

A Background Study for the CGIAR Social Sciences Stripe Review
Commissioned by the CGIAR Science Council

Phase 1 (Task 1 – 2 and Output 1)

By

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Note on 2009 Revisions:

Data on social science staff expenditures (p. 12) and staff (p. 13-18) have been revised following Center feedback and receipt of data that previously had not been submitted. Descriptive information (p. 20-30 and 36-41) has been updated based on information that was previously missing. Table 10 (p. 33) and the corresponding Appendix 3 on Center self-declared best publications was revised to correspond with the best publications sent for the review panel's analysis in 2009. The analysis of individual Social Scientist Citation Data (p. 43-44) has been revised to correct typographical errors called to our attention by careful readers of the raw data used in the first draft as well as new searches in the ISI/Thomson data.

Introduction and Objectives

An overview of social science research (SSR) in the CGIAR reveals a history of early successes during the Green Revolution era, followed by subsequent expansion of both the agenda and role for SSR. Recent CGIAR documents routinely call for a socially-oriented, pro-poor agricultural research agenda with strengthened SSR input (Cernea 2005; Kassam 2006¹). In recent years, however, concerns have emerged about the quality and efficacy of SSR in the CGIAR (See Scoping Paper²; Kassam 2006). There is some evidence that during the past decade or so, SSR capacity has decreased within the CGIAR System, with the result that SSR is often of variable quality and relevance. Citing a World Bank commissioned evaluation of CGIAR (OED 2004), Cernea (2005) reports that in the eight years leading to 2004, there was a drop of 24% in social science staff numbers in the CGIAR while the total number of scientists in the CGIAR had increased by 2.2% during the same period. However, despite the expanded CGIAR vision to include poverty reduction and environmental and social sustainability in its contribution to development, the full implications of this broader CGIAR vision and strategy for the CGIAR social science research activities and Centre research agendas have not been systematically addressed. In order to facilitate the implementation of an updated social science research agenda, it is important that there occurs a comprehensive stock taking of the entire social science portfolio in the CGIAR. Reports produced in the mid-2000s show that this important task remains largely unaccomplished (e.g. Kassam 2004).

The present background study offers new, wide-ranging evidence on the current state of SSR in the CGIAR as a whole. This report is a first, purely descriptive input into the newly-launched stripe review on social science research in the CGIAR. Using various metrics, such as expenditure and staffing patterns, remuneration levels, the internal organization and partnerships of Center SSR scientists, research outputs such as peer-reviewed publications, and impacts indicators, this background paper begins to build an evidence base that might help guide the normative vision of SSR in the CGIAR that comprises the other key element of phase 1 of the stripe review, as well as the CGIAR Science Council's (SC) specification of the panel's terms of reference for phase 2 of the stripe review. The objective of the broader stripe review is to identify areas of strengths and weakness that can inform a substantive review of how best SSR can contribute to advancing the CGIAR mission: *"To achieve sustainable food security and reduce poverty in developing countries through scientific research and research-related activities in the fields of agriculture, forestry, fisheries, policy, and environment"*. (www.cgiar.org/who/index.html) The objective of this background paper is to begin to assemble the scattered evidence on SSR in the CGIAR, both to frame the issues and to identify important data gaps that the review panel may need to investigate further.

¹ This section draws heavily from the Scoping Paper for the Stripe Review of Social Science in the CGIAR System and from Cernea 2005, Cleveland 2006 and Kassam 2006.

² http://www.sciencecouncil.cgiar.org/fileadmin/user_upload/sciencecouncil/Monitoring_and_Evaluation/Stripe_Review_scoping_paper_Dec_2007.pdf

The role of the CGIAR as a provider of international public goods through agricultural research means that the role of the social sciences is not always clear. To illustrate: according to a scoping study on policy oriented research commissioned by the SC completed in 2006 nearly half of CGIAR investments are in activities that are meant to influence policy as a way of achieving impact. Of interest is that these activities described as policy oriented research come from across all disciplines (Science Council 2006). At the height of the Green Revolution, SSR played an active role in generating farm-level data to help shape technology development and to document adoption patterns and conduct impact assessments (Scoping Paper). The range of SSR was limited, which some suggest may help account for its relative success during this period (Scoping Paper). This, coupled with a powerful incentive system that offered a promising professional career in the CGIAR system for agricultural economists, led to the emergence and retention of a high quality cadre of social scientists in CGIAR. Over the past decade or two, the agenda for SSR in CGIAR has expanded considerably, beyond the adoption-impact assessment nexus to include such factors as impact of agricultural technology on poverty, livelihoods, equity, environment, gender and nutrition, in addition to the role of agricultural technology in the broad context of rural development, the role of policies, institutions and technology in natural resource management, and a growing portfolio of policy and management research. Today's CGIAR SSR is considerably more diverse and complex than it was a generation ago.

The CGIAR SSR agenda has expanded in response to the need to look at processes beyond production to broader issues of poverty reduction, equity and environmental protection and management. In many developing countries, national budgets for agricultural research and extension have declined. This has led to a shift in strategies within the CGIAR in a bid to pick up some of the resulting slack in the broader global agricultural research system. The overwhelming desire among donors to target poverty reduction as a cornerstone of agricultural research has also contributed to the expansion of the SSR agenda within the CGIAR.

Concerns about Social Sciences in the CGIAR and Why a Stripe Study Is Needed

Despite the achievements mentioned above, there are still lingering concerns among observers that SSR within the CGIAR system is not having the hoped-for impact in contributing to CGIAR's mandate (Kassam 2004; Carnea 2005). Center commissioned external reviews (CCERs) and external program and management reviews (EPMRs) frequently point to weaknesses in CGIAR SSR system (Cleveland, 2006). These reviews repeatedly express concerns that social scientists are not publishing sufficiently in peer reviewed journals, that some Centers rely excessively on relatively young and inexperienced social science staff as they struggle to fill senior positions, and about the focus of Centers' SSR programs, their research methodologies, and the nature of interaction among SS and between them and other disciplines. One of the most important concerns is that a number of SSR activities are very specific, applied development activities that do not eventually produce international public goods and may be driven largely by donor (restricted) funding rather than Center or System missions.

One of the most recent discussions of SSR (although with focus on social science disciplines other than economics) in the CGIAR was the conference organized by TAC entitled: "Looking to the Future, Learning from the Past", held on 11-14 September 2002, CIAT, Cali, Colombia³. The conference was organized due to the following concerns raised by TAC:

- The status and performance of social research in the CGIAR System is not where it should be despite the System's central interest in the poor as reflected in the new CGIAR vision and strategy which puts significant emphasis on the poor and how agricultural research can help cultural and organizational behavior of CGIAR's ultimate clients; and
- Social researchers in the System are below critical mass and need support. The general concept is to facilitate the internalization of the new social guidance contained in the new CGIAR vision and strategy.

The forgoing introduction paints an unclear picture of SSR within the CGIAR. There have been clear successes, but equally clear – and perhaps growing – concerns. Much of this discussion takes place without the benefit of a significant body of hard evidence, however. Furthermore, only the CCERs and EPMRs have been mandated to make recommendations. In order to develop a better understanding of the state of SSR in CGIAR and advise the System on what directions SSR can and should take moving forward, the SC commissioned a stripe review to identify the major weaknesses and strengths of SSR within the CGIAR. The Scoping Paper for the stripe review laid out a number of questions that need to be asked about current trends in SSR in CGIAR. Quoting verbatim from the Scoping Paper for this study these questions are framed as follows.

1. A significant portion of CGIAR research priorities involve the social sciences and aim at poverty alleviation. The rapid expansion in activities coupled with rising concerns about output raises many questions about the efficient execution of the CGIAR System's social science research agenda. First, it is important to establish what is happening in CGIAR social science within the System's overall research agenda. What fraction of effort of social scientists has been directed to new types of questions and what fraction still falls within the traditional rubrics of constraints analysis, impact evaluation and identifying potential returns to research? In other words, to what extent is the research agenda changing? Beyond what is happening (that is, in addition to beginning to "get the facts right"), a more fundamental question could be whether the expansion is justified. Is it becoming more or less relevant? It could be that the drift is compromising what could be considered the essential part of the social science agenda.
2. Second, there is the question about how the research is being done. What are the methodologies that social scientists are using? Are they taking advantage of new approaches? How are they using different sources of data? Are the collaborations with other social scientists—both inside and outside the System—occurring and are they producing quality research and filling gaps in research capacity? Are they willing and able to collaborate with natural scientists in the System—both to produce state-of-the-art social science research as well as to aid the work of CGIAR System natural scientists? Are they helping natural scientists understand their technologies and

³ The Social Science Conference results were published in a book (Cernea and Kassam, 2006) that represent one of the most recent stock-taking of the non-economic SS within CGIAR.

proposed research efforts and to what extent are they developing their own research agenda (or both / or neither)?

3. Third, there is the more difficult question of the quality and efficiency of the research and the appropriateness of the approaches being employed. Is the CGIAR System social science research really weaker than it used to be? If not, then why is there this perception? Is the research recognized as state of the art, innovative and path breaking? Is it accomplishing its research goals and providing a real input to the CGIAR research agenda? Is the social science system performing its role as a partner in informing the direction of research of the System? For the size of the investment, is the CGIAR System getting its "money's worth?" Is there a way to get more out of the expenditure of each research dollar?
4. Finally, assuming there are problems in investment, conduct or quality in CGIAR social science research, there is the challenge of identifying causes and proposing solutions. There are at least two general sources of problems. On the one hand, it may be a problem rooted in general incentives. Is there less incentive for good social scientists to join or collaborate with the CGIAR System? Is the compensation package high enough to attract top scholars? What is the perception of social scientists about their career paths and ability to do good, meaningful work and grow as social scientists? Is there enough flexibility and resources available that allow top social scientists to pursue innovative and challenging research? Is the organization such that young social scientists find it an attractive and productive entry point for their careers?

The purpose of this report in accordance with the terms of reference outlined in the Scoping Paper can be broadly summarized as providing data to inform Phase 2 of the stripe review. This report is essentially an inventory of the current situation in social sciences regarding numbers and types of social scientists, functions, costs and products. We document the types of research currently being done and document how it is being organized (e.g., where social scientists are located in the Centers). The findings will be used to draw out the issues and better define the scope and *modus operandi* of the main second Phase of the study (See Scoping Paper).

Data Sources and Analysis

This Phase 1 was conducted as a desk study using data already available, newly generated citations data and benchmark remuneration data, and self-reported information from Centers. Independent verification of these data was neither commissioned nor possible.

The coordination of data collection was handled by the Science Council Secretariat (SCS) in Rome. These data came from five major sources. First, some data were already available as a result of annual reporting exercises (such as related to Centers' reports in the Financial Information System, FIS, and the Performance Measurement System, PMS) or prior Science Council (SC) studies. Second, Centers were asked to supply data on a range of different topics. The specific data request is provided in Appendix 1. The third category of data was generated from Thomson/ISI Web of Science citations analysis of publication lists available in the PMS (most of which were verified by the Centers). The fourth data source involved web searches and e-mail enquiries to key informants for pertinent information on items such as remuneration structures in advanced research institutions (ARIs). Finally, recent EPMRs and CCERs and related documents assessing CGIAR research in the social sciences and related

areas were reviewed. An electronic survey of social and biophysical scientists in the System was prematurely terminated due to Center objections; the few responses received have not been used in this presentation.

One immediate and striking finding is the spotty and inconsistent quality of the data. Some Centers were extremely responsive and helpful. Others were unwilling to provide or verify any information; one Center indicated at the very outset that it would not participate in the review. Others merely ignored repeated requests for information or provided only partial or unclear responses to the basic information request sent to all Centers and CPs. Many responded long after the requested response dates, thereby limiting time available for analysis. CPs were approached later in the process, so their participation in the data collection exercise is spottier than for Centers, but largely due to the data collection process itself.

The data were also of highly uneven quality, with obvious but uncorrectable variations in definitions used, accuracy of data and detail provided. There are important reporting gaps and variations in Centers' reporting formats, leading to several inconsistencies and imperfect comparability in the data and hence difficulty in summarizing System level patterns with precision. We have done the best we can with the available data to provide as accurate and holistic a picture as is practically possible so as to inform evidence-based assessment about the structural characteristics and performance of SSR in the CGIAR. But it is essential to recognize the serious deficiencies that exist in the coverage, quality, comparability and timeliness of reporting within the system and the serious limits these data deficiencies place on precise assessments of the current state of the system's SS research. The following sections report relevant data summaries organized around the following topics:

- i. Social Science Research and Staff Expenditures
- ii. Staffing and Organization of Social Science Units
- iii. Partnerships and Collaborative Activities Between Center Social Scientists and Outside Entities
- iv. Scientific Productivity of Social Scientists as Measured by Publications
- v. Impacts of SSR in terms of Publications, Outreach and Development
- vi. Overview from Past Evaluations of SSR Programs in Individual Centers (where these were available)

Social Science Research and Staff Expenditures

This section provides an overview of the relative weight of the social sciences in relation to the natural sciences in terms of resources expended in the various disciplinary areas. We do this comparison in terms of resources expended on these programs relative to each other and where possible generate trends that help to show how the levels of funding have moved in recent years. The focus on resource allocation is relevant because the resources devoted to SSR programs in the CGIAR system is an indicator of the prominence of these programs relative to the natural sciences within the system.

Data broken down into core versus restricted funds expended on CGIAR SSR are not available. We use data for years 1992-2006 available on the CGIAR's FIS that stores center reports on expenditures. There are five activity/output classes on the following areas: *Productivity, Environment, Biodiversity, Enhancing NARs and Policy Research*.⁴ Expenditures on policy research represent the closest proxy we can get to capturing broader expenditures on SS activities. Necessarily, this seriously underestimates total SSR expenditures in the system and does not necessarily even track broader patterns of SSR expenditures. This is a poor proxy for SSR expenditures but the only one available at present. A similar problem was faced by SC commissioned study which looked at the status of policy oriented research in CGIAR. They state that

'It is currently not possible to provide precise estimates of the CGIAR's investment in policy oriented research, as the recent classification of research investments is based upon 'outputs' that are not mutually exclusive. In fact, the 'policy' output is actually an intermediate result to the achievement of longer term goals related to the other outputs, such as increased sustainability and enhanced biodiversity.' (Science Council, 2006)

Trends in Policy Research Expenditures in the CGIAR, 1992-2006⁵

This section describes the evolution of budgets for various activities in the CGIAR's activity classification. Under this system, research expenditures are categorized as follows:

1. Increasing Productivity Through Germplasm Improvement
2. Protecting the Environment and Sustainable Production
3. Saving Biodiversity and Germplasm Collection (Conservation)
4. Strengthening and enhancing NARs
5. Policies and Improving Policies

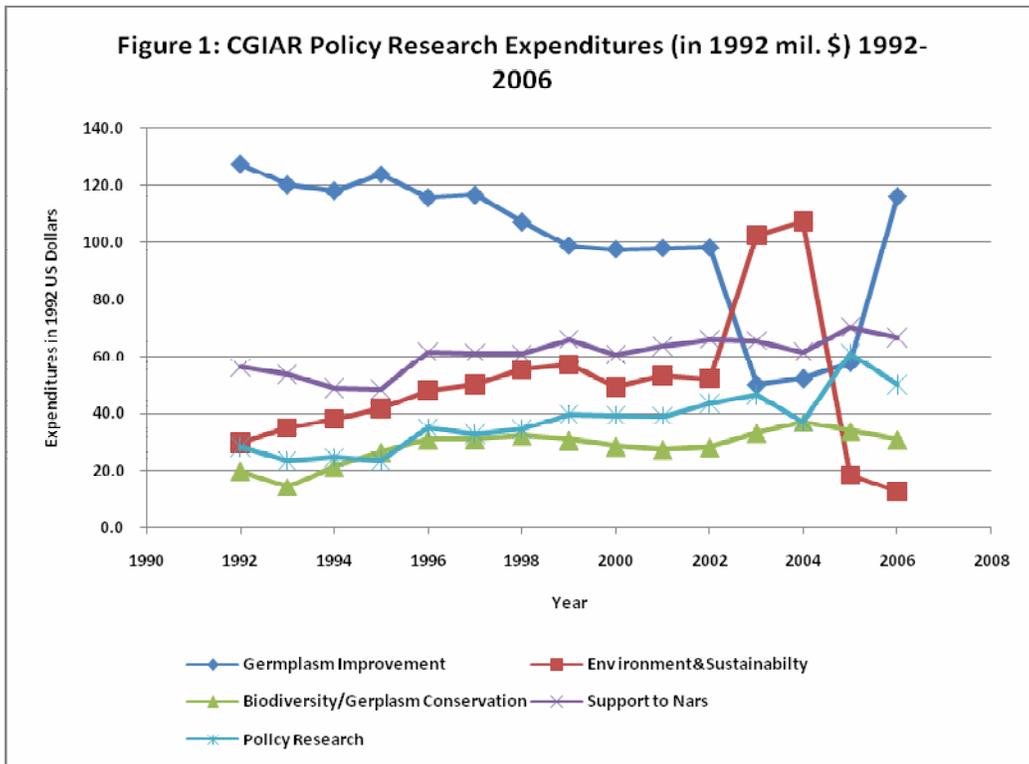
SSR expenditures are partly reflected – see the important caveats above – in the category 'policies and improving policies'. These data represent actual resource allocation to activities/undertakings or outputs annually as estimated and reported by Centers between 1992-2006. Since 2000 these data contained both activities and outputs except for 2003-04 when only output was available for all the five categories of research. Therefore, expenditure data summarized below are activity expenditures except for 2003-04 when the figures refer to outputs.

As shown by Figure 1, policy research expenditures have risen in real terms since 1992, the earliest year for which data are available in the FIS. While there was stagnation between 1992-1995, real (constant 1992 US dollar) expenditures on policy research have trended slightly upwards for the ten years beginning 1992, with the 2006 figures representing nearly a doubling over the 15 year period. The growth was reasonably steady until the past few years, when there has been greater volatility, but around a higher base level. Represented in proportional terms, the share of policy research

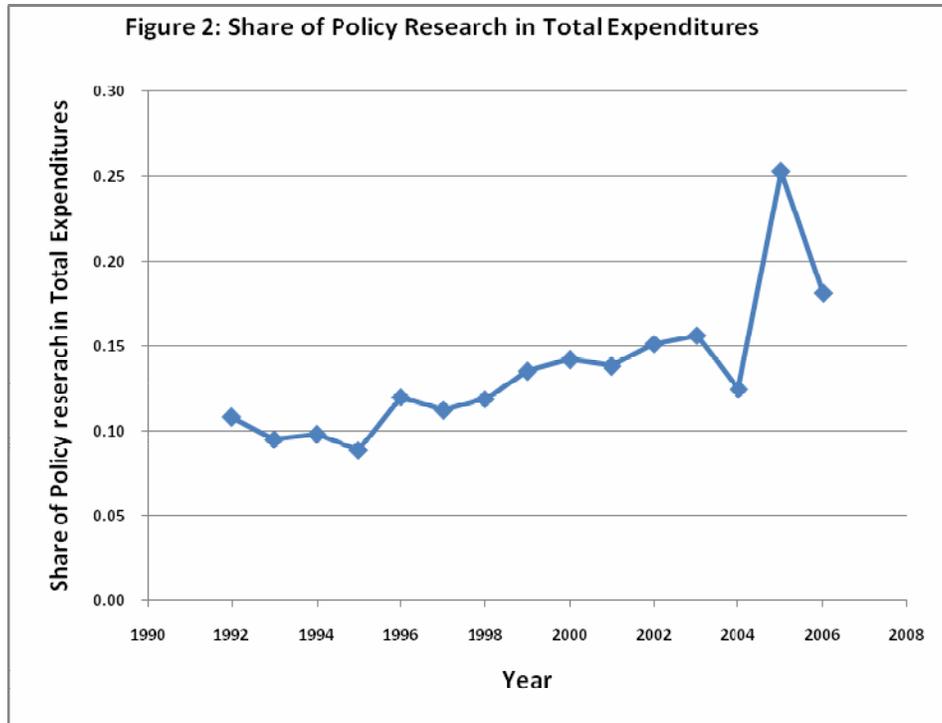
⁴ The Centers started reporting on investments on outputs in early 2000 and reporting on investments on activities was interrupted in the recent years. These two reports are similar but not the same.

⁵ Unlike the data used in the TAC 1996 report, the current data are not broken down into restricted and unrestricted categories. We therefore are unable to do comparisons similar to those in the TAC report.

activities in total expenditures (Figure 2) averaged 13% over the 1992-2006 periods, but has likewise climbed slowly with increased volatility in the past few years, but around a higher level. To contextualize these trends consider that in 1991, the CGIAR allocated approximately 9% of its resources, and close to 15% of its personnel, to social science research. In 1992, TAC proposed that this be increased to between 10% and 12%, largely to accommodate the additional needs for social science research due to the CGIAR expansion into forestry, fisheries and water, and the new priorities given to research on natural resources management (Kassam 2003). A study by the SC of the CGIAR found that between 1995-2004, policy oriented research had a 9-16% share of CGIAR's expenditures (Science Council 2006)



Data Source: CGIAR Financial Information System (FIS)

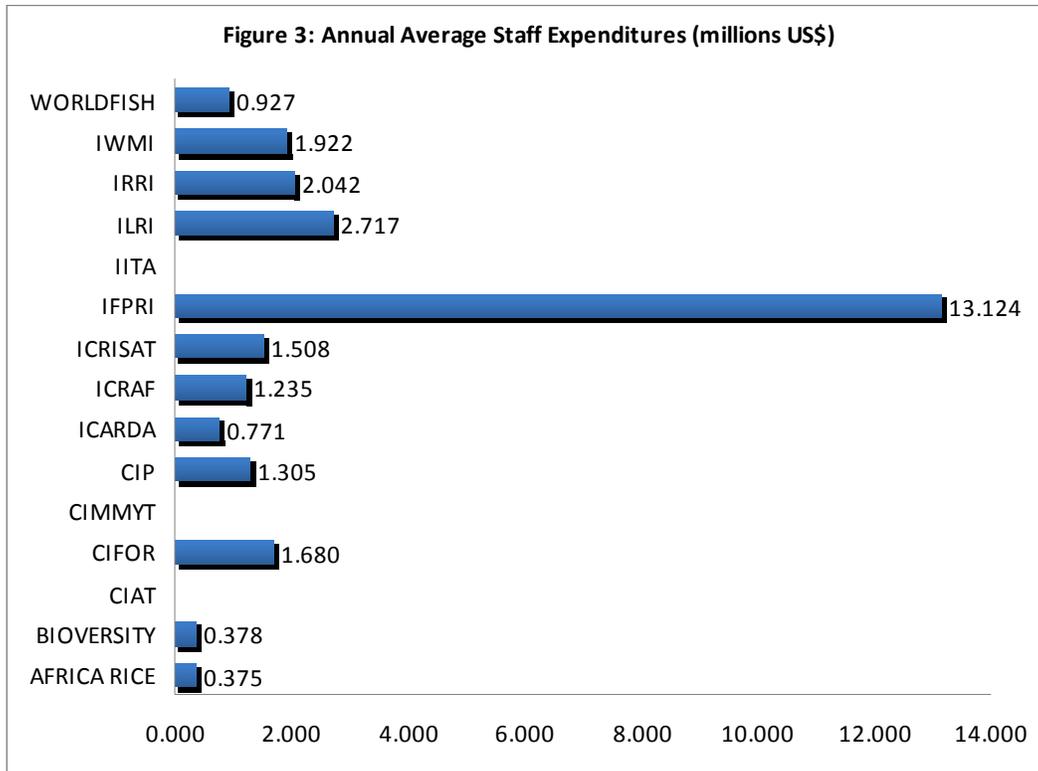


Data Source: CGIAR FIS. Dollar amounts deflated to 1992 levels using US CPI (www.ftp.bls.gov).

Social Science Staff Expenditures

One of the metrics of the status of SSR in the CGIAR is total staff costs of the various SSR programs in the CGIAR. Unlike the natural sciences for which lab costs are considerable, social science research expenses are primarily on personnel. By comparing these expenditures to other research programs in the Centers, we can get a sense of the relative importance of SSR within the CGIAR system. We therefore present center-reported social science staff expenditures for the twelve Centers from which data were made available. Note that no entry in these graphics means that no data have been reported.

The average annual expenditures on social science staff (between 2003-2007) ranges widely across Centers reporting, between \$0.38 million-\$2.72 million (and \$13.12 million for IFPRI) during the five years reported (Figure 3).



Data source: Centers

In both social science research and staff expenditure categories, it would be informative to breakdown expenditures in terms of restricted and core funds. These data were available for nine Centers. Although there are differences between Centers the data points to heavy dependence on restricted funding; the average unrestricted vs. restricted funding ration over the five years is 0.8. The share of social science staff costs met by unrestricted funds has been 40-50% in the years 2003-2006 but in 2007 it was 38% on average over nine Centers and five years. What we see here may be indicative of heavy dependence on restricted funding that drives staffing patterns.

Staffing and Organization

This section reports on the numbers and variety of social scientists (by discipline and center). It also contains data on social scientist remuneration compared against ARI benchmarks. We then describe the range of organizational models used for SSR within the Centers.

Internationally Recruited Social Scientists: Numbers and Composition

We have enumerated 310 internationally recruited staff (IRS) social scientists in the System as a whole. Table 1 shows the distribution of social scientists by highest attained degree for both IRS and nationally recruited staff (NRS). Of the 30 IR social science staff enumerated, 89% have earned PhDs,⁶ while 10% hold only Masters level and lower qualifications and 1% had Bachelors or otherwise unspecified qualifications.

⁶ This includes Juris Doctor as a terminal degree equivalent to the Ph.D.

Among the 150 nationally recruited social science staff, 10% had PhDs, 64% Masters and 26% had bachelors and other unspecified qualifications.

Table 1. CGIAR Center Reported Social Science Staff Numbers in 2007

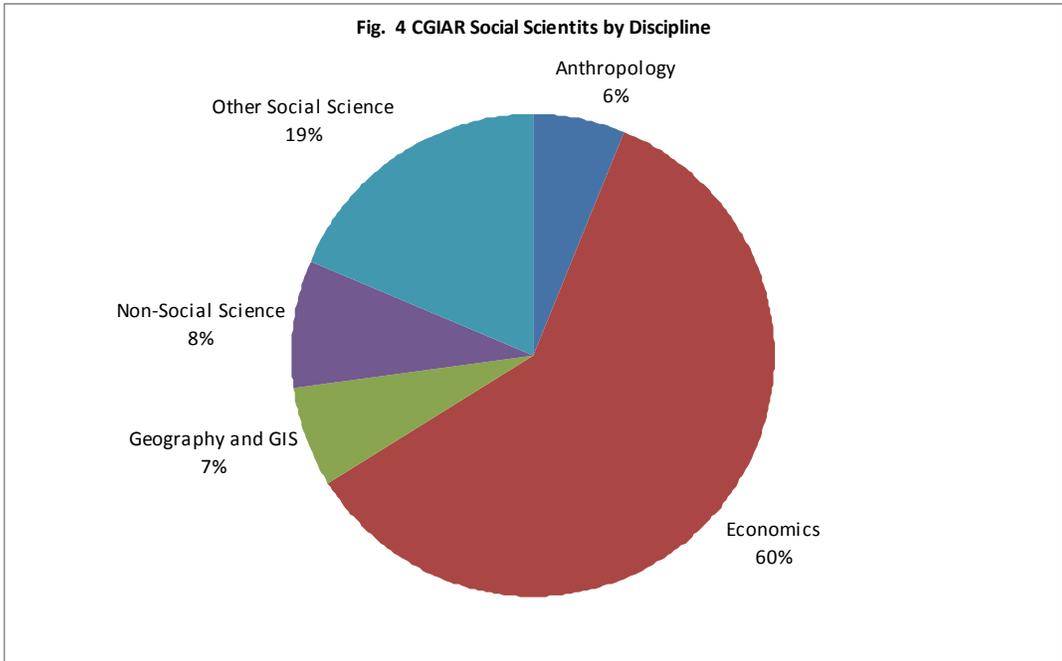
Staff Category	PhD	Masters	Other	Total
Internationally Recruited	275	33	2	310
Nationally Recruited	15	96	39	150
All Staff	290	129	41	460

Data source: Centers

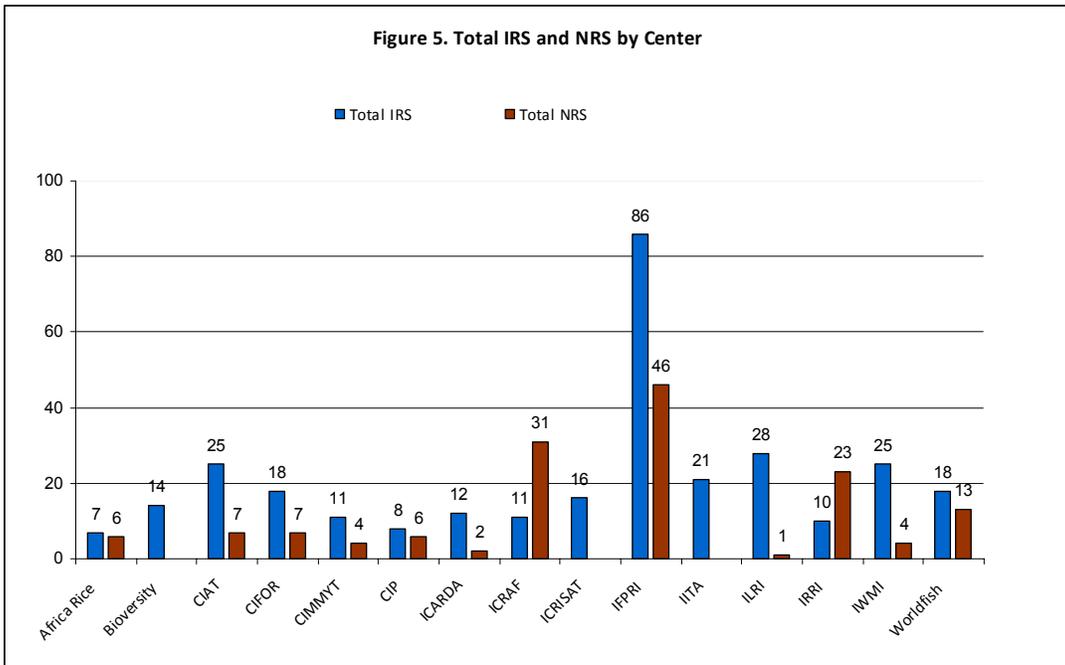
Figure 4 shows the distribution of social scientists, by discipline. Economics constitute the largest share of staff (60%), followed by geography (7%), and anthropology (6%). Social science in the CGIAR is clearly overwhelmingly dominated by economists. The Centers listed a considerable number of IRS who do not have advanced degrees in a social science but have, instead, migrated into social science-related research post-doctorally. As one Center report put it, they have ‘people who are trained as biophysical scientists but who have become adept at a number of social science functions’. This is a surprisingly large cohort (8%) in the total pool of CGIAR IRS working on SSR.

As for the distribution of Social scientists across Centers, IFPRI naturally had the highest number, followed by ILRI, CIAT, IWMI, IITA and CIFOR (Figure 5). According to Figure 5, ICRAF, IFPRI, IRRI and WorldFish have the highest number of nationally recruited staff. The distribution of Social scientists across the Centers is highly uneven. IFPRI is home to 86 of the system’s 310 social scientists. By contrast one-third of the Centers have no more than a dozen IRS social scientists. In 2007 there were 1096 IRS of all disciplines in the CGIAR (estimated to reach 1163 in 2008)⁷. This means that about 27% of IRS in CGIAR in 2007 were social scientists or otherwise carrying out SSR. By way of comparison, TAC (1996) indicates there were 163 social scientists out of 937 researchers, or 17%. It is not clear how comparable these numbers are, for example, whether the latter figure uses full-time equivalents rather than a pure headcount. But it does not appear that social science staffing has fallen in the System.

⁷ CGIAR FIS



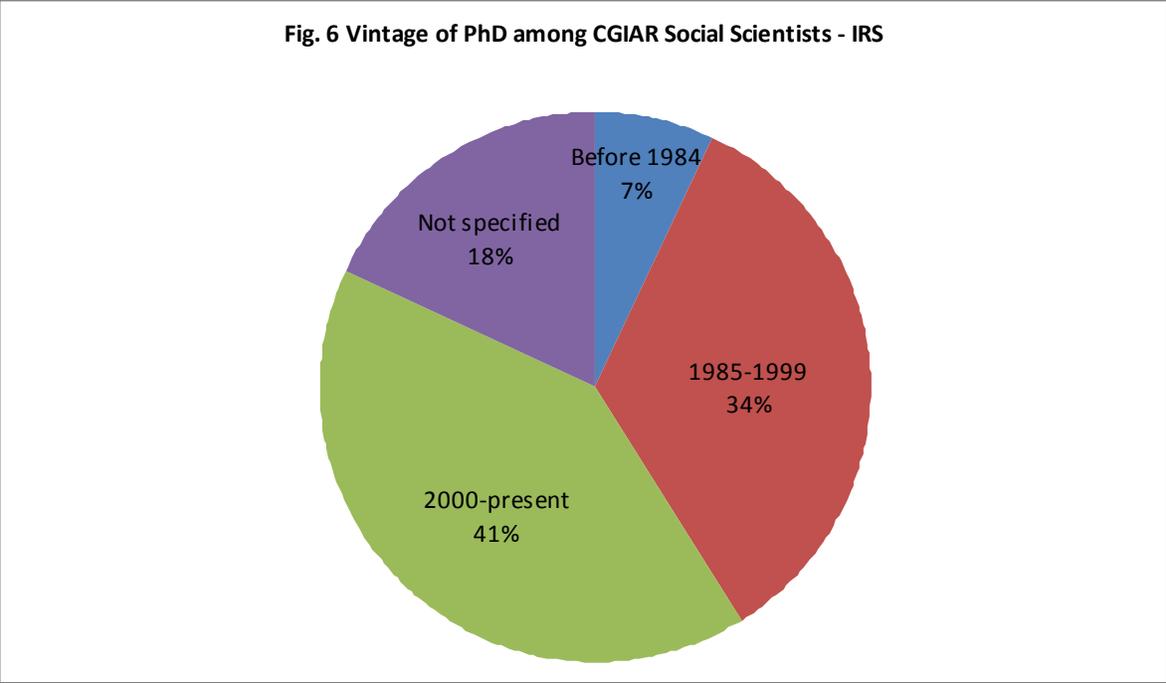
Data source: Centers.



Data source: Centers

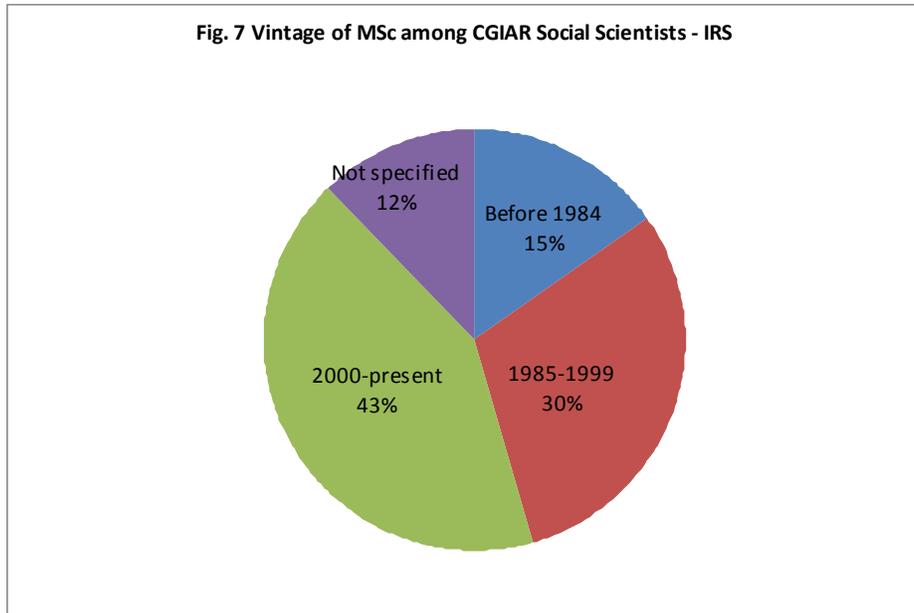
On experience and seniority indicators, Figure 6 shows that 41% of IR social scientists completed their PhD since 2000. Another 34% of the SS staff are mid-career, falling into the 15 year range that typically represent prime research productivity years in ARIs or NARS, having earned their PhD 8-23 years ago. Only 7% are very senior people who acquired their PhDs a generation or more ago (1984 or earlier). The data did not indicate qualification dates for 18% of the reported staff. Compared to ARIs, this is a

very bottom-heavy demographic profile. SSR in the CGIAR seems to rely heavily on relatively junior research staff, which may signal difficulties retaining and recruiting more experienced researchers.



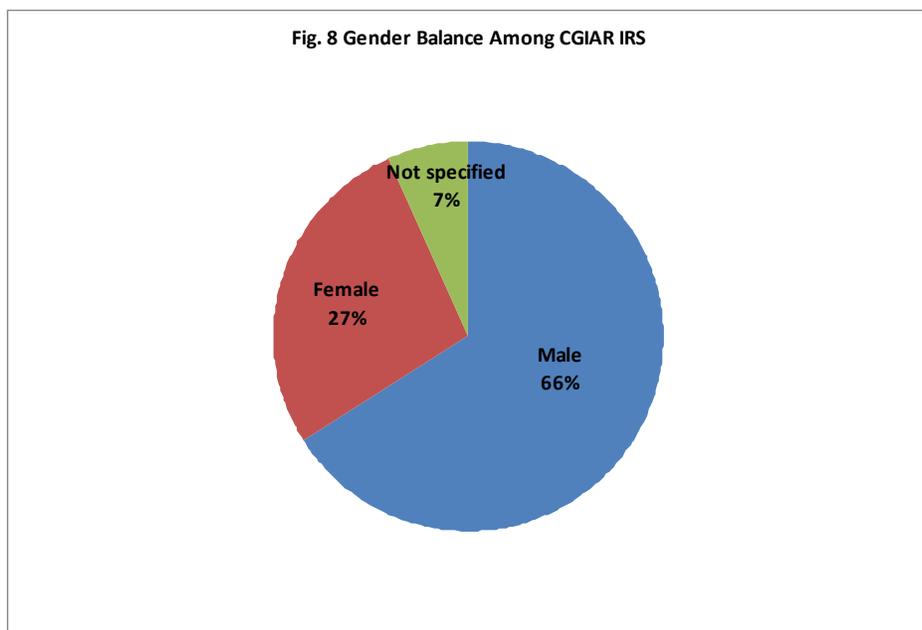
Data source: Centers

As Figure 7 shows, for IRS with Masters as the highest degree, there are more junior people (43%) than mid-career people (30%). The senior level Masters holders make 15% of all Masters holding IRS staff (compared to 7% for PhD holders). Thus the broader pattern among researchers with terminal degrees is, as one might expect, even more pronounced among the much smaller group of IR social scientists without terminal degrees.



Data source: Centers

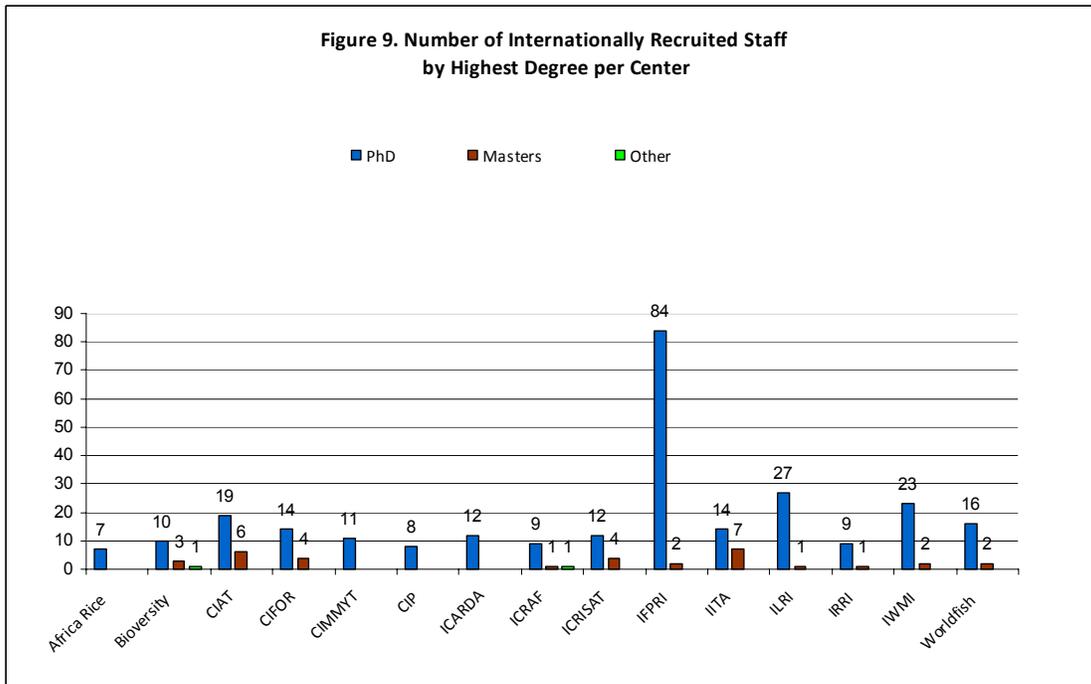
With respect to gender balance, 27% of all IR social scientists are female⁸ (Figure 8). This compares favorably to 18.8% women among economics faculty in the United States in 2007 and but less favorably to 34.5% female share of doctorates granted in US institutions in 2006-2007 (Lynch 2007).



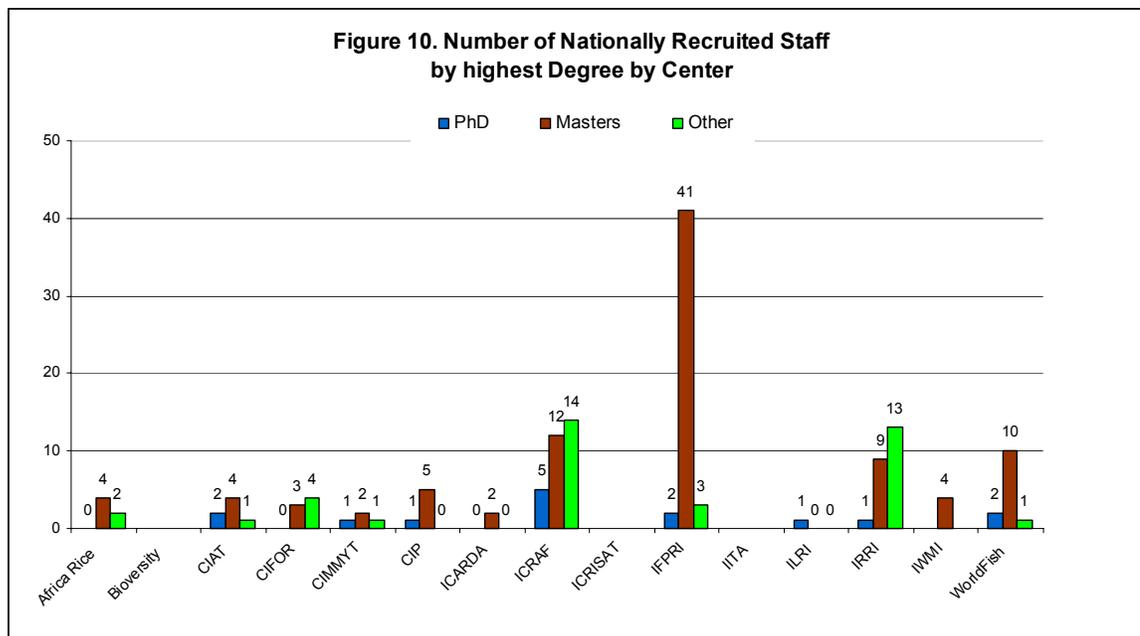
Data source: Centers

⁸ It is perhaps worth noting that the largest social science Center, IFPRI, has 35% of all IRS female.

Figure 9 and 10 show the distribution of qualifications per center for IRS and NRS. The share of Masters qualifications is clearly higher for NRS than for IRS. CIAT, ICRISAT, and IITA have the highest number (at least in relative terms) of IRS whose highest qualification is a Masters degree. ICRAF has the highest number of PhDs among NRS. Please note that while we had data from all Centers for IRS, NRS data was not available for three Centers. It may be important to fill this data gap in subsequent stages of the stripe review. This is important because NRS constitute a strong support base for IRS not least because the NRS complement may be seen as a component of capacity building, an important goal for CGIAR.



Source: Centers



Source: Centers

Remuneration patterns

If the CGIAR system is to undertake high quality SSR, it needs a cadre of highly qualified and well-motivated and competitively remunerated social scientists. As already documented, CGIAR social scientists are overwhelmingly (applied) economists. For IRS, the CGIAR competes with ARIs around the globe. The prior observation that the System seems to be having trouble retaining more experienced researchers suggests that in some dimension(s) it is struggling to compete.

As one perspective on that competition, we benchmark CGIAR salaries against ARI ones. Table 2 below provides comparison of annual salary figures for agricultural and applied economists in universities in selected countries. The US has the highest compensation rates. Table 3 presents the range of Center-specific median annual salaries, by roughly-comparable seniority groupings. The ranges across and within Centers are considerable. Note that not all Centers reported salary information and in many cases the figures reported included non-economists, who are likely paid less, on average, than economists of similar seniority, given differences in the discipline-specific labor markets. In so far as these imperfectly comparable figures offer a guide, CGIAR compensation seems marginally comparable with that offered by European ARIs, although more so in the senior ranks than at entry level. This makes the issue of retention of more experienced researchers somewhat puzzling. By contrast, CGIAR compensation levels fall well below those of US and Canadian ARIs throughout the experience distribution.

Table 2: University Salary Scales for Economists/Agricultural Economists (US\$/year)⁹

	Entry Level/Assistant Professor	Mid-level/Associate Professor	Top Level/Full Professor
Germany	67296	76915	93408
UK	51776	96322	102190
Belgium	38400	NR	86400
Canada	71562	91736	107445
US Tier 1 ¹⁰ (Agric. Economics)	89693	104544	148076
US Tier 2 (Agric. Economics)	77689	89957	116764
US Tier 3 (Agric. Economics)	71701	84734	111628
US Tier1 (Economics)	96543	125065	169847
US Tier 2 (Economics)	86913	10432	140389
US Tier 3 (Economics)	77320	86843	111689
US Tier Average (Agric. Economics)	79694	93078	125489
US Tier Average (Economics)	86925	74113	140642

Data sources: From Hilmer and Hilmer 2008, Scott and Siegfried 2008 and email enquiries sent to faculty in Germany, UK, Belgium and Canada. All figures are converted to US dollars.

Table 3: CGIAR Salary Scales for Social Scientists (As Reported by Centers)¹¹ (US\$/year)¹²

	Entry Level (Including Post doctoral Positions)	Mid Level Category	Top Level Category(Program/Division Leaders)
Median	42000	69216	94000
Minimum	23000	55215	79208
Maximum	88000	110750	223500

Data source: Centers

Social Science Organizational Models

The profile of SSR programs within the CGIAR is partly reflected by the organizational position of the social sciences in relation to other disciplines. From the descriptions provided by the Centers, SSR takes place within an array of different structural arrangements. In some the social sciences are organized as one or more separate departments which drive a separate SSR agenda, in addition to providing social science input to natural science teams. On the other hand, other Centers have their SSR programs diffused throughout the center, integrated thematically or geographically with

¹⁰ For tier classifications see Appendix 2.

¹¹ All Centers reported generic salary schemes without specifying economist's salary schemes separately from non-economist social scientists.

¹² The following seven Centers provided salary data: African Rice, Bioversity, CIFOR, CIP, ICARDA, IFPRI and IRRI.

non-social scientists in research units. Table 4 summarizes Centers' general approach to the organization of SSR:

- i. whether in a standalone social science unit (namely a separate program, division, or theme)
- ii. or in interdisciplinary integration across non-social science units or projects
- iii. or whether SSR is organized along geographic regions with social scientists affiliated with specific geographic units.

The shaded cells in Table 4 show that the description summaries fit the column heading(s). Of those reporting, half the Centers have their social science programs organized as separate standalone units and half distribute their social scientists across divisions or themes organized mainly around topical themes, less commonly by geographic region. ICRISAT and WorldFish have structures that may fit both inter-thematic as well as inter-geographic descriptors (Table 5) i.e. separate SS units with the added dimension of distinct regional foci. Table 5 provides more detailed self-descriptions of Centers' organization of SSR.

Table 4: Summary of Social Science Organization by Center, 2007

Center (In alphabetical order)	Disciplinary Units	Inter-thematic units	Inter-geographic units
AFRICA RICE			
BIOVERSITY			
CIAT	No data		No data
CIFOR			
CIMMYT			
CIP			
ICARDA			
ICRAF			
ICRISAT			
IFPRI	Not applicable	Not applicable	Not applicable
IITA	No data	No data	No data
ILRI			
IRRI			
IWMI			
WORLD FISH			

Table 5: Summary Descriptions of Social Science Organization by Center, 2007.

Center (In alphabetical order)	Disciplinary Units	Inter-thematic units	Inter-geographic units
<p>AFRICA RICE: Social science research is conducted under two programs, namely the Policy and Impact Assessment program and the Learning and Innovations System program. The Policy and Impact assessment program conducts research to generate options for policy and institutional changes for an efficient and pro-poor rice production and marketing system to assess the impact of technical, policy and institutional changes on the livelihoods and well-being of the poor. The Learning and innovation unit conducts, mainly, participatory research on technology transfer including facilitating the diffusion and transfer of the technology to the end users (farmers). The unit acts as a change agent and a link between the scientists and the farmers. An example of the innovations from this unit is the development of a tool for technology transfer known as the Participatory Learning and Action Research (PLAR).</p>			
<p>BIOVERSITY: Bioversity's social science research capacity is concentrated in the Diversity for Livelihood Program (DfLP), where the economists and social scientists responsible for research are based. In cases where a social scientist is assigned to a regional office or another program such as Commodities for Livelihoods (CfL), the DfL program maintains a role in thematic coordination to maximize the scientific quality and impact.</p>			
<p>CIAT: There is not separate organizational unit for social scientists in CIAT. Social scientists are found in all three of the major programs (research for development challenges, RDC). They are concentrated most in the People and Agroecosystems RDC and less in Tropical Soil Biology and Fertility RDC, and least in the Agrobiodiversity RDC. Social scientists are, though, expected to work across programs, with those in the People and Agroecosystems RDC undertaking considerable work for and with TSBF and Agrobiodiversity. Social scientists are disproportionately working in regional programs outside Colombia, with 60% of social scientists in the regions compared to a center wide total of 40% of scientists in the regions.</p>			
<p>CIFOR: There is no separate social science group within CIFOR. Each of the three main programs has social scientists included in them. And each of the forthcoming six research domains will also have both social and biophysical scientists. Projects are developed by individual scientists or program directors, and then individuals who can contribute to the goals of that project are selected to collaborate (they often were involved in writing the original proposal). Sometimes social scientists play lead roles, sometimes biophysical scientists.</p>			
<p>CIMMYT: Approximately half of the IRS social science capacity is located at the CIMMYT HQ at El Batan, spanning agricultural economics, impact assessment, poverty analysis, value chain analysis, knowledge sharing and GIS and together constitute the scientists in the MTP Project 11 on Knowledge Sharing, Strategic Assessment and Targeting. The remaining five IRS PhD agricultural economists are embedded in the maize and crop systems management MTP Projects in Harare (2), Nairobi (2) and New Delhi (1). CIMMYT social scientists periodically assemble on a topic of mutual interest, e.g., poverty in 2004, seed systems in 2005, and the International Agricultural Economics Conference in 2006; and organize social science disciplinary meetings during CIMMYT Science Weeks or similar opportunities.</p>			
<p>CIP: The Social Science department was eliminated in 2002. Social scientists now do not have a disciplinary home. They have specific roles in other specific themes e.g. Social scientists from the eliminated department made the most substantial contributions to the Impact Enhancement Division but also had some of their time assigned to other Divisions. The leader of the Integrated Crop Management Division was an extension specialist. The Crop Enhancement Division also carried out social science research in the area of participatory R&D and approaches to innovation. The leader of Urban Harvest and one other IRS staff persons were also social scientists.</p>			
<p>ICARDA: SS is organized under one program called "Social, Economic, and Policy Research Program (SEPRP)". Its role include defining research problems, developing methodologies, management and implementation of research, participatory and community-based research methods, and capacity building of NARS, and out-scaling approaches of technological innovation.</p>			
<p>ICRAF: The center reports that they 'do not separate out [their] social sciences, they are integrated into [their] matrix'.</p>			

Center (In alphabetical order)	Disciplinary Units	Inter-thematic units	Inter-geographic units
ICRISAT: With an aim to strengthen research and impact in all regions, ICRISAT adopted a decentralized regional and thematic approach to research and management. The Institute's new organizational structure reflects this through a combination of regional mega projects whereby the 4 Global Themes on biotechnology, crop improvement, agro-ecosystems (resource management) and socioeconomics and policy (with focus on institutions, markets, policy and impacts) play an important role in improving the quality of science, interregional linking and generation of International Public Goods. All ICRISAT projects are multidisciplinary, drawing the required competencies from the 4 global themes. Multidisciplinary research teams comprise breeders, agronomists, plant pathologists, economists, social scientists and experts from other disciplines working together to tackle the problems of semi-arid tropics (SAT) agriculture and achieve impact.			
IFPRI	Not applicable	Not applicable	Not applicable
IITA	No data	No data	No data
ILRI: The Centre's research is organized around 4 issue oriented Themes: Targeting and Innovation, Improving Market Opportunities, Biotechnology, People, Livestock, and Environment. ILRI social scientists are located in these Themes, with the bulk of them concentrated in the Market Opportunities and Targeting and Innovation Theme. The Marketing Theme is the most geographical diverse with social science staff located in Sub-Saharan Africa, South Asia, and South East Asia.			
IRRI: Social Science has been organized as a department (1966-1989) and now as a Division (1990-present). Economists, rural sociologists, anthropologists, gender specialists, and geographers are housed in one office while working with various disciplines in different rice research programs at IRRI.			
IWMI: Has a separate theme for the social sciences to: 1) take leadership in social science specific research within the institutes overall strategy, 2) coordinate social science inputs to work managed by other themes and 3) oversee the institutes' impact assessment program.			
WORLD FISH: The social scientists in WorldFish are all grouped within the Policy, Economics and Social Science discipline. All scientists in WorldFish are both members of a discipline, and a regional office (with the exception of a small number of non-regionally-aligned scientists), but there is active movement of staff across regions and in some cases change of disciplinary affiliation based on emerging new foci in research work of individuals.			

Data Source: Descriptions from Centers

Key Functions of Social Science Research in the CGIAR, as Seen by Centers

This section summarizes what the Centers identify as the key functions of SSR in the CGIAR. The section provides a stylized schema of six different types of SSR in the CGIAR. We developed the scheme below and then classified Centers' responses under the relevant categories. The first two categories (technology development and adoption studies, and technology impact assessment) reflect the earliest traditions of SSR in the CGIAR and are somewhat more oriented internally, towards informing the non-social science research within the System and its partners. The next two categories (policy analysis and management research) have long been central to CGIAR SSR but have grown in prominence with the System over the past twenty or so years, as reflected initially in the 1996 TAC study and subsequently in the growth of IFPRI and of teams within the other Centers doing such work. The final two categories are straight disciplinary research, akin to the basic and applied research done in ARIs and targeted largely at disciplinary audiences, and then a catch-all for other SSR not readily lumped in with one of the other five categories. The five areas of SSR we use are:

- a) **Technology development and adoption studies:** These include SSR that help in the identification of desirable technology characteristics as well as adoption surveys and analyses. Target audiences here include physical scientists, research managers, extension services and the development community.
- b) **Technology impact assessment:** Under this topic SSR is important in analyzing the expected impacts and realized outcomes (economic, social and environmental) of technologies from the CGIAR system, with target audiences being research managers, donors and the general development community.
- c) **Policy analysis:** Policy analysis function involves research on ex-post and ex-ante analyses of policies as opposed to specific tangible technologies. The target audiences here would be policy makers, researchers and donors.
- d) **Management research:** Under management research social science units focus on natural resource management on the part of farmers and communities as well as on research management by scientists (research prioritization, strategy setting and implementation). Target audiences are policymakers, scientists, donors and researchers at all levels but especially at senior management levels.
- e) **Social science disciplinary research:** These are SSR activities that focus on specific subject of interest to social science disciplinary peers focusing on empirical, methodological and theoretical issues.
- f) **Other:** These are functions that do not involve research but revolve around center administration or outreach and training activities.

Table 6 below shows the areas covered by SSR, as reported by each center. The shaded cells indicate that at least one of the functions the center identified fits in the column category. Table 6 (a shorter version of Table 7, for ease of visualization) shows that technology adoption, impact assessment, policy analysis and management research may be the SSR functions most widely undertaken in the system and all seem to enjoy equal weight in terms of functional focus. Disciplinary research appears to be very secondary compared to the other five areas with only IFPRI reporting that their SSR carries out disciplinary functions. The dominance of impact assessment, policy analysis and management research is consistent with the collaborative patterns reported in the next section. Table 7 provides more detailed descriptions of the SSR functions provided by each center, verbatim when their description was brief enough, summarized for brevity in other cases.

Table 6: Identification of Social Science Functions at the Centers

Center	a) Technology development and adoption Studies	b) Impact assessment	c) Policy analyses	d) Management Research	e) Social science disciplinary research	f) Other (e.g. administration, training)
AFRICAN RICE	No data	No data	No data	No data	No data	No data
BIOVERSITY						
CIAT						
CIFOR						
CIMMYT						
CIP						
ICARDA						
ICRAF						
ICRISAT						
IFPRI						
IITA	No data	No data	No data	No data	No data	No data
ILRI						
IRRI						
IWMI						
WORLD FISH						

Data Source: Classification based on descriptions from Centers in response to SC secretariat request

Table 7: Center Reported Descriptions of Social Science Functions

Center (self description of SS research activities)	a	b	c	d	e	f
AFRICAN RICE	No data					
BIOVERSITY: The role of social sciences in Bioversity addresses two central objectives, (i) to demonstrate the benefits of agricultural biodiversity to people, and (ii) to enhance those benefits through the development, testing and dissemination of appropriate interventions. Understanding the socioeconomic and cultural factors that influence the maintenance of crop and animal genetic diversity on farms, agro ecosystems, and seed systems. Documenting and analyzing indigenous and local knowledge of plant diversity and their roles and uses in people’s lives. Understanding institutional processes, rights, and benefits for developing policy options and legal frameworks for the conservation and use of biodiversity to improve well being. Developing economic and institutional indicators to assess impact of agricultural biodiversity research on livelihoods and wellbeing.						
CIAT: Enhancing the design and development of technology and improved natural resource management are approached in an integrated fashion so that social science research helps them both better meet the needs of users and be used by them to contribute to the eco-efficiency of tropical agriculture. This broad function involves CIAT in ex ante and targeting analyses; participatory research and technology evaluation; gender analysis and innovation systems. Impact assessment is the second most important function of social science at CIAT, followed by policy analysis. Implementing these three functions necessarily engage social scientists in strategic social science research which is, though, not a goal in itself. More time of trained social scientists is spent on other functions, particularly institutional leadership and management, but also including capacity building, than on policy analysis.						
CIFOR: Leading research projects. Contributing to research projects. Helping out on research projects (social scientists help others to figure out how to address issues that are social but emerge in largely biophysical research). Engaging interdisciplinary projects involving lots of interchange between the representatives of the different disciplines.						
CIMMYT: Rapid diagnostic assessments, e.g., focus groups. Economic evaluation of trial results. Variety/technology evaluation. Diagnosis of market (value chain) and seed system constraints. Synthesis of socio-economic data Provision of socio-economic advice to commodity scientists Consumer preferences surveys, e.g., GM/yellow maize Estimation and identification of determinants of adoption Ex post impact assessment. Ex ante impact assessment / priority setting. Identification and diagnosis of impact pathways. Analysis of innovation systems/Analysis of seed systems. Targeting Poverty mapping. Spatial analysis. Knowledge mapping and dissemination						
CIP: In order of importance the functions of SS at CIP are as follows: Management, proposal development, market related R&D, client orientation of adaptive on-farm research, impact assessment, priority setting, policy oriented research, training, capacity building in social science methods, gender analysis, strategic social science research						
ICARDA: Analysis of the determinants of poverty, vulnerability and rural livelihood strategies, with specific attention to gender dimension of poverty. Assessment of the adoption and impact of agricultural research and identification of pathways out of poverty. Natural resource economics to facilitate the conservation of natural resources base. Analysis of enabling policy and institutional options. Value-chain analysis and options for linking small farmers to markets. Project development and implementation and management (Resource mobilization). Capacity building. Other Center-wide services (research priority settings, System performance measures)						
ICRAF: Functions at ICRAF include impact assessment, research prioritization, studies of landscape-level processes of land use change, policy analysis , drivers of tree planting, land tenure and access to resources - property rights, gender analysis (preferences, adoption), market constraints and opportunities, collective action. These functions also include the development of scenario and options for policy and decision makers, other researchers, NGOs,						

Center (self description of SS research activities)	a	b	c	d	e	f
governments to consider in the context of our overall mandate to reduce poverty. An important function of social sciences is an appreciation of the multiple knowledge systems (for example, local knowledge, scientific knowledge and knowledge emanating from the public policy domain) and negotiations support systems on access to natural resources.						
ICRISAT: Help set ICRISAT's research priorities and the definition of its research agenda. Generating socioeconomics knowledge base for the semi-arid tropics. Developing analytical and methodological tools for use by partners worldwide. Information and analysis to inform policy making Strengthening capacity among national partners in developing countries. Technology adoption studies and ex-post assessment of crop varietal technologies. Research evaluation and impact assessment. Understanding rural livelihoods, the dynamics and determinants of poverty, institutional innovations, diversification and commodity trends, impact assessment and the direction of future investment in research.						
IFPRI: The functions of SS at IFPRI (essentially IFPRI's mandate) was summarized as follows: Development Strategies. Science and Technology. Diet, Health, and Food Safety. Poverty, Nutrition and Social Protection. Natural Resource Policies. Outlooks and Global Change Governance Risk and Emergencies Globalization, Trade, and Markets						
IITA	No data					
ILRI: Social science research contributes to ILRI's research in the following areas: strategic analysis, technology foresight, and priority setting, policy and institutional analysis (poverty and livelihoods; livestock policy, food safety, innovation in livestock systems), Technology development and adoption, Impact assessment and NRM and systems research.						
IRRI: Identification of technology needs as well as technology evaluation and constraint analysis. Technology impact assessment, policy analysis, research prioritization, capacity building for social science research.						
IWMI: In order of importance these are the key social science functions: Conceptual and applied input into development and implementation of projects. Various roles in institute management. Analysis of the impacts of policies and institutions on agricultural water and related social outcomes. Analysis of agricultural water management interventions on poverty. Analysis of impacts of technologies on water use						
WORLD FISH: The social sciences in WorldFish have a dual function: Setting the research agenda in the social-science dimensions of fisheries and aquaculture. Supporting application of natural science research: to support the work of the center on aquaculture technology development and transfer, and environmental and fishery resource assessments, with needs-identification, targeting and with impact assessment. Poverty analysis and profiling. <i>Capacity development</i> – improved social science research capacity both within the Center and with partner organizations. <i>Impact Assessment</i> – ex ante and ex post impact assessments for projects and policy interventions						

Data Source: Centers

Partnerships and Collaboration Patterns

In order to effectively generate and disseminate global public goods, the CGIAR Centers must develop meaningful and strong linkages and partnerships with other institutions involved in agricultural research and overall rural development. This is important in terms of sharing resources, collaboration in technology development and policy analysis, capacity building so that target countries can utilize these technologies effectively, and effective dissemination. Such linkages and collaboration necessarily run both upstream and downstream, including NARS, ARIs, NGOs, and international development organizations and governmental agencies. Table 8 summarizes the types of collaborative activities the Centers self-report as key examples over the previous five years. Please note that the listings are not meant to be comprehensive.

The Centers have been engaged with all manner of organizations, including other CGIAR Centers, NARS, ARIs, local and international NGOs, regional and international policy networks, private sector firms, national and local governments, and community groups. Most CGIAR social scientists are involved in extensive collaborative work with other entities outside their Centers. It is also clear that most of these collaborations involve what can be described as development-oriented activities; few of the identified partnerships are purely research-oriented. Partnerships, especially with non-ARI organizations, clearly aim above all to enhance the relevance and impact of CGIAR's social science research.

The main obvious weakness in partnership patterns relates to Centers' mobilization of the best social scientists in ARIs through substantive, extended partnerships. Only a couple of Centers mentioned such partnerships (ICARDA, IFPRI and ICRAF) indicating undervaluation of such partnerships, their scarcity, or both. Especially given the relatively uncompetitive compensation packages in the CGIAR - relative to North American ARIs and international organizations - in order to tap the very best social scientists working on these complex problems, the CGIAR needs extensive, effective ARI partnerships.

Table 8: Summary Center Descriptions of Collaboration Examples

Center	Description of Collaboration Examples ¹³
AFRICAN RICE	<ul style="list-style-type: none"> • Partnership with NARS through ROCARIZ. Formed in 2000 by merging WARDA's regional task forces with the CORAF/WECARD's rice network, ROCARIZ has more than 150 rice scientists in WCA in 21 WARDA/CORAF countries. ROCARIZ has financed or facilitated the implementation of a number of surveys. ROCARIZ has, for the past five years, contributed significantly to closer and increased research collaboration between WARDA and NARS scientists and among the NARS. • Partnership with NARS through the Africa Rice Research Initiative (ARI): ARI was the outcome of the heads of state meeting held in Yamoussoukro (Côte d'Ivoire) in March 2002 (preceded by a COM at M'bé) to alleviate the "quality seed crisis" with respect to the diffusion of NERICAs. ARI is a broker between research institutions and extension services and is now the primary vehicle of dissemination of WARDA products, including new NERICA lines, fertilizer rates, weeding regimes, sowing depth and date of sowing, NERICA based recipes. WARDA has collaborated with ARI in the production and distribution of NERICA seed. The social sciences group has successfully collaborated with ARI to conduct baseline surveys and adoption and impact studies in countries member states. • Partnership with the Africa policy Research and Advocacy Group (APRAG): WARDA has successfully collaborated with APRAG with an aim of improving the impact of policy research and institutional arrangements on the competitiveness of the rice sector in the region. WARDA supports the Agricultural Policy Research and Advocacy Group (APRAG), which allows transmittal of research findings to national and regional policy
BIOVERSITY	<ul style="list-style-type: none"> • Bioversity's collaboration with the System wide Initiative on Collective Action and Property Rights (CAPRI). • Collaboration between Bioversity and a Nepalese NGO, Local Initiatives for Biodiversity, Research and Development (LI-BIRD) and the Smithsonian Tropical Research Institute looking at research on the organization and management of home gardens in Nepal. • The collaboration with the Institut d'Economie Rurale (IER) of Mali. The Institut National de l'Environnement et des Recherches Agricoles (INERA) of Burkina Faso and the National de Recherche Agronomique du Niger (INRAN) of Niger, as well as with IFPRI and FAO have produced important results on how to enable poor Sahelian farmers to access and evaluate the diversity
CIAT	<ul style="list-style-type: none"> • Estimation of the likely benefits to the poor of ecosystems services in the Amazon and Andes was conducted with King's College, London; Universidad Nacional, Colombia; World Wildlife Fund and Nature Conservancy. This study identified research priorities and a number of best-bet policy approaches. http://www.ecosystemsandpoverty.org/wp-content/uploads/2008/05/espa-aa-final-report-small-version.pdf • <u>A</u>ssessment of adoption and outcomes of improved rice management systems in South America conducted in collaboration with NARS members of the Fund for Latin-American Irrigated Rice (FLAR) including Brazil, Colombia, and Venezuela. • A Learning Alliance was developed in Central America to conduct action research that strengthens small farmer opportunities to participate in rapidly growing markets in order to increase their incomes. Partners include CARE, the Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), Catholic Relief Services, Germany's Gesellschaft für Technische Zusammenarbeit (GTZ), the National Agricultural University of Honduras.
CIFOR	<ul style="list-style-type: none"> • Collaboration with National Park Authority in Indonesia for a conservation initiative. Also involved were private corporations, local governments, NGOs, ICRAF and IPB. • Collaboration with ACIAR which led to adoption of policy recommendations to provide rattan farmers with greater access to forest resources in a region of Indonesia. Others also include the commitment and willingness shown by local officials in South Sulawesi, Bungo and Tanjung Jabung Barat to sustain and continue local, multi-stakeholder forums for forestry management, and to promote collective action among women and strengthen the institutional capacity of women's and men's local groups working on natural resources. • CIFOR initiated a collaboration between CIFOR, IRD, the Directorate General for fish farming to promote fish farming in Indonesia.
CIMMYT	<ul style="list-style-type: none"> • Tropical and Sub-Tropical Maize in Asia: production systems, constraints, and research. Led by CIMMYT economists, NARS social scientists in China, India, Vietnam, Philippines, Indonesia, Thailand and Nepal implemented household and village rapid appraisal surveys, analyzed data and organized stakeholder workshops which led to seven national reports. The above regional synthesis was prepared by CIMMYT. Duration: 2004-2007. • USAID Linkage Project on Crop-Livestock Interactions in Morocco. Led jointly by scientists from CIMMYT, and UC Davis, and in cooperation with INRA and ICARDA scientists. Household surveys were conducted and data analyzed. Duration: 2005-2008. • Drought Tolerant Maize in Africa. First, CIMMYT and IITA economists and breeders conducted rapid appraisals of public and private maize seed producers and distributors in a dozen SSA countries which estimated seed sales and identified constraints in seed delivery systems. Second, CIMMYT, IITA and NARS economists designed and implemented a large-scale baseline household survey and community rapid assessment in drought-prone maize growing zones of five countries Eastern, Southern and Western Africa. Duration: 2006-8.

¹³ Definitions of abbreviations were not always provided by Centers.

Center	Description of Collaboration Examples ³
CIP	<ul style="list-style-type: none"> • Collaboration with Montana State University (Economics) and Wageningen University (Soil Science), on methods, development and application of integrated assessment research for analysis of ex-ante policy options for agriculture-ecosystem management. • With Wageningen University: research on participatory variety selection and seed system development which took place as part of an alliance between the Papa Andina partnership program and the WU PREDUZA project on durable resistance in the Andes. • Links between UPWARD and the Dutch Support Group based in Wageningen at the Dept of Household and Consumer Studies. The partnership enabled CIP and partners in Asia to engage in collaborative research, publishing and capacity building on sociological and technical issues in root crop agriculture. • Urban Harvest and RUAF Foundation on methods development, gender mainstreaming, policy development including Training CD_ROM, and book in 2008.
ICARDA	<ul style="list-style-type: none"> • Collaboration with Moroccan NARs, (e.g. a project entitled: <i>Ex-post Impact Assessment of Natural Resource Management Technologies in Crop-Livestock Systems in Dry Areas of Morocco and Tunisia</i>). • Collaboration with ARI (Virginia Tech) involving the development and application of appropriate methods for assessing the research impact on poverty using household data in Syria. • Collaboration with a CG center (IFPRI) resulted in generating important research outputs, including assessing the effects of drought, structural adjustment reforms, and market liberalization on farm income and trade, production and consumption of major commodities in low rain fed areas of.
ICRAF	<ul style="list-style-type: none"> • CGIAR collaboration involving CAPRI and IFPRI – policies for sustainable development in east African highlands. CIFOR – ICRAF Joint Biodiversity Platform. • Collaboration with other ARIs e.g. RUPES and PRESA (including the links with Harvard and MSU), Pan-Tropical Scoping Study of Compensation and Rewards for Environmental Services, ASB Partnership for the Tropical Forest Margin, Hannover University – indigenous fruits in southern Africa; impact of fertilizer trees in Zambia, NSF project on Boundary Organizations with Kennedy Scholl at Harvard University • Amazon Initiative Consortium: 29 partner institutions; 7 countries. Direct cooperation with the Amazon Cooperation Treaty Organization. • An Eco-regional Program: focus on climate change mitigation and adaptation; enhanced benefits from forests to society and environment; added value from Amazonian products; and sustainable land use systems in degraded/deforested land. • RAVA: Amazon Livelihoods and Environment Network (supported by a World Bank Institutional development Grant). Collaboration with and support to local networks for baseline studies with ~ 2,500 households in 12 sites and 7 countries.
ICRISAT	<ul style="list-style-type: none"> • To re-establish the engagement of advanced research institutes (ARIs), a workshop on “Changes, Livelihoods and Policy” was organized by ICRISAT in July 2005 in collaboration with 15 Universities from USA, UK, Canada and Japan. This re-engagement through partnerships was followed by the development of a proposal for a coordinated, goal-oriented, fundamental research on Socioeconomic Mobility, Agriculture and the Rural Transformation in an authentic partnership among multiple CGIAR Centers, selected ARIs and NARS and universities from throughout the south. • An example of innovative partnership between ICRISATs Global Theme on Institutions, Markets, Policies and Impacts (GT IMPI) and National Centre for Agricultural Economics and Policy Research (NCAP) in delivering Science with a Human Face won the 2007 CGIAR award for the best collaborative team. This outstanding partnership in social science and policy research capitalized on the core competency and comparative advantages of each institute and evolved a joint working arrangement that catalyzed important initiatives benefiting the regional and international community in furthering the CGIAR goals. • Enhancing grain legumes’ productivity, and production and the incomes of poor farmers in drought-prone areas of sub-Saharan Africa and South Asia. The purpose of this project is to enhance the productivity of selected legume crops (bean, chickpea, cowpea, groundnut, pigeon pea and soybean) in drought-prone areas of sub-Saharan Africa and South Asia, principally through the use of improved crop cultivars. Three CGIAR Centers along with national research scientists from 10 countries are collaborating towards this end.
IFPRI	<ul style="list-style-type: none"> • Collective Action and Property Rights initiative (CAPRI), a CGIAR system-wide program since 1996 which was awarded the CGIAR partnership award in 2002. • A network called RENEWAL currently active in Malawi, Uganda, Zambia, South Africa and Kenya. RENEWAL comprises national networks of food and nutrition-relevant organizations (public, private and non-governmental) together with partners in AIDS and public health. • Agricultural Science and Technology Indicators: The ASTI initiative compiles, processes, and makes available data on institutional developments and investments in agricultural R&D worldwide, and analyzes and reports on these trends in the form of periodic policy digests.
IITA	<ul style="list-style-type: none"> • No data
ILRI	<p>The following are examples of how social science research at ILRI has engaged with research and development partners:</p> <ul style="list-style-type: none"> • Collaboration with development partner: An important example is the East Africa Dairy Development project; a large scale four-year development project in Kenya, Uganda and Rwanda led by Heifer International and Technoserve Inc. ILRI’s role is knowledge management: guiding design, leading targeting of implementation to ensure benefits for the poor, and lesson learning from development interventions for wider strategies.

Center	Description of Collaboration Examples ³
	<ul style="list-style-type: none"> • Research partnerships with complementary IARC: Important parts of the Markets research are implemented with IFPRI through a revised Joint ILRI-IFPRI Program (JP) on Livestock Market Opportunities. The focus areas of the JP are 1) organizational options for better linking farmers to changing markets, 2) private public partnerships for compliance with SPS standards and changing market demands, and 3) analysis of cost of compliance with animal disease constraints to markets, alternative strategies and policies and their associated risks and costs. • Research partnership with ARI: A Collaborative Work Agreement (CWA) was signed between ILRI and Cornell University involving social science research in the following areas: Vulnerability and risk management, Livestock, livelihoods and pro-poor growth, Livestock system evolution, Livestock value chains • The CWA provide a platform for collaboration between ILRI scientists and Cornell faculty, staff and students, involving a mix of expert feedback (on concept notes, draft funding proposals, draft paper manuscripts/reports, survey design, data collection instruments), strategic guidance, technical backstopping, joint proposal development, and active work on specific joint research projects. • Collaboration with development agency to set livestock agenda: ILRI and FAO organized a meeting in 2006, involving a broad range of livestock scientists, policy specialists, development practitioners, and private sector from around the world to discuss the future scenarios of livestock sector development and their implications in developing countries. The insights from the workshop fed into the International Assessment of Agricultural Science and Technology for Development (IAASTD)
IRRI	<ul style="list-style-type: none"> • CG collaboration with IRRI, CIMMYT, ICRAF AND ICRISAT. Two Bangladeshi NARs (Bangladesh Rice Research Institute (BRRI), Bangladesh Agriculture Research Institute (BARI) and an NGO. Collaboration with 16 Indian NARs, ARIs and NGOs. • A research on the validation of rice and rice –related technologies in various sites representing different production systems in Eastern India, Bangladesh and Nepal was implemented in collaboration with 16 Indian NARES, 3 CGIAR institutes, 2 Bangladesh NARES and one NGO. • A successful project assessing the impact of potential trade liberalization in the Philippines was completed resulting to a publication of a book. This project was jointly funded by the government of the Philippines and IRRI which allow us to bring together agricultural experts from 10 different institutions and states universities from different regions of the Philippines. • Another research project completed recently was a study of the economic cost of drought and farmers' coping mechanisms in rain fed areas of India, China and Thailand. This project was made possible through a close collaborative work with seven institutions from eastern India.
IWMI	<ul style="list-style-type: none"> • Collaboration between IWMI and TATA foundation for enhancing tribal livelihoods through small-scale land and water management interventions was recognized by the IWMI-TATA Water Policy Program • Collaboration with organizations in Bolivia, Nepal, Zimbabwe and Thailand to develop multiple use water services as an innovative approach to use water for poverty alleviation and gender equity in rural and peri-urban areas. With support from DfID and in collaboration with IRRI and WFC a project was initiated to establish viable options that would address the conflict between rice and shrimp farmers.
WORLD FISH	<p>The center gave three examples of outstanding collaborations</p> <ul style="list-style-type: none"> • <i>Community Based Fisheries Management in Bangladesh (1996 – 2007)</i>. This project involved various donors, partners and phases. Received the CGIAR Outstanding Partnership Award in 2004 for a partnership coordinated by the WorldFish Center in Bangladesh through the Department of Fisheries. The project has set up about 100 fish sanctuaries and helped to empower vulnerable community members, particularly women and children. Thirteen NGOs provided support to this project (Banchte Shakha, BELA, BRAC, CARITAS, CNRS, CRED, FemCom, GHORONI, SUJAN, ERA, PROSHIKA, SDC and SHISUK). • In 2002 the WorldFish Center was asked to provide a comprehensive program of capacity strengthening to promote IFReDI as a domestic center of excellence able to assess and respond to development priorities in the sector. The project was financed by the Asian Development Bank. • <i>CGIAR Challenge Programme on Water and Food (2005 – present, global)</i>. The challenge program on Water and Food, initiated in 2005, has provided a mechanism to encourage collaboration across CGIAR Centers to address the major development challenges associated with increasing pressure on water resources as a limiting resource for food production. Partnership projects with IFPRI, IWMI and WARDA have created a research environment that is both flexible and supportive.

Data source Centers Scientific Publications: Productivity and Outputs

All Publications Reported by Centers: Quantity and Productivity Measures

This section reports on CGIAR social scientists' publications as reported into the Performance Monitoring System and verified by Centers' focal persons, including a characterization of Centers' self-declared "best publications" in the next sub-section¹⁴. The data presented in Tables 9 -11 cover the three years from 2005-2007.

Table 9: Social Science Publication Output for 2005-07 Periods¹⁵

Center	Published by External Presses		Published by CGIAR Centers		Total SS journal articles	Total TJ SS articles	TJ articles in SS disciplinary and policy journals	Average TJ articles/ scientist/ year
	Books	Book Chapters	Books	Book Chapters				
AFRICA RICE	1	2	0	1	30	14	5	0.42
BIOVERSITY	1	6	1	9	22	12	6	0.31
CIAT	1	43	0	1	58	36	8	0.33
CIFOR	16	66	15	12	115	74	26	1.37
CIMMYT	1	16	1	0	29	22	3	0.67
CIP	0	16	1	0	23	15	4	0.63
ICARDA	0	8	4	19	31	18	1	0.50
ICRAF	3	10	1	4	70	46	8	0.81
ICRISAT	3	36	5	23	54	12	1	0.17
IFPRI	13	87	1	2	331	167	102	0.65
IITA	0	2	1	1	58	18	19	0.26
ILRI	2	39	5	2	79	43	19	0.51
IRRI	1	14	1	20	42	30	13	1.00
IWMI	11	90	1	10	100	39	5	0.68
WORLD FISH	1	12	0	0	50	22	4	0.39
TOTAL	54	447	37	104	1092	568	224	0.58 (average)

Data source: Provided by SC Secretariat based on submission to the CGIAR PMS; publications for 2005, 2006 and 2007. Most lists verified by Centers.

Table 9 shows that over that period, the 336 System social scientists published 54 books published by external presses¹⁶ 447 book chapters and in the same category. For books and book chapters published in-house (i.e. by centers themselves or sister CGIAR centers, there were 37 books and 104 book chapters during the 2005-2007 period). They also published 1092 journal articles. This translates to one book for every four social scientists, 1.35 book chapters per social scientist and 3.25 journal articles per social scientist during the three years (2005-07). Relative to (somewhat dated) benchmarks of article publication in economics (Hutchinson and

¹⁴ For data in Table 9 we counted books, book chapters and journal articles only. We excluded conference proceedings, research briefs, monographs and other items for which there was no standardization across centers in terms of peer review or description.

¹⁵ All articles that had social scientists contribution were included, not only those with social science topic or articles that appeared in social science journals. This may have led to some conflation of these statistics.

¹⁶ Such as CABI international, Island Press, Springer, Earthscan, Oxford University Press

Zivney 1995) where a sample of 1600 economists showed a publication rate of 0.42 articles per economist per year, this seems a relatively decent rate of publication. And having published in at least 141 different journals over the three year period, the system's social scientists are plainly diffusing their results broadly. On annual average basis, each social scientist had authored or made some contribution to 1.08 journal articles (0.58 TJ articles). For items published externally; the average was 0.05 books and 0.44 book chapters per scientist per year. For items published in-house, the average was 0.04 books and 0.10 book chapters per scientist per year.

Raw output quantity seems reasonably good for some Centers, weak for others. Broader questions emerge, however, about quality. For example, only 52% (or 568 articles) of the 1092 journal articles appeared in journals indexed by Thomson ISI (labeled as "TJ articles" henceforth), the most comprehensive global index of peer-reviewed journals. There were only 224 articles in social science disciplinary and policy journals (See Appendix 5)¹⁷ (21% of all journal articles and 39% of TJ articles), indicating quite modest contributions to disciplinary and policy-oriented social science publications. About 41% of the books (and 19% of the book chapters) were published by Centers or local presses without a major international presence. A large share of the published work of CGIAR social scientists may not be going to internationally recognized, peer-reviewed outlets, particularly not to leading disciplinary journals in the social sciences.

Self-declared Best Publications: Quantity and Productivity Measures

Centers were asked to list their self-assessed "best" SSR publications for the period 2005-2007 in specific areas (see Appendix 1 for precise wording). The results are presented in Table 10. Although the center designations of the items as 'best' publications are necessarily subjective, Table 10 shows that about 10% have been Center publications (not published in journals or books). If one of the evaluation criteria is rate of publication in internationally-recognized, Thomson-indexed journals it is noteworthy that the proportion of TJ articles among the self declared best publications was only 30%.

Major Themes of Self-declared Best Publications

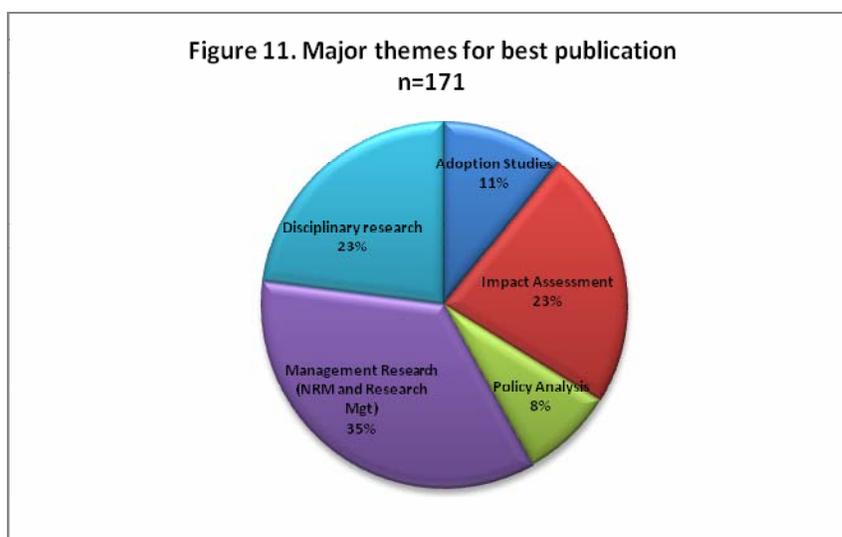
Following the scheme developed previously, in the section on social science functions, the best publications were categorized by theme. Figure 11¹⁸ shows that management research represents a plurality of the best publications (35%), followed by disciplinary research and impact assessments (23% each). The contribution of best publications to disciplinary research seems larger than suggested in Tables 6 and 7. Adoption studies constitute only 11% of the total best publications and policy analysis comprises just 8% of best publications. This is interesting since the System historically heavily emphasized technology development and adoption studies and has devoted considerable resource to policy research over the past decade or two.

¹⁷ The article classification was done on the basis of the journal title in which each article was published. This excludes journals with multidisciplinary focus.

¹⁸ Based on data provided in 2008.

Table 10: Center Self-declared Best Publications

Center	Total	Journal		Book chapter	Book	Center publication
		Thomson ISI	Not Thomson ISI			
Africa Rice	11	9	2			
Bioversity	14	8		1	4	1
CIAT	15	15				
CIFOR	14	14				
CIMMYT	21	12		4		5
CIP	13	7	2	2		2
ICARDA	5	3		2		
ICRAF	15	11		1	2	1
ICRISAT	17	6	2	2	1	6
IFPRI	17	6			1	10
ILRI	28	15	1	4	2	6
IRRI	12	5	1	3		3
IWMI	15	8		2	1	4
WorldFish	16	11	1	4		3
Total	213	130	9	25	11	41



Data source: Centers. Categorization done by author.

Other Research and Outreach Outputs

CGIAR scientists have produced a range of other outputs as well. The reference period was 2003-2007. Data sets and training modules were by far the most common tangible products from the social scientists at the Centers. We counted the number of distinct instances these items were reported by the Centers and report these in Table 11 below: There were no standard criteria for listing items so the counts in Table 11 are rough estimates of these items.

Table 11: Count of Social Science Non-publication Outputs (since 2003)¹⁹

Center	Training Module	Audiovisual Media	Software	Datasets
AFRICAN RICE	1	2	2	7
BIOVERSITY	1	0	0	0
CIAT	No data	No data	No data	No data
CIFOR	2	2	6	0
CIMMYT	No data	No data	No data	No data
CIP	1	0	2	2
ICARDA	2	0	1	12
ICRAF	0	2	0	0
ICRISAT	2	3	0	1
IFPRI	47	n.r.	5	72
IITA	No data	No data	No data	No data
ILRI	No data	No data	No data	No data
IRRI	0	0	0	4
IWMI	0	0	0	19
WORLD FISH	5	0	0	0

Data Source: Centers

Social Science Research Outcomes and Impacts

Establishing impact is notoriously difficult as there are obviously many possible measures of impacts on scientific peers and on economic, social and environmental outcome variables of interest. For CGIAR social scientists, measures of the impact of their work may include impacts on research prioritization within Centers, contributions to the development of appropriate technologies, as well as impacts on agricultural development policy. These broader development impacts are hard to measure in a standardized, objective fashion, most especially within the confines of a desk study such as this one. Therefore, we rely on Centers' self-reported impacts as reported in Table 16. We supplement this with citations analysis as an admittedly imperfect way to gauge the impact of a researcher's work on his/her scientific peers' research, which is one dimension of impact that can be important, although it is neither the only relevant dimension of impact nor even the highest priority one for CGIAR researchers. In the context of SSR in the CGIAR, the quality of publications and research outputs should be measured by the impact they have both on development and on advancing the frontiers of SSR as it relates to agricultural development.

Centers were asked to list up to five examples that show the impact of SSR in their programs and which have contributed most in the following categories areas:

- i) Impact on disciplinary science
- ii) Impact on multidisciplinary science
- iii) Impact on development
- iv) impact on internal research prioritization or science

The discussion below is organized following these guidelines.

¹⁹ These data are very subjective with no standardized reporting criteria.

Center Self-declared Impacts

Table 12 summarizes Centers' responses identifying the greatest impacts of their SSR. As we did in previous tables summarizing center responses on social science functions, and organization, we reproduce verbatim Centers responses where these were brief enough or endeavor to provide as faithful summary as possible of the Centers descriptions. The overall picture from Table 12 is that the Centers relied on a variety of indicators for impact including publications, project outcomes and influences on policies from the perspective of public institutions and NGOs. The impacts may have focused more on development than is presently the case. These characterizations remain largely subjective however.

Table 12: Summary Descriptions of Center Self-reported Greatest Impact in Various Areas²⁰

Center	Disciplinary Research	Interdisciplinary Research	Development Policy	Research Prioritization
AFRICA RICE	The WARDA Impact assessment team has developed A new ATE (average treatment effect) methodology for adoption studies and an associated Stata software module that implement the methodology.	WARDA has developed the Participatory Learning and Action Research (PLAR) method for technology transfer. The approach is used for Integrated Crop Management (ICM) under inland-valley conditions. The objective of PLAR is to promote technological change through improving farmer's capacity to exchange knowledge, experiences and practices.	WARDA conducted a policy study on Nigeria rice sector policy review aimed at providing an up-to-date analysis of constraints and opportunities for rice development and to develop a strategic plan for sustainable development of the Nigerian rice sector. Following study findings and recommendations, the Nigerian government made several policy changes on the Rice sector including the following: (i) Removal of tariffs on imported processing equipment and increased the imported rice tariff from 50% to 150% (ii) Provision of a 50% subsidy on rice seed (ii)Provision of a 25% subsidy on fertilizer.	WARDA, as part of the preparation of the Strategic Plan (SP) 2003-2012, set up an internal taskforce to develop research priorities. Knowledge gap analysis was performed, constraint levels were scored, potential impact indicators were considered and all member countries were consulted through the task force mechanisms (ROCARIZ), as well as WARDA's National Experts Committee (NEC) and Council of Ministers (COM). The NEC had two meetings on this topic.
BIOVERSITY	The center reported that its social science research has made disciplinary contribution through its impact on the field of economics and biocultural research especially in the development of composite utility/option/existence values hence improving on single value focus analysis.	In interdisciplinary research, social scientists at Bioversity led global research projects such as the home gardens and <i>in situ</i> conservation of crop genetic resources.	Contribution to development policy involves Bioversity's project on policy (The Genetic Resource Policy Initiative) and Bioversity's project working with Sahelian farmers to increase the value and exchange of their crop genetic assets Better collaboration between farmers and local traditional institutions and formal scientific institutions in agriculture and biodiversity conservation.	The center reports that its social science research has led to 'a major reshaping' of the organization's mission and goal to place people at the centre of their research agenda. In this light, the social and human dimension sets the agenda for biodiversity research in general.
CIAT	Social science studies to better target the poor and disadvantaged have been a major focus of research. In particular, social scientists have studied rural institutions, the formation of social capital, and the role of gender in both accessing and utilizing new technologies as well as in effective participation in local institutions. In addition, studies on the spatial distribution of poverty have been important in helping to target both technology and policy interventions.	Social scientists and biological scientists have worked together closely to ascertain how to better design new technologies and management practices that effectively respond to the problems and opportunities of the rural poor. This has included both important work on soil management options as well as topics such as genetic resources conservation in the face of climate change, and the adoption and impact of new varieties.	Much of CIAT's research on rural innovation was directed towards generation policy options to strengthen local institutions for research, knowledge management, and participation in markets. In addition, work on payment for environmental services has been important to ensure both enhanced management of natural resources and an appropriate sharing of benefits for the rural poor.	Major recent studies along these lines include a better understanding of the geographic distribution of micro-nutrient deficiency in order to orient research on improving the nutrient content of tropical crops. Likewise, studies of the expected impact of climate change on agriculture are being used to refine breeding objectives.

²⁰ The column headings for impact areas follow the format given to Centers by SC secretariat (see Appendix 1)

Center	Disciplinary Research	Interdisciplinary Research	Development Policy	Research Prioritization
CIFOR	The center cites impact reports it published in 2005 showing publication and policy impact in the field of forestry management and policy (as a disciplinary area) with reference made to these publications in their website: http://www.cifor.cgiar.org/publications/pdf_files/Books/BAngelsen0501.pdf (http://www.cifor.cgiar.org/publications/pdf_files/Books/BSpilsbury0501.pdf)		CIFOR gives examples of impacts on development policy as follows: The Use of Money Laundering Approaches by Indonesian police to curb illegal Logging. There is evidence that these and similar tools have been adopted by national and district governments. As described by the centre, this is a holistic approach that has resulted in a number of impacts at various levels, from micro-hydropower to national park management.	
CIMMYT	The contribution of CIMMYT's social science research to disciplinary topics can be seen from projects and publications: Advances in poverty mapping methods combining GIS with various measures of poverty, recognized as innovative within the CGIAR, e.g., under the NORAD-FAO 2003-4 project on poverty mapping. Bellon, Mauricio R, David Hodson , David Bergvinson, David Beck, Eduardo Martinez-Romero and Yinha Montoya. 2005 Targeting agricultural research to benefit poor farmers: Relating poverty mapping to maize environments in Mexico Food Policy 30 476-492. Analysis and evaluation of the contribution of germplasm to yield stability and reduced production risk Gollin D. 2006. Impacts of international research of intertemporal yield stability in wheat and maize: an economic assessment. CIMMYT Mexico	As reported by the center, CIMMYT's contribution to interdisciplinary research can be seen from a number of publications: Assessment of impacts on crop improvement for biotic stresses such as Striga and stem borer De Groote H., L. Wangare, F. Kanampiu. 2007. Evaluating the use of herbicide-coated imidazolinone resistant (IR) maize seeds to control Striga in farmers' fields in Kenya, Crop Protection 26: 1496-1506 Mugo, S., H. De Groote, D. Bergvinson, M. Mulaa, J. Songa and S. Gichuki. 2005. Developing Bt maize for resource-poor farmers – Recent advances in the IRMA Project. Journal of Biotechnology 4(13): 1490-1504. Krivanek, A.F., H. De Groote , N.S. Gunaratna, A.O. Diallo , and D. Friessen. 2007. Breeding and disseminating quality protein maize (QPM) for Africa. African Journal of Biotechnology 6(4): 312-324. ISSN: 1684-5315.	The center reports that the widespread and large impacts of global wheat breeding have been affirmed as evidenced by the following publications: Lantican M.A., H.J. Dubin, M.L. Morris. 2005. Impacts of International Wheat Breeding Research in the Developing World, 1988-2002. Mexico, D.F.: CIMMYT. Dixon J , Nalley L, Kosina P , La Rovere R , Hellin J , Aquino P. 2006. Adoption and economic impact of improved wheat varieties in the developing world. Journal of Agricultural Science 144: 489-502. Impacts of resource conserving technologies and conservation agriculture in South Asia Erenstein, O., U. Farooq, R.K. Malik, and M. Sharif. 2007. Adoption and impacts of zero tillage as a resource conserving technology in the irrigated plains of South Asia. 50 pp. Colombo: IWMI. Series: Comprehensive Assessment of Water Management in Agriculture Research Report 19.	As in the previous three cases, the center provides publication based evidence on how its social science work has contributed to research prioritization: Reports on constraints and priorities of maize in Asia (Gerpacio and Pingali) and the seven national reports have been used by senior decision makers in the region and in the CIMMYT Board commissioned study on Maize in Asia Gerpacio, R.V., P.L. Pingali. 2007. Tropical and Sub-Tropical Maize in Asia: production systems, constraints, and research priorities. CIMMYT, Mexico. A study of targeting drought tolerance and poverty in food crop production for the GCP; and a study of the relative importance of secondary traits in drought tolerant maize improvement for the GCP Hyman G, Fujisaka S, Jones P, Wood S, de Vicente C, Dixon J. 2008. Targeting technology generation: Assessing the coincidence of poverty and drought-prone crop production. Agricultural Systems. Xxx(xx): xxx-xxx. Gibbon D, Dixon J, Flores D. 2007. Beyond Drought Tolerant Maize: Study of Additional Priorities in Maize. GCP-CIMMYT, D.F., Mexico.
CIP	As reported by the center, the concept of Farmer Field School approach and its	The success of CIP's UPWARD and Papa Andina Partnership Programs in	CIP has developed a participatory Market Chain Approach which led to	The center reports that its social science work has contributed to moving

Center	Disciplinary Research	Interdisciplinary Research	Development Policy	Research Prioritization
	evaluation represent a disciplinary contribution by CIP through its social science research.	linking with partner organizations and farmers. The impact of CIP's social science work in this area has led to improved understanding of linkages between agriculture-health linkages (pesticides, urban agriculture)	changed perception of native potatoes in Peru CIP's research results has been influential in the formulation of Municipal Statutes in Kampala	resources to regions out of Latin America and giving more attention to core research. It has also led the development of CIP's Pro-Poor R&D Cycle and to gender mainstreaming in CIP
ICARDA	ICARDA's contribution to disciplinary social science research has been the development of new methods and approaches published in international publications. Examples of these include poverty analysis, assessing the impact of NRM research, influence of spillovers on impacts, farmer-to-farmer seed distribution and diffusion of improved varieties and economic assessment of on-farm water use efficiency, among others).	The center gave examples of eight projects where social scientists have contributed their expertise in the areas of livelihoods characterization, community and participatory- based approaches, adoption and impact assessment.	Tools developed through ICARDA's social science research are being used by social scientists from NARS in their research and development projects e.g. adoption and impact assessment methods and community and participatory-based approaches,.	Social science issues are part of ICARDA's strategic plan for 2007-2016. Out of nine well-integrated priority research themes for the next ten years, there are two social-science specific themes.
ICRAF	Center gives publications evidence for disciplinary contribution: C.B. Barrett and B.M. Swallow, Fractal Poverty Traps. Food Policy 32 (June 3, 2008) This paper combines conceptual thinking with evidence to develop a new way of thinking about multi-scale rural development processes. Franzel, S., Akinnifesi, F., and Ham, C. 2008. Setting priorities among indigenous fruit tree species in Africa: Examples from southern, eastern and western Africa. In: Akinnifesi, F.K., Leakey, R.R.B., Ajayi, O.C., Sileshi, G., Tchoundjeu, Z., Matakala, P., and Kwesiga, F.R. (eds) Indigenous Fruit Trees in Southern Africa: Domestication, Use, and Commercialisation Ch 1, (Wallingford, UK: CAB International). Ajayi OC and Kwesiga F 2003 Implications of Local Policies and Institutions on the Adoption of Improved Fallows in Eastern Zambia Agroforestry systems 59 (3): 327-336.	ICRAF's contribution to interdisciplinary research include the following projects: ASB analyses of the tradeoffs associated with alternative land uses at the tropical forest margins. RUPES and the pan-tropical scoping study of RUPES. The RUPES work has been presented at many international meetings over the past 5 years. Strong inputs into monitoring and impact assessment systems of TerrAfrica and Millennium Villages programmes SEA negotiation tools are actually interdisciplinary, they have a social science facet Analysis of 'boundary organizations' and K2A agents/institutions, coproduction of knowledge and action	ICRAF's contribution to development policy are: Land tenure work in Indonesia and in Africa. Land care in the Philippines Soil fertility in Southern Africa and at policy level for Africa Soil fertility in Southern Africa and at policy level for Africa Adoption of fodder shrubs in East Africa	No Data

Center	Disciplinary Research	Interdisciplinary Research	Development Policy	Research Prioritization
ICRISAT	After a critical reflection from the experiences of the Sorghum and Millet Improvement Project (SMIP) and review of the legume sub-sector studies in the region, the Center decided in late 2003 to develop a regional program on commercialization with interest to explore opportunities for improving market access for tradables (mainly focusing on legumes) considered to have better domestic, regional and international market opportunities.	A new book which is a result of ICRISAT's social science research entitled: 'Methods for assessing economic and environmental impacts', published by CAB International, was cited as one of the best research outputs of ICRISAT for the year 2005. Social and biophysical scientists from ICRISAT made numerous contributions to this documentation process through joint authorship of papers on the required role of evaluation within INRM.	ICRISAT and other partners have developed and tested a range of high-yielding, early-maturing, locally adapted varieties through relief programs. ICRISAT and its partners are looking at different components of relief programs: improving design, fine-tuning implementation, and even redesigning the basic relief paradigm. As a result, donors and implementing NGOs are redesigning their programs.	Social science research results cited in southern Africa led to a switch in focus from an emphasis on plant breeding to soil and water management. Social science aided research priority setting has led to better understanding of the livelihood and investment strategies of rural households and has encouraged the establishment of a crop-livestock systems development program at ICRISAT in coordination with the International Livestock Research Institute (ILRI).
IFPRI	IFPRI's contribution to disciplinary social science is reported by the institute as involving pioneering research in randomized social experiments in Conditional Cash Transfer (CCT) program evaluations, the other is a top of the range database, the MAcMap (Market Access Map) database developed jointly by UNCTAD-WTO (Geneva) and (CEPII) to monitor trade border protection world-wide.	Examples of interdisciplinary research include HarvestPlus program of nutrition which has made plant scientists incorporate nutrition into breeding programs. Results from Research on nutrition targeting now used by USAID and World Vision. Another example is the development of a hydrologic model now used in Vietnam and Indonesia.	IFPRI works with African partners to conduct research to provide analytical support to the development of a comprehensive rural development component of African countries' broader development strategies in line with the CAADP principles in 11 countries. During the 2003–08 time periods, IFPRI's 2020 Vision Initiative facilitated two international policy consultations that in turn sponsored two watershed events that facilitated dialogue and generated numerous outputs on reducing hunger, nutrition, and poverty: one in Kampala, Uganda in 2004 and the other in Beijing, China in 2007. IFPRI and its other African partners launched the Collaborative Masters in Agricultural and Applied Economics (CMAAE) meant to strengthen capacity in agricultural economics in eastern and southern Africa.	IFPRI has unveiled a state-of-the-art model policy analysis tool (IMPACT) developed to generate projections to the year 2025 (and beyond) on global and regional food supply, demand, trade, and malnutrition. The results from an ex-post study on Networks (Regional Policy Networks: IFPRI's Experience with Decentralization, IFPRI Impact Assessment Discussion Paper No. 24, 2005) has been instrumental in influencing IFPRI's current interactions with networks. The review changed the way IFPRI facilitates networks, from a more centrally organized, IFPRI-led mode to one which focus on "further regional decentralization."
IITA	No data	No data	No data	No data
ILRI	ILRI social scientists worked with FAO's Pro-Poor Livestock Policy Initiative (PPLPI) to generate empirical evidence on the links between livestock and poverty in developing countries.	No data	Policy research on smallholder dairy in Kenya addressed policy issues relating to the development of Kenya's dairy industry. The results of this work combined with targeted advocacy efforts, involving research, development,	No data

Center	Disciplinary Research	Interdisciplinary Research	Development Policy	Research Prioritization
			and civil society partners, led to major review of dairy, veterinary and public health policies.	
IRRI	<p>The center gives examples of its work involving adoption studies that have been published in prominent journals and other outlets. e.g. IRRI social science division studied farmers' initial response to hybrid rice for Bangladesh, Vietnam, Philippines, and Andhra Pradesh and Tamil Nadu States in India (published as a special issue of the Review of Agriculture in <i>Economic and Political Weekly</i>, 2003).</p> <p>Several farm-level studies have been conducted to identify constraints to adoption of improved technologies (Lapar and Pandey 1999, Pandey 2001, Kshirsagar et al. 2002, Singh et al. 2002, Barah and Pandey 2006, Joshi and Pandey 2006, Bhandari and Pandey 2006).</p>	<p>Social scientists have helped refine research in rice systems from sustainability of soils to research on optimal production involving profits and environmental sustainability.</p> <p>A pioneering research on the impact of labor out-migration on livelihood, rice productivity and changing gender roles in four regions in eastern India results will be published in a book and results used in all aspects of rice production.</p>	<p>The center gives example of a study that integrated socioeconomic and biophysical and climatic data using geographic information systems for mapping poverty.</p> <p>GIS-based Land Use Planning and Analysis System (LUPAS) for exploring land use with strategies developed herein being used in on-going development projects in Vietnam and Bangladesh.</p>	<p>IRRI's social science research has led to the reorientation of research to bring on board upland rice systems previously ignored.</p> <p>Research on actual economic costs of drought results now being used for prioritizing IRRI's target domains for drought research and for designing research projects.</p>
IWMI	<p>The center cites a book on groundwater governance and its review in a mass circulation Indian newspaper.</p> <p>Next it talks of a global Geospatial data pathfinder with 3500 users in 80 countries. This is spatial data for water and land resources for river basins, nations, regions and the world.</p>	<p>SSR outputs have influenced Urban and Periurban agriculture in municipal strategic plans for Ghana, Sierra Leone and Nigeria.</p> <p>The results from a project in Sri Lanka led to Collaboration with the GIS and wetlands management staff at the Central Environmental Authority of Sri Lanka, ensured the transfer of this multi-disciplinary GIS based methodology to one of the country's key policy making and law enforcement agencies</p>	<p>IWMI managed to introduce new structures for user participation in agricultural water management in central Asia. Institutional models taken up by governments in Tajikistan, Kyrgyzstan and Uzbekistan. The success of these new institutions has been acknowledged by local and regional print and broadcast media. Successful implementation of power rationing to irrigation tube wells and the reduction in wasteful power and water use.</p>	<p>The center SSR has highlighted the need to consider the impact of biofuels on water resources.</p> <p>IWMI has put greater focus on groundwater resources</p>
WORLD FISH	<p>The center provides publication evidence for disciplinary research as follows:</p> <p>Delgado et al (2003). Fish to 2020: projections of supply and demand in fisheries. IFPRI/WorldFish joint modeling study. Over 150 citations of outputs on Google Scholar; widely used in sector economic reviews;</p>	<p>Economists from WorldFish worked with natural science colleagues across the CGIAR and its partners to develop approaches to valuing fisheries and aquaculture in the context of water resources governance. Several book chapters, reports and a journal paper have been published, with several more in preparation.</p>	<p>The center gives the following project outcomes as examples of its impact on development policy:</p> <p>Community-based fisheries management in Bangladesh (CBFM). A series of impact studies are available on the web-site: www.cbfm-bd.org ; Several have been submitted to the CGIAR Science Secretariat as part of the annual</p>	<p>On research prioritization a verbatim account of the center is as follows:</p> <p>High demand for research and relatively high impact of past work in this area led to formulation of a MTP on markets and trade and incorporation of supply-demand modeling as a key theme in the MTP on global drivers of change, in the 2009-2011 medium-term plan for the</p>

Center	Disciplinary Research	Interdisciplinary Research	Development Policy	Research Prioritization
	<p>methodology used in other studies (e.g. global fishmeal markets))</p> <p>Bene, C. (2003) When fishery rhymes with poverty: a first step beyond the old paradigm on poverty in small-scale fisheries <i>World Development</i> 31(6): 949-975. Over 40 citations on Google Scholar (high for a fisheries social science paper) – has helped to set the research agenda in interdisciplinary social science studies of poverty in fisheries.</p>	<p>Publications by WorldFish Social scientists with anthropologists, economists, development studies and medical science partners in other organizations, in the journals <i>AIDS</i>, <i>World Development</i> and <i>African Affairs</i> and in policy briefs and workshop reports</p>	<p>performance monitoring system (PMS). Working through NGOs, CBFM has established community-based organizations (CBOs) to manage floodplain fisheries.</p> <p>The farm level impacts of IAA adoption in Malawi. IAA farmers grow more high value crops (e.g. vegetables) around their fishponds. Total factor productivity of IAA adopters exceeds those of non-adopters by 11%; Labor input of IAA adopters exceeds those of non-adopters by 25%.</p>	<p>center.</p> <p>The review identified a critical gap in economic analysis of potential climate change impacts on fisheries and aquaculture. This has become an important research theme, with strands in an MTP on global drivers, on multi-level, multi-sectoral governance, and on building resilient small-scale fisheries.</p>

Data source: Centers

Publications Impact (Citation) Analysis: All Publications

On average each Center generated 38 TJ social science articles, between 2005 and 2007 (Table 13). These were cited an average of 0.54 times per year.²¹ By comparison, the median impact factor of the journals in which these articles were published was 0.88. On average CGIAR articles are cited at about 61% of the rate of an average article in the journals in which they have been published.²² Note that this is not comparing articles across journals with different citations patterns; we control for the journal in which an article appears. This comparison suggests that CGIAR social science journal articles are being cited significantly less frequently than other authors' articles appearing in exactly the same journals.²³ The impact factors for some of these journals are also extremely low, suggesting that the journals to which CGIAR social scientists are sending their research findings for peer review are not among the leading journals in the relevant specialization areas.

Table 13: Citation Statistics by Center All Publications Reported (2005-07)

Center	Total Different TJ CGIAR Articles	Average Citations/article/year for CGIAR TJ articles during 2005-07	ISI Thomson Median Impact Factor/article for all TJ articles during 2005-07
AFRICA RICE	14	0.22	1.04
BIOVERSITY	12	0.56	0.92
CIAT	36	0.26	0.77
CIFOR	74	0.84	1.13
CIMMYT	22	0.91	0.95
CIP	15	0.33	0.95
ICARDA	18	0.48	0.95
ICRAF	46	0.68	0.96
ICRISAT	12	1.20	0.83
IFPRI	167	0.48	0.71
IITA	18	0.26	0.15
ILRI	43	0.48	1.09
IRRI	30	0.46	0.69
IWMI	39	0.39	0.87
WORLD FISH	22	0.52	1.17
CGIAR Center Averages	37.9	0.54	0.88

Data source: Provided by SC secretariat based on submission to the CGIAR PMS; publications for 2005, 2006 and 2007. Most lists verified by Centers. Citations rates and impact factors from ISI Thomson Web of Science and Journal Citations Reports.

²¹ ISI Thomson's Web of Science database reports the citations/year since an article appeared in the database. Thus articles published earlier in the period are not privileged relative to those published later in the period.

²² Journal Impact Factors are from Journal Citation Reports (JCR), a product of Thomson ISI (Institute for Scientific Information). JCR provides quantitative tools for evaluating journals. The impact factor is one of these; it is a measure of the frequency with which the "average article" in a journal has been cited in a given period of time. The impact factor for a journal represents the average number of times per year published papers are cited up to two years after publication. For example, the impact factor for 2008 for a journal would be calculated as follows: A = the number of times articles published in 2006-7 were cited in indexed journals during 2008 B = the number of articles, reviews, proceedings or notes published in 2006-7 impact factor 2008 = A/B (see <http://www.sciencegateway.org/impact/>). By comparing the average citations per year of a particular article with the impact factor of the journal in which that article appears, we get a sense of how the article is faring in terms of impact compared to contemporary articles in the same journal during the reference period. This avoids comparing articles published in quite different areas, with very different citations patterns and, thus, impact factors.

²³ In a citations analysis of CIFOR publications, the average citation rate was 2.8; most of these journals were in the fields of ecology and forestry (Angelsen and Aryal 2005).

Publications Impact (Citation) Analysis: Center Self-declared Best Publications

Table 14 shows citation statistics for publications that Centers reported as their best publications, 2005-07. As previously noted, not all of the 171 items reported were peer reviewed. More curiously, the average annual citation per article (0.57) was less than that of all CGIAR TJ articles (0.81, as reported in Table 13). The highest average citations per article per year was 2.33. Centers' judgments as to what constitutes their best publications do not seem heavily influenced by impact on the broader scientific community, as manifest in peers' citation of the work.

Overall, these best publications seem cited at a rate comparable to other articles in the same publications, faring better than the generic publication reports found in Table 15. Note that the comparison of Table 13 and 14 is not a test of the validity of Centers' classification. The citation aspect of these publications should be only part of the story. Sometimes because of the choice of the outlet for their best work, the Centers will not have as much impact in the event that citation analysis were the sole impact assessment criteria. So the analysis here only looks at one aspect of the characteristic "best" i.e. whether these publications are also likely to be "influential" in academic circles. It merely suggests that Centers use other criteria than just citations by others to judge research quality. Some of these may reflect especially good collaborations with external partners or with non-social scientists.

Table 14: Citation Statistics for Self-Declared Best Publications ²⁴

Center	Total Different TJ Articles	Average Citations/article/year for Best CGIAR TJ articles during 2005-07	ISI Thomson Median Impact Factor/article for all TJ articles during 2005-07
A RICE	No data	No Data	No data
BIOVERSITY	5	0.00	0.91
CIAT	No data	No data	No data
CIFOR	7	1.85	1.13
CIMMYT	8	0.81	0.65
CIP	3	0.58	0.78
ICARDA	2	0.42	0.76
ICRAF	6	0.50	1.10
ICRISAT	3	0.17	0.46
IFPRI	1	2.33	0.71
IITA	No data	No data	No data
ILRI ²⁵	12	No citation analysis	No citation analysis
IRRI	3	0.33	0.51
IWMI	3	0.00	0.42
W FISH	5	0.40	1.38
CGIAR Center Averages	4.54	0.57	0.55

Data source: Centers and citation analysis

Individual Social Scientist Citation Data

Table 15 summarizes the career publications and citations statistics for individual IRS social scientists. Each author was cited slightly about 3.5 times a year, on average, but with a median of slightly above one. Mean (median) lifetime citations

²⁴ Where citations are entered '0' this means that the ISI Thomson database did not report any citations. The items may have been cited but the ISI Thomson database has not captured these

²⁵ Citation not done due to extremely late arrival of data

were 54.52 (13), indicating a small group of very strong performers but a large mass of social scientists whose work is attracting considerably fewer citations.

Table 15: Citation Statistics per IRS Social Scientist (n=224)²⁶

Statistic	Median	Mean
Cited publications/IRS ²⁷	4.00	6.95
Citations/year per IRS	1.19	3.52
Hirsch's h-index	2.00	2.59

Source: Centers and ISI *Web of Science* data

Hirsch's h-index²⁸ provides a measure that quantifies both scientific publications productivity and the apparent scientific impact of a scientist. On average, each CGIAR social scientist has 2.59 articles that have been cited at least that many times each, with a median of h=2. By way of comparison, the mean (median) h-index in 2007 for 635 faculty in 20 leading agricultural economics departments in the United States was 4.44 (4.00), about double that for the CGIAR social scientists (Chris Barrett, unpublished data). This may partly reflect how junior many CGIAR SSR staff are; their work has had limited time to get published and attract citations. But it also suggests that most CGIAR social scientists research is having relatively little impact within the global research community.

²⁶ This table shows how work by individual scientists has been cited *since their work was first reported by ISI Thomson*, thus indicating individual scientists' impact on SSR more broadly in the global research community. The data presented here were generated by searching the ISI Thomson Web of Science database for citations of individual CGIAR social scientists. Because of variations in spellings of names, and some names common to many scientists, and without confirmation of these data by the Centers, we treat these data as provisional only. The Citation analysis covered 309 scientists, 85 of whom were not captured in the ISI Thomson database analysis.

²⁷ Data in Table 9 (from PMS) were restricted to 2005-2007 periods. In Table 15 the data covers the entire publication record per staff member *as covered by ISI Thomson up to July 2008*. This accounts for the lower average article count per scientist in Table 9 compared to Table 15.

²⁸ Per Hirsch (2005), the *h*-index is based on the distribution of citations received by a given researcher's publications. Hirsch writes: *A scientist has index h if h of his N_p papers have at least h citations each, and the other ($N_p - h$) papers have at most h citations each*. In other words, a scholar with an index of *h* has published *h* papers each of which has been cited by others at least *h* times. Thus, the *h*-index reflects both the number of publications and the number of citations per publication.

Table 16: Categories²⁹ of Thomson indexed Journals in which CGIAR Scientists Published (2005-2007)

Journal category	Number of Journals with CGIAR SS Articles	% of All journals	Median Average IF of Journals with CGAR SS Articles	Median IF for Entire Journal Category (as Reported by ISI Thomson)
AGRIC, FOOD SC	34	24	0.95	0.99
CLIMATE STUDIES	2	1	2.00	1.42
ECOLOGY, ENVIRONMENT	32	23	1.19	1.29
ECONOMICS	19	13	0.53	1.19
FORESTRY SC	2	1	1.16	1.08
GENERAL SCIENCES	8	6	1.92	1.38
GENETICS&GENOMICS	2	1	1.21	1.02
GEOLOGY&SOILS	2	1	0.99	1.33
NON-ECON SS	8	6	0.89	1.08
PUBLIC HEALTH	14	10	1.92	1.08
VETRINARY SC	2	1	1.31	0.52
DEVELOPMENT&SOCIETY	16	11	0.70	1.46
Total	141	100.00	NA	NA

Data source: Centers and citation analysis

Previous Evaluations of Social Science Research within Centers: CCER/EPMR Findings

All Centers go through comprehensive External Program and Management Reviews (EPMRs) roughly every 5-7 years. In addition, a number of Centers have in recent years undertaken Center-Commissioned External Reviews (CCERs) of their Social Science programs. Past CCERs and EPMRs provide useful reference points for the present stripe review as they help to contextualize the data and reflect in-depth expert assessments of the state of research within Centers. In this section we review some of the available recent CCERs and EPMRs to appraise the strengths and weaknesses of Center and CP social science programs.

The body of EPMR and CCER expert evaluations shows a mixed picture of strengths and weaknesses, excellence and concerns.

WARDA's July 2006 CCER identified a need to increase staffing for WARDA's social science work, especially of non-economist social scientists. The review also mentions the need to broaden WARDA's research to food policy and not just varietal development and dissemination. The CCER also recommends that SSR in WARDA should be organized as a single unit that branches out to serve other projects and programs within WARDA.

The June 2007 CCER for IRRI's SSR division came to the conclusion that the SSR work at IRRI is spread too thinly across many projects. This made it difficult to generate quality outputs with refereed articles making only 20% of all articles reported. The SS within IRRI thus needed strengthening at senior leadership levels with recruitment of macro-analysts.

²⁹ See Appendix 8 for category definitions

One of the most extensive reviews of SSR was done by IFPRI via a CCER in 2003 for its overall programs. A few of the salient recommendations touched on improving staff incentives, increasing the share of core funds in total funds, the preponderance of economists meant a lopsided SS program, and that the maintenance of IFPRI's high quality research program was not inevitable. There were also two CCERs commissioned by IFPRI in 2007 that focused on its international service for national agricultural research (ISNAR) and Development Strategy and Governance (DSG) divisions. While recognizing the achievements of ISNAR post-merger with broader IFPRI, one of the challenges that the ISNAR CCER noted was the departure of senior staff that tended to weaken the work of ISNAR after its merger with IFPRI. This goes to illustrate the importance of staffing continuity in maintaining a strong SSR agenda. On DSG, one of the observations relevant to the present review was the risk that restricted (i.e. project) funding would drive the division's work more towards downstream activities and less toward research. Both observations for ISNAR and DSG reflect concerns that have been alluded to in this report.

IWMI had a CCER in May 2004 that exclusively focused on the IWMI-TATA water policy program (ITP) in India. The review was concerned about (i) the broad scope of the research themes, (ii) the balance of research themes (from micro-economic research and state/national macro-policy recommendations), (iii) the development of an effective communications strategy, and (iv) sustaining the ITP momentum into a second program cycle.

Bioversity's March 2006 SS CCER focused on the need to recruit a full time economist. The CCER dwelt largely on Bioversity's three major Diversity for Livelihood Projects (DLP) to illustrate the role of SSR. The project review concludes that the projects were a success. The main recommendation was to strengthen research in economics, nutrition, health and cultural practices associated with diversity. The CCER panel recommended investigating in a rigorous way how diversity contributes to development objectives by identifying socioeconomic and ecological indicators. This is central to the work of DLP, which aims to understand and describe the ways in which the diversity-development relationship operates.

The 2007 CCER for CIFOR focused on CIFOR's policy research especially on the quantification of economic benefits of application of CIFOR's policy results in Indonesia's pulp and paper industry. Examples are given as to how CIFOR's policy research results have been used by law enforcement authorities to identify proceeds from illegal logging as money laundering.

The broad conclusions from all these reports is that the SS programs needed improving either in terms of increased staffing, giving social scientists a departmental home within the Centers, and refocusing SS activities to be more effective in generating useful and high quality SS outputs.

Conclusions

This report provides a compilation and simple description of baseline data as a foundation for phase 2 of the planned stripe review of the social sciences in the CGIAR. Evaluation of the System's social science activities and their impact lies beyond the scope of this assignment. And it is important to reiterate that due to non-standardized reporting of much of the data and non-response from several Centers

to data requests, the summaries presented in this report necessarily reflect significant gaps and prospective measurement error. Nonetheless, a few conclusions seem to emerge from the available data.

First, the available expenditures data are insufficient to get a clear sense as to whether they have increased decreased or held steady over the past decade or so. The casual impression one gets is that they have at least held steady. The very limited available data suggests that the social sciences depend especially heavily on restricted funding, and that the restricted share of SSR budgets has grown over time, which may have significant implications for staffing, partnerships, outputs and impact patterns.

Social science staffing appears to have grown – although the comparability of staffing statistics across different periods remains quite unclear— but is very heavily concentrated in economics. A surprisingly large share of CGIAR social scientists do not have graduate training in a social science. Another concern is that an unusually large share of internationally recruited social scientists in the System are relatively junior, having earned their Ph.D. only in the past several years. This may be related to compensation packages that generally appear at best barely competitive with ARIs and international organizations. It may also help account for the relatively low citations rates and scholarly impact of CGIAR social scientists overall.

Centers organize social science research in quite different ways and cover an immense range of topics and activities. Some Centers opt for dedicated social science units, while others embed social scientists in problem- or thematically-oriented units. CGIAR social scientists work collaboratively with a broad range of external partners, especially downstream with NARES and development practitioner groups. CGIAR social scientists are involved in a variety of outreach activities, provide useful non-publications outputs such as data sets and training materials, and engage in a fair amount of student mentoring in the context of research projects.

From self-assessments provided by the Centers, CGIAR SSR has had demonstrable development impacts and the System's social scientists have been active participants in multidisciplinary research. Impacts through outreach, training and policy advice are significant by Centers' self reporting. There is limited scope, however, to determine if self-reported impacts have indeed led to poverty reduction and other improvements directly associated with the CGIAR Mission and Vision. Independent evaluation in this regard may be very useful.

CGIAR social scientists are publishing across a wide variety of publications. Low publications rates are a concern at some Centers but not in the aggregate; the main, quite general issue is quality and impact. A large share of CGIAR social science publications do not appear in internationally peer-reviewed outlets. Moreover, the journals in which CGIAR SSR appears have lower impact factors, on average, than the median journals in their comparison specialty area, and CGIAR social science articles are cited less frequently than are other articles appearing in the same journals. This raises questions about research quality in the social sciences within the CGIAR overall, manifest as well in the relatively low career citations rates and scholarly impact of CGIAR social scientists. While there are some exceptions to this pattern, it is remarkably widespread across Centers and areas of thematic emphasis.

Consistent with this pattern, external partnerships with ARIs appear more limited and shallow than with NARES and development practitioner groups. CGIAR scientists may not be leveraging the best social science expertise in the world as effectively as the System might.

Only about 21% of all TJ articles published by CGIAR social scientists were placed in social science disciplinary journals, underscoring a clear emphasis on multidisciplinary work with natural scientists. CGIAR SSR seems to be long on multidisciplinary activities but short on applied disciplinary research. It will be important for Centers – informed by phase 2 of the stripe review – to determine the appropriate balance that CGIAR SSR should strike between more focused disciplinary applied research versus multidisciplinary contributions to research largely in the natural sciences. Since natural scientists in the CGIAR do considerable disciplinary research, why does SSR appear less disciplinary and is that desirable?

Independent reviews of SSR in CGIAR Centers appear to strike the same note: there are obvious strengths but also considerable room for improvement. The most important concerns that emerged surround weak – and insufficiently diverse – staffing, and the perceived low quality of publications, consistent with what the data compiled for this report suggest.

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Appendices

Appendix 1: Social Science Stripe Review: Data requested from Centers by SCS

1. List of staff with social science training or working in social science fields (IRS, RRS, APO, Post Doc and equivalent) with information on tenure, gender, nationality, education, function, position.
2. List of NRS research staff on social science with information on disciplinary area and highest degree.
3. List of social science functions at Center.
4. Publications
 - a) Comprehensive list of publications with social science content (from PMS for 2005-2007)
 - b) 5 best publications (since 2003) on:
 - A) 5 on disciplinary social science
 - B) 5 on multidisciplinary research with social science contribution
 - C) 5 reflecting good collaboration (NARS, ARI or sister CGIAR Center; could be included in i or ii)
5. Other results from social science research
 - a) list of outputs (other than publications; for example data, software, training modules) since 2003
 - b) Descriptions of impact of social science in four areas (at least two impact cases for each area):
 - i) impact on disciplinary science
 - ii) impact on multidisciplinary science
 - iii) impact on development (you can refer to a PMS submission if applicable)
 - iv) impact on internal research prioritization or science
6. Collaboration
 - a) 3 cases of excellent and exemplary collaboration in social science/by Center social scientists within the past 5 years.
 - b) list of key collaborator institutions in social sciences
 - c) e-mail contacts of 10 most active NARS social science collaborators
7. Description of the organization of social science in the Center
8. Information on expenditure, remuneration and incentives
 - a) staff expenditure records (*total and range*) for the social science staff covering a 5 year period (2003-2007). (If possible divided by restricted-core funding.)
 - b) total remuneration package (value and contents) offered to social scientists in different categories (explaining differences compared to other scientists if there are differences)
9. degree training and course training on social science topics in 2007 (include trainee nationality if available)
10. CCERs or other external or internal reviews related closely to social science research at the Center.

Appendix 2: Agricultural Economics and Economics Programs Classification Scheme

Agricultural Economics					
Tier 1	Perry	Tier 2	Perry	Tier 3	Perry
	Rank		Rank		Rank
UC Berkeley	1	Minnesota	7	Kansas State	16
UC Davis	2	Ohio State	8	Florida	18
Maryland	3	Purdue	9	Connecticut	19
Iowa State	4	Wisconsin	10	Colorado State	20
NC State	5	Illinois	11	Virginia Tech	21
		Texas A&M	12	Oklahoma State	22
		Michigan State	13	Georgia	23
		Oregon State	14	Rhode Island	24
		Washington State	15	Missouri	25
Economics					
Tier 1	NRC	Tier 2	NRC	Tier 3	NRC
	Rank		Rank		Rank
UC Berkeley	7	Texas A&M	33	Georgia	63
Minnesota	10	Ohio State	35	Washington State	83
Wisconsin	15	Iowa State	36	Connecticut	84
Maryland	20	UC Davis	38	Oklahoma State	86
Mich. State	27	Florida	41	Missouri	93
Illinois	28	NC State	42	Colorado State	100
		Purdue	50	Oregon State	---
				Kansas State	---
				Virginia Tech	---
				Rhode Island	---

Source: Hilmer and Hilmer 2008

Appendix 3: Self-declared Best Publications

Center	Publication reference	Publication category
Africa Rice	Diagne, Aliou and Matty Demont. 2007. Taking a new look at empirical models of adoption: average treatment effect estimation of adoption rates and their determinants <i>Agricultural Economics</i> , 2007, vol. 37, issue 2-3, pages 201-210	A
Africa Rice	Diagne, Aliou. 2006. "The Diffusion and Adoption of NERICA rice varieties in Cote d'Ivoire". <i>The Developing Economies</i> , Volume 44:2 June 2006	A
Africa Rice	Dalton, Timothy. J. (2004). "A household hedonic model of rice traits: economic values from farmers in West Africa." <i>Agricultural Economics</i> 31: 149 - 159	A
Africa Rice	Dalton T.J., Guei R.G. 2003, "Productivity Gains from Rice Genetic Enhancements in West Africa: Countries and Ecologies" <i>World Development</i> Vol.31, No.2 pp359-374	A
Africa Rice	Simtowe Franklin, Aliou Diagne and Manfred Zeller (2008) Who is credit constrained? Evidence from Rural Malawi. <i>Agricultural Finance Review</i> , 68 (2) (2008). 255-272	A
Africa Rice	Erenstein O, Oswald A and M Mahaman. 2006. Determinants of lowland use close to urban markets along an agro-ecological gradient in West Africa. <i>Agriculture, Ecosystems and Environments</i> 117: 205–217.	B,C
Africa Rice	Van Mele P, Vayssières JF, van Tellingen E and J Vrolijk. 2007. Effects of the African weaver ant <i>Oecophylla longinoda</i> in controlling mango fruit flies (Diptera: Tephritidae) in Benin. <i>Journal of Economic Entomology</i> 100(3): 695–701	B,C
Africa Rice	Barry, M. B., A. Diagne, M. J. Sogbossi, J. L. Pham, S. Diawara and N. Ahmadi Recent changes in varietal diversity of rice in Guinea. <i>Plant Genetic Resources</i> , Published online by Cambridge University Press 02 Sep 2008 doi:10.1017/S1479262108060930	B,C
Africa Rice	Erenstein O, Sumberg J, Oswald A, Levasseur V and H Kore. 2006. What future for integrated rice–vegetable production systems in West African lowlands? <i>Agricultural Systems</i> 88: 376–394	B,C
Africa Rice	Sinzogan A.A.C., P. Van Mele and J.F. Vayssières. 200 8. Implications of on-farm research for local knowledge related to fruit flies and the weaver ant <i>Oecophylla longinoda</i> in mango production <i>International Journal of Pest Management</i> Vol. 54, No. 3: 241–246	B,C
Africa Rice	Kinkingninhou-Médagbé F, Aliou Diagne, Franklin Simtowe, Afiavi R. Agboh-Noameshie, and Patrice Y. Adégbola (2008) Gender inequality and its impact on income, productivity and technical efficiency: Evidence from Benin <i>Agriculture and Human Values</i> . (2008)	C
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Bioversity	Giuliani, A. 2007. <i>Developing markets for agrobiodiversity - securing livelihoods in dryland areas</i> . In <i>Earthscan</i> (UK) 119 p. ISBN:978-1844074686	A
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Bioversity	Johns, T. and P.B. Eyzaguirre. 2007. Biofortification, biodiversity and diet: a search for complementary applications against poverty and malnutrition. <i>Food Policy</i> . 32:1-24.	B
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CIAT	Jones, Peter G.; Thornton, P.K. 2003. The potential impacts of climate change on maize production in Africa and Latin America in 2055. <i>Global Environmental Change</i> . 13:51-59. Elsevier Science	C
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CIFOR	Ruiz Perez, M., Almeida, M., Dewi, S., Costa, E.M.L., Pantoja, M.C., Puntodewo, A.,	C

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CIMMYT	Dixon J , Nalley L, Kosina P , La Rovere R , Hellin J , Aquino P. 2006. Adoption and economic impact of improved wheat varieties in the developing world. <i>Journal of Agricultural Science</i> 144: 489-502	A
CIMMYT	De Groote, H., Wangare, L., Kanampiu, F., Odendo, M., Diallo, A., Karaya, H., Friesen, D., 2008. Potential for herbicide resistant maize seed for Striga control in Africa. <i>Agricultural Systems</i> 97, 83-94.	A
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CIMMYT	Kimenju, S.C., De Groote, H., 2008. Consumer willingness to pay for genetically modified food in Kenya. <i>Agricultural Economics</i> 38, 35-46	B
CIMMYT	William, H.M., M. Morris, M. Warburton , and D.A. Hoisington. 2007. Technical, economic and policy considerations on marker-assisted selection in crops: lessons from the experience at an international agricultural research centre. Pp. 381-404. In: Guimaraes, E., J. Ruane, B. Scherf, A. Sonnino, and J. Dargie (eds.). 2007. Marker-assisted selection: Current status and future perspectives in crops, livestock, forestry and fish. Rome: FAO	B
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ICRAF	Akinnifesi, F.K.;Makumba, W.;Sileshi, G.;Ajayi, O.C.;Mweta, D. 2007 Synergistic effect of inorganic N and P fertilizers and organic inputs from Gliricidia sepium on productivity of intercropped maize in Southern Malawi : Plant Soil 294 2007 p. 203-217 (Google Scholar Citation rate: 3.)	B
ICRAF	Swallow, B., van Noordwijk, M., Dewi, S., Murdiyarto, D., White, D., Gockowski, J., Hyman, G., Budidarsono, S., Robiglio, V., Meadu, V., Ekadinata, A., Agus, F., Hairiah, K., Mbile, P., Sonwa, D.J., and Weise, S., 2007. Opportunities for Avoided Deforestation with Sustainable Benefits: An interim report of the ASB partnership for the Tropical Forest Margins. Nairobi, Kenya	C
ICRAF	Palm CA, SA Vosti, PA Sanchez, PJ Ericksen (Eds.), 2005. <i>Slash-and-Burn: the Search for Alternatives</i> . Columbia University Press, New York, NY, USA. (Google Scholar Citation rate for the book: 12. Several chapters with the book have similar Google Scholar citation rates)	C
ICRAF	Suyanto, G Applegate, RP Permana, N Khususiyah and I Kurniawan, 2004.The role of fire in changing land use and livelihoods in Riau-Sumatra. <i>Ecology and Society</i> 9(1): 15 [online]. http://www.ecologyandsociety.org/vol9/iss1/art15 ((Google Scholar Citation rate: 4.)	C
ICRAF	Evelyn Kiptot, Paul Hebinck, Steven Franzel, Paul Richards 2007. Adopters, testers or pseudo-adopters? Dynamics of the use of improved tree fallows by farmers in western Kenya. <i>Agricultural Systems</i> , Volume 94, Issue 2, May 2007, Pages 509-519.	C
ICRAF	Place, F.;Adato, M.;Hebinck, P. 2007 Understanding rural poverty and investment in Agriculture: an assessment of integrated quantitative and qualitative research in western Kenya : <i>World Development</i> 35 2 p. 312-325	C
ICRISAT	Bantilan MCS and Padmaja R. 2008. Empowerment through social capital build-up: Gender dimensions through technology uptake. Experimental Agriculture 44 (1): 61-80. Cambridge University Press	A
ICRISAT	Shiferaw B, Freeman HA and Swinton SM (eds.). 2005. Natural resource management in agriculture: Methods for assessing economic and environmental impacts. Wallingford, UK: CAB International. 386 pp	A
ICRISAT	Deb UK, Bantilan MCS, Bantilan FT and Gowda CLL. 2006. Spillover impacts of sorghum research. SPIA Citation for Emerging Best Practice. Chapter in Sorghum genetic enhancement: research process, dissemination and impacts Bantilan MCS, Deb UK, Gowda CLL, Reddy BVS, Obilana AB and Evenson (eds.). Science Council	A
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IFPRI	Fan, Shenggen; Linxiu Zhang; and Xiaobo Zhang. 2004. Reforms, investment, and poverty in Rural China. <i>Economic Development and Cultural Change</i> 52(2): 395–421.	A
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IFPRI	Hazell, P. B. R., and R. K. Pachauri (eds.). 2006. Bioenergy and agriculture: Promises and challenges. 2020 Focus No. 14. Washington, DC: IFPRI.	B
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IFPRI	Quisumbing, Agnes. 2003. <i>Household decisions, gender, and development: A synthesis of recent research</i> . Baltimore, MD: The Johns Hopkins University Press for IFPRI.	C
IFPRI	Adato, Michelle, and Ruth Meinzen-Dick (eds.). 2007. <i>Agricultural research, livelihoods, and poverty: Studies of economic and social impacts in six countries</i> . Baltimore, MD: The Johns Hopkins University Press for IFPRI.	C
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ILRI	Ellis F. and Freeman H. A., 2004, Rural Livelihoods and Poverty Reduction Strategies in Four African Counties, <i>The Journal of Development Studies</i> . Vol. 40 No. 4.	A
ILRI	Freeman H. A., Ellis F. and Allison E., 2004, Livelihoods and Rural Poverty Reduction in Kenya. <i>Development Policy Review</i> . Vol. 22 No. 2.	A
ILRI	Krishna A., Kristjanson P., Radeny M., Nindo W., 2004, Escaping Poverty and Becoming Poor in Twenty Kenyan Villages. <i>Journal of Human Development</i> , Vol. 5, No. 2: 211-220	A
ILRI	Kristjanson P., Radeny M., Baltenweck I., Ogutu J., Notenbaert A., 2005, Livelihood Mapping and Poverty Correlates at a Meso-Level In Kenya. <i>Food policy</i> 30, 568-583	A
ILRI	Delgado, C., Minot, N. and Tiongco, M., 2005, Evidence and implications of non-tradability of food staples in Tanzania 1983–1998, <i>Journal of Development Studies</i> 41(3):376–393	A
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ILRI	Ellis, F. and Freeman, H.A. (Eds.), 2005, <i>Rural Livelihoods and Poverty Reduction Policies</i> , Routledge Studies in Development Economics, London & New York, 408 pp	A
ILRI	Herrero, M., Gonzalez-Estrada, E., Thornton, P.K. and Hoogenboom, G., 2005, IMPACT: Integrated Modelling Platform for Animal-Crop Systems. Version 1.1. Users Manual. International Livestock Research Institute, Nairobi, Kenya, 130 pp."	A
ILRI	Delgado, C. 2005. Future of animal agriculture: demand for animal products. In: Pond, W.G. and Bell, A.W. (eds), <i>Encyclopaedia of animal science</i> . Marcel Dekker, New York. pp. 432–435.	A
ILRI	Thornton P.K, Kristjanson P.M, Kruska R.L. and Reid R.S., 2004. Mapping livestock and poverty: a tool for targeting research and development. In: Owen E., Smith T., Steele M.A., Anderson, S., Duncan A.J., Herrero M. Leaver J.D., Reynolds C.K., Richards J.I. and Ku-Vera J.C. (Editors). <i>Responding to the Livestock Revolution. The Role of Globalisation and Implications for Poverty Alleviation</i> . Nottingham University Press, Nottingham, England. pp 37-50	A
ILRI	Negassa, A. and Myers, R.J., 2007, Estimating policy effects on spatial market efficiency: an extension of the parity bounds model., <i>American Journal of Agricultural Economics</i> 89(2): 338-352	A,C
ILRI	Kristjanson P.M., Okike I., Tarawali S., Singh B.B., Manyong, V.M., 2005, Farmers' Perceptions of Benefits and Factors Affecting the Adoption of Improved Dual-Purpose Cowpea in the Dry Savannas of Nigeria. <i>Agricultural Economics</i> 32 2005 195–210.	B
ILRI	Okike, I., Jabbar, M.A., Manyong, V., Smith, J. and Ehui, S, 2005, Ecological and economic factors influencing agricultural intensification in savannah West Africa: evidence from northern Nigeria, <i>Journal of Sustainable Agriculture</i> 27(2):5–37	B
ILRI	Thomson, G.R., Perry, B.D., Catley, A., Leyland, T.J., Penrith, M.L. and Donaldson, A.I. 2006, Certification for regional and international trade in livestock commodities: the need to balance credibility and enterprise <i>Veterinary Record</i> 159: 53-57.	B
ILRI	Schelling E., Grace D., Willingham A.L., Randolph T.F. 2007. Research approaches for pro-poor control of zoonoses. <i>Food and Nutrition Bulletin</i> 28 (2 Supplement): S345-S356	B
ILRI	Shiferaw B. Freeman H. A. and Swinton S.M., (Eds), 2004, <i>Natural Resource Management in Agriculture. Methods for Assessing Economic and Environmental Impacts</i> . Nottingham University Press, Nottingham, England. 370 pp."	B
ILRI	Krishna A, Kristjanson P, Radeny M, Kuan J, Quilca G, Sanchez-Urrelo A., 2006, Escaping Poverty and Becoming Poor in Forty Communities of the Peruvian Andes. <i>Development and Change</i> 37(5): 997–1021.	C
ILRI	Holloway, G. and Lapar, M.L.A. 2007, How big is your neighbourhood? Spatial implications of market participation among Filipino smallholders, <i>Journal of Agricultural Economics</i> 58(1): 37-60.	C
ILRI	Randolph TF, Schelling E, Grace D, Nicholson C, Cole D, Omoro A., Dement M, Leroy J, Zinsstag J, Ruel M. 2007. The role of livestock in human health and nutrition for poverty reduction in developing countries. <i>J Animal Science</i> 85:2788-2800	C
ILRI	Uganda Bureau of Statistics, 2004, <i>Where are the Poor? Mapping Patterns of Well-Being in Uganda 1992 and 1999</i> . Uganda Bureau of Statistics (UBOS), Entebbe, Uganda, and International Livestock Research Institute (ILRI), Nairobi, Kenya. 86 pp"	C
ILRI	Nin Pratt, A., Bonnet, P., Jabbar, M.A., Ehui, S. and de Haan, C, 2005, Benefits and cost of compliance of sanitary regulations in livestock markets: the case of Rift Valley fever in the Somali region of Ethiopia., ILRI (International Livestock Research Institute), Nairobi and the World Bank, Washington, DC, USA. 68 pp.	C
ILRI	Place F., Kristjanson P., Staal S., Kruska R., deWolff T., Zomer R. and Njuguna E.C., 2006, <i>Development pathways in medium-high potential Kenya: A meso-level analysis of agricultural patterns and determinants</i> . International Food Policy Institute. 483 pp.	C
ILRI	Thornton P.K., Jones P. G., Owiyo T., Kruska R. L., Herrero M., Kristjanson P., Notenbaert A.,	C

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ILRI	Emwanu, T., Okwi, P.O., Hoogeveen, J.G., Kristjanson, P. and Henninger, N., 2007, Nature, distribution and evolution of poverty and inequality in Uganda, 1992-2002. Uganda Bureau of Statistics (UBOS and ILRI) 2007. Regal Press. Nairobi.	C
ILRI	Okwi, P.O., Ndeng'e, G., Kristjanson, P., Arunga, M., Notenbaert, A., Omolo, A., Henninger, N., Todd, B., Kariuki, P. and Owuor, J., 2007, Spatial determinants of poverty in rural Kenya. Proceedings of the National Academy of Sciences of the United States of America. v. 104 (43). p. 16769-16774. http://www.pnas.org/cgi/reprint/0611107104v1	C
ILRI	Staal S.J., Waithaka M.M., Owour, G.A., and Herrero M., 2004. Demand and supply changes in the livestock sector and their impact on smallholders: the case of dairying in Kenya: a summary. In: Owen E., Smith T., Steele M.A., Anderson, S., Duncan A.J., Herrero M. Leaver J.D., Reynolds C.K., Richards J.I. and Ku-Vera J.C. (Editors). Responding to the Livestock Revolution. The Role of Globalisation and Implications for Poverty Alleviation. Nottingham University Press, Nottingham, England, pages 323 – 331.	C
ILRI	Jabbar, M.A., Astatke, A., Peden, D., Abate, G. and Biri, T., 2005, Community based indicators for sustainable development: a framework and an application in an Ethiopian community. In: Maples, A.D. (ed). Sustainable development: new research. Nova Science Publishers, New York.	C
ILRI	Okwi, P.O., Ndenge, G., Kruska, R., Kristjanson, P., Henninger, N., Nackoney, J., Landsberg, F., Mock, G., Holmes, K., Kariuki, E., Ochungo, P., Tunstall, D., Billings, H., de Rosas, C and Worms, J., 2007, Spatial patterns of poverty and human well-being In: World Resources Institute; Department of Resource Surveys and Remote Sensing, Ministry of Environment and Natural Resources, Kenya; Natures Benefits in Kenya: An Atlas of Ecosystems and Human Well-Being. Central Bureau of Statistics, Ministry of Planning and National Development, Kenya; and International Livestock Research Institute, 2007. Pp 12-24	C
IRRI	Hossain M, Lewis D, Bose ML, Chowdhury A. 2007. Rice research, technological progress, and impacts on the poor: the Bangladesh case. In: Adato M, Meinzen - Dick RS, editors. Agricultural research, livelihoods, and poverty: studies on economic and social impact in six countries. Baltimore (MD): The Johns Hopkins University Press. p 56 - 102.	A
IRRI	Pandey S, Velasco L, Barah BC. 2007. Rice technologies for rainfed environments of Asia. In: Ballabh V, editor. Institutional alternatives and governance of agriculture. India: Academic Foundation in association with IRMA. p. 209-234.	A
IRRI	Kajisa K. 2007: personal networks and non-agricultural employment: the case of a farming village in the Philippines, <i>Econ. Dev. Cultural Change</i> 55(4): 669-707.	A
IRRI	Dawe D, Moya PF, Casiwan C, editors. 2006. Why does the Philippines import rice? Meeting the challenge of trade liberalization. Manila (Philippines): International Rice Research Institute, and Muñoz (Philippines): Philippine Rice Research Institute. 166 p. Note : All chapters contained in this book are authored or co authored by the editors or their collaborators.	A, C
IRRI	Paris TR, Singh A, Luis J, Hossain M. 2005: Labor out-migration, livelihood of rice farming households and women left behind: a case study of eastern Uttar Pradesh. <i>Economic and Political Weekly</i> 40(25): 2522-2529	A, C
IRRI	Bhandari H, Pandey S, Sharan R, Naik D, Hirway I, Taunk SK, Sastri ASRAS. 2007. Economic costs of drought and rice farmers drought-coping mechanisms in eastern India. In: Pandey S, Bhandari H, Hardy B, editors. Economic costs of drought and rice farmers coping mechanisms. Los Banos (Philippines): International rice Research Institute. p. 43-112.	B
IRRI	Laborte AG, van Ittersum MK, van den Berg MM. 2007: Multi-scale analysis of agricultural development: a modelling approach for Ilocos Norte, Philippines. <i>Agric. Syst.</i> 94: 862-873.	B
IRRI	Mushtaq S, Dawe D, Lin H, Moya P. 2007. An assessment of collective action for pond management in Zhanghe Irrigation System (ZIS), China. <i>Agric. Syst.</i> 92(1/3): 140-156.	B
IRRI	Escalada MM, Heong KL, Sengsoulivong V, Schiller JM. 2006. Determinants of insecticide - use decisions of lowland rice farmers in Laos. In: Schiller JM, Chanphengxay MB, Linquist B, Appa Rao S, editors. Rice in Laos. Los Baños (Philippines): International Rice Research Institute. p 283 - 290.	B
IRRI	Bousquet F, Castella JC, Ekasinghe B, Hoanh CT, Kam SP, Manichon H, Duong VN, Dang DQ, Trebuil G, Tuong TP. 2006. Ecoregional research for integrated natural resource management in southeast asian rice ecosystems. In: France and the CGIAR: delivering scientific results for agricultural development. Washington, D.C.: Consultative Group on International Agricultural Research. P 80 - 84.	B, C
IRRI	Pandey S, Bhandari H, Ding SJ, Prapertchob P, Sharan R, Naik D, Taunk SK, Sastri A. 2007. Coping with drought in rice farming in Asia: insights from a cross - country comparative study. <i>Agric. Econ.</i> 37(Suppl. 1): 213 - 224.	C
IRRI	Hossain M, Bose ML, Mustafi BAA. 2006. Adoption and productivity impact of modern rice varieties in Bangladesh. <i>Dev. Econ.</i> 44(2):149 - 166.	C
IWMI	Saleth, M.R.; and A. Dinar (2004). The Institutional Economics of Water: A Cross-country Analysis of Institutions and Performance. World Bank and Edward Elgar Publishing. 398 p. <i>Rationale for inclusion: One of few purely economics publications and well cited (61 citations according to Google Scholar)</i>	A
IWMI	Shah, T.; Roy, A. D.; Qureshi, A. S.; Wang, J. 2003. Sustaining Asia's groundwater boom: An overview of issues and evidence. <i>Natural Resources Forum</i> , 27:130-141. <i>Rationale for</i>	A

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	<i>inclusion</i> : Published in a journal with high impact factor and is well cited (39 times according to Google Scholar)	
IWMI	Shah, Tushaar; Makin, Ian; Sakthivadivel, Ramaswamy. 2006. Limits to leapfrogging: Issues in transposing successful river basin management institutions in the developing world. In <i>Integrated water resources management: Global theory, emerging practices and local needs</i> . New Delhi, India: Sage. pp.109-144	A
IWMI	Wester, P.; Merrey, D. J.; de Lange, M. 2003. Boundaries of consent: Stakeholder representation in river basin management in Mexico and South Africa. <i>World Development</i> , 31(5):797-812. <i>Rationale for inclusion</i> : Published in a very well known development journal and has high citations (29 times according to Google Scholar)	A
IWMI	Mukherji, A. 2008. 'The paradox of groundwater scarcity amidst plenty and its implications for food security and poverty alleviation in West Bengal, India: What can be done to ameliorate the crisis?' Paper presented at 9 th Annual Global Development Network Conference, Brisbane, Australia, 29-31 January 2008. <i>Rationale for inclusion</i> : Winner of the first prize in the category of Medals for Research on Natural Resources: Risks and implications for Sustaining Development at the 9 th Annual Global Development Conference organized by the World Bank. http://www.gdnet.org/middle.php?oid=1217	A
IWMI	Wolf, A. T.; Yoffe, S. B.; Giordano, M. 2003. International waters: Identifying basins at risk. <i>Water Policy</i> , 5(1):29-60 <i>Rationale for inclusion</i> : Published in an esteemed water journal, high number of citations (69 times according to Google Scholar) and uses interdisciplinary tools of political science and GIS	B
IWMI	Molden, D.; Murray-Rust, H.; Sakthivadivel, R.; Makin, I. 2003. A water-productivity framework for understanding and action. In Kijne, J. W.; Barker, R.; Molden, D. (Eds.), <i>Water productivity in agriculture: Limits and opportunities for improvement</i> . Wallingford, UK; Colombo, Sri Lanka: CABI; IWMI. pp.1-18. <i>Rationale for inclusion</i> : Interdisciplinary work with contributions of hydrology, agricultural water management and economics and is also well cited by others (32 citations according to Google Scholar)	B
IWMI	Ahmad, Mobin-ud-Din; Giordano, Mark; Turrall, Hugh; Masih, Ilyas; Masood, Zubair. 2007. At what scale does water saving really save water? <i>Journal of Soil and Water Conservation</i> , 62(2):29A-35A. <i>Rationale for inclusion</i> : Clearly highlights the combined value of social science/natural science collaboration and was the runner up in Soil and Water Conservation Societies best paper competition.	B
IWMI	Hussain, I.; Sakthivadivel, R.; Amarasinghe, U.; Mudasser, M.; Molden, D. 2003. Land and water productivity of wheat in the Western Indo-Gangetic Plains of India and Pakistan: A comparative analysis. Colombo, Sri Lanka: IWMI. vi, 50p. (IWMI research report 65) <i>Rationale for inclusion</i> : Interdisciplinary work with contributions of hydrology, agricultural water management and economics and is also well cited by others (14 times according to Google scholar)	B
IWMI	Kendy, E.; Molden, D. J.; Steenhuis, T. S.; Liu, C. 2003. Policies drain the North China Plain: Agricultural policy and groundwater depletion in Luancheng County, 1949-2000. Colombo, Sri Lanka: IWMI. v, 45p. (IWMI research report 71) <i>Rationale for inclusion</i> : A good example of how hydro-geology can be combined with policy analysis in order to tell a compelling story, also fairly well quoted by others (10 citations according to Google Scholar). This is also an example of collaboration with ARIs.	B
IWMI	Grey, David; Sadoff, Claudia. W. 2007. Sink or Swim? Water security for growth and development. <i>Water Policy</i> , 9:545-571. (In collaboration with World Bank)	C
IWMI	Kendy, Eloise; Wang, Jinxiz; Molden, David; Zheng, Chunmiao; Liu, Changming; Steenhuis, T. S. 2007. Can urbanization solve inter-sector water conflicts?: Insight from a case study in Hebei Province, North China Plain. <i>Water Policy</i> , 9(Supplement 1):75-93. (ISSN: 1366-7017) (In collaboration with ARI and NARS)	C
IWMI	Wang, Jinxia, Huang, Jikun, Xu, Zhigang, Rozelle, Scott, Hussain, Intizar, Biltonen, Eric. 2007. Irrigation management reforms in the Yellow River Basin: Implications for water saving and poverty. <i>Irrigation and Drainage</i> , 56:247-259. (In collaboration with ARI and NARS)	C
IWMI	Drechsel, P., Giordano, M., and Enters, T. 2005. Valuing Soil Fertility Change: Selected Methods and Case Studies. In: B. Shiferaw et al. (eds.) <i>Natural Resources Management in Agriculture: Methods for Assessing Economic and Environmental Impacts</i> . ICRISAT-CABI Publishing, p. 199-221. (Example of collaboration with ICRISAT)	C
IWMI	de Fraiture, C.; Cai, X.; Rosegrant, M.; Molden, D.; Amarasinghe, U. 2003 Addressing the unanswered questions in global water policy: A methodology framework. <i>Irrigation and Drainage</i> , 52(1):21-30. (Example of collaboration with IFPRI)	C
WorldFish	Bene, C. (2003) When fishery rhymes with poverty: a first step beyond the old paradigm on poverty in small-scale fisheries <i>World Development</i> 31(6): 949-975	A
WorldFish	Sultana, P., and Thompson, P.M. (2004) Methods of Consensus Building for Community Based Fisheries Management in Bangladesh and the Mekong Delta. <i>Agricultural Systems</i> 82:327-353	A
WorldFish	Bene, C. (2005) The good, the bad and the ugly: discourse, policy controversies and the role of science in the politics of shrimp farming development. <i>Development Policy Review</i> 23(5): 585-614	A
WorldFish	Ratner, B.D. (2006). Community management by decree? Lessons from Cambodia's fisheries reform. <i>Society and Natural Resources</i> 19: 79-86.	A
WorldFish	Briones, R., M. M. Dey, I. Stobutzki, and M. Prein (2007) Ex Ante impact assessment for research on natural resources management: methods and applications to aquatic resource systems.	A

Center	Publication reference	Publication category
	<i>Research Evaluation</i> 14:217-227.	
WorldFish	Heck, S., C. Bene and R. Reyes-Gaskin (2007). Investing in African fisheries: building links to the Millennium Development Goals. <i>Fish and Fisheries</i> 8(3):211-226	B
WorldFish	Sugunan, V. V., M. Prein and M. M. Dey (2006). Integrating agriculture, fisheries and ecosystem conservation: win-win solutions. <i>International Journal of Ecology and Environmental Sciences (Special Issue), Wetlands, Fisheries and Livelihoods</i> , 32(1): 3-14.	B
WorldFish	Pomeroy, R. S., B. D. Ratner, S. J. Hall, J. Pimoljinda and V. Vivekanandan (2006). Coping with disaster: rehabilitating coastal livelihoods and communities. <i>Marine Policy</i> 30: 786-793.	B
WorldFish	Andrew, N.L., C. Béné, S.J. Hall, E.H. Allison, S. Heck and B. D. Ratner (2007). Diagnosis and management of small-scale fisheries in developing countries <i>Fish and Fisheries</i> 8: 227-240	B
WorldFish	Dugan, P., M. Dey and V. V. Sugunan. (2006). Fisheries and water productivity in tropical river basins: enhancing food security and livelihoods by managing water for fish. <i>Agricultural Water Management</i> , 80(1-3): 262-275.	B
WorldFish	Millennium Ecosystem Assessment (2005). (B.D. Ratner, synthesis team member). Ecosystems and Human Well-being: Wetlands and Water Synthesis. World Resources Institute: Washington, D.C.	C
WorldFish	Dugan and WorldFish colleagues also contributed to Chapter 7 – Water; and Chapter 19 - Coastal Systems. In: Ecosystems and human well-being: current state and trends, Vol. 1. Hassan, R., Scholes, R. and Ash, N. (eds.). Millennium Ecosystem Assessment, Island Press, Washington, D. C.	C
WorldFish	Millennium Ecosystem Assessment Ratner contributed to Chapter 7, “Water” in Millennium Ecosystem Assessment. 2005. <i>Global Assessment Report: Policy Responses</i> . Island Press: Washington, DC.	C
WorldFish	Community-based fisheries management, Bangladesh An overview of the project and its policy and technical report outputs can be found at:	C
WorldFish	Policy Brief 1- CBFM: Capturing the benefits	
WorldFish	Policy Brief 2- CBFM: Fisheries Yields and Sustainability;	
WorldFish	Policy Brief 3- CBFM: Livelihoods Impact	
WorldFish	Policy Brief 4- CBFM: The right option	
WorldFish	Booklet 1- Turning the tide: CBFM protecting the poor and the environment	
WorldFish	Booklet 2- Fishing for a future: women in CBFM; communities;	
WorldFish	Booklet 3- CBFM: Institutional options for empowering fisher	
WorldFish	Booklet 4- The legal background to CBFM in Bangladesh;	
WorldFish	Booklet 5- Social capital: CBFM;	
WorldFish	Booklet 6- Micro-credit and CBFM.	
WorldFish	Fish to 2020 – Global supply and demand Delgado, C.L., N. Wada, M.W. Rosegrant, S. Meijer and M. Ahmed.(2003) <i>Fish to 2020: supply and demand in changing global markets</i> Washington, D.C.; Penang, Malaysia: International Food Policy Research Institute & WorldFish Center (Book, summary flyer, policy briefing)	C
WorldFish	Fish supply and demand in Asian countries Dey, M. M. and Ahmed, M. 2005. Aquaculture- Food and livelihoods for the poor in Asia: a brief overview of the issues. <i>Aquaculture Economics & Management</i> , 9(1&2): 3-10. (introduction to a journal special issue, in which Dey and Ahmed edited and co-authored all seven papers)	C
WorldFish	Fisheries co-management: global synthesis Nielsen, J.R., P. Degnbol, K.K. Viswanathan, M. Ahmed, M. Hara and R.A. Nik Mustapha (2004). Fisheries co-management - an institutional innovation? Lessons from south east Asia and southern Africa <i>Marine Policy</i> 28(2): 151-160	C

Appendix 4: Terms of Reference for Phase 1 of Stripe Review of Social Science in the CGIAR

Terms of Reference

Phase 1, Stripe Review of Social Science in the CGIAR

The purpose of the social science stripe review is to provide an analysis of the capacity of Centers and Challenge Programs (CPs) to conduct social science research and of the relevance of the social science research regarding its functions and products, and make recommendations for improvement to enhance the delivery of relevant research results that effectively advance the CGIAR's goals. The review aims at suggesting new ways of thinking about how to improve social science research in the CGIAR System. The background for the study is provided in the Scoping Paper for the Stripe Review of Social Science in the CGIAR.

The study will be conducted in two phases. The first phase is conducted as a desk study. The descriptive information is compiled by the SC Secretariat and its organisation and preliminary analysis will be conducted by a short term consultant working under the instructions of the Chair, the SC Task Force and the SC Secretariat. The task will include:

1. An inventory of the current status of social science research in the CGIAR regarding numbers and types of social scientists, costs, partnerships and products including documentation of how the social science research results are being disseminated. This work will be done using readily available literature and data provided to the team from the Centers and CPs, including previous EPMRs and CCERs.
2. An inventory of the types of work currently being done by CGIAR social scientists and provide a set of functions that can be used to describe the work.
3. Description of how social science is organized in each Center, including an assessment of social science contribution to disciplinary and multidisciplinary research.

The Panel Chair will oversee the conduct of the first phase. In addition to the descriptive component of the first phase,

Drawing from the data and information gathered and from work done for the CGIAR system priorities and other resources, the Chair will specifically:

4. Develop, in consultation with the SC Task Force, a normative framework for a high-quality and effective social science research agenda, which, if operationalised, would advance research on the CGIAR System Priorities and effectively contribute to achieving the CGIAR goals. The framework represents an "ideal" of what the CGIAR should expect from its social scientists against which the Panel can assess the actual situation.
5. In consultation with SC Task Force and the CGIAR Centers and CPs, identify a body of social science work that a) represents a significant share of the social science research activities; and b) corresponds to what are jointly considered to be the core functions for social science in the CGIAR. The Terms of Reference for the second phase will reflect the findings of the first phase and focus on the body of social science work identified as an output of that phase.

The outputs from the first phase include a) a draft report (to be included in the main report as an annex) on the current status of social sciences; b) the normative framework of the desirable CGIAR social science research agenda against which the current capacity and relevance of CGIAR social science can be assessed; and b) the Terms of Reference for the second phase defining the subset of social science functions that are on the research agenda of most of the Centers to be the focus of the in-dept assessment in phase two.

During the first phase the Chair will work in close consultation with the Science Council Task Force that acts as a resource body to the review and provides the SC oversight to the first phase. The Chair will be assisted by a consultant who will organise the data and information and perform preliminary analysis as instructed by the Chair. The SC secretariat will assist in all data collection and interaction with the CGIAR Centers and Challenge Programs.

The second phase will be an independent review for which the Terms of Reference will be finalised as an output from the first phase.

Appendix 5: List of Disciplinary Social Science and Policy Journals in Which CGIAR Social Scientists Published (2005-07):

	Journal Title	SS Article count	% of Total TJ Articles in Purely Social Science and Policy Journals
1	African Affairs	1	0.45
2	Agricultural Economics	26	11.61
3	Agriculture and Human Values	10	4.46
4	American Journal of Agricultural Economics	9	4.02
5	American Journal of Evaluation	1	0.45
6	American Journal of Physical Anthropology	1	0.45
7	Applied Geography	2	0.89
8	China Economic Review	2	0.89
9	Contributions to Indian Sociology	1	0.45
10	Developing Economies	6	2.68
11	Development and Change	3	1.34
12	Disasters	1	0.45
13	Ecological Economics	7	3.13
14	Economic Development and Cultural Change	6	2.68
15	Economics of Education Review	1	0.45
16	Empirical Economics	1	0.45
17	Environment and Development Economics	3	1.34
18	Food Policy	21	9.38
19	Forest Policy and Economics	14	6.25
20	Human Ecology	9	4.02
21	International Review of Administrative Sciences	1	0.45
22	Journal of African Economies	8	3.57
23	Journal of Agricultural and Resource Economics	1	0.45
24	Journal of Agricultural Economics	4	1.79
25	Journal of Agriculture and Rural Development in the Tropics and Subtropics	2	0.89
26	Journal of Comparative Economics	3	1.34
27	Journal of Contemporary Asia	1	0.45
28	Journal of Development Economics	4	1.79
29	Journal of Development Studies	9	4.02
30	Journal of Historical Geography	1	0.45
31	Journal of International Economic Law	1	0.45
32	Journal of Macroeconomics	1	0.45
33	Journal of Modern African Studies	1	0.45
34	Journal of Policy Modeling	3	1.34
35	Journal of Population Economics	1	0.45
36	Land Degradation & Development	7	3.13
37	Land Economics	1	0.45
38	Land Use Policy	8	3.57
39	Marine Policy	1	0.45
40	Public Administration and Development	1	0.45
41	Research Evaluation	1	0.45
42	Review of Agricultural Economics	9	4.02
43	World Development	30	13.39
	Totals	224	100.00

Appendix 6: Journal Classifications used in Citation Analysis

Category	Description
AGRIC, FOOD SC	Journals that deal with applied sciences that are agriculture- and food science-specific (e.g agronomy, horticulture, animal science, crop science)
CLIMATE STUDIES	Journals on climatology, meteorology, atmospheric sciences
ECOLOGY, ENVIRONMENT	These are journals focusing on environmental studies, natural resources and conservation, various subjects pertaining to ecology.
ECONOMICS	Specialized journals in all branches of theoretical and applied economics
FORESTRY SC	Journals that are focused on forestry and other sciences applied to forestry
GENERAL SCIENCES	Journals on all other fields of life and physical sciences not unique to agriculture
GENETICS&GENOMICS	Journals on genetics and genome studies
GEOLOGY&SOILS	Soil sciences and geology outside agriculture
NON-ECON SS	Specialized journals in all social sciences <i>other than</i> economics
PUBLIC HEALTH	These journals deal with all aspects of human health, epidemiology, specific diseases, health policy and nutrition
VETRINARY SC	These journals deal with animal medicine including wildlife
DEVELOPMENT&SOCIETY	These are non-specialized journals that cover a broad range of social science topics in development and other societal issues (political science, economics, sociology, policy etc)