Committee for the Evaluation of Geography and Environmental Studies Program

Hebrew University
Department of Geography and Environment

Evaluation Report

September 2012

Contents

Chapter 1: General Background

The Council for Higher Education (CHE) decided to evaluate the study programs in the field of Geography and Environmental Studies during the academic year 2011-2012.

Following the decision of the CHE, the Minister of Education who serves ex officio as a Chairperson of the CHE, appointed a committee consisting of:

- Prof. Patricia Gober, Johnson-Shoyama Graduate School of Public Policy, University of Saskatchewan, Canada, and School of Geographical Sciences and Urban Planning, Arizona State University, USA – Committee Chair.
- Prof. Michael Batty, Centre for Advanced Spatial Analysis, University College London, United Kingdom.
- Prof. Jeff Dozier, Bren School of Environmental Science & Management, University of California, Santa Barbara, USA.
- Prof. Baruch Kipnis, Department of Geography and Environmental Studies, University of Haifa, Israel.
- Prof. Yochanan Kushnir, Lamont-Doherty Earth Observatory, Columbia University, USA.[1]
- Prof. David Thomas, School of Geography and the Environment, Oxford University, United Kingdom.
- Ms. Daniella Sandler, Coordinator of the Committee on behalf of the CHE.

The scope of work for the committee included:

- Examine the self-evaluation reports submitted by institutions that provide study programs in Geography and Environmental Studies.
- Present the CHE with final reports with findings and recommendations for each of the evaluated academic units and study programs.
- Submit to the CHE a general report regarding the status of the examined field within the Israeli system of higher education and relevant recommendations.

The Committee's letter of appointment is attached as **Appendix 1**.

The first stage of the quality assessment process consisted of self-evaluation, including the preparation of a self-evaluation report by the institutions under review. This process was conducted in accordance with the CHE's guidelines as specified in the document entitled "The Self-Evaluation Process: Recommendations and Guidelines" (October 2008).

[1] In accordance with the CHE's policy, Prof. Yochanan Kushnir did not participate in the evaluation of the Geography department in HUJI to prevent the appearance of a conflict of interests.

Chapter 2: Committee Procedures

Committee members were given an overview of higher education in Israel and a description of the Israeli CHE at their first meeting on March 11, 2012. They also discussed Israeli Programs of Geography and Environmental Studies and fundamental issues concerning the committee's quality assessment activities. Committee members had received copies of the departmental reports before this date.

During March 2012 committee members conducted two-day site visits to Tel Aviv and Ben-Gurion Universities. They visited Bar Ilan University, the Hebrew University of Jerusalem, and the University of Haifa in May 2012.

This report deals with the Geography Department at the Faculty of Social Sciences at the Hebrew University of Jerusalem. The Department was founded in 1949 by the late Professor David H. K. Amiran, making it the first geography department in Israel. A large number of the senior professors and faculty members in other geography departments in Israel, as well as professionals in the public and private sectors, are HUJI alumniThe Department is well established and operates today in the geographical tradition of integration and reciprocity between physical and human geography. Sixteen tenured and tenure-track faculty populate the Department, with two of them jointly appointed in the School of Public Policy. There are 14 adjunct faculty members who teach on a part-time basis in the Department. There are approximately 200 BA, 100 MA, and 30 PhD students enrolled in geography degree programs.

The Committee's visit to Hebrew University took place on May 13-14, 2012 and included two days of intensive meetings with appropriate administrators, tenured and tenure-track faculty, and BA, MA and PhD students, and visits to libraries and laboratory facilities in the Mount Scopus Campus and in the Givat Ram Campus.

We thank appropriate individuals for participating in our proceedings. Their involvement enabled us to follow-up on issues raised in the self-evaluation report and benefit from updated information about the Department and University.

The schedule, including the list of participants representing the institution, is attached as **Appendix 2**.

Chapter 3: Executive Summary

Hebrew University's Geography Department is endowed with a productive, entrepreneurial, and collegial faculty. The program's excellence is reflected in the thoughtfulness and depth of its self-evaluation report, the number and stature of faculty publications, success in garnering outside funding to support research, and prestigious awards. The Department has expressed a vision of its future based on the integrative nature of geography stressing linkages between human and physical geography, using GIS and remote sensing as tools of synthesis. This view recognizes that outstanding geography programs are not necessarily the ones that produce the best individual research, but those that bring together a variety of specialties to tackle complex societal problems. This perspective is supported by a collegial and dynamic faculty that can adapt to dynamic trends in the discipline.

The Department combines basic knowledge production with practice, as for example in reconstructing the history of earthquakes to ensure better earthquake prediction and management, articulating the role of neighbourhood organizations and social life in mitigating conflict in divided cities, and evaluating the effects of climate change on water supply and flooding. The Department has thought deeply about the importance of local problems, but also has challenged itself to scale up its many Israeli case studies to address global problems issues such as climate change, political conflict, and rapid urbanization. Many of these issues are made applicable to urban areas and their planning through the Institute of Urban and Regional Development (IURD).

While the Department has paid considerable attention to its international research profile and the nature of disciplinary change, it has paid less attention to instructional programs, with notable exceptions that include the MA program in urban and regional planning, which combines theory with practice and now accounts for a sizable majority of the Department's MA students. The Department also has worked hard to stabilize and increase student numbers at the BA level through new specializations in informatics, environment, and urban planning.

Despite these admirable achievements, both the graduate and undergraduate curricula depend too much on assorted course work that may or may not result in a coherent program of study, depending upon the student. While some students find that the wide choice and range of courses fit their needs, others find the curriculum eclectic, too broad, and disconnected from professional practice. It is particularly ironic to find this lack of focus in a department that ascribes to integration. We recommend that the Department aim for programs that rely less on knowledge acquisition alone and more oriented toward critical skills, including integration, a spatial perspective, problem solving, place-based research, and scale interdependencies--the capacity to scale up place-based research to discern and interpret global problems. At the MA level, we saw a dramatic shift away from the thesis to the non-thesis option, making it all the more important to organize the curriculum around core competencies in geographic research.

At the PhD level, we found an outdated, traditional system that is overly reliant on direction from individual major professors. Students are required to take 12 hours (seemingly randomly selected) from courses that are designed primarily for MA students or from outside departments. There is too little opportunity for interaction among graduate students. We recommend that the Department facilitate greater interaction among PhD students to achieve the scientific synthesis called for in its mission statement and self-evaluation. Suggestions include an office or other gathering

space for graduate students, coursework organized around problem solving rather than knowledge acquisition, support for published articles and grant submission, workshops that require a high level of interaction among participants, department-wide poster sessions, facilitation of visits by outside experts and speakers, reverse postdoctoral fellowships bringing excellent scholars and their students to campus for a month, and group participation in international conferences.

Faculty hiring is more opportunistic than strategic, in the sense that the Department identifies a stellar candidate and then submits this candidate in a competition with other University units. This person may or may not fit the Department's programmatic needs. In a small department, it is possible that the successful candidate will not meet the Department's programmatic needs or that the Department will miss opportunities in new areas. Moreover, the system of opportunistic hiring stifles long-term planning and strategic decision-making. We recommend that the University give the Department the time and space to plan where it wants to be 10 years from now, the ability to wait for an excellent candidate to come along, this discretion to choose the second candidate on their hiring list if he or she meets the University's and Department's standard of excellence, and redefine a search if new information becomes available.

The gender diversity of the faculty is abysmal. There are no women on the senior staff and only two among the junior ranks, despite the fact that more than half of the Department's students at both the graduate and undergraduate levels are women. The Department is decades behind its international peers in integrating women into its faculty ranks. The reasons are many, and they begin with the culture and history of the earth sciences and geography. The Department place more women in visible and responsible positions. Suggestions include recruiting in subfields where women are numerous, rethinking academic programs to include a gender studies component, fostering a gender-neutral social atmosphere, supporting women and men during maternity leave, hiring a prominent woman from abroad to spend a month in Israel to offer a short course, and offering postdoctoral fellowships to outstanding women scholars.

In sum, Hebrew University has an excellent geography program. Its stated mission is compatible with current trends in the discipline. It benefits from stable and solid leadership and esprit de corps among staff. Scholarly productivity and competitive funding are high, declining enrollments have been staunched, and innovative programs are being implemented. The Department's instructional programs do not however live up to the vision of geographic synthesis. Programs should be re-evaluated with the aim of reducing redundancy and adding a cumulative dimension. The next generation of geographers—from the BA to the PhD level—should be trained in vital skills for solving geographic problems: synthesis, teamwork, and collaboration.

Chapter 4: Evaluation of the Department of Geography and Environment

4.1 Mission, Goals and Aims

The Department of Geography at Hebrew University of Jerusalem is the first geography department in Israel. It works to uphold its position as a leading department preserving and advancing the scope of geography as an integrative science. The Department has set up and maintains hubs of excellence in all major sub-fields of the discipline--urban, physical, historical and economic geography.

The Department has identified the integration of physical and human geography as its primary mission and has identified the following goals:

1. To capitalize on its unique location in Jerusalem to enhance its research and teaching programs. Jerusalem is a historical city, home to three major religions reflecting elements of East and West, and physical transition zone of two climate regimes: Mediterranean and Arid.
2. To recruit outstanding faculty members who can advance emerging and traditional fields of geography.
3. To attract top graduate students and provide them with a wide range of research opportunities and experience with the theory and practice of geography.
4. To take advantage of being close to the seat of government to provide policy-relevant research and consulting for Jerusalem and Israel.

The Evaluation Committee believes that the mission statement is viable and appropriate. It does however have serious ramifications for instructional programs, especially at the PhD level. The PhD program requires a comprehensive reorganization to realize the goals of integration, building on its unique geographic setting, and advancing a policy-relevant research agenda. This reorganization is discussed in greater detail in subsequent sections.

4.2 Students and Learning

The Department offers study programs at the BA, MA, and PhD levels with the MA program being divided into two types—degrees with and without a thesis. The number of students in the BA program declined slightly over the five-year period presented, and the university administration expressed some concern about the perceived small size of the BA program. In the MA program, the total number of students has remained steady, but with a decline in the number of MA students pursuing the thesis option. Now more than 85% of the MA students opt for the degree based on coursework alone.

Numbers of students in the PhD program remained steady. Reported numbers are given below in the table, from Table 3.1.5 in the self-evaluation.

Study Year	BA	MA		PhD
		thesis	no thesis	
2006-07	249	36	94	36
2007-08	220	25	85	33
2008-09	195	25	77	27
2009-10	199	26	87	28
2010-11	210	13	89	28

These data can be compared to Table 3.1.6, which shows the number of graduates in each program.

Study Year	BA	MA		PhD
		thesis	no thesis	
2006-07	62	9	25	2
2007-08	68	10	29	5
2008-09	48	2	22	3
2009-10	48	8	27	8
2010-11	51	9	16	2

A concern with BA and MA populations lies not only in recruitment, but in retention. On average nearly 20% of the students who enroll drop out (Table 3.4.5), although there is considerable variation in this figure by year and level in the program. The dropout rate in the MA program is attributed to students' decisions to join the workforce. No dropout rates are given for the PhD students, but the ratio of the right-hand columns in the two tables above would indicate that PhD students are either dropping out or remaining in the program longer than would be expected.

The BA Program

The Department is having some success in recruiting students who begin their higher education in other programs, and they should further exploit this strategy. The enrolment of 1st-year students in geography is not as high as the fraction of students who might well be interested. This relates to the general issues of geography not being well taught in Israeli secondary education. The faculty should consider strategies to recruit such students, perhaps through the "cornerstone" courses and perhaps by slightly reducing requirements in the 1st year.

Appendix 6.13 lists 69 courses on offer, but does not indicate which are for undergraduates and which are for Master's students. The proliferation of one- and two-credit courses in the undergraduate degree favours breadth over depth and contributes to a scattered approach to instruction and student learning. With some students taking as many as 10 to 14 courses per semester, we are concerned that they focus on what they need to know to pass the final exam, rather than on learning complex material and its theoretical and practical implications and meanings. We are under the impression that the program is "one big introduction to everything," with too little progression in depth through the 1st through 3rd years. Moreover, the large number of courses, the tiny number of hours in each course, and the number of courses that each faculty teaches, together cause overlap among courses. The result is that some redundancy persists in

the BA curriculum. A good cohesion among the faculty reduces this redundancy, but more discussion of course content among the faculty would help make sure that the suite of courses is indeed a curriculum.

The self-evaluation report provides numbers on the drop-out rates, but the data about the BA students are difficult to interpret. Tracking its students and alumni would enable the Department to monitor students' subsequent achievements and converse with them and their employers about what was most valuable in their education, and what should have been left for them to learn on the job. The faculty should establish a systematic process to track progress of students and graduates. Such data are important metrics of successes and areas for improvement and provide the opportunity to make mid-course corrections when necessary.

Graduate Programs: The MA and the PhD

The MA program has four specializations—Urban and Regional Planning; Environmental Policy, Planning and Management; Physical Geography; and Historical and Cultural Geography—with the Urban and Regional Planning option comprising more than 60% of the MA enrolments. The proportion of MA students who opt for the non-thesis degree is large, ~85%. The Committee is thus concerned that for the non-thesis students the MA is not a true research degree. Rather, it is a 1- or 2-year extension of the BA, stressing coursework over substantive research experiences.

PhD students are involved in faculty research programs; some are financially supported but generally the support is meagre. There really is no PhD "program." As the self-evaluation notes, the PhD program suffers from the tradition, in Israel and elsewhere, that the PhD degree is a research degree involving intense collaboration between a student and an advisor. In graduate school however, students often learn as much from their colleagues as from the faculty. There need to be structures in place to enhance intellectual conversation among the whole PhD student body. Options include interdisciplinary seminars, along with dedicated space (like a coffee room with whiteboards) to foster informal interaction among the faculty and PhD students.

4.3 Teaching and Learning Outcomes

Student learning outcomes are articulated reasonably well in the self-evaluation document (Appendix 6.16), and they comprise both the transfer of knowledge and development/improvement of students' research skills, including observational skills and the ability to analyze and integrate observations and spatial variability and patterns. However, the "knowledge" to be transferred is defined only implicitly by the list of courses. Geography's core competencies—as this Department would define them—are not explicitly defined. The methods to measure learning outcomes do not distinguish between the program's added value and the knowledge the students had when they entered the program. Perhaps a way to get this kind of information is through a survey of the knowledge and perceptions of incoming students. Finally, the measurements of learning outcomes in the BA program consist entirely of exams in specific courses.

The focus of Hebrew University's Geography program is spread among the interests of the faculty. Essential core competencies in geography include, but are not limited to the following:

- Understanding how geography, the study of Earth as the home of humanity, integrates physical and biological sciences, social and behavioural sciences, and humanities.
- Knowledge of the basic spatial layout of Earth, the identities of major terrestrial and aquatic surface features, Earth's climates, and physical processes in the atmosphere, oceans, and land.
- Understanding and appreciating the concepts of space, place, and the natural and built environment, and the position and relationships of people within these spaces and places.
- Ability to identify and apply the geographic information techniques such as cartography, remote sensing, GIS, and spatial- and geo-statistics.
- Ability to read, understand and critically evaluate literature in geographic research.
- Ability to communicate knowledge about geography, in oral, graphical, and written form.

One critical concern in articulating student learning outcomes is whether or not a BA is intended to prepare students for the labour market or to serve as a general education degree. In many universities internationally, the answer to the question depends on the field. In the Humanities the answer would be No—even a high-school teaching career requires additional material about teaching—but in Engineering, preparation for the labour market is the norm. We had the impression that this decision was not explicit in the Department and that over time core geographic competencies have been postponed to the MA level.

Given the paucity of faculty positions for newly minted PhD graduates, the Department should explore ways in which the PhD opens opportunities in corporations, non-profit organizations, and government agencies, and then consider courses that prepare PhD graduates for success in such positions. Examples might include a course in finance. This structure should be implemented at the University level rather than the Department or Faculty levels because non-academic employment for PhDs extends across many disciplines.

4.4 Faculty

The Department has 16 full time faculty, 4 in physical geography and 12 in human geography which is divided into three related sections: urban, social political and economic; environmental planning and policy; and historical and cultural. There are strong links with geoscientists in the Institute for Earth Sciences at Givat Ram through the Environmental Studies program and research. The Department also houses the Center for Computational Geography, which supports the research mission in all areas. There is a healthy complement of 13 adjunct faculty, 8 of whom have doctorates, teaching and research programs are also supported by four administrative positions and several technical staff, all of whom must be seen as adding to the critical mass of the unit.

The Department has been particularly industrious in protecting its size in the face of severe cuts in budget during the last 12 years. The faculty is very productive in terms of their research specialties and on average produce 3-4 articles and/or books in the top journals each year. Although the balance between physical and human geography is

rather distorted, the faculty act as one. There is good camaraderie and a strong willingness to innovate in teaching and research, particularly in new technologies such as computational geography and geoinformatics which serve as an integrating medium between physical and human geography and also provide essential infrastructure for research. Together with colleagues in Earth sciences at Givat Ram, there is critical mass in each of the defined areas and there are also strong links within the faculty of social sciences to law and political science.

It is also worth noting that recent appointments have been excellent, and they continue to reinforce the quality of the department nationally and internationally. Promotion procedures are routine and follow the usual Israeli model. Senior faculty mentor their junior peers, and sabbatical leaves work smoothly with no reports of any difficulties covering the program or research projects when faculty members are on leave.

It is increasingly challenging to maintain and increase student enrolments and provide service to the University and profession, while meeting the demands of scholarship. As a group and as individuals, there is a sense that maybe some are doing 'too much' and that, as various initiatives spin out, faculty will be stretched even more than they are. This requires some thought as it is a budgetary issue with respect to growth. We were impressed by the fact that the balance between teaching and research is an on-going discussion in the Department, and that trade-offs need to be made. There are some minor difficulties over the split sites at Mount Scopus and Givat Ram, particularly involving physical geographers interacting with those at Givat Ram, but these generally seem to work and will do so even if a new School of Environmental Studies comes into operation.

4.5 Research

Research in HUJI Geography is vibrant, collegiate and has many elements of international standing. There is a strong and impressive record of winning research funding and publishing in leading international outlets during the assessment period. There has been a steady increase in annual externally-sourced funding over the assessment period, rising to US$ 1.2 million in 2011. In an international context, this is a respectable amount.

The Department has an international reputation in several research fields in both human and physical geography. These include urban studies, environmental policy, hydrology, climatology and remote sensing. In addition, it is evident that there is a high level of collaboration with staff in other departments at the Hebrew University and elsewhere, which gives exposure and involvement with cognate areas in other disciplines (e.g. in Earth Science, Archaeology).

Important for the sustainability of such a prestigious department, given future retirements, is a good spread of funding and research activity across all staff in the Department. Research collaboration among staff is alive and well, as are collaborations with researchers and research groups in other Israeli departments (in Geography and beyond) and internationally. The self-evaluation lists impressive examples of collaborative projects in which staff in Hebrew University Geography play a leading role. Many of these are in topics that human geography naturally fits with and contributes significantly to, but which have a multidisciplinary relevance, for example the SENTRA program (on Alzheimer's Disease) where the Israeli element is led and coordinated by a HUJI Geography faculty member, and the SECOA coastal (human)

environments project (EU funded) where three members of the faculty contribute and collaborate to a significant degree. Others (e.g. the CLICO hydro-conflicts project, EU funded) cut across and use expertise from both the human and physical parts of the Department. The inward and outward facing elements of research initiatives of projects both reflects and enhances the Department's international standing, and is a model for successful geographical research that is relevant to geography departments nation-wide.

Research students at MA and PhD levels are a signature attribute of the ability of departments in Israel to be able to conduct successfully their commitments to funded research, while simultaneously training the next generation of researchers. Hebrew University Geography is no exception in this regard, with over 50 PhD students engaged in research over the period. The decline in numbers of students taking the *MA with thesis* is a potential matter of concern for research in the Department, and is discussed elsewhere. More positively, the model more common in Europe and North America of employed postdoctoral scholars is also apparent here, though to a lesser degree perhaps than overseas. In an environment where full faculty posts are relatively limited, this is a good mechanism for continuing to engage highly qualified and skilled former students. The high level of research students (as well as the smaller numbers of post-docs) is to some degree possible because of the success of the Department in gaining external funding to support its research.

The successful research program also benefits from the research infrastructure that is present in the building housing the department. The research labs are well-equipped according to the self-evaluation report (again in part because of the level of external funding) and largely to an international standard. We observed, and were impressed by, the new Center for Computational Geography. This is a valuable development that assists research in several areas with technical aspects (GIS, Remote Sensing and tracking are notable) and has a level of provision that would be deemed very good in a European context. We did not observe the geomorphology and meteorological labs. Beyond this, other infrastructure elements, such as the Cave Research Unit, and the ATT lab are important and valuable elements of research infrastructure.

The Department is not large (in faculty terms) in an international sense, which has some implications for research sustainability. The self-evaluation report refers to the dilemma the Department faces in maintaining, with limited faculty numbers, its established areas of strength and balancing this with making appointments to allow the Department to 'move with the times' in terms of conducting research in new areas within the discipline. This is achieved by each staff member being involved in more than a single area of research (which is healthy, and we saw no evidence of staff spreading themselves too thinly), but issues will have to be faced, in terms of research competitiveness, in how to evolve when retirements create faculty vacancies to fill.

Successful research should lead to an outstanding publications program and in this regard the Department is successful. All faculty members have very good to outstanding track records of publications. These include papers in the leading geography journals (e.g. *Annals, Association of American Geographers, Transactions, Institute of British Geographers, Geomorphology, Political Geography, Social and Cultural Geography),* leading interdisciplinary journals relevant to geographical research (e.g. *Quaternary Research, Environment and Planning A and D, Climatic Change, Remote Sensing of Environment, Global Environmental Change*), and leading journals from cognate

disciplines (e.g. *Sedimentology, Water Resources Research*). There is strong evidence of good collaborative publications between students and faculty in the Department. Senior faculty also demonstrate their capacity to influence research agendas through the publication of major books and monographs, with 12 published with major European and North American publishing houses in the assessment period.

It is clear, from the self-evaluation document and from the meetings held in the Department, that this is a leading research department, not just in Israel but in a global context. There is a vibrancy that sees senior staff inspire and link with more junior staff and with research students. In turn, staff and program link in with activities internationally, and in some fields research can be regarded as 'agenda setting.' The Hebrew University should be proud of the research achievements of its geographers, and should have faith to allow it to develop further and replace retiring staff, so that its standing and reputation can be maintained and enhanced.

4.6 Broader Organization Structure

The Department of Geography is affiliated with the Faculty of Social Sciences. Three of its faculty (the physical geographers) hold joint affiliation in the Faculty of Mathematics and Science.

Hebrew University is a 'top-down' hierarchically administered institution. Most critical decisions are approved by the President/Rector and channelled through the Dean.

The newly proposed Advanced Graduate School of the Environment is aimed at environmental issues and crosses three Faculties — Mathematics and Science, Social Sciences, and Agriculture, Food and Environment (in Rehoboth). If approved by the CHE, the proposed program would create an umbrella for the three above mentioned programs.

4.7 Infrastructure

In the designated area of the Department, there are some 36 rooms assigned for the academic faculty, emeriti, postdoctoral scholars, teaching assistants, administrative staff, seminar rooms, labs, the Department's server, and for storage. Computers of the academic staff are connected to the University Ethernet system, and supported for problems with software by the computer services center of the Faculty. All other rooms are equipped with computers and other needed gear. The Department operates two major laboratories as well as a number of other installations:

1. A well-equipped GIS Lab geared for teaching and research which contains key software for GIS and remote sensing. There is a lab situated in the department, but there is also a large 40 machine teaching classroom as part of one of the big machine clusters for wider student use at the Mount Scopus campus. With the departmental cluster, this serves as the HU GIS Lab which is run by a technical director financed by the Faculty of Science.
2. A Geomorphology Lab which acts as field monitoring station for teaching is installed in the Mount Scopus Botanical Garden situated close to the Department. The lab is equipped with rain recorders and collectors, flow collectors and moisture sensors for monitoring water budgets in a Mediterranean forested area. There is also a Soils and Hydrology Lab which complements this field monitoring station.

There are a number of other facilities, notably the newly formed Center for Computational Geography. This appears to embrace the GIS Lab and the Cartographic Lab, which is focused on producing maps in traditional as well as digital (web and desktop) form. The Center's director has an administrative rather than faculty position, but with a research focus. There is a tracking installation which is being built around research grants associated with movement technologies. All these are part of the wider initiative in computational geography and some of these developments are financed from research grants.

There is also a vibrant Map Library which comprises an aerial photographic archive for maps prior to 1948, and where many of the map data are being transcribed into digital form. The Department owns a field vehicle that is used by researchers for their field work. The vehicle's operational costs and maintenance are covered by the researchers from their research grants.

Chapter 5: A Short Note on Environmental Studies

In our initial interview at Hebrew University, Vice-Rector School asked us to comment on Environmental Studies, both on the existing program in the Faculty of Mathematics and Science, which offers both graduate and undergraduate degrees, and on the proposed new Advanced School for Environmental Studies that will support graduate degrees (MA, MSc, and PhD) integrated across three Faculties—Mathematics and Science, Social Sciences, and Agriculture, Food and Environment.

We emphasize that we are not able to provide reviews as thoroughly as for the Geography Department. For the existing program, we do not have the normal self-evaluation and appendices. For the proposed program, we have a 5-page synopsis. Our remarks are therefore based on interviews with students and faculty and on material on the University's website (where some of the more detailed information is available only in Hebrew).

5.1 Existing Program in the Institute of Earth Sciences

Bachelor's degree

The BSc degree in Environmental Studies is offered only as a double major, with the students taking a dual degree in a discipline such as Physics, Geology, Biology, Geography, Psychology, Law etc. (but the program is open to any student willing to invest the time). Because of the need for the dual degree, most students take four years to complete the major. Currently the program has ~80 students. The faculty who teach the courses enjoy the students, and find that the students from the social sciences are among the best. Because of the program's rigor and degree of commitment, the dropout rate is high, ~20-25%.

The focus is on environmental sciences, with less emphasis on the integration of science with human decision making. The large sizes of the 1st-year classes inhibit interaction among students, but the later classes are smaller and the students benefit from the interactions among people from different disciplines.

Like interdisciplinary programs internationally, the program could do more to help students integrate among the disciplines. Students would prefer a "joint degree" with their other major, rather than a "dual degree." For some, the program proved ideal in their subsequent employment, for example with the ability to understand issues of both atmospheric science and law to help craft regulation. Others would have wanted more expertise for the labor market, i.e. a better mix between knowledge and tools, along with better coordination among faculty teaching the courses to eliminate some redundancy.

In summary, the program provides a valuable education, with a good preparation especially for graduate school. For the students, the faculty could manage expectations more effectively, so that students would have a better idea at the beginning about what they would get out of the program.

Higher degrees – MSc and PhD

All master's degrees in the Faculty of Mathematics and Natural Science require a thesis. The master's theses range across a variety of topics, from biogeochemistry to toxicology. The master's courses typically include a mix of BSc and MSc students, with some perception that the undergraduate students are not as committed.

Like other PhD programs throughout Israel, the PhD program is not truly a "program," but rather a mechanism to work with a specific advisor.

5.2 Proposed Advanced School for Environmental Studies

A proposal for an Advanced School for Environmental Studies has been submitted to the Rector, and (as we understand it) has been approved in principle. Three advanced degrees (MA, MSc, PhD) would be available, and each student's program would be anchored in one of three Faculties — Mathematics and Natural Science, Social Sciences, and Agriculture, Food and Environment. Two of the three degree programs would comprise existing ones from the environmental sciences and environmental protection and natural resources from Agriculture. The degree from the social sciences, Management and Policy for Natural Resources and Environment, is in the formulation stage.

Integration among the students would be addressed with several core courses that all students would take. Moreover, a couple of "cornerstone" courses would be available to undergraduate students.

The School would add little overhead to the University, with the School's office consisting of a director and an administrative assistant.

In the Committee's view, the current status and information about the School are too primitive for us to comment in detail. At a high level, we see a wealth of excellent ideas—integration among disparate disciplines, some instruction in English, arrangements for international visitors, and considerable enthusiasm among the current faculty. However, we worry about the viability of a School when the people teaching most of the courses have their major commitment to another Faculty, and when hiring strategies and decisions are based on the needs of other Departments. The School plans for ~10 joint appointments, but none in the first two years.

Our recommendation therefore is to make some of these details more concrete, and perhaps delay opening the School to students until the Fall of 2013 rather than 2012. We also recommend thoroughly examining such interdisciplinary programs internationally, to learn about which strategies and structures have worked well and which have not. The Committee itself has detailed knowledge about three such programs: the Bren School of Environmental Science & Management at University of California Santa Barbara, the School of Sustainability at Arizona State University, and the Earth Institute at Columbia University. Other examples exist, in both North America and Europe. Perhaps one first step would be for a small delegation from Hebrew University to visit some of these examples.

Chapter 6: Recommendations

6.1 Congratulatory Comments

We found a very well run, productive, innovative program at HUJI, blessed with effective leadership, a collegial faculty, and strong relationships with related programs on campus. Faculty members are rethinking their areas of study and retooling their expertise to fit disciplinary trends. We read a report that grappled with big ideas in geography, and we met with faculty members who are actively engaged in research as evidenced by prestigious awards, publications in high-impact journals, and success in obtaining outside funding The program is recognized as a center of excellence in Israel and globally for its new ideas, innovative research, and the practice of geography and planning.

6.2 Recommendations

University-level recommendations

- Reconsider the current approach to new faculty hiring. The current model—developed in response to severe budget cutbacks—leads to opportunistic rather than strategic hiring at the departmental level. This can be especially problematic for a small department such as geography because it encourages the department to seek candidates in subfields that it believes are most competitive in the University pool of candidates rather than candidates that fit its strategic plan.
- Given the paucity of academic jobs in Israeli universities, the University should consider the possibility that PhD graduates will use their research skills outside the academy in government and the private sector. PhD programs should include the practice of disciplines as well as the production of new knowledge for them. At the very least, the current cohort of PhD students should not be led to believe that most of them will obtain faculty positions in Israeli universities. This is an option reserved for the top 10% of PhD students.
- Augment the Department's GIS and library facilities. There are needs for additional audio-visual classroom capabilities, air conditioning in laboratories, and a upgrading in library reference books and journals.
- With regard to the proposed Advanced School for Environmental Studies, make details of the School's structure and operation more concrete and transparent, and delay opening the School to students until the fall of 2013 rather than 2012. Thoroughly examine such interdisciplinary programs internationally, to learn about which strategies and structures have worked well and which have not

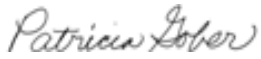
Department-level recommendations

- Make immediate efforts to improve the gender diversity of the Department. Female students represent roughly half of the student population at all levels, and yet there are only two junior women staff members. Underrepresentation of women is unusual in Israel, and it is unusual in major geography departments worldwide. Suggestions include recruiting in subfields where women are numerous, rethinking academic programs to include a gender studies component, fostering a gender-neutral social atmosphere, supporting women and men during maternity leave, hiring a prominent woman from abroad to

spend a month in Israel to offer a short course, and offering postdoctoral fellowships to outstanding women scholars.

- Develop and implement a structured curriculum at the BA level. The existing program appears to be "one big introduction to everything," with too little progression in depth from the 1st through 3rd years. Ensure that redundancies are eliminated, progression is clear, and student learning outcomes map onto required and elective courses.
- Recruit majors from the pool of students who transfer among fields at HUJI. Given the unfortunate state of geographic education in Israeli state schools, the Department needs to exploit the idea of transfer students as a mechanism to stabilize and maintain enrolments. It can be built upon the favourable trends already in place in the Department.
- Establish a systematic process to track progress of students and graduates. Such data are important metrics of successes and areas for improvement and provide the opportunity to make mid-course corrections when necessary.
- Ensure that there are substantive research experiences in the non-thesis MA program. The non-thesis option new constitutes 85% of MA degrees, and considerable attention must be directed to ensure that students gain genuine research experiences in either basic research or practice in the case of the Urban and Regional Planning Program.
- Upgrade the PhD program to achieve the scientific synthesis described in its mission statement and self-evaluation document. This infrastructure may include office or other gathering space for graduate students, coursework organized around problem solving rather than knowledge acquisition, support for published articles and grant submission, workshops that require a high level of interaction among participants, department-wide poster sessions, participation in departmental search committees, facilitation of visits by outside experts and speakers, reverse post-doctoral fellowships bringing excellent scholars and their students to campus for a month, and group participation in international conferences.

Signed by:



Prof. Patricia Gober

Prof. Michael Batty

Prof. Jeff Dozier

Prof. David Thomas

Prof. Jeff Dozier

Prof. Baruch Kipnis

Appendix 1: Copy of Letter of Appointment

December 20, 2011

שר החינוך
Minister of Education
وزير التربية والتعليم

Prof. Patricia Gober
School of Geographical Sciences and Urban Planning
Arizona State University
USA
School of Public Policy
University of Saskatchewan
Canada

Dear Professor Gober,

The Israeli Council for Higher Education (CHE) strives to ensure the continuing excellence and quality of Israeli higher education through a systematic evaluation process. By engaging upon this mission, the CHE seeks to: enhance and ensure the quality of academic studies, provide the public with information regarding the quality of study programs in institutions of higher education throughout Israel, and ensure the continued integration of the Israeli system of higher education in the international academic arena.

As part of this most important endeavor we reach out to world renowned scientists to help us meet the critical challenges that confront the Israeli higher education by accepting our invitation to participate in our international evaluation committees. This process represents an opportunity to express our common sense of concern and to assess the current and future status of education in the 21st century and beyond. It also establishes a structure for an ongoing consultative process among scientists around the globe on common academic dilemmas and prospects.

I therefore deeply appreciate your willingness to join us in this crucial enterprise.

It is with great pleasure that I hereby appoint you to serve as the chair of the Council for Higher Education's Committee for the Evaluation of Geography and Environmental Studies. The composition of the Committee will be as follows: Prof. Patricia Gober, (Chair), Prof. Michael Batty, Prof. Jeff Dozier, Prof. Baruch Kipnis, Prof. Yochanan Kushnir, Prof. Mark Rosentraub, Prof. David Thomas.

Ms. Marissa Gross will coordinate the Committee's activities.

In your capacity as the chair of the Evaluation Committee, you will be requested to function in accordance with the enclosed appendix.

I wish you much success in your role as chair of this most important committee.

Sincerely,
Gideon Sa'ar
Gideon Sa'ar
Minister of Education,
Chairperson, The Council for Higher Education

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Appendixx 2: Site Visit Schedule

Environmental Studies Tentative schedule of site visit- Hebrew University

Sunday May 13, 2012

The Halbert Centre for Canadian Studies

Faculty of Social Sciences, Room 4707

Time	Subject	Participants
09:00-09:45	Opening session with the heads of the institution and the senior staff member appointed to deal with quality assessment	Yaacov Schul – Vice Rector
09:45-10:30	Meeting with the Dean of the Social Sciences Faculty	Prof. Avner De-Shalit
10:30-11:15	Meeting with the chair of the Department of Geography	Prof. Noam Shoval
11:15-12:15	Meeting with Associate and Full Professors	Prof. Uri Dayan, Prof. Ronnie Ellenblum, Prof. Eran Feitelson, Prof. Daniel Felsenstein, Prof. Amos Frumkin, Prof. Shlomo Hasson, Prof. Eran Razin, Prof. Rehav (Buni) Rubin, Prof. Ilan Salomon.
12:15-13:00	Lunch – closed meeting	
13:00-13:45	Tour of campus (classes, library, offices of faculty members, computer labs etc.)	
13:45-14:30	Meeting with Lecturers, Senior Lecturers (tenure-track) and Adjunct Faculty	Dr. Ran Aaronsohn, Dr. Galit Cohen-Blankshtain, Dr. Itay Fischhendler, Dr. Efrat Morin, Dr. Noam Levin, Dr. Gillad Rosen. Dr. Doron Bar, Dr. Shaul Tsionit, Dr. Geula Scherf.

14:30-15:15	Meeting with Faculty from the Institute of Urban and Regional Studies	Prof. Eran Razin, Prof. Daniel Felsenstein, Ms. Valerie Brachia, Dr. Emily Silverman, Architect Lenore Lenkin Mr. Ran Haklai, Architect Sofia Eldor.
15:15-16:00	Meeting with BA Students in Geography	
16:00-16:45	Meeting with Masters Students in Geography/Urban Regional Planning/Environmental Management Planning	
16:45-17:30	Meeting with PhD Students in Geography	
17:30-18:15	Meeting with Alumni	.
18:15-19:00	Closed Door Committee Meeting	

Monday, May 14, 2012- Environmental Studies

Time	Subject	Participants
8:30-9:00	Meeting with the chair of the Earth Sciences Institute	**Yigal Erel** – Director of the Institute of Earth Sciences and former the head of the program
9:00-9:45	Meeting with the head of Environmental Studies Program	**Boaz Lazar** (present head of the program) **Yehouda Enzel** (Until recently the head of the program) - history and current status
9:45-10:30	Meeting with senior faculty of Environmental Studies program in the Faculty of Exact Sciences	**Senior Faculty:** **Life sciences** 1. Aaron Kaplan – former the head of the

		program 2. Nir Keren **Earth Sciences** 3. Hezi Gildor 4. Daniel Rosenfeld 5. Haim Gvirtzman 6. Alon Angert
10:30-11:00	Meeting with the head of Environmental Studies Graduate School in the Faculty of Social Sciences	**Eran Feitelson**
11:00-11:30	Meeting with the Head of Environmental Studies in the Faculty of Agriculture	**Yael Mishael**
11:30-12:15	Meeting with Bachelors students of Environmental Studies* ***	
12:15-13:00	Lunch	
13:00-13:45	Meeting with Masters Students of Environmental Studies* ***	
13:45-14:15	Meeting with PhD Students of Environmental Studies* ***	
14:30-15:00	Meeting with Alumni* *** בוגרים	
15:00-16:00	Closed-door working meeting of the committee	
16:00-16:30	Summation meeting with Chair of the Geography Department	**Gad Marom - Dean**

16:30-17:00	Summation meeting with heads of the institution	**Menahem Ben Sasson – President** **Sarah Stroumsa – Rector** **Yaacov Schul – Vice Rector**

* The heads of the institution and academic unit or their representatives will not attend these meetings.

*** The visit will be conducted in English with the exception of students who may speak in Hebrew and anyone else who feels unable to converse in English.