5%	0.000
C WB Part II now Part I Citizens vs. Part I origin	4.6%	0.193
D WB Part II posted to home Regions vs. all Part II	-4.2%	0.074
E-II: Social Sciences vs. Mgmt. and Information	-4.9%	0.098
- III: Natural Sciences vs. Mgmt. And Information	0.4%	0.879

Thus, the results shown in Table 14 suggest the following:

- Comparison A: Men appear to be paid marginally more than women (0.7 percent), but the difference is not statistically significant.
- Comparison B: There is a 6.5 percent and highly significant salary advantage to being originally from a WB Part I country, over coming from a WB Part II country.
- Comparison C: Those who now have WB Part I country citizenship but who were originally from WB Part II countries have a 4.6 percent pay disadvantage as compared to those who are of both WB Part I

[19] All regression analysis was carried out using the *Microfit* package. The regressions atha for the basis for the results reported are in Appendix 6. This appendix also includes the output from the general summary regression (Regression 1) that looks at the returns to all characteristics of individuals included in the survey data.

[20] All the regressions reported here suffered from heteroscedasticity of the error term. The reported p-values are those based on standard errors adjusted by White's method.

origin and citizenship. To some degree, this appears to corroborate the results of Comparison B above; however, the figure is not statistically significant. The lack of significance emerges from the lack of data; only 30 staff members (3 percent of the total complement) originally from WB Part II countries are now WB Part I citizens.

- Comparison D: Staff members originally from WB Part II countries and who work in their own world regions are actually 4.2 percent *better* paid than their counterparts who work in regions of the world that are foreign to them. The figure is on the borderline of statistical significance.
- Comparison E: By comparison to staff members who hold degrees in disciplinary area I (management and information), staff members with disciplinary area II (social sciences) degrees are better off by 4.9 percent. Again, this figure is on the borderline of significance. There is no appreciable difference in earnings between staff members with disciplinary area I and those with disciplinary area III (natural sciences) degrees. Consequently, a social scientist is likely to be better paid (by about 5 percent) than a natural scientist of similar degree level, years of experience and tenure.

The finding for Comparison B (staff members from WB Part II countries compared to those from WB Part I countries), *by virtue of its statistical significance as well as the size of the percentage advantage apparently accruing to Part I origin*, bears investigation on a case-by-case basis by individual Centers. In all of the other comparisons analyzed, no discrepancies of statistical significance were found.

POSITIONAL EQUITY

This subsection looks at whether membership in the baseline group affects the probability that an individual is in a higher position.[21] For each of the five comparisons considered, this question can be asked for each tier in the CGIAR positional hierarchy. However, because Position Groups II and III (Research/Administrative Heads and Principal

[21] The probabilities were obtained using logit maximum likelihood estimation. The controls were the Center dummies, level of last degree, years of relevant professional experience and tenure.

Scientists) are of similar status, they have been combined. Shortage of data has meant that meaningful results have not been obtainable for the analysis of membership of Position Group VII (Post-doctoral Fellows) versus membership of Position Group VI (Associate Scientist/Professionals) or higher position groups. Similarly, there is insufficient data to obtain meaningful results for Position Groups I (Executive Staff) and V (Scientists/Professionals) in Comparisons C and D.

The results are reported in Table 15. The probability differential is how membership in the baseline group has affected the probability of being in the threshold position group or further up in the hierarchy.[22] A negative sign means that membership in the baseline group is a hindrance to membership of higher position groups. Again, statistically significant numbers are reported in bold type.

Table 15. *Extent of deviation from positional equity based on level of last degree, years of relevant professional experience and tenure*

Comparison Group	Threshold Position[23] (Appendix 6 regression #)	Probability differential	p-value
A Women vs. men	I (2aI)	1.6%	0.242
	II-III (2aIII)	12.0%	0.015
	IV 2aIV)	14.9%	0.008
	V (2aV)	3.2%	0.097
B WB Part II vs. Part I	I (2bI)	1.2%	0.169
	II-III (2bIII)	5.5%	0.087
	IV (2bIV)	14.9%	0.000
	V (2bV)	6.5%	0.000
C WB Part II now Part I citizens vs. all Part II	II-III (2cIII)	-3.9%	0.708
	IV (2cIV)	20.6%	0.127
D WB Part II posted to home Regions vs. all Part II	II-III (2dIII)	-2.5%	0.652
	IV (2dIV)	-7.2%	0.368
E II: Social Sciences vs. Mgmt. and Information III: Natural Sciences vs. Mgmt. and Information	I (2eI)	II-SS 0.6% III-NS 3.1%	0.597 0.012
	II-III (2eIII)	II-SS 5.7% III-NS 15.3%	0.427 0.021
	IV (2eIV)	II-SS 1.6% III-NS 19.6%	0.224 0.027
	V (2eV)	II-SS 8.9% III-NS 10.3%	0.015 0.003

[22] To oversimplify, the statistical process involved comparing the relevant characteristics of all individuals in the indicated groups (e.g. all women and all men in Comparison A) with the characteristics of the same groups of those now in the threshold position or higher.

[23] Again, Position Groups are as follows: I: Executive Staff, II: Research Program/Administrative Heads, III: Principal Scientists, IV: Senior Scientists/Professionals, V: Scientists/Professionals, VI: Associate Scientists/Professionals, VII: Post-doctoral Fellows.

The analysis leads to the following observations:

- Comparison A: Women are 12 percent less likely than men to be in Position Group II-III (Research/Administrative Heads and Principal Scientists) or higher, and 15 percent less likely than men to be in Position Group IV (Senior Scientists/Professionals) or higher. Both percentages have a statistically significant p-value. Women are 3.2 percent disadvantaged with respect to Position Group V (Scientists/Professionals) or higher, but this result is on the borderline of significance. Since the women in the CGIAR System tend to be younger than the men, the results of this regression were tested again with age as an additional variable in order to determine whether the results indicated possible discrimination by age rather than gender. There were negligible changes in the findings.
- Comparison B: Staff members from WB Part II countries are 14.9 percent less likely than those from WB Part I countries to be in Position Group IV (Senior Scientists/ Professionals) or higher, and 6.5 percent less likely to be in Position Group V (Scientists/Professionals) or higher. Again, both percentages have a statistically significant p-value. It appears that WB Part II staff members are similarly disadvantaged by 5.5 percent from joining Position Groups II-III (Research/Administrative Heads and Principal Scientists) or higher, but this result is also on the borderline of significance. When these results are taken together with: a) the finding that the percentage of WB Part II staff has increased only from 43 percent to 47 percent, with a decline in absolute numbers, and b) the fact that this group tends to be older than staff from WB Part I countries, it appears that this staff group has remained in a relatively steady state as far as position level is concerned.
- Comparisons C and D: None of the p-values in Comparisons C and D reach the level of statistical significance, nor are any on the borderline. As noted, data on these groups are inadequate for meaningful interpretation.
- Comparison E: Natural scientists are relatively under represented above every threshold considered.

They are as much as 15.3 percent less likely to be in Position Group II-III (Research/Administrative Heads and Principal Scientists) or higher and 19.6 percent less likely to be in Position Group IV (Senior Scientists/Professionals) or higher compared to similarly qualified staff with degrees in management or information science. However, when the threshold to Position Group V (Scientists/Professionals) and higher is considered, natural scientists and social scientists are similarly under-represented (by about 10.3 percent and 8.9 percent, respectively) compared to their management/ information counterparts. These percentages reach the level of statistical significance.

In interpreting the above results, it is important to reiterate the two worker-related characteristics that are not available in the data set, but that are significant in movement up in the positional hierarchical. They are the quality of performance in the position from which a staff member might be promoted and evidence in that performance of skills beyond science that are relevant to the management tasks of those in higher positions. There is no reason to believe that the unmeasured variables would impact systematically across each Comparison.

Bearing in mind restrictions in the data at hand, it is nonetheless clear that additional investigation is called for.

Results of the data analysis raise the following questions:

In the promotion from Position Group V (Scientists/Professionals), in what may be the first significant step up in the hierarchy, are women's qualifications fairly evaluated?

Are staff members from WB Part II countries unduly held in Position Group V or below, and is their compensation unfairly constrained with respect to the positions currently held?

Are natural scientists given sufficient career development opportunities to permit them to build the skills needed for leadership positions?

CHAPTER 6: *Follow-up*

Follow-up

While there is good news in the findings of this survey to be celebrated, clearly results have emerged that suggest further investigation and assertive follow-up action on the part of the Gender and Diversity Program. Among the actions suggested are the following:

- Continue to expand and diversify recruitment strategies to "cast the net ever more widely" to attract more women natural scientists, more women social scientists and more women in the fields of management and information.
- Focus especially on the identification of sources of qualified women from developing countries (WB Part II countries).
- Explicitly support CGIAR women's advancement, aiming to bring more women into positions of mid-level and senior management.
- But also encourage training in managerial skills for men with degrees in the natural sciences.
- Research and communicate best practices of sister Centers and of other organizations with respect to policies, practices and workplace cultures to ensure that women are retained; include in-depth studies on work/family balance.
- Seek and promote ways to respond to the needs of dual-career families.
- Investigate more closely the question raised about the dominance of staff members with degrees from European and North American universities; consider a conscious effort to identify high value PhD programs offered by academic institutions in the South.
- Similarly, investigate more closely reasons for the disparity between WB Part I and Part II staff members in position levels above Position Group V (Scientists/ Professionals), as well as apparent discrepancies in compensation for WB Part II staff members at all levels.
- Work to ensure accountability of CGIAR managers on gender and diversity issues.

APPENDICES: *1 to 7*

Appendices

- Appendix 1. World Bank Part I/Part II Countries
- Appendix 2. Position Groups-CGIAR compensation survey
- Appendix 3. CGIAR Human Resources Survey (1999)
- Appendix 4. CGIAR Human Resources Survey from 1991, 1994 and 1997
- Appendix 5. Fields in the 1999 survey
- Appendix 6. Survey and methodology

Appendix I: World Bank Part 1/Part II Countries

PART 1 COUNTRIES (26)

AUSTRALIA
AUSTRIA
BELGIUM
CANADA
DENMARK
FINLAND
FRANCE
GERMANY
ICELAND
IRELAND
ITALY
JAPAN
KUWAIT
LUXEMBOURG
NETHERLANDS
NEW ZEALAND
NORWAY
PORTUGAL
RUSSIAN FEDERATION
SOUTH AFRICA
SPAIN
SWEDEN
SWITZERLAND
UNITED ARAB EMIRATES
UNITED KINGDOM
UNITED STATES

PART II COUNTRIES (134)

AFGHANISTAN
ALBANIA
ALGERIA
ANGOLA
ARGENTINA
ARMENIA
AZERBAIJAN
BANGLADESH
BARBADOS
BELIZE
BENIN
BHUTAN
BOLIVIA
BOSNIA AND HERZEGOVINA
BOTSWANA
BRAZIL
BURKINA FASO
BURUNDI
CAMBODIA
CAMEROON
CAPE VERDE
CENTRAL AFRICAN REPUBLIC
CHAD
CHILE
CHINA
COLOMBIA
COMOROS
CONGO, DEM. REP. OF
CONGO REPUBLIC OF
COSTA RICA
COTE D'IVOIRE
CROATIA
CYPRUS
CZECH REPUBLIC
DJIBOUTI
DOMINICA
DOMINICAN REPUBLIC
ECUADOR
EGYPT ARAB REPUBLIC OF
EL SALVADOR
EQUATORIAL GUINEA
ERITREA
ETHIOPIA
FIJI
GABON
GAMBIA, THE
GEORGIA
GHANA
GREECE
GRENADA
GUATEMALA
GUINEA
GUINEA BISSAU
GUYANA
HAITI
HONDURAS
HUNGARY
INDIA
INDONESIA
IRAN, ISLAMIC REPUBLIC OF
IRAQ
ISRAEL
JORDAN
KAZAKHSTAN
KENYA
KIRIBATI
KOREA, REPUBLIC OF
KYRGYZ REPUBLIC
LAO PEOPLE'S DEM. REP.
LATVIA
LEBANON
LESOTHO
LIBERIA
LIBYA
MACEDONIA FYR OF
MADAGASCAR
MALAWI
MALAYSIA
MALDIVES
MALI
MARSHALL ISLANDS
MAURITANIA
MEXICO
MICRONESIA, FED. STATES OF
MOLDOVA
MONGOLIA
MOROCCO
MOZAMBIQUE
MYANMAR
NEPAL
NICARAGUA
NIGER
NIGERIA
OMAN
PAKISTAN
PALAU
PANAMA
PAPUA NEW GUINEA
PARAGUAY
PERU
PHILIPPINES
POLAND
RWANDA
ST. KITTS AND NEVIS
ST. LUCIA
ST. VINCENT & THE GRENADINES
SAMOA
SAO TOME AND PRINCIPE
SAUDI ARABIA
SENEGAL
SIERRA LEONE
SLOVAK REPUBLIC
SLOVENIA
SOLOMON ISLANDS
SOMALIA
SRI LANKA
SUDAN
SWAZILAND
SYRIAN ARAB REPUBLIC
TAJIKISTAN
TANZANIA
THAILAND
TOGO
TONGA
TRINIDAD AND TOBAGO
TUNISIA
TURKEY
UGANDA
UZBEKISTAN
VANUATU
VIETNAM
YEMEN, REPUBLIC
ZAMBIA
ZIMBABWE

Appendix 2: Position groups-CGIAR compensation survey

Definitions of each of the seven position groups follow. Using these definitions, CGIAR Centers and other comparator organizations should designate the position groups to which, in their judgment, each staff member belongs.

GROUP I EXECUTIVE STAFF (EXCLUDING THE DIRECTOR GENERAL/CEO)

Representative CGIAR titles: Deputy Director General, Deputy Directors General for Research, Administration, etc., and Directors of major Divisions, Departments, or Programs.

Functional responsibility: Manages one of the major branches of the organizational hierarchy, usually concerned with either scientific research or finance and administration. Responsible for developing institutional strategy and policy in all areas but with focus on functional assignment. Identifies and pursues funding opportunities. Prepares and manages large budgets. Routinely negotiates on behalf of the organization complex, sensitive or contentious program or management issues. Makes major decisions in collaboration with other members of the management team. Usually selected and appointed by the Director General/CEO with the concurrence of the Board of Trustees; reports to the Director General/CEO

Education/Experience: PhD in relevant area for scientists, MA/MS/MBA in relevant area for administrators; usually a minimum of 20 years experience, including experience in supervising a substantial scientific or administrative staff.

Organizational impact: Represents organization to outside world, interacting with Board, donors, staff of partner and client institutions and political leaders. Supervises the work of a large number, usually approximately one half of organization's staff. Thus can have an impact of major significance on organization's internal operations and external image.

GROUP II RESEARCH PROGRAM, ADMINISTRATIVE HEADS AND DIRECTORS

Representative CGIAR titles: Program Leader for Irrigated Rice, Coordinator-Regional Program, Director-Biotechnology, Program Director-Farming Systems, Finance Head, Head of

Operations, Human Resources Director, Comptroller, Director of Information/Publications.

Functional responsibility: Within very broad guidelines on organizational program or administrative strategy and priorities, manages a major scientific or administrative unit of the organization with responsibility for staffing, fundraising and financial management as well as leadership of the unit's research and training program or corporate administrative and technical services. Makes a very significant professional contribution to the organization's objectives, contributes to the scientific or administrative strategy and policy of the organization and provides expert advice of the highest order both within and outside the organization. Routinely negotiates on behalf of the organization complex, sensitive or contentious program or management issues. Generally reports to the Director General/CEO or an Executive Staff member.

Education/Experience: PhD or equivalent in relevant area for scientists, MA/MS/MBA or equivalent in relevant area for administrators; usually a minimum of 15 years experience, including experience supervising a substantial scientific or administrative staff.

Organizational impact: Represents organization to outside world, interacting with Board, donors and political leaders and with staff of partner and client institutions. Interacts extensively with staff of other organizational units. Supervises the work of a substantial number of scientific and/or administrative professional and support staff. The quality of the unit's performance and of the leader's professional advice can have a significant impact on the organization's internal operations and external image.

GROUP III PRINCIPAL SCIENTISTS

Representative CGIAR titles: Principal Scientist, Distinguished Scientist

Functional responsibility: Within very broad guidelines on organizational program strategy and priorities, conceives of, designs and provides leadership to a set of highly complex scientific research and training activities and helps to secure and manage the necessary human, financial and material support. Makes a very significant professional contribution to the organization's objectives, contributes to the science strategy and policy of the organization and provides expert advice of the highest order both within and outside the organization. Routinely negotiates on behalf of the organization complex, sensitive or contentious program or management issues.

Generally reports to the Director General/CEO or an Executive Staff member, occasionally to a Program Head or Director.

Education/Experience: PhD or equivalent in relevant area; usually a minimum of 15 plus years post-doctoral experience leading to an internationally recognized scientific reputation in the area of the organization's research program. This may be an honorific title used to recognize exemplary service or to attract an outstanding individual to the organization's staff.

Organizational impact: Represents organization to outside world, interacting with board, donors and political leaders and with staff of partner and client institutions in collaborative research and training. May supervise the work of a substantial number of scientific professional and support staff. Thus can have a significant impact on the organization's internal operations and external image.

GROUP IV SENIOR--SCIENTISTS, SUPPORT PROFESSIONALS, ADMINISTRATORS

Representative CGIAR titles: Senior Scientist, Senior Agronomist, Senior Economist, Senior Editor, Senior Information Specialist.

Functional responsibility:

- Scientists–Within broad guidelines on program objectives, conceives of, designs and provides leadership to a set of complex scientific research and training activities and helps to secure and manage the necessary human, financial and material support. Makes a significant contribution to the relevant strategy and policy of the organization and provides expert advice with a very high degree of reliability to organization management and other institutions. From time to time, participates in negotiating on behalf of the organization complex, sensitive or contentious program or management issues. Generally reports to a Division Head or Director.
- Professionals, Administrators–Within broad guidelines about service expectations and priorities, manages a substantial unit of the organization charged with the day-today delivery of a corporate administrative or technical service (e.g., finance, human resources, computing or information services). Responsible for the unit's staffing and financial management and for providing leadership and direction to its staff. Reviews, develops and implements relevant systems, policies and procedures. Makes a significant professional contribution to the relevant strategy and policy of the organization and provides expert

advice with a very high degree of reliability to organization management. Generally reports to a Division Head or Director.

Education/Experience: PhD or equivalent in relevant area for scientists; MA/MS/MBA or equivalent in relevant area for support professionals and administrators; usually a minimum of 7 to 10 years experience.

Organizational impact:

- Scientists–Represents organization to outside world, interacting with Board and donors and with staff of partner and client institutions in collaborative research and training. Supervises the work of a small number of scientific professional and support staff. Thus can have a very important impact on organization's internal operations and external image.
- Support Professionals, Administrators–Interacts with staff of research units and, to some extent, with Board and donors. Supervises the work of a substantial number of professionals and support staff. The quality of the unit's performance and of the leader's professional advice can have a very important impact on organization's internal operations and, to some extent, on the external image.

GROUP V SCIENTISTS, SUPPORT PROFESSIONALS, ADMINISTRATORS

Representative CGIAR titles: Scientist, Agronomist, Biologist, Forester, Accountant, Computer Programmer, Editor, Translator, Librarian.

Functional responsibility:

- Scientists–Within broad guidelines on program and project objectives, conceives of, designs and provides leadership to scientific research and training activities and helps to secure and manage the necessary human, financial and material support. Makes an important professional contribution to the relevant strategy and policy of the organization and provides professional advice with a high degree of reliability to organization management and other institutions.
- Support Professionals, Administrators–Within broad guidelines about service expectations, priorities and approach to activities, manages a smaller unit of the organization charged with the day-to-day delivery of a corporate administrative or technical service (e.g., finance, human resources, computing or information services).

Responsible for the unit's staffing and financial management and for providing leadership and direction to its staff. Reviews, develops and implements relevant systems, policies and procedures. Makes an important professional contribution to the relevant strategy and policy of the organization and provides professional advice with a high degree of reliability to organization management. Generally reports to a Division Head.

Education/Experience: PhD or equivalent in relevant area for scientists; MA/MS/MBA or equivalent in relevant area for support professionals and administrators; usually a minimum of 5 to 7 years experience.

Organizational impact:

- Scientists – In a limited way, represents the organization to outside world, interacting with Board and donors and with staff of partner and client institutions in collaborative research and training. Supervises the work of a minimal number of scientific professional and support staff. Thus can have an important impact on organization's internal operations but somewhat less on the external image.
- Support Professionals, Administrators - Interacts with staff of research units and, to some extent, with Board and donors. Supervises the work of a small number of professionals and support staff. The quality of the unit's performance and of the leader's professional advice can have an important impact on organization's internal operations and, to some extent, on the external image.

GROUP VI ASSOCIATE—SCIENTISTS, SUPPORT PROFESSIONALS, ADMINISTRATORS

Representative CGIAR titles: Associate Scientist, Associate Agronomist, Associate Economist, Associate Administrator, Associate Expert.

Functional responsibility:

- Scientists–Within relatively detailed guidelines on objectives and priorities, participate in the design of and undertake scientific research or training duties requiring highly advanced technical expertise and professional judgment. Carry responsibilities for all aspects of activities that are substantial in scope and complexity and require an in-depth understanding of relevant science and organization protocols. Generally report to a Division Head, sometimes via a senior scientist within the respective unit.

- Support Professionals, Administrators–Within relatively detailed guidelines about service expectations, priorities and approach to activities, provides a day-to-day corporate administrative or technical service (e.g., finance, human resources, computing or information services). Responsible for financial management of the service. Assists in developing and implementing relevant systems, policies and procedures. Provides professional advice with a high degree of reliability to organization management. Generally reports to a Division Head or a Senior Professional or Administrator.

Education/Experience: PhD or equivalent in relevant area for scientists; MA/MS/MBA or equivalent in relevant area for support professionals and administrators; usually a minimum of 2 to 3 years experience.

Organizational impact:

- Interacts with staff of relevant unit and with partner and client institutions in collaborative research and/or training. May supervise a limited number of scientific support staff. Thus can have a limited but important impact on organization's internal operations and external image.
- Support Professionals, Administrators – May supervise a limited number of administrative support staff or work independently but interacts with staff through out the organization who use the services in question. The quality of the performance and of the professional advice given can have a limited but important impact on organization's internal operations and, in some cases, external image.

GROUP VII POST-DOCTORAL FELLOWS

Functional responsibility: With relatively detailed guidelines on objectives and approach, participates in the design of and undertakes scientific research and training tasks within an activity or project, working with other staff involved in the work both within the organization and in partner institutions. Provides and accepts responsibility for reports on all aspects of the assigned work. Reports to a Division Head, sometimes via a more senior scientist within the respective unit.

Education/Experience: PhD or equivalent in relevant area; position usually taken up immediately upon completion of degree.

Organizational impact: Impact is generally limited to the projects assigned and other members of the project team, although this may include staff of partner institutions and thus

effect the organization's external image to some extent. May supervise a limited number of scientific support staff.

Appendix 3: CGIAR Human Resources Survey (1999)

CGIAR GENDER PROGRAM HUMAN RESOURCES SURVEY (2000): GENDER ANALYSIS SUMMARY

QUESTION #	FEMALE	MALE	TOTAL	% of TOTAL	F as % F TOTAL	M as % M TOTAL	F % row TOTAL	M % row TOTAL
Total number of international staff:	162	804	966	100%	100%	100%	17%	83%
Staffing by level - by position group								
I: Executive Staff	5	56	61	6%	3%	7%	8%	92%
II: Research Program Admin. Heads	13	104	117	12%	8%	13%	11%	89%
III: Principal Scientists	8	118	126	13%	5%	15%	6%	94%
IV: Senior Scientists	34	204	238	25%	21%	25%	14%	86%
V: Scientists/Support Professionals	47	178	225	23%	29%	22%	21%	79%
VI Associate Scientists/professionals	23	57	80	8%	14%	7%	29%	71%
VII: Post-Doctoral Fellows	32	87	119	12%	20%	11%	27%	73%
TOTAL	162	804	966	100%	100%	100%	17%	83%
Age (years)								
25-34	27	54	81	8%	17%	7%	33%	67%
35-44	81	292	373	39%	50%	36%	22%	78%
45-54	44	344	388	40%	27%	43%	11%	89%
Over 55	10	114	124	13%	6%	14%	8%	92%
TOTAL	162	804	966	100%	100%	100%	17%	83%

WB Part of Country of Origin								
Part I	111	405	516	53%	69%	50%	22%	78%
Part II	51	399	450	47%	31%	50%	11%	89%
TOTAL	162	804	966	100%	100%	100%	17%	83%
Region of Country of Origin								
Africa	17	156	173	18%	10%	19%	10%	90%
Australia/ New Zealand	6	26	32	3%	4%	3%	19%	81%
East Asia and Pacific	16	64	80	8%	10%	8%	20%	80%
Eastern Europe and Central Asia	2	7	9	1%	1%	1%	22%	78%
Europe	39	214	253	26%	24%	27%	15%	85%
Latin America and Caribbean	9	70	79	8%	6%	9%	11%	89%
Middle East and North Africa	5	34	39	4%	3%	4%	13%	87%
North America	64	147	211	22%	40%	18%	30%	70%
South Asia	4	86	90	9%	2%	11%	4%	96%
TOTAL	162	804	966	100%	100%	81%	17%	83%
WB Part of Country of Citizenship								
Part I	115	431	546	57%	71%	54%	21%	79%
Part II	47	373	420	43%	29%	46%	11%	89%
TOTAL	162	804	966	100%	100%	100%	17%	83%
Region of Country of Citizenship								
Africa	15	146	161	17%	9%	18%	9%	91%
Australia/ New Zealand	6	30	36	4%	4%	4%	17%	83%
East Asia and Pacific	16	58	74	8%	10%	7%	22%	78%
Eastern Europe and Central Asia	2	7	9	1%	1%	1%	22%	78%

Europe	40	223	263	27%	25%	28%	15%	85%
Latin America and Caribbean	7	67	74	8%	4%	8%	9%	91%
Middle East and North Africa	5	31	36	4%	3%	4%	14%	86%
North America	67	162	229	24%	41%	20%	29%	71%
South Asia	4	80	84	9%	2%	10%	5%	95%
TOTAL	162	804	966	100%	100%	100%	17%	83%
Tenure at Center (number of years employed at Center)								
Less than 1	18	93	111	11%	11%	12%	16%	84%
1-3	73	252	325	34%	45%	31%	22%	78%
4-6	27	139	166	17%	17%	17%	16%	84%
7-9	9	110	119	12%	6%	14%	8%	92%
10 or more	35	210	245	25%	22%	26%	14%	86%
TOTAL	162	804	966	100%	100%	100%	17%	83%
Degree levels (highest degree received)								
Ph.D. or equivalent	103	654	757	78%	64%	81%	14%	86%
Msc/MA/ or equivalent	34	75	109	11%	21%	9%	31%	69%
Batchelor's	11	35	46	5%	7%	4%	24%	76%
Other	14	40	54	6%	9%	5%	6%	6%
TOTAL	162	804	966	100%	100%	100%	17%	83%
Disciplinary Area (in which highest degree received)								
I: Management/information	28	60	88	9%	17%	7%	32%	68%
II: Social Sciences	47	157	204	21%	29%	20%	23%	77%
III: Natural Sciences	87	587	674	70%	54%	73%	13%	87%
TOTAL	162	804	966	100%	100%	100%	17%	83%

Years of relevant professional experience (post PhD or equiv.)								
Less than 5 years	53	122	175	18%	33%	15%	30%	70%
5 - 9 years	44	163	207	21%	27%	20%	21%	79%
10-19 years	46	300	346	36%	28%	37%	13%	87%
20 or more	19	219	238	25%	12%	27%	8%	92%
TOTAL	162	804	966	100%	100%	100%	17%	83%
Marital status (number of staff)								
married w/spouse in residence	96	681	777	80%	59%	85%	12%	88%
married w/out spouse in residence	10	56	66	7%	6%	7%	15%	85%
single/divorced/widowed	56	67	123	13%	35%	8%	46%	54%
TOTAL	162	804	966	100%	100%	100%	17%	83%
Children (number of staff)								
With children in residence	59	438	497	51%	36%	54%	12%	88%
No children in residence	103	366	469	49%	64%	46%	22%	78%
TOTAL	162	804	966	100%	100%	100%	17%	83%

CGIAR GENDER PROGRAM HUMAN RESOURCES SURVEY (1999): SYSTEM-WIDE DIVERSITY SUMMARY

QUESTION #	WB PartI	WB Part II	TOTAL	% of TOTAL	Part I as % Part I TOTAL	Part II as % Part II TOTAL	Part I % row TOTAL	Part II % row TOTAL
Total number of international staff:	516	450	966	100%	100%	100%	53%	47%
Staffing by level - by position group								
I: Executive Staff	37	24	61	6%	7%	5%	61%	39%
II: Research Program Admin. Heads	61	56	117	12%	12%	12%	52%	48%
III: Principal Scientists	63	63	126	13%	12%	14%	50%	50%
IV: Senior Scientists	140	98	238	25%	27%	22%	59%	41%
V: Scientists/Support Professionals	124	101	225	23%	24%	22%	55%	45%
VI Associate Scientists/professionals	45	35	80	8%	9%	8%	56%	44%
VII: Post-Doctoral Fellows	46	73	119	12%	9%	16%	39%	61%
TOTAL	516	450	966	100%	100%	100%	53%	47%
Region of country of citizenship								
Africa	3	158	161	17%	1%	35%	2%	98%
Australia/ New Zealand	33	3	36	4%	6%	1%	92%	8%
East Asia and Pacific	17	57	74	8%	3%	13%	23%	77%
Eastern Europe and Central Asia	2	7	9	1%	0%	2%	22%	78%
Europe	250	13	263	27%	48%	3%	95%	5%
Latin America and Caribbean	0	74	74	8%	0%	16%	0%	100%
Middle East and North Africa	0	36	36	4%	0%	8%	0%	100%
North America	211	18	229	24%	41%	4%	92%	8%
South Asia	0	84	84	9%	0%	19%	0%	100%
TOTAL	516	450	966	100%	100%	100%	53%	47%

Region of country of last degree								
Africa	3	30	33	3%	1%	7%	9%	91%
Australia/ New Zealand	30	11	41	4%	6%	2%	73%	27%
East Asia and Pacific	15	29	44	5%	3%	6%	34%	66%
Eastern Europe and Central Asia	2	9	11	1%	0%	2%	18%	82%
Europe	221	94	315	33%	43%	21%	70%	30%
Latin America and Caribbean	0	10	10	1%	0%	2%	0%	100%
Middle East and North Africa	0	8	8	1%	0%	2%	0%	100%
North America	243	214	457	47%	47%	48%	53%	47%
South Asia	2	45	47	5%	0%	10%	4%	96%
TOTAL	516	450	966	100%	100%	100%	53%	47%
Age (years)								
25-34	51	30	81	8%	10%	7%	63%	37%
35-44	235	138	373	39%	46%	31%	63%	37%
45-54	183	205	388	40%	35%	46%	47%	53%
Over 55	47	77	124	13%	9%	17%	38%	62%
TOTAL	516	450	966	100%	100%	100%	53%	47%
Tenure at Center (number of years employed at Center)								
Less than 1	55	56	111	11%	11%	12%	50%	50%
1-3	192	133	325	34%	37%	30%	59%	41%
4-6	95	71	166	17%	18%	16%	57%	43%
7-9	58	61	119	12%	11%	14%	49%	51%
10 or more	116	129	245	25%	22%	29%	47%	53%
TOTAL	516	450	966	100%	100%	100%	53%	47%

Degree levels (highest degree received)								
Ph.D. or equivalent	385	372	757	78%	75%	83%	51%	49%
Msc/MA/ or equivalent	72	37	109	11%	14%	8%	66%	34%
Bachelor's	28	18	46	5%	5%	4%	61%	39%
Other	31	23	54	6%	6%	5%	6%	6%
TOTAL	516	450	966	100%	100%	100%	53%	47%
Disciplinary Area (in which highest degree received)								
I: Management/information	56	32	88	9%	11%	7%	64%	36%
II: Social Science	120	84	204	21%	23%	19%	59%	41%
III: Natural Sciences	340	334	674	70%	66%	74%	50%	50%
TOTAL	516	450	966	100%	100%	100%	53%	47%
Years of relevant professional experience (post PhD or equiv.)								
Less than 5	100	75	175	18%	19%	17%	57%	43%
5 - 9 years	114	93	207	21%	22%	21%	55%	45%
10-19 years	198	148	346	36%	38%	33%	57%	43%
20 or more	104	134	238	25%	20%	30%	44%	56%
TOTAL	516	450	966	100%	100%	100%	53%	47%
Marital status (number of staff)								
married w/spouse in residence	395	382	777	80%	77%	85%	51%	49%
married w/out spouse in residence	33	33	66	7%	6%	7%	50%	50%
single/divorced/widowed	88	35	123	13%	17%	8%	72%	28%
TOTAL	516	450	966	100%	100%	100%	53%	47%

Children (number of staff)								
With children in residence	244	250	494	51%	47%	56%	49%	51%
No children in residence	272	200	472	49%	53%	44%	58%	42%
TOTAL	516	450	966	100%	100%	100%	53%	47%

Appendix 4: CGIAR Human Resources Survey from 1991,1994 and 1997

TABLE 1: 1997 HUMAN RESOURCES SURVEY - SUMMARY								
QUESTION #	MALE	FEMALE	TOTAL	% of TOTAL	M as % M TOTAL	F as % F TOTAL	M % row TOTAL	F % row TOTAL
Question 1. Total number of international staff	1002	188	1190	100%	100%	100%	84%	16%
Question 2. Staffing by level - by recruited								
senior management/administration	84	6	90	8%	8%	3%	93%	7%
department heads/research thrust leaders	159	21	180	15%	16%	11%	88%	12%
senior and/or principal scientists	379	47	426	36%	38%	25%	89%	11%
junior or associate scientists	112	25	137	12%	11%	13%	82%	18%
visiting scientists/research fellows	67	20	87	7%	7%	11%	77%	23%
postdoctoral scientists/fellows	90	26	116	10%	9%	14%	78%	22%
associate experts	52	23	75	6%	5%	12%	69%	31%
other internationally recruited	60	20	80	7%	6%	11%	75%	25%
administrative staff/or professional support staff								
TOTAL	1003	188	1191	100%	100%	100%	84%	16%
Question 3. Age (years)								
20-30	38	23	61	5%	4%	12%	62%	38%
31-40	267	89	356	31%	27%	48%	75%	25%
41-50	410	57	467	40%	42%	31%	88%	12%
51-60	228	17	245	21%	23%	9%	93%	7%
61 and above	30	0	30	3%	3%	0%	100%	0%
TOTAL	973	186	1159	100%	100%	100%	84%	16%
Question 4. Nationality								
Asia/Oceania	151	25	176	15%	15%	13%	86%	14%
Latin America/Caribbean	78	8	86	7%	8%	4%	91%	9%
Sub-Saharan Africa	153	11	164	14%	15%	6%	93%	7%
West Asia/North Africa	57	7	64	5%	6%	4%	89%	11%
North America	184	52	236	20%	18%	28%	78%	22%
Europe	319	80	399	34%	32%	43%	80%	20%
Australia/New Zealand	39	5	44	4%	4%	3%	89%	11%
Japan	21	0	21	2%	2%	0%	100%	0%
TOTAL	1002	188	1190	100%	100%	100%	84%	16%

QUESTION #	MALE	FEMALE	TOTAL	% of TOTAL	M as % M TOTAL	F as % F TOTAL	M % row TOTAL	F % row TOTAL
Question 5. Tenure at Center (number of years employed at Center)								
Less than 1	125	41	166	14%	12%	22%	75%	25%
1-3	321	76	397	33%	32%	40%	81%	19%
4-6	176	36	212	18%	18%	19%	83%	17%
7-9	145	18	163	14%	14%	10%	89%	11%
More than 10	236	17	253	21%	24%	9%	93%	7%
TOTAL	1003	188	1191	100%	100%	100%	84%	16%
Question 6. Location/ Posting								
Headquarters	689	141	830	70%	69%	75%	83%	17%
Outposted (regional or field position)	313	47	360	30%	31%	25%	87%	13%
TOTAL	1002	188	1190	100%	100%	100%	84%	16%
Question 7. Funding source								
Fixed term, renewable appointment	777	134	911	77%	78%	72%	85%	15%
Special project - non-renewable	142	24	166	14%	14%	13%	86%	14%
Donor funded positons	80	29	109	9%	8%	16%	73%	27%
TOTAL	999	187	1186	100%	100%	100%	84%	16%
Question 8. Staff on part-time contracts (<75%)	8	1	9	1%	1%	1%	89%	11%
Question 9. Degree levels (highest degree received)								
Ph.D. or equivalent	791	99	890	75%	77%	58%	89%	11%
Msc/MA/ or equivalent	146	51	197	17%	14%	30%	74%	26%
Other	85	20	105	9%	8%	12%	81%	19%
TOTAL	1022	170	1192	100%	100%	100%	86%	14%
Question 10. Discipline (in which highest degree received)								
Crop sciences	380	51	431	36%	38%	27%	88%	12%
Animal sciences	48	4	52	4%	5%	2%	92%	8%
Cellular sciences (microbiology)	61	16	77	6%	6%	9%	79%	21%

QUESTION #	MALE	FEMALE	TOTAL	% of TOTAL	M as % M TOTAL	F as % F TOTAL	M % row TOTAL	F % row TOTAL
Forestry/agroforestry	31	6	37	3%	3%	3%	84%	16%
Other biological sciences	67	18	85	7%	7%	10%	79%	21%
Chemistry	4	0	4	0%	0%	0%	100%	0%
Physical sciences	10	0	10	1%	1%	0%	100%	0%
Environmental/soil and resource mngt. sciences	88	12	100	8%	9%	6%	88%	12%
Engineering	37	8	45	4%	4%	4%	82%	18%
Social/economic sciences	157	38	195	16%	16%	20%	81%	19%
Computer/information sciences	29	12	41	3%	3%	6%	71%	29%
Mathematics/statistics	8	2	10	1%	1%	1%	80%	20%
Management/administration	46	11	57	5%	5%	6%	81%	19%
Other (specify)	35	10	45	4%	3%	5%	78%	22%
TOTAL	1001	188	1189	100%	100%	100%	84%	16%
Question 11. Staff actively engaged in biotechnology research	64	17	81	0%	6%	9%	79%	21%
Question 12. Years of relevant professional experience (post Msc or equiv.)								
< 5 years	91	36	127	12%	10%	22%	72%	28%
5 - 9 years	136	50	186	18%	15%	30%	73%	27%
10-19 years	333	54	387	37%	38%	33%	86%	14%
20-30 years	266	19	285	27%	30%	12%	93%	7%
> 30 years	52	5	57	5%	6%	3%	91%	9%
TOTAL	878	164	1042	100%	100%	100%	84%	16%
Question 13. Marital status (number of staff)								
married w/spouse in residence	824	82	906	76%	82%	44%	91%	9%
married w/out spouse in residence	63	14	77	6%	6%	7%	82%	18%
single/divorced/widowed	115	92	207	17%	11%	49%	56%	44%
TOTAL	1002	188	1190	100%	100%	100%	84%	16%
Question 14. Children (number of staff)								
With children	787	73	860	72%	79%	39%	92%	8%
No children	215	115	330	28%	21%	61%	65%	35%
TOTAL	1002	188	1190	100%	100%	100%	84%	16%

QUESTION #	MALE	FEMALE	TOTAL	% of TOTAL	M as % M TOTAL	F as % F TOTAL	M % row TOTAL	F % row TOTAL
Part III. Additional Information for Analysis of Gender Staffing								
18. Number of locally-recruited scientists (1997)	258	201	459	n/a	n/a	n/a	56%	44%
19. Number of locally-recruited senior managers/ admin. (1997)	115	81	196	n/a	n/a	n/a	59%	41%
20. International consultants hired in 1996	258	59	317	n/a	n/a	n/a	81%	19%
21. Regional and/or national consultants hired in 1996	164	58	222	n/a	n/a	n/a	74%	26%
22. Spouses of internationally-recruited staff hired as consultants (1996)	3	17	20	n/a	n/a	n/a	15%	85%
23. Short-course group trainees (in headquarters and regions) in 1996	876	170	1046	n/a	n/a	n/a	84%	16%
24. Ph.D. trainees in 1996	201	121	322	n/a	n/a	n/a	62%	38%
25. Msc trainees in 1996	128	45	173	n/a	n/a	n/a	74%	26%

TABLE 2: 1994 HUMAN RESOURCES SURVEY - SUMMARY

QUESTION #	MALE	FEMALE	TOTAL	% of TOTAL	M as % M TOTAL	F as % F TOTAL	M % row TOTAL	F % row TOTAL
Question 1. Total number of international staff	1051	173	1224	100%	100%	100%	86%	14%
Question 2. Staffing by level - by recruited								
senior management/administration	84	5	89	7%	8%	3%	94%	6%
department heads/research thrust leaders	148	15	163	13%	14%	9%	91%	9%
senior and/or principal scientists	393	39	432	35%	37%	23%	91%	9%
junior or associate scientists	134	19	153	13%	13%	11%	88%	12%
visiting scientists/research fellows	71	17	88	7%	7%	10%	81%	19%
postdoctoral scientists/fellows	103	30	133	11%	10%	17%	77%	23%
associate experts	49	16	65	5%	5%	9%	75%	25%
other internationally recruited	69	32	101	8%	7%	18%	68%	32%
administrative staff/or professional support staff								
TOTAL	1051	173	1224	100%	100%	100%	86%	14%
Question 3. Age (years)								
20-30	40	26	66	5%	4%	15%	61%	39%
31-40	325	82	407	33%	31%	47%	80%	20%
41-50	431	55	486	40%	41%	32%	89%	11%
51-60	231	9	240	20%	22%	5%	96%	4%
61 and above	24	1	25	2%	2%	1%	96%	4%
TOTAL	1051	173	1224	100%	100%	100%	86%	14%

Question 4. Nationality								
Asia/Oceania	190	17	207	17%	18%	10%	92%	8%
Latin America/Caribbean	98	4	102	8%	9%	2%	96%	4%
Sub-Saharan Africa	168	15	183	15%	16%	9%	92%	8%
West Asia/North Africa	54	7	61	5%	5%	4%	89%	11%
North America	178	55	233	19%	17%	32%	76%	24%
Europe	309	71	380	31%	29%	41%	81%	19%
Australia/New Zealand	34	3	37	3%	3%	2%	92%	8%
Japan	21	1	22	2%	2%	1%	95%	5%
TOTAL	1052	173	1225	100%	100%	100%	86%	14%
Question 5. Tenure at Center (number of years employed at Center)								
Less than 1	142	39	181	15%	14%	23%	78%	22%
1-3	336	70	406	33%	32%	40%	83%	17%
4-6	202	27	229	19%	19%	16%	88%	12%
7-9	134	23	157	13%	13%	13%	85%	15%
More than 10	237	14	251	21%	23%	8%	94%	6%
TOTAL	1051	173	1224	100%	100%	100%	86%	14%
Question 6. Location/ Posting								
Headquarters	734	142	876	72%	70%	82%	84%	16%
Outposted (regional or field position)	317	31	348	28%	30%	18%	91%	9%
TOTAL	1051	173	1224	100%	100%	100%	86%	14%
Question 7. Funding source								
In TAC approved core staff positions	667	92	759	64%	65%	55%	88%	12%
Other staff positions	355	74	429	36%	35%	45%	83%	17%
TOTAL	1022	166	1188	100%	100%	100%	86%	14%

Question 8. Staff on part-time contracts (<75%)	12	5	17	0%	0%	0%	0%	0%
Question 9. Degree levels (highest degree received)								
Ph.D. or equivalent	792	95	887	72%	75%	55%	89%	11%
Msc/MA/ or equivalent	161	52	213	17%	15%	30%	76%	24%
Other	98	26	124	10%	9%	15%	79%	21%
TOTAL	1051	173	1224	100%	100%	100%	86%	14%
Question 10. Discipline (in which highest degree received)								
Crop sciences	388	43	431	35%	37%	25%	90%	10%
Animal sciences	60	9	69	6%	6%	5%	87%	13%
Cellular sciences (microbiology)	75	19	94	8%	7%	11%	80%	20%
Forestry/agroforestry	37	3	40	3%	4%	2%	93%	8%
Other biological sciences	94	12	106	9%	9%	7%	89%	11%
Chemistry	6	1	7	1%	1%	1%	86%	14%
Physical sciences	7	0	7	1%	1%	0%	100%	0%
Environmental/soil and resource management sciences	83	10	93	8%	8%	6%	89%	11%
Engineering	46	2	48	4%	4%	1%	96%	4%
Social/economic sciences	145	43	188	15%	14%	25%	77%	23%
Computer/information sciences	29	7	36	3%	3%	4%	81%	19%
Mathematics/statistics	12	1	13	1%	1%	1%	92%	8%
Management/administration	45	16	61	5%	4%	9%	74%	26%
Other (specify)	24	7	31	3%	2%	4%	77%	23%
TOTAL	1051	173	1224	100%	100%	100%	86%	14%
Question 11. Staff actively engaged in biotechnology research	73	21	94	0%	0%	0%	78%	22%
Question 12. Years of relevant professional experience (post Msc or equiv.)								
< 5 years	166	50	216	18%	16%	29%	77%	23%
5 - 9 years	185	36	221	18%	18%	21%	84%	16%
10-19 years	362	58	420	34%	34%	34%	86%	14%
20-30 years	284	27	311	25%	27%	16%	91%	9%
> 30 years	54	1	55	4%	5%	1%	98%	2%
TOTAL	1051	172	1223	100%	100%	100%	86%	14%

Question 13. Marital status (number of staff)								
married w/spouse in residence	857	76	933	77%	82%	44%	92%	8%
married w/out spouse in residence	67	9	76	6%	6%	5%	88%	12%
single/divorced/widowed	121	87	208	17%	12%	51%	58%	42%
TOTAL	1045	172	1217	100%	100%	100%	86%	14%
Question 14. Children (number of staff)								
With children	851	73	924	76%	81%	42%	92%	8%
No children	194	99	293	24%	19%	58%	66%	34%
TOTAL	1045	172	1217	100%	100%	100%	86%	14%
Part III. Additional Information for Analysis of Gender Staffing								
18. Number of locally-recruited scientists (1994)	311	139	450	n/a	n/a	n/a	69%	31%
19. Number of locally-recruited senior managers/ admin. (1994)	119	28	147	n/a	n/a	n/a	81%	19%
20. International consultants hired in 1994	199	38	237	n/a	n/a	n/a	84%	16%
21. Regional and/or national consultants hired in 1994	105	32	137	n/a	n/a	n/a	77%	23%
22. Spouses of internationally-recruited staff hired as consultants	2	15	17	n/a	n/a	n/a	12%	88%
23. Short-course group trainees (in headquarters and regions) in 1994	1894	417	2311	n/a	n/a	n/a	82%	18%
24. Ph.D. trainees in 1994	212	75	287	n/a	n/a	n/a	74%	26%
25. Msc trainees in 1994	158	47	205	n/a	n/a	n/a	77%	23%

TABLE 3: 1991 HUMAN RESOURCES SURVEY - SUMMARY

QUESTION #	MALE	FEMALE	TOTAL	% of TOTAL	M as % M TOTAL	F as % F TOTAL	M % row TOTAL	F % row TOTAL
Question 1. Total number of international staff	1142	153	1295	100%	100%	100%	88%	12%
Question 2. Staffing by level - by recruited								
senior management/administration	86	2	88	7%	8%	1%	98%	2%
department heads/research thrust leaders	134	9	143	11%	12%	6%	94%	6%
senior and/or principal scientists	519	49	568	44%	45%	32%	91%	9%
junior or associate scientists	85	26	111	9%	7%	17%	77%	23%
visiting scientists/research fellows	130	14	144	11%	11%	9%	90%	10%
postdoctoral scientists/fellows	88	19	107	8%	8%	12%	82%	18%
associate experts	18	8	26	2%	2%	5%	69%	31%
other internationally recruited	82	26	108	8%	7%	17%	76%	24%
administrative staff/or professional support staff								
TOTAL	1142	153	1295	100%	100%	100%	88%	12%
Question 3. Age (years)								
20-30	49	17	66	6%	5%	12%	74%	26%
31-40	336	63	399	33%	32%	44%	84%	16%
41-50	430	48	478	40%	41%	34%	90%	10%
51-60	197	13	210	18%	19%	9%	94%	6%
61 and above	42	2	44	4%	4%	1%	95%	5%
TOTAL	1054	143	1197	100%	100%	100%	88%	12%

Question 4. Nationality								
Asia/Oceania	187	17	204	17%	18%	12%	92%	8%
Latin America/Caribbean	100	8	108	9%	10%	6%	93%	7%
Sub-Saharan Africa	150	9	159	13%	14%	6%	94%	6%
West Asia/North Africa	40	3	43	4%	4%	2%	93%	7%
North America	203	55	258	22%	19%	38%	79%	21%
Europe	310	48	358	30%	30%	33%	87%	13%
Australia/New Zealand	37	4	41	3%	4%	3%	90%	10%
Japan	20	0	20	2%	2%	0%	100%	0%
TOTAL	1047	144	1191	100%	100%	100%	88%	12%
Question 5. Tenure at Center (number of years employed at Center)								
Less than 1	133	34	167	14%	13%	24%	80%	20%
1-3	377	57	434	36%	36%	40%	87%	13%
4-6	186	33	219	18%	18%	23%	85%	15%
7-9	126	5	131	11%	12%	3%	96%	4%
More than 10	225	15	240	20%	21%	10%	94%	6%
TOTAL	1047	144	1191	100%	100%	100%	88%	12%
Question 6. Location/ Posting								
Headquarters	730	113	843	71%	69%	78%	87%	13%
Outposted (regional or field position)	321	31	352	29%	31%	22%	91%	9%
TOTAL	1051	144	1195	100%	100%	100%	88%	12%
Question 7. Funding source								
In TAC approved core staff positions	771	100	871	79%	80%	76%	89%	11%
Other staff positions	195	31	226	21%	20%	24%	86%	14%
TOTAL	966	131	1097	100%	100%	100%	88%	12%

Question 8. Staff on part-time contracts (<75%)	11	2	13	100%	100%	100%	85%	15%
Question 9. Degree levels (highest degree received)								
Ph.D. or equivalent	799	77	876	73%	76%	53%	91%	9%
Msc/MA/ or equivalent	158	46	204	17%	15%	32%	77%	23%
Other	95	21	116	10%	9%	15%	82%	18%
TOTAL	1052	144	1196	100%	100%	100%	88%	12%
Question 10. Discipline (in which highest degree received)								
Crop sciences	366	29	395	33%	35%	20%	93%	7%
Animal sciences	71	5	76	6%	7%	3%	93%	7%
Cellular sciences (microbiology)	75	19	94	8%	7%	13%	80%	20%
Forestry/agroforestry	20	1	21	2%	2%	1%	95%	5%
Other biological sciences	102	9	111	9%	10%	6%	92%	8%
Chemistry	9	0	9	1%	1%	0%	100%	0%
Physical sciences	10	0	10	1%	1%	0%	100%	0%
Environmental/soil and resource management sciences	85	3	88	7%	8%	2%	97%	3%
Engineering	44	0	44	4%	4%	0%	100%	0%
Social/economic sciences	131	38	169	14%	13%	27%	78%	22%
Computer/information sciences	29	17	46	4%	3%	12%	63%	37%
Mathematics/statistics	8	2	10	1%	1%	1%	80%	20%
Management/administration	59	6	65	5%	6%	4%	91%	9%
Other (specify)	37	14	51	4%	4%	10%	73%	27%
TOTAL	1046	143	1189	100%	100%	100%	88%	12%
Question 11. Staff actively engaged in biotechnology research	68	24	92	0%	0%	0%	74%	26%
Question 12. Years of relevant professional experience (post Msc or equiv.)								
< 5 years	72	10	82	7%	7%	9%	88%	12%
5 - 9 years	169	29	198	18%	17%	26%	85%	15%
10-19 years	430	47	477	43%	43%	42%	90%	10%

20-30 years	276	21	297	27%	28%	19%	93%	7%
> 30 years	56	5	61	5%	6%	4%	92%	8%
TOTAL	1003	112	1115	100%	100%	100%	90%	10%
Question 13. Marital status (number of staff)								
married w/spouse in residence	881	69	950	79%	83%	48%	93%	7%
married w/out spouse in residence	55	8	63	5%	5%	6%	87%	13%
single/divorced/widowed	127	68	195	16%	12%	47%	65%	35%
TOTAL	1063	145	1208	100%	100%	100%	88%	12%
Question 14. Children (number of staff)								
With children	859	69	928	78%	82%	50%	93%	7%
No children	185	70	255	22%	18%	50%	73%	27%
TOTAL	1044	139	1183	100%	100%	100%	88%	12%
Part III. Additional Information for Analysis of Gender Staffing								
18. Number of locally-recruited scientists (1991)		109	109	n/a	n/a	n/a	0%	100%
19. Number of locally-recruited senior managers/admin. (1991)		26	26	n/a	n/a	n/a	0%	100%
20. International consultants hired in 1991		41	41	n/a	n/a	n/a	0%	100%
21. Regional and/or national consultants hired in 1991		34	34	n/a	n/a	n/a	0%	100%
22. Spouses of internationally-recruited staff hired as consultants		17	17	n/a	n/a	n/a	0%	100%
23. Short-course group trainees (in headquarters and regions) in 1991		19	19	n/a	n/a	n/a	0%	100%
24. Ph.D. trainees in 1991		45	45	n/a	n/a	n/a	0%	100%
25. Msc trainees in 1991		48	48	n/a	n/a	n/a	0%	100%

Appendix 5: Fields in the 1999 survey

Position group I through VII	
Age (in groups 25-34, 35-44, 45-54, over 55	
Degree:	Last degree earned (PhD or equivalent, BSc, Other)
	Country where earned
	Region of country where earned (using World Bank designations)
	World Bank Part of the country where earned
	Years of relevant professional experience, post PhD or equivalent (less than 5 years, 5-9, 10-19, more than 20)*
	Disciplinary area in which highest degree earned (I=Mgmt/Information, II=Social Sciences, III=Natural Sciences)
Birthplace:	Country of origin
	Region of country of origin
	World Bank Part of country of origin
Citizenship:	Country of citizenship
	Region of country of citizenship
	World Bank Part of country of citizenship
Tenure at Center:	(<1 year, 1-3, 4-6, 7-9, >10)*
Personal status:	Married with resident spouse/partner in Residence
	Married without resident spouse/partner in Residence
	Single/Divorced/Widowed
	Children in residence at post
Basic salary	

* The variable for tenure was constructed by subtracting the reported date of the last degree from 2000. To account for the time taken to obtain a PhD, those whose last degree was reported as Master's or "Other" had 4 years subtracted. Those with only a Bachelor's degree had 5 years subtracted. For comparison, John J. Siegfied and Wendy A. Stock, "The Labor Market for New PhD Economists", Journal of Economic Perspectives, vol. 13.3 (1999) pp. 115-34, report that those receiving US Economics PhD's in 1986 had taken an average of 6.3 years from the Bachelor's level.

Appendix 6: Survey and methodology

Full Details of regression analysis discussed in section V

DATA

The data were constructed from the CGIAR 1999 survey. Throughout the analysis information on the same 966 individuals was used. The survey collected data on 976 individuals. The 10 people dropped were: CIP, 5 men and 1 woman, lack of base salary data; IWMI, 1 man, insufficient data; ICRISAT, 2 men and 1 woman, joined centre in 35th millennium.

VARIABLE NAMES AND DESCRIPTIONS

BSALARY	Base salary in US dollars.
LSALARY	Logarithm of Base salary
CONST:	An artificial variable incorporated for technical reasons
CIFOR...WARDA	Dummy variables which indicate membership of appropriate centre. (E.g. CIFOR is 1 for people who work there and 0 otherwise). Reference group, CIAT.
PGI...PGVI	Dummy variables for position group. Reference group, PG VII.
FEMALE	Dummy variable. Reference group Males
BA...OTHER	Dummy for educational attainment. Reference group, PhD's
FCII, FCIII	Dummies for field codes of last degree. FCII is social sciences FCIII is natural sciences. Reference group: management/information.
OWBPII	Dummy for individuals born in WB part II countries. Reference group, those born in WB part I countries.
MARRIED	Dummy variable. Reference group, single/divorced/widowed.
CHILDREN	Dummy variable. Reference group, no dependent children.

AGE3544...AGE55	Dummy variables for bracketed age groups: 35-44, 45-54, over 55. Reference group: under 35's.
YRX	Years of relevant experience. This variable was constructed by subtracting the reported date of last degree from 2000. To account for the time taken to achieve a PhD, those whose last degree was reported as Masters or "other" had 4 years subtracted. Those with only a Bachelor's degree had 5 years subtracted.
YJC	Year joined centre.
OWR	Works in own world region

Summary Salary Regression: Ordinary Least Squares Estimation

Dependent variable is LSALARY
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	13.8163	2.0428	6.7632[.000]
CIFOR	.21143	.036279	5.8279[.000]
CIMMYT	-.0076071	.027503	-.27659[.782]
CIP	-.17048	.031081	-5.4849[.000]
ICARDA	-.27123	.029006	-9.3509[.000]
ICLARM	.10796	.042336	2.5500[.011]
ICRAF	.078846	.032858	2.3996[.017]
ICRISAT	-.12574	.034569	-3.6374[.000]
IFPRI	.34761	.031314	11.1009[.000]
IITA	-.063106	.028532	-2.2117[.027]
ILRI	.093470	.029004	3.2226[.001]
IPGRI	.13629	.035808	3.8061[.000]
IRRI	.010055	.027451	.36629[.714]
ISNAR	.045116	.037244	1.2114[.226]
IWMI	.13168	.042737	3.0813[.002]
WARDA	-.12464	.041696	-2.9891[.003]
PGI	.97307	.034378	28.3047[.000]
PGII	.70638	.028681	24.6286[.000]
PGIII	.67381	.029548	22.8042[.000]
PGIV	.55816	.024305	22.9649[.000]
PGV	.39822	.022516	17.6861[.000]
PGVI	.16976	.026764	6.3429[.000]
FEMALE	-.016122	.016803	-.95947[.338]
BA	-.076946	.029249	-2.6307[.009]
MA	-.036780	.020529	-1.7917[.074]
OTHER	-.026483	.029595	-.89485[.371]
FCII	.056505	.026790	2.1092[.035]
FCIII	.0062834	.024987	.25146[.802]
OWBPII	-.071666	.013377	-5.3572[.000]
MARRIED	.015762	.019989	.78853[.431]
CHILDREN	-.0054711	.014220	-.38475[.701]
AGE3544	.063716	.024041	2.6503[.008]
AGE4554	.10155	.027558	3.6849[.000]
AGE55	.14183	.034769	4.0791[.000]
YRX	.0084366	.0011355	7.4298[.000]
YJC	-.0018207	.0010218	-1.7819[.075]
OWR	-.013906	.014610	-.95181[.341]

R-Squared	.80680	R-Bar-Squared	.79931
S.E. of Regression	.17755	F-stat. F(36, 929)	107.7621[.000]
Mean of Dependent Variable	10.8492	S.D. of Dependent Variable	.39633
Residual Sum of Squares	29.2861	Equation Log-likelihood	317.8987
Akaike Info. Criterion	280.8987	Schwarz Bayesian Criterion	190.7452
DW-statistic	1.7904		

Diagnostic Tests

Test Statistics	LM Version	F Version
A:Serial Correlation	CHSQ(1)= 9.7979[.002]	F(1, 928)= 9.5090[.002]
B:Functional Form	CHSQ(1)= 20.3275[.000]	F(1, 928)= 19.9477[.000]
C:Normality	CHSQ(2)= 364.4162[.000]	Not applicable
D:Heteroscedasticity	CHSQ(1)= 24.6874[.000]	F(1, 964)= 25.2824[.000]

A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values

Summary Salary Regression:White's Heteroscedasticity Adjusted Standard Errors

Dependent variable is LSALARY
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	13.8163	2.2181	6.2288[.000]
CIFOR	.21143	.034318	6.1610[.000]
CIMMYT	-.0076071	.027465	-.27697[.782]
CIP	-.17048	.039232	-4.3453[.000]
ICARDA	-.27123	.027512	-9.8588[.000]
ICLARM	.10796	.032202	3.3526[.001]
ICRAF	.078846	.028120	2.8039[.005]
ICRISAT	-.12574	.036047	-3.4884[.001]
IFPRI	.34761	.033641	10.3328[.000]
IITA	-.063106	.029497	-2.1394[.033]
ILRI	.093470	.031851	2.9346[.003]
IPGRI	.13629	.030480	4.4715[.000]
IRRI	.010055	.031356	.32066[.749]
ISNAR	.045116	.045023	1.0021[.317]
IWMI	.13168	.029540	4.4579[.000]
WARDA	-.12464	.043354	-2.8748[.004]
PGI	.97307	.038277	25.4215[.000]
PGII	.70638	.035424	19.9406[.000]
PGIII	.67381	.034310	19.6389[.000]
PGIV	.55816	.028979	19.2606[.000]
PGV	.39822	.027420	14.5231[.000]
PGVI	.16976	.033377	5.0861[.000]
FEMALE	-.016122	.017901	-.90063[.368]
BA	-.076946	.032507	-2.3670[.018]
MA	-.036780	.024549	-1.4982[.134]
OTHER	-.026483	.036139	-.73280[.464]
FCII	.056505	.029099	1.9418[.052]
FCIII	.0062834	.025908	.24253[.808]
OWBPII	-.071666	.014723	-4.8676[.000]
MARRIED	.015762	.020971	.75163[.452]
CHILDREN	-.0054711	.013544	-.40397[.686]
AGE3544	.063716	.031170	2.0441[.041]
AGE4554	.10155	.033531	3.0284[.003]
AGE55	.14183	.041413	3.4247[.001]
YRX	.0084366	.0011651	7.2410[.000]
YJC	-.0018207	.0011104	-1.6397[.101]
OWR	-.013906	.015392	-.90343[.367]

Regression 1a: Ordinary Least Squares Estimation

Dependent variable is LSALARY
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	13.1879	2.0565	6.4129[.000]
CIFOR	.21082	.037203	5.6668[.000]
CIMMYT	-.022714	.028007	-.81098[.418]
CIP	-.18669	.031571	-5.9134[.000]
ICARDA	-.29007	.029383	-9.8721[.000]
ICLARM	.11221	.043319	2.5903[.010]
ICRAF	.071164	.033182	2.1447[.032]
ICRISAT	-.14346	.035125	-4.0842[.000]
IFPRI	.36590	.030381	12.0437[.000]
IITA	-.083306	.028383	-2.9351[.003]
ILRI	.096423	.028025	3.4406[.001]
IPGRI	.11283	.036002	3.1340[.002]
IRRI	-.0035772	.027615	-.12954[.897]
ISNAR	.079996	.037308	2.1442[.032]
IWMI	.13039	.043526	2.9956[.003]
WARDA	-.14370	.042053	-3.4172[.001]
PGI	1.0423	.033620	31.0025[.000]
PGII	.74784	.028090	26.6226[.000]
PGIII	.72664	.029138	24.9381[.000]
PGIV	.60669	.023168	26.1870[.000]
PGV	.43224	.022037	19.6140[.000]
PGVI	.19274	.027183	7.0905[.000]
FEMALE	-.0070908	.016578	-.42772[.669]
BA	-.079867	.028467	-2.8056[.005]
MA	-.037506	.019666	-1.9072[.057]
OTHER	-.026929	.027424	-.98194[.326]
YRX	.010068	.9327E-3	10.7940[.000]
YJC	-.0014952	.0010301	-1.4515[.147]

R-Squared	.79405	R-Bar-Squared	.78813
S.E. of Regression	.18243	F-stat. F(27, 938)	133.9476[.000]
Mean of Dependent Variable	10.8492	S.D. of Dependent Variable	.39633
Residual Sum of Squares	31.2178	Equation Log-likelihood	287.0455
Akaike Info. Criterion	259.0455	Schwarz Bayesian Criterion	190.8212
DW-statistic	1.7809		

Diagnostic Tests

Test Statistics	LM Version	F Version
A:Serial Correlation	CHSQ(1)= 10.8398[.001]	F(1, 937)= 10.6337[.001]
B:Functional Form	CHSQ(1)= 13.4229[.000]	F(1, 937)= 13.2034[.000]
C:Normality	CHSQ(2)= 410.4361[.000]	Not applicable
D:Heteroscedasticity	CHSQ(1)= 27.7345[.000]	F(1, 964)= 28.4952[.000]

A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values

Regression 1a: White's Heteroscedasticity Adjusted Standard Errors

Dependent variable is LSALARY
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	13.1879	2.2192	5.9426[.000]
CIFOR	.21082	.036466	5.7813[.000]
CIMMYT	-.022714	.028027	-.81040[.418]
CIP	-.18669	.040245	-4.6389[.000]
ICARDA	-.29007	.027985	-10.3653[.000]
ICLARM	.11221	.033373	3.3623[.001]
ICRAF	.071164	.028551	2.4925[.013]
ICRISAT	-.14346	.036722	-3.9065[.000]
IFPRI	.36590	.032888	11.1257[.000]
IITA	-.083306	.029390	-2.8345[.005]
ILRI	.096423	.030274	3.1850[.001]
IPGRI	.11283	.030670	3.6789[.000]
IRRI	-.0035772	.033274	-.10751[.914]
ISNAR	.079996	.046512	1.7199[.086]
IWMI	.13039	.031250	4.1724[.000]
WARDA	-.14370	.042998	-3.3421[.001]
PGI	1.0423	.036774	28.3429[.000]
PGII	.74784	.035239	21.2218[.000]
PGIII	.72664	.034048	21.3418[.000]
PGIV	.60669	.028298	21.4390[.000]
PGV	.43224	.027474	15.7326[.000]
PGVI	.19274	.035256	5.4668[.000]
FEMALE	-.0070908	.017507	-.40503[.686]
BA	-.079867	.029710	-2.6882[.007]
MA	-.037506	.023275	-1.6114[.107]
OTHER	-.026929	.034279	-.78557[.432]
YRX	.010068	.0010110	9.9585[.000]
YJC	-.0014952	.0011138	-1.3424[.180]

Regression 1b: Ordinary Least Squares Estimation

Dependent variable is LSALARY
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	13.6197	2.0266	6.7203[.000]
CIFOR	.20614	.036650	5.6244[.000]
CIMMYT	-.019189	.027596	-.69535[.487]
CIP	-.18094	.031116	-5.8150[.000]
ICARDA	-.27573	.028991	-9.5107[.000]
ICLARM	.10597	.042676	2.4831[.013]
ICRAF	.069269	.032676	2.1198[.034]
ICRISAT	-.13490	.034619	-3.8966[.000]
IFPRI	.36020	.029928	12.0355[.000]
IITA	-.080397	.027960	-2.8754[.004]
ILRI	.094306	.027584	3.4189[.001]
IPGRI	.11679	.035472	3.2925[.001]
IRRI	-.0012513	.027125	-.046132[.963]
ISNAR	.070847	.036776	1.9264[.054]
IWMI	.12833	.042842	2.9953[.003]
WARDA	-.12374	.041379	-2.9903[.003]
PGI	1.0162	.033419	30.4074[.000]
PGII	.72726	.027888	26.0778[.000]
PGIII	.70543	.028904	24.4060[.000]
PGIV	.58435	.023166	25.2242[.000]
PGV	.41578	.021921	18.9672[.000]
PGVI	.17802	.026915	6.6140[.000]
BA	-.090690	.028073	-3.2305[.001]
MA	-.045739	.019258	-2.3750[.018]
OTHER	-.034628	.026952	-1.2848[.199]
YRX	.010793	.9253E-3	11.6636[.000]
YJC	-.0016934	.0010150	-1.6683[.096]
OWBPII	-.065138	.012127	-5.3714[.000]

R-Squared	.80016	R-Bar-Squared	.79441
S.E. of Regression	.17971	F-stat. F(27, 938)	139.1023[.000]
Mean of Dependent Variable	10.8492	S.D. of Dependent Variable	.39633
Residual Sum of Squares	30.2922	Equation Log-likelihood	301.5838
Akaike Info. Criterion	273.5838	Schwarz Bayesian Criterion	205.3595
DW-statistic	1.8017		

Diagnostic Tests

Test Statistics	LM Version	F Version
A:Serial Correlation	CHSQ(1)= 8.7267[.003]	F(1, 937)= 8.5419[.004]
B:Functional Form	CHSQ(1)= 20.0713[.000]	F(1, 937)= 19.8818[.000]
C:Normality	CHSQ(2)= 378.3511[.000]	Not applicable
D:Heteroscedasticity	CHSQ(1)= 23.2395[.000]	F(1, 964)= 23.7631[.000]

A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values

Regression 1b: White's Heteroscedasticity Adjusted Standard Errors

Dependent variable is LSALARY
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	13.6197	2.2196	6.1362[.000]
CIFOR	.20614	.034602	5.9574[.000]
CIMMYT	-.019189	.027728	-.69206[.489]
CIP	-.18094	.039104	-4.6272[.000]
ICARDA	-.27573	.027427	-10.0530[.000]
ICLARM	.10597	.033926	3.1235[.002]
ICRAF	.069269	.027941	2.4791[.013]
ICRISAT	-.13490	.036468	-3.6990[.000]
IFPRI	.36020	.032800	10.9819[.000]
IITA	-.080397	.029053	-2.7672[.006]
ILRI	.094306	.029499	3.1969[.001]
IPGRI	.11679	.029816	3.9171[.000]
IRRI	-.0012513	.032059	-.039033[.969]
ISNAR	.070847	.045376	1.5613[.119]
IWMI	.12833	.029927	4.2880[.000]
WARDA	-.12374	.042825	-2.8894[.004]
PGI	1.0162	.036560	27.7950[.000]
PGII	.72726	.034656	20.9849[.000]
PGIII	.70543	.033645	20.9668[.000]
PGIV	.58435	.027471	21.2714[.000]
PGV	.41578	.026675	15.5865[.000]
PGVI	.17802	.034243	5.1985[.000]
BA	-.090690	.029640	-3.0597[.002]
MA	-.045739	.022628	-2.0213[.044]
OTHER	-.034628	.034284	-1.0100[.313]
YRX	.010793	.0010306	10.4719[.000]
YJC	-.0016934	.0011131	-1.5213[.129]
OWBPII	-.065138	.012319	-5.2878[.000]

Regression 1c: Ordinary Least Squares Estimation

Dependent variable is LSALARY
546 observations used for estimation from 1 to 546

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	8.6246	2.6149	3.2983[.001]
CIFOR	.19921	.041365	4.8159[.000]
CIMMYT	-.028992	.032775	-.88457[.377]
CIP	-.12762	.038045	-3.3544[.001]
ICARDA	-.27078	.038862	-6.9679[.000]
ICLARM	.093251	.046952	1.9861[.048]
ICRAF	.067898	.037809	1.7958[.073]
ICRISAT	-.13757	.043421	-3.1683[.002]
IFPRI	.31670	.032275	9.8125[.000]
IITA	-.11210	.033963	-3.3007[.001]
ILRI	.080222	.031999	2.5070[.012]
IPGRI	.10861	.040178	2.7031[.007]
IRRI	.060774	.032282	1.8826[.060]
ISNAR	.015895	.041466	.38333[.702]
IWMI	.11251	.045940	2.4490[.015]
WARDA	-.14666	.056684	-2.5873[.010]
PGI	.88646	.040026	22.1473[.000]
PGII	.61407	.035523	17.2862[.000]
PGIII	.58655	.036169	16.2172[.000]
PGIV	.48058	.029628	16.2203[.000]
PGV	.30302	.028590	10.5988[.000]
PGVI	.096927	.033961	2.8541[.004]
BA	-.10839	.030502	-3.5535[.000]
MA	-.031126	.021135	-1.4727[.141]
OTHER	-.025267	.033180	-.76151[.447]
YRX	.010965	.0011296	9.7068[.000]
YJC	.8638E-3	.0013105	.65912[.510]
OWBPII	-.045797	.031485	-1.4546[.146]

R-Squared	.80037	R-Bar-Squared	.78996
S.E. of Regression	.16165	F-stat. F(27, 518)	76.9183[.000]
Mean of Dependent Variable	10.9095	S.D. of Dependent Variable	.35271
Residual Sum of Squares	13.5353	Equation Log-likelihood	234.6280
Akaike Info. Criterion	206.6280	Schwarz Bayesian Criterion	146.3913
DW-statistic	1.9712		

Diagnostic Tests

Test Statistics	LM Version	F Version
A:Serial Correlation	CHSQ(1)= .098345[.754]	F(1, 517)= .093139[.760]
B:Functional Form	CHSQ(1)= 1.8705[.171]	F(1, 517)= 1.7772[.183]
C:Normality	CHSQ(2)= 445.7506[.000]	Not applicable
D:Heteroscedasticity	CHSQ(1)= 5.9669[.015]	F(1, 544)= 6.0107[.015]

A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values

Regression 1c: White's Heteroscedasticity Adjusted Standard Errors

Dependent variable is LSALARY
546 observations used for estimation from 1 to 546

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	8.6246	2.8344	3.0428[.002]
CIFOR	.19921	.038322	5.1983[.000]
CIMMYT	-.028992	.032219	-.89986[.369]
CIP	-.12762	.049607	-2.5726[.010]
ICARDA	-.27078	.035178	-7.6976[.000]
ICLARM	.093251	.038408	2.4279[.016]
ICRAF	.067898	.032379	2.0970[.036]
ICRISAT	-.13757	.048057	-2.8627[.004]
IFPRI	.31670	.036948	8.5715[.000]
IITA	-.11210	.034350	-3.2634[.001]
ILRI	.080222	.033810	2.3727[.018]
IPGRI	.10861	.036803	2.9510[.003]
IRRI	.060774	.039965	1.5207[.129]
ISNAR	.015895	.048686	.32648[.744]
IWMI	.11251	.032860	3.4239[.001]
WARDA	-.14666	.059722	-2.4557[.014]
PGI	.88646	.045754	19.3743[.000]
PGII	.61407	.045180	13.5915[.000]
PGIII	.58655	.043706	13.4205[.000]
PGIV	.48058	.036738	13.0814[.000]
PGV	.30302	.036258	8.3573[.000]
PGVI	.096927	.045532	2.1288[.034]
BA	-.10839	.032732	-3.3114[.001]
MA	-.031126	.023086	-1.3483[.178]
OTHER	-.025267	.044357	-.56964[.569]
YRX	.010965	.0011967	9.1626[.000]
YJC	.8638E-3	.0014235	.60679[.544]
OWBPII	-.045797	.035174	-1.3020[.193]

Regression 1d: Ordinary Least Squares Estimation

Dependent variable is LSALARY
450 observations used for estimation from 517 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	20.3065	2.9616	6.8567[.000]
CIFOR	.20171	.062638	3.2203[.001]
CIMMYT	-.020521	.042274	-.48543[.628]
CIP	-.24483	.047963	-5.1045[.000]
ICARDA	-.27649	.042480	-6.5087[.000]
ICLARM	.14250	.078322	1.8195[.070]
ICRAF	.068980	.057132	1.2074[.228]
ICRISAT	-.15498	.052391	-2.9581[.003]
IFPRI	.47961	.051069	9.3913[.000]
IITA	-.055597	.046324	-1.2002[.231]
ILRI	.10186	.046811	2.1760[.030]
IPGRI	.14982	.055701	2.6898[.007]
IRRI	-.039608	.043837	-.90352[.367]
ISNAR	.17827	.062626	2.8466[.005]
IWMI	.11175	.075930	1.4718[.142]
WARDA	-.11623	.057769	-2.0120[.045]
PGI	1.1380	.052631	21.6230[.000]
PGII	.79718	.042214	18.8841[.000]
PGIII	.78946	.044068	17.9147[.000]
PGIV	.64108	.035019	18.3067[.000]
PGV	.49348	.032089	15.3783[.000]
PGVI	.19157	.041240	4.6452[.000]
BA	-.095281	.047221	-2.0178[.044]
MA	-.10243	.034816	-2.9420[.003]
OTHER	-.038726	.042654	-.90793[.364]
YRX	.010759	.0014018	7.6751[.000]
YJC	-.0051211	.0014828	-3.4537[.001]
OWR	.042039	.021755	1.9324[.054]

R-Squared	.82934	R-Bar-Squared	.81842
S.E. of Regression	.18689	F-stat. F(27, 422)	75.9520[.000]
Mean of Dependent Variable	10.7802	S.D. of Dependent Variable	.43859
Residual Sum of Squares	14.7401	Equation Log-likelihood	130.6791
Akaike Info. Criterion	102.6791	Schwarz Bayesian Criterion	45.1496
DW-statistic	2.0136		

Diagnostic Tests

Test Statistics	LM Version	F Version
A:Serial Correlation	CHSQ(1)= .024945[.875]	F(1, 421)= .023338[.879]
B:Functional Form	CHSQ(1)= 2.7752[.096]	F(1, 421)= 2.6124[.107]
C:Normality	CHSQ(2)= 107.9760[.000]	Not applicable
D:Heteroscedasticity	CHSQ(1)= 17.8766[.000]	F(1, 448)= 18.5334[.000]

A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values

Regression 1d: White's Heteroscedasticity Adjusted Standard Errors

Dependent variable is LSALARY
450 observations used for estimation from 517 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	20.3065	3.3848	5.9994[.000]
CIFOR	.20171	.059405	3.3956[.001]
CIMMYT	-.020521	.047054	-.43612[.663]
CIP	-.24483	.061367	-3.9895[.000]
ICARDA	-.27649	.044087	-6.2714[.000]
ICLARM	.14250	.071583	1.9907[.047]
ICRAF	.068980	.049208	1.4018[.162]
ICRISAT	-.15498	.059814	-2.5910[.010]
IFPRI	.47961	.049768	9.6369[.000]
IITA	-.055597	.050992	-1.0903[.276]
ILRI	.10186	.055411	1.8383[.067]
IPGRI	.14982	.051007	2.9373[.003]
IRRI	-.039608	.049582	-.79884[.425]
ISNAR	.17827	.082342	2.1650[.031]
IWMI	.11175	.062685	1.7828[.075]
WARDA	-.11623	.063800	-1.8218[.069]
PGI	1.1380	.055352	20.5600[.000]
PGII	.79718	.051723	15.4125[.000]
PGIII	.78946	.049434	15.9700[.000]
PGIV	.64108	.039459	16.2468[.000]
PGV	.49348	.038420	12.8443[.000]
PGVI	.19157	.053766	3.5630[.000]
BA	-.095281	.058899	-1.6177[.106]
MA	-.10243	.044196	-2.3176[.021]
OTHER	-.038726	.052238	-.74135[.459]
YRX	.010759	.0015361	7.0041[.000]
YJC	-.0051211	.0016965	-3.0186[.003]
OWR	.042039	.023450	1.7928[.074]

Regression 1e: Ordinary Least Squares Estimation

Dependent variable is LSALARY
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	13.9270	2.0788	6.6997[.000]
CIFOR	.21528	.037040	5.8120[.000]
CIMMYT	-.019196	.027888	-.68833[.491]
CIP	-.18359	.031425	-5.8420[.000]
ICARDA	-.28404	.029223	-9.7196[.000]
ICLARM	.11787	.043117	2.7336[.006]
ICRAF	.076945	.033084	2.3257[.020]
ICRISAT	-.13386	.035078	-3.8161[.000]
IFPRI	.34132	.031134	10.9628[.000]
IITA	-.072518	.028425	-2.5512[.011]
ILRI	.098219	.027874	3.5237[.000]
IPGRI	.12177	.035990	3.3835[.001]
IRRI	.0062537	.027533	.22713[.820]
ISNAR	.062301	.037518	1.6606[.097]
IWMI	.13510	.043307	3.1196[.002]
WARDA	-.14297	.041661	-3.4318[.001]
PGI	1.0316	.033770	30.5471[.000]
PGII	.74894	.028019	26.7299[.000]
PGIII	.72107	.028998	24.8660[.000]
PGIV	.60565	.023054	26.2709[.000]
PGV	.43161	.021948	19.6646[.000]
PGVI	.19118	.027055	7.0663[.000]
BA	-.076858	.029683	-2.5893[.010]
MA	-.037158	.020770	-1.7891[.074]
OTHER	-.027511	.030076	-.91471[.361]
YRX	.010384	.9296E-3	11.1703[.000]
YJC	-.0018731	.0010398	-1.8015[.072]
FCII	.049332	.027186	1.8146[.070]
FCIII	-.0040298	.025149	-.16024[.873]

R-Squared	.79634	R-Bar-Squared	.79025
S.E. of Regression	.18151	F-stat. F(28, 937)	130.8474[.000]
Mean of Dependent Variable	10.8492	S.D. of Dependent Variable	.39633
Residual Sum of Squares	30.8718	Equation Log-likelihood	292.4294
Akaike Info. Criterion	263.4294	Schwarz Bayesian Criterion	192.7685
DW-statistic	1.7794		

Diagnostic Tests

Test Statistics	LM Version	F Version
A:Serial Correlation	CHSQ(1)= 10.8362[.001]	F(1, 936)= 10.6188[.001]
B:Functional Form	CHSQ(1)= 14.6579[.000]	F(1, 936)= 14.4215[.000]
C:Normality	CHSQ(2)= 395.5253[.000]	Not applicable
D:Heteroscedasticity	CHSQ(1)= 27.0393[.000]	F(1, 964)= 27.7604[.000]

A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values

Regression 1e: White's Heteroscedasticity Adjusted Standard Errors

Dependent variable is LSALARY
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	13.9270	2.2211	6.2702[.000]
CIFOR	.21528	.036913	5.8320[.000]
CIMMYT	-.019196	.027643	-.69443[.488]
CIP	-.18359	.039349	-4.6656[.000]
ICARDA	-.28404	.027741	-10.2390[.000]
ICLARM	.11787	.033759	3.4913[.001]
ICRAF	.076945	.028327	2.7163[.007]
ICRISAT	-.13386	.036141	-3.7039[.000]
IFPRI	.34132	.034312	9.9475[.000]
IITA	-.072518	.029156	-2.4872[.013]
ILRI	.098219	.030131	3.2597[.001]
IPGRI	.12177	.030775	3.9568[.000]
IRRI	.0062537	.032388	.19309[.847]
ISNAR	.062301	.047708	1.3059[.192]
IWMI	.13510	.030579	4.4181[.000]
WARDA	-.14297	.042649	-3.3523[.001]
PGI	1.0316	.036823	28.0141[.000]
PGII	.74894	.034889	21.4662[.000]
PGIII	.72107	.033830	21.3144[.000]
PGIV	.60565	.028002	21.6286[.000]
PGV	.43161	.027249	15.8395[.000]
PGVI	.19118	.034833	5.4884[.000]
BA	-.076858	.032289	-2.3803[.017]
MA	-.037158	.025574	-1.4530[.147]
OTHER	-.027511	.036482	-.75410[.451]
YRX	.010384	.0010099	10.2819[.000]
YJC	-.0018731	.0011124	-1.6839[.093]
FCII	.049332	.029812	1.6548[.098]
FCIII	-.0040298	.026468	-.15226[.879]

Logit Maximum Likelihood Estimation
The estimation method converged after 8 iterations

Dependent variable is PGI
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-118.5138	49.7694	-2.3813[.017]
CIFOR	-.81911	.93769	-.87353[.383]
CIMMYT	-2.5516	1.1383	-2.2416[.025]
CIP	-.69352	.77093	-.89959[.369]
ICARDA	-1.0578	.75911	-1.3935[.164]
ICLARM	.65015	.79348	.81937[.413]
ICRAF	-.33977	.77021	-.44114[.659]
ICRISAT	.67740	.64150	1.0560[.291]
IFPRI	.30559	.66332	.46069[.645]
IITA	-.58571	.71969	-.81383[.416]
ILRI	-.28550	.63791	-.44755[.655]
IPGRI	.011985	.73741	.016254[.987]
IRRI	-1.1698	.70365	-1.6625[.097]
ISNAR	-.91925	.87426	-1.0515[.293]
IWMI	.23141	.83384	.27752[.781]
WARDA	-.074248	.92089	-.080626[.936]
BA	-1.1403	1.0668	-1.0689[.285]
MA	1.3754	.38839	3.5412[.000]
OTHER	.21900	.61736	.35474[.723]
YRX	.14548	.019658	7.4002[.000]
YJC	.057044	.024942	2.2871[.022]
FEMALE	-.62093	.52986	-1.1719[.242]

Factor for the calculation of marginal effects = .026908
Maximized value of the log-likelihood function =-177.9264
Akaike Information Criterion =-199.9264
Schwarz Bayesian Criterion =-253.5312
Hannan-Quinn Criterion =-220.3342
Mean of PGI = .063147
Mean of fitted PGI = .011387
Goodness of fit = .93168
Pesaran-Timmermann test statistic =-556.5801[.000]
Pseudo-R-Squared = .21802

Logit Maximum Likelihood Estimation
The estimation method converged after 6 iterations

Dependent variable is PGIIIUP
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	17.7900	30.9636	.57455[.566]
CIFOR	.21427	.53233	.40252[.687]
CIMMYT	-.86894	.40077	-2.1682[.030]
CIP	.64128	.42444	1.5109[.131]
ICARDA	-.52134	.41465	-1.2573[.209]
ICLARM	.76438	.57324	1.3334[.183]
ICRAF	.51784	.43363	1.1942[.233]
ICRISAT	1.9002	.47868	3.9697[.000]
IFPRI	.38090	.42959	.88666[.375]
IITA	.47053	.39175	1.2011[.230]
ILRI	-1.9788	.47057	-4.2052[.000]
IPGRI	-.39753	.50538	-.78660[.432]
IRRI	-2.1764	.46413	-4.6893[.000]
ISNAR	-.83378	.51136	-1.6305[.103]
IWMI	.77931	.59135	1.3179[.188]
WARDA	-.40587	.63238	-.64181[.521]
BA	-1.5014	.55587	-2.7010[.007]
MA	.52782	.28373	1.8603[.063]
OTHER	-1.2629	.40991	-3.0808[.002]
YRX	.16586	.013771	12.0445[.000]
YJC	-.010351	.015514	-.66720[.505]
FEMALE	-.67684	.27654	-2.4475[.015]

Factor for the calculation of marginal effects = .17741
Maximized value of the log-likelihood function =-413.3415
Akaike Information Criterion =-435.3415
Schwarz Bayesian Criterion =-488.9463
Hannan-Quinn Criterion =-455.7492
Mean of PGIIIUP = .31470
Mean of fitted PGIIIUP = .25259
Goodness of fit = .80124
Pesaran-Timmermann test statistic = -31.3948[.000]
Pseudo-R-Squared = .31297

Logit Maximum Likelihood Estimation
The estimation method converged after 6 iterations

Dependent variable is PGIVUP
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-58.4693	32.9270	-1.7757[.076]
CIFOR	.86449	.49549	1.7447[.081]
CIMMYT	.93729	.38830	2.4138[.016]
CIP	2.6978	.51169	5.2722[.000]
ICARDA	.92544	.40690	2.2744[.023]
ICLARM	1.2469	.58131	2.1449[.032]
ICRAF	1.4813	.45816	3.2331[.001]
ICRISAT	2.4513	.55116	4.4476[.000]
IFPRI	1.2154	.40806	2.9786[.003]
IITA	1.4995	.38218	3.9236[.000]
ILRI	-1.0687	.39877	-2.6800[.007]
IPGRI	1.4997	.50265	2.9836[.003]
IRRI	-1.2433	.40198	-3.0930[.002]
ISNAR	.60350	.50693	1.1905[.234]
IWMI	1.8892	.62387	3.0283[.003]
WARDA	1.0615	.55296	1.9196[.055]
BA	-1.9146	.46402	-4.1261[.000]
MA	.068707	.26922	.25520[.799]
OTHER	-1.0533	.36921	-2.8528[.004]
YRX	.19204	.014961	12.8363[.000]
YJC	.028045	.016487	1.7011[.089]
FEMALE	-.62133	.23188	-2.6795[.008]

Factor for the calculation of marginal effects = .23912
Maximized value of the log-likelihood function =-435.5441
Akaike Information Criterion =-457.5441
Schwarz Bayesian Criterion =-511.1489
Hannan-Quinn Criterion =-477.9518
Mean of PGIVUP = .56108
Mean of fitted PGIVUP = .58178
Goodness of fit = .79917
Pesaran-Timmermann test statistic = -2.4756[.013]
Pseudo-R-Squared = .34243

Logit Maximum Likelihood Estimation
The estimation method converged after 7 iterations

Dependent variable is PGVUP
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-69.2706	44.0490	-1.5726[.116]
CIFOR	.61622	.53133	1.1598[.246]
CIMMYT	1.6042	.55272	2.9024[.004]
CIP	1.9667	.61688	3.1882[.001]
ICARDA	1.3500	.51781	2.6072[.009]
ICLARM	1.7465	.85105	2.0522[.040]
ICRAF	2.0137	.71011	2.8358[.005]
ICRISAT	2.5184	.85452	2.9471[.003]
IFPRI	1.2147	.45722	2.6567[.008]
IITA	.85376	.42231	2.0217[.043]
ILRI	.094289	.41471	.22736[.820]
IPGRI	2.0670	.72801	2.8392[.005]
IRRI	-.77202	.39870	-1.9363[.053]
ISNAR	-1.2059	.55259	-2.1823[.029]
IWMI	1.9695	.84644	2.3268[.020]
WARDA	.34163	.59562	.57357[.566]
BA	-1.2031	.43566	-2.7616[.006]
MA	-.086253	.30954	-.27865[.781]
OTHER	-.89716	.45868	-1.9560[.051]
YRX	.23420	.021056	11.1225[.000]
YJC	.034072	.022040	1.5459[.122]
FEMALE	-.40392	.24296	-1.6625[.097]

Factor for the calculation of marginal effects = .078421
Maximized value of the log-likelihood function =-320.4971
Akaike Information Criterion =-342.4971
Schwarz Bayesian Criterion =-396.1019
Hannan-Quinn Criterion =-362.9049
Mean of PGVUP = .79400
Mean of fitted PGVUP = .84990
Goodness of fit = .85921
Pesaran-Timmermann test statistic = 4.9315[.000]
Pseudo-R-Squared = .34768

Logit Maximum Likelihood Estimation
The estimation method converged after 8 iterations

Dependent variable is PGI
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-111.0616	50.2141	-2.2118[.027]
CIFOR	-.90287	.93288	-.96783[.333]
CIMMYT	-2.4838	1.1332	-2.1919[.029]
CIP	-.67082	.76707	-.87452[.382]
ICARDA	-.96960	.76170	-1.2729[.203]
ICLARM	.63651	.79769	.79794[.425]
ICRAF	-.39174	.76939	-.50916[.611]
ICRISAT	.75295	.64031	1.1759[.240]
IFPRI	.15910	.66124	.24060[.810]
IITA	-.60690	.72707	-.83471[.404]
ILRI	-.29788	.63492	-.46917[.639]
IPGRI	-.10406	.74243	-.14016[.889]
IRRI	-1.1819	.70646	-1.6730[.095]
ISNAR	-.95048	.87192	-1.0901[.276]
IWMI	.28664	.83033	.34521[.730]
WARDA	.19001	.92606	.20518[.837]
BA	-1.2834	1.0722	-1.1970[.232]
MA	1.2826	.38193	3.3583[.001]
OTHER	.11160	.62226	.17934[.858]
YRX	.14959	.019659	7.6094[.000]
YJC	.053340	.025161	2.1199[.034]
OWBPII	-.42605	.30985	-1.3750[.169]

Factor for the calculation of marginal effects = .027134
Maximized value of the log-likelihood function =-177.7301
Akaike Information Criterion =-199.7301
Schwarz Bayesian Criterion =-253.3349
Hannan-Quinn Criterion =-220.1378
Mean of PGI = .063147
Mean of fitted PGI = .010352
Goodness of fit = .93271
Pesaran-Timmermann test statistic =-584.0120[.000]
Pseudo-R-Squared = .21888

Logit Maximum Likelihood Estimation
The estimation method converged after 6 iterations

Dependent variable is PGIIIUP
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	23.0200	30.7635	.74829[.454]
CIFOR	.15376	.53144	.28932[.772]
CIMMYT	-.86091	.39824	-2.1618[.031]
CIP	.63282	.42003	1.5066[.132]
ICARDA	-.41121	.41372	-.99392[.321]
ICLARM	.79457	.56887	1.3968[.163]
ICRAF	.50967	.43136	1.1815[.238]
ICRISAT	1.9427	.47676	4.0748[.000]
IFPRI	.29271	.42953	.68147[.496]
IITA	.48074	.39006	1.2325[.218]
ILRI	-1.9698	.47032	-4.1883[.000]
IPGRI	-.43310	.50818	-.85225[.394]
IRRI	-2.1498	.46447	-4.6285[.000]
ISNAR	-.84070	.51184	-1.6425[.101]
IWMI	.83209	.58538	1.4215[.156]
WARDA	-.18030	.62947	-.28644[.775]
BA	-1.6466	.56291	-2.9252[.004]
MA	.39016	.27778	1.4045[.160]
OTHER	-1.3661	.41015	-3.3306[.001]
YRX	.17117	.013856	12.3529[.000]
YJC	-.012985	.015412	-.84250[.400]
OWBPII	-.30963	.18051	-1.7153[.087]

Factor for the calculation of marginal effects = .17798
Maximized value of the log-likelihood function =-415.0417
Akaike Information Criterion =-437.0417
Schwarz Bayesian Criterion =-490.6465
Hannan-Quinn Criterion =-457.4495
Mean of PGIIIUP = .31470
Mean of fitted PGIIIUP = .25052
Goodness of fit = .80124
Pesaran-Timmermann test statistic = -31.6199[.000]
Pseudo-R-Squared = .31014

Logit Maximum Likelihood Estimation
The estimation method converged after 6 iterations

Dependent variable is PGIVUP
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-55.9780	32.6444	-1.7148[.087]
CIFOR	.78708	.49482	1.5906[.112]
CIMMYT	.94014	.38711	2.4286[.015]
CIP	2.6550	.50779	5.2284[.000]
ICARDA	1.1095	.40942	2.7099[.007]
ICLARM	1.2478	.57624	2.1653[.031]
ICRAF	1.4646	.45922	3.1894[.001]
ICRISAT	2.5362	.55430	4.5755[.000]
IFPRI	1.1155	.40816	2.7331[.006]
IITA	1.5228	.38227	3.9836[.000]
ILRI	-1.0791	.40077	-2.6927[.007]
IPGRI	1.5185	.51027	2.9759[.003]
IRRI	-1.1842	.40384	-2.9323[.003]
ISNAR	.57837	.51264	1.1282[.260]
IWMI	1.8678	.61569	3.0337[.002]
WARDA	1.3196	.55052	2.3970[.017]
BA	-2.0563	.47115	-4.3644[.000]
MA	-.097056	.26663	-.36400[.716]
OTHER	-1.1966	.36971	-3.2366[.001]
YRX	.20115	.015153	13.2746[.000]
YJC	.026835	.016344	1.6419[.101]
OWBPII	-.62424	.17519	-3.5632[.000]

Factor for the calculation of marginal effects = .23914
Maximized value of the log-likelihood function =-432.7091
Akaike Information Criterion =-454.7091
Schwarz Bayesian Criterion =-508.3139
Hannan-Quinn Criterion =-475.1169
Mean of PGIVUP = .56108
Mean of fitted PGIVUP = .57453
Goodness of fit = .80228
Pesaran-Timmermann test statistic = -2.5450[.011]
Pseudo-R-Squared = .34671

Logit Maximum Likelihood Estimation
The estimation method converged after 7 iterations

Dependent variable is PGVUP
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-68.5830	44.6069	-1.5375[.125]
CIFOR	.52219	.53262	.98041[.327]
CIMMYT	1.6128	.55551	2.9034[.004]
CIP	1.9781	.62235	3.1784[.002]
ICARDA	1.6382	.52557	3.1170[.002]
ICLARM	1.6756	.83851	1.9982[.046]
ICRAF	1.9785	.70713	2.7979[.005]
ICRISAT	2.6336	.86526	3.0436[.002]
IFPRI	1.1618	.46360	2.5061[.012]
IITA	.90942	.42592	2.1352[.033]
ILRI	.12785	.41820	.30571[.760]
IPGRI	2.2161	.73014	3.0351[.002]
IRRI	-.68620	.40140	-1.7095[.088]
ISNAR	-1.2941	.56404	-2.2943[.022]
IWMI	1.8802	.84500	2.2251[.026]
WARDA	.58795	.59907	.98144[.327]
BA	-1.3784	.44121	-3.1240[.002]
MA	-.27563	.31145	-.88498[.376]
OTHER	-1.0674	.45902	-2.3255[.020]
YRX	.24655	.021547	11.4424[.000]
YJC	.033835	.022318	1.5160[.130]
OWBPII	-.86700	.21051	-4.1186[.000]

Factor for the calculation of marginal effects = .075533
Maximized value of the log-likelihood function =-313.1210
Akaike Information Criterion =-335.1210
Schwarz Bayesian Criterion =-388.7258
Hannan-Quinn Criterion =-355.5287
Mean of PGVUP = .79400
Mean of fitted PGVUP = .84576
Goodness of fit = .86542
Pesaran-Timmermann test statistic = 5.2461[.000]
Pseudo-R-Squared = .36270

Logit Maximum Likelihood Estimation
The estimation method converged after 6 iterations

Dependent variable is PGIIIUP
546 observations used for estimation from 1 to 546

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	42.6111	47.2578	.90168[.368]
CIFOR	.69048	.67943	1.0163[.310]
CIMMYT	-1.3994	.59217	-2.3631[.018]
CIP	.98341	.57479	1.7109[.088]
ICARDA	-.18850	.62877	-.29978[.764]
ICLARM	1.2131	.71888	1.6875[.092]
ICRAF	1.1562	.57171	2.0224[.044]
ICRISAT	2.4134	.67446	3.5782[.000]
IFPRI	.49683	.54167	.91722[.359]
IITA	1.2634	.53607	2.3568[.019]
ILRI	-1.5457	.60432	-2.5578[.011]
IPGRI	.29169	.64626	.45135[.652]
IRRI	-1.3912	.61208	-2.2729[.023]
ISNAR	-.43455	.64225	-.67661[.499]
IWMI	1.1619	.71617	1.6224[.105]
WARDA	.44707	1.0780	.41472[.679]
BA	-1.5213	.68310	-2.2270[.026]
MA	.21223	.35551	.59696[.551]
OTHER	-1.6296	.55073	-2.9590[.003]
YRX	.17685	.019220	9.2015[.000]
YJC	-.023032	.023691	-.97216[.331]
OWBPII	.21773	.58066	.37496[.708]

Factor for the calculation of marginal effects = .17668
Maximized value of the log-likelihood function =-233.4834
Akaike Information Criterion =-255.4834
Schwarz Bayesian Criterion =-302.8122
Hannan-Quinn Criterion =-273.9846
Mean of PGIIIUP = .31136
Mean of fitted PGIIIUP = .26007
Goodness of fit = .80952
Pesaran-Timmermann test statistic = -23.0306[.000]
Pseudo-R-Squared = .31048

Logit Maximum Likelihood Estimation
The estimation method converged after 6 iterations

Dependent variable is PGIVUP
546 observations used for estimation from 1 to 546

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-61.9158	46.7204	-1.3252[.186]
CIFOR	1.0573	.61697	1.7137[.087]
CIMMYT	1.2022	.51168	2.3496[.019]
CIP	3.4461	.78684	4.3796[.000]
ICARDA	1.4192	.61308	2.3148[.021]
ICLARM	1.9063	.76750	2.4838[.013]
ICRAF	1.4917	.58509	2.5495[.011]
ICRISAT	2.2634	.70100	3.2288[.001]
IFPRI	.90826	.49956	1.8181[.070]
IITA	2.2612	.53314	4.2412[.000]
ILRI	-1.0114	.52153	-1.9393[.053]
IPGRI	1.4317	.63447	2.2566[.024]
IRRI	-.47918	.53163	-.90135[.368]
ISNAR	.71579	.64049	1.1176[.264]
IWMI	1.7835	.69622	2.5616[.011]
WARDA	2.0223	.84158	2.4030[.017]
BA	-1.6515	.56418	-2.9272[.004]
MA	.064472	.32816	.19646[.844]
OTHER	-1.1907	.50156	-2.3740[.018]
YRX	.20063	.020487	9.7932[.000]
YJC	.029679	.023398	1.2685[.205]
OWBPII	-.87653	.57272	-1.5305[.127]

Factor for the calculation of marginal effects = .23494
Maximized value of the log-likelihood function =-247.8721
Akaike Information Criterion =-269.8721
Schwarz Bayesian Criterion =-317.2009
Hannan-Quinn Criterion =-288.3733
Mean of PGIVUP = .57326
Mean of fitted PGIVUP = .58974
Goodness of fit = .81502
Pesaran-Timmermann test statistic = -1.1603[.246]
Pseudo-R-Squared = .33471

Logit Maximum Likelihood Estimation
The estimation method converged after 7 iterations

Dependent variable is PGIIIUP
450 observations used for estimation from 517 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	14.8412	42.1759	.35189[.725]
CIFOR	-.38639	.89294	-.43271[.665]
CIMMYT	-.53798	.55973	-.96113[.337]
CIP	.29694	.63794	.46546[.642]
ICARDA	-.77172	.58048	-1.3295[.184]
ICLARM	.25768	.97248	.26497[.791]
ICRAF	-.27925	.72597	-.38466[.701]
ICRISAT	1.5024	.68066	2.2073[.028]
IFPRI	-.0057610	.71426	-.0080657[.994]
IITA	-.43779	.62860	-.69646[.487]
ILRI	-2.3219	.75410	-3.0790[.002]
IPGRI	-1.4100	.84068	-1.6772[.094]
IRRI	-3.1053	.75103	-4.1347[.000]
ISNAR	-1.1826	.89610	-1.3198[.188]
IWMI	.63764	.98682	.64615[.519]
WARDA	-.67729	.80420	-.84219[.400]
BA	-2.4770	1.0331	-2.3976[.017]
MA	.65599	.47491	1.3813[.168]
OTHER	-1.2542	.64003	-1.9597[.051]
YRX	.17004	.020404	8.3336[.000]
YJC	-.0088622	.021120	-.41962[.675]
OWR	.14626	.32398	.45146[.652]

Factor for the calculation of marginal effects = .16992
Maximized value of the log-likelihood function =-184.4468
Akaike Information Criterion =-206.4468
Schwarz Bayesian Criterion =-251.6485
Hannan-Quinn Criterion =-224.2625
Mean of PGIIIUP = .31778
Mean of fitted PGIIIUP = .28000
Goodness of fit = .81111
Pesaran-Timmermann test statistic = -19.0840[.000]
Pseudo-R-Squared = .34438

Logit Maximum Likelihood Estimation
The estimation method converged after 6 iterations

Dependent variable is PGIVUP
450 observations used for estimation from 517 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-42.4120	46.7289	-.90762[.365]
CIFOR	.35910	.85323	.42087[.674]
CIMMYT	.21287	.58018	.36690[.714]
CIP	1.6476	.70523	2.3363[.020]
ICARDA	.49583	.58697	.84473[.399]
ICLARM	.054690	.97103	.056321[.955]
ICRAF	1.2347	.81953	1.5066[.133]
ICRISAT	2.7481	.94558	2.9062[.004]
IFPRI	1.2956	.67018	1.9333[.054]
IITA	.31740	.61922	.51257[.609]
ILRI	-1.3752	.65736	-2.0920[.037]
IPGRI	1.2185	.77353	1.5752[.116]
IRRI	-2.2391	.62066	-3.6076[.000]
ISNAR	.50883	.85862	.59262[.554]
IWMI	2.1489	1.3027	1.6496[.100]
WARDA	.44491	.78004	.57037[.569]
BA	-3.1977	.86911	-3.6793[.000]
MA	-.39732	.46626	-.85214[.395]
OTHER	-1.5250	.57699	-2.6430[.009]
YRX	.20735	.022566	9.1888[.000]
YJC	.019930	.023389	.85213[.395]
OWR	.29602	.32844	.90127[.368]

Factor for the calculation of marginal effects = .24467
Maximized value of the log-likelihood function =-189.1197
Akaike Information Criterion =-211.1197
Schwarz Bayesian Criterion =-256.3214
Hannan-Quinn Criterion =-228.9353
Mean of PGIVUP = .53556
Mean of fitted PGIVUP = .52667
Goodness of fit = .80889
Pesaran-Timmermann test statistic = -2.8289[.005]
Pseudo-R-Squared = .39146

```
                    Logit Maximum Likelihood Estimation
              The estimation method converged after 8 iterations
********************************************************************************
 Dependent variable is PGI
 966 observations used for estimation from    1 to  966
********************************************************************************
 Regressor              Coefficient       Standard Error         T-Ratio[Prob]
 CONST                    -70.6400            50.6268           -1.3953[.163]
 CIFOR                     -.87311             .96477           -.90499[.366]
 CIMMYT                    -2.4970             1.1525           -2.1665[.031]
 CIP                       -.65656             .77367           -.84863[.396]
 ICARDA                    -.75604             .76528           -.98793[.323]
 ICLARM                     .90543             .78994            1.1462[.252]
 ICRAF                     -.16374             .77684           -.21078[.833]
 ICRISAT                    .98025             .65734            1.4912[.136]
 IFPRI                     -.53061             .68683           -.77255[.440]
 IITA                      -.39834             .74207           -.53679[.592]
 ILRI                      -.26662             .65581           -.40654[.684]
 IPGRI                      .27689             .76536            .36178[.718]
 IRRI                      -.96184             .72115           -1.3338[.183]
 ISNAR                     -1.5938             .91022           -1.7510[.080]
 IWMI                       .27849             .85887            .32425[.746]
 WARDA                     -.20608             .96116           -.21440[.830]
 BA                        -1.4763             1.1015           -1.3403[.180]
 MA                         .91531             .45510            2.0112[.045]
 OTHER                     -.45687             .72635           -.62898[.530]
 YRX                        .15674            .020609            7.6052[.000]
 YJC                       .033283            .025356            1.3126[.190]
 FCII                       .28786             .54433            .52883[.597]
 FCIII                     -1.3641             .54218           -2.5159[.012]
********************************************************************************
 Factor for the calculation of marginal effects =  .022508
 Maximized value of the log-likelihood function =-169.3822
 Akaike Information Criterion =-192.3822
 Schwarz Bayesian Criterion =-248.4236
 Hannan-Quinn Criterion =-213.7176
 Mean of PGI =  .063147
 Mean of fitted PGI =  .018634
 Goodness of fit =   .93271
 Pesaran-Timmermann test statistic =-431.7517[.000]
 Pseudo-R-Squared =   .25557
********************************************************************************
```

Logit Maximum Likelihood Estimation
The estimation method converged after 6 iterations

Dependent variable is PGIIIUP
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	39.5234	31.6375	1.2493[.212]
CIFOR	.18165	.53648	.33860[.735]
CIMMYT	-.83700	.39962	-2.0945[.036]
CIP	.62389	.42332	1.4738[.141]
ICARDA	-.38617	.41282	-.93544[.350]
ICLARM	.83899	.56469	1.4857[.138]
ICRAF	.59938	.43556	1.3761[.169]
ICRISAT	2.0235	.48159	4.2017[.000]
IFPRI	.045083	.44695	.10087[.920]
IITA	.56467	.39510	1.4292[.153]
ILRI	-1.8957	.46939	-4.0386[.000]
IPGRI	-.31808	.51351	-.61943[.536]
IRRI	-2.0870	.46686	-4.4704[.000]
ISNAR	-.97735	.52724	-1.8537[.064]
IWMI	.84958	.59381	1.4307[.153]
WARDA	-.37006	.64205	-.57637[.565]
BA	-1.9077	.59706	-3.1952[.001]
MA	.16067	.30830	.52116[.602]
OTHER	-1.7560	.46678	-3.7619[.000]
YRX	.16769	.013708	12.2328[.000]
YJC	-.020960	.015829	-1.3241[.186]
FCII	-.31816	.40015	-.79510[.427]
FCIII	-.86212	.37409	-2.3046[.021]

Factor for the calculation of marginal effects = .17773
Maximized value of the log-likelihood function =-412.1751
Akaike Information Criterion =-435.1751
Schwarz Bayesian Criterion =-491.2165
Hannan-Quinn Criterion =-456.5105
Mean of PGIIIUP = .31470
Mean of fitted PGIIIUP = .25569
Goodness of fit = .80228
Pesaran-Timmermann test statistic = -31.0213[.000]
Pseudo-R-Squared = .31491

Logit Maximum Likelihood Estimation
The estimation method converged after 6 iterations

Dependent variable is PGIVUP
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-42.9070	33.3656	-1.2860[.199]
CIFOR	.84468	.49728	1.6986[.090]
CIMMYT	.93213	.38636	2.4126[.016]
CIP	2.6097	.50824	5.1349[.000]
ICARDA	1.0163	.40469	2.5113[.012]
ICLARM	1.2656	.56836	2.2267[.026]
ICRAF	1.5692	.46104	3.4035[.001]
ICRISAT	2.5759	.55526	4.6392[.000]
IFPRI	.99628	.42156	2.3633[.018]
IITA	1.5634	.38347	4.0768[.000]
ILRI	-1.0031	.39696	-2.5269[.012]
IPGRI	1.6254	.51022	3.1857[.001]
IRRI	-1.1716	.40514	-2.8917[.004]
ISNAR	.56763	.51427	1.1038[.270]
IWMI	1.9302	.61813	3.1226[.002]
WARDA	1.2015	.56139	2.1403[.033]
BA	-2.1964	.48833	-4.4978[.000]
MA	-.25011	.28661	-.87266[.383]
OTHER	-1.5141	.40970	-3.6957[.000]
YRX	.19496	.014981	13.0131[.000]
YJC	.020531	.016685	1.2305[.219]
FCII	-.48551	.39913	-1.2164[.224]
FCIII	-.82045	.37133	-2.2095[.027]

Factor for the calculation of marginal effects = .23866
Maximized value of the log-likelihood function =-436.1273
Akaike Information Criterion =-459.1273
Schwarz Bayesian Criterion =-515.1687
Hannan-Quinn Criterion =-480.4627
Mean of PGIVUP = .56108
Mean of fitted PGIVUP = .56418
Goodness of fit = .79607
Pesaran-Timmermann test statistic = -2.9809[.003]
Pseudo-R-Squared = .34155

Logit Maximum Likelihood Estimation
The estimation method converged after 7 iterations

Dependent variable is PGVUP
966 observations used for estimation from 1 to 966

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
CONST	-55.9165	44.6075	-1.2535[.210]
CIFOR	.63532	.54082	1.1747[.240]
CIMMYT	1.5871	.55109	2.8800[.004]
CIP	1.9291	.63594	3.0334[.002]
ICARDA	1.3498	.51679	2.6118[.009]
ICLARM	1.5800	.83490	1.8925[.059]
ICRAF	2.1056	.71361	2.9506[.003]
ICRISAT	2.6184	.84175	3.1106[.002]
IFPRI	1.0820	.47213	2.2917[.022]
IITA	.90800	.42593	2.1318[.033]
ILRI	.10421	.41444	.25145[.802]
IPGRI	2.2708	.73804	3.0769[.002]
IRRI	-.71259	.40319	-1.7674[.077]
ISNAR	-1.2554	.56755	-2.2120[.027]
IWMI	2.0343	.84528	2.4067[.016]
WARDA	.52898	.60597	.87295[.383]
BA	-1.6383	.46278	-3.5401[.000]
MA	-.41814	.32721	-1.2779[.202]
OTHER	-1.5975	.49241	-3.2442[.001]
YRX	.24101	.021517	11.2012[.000]
YJC	.027953	.022303	1.2533[.210]
FCII	-1.1729	.48295	-2.4286[.015]
FCIII	-1.3630	.45894	-2.9700[.003]

Factor for the calculation of marginal effects = .075770
Maximized value of the log-likelihood function =-317.0417
Akaike Information Criterion =-340.0417
Schwarz Bayesian Criterion =-396.0831
Hannan-Quinn Criterion =-361.3771
Mean of PGVUP = .79400
Mean of fitted PGVUP = .84886
Goodness of fit = .86853
Pesaran-Timmermann test statistic = 5.4274[.000]
Pseudo-R-Squared = .35472

Appendix 7: List of acronyms

CIAT	Centro Internacional de Agricultura Tropical
CIFOR	Center for International Forestry Research
CIMMYT	Centro Internacional de Mejoramiento de Maiz y Trigo
CIP	Centro Internacional de la Papa
ICARDA	International Center for Agricultural Research in the Dry Areas
ICLARM	International Center for Living Aquatic Resources Management
ICRAF	International Centre for Research in Agroforestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IFPRI	International Food Policy Research Institute
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
IPGRI	International Plant Genetic Resources Institute
IRRI	International Rice Research Institute
ISNAR	International Service for National Agricultural Research
IWMI	International Water Management Institute
WARDA	West Africa Rice Development Association