PROPOSAL FOR THE INTERDISCIPLINARY JUNIOR FACULTY INITIATIVE
SUSTAINABLE FOOD SYSTEMS

Rationale

Importance of the Field

Today’s global food system produces unprecedented quantities of food. Nevertheless, the World Health Organization estimates that over one billion people lack adequate food to satisfy the minimum standards of nutrition, despite more than adequate global supplies, a perplexing pattern that has been evident for many years. An even more perplexing pattern is the irony that obesity has become a major health problem for some, even as hunger continues to plague others. Moreover, the modern agricultural system that developed during the past century is increasingly recognized as environmentally unsustainable, in many cases causing environmental degradation and substantial losses in biological diversity. Finally, for the consumers, food safety has emerged as a critical issue and for the producers -- farmers and farm workers -- workplace safety and unfair compensation threaten the sustainability of their livelihoods. A global food system that simultaneously produces hunger and obesity, that generates significant collateral environmental degradation and that compromises the wellbeing of consumer and producer alike, challenges the academic community to engage in serious analysis and action.

This challenge has been partially met with the emergence of a new paradigm that emphasizes sustainability and social equity rather than profit and production at its core. Contributions to this new paradigm are emerging already from many sectors of society, especially at the grassroots level (e.g. local food systems, increased demand for organic and fair-trade products, reinvigoration of inner cities through urban agriculture, new business models such as “community supported agriculture,” etc.). The university is the ideal place to forge the intellectual foundation that will inform and guide the construction of a coherent path toward a sustainable and equitable food system, helping to reinvigorate rural and urban communities, promote environmental protection and enhance economies at state, national and international levels.

The complex and multi-dimensional challenges that we face require an interdisciplinary approach that both engages multiple disciplines and considers systemic effects such as feedbacks and interdependencies. Expected scholarly activities will span from the natural to the social sciences. Examples might include (1) how evolutionary and ecosystem complexity contribute to the evolution of pesticide resistance, (2) the role of fertilizer management in the Midwest mitigating hypoxic zones in the Gulf of Mexico, (3) health consequences of obesity resulting from only sporadic availability of fresh food in urban America, (4) the design of rural infrastructure enabling new food supply networks, (5) the structure of governance in rural-to-urban economic evolution, and (6) new strategies for food-related small business development in rural, peri-urban and urban areas. The proposed Sustainable Food System cluster hires will promote research and analysis of this sort of broad interdisciplinary nature, ranging from ecology and evolution to food policies to business management, all focused on the food system broadly conceived. This cluster will form the foundation of an interdisciplinary research focus that addresses the academic and practical debates currently emerging at local, regional and global scales.

The faculty proposed for this cluster will be located in 1) the Department of Ecology and Evolutionary Biology (EEB) of LSA, 2) the School of Natural Resources and Environment (SNRE), 3) the School of Public Health (SPH), 4) the Urban and Regional Planning Program of Taubman College of Architecture and Urban Planning (TCAUP), 5) the Ross School of Business in collaboration with the Center for the Study of Complex Systems. In EEB, the focus would be on the evolutionary or ecological bases of food production
systems. In SNRE, the area of hire would focus on environmental sustainability of food systems. In the TCAUP, the area of hire would be on urban, near-urban and rural agriculture, urban renewal through urban greening, and the promotion of rural-urban regional economies through the development of local food systems. In SPH, the focus would be on community engagement in local, sustainable food systems (including access to locally grown and other healthy foods), sustainable food policies, and health. In the Ross School of Business, the focus will be system-wide relationships comprising the agricultural value chain, from planting, through sale, and even preparation of agricultural products, with an emphasis on generating the greatest possible economic, social, and environmental value. Together with faculty already working on related topics in these and other units, the proposed cluster will create an interdisciplinary program that will provide opportunities for a new generation of natural and social scientists, as well as applied scholar-practitioners. The cluster will combine disciplinary specialization with knowledge of and commitment to interdisciplinary research on the food system in relation to the environment, human health and equity.

The foundations of any system, especially one as important and complicated as the food system, as it evolves into new forms deserve not only rigorous academic scrutiny but also involvement with those sectors affecting and affected by the new system. The principle aim of this program is to provide leadership in the academic debate surrounding development of sustainable and equitable ways to produce and deliver nutritious food so as to improve people’s health and livelihoods. In addition a strong component of this program will be community service and civic engagement. We believe that the synergies emerging from faculty and student participation in service and civic engagement will enrich education, inspire new ideas, build community capacity and strengthen society at the state, regional and global scales.

**Appropriateness of the Field to UM**

The University of Michigan is uniquely positioned to become a leader in the field of sustainable food systems due to its commitments to interdisciplinarity and sustainability, the national recognition of the five units involved (ecology and evolutionary biology, natural resources and environment, public health, urban and regional planning, business, and complex systems), and university support of community-academic partnerships. These cluster hires offer an opportunity for UM to become a leader in scholarship, service-learning and community-academic partnerships related to sustainable food systems. As an academic institution that is outside the land grant system, UM has neither the traditions nor investments in the conventional food system that characterize many land-grant universities. Additionally, current UM faculty members have made significant contributions in analyzing the current food system, documenting some of its more unsustainable characteristics and proposing alternatives -- offering perspectives distinct from those prevalent at land-grant universities. With a cadre of new interdisciplinary faculty, we can approach the challenge of transforming the food system from the perspectives of social, economic and environmental sustainability rather than the production paradigms that have shaped land-grant universities in the post-war years. We see the transition toward a more sustainable food system as both desirable and inevitable, with great opportunities for innovation and collaboration toward this end. This is an opportunity for the University of Michigan to position itself as a leader, ahead of the curve, in the development of sustainable food systems research. In addition, there is unmet student interest in courses and research opportunities on these topics.

Furthermore, even as we are in a position to focus on this persistent problem with emergent challenges, we are also positioned to engage strategic partners with complementary foci. Specifically, we propose to engage partners in the University Research Corridor, Wayne State University and Michigan State University. We envision an evolving partnership with colleagues in these universities, as part of the University Research Corridor, which will form new models of food systems, from its production to
its delivery, to its health effects on workers and consumers. WSU’s location in the most important urban area of the state, where the urban population is notoriously underserved with regard to food quality, positions our program to analyze the changing urban connections between food and health. MSU’s long history of conventional agricultural research provides us with enormous technical expertise in food production. Our cluster of faculty will thus be naturally positioned to operate within the goals envisioned for the University Research Corridor especially through the newly formed and currently evolving Michigan Food and Agriculture Working Group.

It is important to clarify our position relative to MSU (especially since this was a major concern in our last submission). We do seek to establish food and agriculture as important academic subjects at UM – given the importance of the issue itself, we feel it is almost criminal that we offer U of M students few opportunities to engage this issue in their academic careers. Yet it would be absurd to envision the elaboration of a new school of agriculture, which was never what we intended. Rather, we appreciate not only that MSU is a world-class institution, but also that its diverse faculty engage this issue in ways that are creative, important and eclectic. Many in our group who have collaborated with colleagues at MSU have no doubt that it is an institution that remains on the cutting edge of food system research. Our intent is to cooperatively intersect our own cutting edge research with theirs, not to repeat it or even add to it, but to anticipate totally new scholarship, expanding the cutting edge so to speak.

Members of our group already have many bilateral collaborations with faculty at MSU. Our goal, however, is not simply to increase the number of those collaborations, rather to promote higher levels of understanding from different forms of collaboration. For example, Dr. Batie in MSU’s department of Agricultural Economics has been a prime mover in the recognition of agricultural development projects as “wicked” problems (involving not only multidisciplinary subjects but distinct and sometimes contrary visions and discourses that must be reconciled). Wicked problems present a qualitatively distinct set of enigmatic issues. It is frequently the case that necessary methodological tools are obscure, requiring a multidisciplinary team thinking well out of the box to even begin the analysis. The special talents of the U of M might readily articulate with this issue. In a recent book, one of our faculty members, Scott Page, elaborates on the new approach to social sciences generally fueled by advances in complexity theory. Dr. Page notes that past theory in many of the social sciences (especially economics) focuses at two levels, either an infinite number of agents, or just one or a few agents. Yet most real world problems must be attacked at the intermediate level, precisely where theory is scant or absent. The game-theory, agent-based modeling approach of Dr. Page is precisely the sort of analytic framework that Dr. Batie so eloquently describes as needed for wicked problems. It is exciting, and completely within the framework of the cluster hire intentions, to anticipate major breakthroughs when approaches from such high quality institutions come together in an intellectual exchange that seeks new and creative solutions to the evidently wicked problems we face in our ever changing food system.

While many other similar engagements could be envisioned, we think this example serves to demonstrate our intent to neither repeat what MSU does, nor simply add to what they do, but rather transform cutting edges through the synergistic interaction of our two faculties.

Impact on Undergraduate Education

This cluster hire seeks to bring faculty together from many disciplines around a pressing global issue. The focus for interdisciplinary undergraduate education around environmental issues is the Program in the Environment (PitE), which features instructional faculty from across the university. PitE has faculty with partial appointments
in SNRE, SPH, TCAUP, the College of Engineering as well as other departments in LSA such as EEB and Political Science, which also offer undergraduate majors and minors. Because of the overlapping academic goals of the cluster and PitE, we anticipate that the cluster of faculty, along with the faculty associated with this proposal, will form the Sustainable Food Systems (SFS) Interdisciplinary Working Group that will work with PitE to provide a robust set of courses that will also advance PitE’s undergraduate educational goals. PitE requires of each student a named specialization of three or more upper-division courses. Drawing upon faculty in the proposed cluster, we would offer several courses for a Sustainable Food System specialization. Such a specialization would include a service component in which students would work at the local or international level with organizations that are involved with various components of the food system. As such, the Sustainable Food System program would also provide experiential learning that could meet the field-experience requirement in PitE. SPH, TCAUP and the Ross Business School also have significant connections with community-based organizations that can facilitate these opportunities for undergraduate students.

In addition, PitE requires all of its majors to take an interdisciplinary capstone course to integrate the knowledge that they have gained, and PitE has a need for more capstone courses to support its growing numbers of students. Sustainable food systems" is an excellent topic for such a course, and the SFS Interdisciplinary Working Group will work with PitE to provide such a course (s).

The need to bring issues of food sustainability to a wide range of students, from undergraduates onwards, is sufficiently important that PitE would be asked to collaborate in searching for at least two of the hires (SNRE and EEB) who could teach in the undergraduate program.

More generally, new hires will be encouraged to participate in undergraduate education by either offering an undergraduate course or facilitating internships or service-learning opportunities. Furthermore, a yearly undergraduate seminar in Food and Environment will be offered on a rotating basis by two faculty members, either two of the new hires, or two of the affiliated faculty, one with expertise in the natural sciences and the other with expertise in the social sciences.

Impact on Graduate Education

A cluster of faculty working on different aspects of sustainable food systems will provide excellent opportunities for interdisciplinary graduate training. As already mentioned, we envision the formation of an interdisciplinary program in Sustainable Food Systems, starting with the five units included in this cluster proposal and potentially expanding to other units such as the schools of Information, Public Policy, Engineering and Social Work, as well as the International Institute and the American Culture program in LSA. A central focus of the graduate program will be an interdisciplinary seminar on “Sustainable Food Systems” that will be offered once a year by members of the SFS Interdisciplinary Working Group and other interested faculty members.

In units where master’s projects or theses are a required or optional part of the degree program (SNRE, TCAUP, EEB, SPH), we envision the new faculty members being actively involved in advising research projects with a strong interdisciplinary SFS component. The cluster hires will also provide an opportunity to apply for graduate training grants that focus on PhD students (see below).

Recruitment for both master’s and doctoral students will be accomplished by broad dissemination of information about the Sustainable Food System interdisciplinary program by developing and maintaining a website. We recognize the challenges of conducting interdisciplinary research and therefore will pay careful attention to mentoring of graduate students. Retention efforts will emphasize the usual strong and personal ties
between Ph.D. students and their academic advisors, and the SFS Working Group will provide close attention to student progress. Concerns about student progress will be examined in light of the individual student’s circumstances, and the fullest efforts possible will be made to assist each student toward successful completion of the Ph.D. under the academic standards of the academic unit that will award the Ph.D.

A commitment to diversity is an integral component of this proposal. Recruitment efforts will be directed at attracting a diverse group of master’s and PhD students with equally diverse research interests.

Interactions among Cluster Hires and Synergistic Activities

If this proposal is approved, an interdisciplinary committee (a subset of the SFS Interdisciplinary Working Group) will be established to coordinate search activities, provide oversight, and coordinate and stimulate activities in sustainable food systems across the campus and within the Michigan University Research Corridor. Members of this committee will also serve as mentors to the junior faculty hires. This group will consist of at least one senior faculty from each participating unit. The activities that we envision this group undertaking over a five-year period include:

- Mentoring of the junior faculty hired under this initiative.
- Proposing and coordinating a “Food” theme semester.
- Organizing an interdisciplinary speaker series (two years ago SNRE students and faculty initiated a speaker series on sustainable food systems. The series was a success with some speakers attracting audiences of over 50 people; the series continued this year in the form of panel presentations in SNRE, TCAUP, The Ross Business School and SPH).
- Offering or facilitating a variety of research seminars to investigate what would be required for the transformation of the food system to achieve sustainability.
- Proposing and coordinating a Rackham Interdisciplinary Seminar in sustainable food systems.
- Proposing and helping to organize a “Michigan Meeting” to bring together renowned national and international scholars and civil society engaged in the theory and practice of Sustainable Food Systems.
- In coordination with the Ginsberg Center, establishing a service-learning program to link students with local, regional and international organizations and/or schools working on changes in the food system.
- In collaboration with the new hires and other faculty members, developing proposals for graduate funding in sustainable food systems (the authors of this proposal already submitted a pre-proposal for the IGERT which was not successful, but which laid the groundwork for other potential proposals. In addition to the NSF-IGERT, we have identified two other programs that could be appropriate, the NIH Graduate Training grant, and the K-12 STEM program from NSF).
- In collaboration with the new hires and other faculty members, developing proposals to fund postdoctoral fellows who will work closely with faculty members on innovative research on Sustainable Food Systems.

This series of activities along with the new research programs and courses taught by the new and current faculty will create an intellectually stimulating environment that will attract high-quality graduate and undergraduate students, as well as national and international attention.

The immediate goal of this cluster-hire proposal is to develop a unique program focused on Sustainable Food Systems, with strong health, environmental, and community components that will direct undergraduate and graduate research and training. The
program will highlight the dynamic linkages among agricultural ecosystems, environmental determinants of sustainability, public health, economic development and equity. The program will teach the skills needed to understand, predict, and manage the outcomes of these interactions. We envision strong interaction with local, national and international organizations working on sustainable food systems. Our ultimate goal is to contribute to the theoretical and practical basis of a health-promoting, sustainable and equitable food system, placing the University of Michigan in the forefront of one of the 21st century’s greatest challenges.

Cluster Hire in Sustainable Food Systems
School of Natural Resources and Environment

Field of Hire:
Sustainable food production is an essential component of sustainable food systems. While the negative environmental impacts of industrial agriculture are already well-documented, we are just beginning to understand how agricultural landscapes and processes can contribute to the conservation of biodiversity, the mitigation of greenhouse gases and other forms of pollution, and towards sustainable food systems.

The position in SNRE will focus broadly on sustainability aspects of the food system with a natural science emphasis. It could include, for example, the conservation and/or function of wildlife in agricultural landscapes, the role of biodiversity on sustainability and resilience of agroecosystems, ecosystem services within agricultural landscapes (e.g., greenhouse gas mitigation or pollination services) the environmental benefits of urban gardens and local food systems, and the links between sustainability and the spatial distribution of agricultural lands. The position description will be broad in order to attract a large pool of candidates. The ideal candidate will have a disciplinary background in ecology, but will be applying it to some aspect related to the sustainability of food systems. Additionally, the candidate will have the interest and ability to work across disciplines and to collaborate with researchers in the areas of landscape architecture, policy, planning, life cycle and integrated assessments, rural sociology, environmental justice, environmental governance, etc. Candidates working primarily on animal production systems (livestock or aquaculture) will also be considered. The geographic focus could be domestic or international.

This position is one of five positions that are intended to broaden and deepen the University’s commitment to research and teaching in the area of sustainable food systems. The position is inherently interdisciplinary. The successful candidate will receive a primary appointment in SNRE, with a dry appointment in the Center of Complex Systems, if appropriate, and will be expected to participate in cross-campus research, engagement opportunities, and other initiatives related to sustainability with other members of the cluster hire housed in the Department of Urban and Regional Planning of TCAUP, the School of Public Health, the Department of Ecology and Evolutionary Biology, and the Ross School of Business. Examples of cross unit collaborations include studies on the health impacts of the diversification of the agricultural landscape (with SPH); study of biodiversity and food security in an urban-rural gradient (with TCAUP); Climate change impacts of the conversion to organic agriculture in the Midwest agricultural landscapes (with EEB and TCAUP). The new hire could benefit from the collaborations with WSU and MSU within the newly formed Michigan Food and Agriculture Working Group.

In SNRE, the new hire could collaborate with faculty in any of the fields of studies (Conservation, Ecology, Landscape Architecture, Sustainable Systems, Environmental
Policy and Planning, Behavior, Education and Communications, and Environmental Justice). However, the primary field of study of the candidate will depend on her/his particular research interest.

Within SNRE, we expect this new hire to teach a graduate-level course that focuses on the main field of study of the candidate and that incorporates aspects of sustainable food systems. We also expect the new hire to develop an undergraduate course for the Program in the Environment. This could be a capstone course or a regular course that could be used for the Sustainable Food Systems Specialization (see rationale). In addition, the new hire will be expected to participate at some level in the graduate interdisciplinary program in Sustainable Food Systems that will be developed by the SFS Interdisciplinary Working Group (see rationale). One possibility is for this person to teach the new student initiated graduate seminar on sustainable food systems. We also expect that these cluster hires will stimulate interest in food systems and will attract graduate students interested in this topic. Therefore, we expect the new hire to advise several masters’ projects on topics related to sustainable food systems in addition to mentoring master’s and PhD students.

Mentoring and Evaluation Plans:
The faculty member will be assigned a mentor from SNRE and two mentors from two of the other participating units. The mentor will meet with the faculty member on a regular basis, including at least one lunch meeting per semester. The mentoring will provide special focus on issues that arise in interdisciplinary collaborations and the unique problems associated with choosing appropriate journals and granting agencies, ensuring proper credit in large research consortia, balancing the various activities of life including but not limited to the units in the collaboration. Having mentors from several units on a single mentoring committee will have the added benefit of educating participating senior faculty about the cultural norms of the other departments. Furthermore, the annual review committee, the third-year review committee, and the tenure committee for each junior faculty in the cluster will contain one faculty member from another of the participating departments. Interdepartmental mentoring and evaluation procedures will be specified in the offer letters to junior faculty in the cluster and in a MOU to be signed by all the participating departments for each junior faculty member. We predict that the new hire in SNRE will be able to publish in a variety of interdisciplinary and high profile journals such as Agriculture, Ecosystems and Environment, Landscape Ecology, Conservation Biology, Complex Systems, Ecology and Society, PNAS, Science, and Nature.

Institutional Collaborations:
Each of the five collaborating units will appoint a senior faculty member to a committee overseeing interdisciplinary activities for the new cluster. This committee (the SFS Interdisciplinary Working Group) will be charged with facilitating interactions (e.g., by coordinating cross-campus seminar series, Michigan Meetings, theme semester, and others listed in the “Rationale” section).

Proposal for Cluster Hire in Sustainable Agriculture

School of Public Health

Field of Hire:
Inequitable health outcomes are among the greatest challenges facing public health today. Economic disparities worldwide, across rural and urban areas, racial and ethnic groups, and geographic regions worldwide, are widely associated with both under-nutrition and obesity, and contribute to a host of chronic conditions (e.g., cardiovascular
disease, diabetes, stroke, dietary cancers) as well as susceptibility to persistent and emerging infections. As populations migrate from rural to urban areas, and both affluence and poverty are increasingly concentrated, ensuring that agricultural institutions and systems support sustainable and equitable production, distribution and consumption of healthy foods is a key challenge. Implications for human health, particularly in disadvantaged populations, are vast and a unique focus of the proposed hire in the SPH.

This position is one of five positions that are intended to broaden and deepen the University’s commitment to research and teaching in the area of sustainable food systems. The position is inherently interdisciplinary bringing together social and physical science perspectives. The successful candidate will receive a primary appointment in the most appropriate department in the School of Public Health (Environmental Health Science, Epidemiology, or Health Behavior and Health Education), and will be expected to participate in cross-campus research, engagement opportunities, and other initiatives related to sustainability with other members of the cluster hire housed in the Department of Urban and Regional Planning of TCAUP, the School of Natural Resources and Environment, the Department of Ecology and Evolutionary Biology, the Department of Political Science and the Ross School of Business. In addition, the successful candidate will be part of initiatives linking Michigan State University and Wayne State University through the University Research Corridor.

Within the School of Public Health, there exist opportunities for collaboration with faculty housed in Environmental Health Science, Epidemiology and Health Behavior and Health Education. For example, faculty within the Department of Environmental Health Science (which includes the Human Nutrition Program), Epidemiology and Health Behavior and Health Education at the School of Public Health (SPH) have active research considering: multi-level determinants and interventions addressing the ‘double burden’ of over- and undernutrition and obesity associated with the epidemiologic transition; the epigenetic regulation by dietary factors on the effects of adverse environmental exposures introduced into the food supply; nutrition and immune function related to respiratory and other infections; risk modeling of relationships between food and industrial production and human health; land use and dietary patterns in urban communities; and community-based participatory research and interventions to promote equitable access to healthy foods, including local and regional organizing and state level policies toward more equitable and sustainable distribution of nutritious food in high poverty urban areas.

There are also rich opportunities for interdisciplinary collaboration for faculty within the Taubman College of Architecture and Urban Planning (TCAUP), building on and extending current collaborations focused on land use and dietary patterns. Interdisciplinary collaborations might engage, for example, community members, urban planners, and faculty in TCAUP and SPH in research examining the health and economic implications of various types of local, sustainable urban food systems and associated urban renewal efforts; the economic and health-promoting potential of urban agriculture; and/or the development of local, state and/or regional policies that promote more equitable access to healthy foods and their implications for promoting health equity. Such efforts will require the identification of candidates with strong disciplinary skills with knowledge of and commitment to interdisciplinary research on food systems as they influence the environment, human health and equity. Faculty hired within the School of Public Health will build on and extend existing efforts within multiple units in the SPH to contribute to the theoretical and practical basis of a health-promoting, sustainable and equitable food system.

Qualified candidates will have research consistent with the position’s emphasis on interdisciplinary solutions to problems of health inequities associated with food production, distribution and consumption systems. Examples of potential areas of research include: community engagement in local, sustainable, food systems (including
growth of urban gardens, farmers markets, buy-local initiatives) and their role in the development of more equitable local economies and health outcomes; implications of food production and distribution policies for health equity and environmental sustainability; health implications of increased community demand for organic, biodiversity-friendly and fair-trade products; health effects of sustainable food production and distribution systems; and the health implications of urban and near-urban rural agriculture through contributions to urban renewal/revitalization, economic development and the reduction of inequitable access to health-promoting foods (e.g., through eradication of urban “food deserts”).

The successful candidate will be expected to teach graduate level courses in their home department tailored to their areas of expertise, and will likely contribute to collaborative courses taught across units involved with this cluster hire. In addition, the development of a cluster of faculty with expertise in sustainable agriculture across multiple units on campus will offer opportunities for the development of training programs that emphasize the integration of agriculture, food production and distribution systems, environmental and social health, including implications for population health.

**Mentoring and Evaluation Plans:**
Each junior faculty member will be assigned a primary mentor from their home department (e.g., EHS, Epid, HBHE) and from two of the other collaborating units that will optimize their independent and collaborative trajectory. This committee will meet with the junior faculty member at least once per semester to discuss their progress towards tenure, with special focus on issues that arise in interdisciplinary collaborations, e.g., deciding on appropriate journals and granting agencies, ensuring proper credit in large research consortia, being spread too thin, etc. The participation of mentors from multiple departments in a single mentoring committee will have the added benefit of educating participating senior faculty about the cultural norms of the other departments. Interdepartmental mentoring and evaluation procedures will be specified in the offer letters to junior faculty in the cluster and in an MOU to be signed by all the participating departments for each junior faculty member.


**Institutional Collaboration:**
Each of the four collaborating units will appoint a senior faculty member to a committee overseeing interdisciplinary activities for the new cluster. This committee will be charged with facilitating interactions (e.g., by coordinating journal club, cross campus seminar series, special symposia). The function of this committee is described in the “Rationale” section.

**Cluster Hire in Sustainable Food Systems**
**Urban & Regional Planning Program, TCAUP**

**Field of Hire:**
Shaping sustainable communities requires translating the broad concept of sustainability into place-appropriate practices, policies, and physical forms. In this context, research increasingly finds that our existing industrial food system produces many undesirable environmental, social, and economic externalities. From an urban and regional planning perspective, fostering a community-based, sustainable food system is an opportunity to
lighten our environmental footprint, reconnect people with their biophysical place, rethink our land use patterns, improve access to nutritional food for all residents, and leverage food production as an avenue for local economic redevelopment efforts. This position would seek a faculty member with expertise in local economic development planning who could frame the food system as a mechanism for reinvestment and community building, particularly in declining urban communities.

Over time, our collective wisdom of what constitutes a sound economic base for our cities and regions has shifted. Thirty years ago, economic development strategies focused on attracting non-local business, primarily manufacturing, to a particular location by offering attractive incentives. Sometimes referred to as ‘smokestack chasing,’ communities aggressively competed with each other to offer valuable incentive packages. However, one problem with this approach was that established local businesses were not eligible for these packages, and sometimes this actually encouraged existing local businesses to move. Another weakness concerned the long-term viability of this strategy. When the incentive packages were finished, many non-local businesses sought to relocate again in an effort to gain new incentive packages from another community.

The second wave of economic development thinking focused on retaining existing firms and encouraging the development of smaller, related businesses in an effort to build a regional cluster of like enterprises. The focus of these businesses was often on high-tech manufacturing. The development of this regional cluster required the confluence of government support, university research, and industrial innovation. This idea underlies the concept of the global city or the ‘technopolis’ However, in successful technopolises, the economic benefits have not been distributed across workers by class. Research has found that increasing economic polarization forms as the gap between high-skill and low-skill jobs widens. Equally problematic is the fact that not all cities are able to build regional clusters, as they may lack the incentive packages, the permissive governmental policies, the university presence, or the existing industrial capacity. Common to both the first and second waves of economic development initiatives was the focus on exporting goods and services beyond the region of creation in an effort to produce economic growth.

The third (and contemporary) wave of economic development thinking focuses on the concept of import substitution. This more recent idea links a community’s long-term economic viability with the development of locally-owned, locally-oriented businesses. From this perspective, businesses target efforts to reduce economic leakage. Economic leakage is the amount of money that leaves a region through the purchase of non-local goods and services. Alternative community-based, sustainable food practices have the potential to increase a region’s economic base by retaining food spending within the local economy.

The consideration of community-based, sustainable food systems is relevant to urban planning. Increasingly, rustbelt cities, such as Detroit, have large areas of vacant land. Also within these cities, economic opportunities for residents are severely limited and affordable access to fresh food absent. As a result of these limitations, Detroit has earned the label of a ‘food desert’. While the diversity of Michigan’s agricultural produce is second only to California’s, Detroit faces tremendous challenges to implementing a community-based, sustainable food system.

Some of the identified shortcomings or barriers to the implementation of these community-based, sustainable food systems include:

• municipal land use regulation and land tenure practices
• insufficient communication and resource sharing among urban agriculture groups,
• regulations surrounding Bridge Cards (state food assistance programs),
• insufficient access to fresh fruits and vegetables in urban areas,
• a lack of local small- and medium-sized food processing facilities,
• food safety regulations,
• food procurement processes by institutions (schools, hospitals, prisons, etc.),
• insufficient economic capital for innovative technologies,
• insufficient human capital for transferring knowledge around traditional agricultural and communal practices
• economic disincentives for agricultural crop and livestock diversification

In urban and regional planning, the position for this cluster hire would be designed to blend the subspecialties of economic development, land use planning and policy (including the ecological aspects of land use planning), infrastructure systems planning, and community development. The ideal candidate would be able to demonstrate working knowledge of and the ability to integrate these various subspecialties, along with an interest in and demonstrated ability to contribute to the body of knowledge on one or more of the community-based, sustainable food systems issues noted above. The ideal candidate will also be able to demonstrate at least the potential—if not actual experience to date—to collaborate productively with researchers from the environmental, ecological, and public health disciplines.

The successful candidate will be expected to teach at least one course within his or her own specialty, at least one course in a core area of the urban and regional planning program (e.g., environmental planning, fiscal management), and at least one synthetic course on sustainable food systems, possibly co-taught with one or more members of the cluster hire from other units. The candidate may also teach a PitE course, depending on the interests and needs of both the candidate and PitE.

Mentoring and Evaluation Plans:
Each junior faculty member will be assigned a primary mentor from the Urban & Regional Planning Program and from two of the other collaborating units that will optimize their independent and collaborative trajectory. This committee will meet with the junior faculty member at least once per semester to discuss their progress towards tenure, with special focus on issues that arise in interdisciplinary collaborations, e.g., deciding on appropriate journals and granting agencies, ensuring proper credit in large research consortia, being spread too thin, etc. The participation of mentors from multiple departments in a single mentoring committee will have the added benefit of educating participating senior faculty about the cultural norms of the other departments. Interdepartmental mentoring and evaluation procedures will be specified in the offer letters to junior faculty in the cluster and in an MOU to be signed by all the participating departments for each junior faculty member.

Due to the interdisciplinary nature of Urban and Regional Planning, a number of top-tier public health journals provide appropriate publication outlets, including: Journal of the American Planning Association, Journal of Planning Education and Research, Journal of Environmental Planning and Management, Environment and Planning, Journal of Rural Studies.

Institutional Collaboration:
Each of the five collaborating units will appoint a senior faculty member to a committee overseeing interdisciplinary activities for the new cluster. This committee will be charged
with facilitating interactions (e.g., by coordinating journal club, cross campus seminar series, special symposia). The function of this committee is described in the "Rationale" section.

Cluster Hire in Sustainable Food Systems

Department of Ecology and Evolutionary Biology, LS&A

Field of Hire: The position in EEB will focus on ecological and/or evolutionary mechanisms influencing the food system, from production to consumption. A variety of research foci in agroecology and food issues could be appropriate for EEB. For example, landscape ecology has long incorporated agroecosystems as important components of large-scale landscape constructions. Or the study of ecological networks in agroecosystems provides potential for both theoretical and practical breakthroughs in ecology. Similarly the global scale ecological processes involved in agroecosystems, from hypoxic oceans to heated climates, require further research with direct relevance to policy decisions. Furthermore, agroecosystems offer opportunities to study evolutionary problems such as the evolution of pest and natural enemy behaviors and the evolution of pesticide and bacterial resistance. Finally, the food system and the agroecosystem provide a rich environment for promotion of the interface between ecology and evolution as evidenced by no other than Charles Darwin. The position is thus naturally defined broadly.

This position is one of five positions that are intended to broaden and deepen the University’s commitment to research and teaching in the area of sustainable food systems, and connect with other Michigan universities with similar goals, specifically Wayne State University and Michigan State University in what is being called the Michigan Food System Corridor. The position is inherently interdisciplinary. The successful candidate will receive a primary appointment in EEB and will be expected to participate in cross-campus research, engagement opportunities, and other initiatives related to sustainability with other members of the cluster hire and senior faculty housed in the Department of Urban and Regional Planning of TCAUP, the School of Public Health, the School of Natural Resources and Environment, The Ross School of Business and the Department of Political Sciences in LSA, as well as with colleagues in participating universities across the state. Examples of cross unit collaborations might include increasing the resilience of agricultural landscapes through diversification (with SNRE); study of the function of microbial diversity in reducing toxic elements in urban gardens (with TCAUP and SPH); climatic impacts of the promotion of organic agriculture in Midwestern agricultural landscapes (with Political Sciences, SNRE and TCAUP); evolutionary and population dynamics of human/animal viral diseases (with SPH).

EEB has an undergraduate concentration (current concentrators = 68) within which the subject matter of this position fits very well. Our concentrators are continually inquiring about the potential applications of basic ecological and evolutionary principles, and the application of those subjects to the agroecosystem will help the department address its stated needs. Such teaching activities will be coordinated with the Program in the Environment and are discussed more fully under the “Rationale” section. Since the focus areas for the position are purposefully broad, it will be difficult to say in advance what undergraduate course or courses we expect the new faculty hire to undertake. However, part of the teaching portfolio of the new hire in EEB will include at least one undergraduate course on a topic related to the food system.

A cluster of faculty working on sustainable food systems across diverse human and environmental systems would provide new opportunities for graduate training, including
the potential for a new interdisciplinary Rackham program that will cut across food, agriculture, health and environmental issues. The new hire in EEB will be expected to be a participant in the Sustainable Food System (SFS) interdisciplinary program and contribute, to the extent appropriate for an assistant professor, to the scholarly activities that the SFS Interdisciplinary Working Group will be developing.

**Mentoring and Evaluation Plans:**
The faculty member will be assigned a mentor from EEB and two mentors from two of the other participating units. The mentoring will follow the standard protocol of the EEB, in which the mentor meets with the faculty member on a regular basis, including at least one lunch meeting per semester. The mentoring will provide special focus on issues that arise in interdisciplinary collaborations and the unique problems associated with choosing appropriate journals and granting agencies, ensuring proper acknowledgment and credit in large research consortia, balancing the various activities of life including but not limited to the units in the collaboration. Having mentors from several units on a single mentoring committee will have the added benefit of educating participating senior faculty about the cultural norms of the other departments. Furthermore, the annual review committee, the third-year review committee, and the tenure committee for each junior faculty in the cluster will contain one faculty member from another of the participating departments. Interdepartmental mentoring and evaluation procedures will be specified in the offer letters to junior faculty in the cluster and in a MOU to be signed by all the participating departments for each junior faculty member. Given the growing interest in food issues and the need to develop sustainable systems we predict that the new hire in EEB will be able to publish in a variety of interdisciplinary and high profile journals such as Agriculture, Ecosystems and Environment, Ecology and Society, Trends in Ecology and Evolution, Science, and Nature.

**Institutional Collaborations:**
Each of the five collaborating units at the U of M will appoint a senior faculty member to a committee overseeing interdisciplinary activities for the new cluster. This committee (the SFS Interdisciplinary Working Group) will be charged with facilitating interactions (e.g., by coordinating cross-campus seminar series, Michigan Meetings, theme semester, and other activities listed in the "Rationale" section), as well as promoting and coordinating activities with the other participating universities across the state.

**Cluster Hire in Sustainable Food Systems**

**Ross School of Business**

**Field of Hire:**
The Ross School is comprised of “areas” (similar to departments), each of which examines different aspects of businesses and other organizations using the lenses of different referent disciplines. Increasingly, though, both the worlds of practice and of academics recognize that complex problems must embrace multi-disciplinary perspectives in dealing with difficult problems; and that multiple organizations must often be the focus of study, not just one. As just one pertinent example, a “food desert” describes a situation determined in part by geography, the presence/absence of grocery stores, transportation infrastructure, consumer knowledge and attitudes towards food, and local economic conditions – to name just a few factors. Addressing this problem might draw upon economics, social psychology, operations and urban planning, in addition to any “food specific” knowledge would come into play.
In this spirit, the Ross School will explore the system-wide relationships that comprise the agricultural value chain leading to sustainable food systems. From planting, through transport, sale, preparation and delivery of agricultural products, it is important to understand an interlocking set of relationships that make each step possible and that support the community of which they are part. From a societal perspective, these relationships should be as inclusive as possible and should be structured to produce the greatest possible economic, social, and environmental value.

The question as to how these relationships are to be developed to achieve these social aims can be approached in different ways. The essence of these differences is the extent to which the relationships among different activities or organizations (or sub-components of an extended network organization) are completely designed at the outset, are emergent (in the sense of a complex adaptive system), or occupy a position somewhere in the middle.

Various areas within the business school address such complex problems in one or more of these ways. These include but are not necessarily limited to: Business Information Technology (which embraces a systems perspective for addressing complex relationships); Operations Management (embracing design); and Strategy (which considers various aspects of competing and complementary organizations). Each of these areas is a potential area of hire.

The individual hired would teach different courses depending on the area to do the hiring. Though it is unlikely that someone trained in business would be expert at issues surrounding food, per se, an appropriate disciplinary background – plus an interest in the underlying question of sustainable food systems – would be suitable background to teach a number of courses taught to students at the undergraduate and graduate levels. These would include both "core courses" required of all students (where the issue of sustainable food systems might comprise an interesting, high contextualized example), doctoral seminars (where these issues could be explored in length and at detail), and possibly graduate or undergraduate level electives.

Mentoring and Evaluation Plans:
Areas with the Ross School adopt processes to ensure that junior faculty members receive feedback about their progress towards achieving promotion and tenure. Typically, annual meetings involving all senior members of an area review assistant professors’ annual reports and their plans covering the next several years. These provide a basis for determining whether junior members are “on track,” and provide a substantive means for making timely suggestions when progress towards promotion and/or tenure is less than satisfactory. Mentoring typically takes the form of research collaborations and assistance with and feedback about teaching.

Institutional Collaborations:
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