ATTACHMENT 3

Part IV: Narrative Description of Activities

Table of Contents

Context and Justification
1. Bioregional Workbench (BRWB).................................3
3. Leadership Development, Civic Science and Social Learning......8
4. Globalizing Scholarship of Engagement for Healthy, Just and Rooted Communities.........................11
Context and Justification

The 21st century’s mounting social, economic and ecological problems are pressuring universities worldwide to do more civically-engaged applied research. As a result, there is rising demand for scholarship of engagement including action research focused on civic concerns. Action Research is a collaborative, evidence-based method of co-producing, sharing, and using new knowledge through mutually beneficial relationships. The Global ARC encourages community-based action research that is globally-minded, use-inspired, problem-solving and solutions-oriented. We bring together diverse people and organizations with common cause to improve quality of life and place—especially where harsh realities of poverty, environmental degradation, unemployment and social injustice loom large.

The time is now for articulating actionable visions of alternative development that can inspire imaginative solutions and motivate innovative social transformation. The perfect storm is upon us with multiple stressors colliding locally, regionally and worldwide. Increasingly complex problems such as climate change, peak oil, peak fresh water, urban infrastructure deficits, public health epidemics, and socio-economic stresses are combining in new and troublesome ways. In the midst of newly emerging cumulative risks and epic societal changes, many civically-engaged researchers and educators are struggling to become more effective at equitably linking their knowledge to action. Bioregionalism can help; it is a fruitful way to frame civically-engaged action research in the quest to improve quality of life and place. The Global ARC’s activities—as described in this narrative—help couple knowledge to action for public benefit through just and sustainable place-making (i.e., the creation of healthy, bioregionally rooted communities).

The theory and practice of bioregionalism became popular among advocates of alternative development during the 1960s and 1970s. But much of this work has roots in ecological regionalism going back to the late-19th century in Europe and early-20th century in the USA when the Great Depression and New Deal were happening. The first generation of bioregionalists: (a) expressed dissatisfaction with Euro-centric and North American conceptions of industrial modernism, and (b) advocated delinking from the global economy in favor of local self-reliance in rural settings. We created The Global ARC to address the need for a new critical bioregionalism suited to the 21st century. Bioregionalism becomes “critical” when it aims to eradicate root causes of poverty, social injustice and environmental degradation while taking into account the world’s increasingly globalized flows of material, energy and knowledge resources. The Global ARC’s bioregional framework: (a) recognizes the promise and perils of the 21st century’s global socio-economic and ecological interdependencies, and (b) advocates globally-minded localization—i.e., meeting community needs for food, water, energy, habitat and livelihood through local, place-based development. We view place-based concepts like bioregion, foodshed, and watershed as increasingly pivotal in economic and community development.

The Global ARC’s activities are grouped into four mutually reinforcing programs: (1) The Bioregional Workbench, (2) The Action Research Challenges (ARC) Web Portal, (3) Leadership development, Civic Science and Social Learning, and (4) Globalizing Scholarship of Engagement for Healthy, Just and Rooted Communities. Together these activities aim to inspire, enable, and cultivate bioregional research, education, planning and development for the common good. Roughly speaking, The Global ARC dedicates an equal amount of time to each program (25% x 4 = 100%). The last page of this narrative has a one-page summary (schematic) of these four activity sets in the form of a logic model.
1. Bioregional Workbench (BRWB)

The Bioregional Workbench (BRWB), currently in an early stage of development, is envisioned as an online resource that will provide community-based organizations and civically-engaged action researchers with planning and decision support tools, asset maps (e.g., of vacant lots for possible use as community gardens), and new multimedia technologies for visualization and knowledge integration. We intend to win grants and foundation funding to build this system. Keith Pezzoli, the Global ARC’s CEO will lead the effort with input from the Board. A beta version of the BRWB is now up and running (see Attachment 8: Bioregional Workbench, p. 1).

We created the BRWB almost entirely with volunteer effort, including technical help from university colleagues who run a nonprofit organization called Community Commons. We plan to develop the system mainly from competitive grant funds and donations, and thus envision it as an open access resource freely available to anyone who wants to use it (Wikipedia works in this way). Our initial geographic focus is the San Diego-Tijuana city-region and hinterland. If demand for the BRWB increases (as we hope), then we may seek fees for service when organizations ask for tailor-made modifications or special workshops. Such fees would be scaled on a cost recovery basis—thereby adding to a revenue stream necessary to continually improve and sustain this type of open access cyber cyberinfrastructure.

The people needed to build the Bioregional Workbench are already collaborating. The founding director and CEO of the Global ARC has worked for over a decade with scientists at the San Diego Supercomputer Center, and more recently with San Diego based nonprofit called Community Commons. The Global ARC and Community Commons share similar missions. Community Commons is dedicated to web-based information collection and dissemination about impacts of global environmental change on local community health, with particular focus on climate change, water availability and water quality. Like The Global ARC, Community Commons also creates and promotes partnerships that involve university researchers, decision makers and community organizations, to integrate advanced research into local decision-making and public action.

Once we achieve our 501(c)3 tax exempt status, our Global ARC will partner with Community Commons and other organizations (including university-based research units and experiential learning programs) to seek grants from the National Science Foundation (NSF), the National Institute for Environmental Health Sciences (NIEHS), and other sources including donations. Though our Global ARC is new, those of
us launching the ARC have a long and successful track record winning major scientific grants—including $750,000 to build a web portal with bioregionally-scaled mapping and spatial analysis for recovery efforts in the devastating wake of Hurricanes Katrina and Rita along the Gulf Coast (see Attachment 7: Publications, pages 43-51).

The Global ARC’s CEO (Pezzoli), in his day job as a university professor, is the principal investigator of the “Community Engagement Core” and “Research Translation Core” of a newly funded multi-million dollar, five year, Superfund Research grant (2012-2017). This Superfund grant, funded by the National Institute of Environmental Health Sciences (NIEHS), does not provide funds for The Global ARC. The university and The Global ARC are distinct and independent entities. However, much of the networking Pezzoli does to meet the specific aims of his university grant helps put wind in The Global ARC’s sails (see Attachment 7: Publications, pages 24-32). Pezzoli’s university grant has aims geared to integrating social, natural, and life science perspectives while providing health education outreach to poor and vulnerable communities who are negatively impacted by hazardous substances. This includes some bioregional workbench type mapping of toxicant flows and exposures along the US-Mexico border.

Significant shifts are taking place in the funding and culture of science and technology. The NIEHS Superfund grant noted above now requires a Community Engagement Core—it used to be recommended only, now community engagement must be included as an integral component of the otherwise basic science only program. Likewise the National Science Foundation (NSF) has been placing greater emphasis on “merit to society” when scoring research proposals competing for their funds. These new demands motivate research universities to transition away from being an isolated ivory tower toward becoming a more inclusive, community-engaged ivory bridge. But it’s not an easy transition, for many reasons. The Global ARC’s raison d’être is to facilitate this shift by making it less difficult to build fruitful community-university relationships in more equitable, meaningful, rewarding and impactful ways.

How will building a Bioregional Workbench further our exempt purposes? The specific purposes for which The Global ARC is organized are to develop a center and associated programs that will provide knowledge and educational resources to community-based organizations engaged in efforts to foster sustainable and healthy bioregional development. Section 1.501(c)(3)-1(d)(2) of the Income Tax Regulations states that the term “charitable” is used in section 501(c)(3) of the Code in its generally accepted legal sense and includes the advancement of education. Section 1.501(c)(3)-1(d)(3)(i)(a) of the regulations states that the term educational, as used in IRC 501(c)(3), relates to the instruction or training of the individual for the purpose of improving or developing his capabilities or the instruction of the public on subjects useful to the individual and beneficial to the community. The Bioregional Workbench furthers this purpose by providing community-based organizations with tools to gain an area-wide (bioregional) perspective of their project activities. Such perspective is empowering when it enables an organization to visualize the scope of their work against various social, economic and ecological contexts (what geographic information scientists call “layers”). How we do this is best illustrated with an example of a project now underway.

With the help of 136 volunteers from two universities and a range of nonprofit organizations, The Global ARC is currently leading a massive survey of all the vacant lots in Southeast San Diego. The area is composed of 20 mostly low income neighborhoods referred to collectively as Southeastern San Diego. There is a total of 591 vacant lots in this area; and we are surveying all of them. Using criteria developed
by another nonprofit organization called Victory Gardens; we are evaluating each vacant lot’s potential (suitability) as potential sites for community gardens. Project New Village, one of our community partners, asked us to do this survey. Project New Village (PNV) is a California non-profit corporation and a 501(c)3 tax exempt charity. PNV’s has a number of programs that promote community well-being in Southeastern San Diego. The Global ARC is doing the survey as a contribution to PNV’s flagship initiative: The People’s Produce Project. The People’s Produce Project is a grassroots neighborhood-based initiative that concentrates on food as a way to re-energize and re-connect people to their neighborhoods, explore opportunities to address food security, engender a culture of environmental stewardship, and create good green jobs. Much of PNV’s effort centers on promoting urban agriculture; herein lies where the Bioregional Workbench plays a significant role.

PNV is in the process of transforming two vacant lots into community gardens. They want to scale up this effort given how Southeastern San Diego is known as “food desert”—that is, a place where public access to affordable fresh fruits, vegetable and healthy food outlets is very limited. PNV approaches the challenge of promoting urban agriculture as a food justice issue, as well as an economic, environmental, and quality of life issue. But they lack the capacity to gain an area wide perspective of the land assets in their 20 neighborhoods. This is what the Bioregional Workbench provides—a way to do asset-based mapping and data visualization in support of the communities strategic vision.

Recently The Global ARC gave a PowerPoint presentation to the PNV subcommittee focused on this effort (see Attachment 8: Bioregional Workbench, pp. 4-19). From the survey results, we identified dozens of vacant lots that are very good candidates for transformation into community gardens. Many of these vacant lots are eye sores that attract illegal dumping and disposal of hazardous wastes. We’ve found several landholders who are eager to work with the community in transforming their lots. One of the most suitable vacant lots is now being transformed into a community garden with the landowners enthusiastic participation. As good as all of this is, it’s not the main value of the Bioregional Workbench.

The main value of the BRWB, and what we intend to improve upon over the coming years, is the way the BRWB provides a larger regional-scale frame of reference. The regional scale is increasingly crucial in a world where problems associated with globalization have people thinking creatively about the prospects of localization. A growing number of communities are trying to establish local ways and means (i.e., localization strategies) to help solve some collective problems (e.g., unemployment, the obesity epidemic, environmental degradation, lack of psycho-social rootedness in our own communities/landscapes). PNV is keen to suggest how urban agriculture can stimulate community economic development, health and wellbeing while also resolving some of Southeastern San Diego’s serious watershed pollution problems.

The BRWB enables an area wide view of the 591 vacant lots against a view of Southeastern San Diego’s Pueblo watershed thereby enabling connections to be made linking food and water in ways that until now has been dealt with separately. The layered nature of a geographic information system like the BRWB enables users to integrate all sorts of info about a particular landscape (e.g., land use history, biology, hydrology, ethnic diversity, income levels, health indicators, etc.). This makes new forms of integrated health impact assessments and many other types of integrated analysis possible. The Global ARC will dedicate roughly 25% of its time to building and scaling up the BRWB. Eventually we’d like to see other city-regions nationwide—and worldwide—take advantage of and participate in the improvement of this tool. We say more on this point in the last section of this narrative (re
globalizing scholarship of engagement). Now we turn to the second major activity set that likewise will consume roughly 25% of the Global ARC’s time and energy dedicated to tax exempt purposes.

2. The Action Research Challenges (ARC) Web Portal

Mostly on volunteer labor from faculty, students, information technology experts, and community leaders from diverse organizations (both urban and rural), The Global ARC built an operational beta version of what we call the Action Research Challenges Database (ARC). This is different form the Bioregional Workbench. The BRWB is a tool for mapping, spatial analysis and visualization. ARC is an online social networking portal that enables community-based organizations to register their priorities for problem-solving and solutions-oriented action research. ARC enables those who use it to collectively pool/share stories, lessons learned and research-based evidence for social innovation and public benefit. The long term goal is build a relational “Connect the Dots” service (and “knowledge commons”) that will be useful to diverse communities, universities, and other organizations who are struggling to integrate otherwise fragmented efforts in the quest for justice, environmental public health and good jobs. Meeting this objective will take considerable resources, for which we will seek grants and donations.

How will the ARC database further our exempt purposes? Both the Bioregional Workbench and ARC database are web-based resources that reinforce The Global ARC’s core mission: to help community-based organizations, civically-engaged researchers (university faculty and students) and other public as well as private sector entities collaborate with one another more effectively for public benefit. Like the BRWB, the ARC database is designed for exempt purposes to help eradicate root causes of poverty, environmental degradation and unhealthy living conditions by inspiring, enabling and cultivating healthy bioregional development—including local, place-based strategies (like urban agriculture and the greening of infrastructure) that can sustainably and justly meet community needs for food, water, energy, habitat and livelihood.

The ARC is designed to provide a participatory platform for urban and rural communities to shape the agendas, processes and outcomes of action research for good bioregional development. Community-based organizations are invited to upload into the database via a web interface their priority needs for
evidence-based knowledge, evaluation, assessment and monitoring. This provides civic-minded faculty, students and others a way to identify local priorities and connect with community partners. Here is one example for illustrative purposes; it is the kind of outcome we hope to achieve and scale up as time goes on.

Sean Kriletich is a community-based contributor, user and beneficiary of the Global ARC’s support network and ARC database. Sean is the founder and director of Manzanita Ridge, a research and education community center and small farm in the rural Sierra Nevada foothills of California. He posted an entry into ARC. It calls for research involving his efforts to enable bioregional development using local resources to produce food and other ag products. Sean’s Manzanita Ridge community center is in one of California poorest rural counties (Amador); he does not have access there to local university resources. His new connection to university researchers via The Global ARC has paid off:

- Sean’s work, broadcast on the Global ARC, has drawn the attention of scholars eager to connect urban and rural challenges in the struggle for bioregional sustainability. On this topic, Sean recently co-authored a publication with the Global ARC director and another planning scholar (see Attachment 7: Publications, pp. 33-36).
- Sean’s post in ARC got him invited to a major university-community convergence (run by the Global ARC) involving food justice (see Attachment 10: Convergence and Communication, pp. 22-26)
- Most importantly, Sean has leveraged his Global ARC exposure to good effect. His rural development initiatives (including a public radio station) are gaining strength. He’s used the Global ARC’s multimedia (Vimeo, Flickr, YouTube, Blogging, Facebook) and intellectual capital to amplify the voice of his organization (see Attachment 6: The Global ARC Website, pp. 5-7).

Not all community-based organizations have the time or skill to articulate exactly what kind of needs they may have that are “action researchable.” But that is one of the functions we’ll provide as a center. That is, we will develop methods, templates, and process models to help community-based organizations articulate what it is they need to know. We aim to energize this process with a variety of methods: publications, blogs, video, photos, forums, educational outreach, radio, news media, workshops in the field, and social media including Facebook, Vimeo, YouTube and Twitter. (See Attachment 6, Global ARC Website). To fund this work we will seek a mix of revenue sources: (1) Universities willing to help fund an action research network designed to make scholarship of engagement easier and more rewarding for their faculty and students; (2) Foundations seeking intelligent ways to target their philanthropy; (3) Government and Business organizations that have a need for evidence-based knowledge from a trusted source; and (4) Fee-based contributions from those using our Bioregional Workbench (BRWB) in ways that demand special attention, as noted in the previous section, (5) grants; and (6) donations.

Right now the ARC database has eight areas of concentration that we’ve deemed essential to a bioregional framework: food, water, land, energy, built environment, economy, communications and human-social development. The challenge we’ve set for our center is how to enable greater synergies across these areas of concentration by supporting civic science and capacity building for community leadership and social learning. The Global ARC will spend roughly 25% of its time developing programs under the heading “Leadership development, civic science and social learning”
3. Leadership development, civic science and social learning

“Although scientist and nonscientist alike can marvel at the power of our knowledge in science and technology, it is the intersection of this knowledge with the goals and needs of society that is our larger responsibility. Understanding this crossroads of knowledge and needs and then acting on behalf of society will present our most challenging task.” The author of this quote, Neal Lane, a former director of the National Science Foundation and science adviser to President Clinton, defines the 'civic scientist' as "someone who uses his or her knowledge, accomplishments and skills to help bridge the gap between science and society" (http://www.aaas.org/spp/yearbook/chap22.htm). Such a skill has to be learned, yet it is seldom taught. The Global ARC is developing programs to encourage civic science (what we refer to more broadly as engaged scholarship) through leadership development and social learning.

Four of The Global ARC’s directors teach at esteemed research universities and/or professional schools. All of us are dedicated to community-based action research and scholarship of engagement. And all of us see the significant barriers in place that make it difficult to do this type of type of civicly-engaged research, science communication, and scholarship for public benefit. The four university professors on The Global ARC's board (representing urban and regional planning, sociology, landscape architecture, and sustainable community development) are joined by one non-academic board member with a quarter century of experience in human relations, group leadership and organizational development; and another non-academic board member with expertise in social enterprise, nonprofits and community-based development. This combination of talent brings together intelligence, ethical integrity and entrepreneurial savvy. In our collective wisdom we understand the need to create new hybrid institutional forms capable of better linking universities and communities for public benefit. The status quo is not working very well. This reality motivated us to create The Global ARC.

Building the ARC database (in essence a knowledge commons designed to support science communication and the work of community-based knowledge-action collaboratives) is central to our tax exempt purposes. The ARC, we hope, will become valuable infrastructure for dealing with our complex 21st century problems. The Global ARC, a hybrid organization comfortable with one foot in the academy and one foot in the community, aims to fully exploit the power of information and communications technology (what the first two sections of this narrative emphasized). But we also intend to concentrate on human and social development—thereby dedicating roughly 25% of The Global ARC’s time to amplifying what we call the power of convergence (i.e., the positive energy –civic empowerment and
social innovation—that can be generated by challenging people and organizations of diverse backgrounds and viewpoints to participate in knowledge-action collaboratives. The National Research Council made the term knowledge-action collaborative popular in its report Our Common Journey: A Transition Toward Sustainability (1999). K-A collaboration refers to a form of inquiry (action research) that puts a premium on: (1) bridging silos in the academy by getting diverse epistemic cultures—e.g., biology, engineering, economics, the social science and humanities—communicating with one another, and (2) bridging knowledge producers and knowledge consumers through mutually beneficial civic engagement. This all sounds great, but its not easy to do for many reasons. The Global ARC’s focus on focus on Civic Science, community leadership and social learning aims to improve the prospects for knowledge-action collaboratives.

Social development (or social change) can be thought of as human learning and how that learning is applied socially. Learning expands our consciousness and the process of application enhances social organization and social change. Human development is thought of here as a function of human awareness, aspirations, attitudes and values. Together we understand this as ‘Learn, apply, change and grow into a world that is sustainable, just and healthy.’

The Global ARC has an interest in the process of discovery AND the process of application. The Global ARC has an interest as well in how to best educate, motivate, inspire all citizens to live life in a sustainable, just and healthy way. Creating partnerships between researchers/universities/institutes and community organizations towards the goal of a good, just and sustainable world is imbedded in the mission of The Global Action Research Center. An aim of The Global ARC is to bring the best research and best practices together into the hands of the ‘doers’ as quickly as possible with the research and best practice necessary to organize and excel with excellence. Funds to generate the following activities will be generated in three ways: Grants, Donations and Fee for Service.

Networking Events: Bring together leaders of community organizations and research institutions (professors, scientists, students) to share best practice and to identify action research needs (for several examples of programs The Global ARC has hosted along such lines, see Attachment 10: Convergence and Communication). These events are one day or weekend events. These events will take place on campus and/or in the community. Facilitators will be students or volunteers from the university or community leaders interested in promoting an awareness of their organization(s). These networking events will be funded with grants or a combination of grants and registration fees. For example if we create a partnership between a university and a community garden and we, The Global ARC, provide food or booths we may ask for either a registration fee or a donation.

Leadership Groups: Global ARC Roundtable Groups for Leaders. These groups are on going and are meant for leaders/primary decision makers of organizations (for profit and non profit) that target one of the 8 categories of focus for The Global ARC. Funding can happen in three ways: The organization joining the leadership group can tap their own funding source if budgeted for education and leadership development; grants or donations given to The Global ARC for this purpose and finally the individual leader may choose to self fund for his/her group participation. The goal of this monthly group is better leaders, decisions and results for the organizations represented. Sustainability Issues, leadership issues and organizational issues will be vetted and solutions suggested. These groups will be led by trained facilitators and there is an expectation that fees will be paid to The Global ARC for facilitation.
Internship-leadership training Groups: There is a deficit in leadership training for many of the undergraduate and graduate students studying in all areas of the sustainability sciences. The Global ARC has a model for in depth leadership training and education for students (and graduates) interested in being leaders and community organizers toward the goal of making the world a sustainable and healthy place. We expect grants to fund these programs and training groups. For examples of how The Global ARC has added value to undergraduate education and experiential learning (see Attachment 9: The Global ARC in University Curriculum).

Meetings and trainings will occur twice per month on a semester schedule to accommodate students’ needs. The participants will be recruited from within the university as well as from community organizations. Folks will come together to share best practices, research needs and challenges in their specific organizations with a focus on public speaking, presentation skill building and knowledge sharing. Eventually we expect the students to become leaders of these intern groups as well as leaders of the Roundtable Groups!

How will this emphasis on civic science, leadership development and social learning further our exempt purposes? Section 1.501 ( C) (3)-1(d)(3)(ii)(a) of the regulations states that the term educational, as used in IRC 501(c)(3), relates to the instruction or training of the individual for the purpose of improving or developing his capacities or the instruction of the public on subjects useful to the individual and beneficial to the community. Example 2 in Section 1.501(c)(3)-1(d)(3)(ii) of the regulations, makes it clear that “An organization whose activities consist of presenting public discussion groups, forums, panels, lectures, or other similar programs,” is educational. Providing university students with opportunities to work in teams and do action research stimulates their intellectual growth and social intelligence. Positive outcomes for undergraduate students include improved critical thinking skills, increased knowledge about research design and implementation, a greater understanding of the challenges and rewards of working in underserved communities, and feelings of productivity associated with contributing to projects that lead to tangible improvements at the community level.

Experiential learning in the form of practicums, service-learning, and action-oriented research are highly valued by students. Students appreciate the opportunity to combine theory and practice in environments that facilitate skill building while at the same time bringing value to the target communities. Courses that offer these opportunities are popular, but they require a significant dedication of faculty resources. Faculty members who teach these courses often invest much more time than they would if they were teaching a traditional lecture-based course.

Higher education institutions that are dedicated to offering experiential learning opportunities will need to develop models to reconcile student demand with faculty resources. In the complex and competitive world of the 21st century, experiential learning will increasingly be viewed as a necessity, and it is incumbent upon our leaders of higher education to provide the infrastructure and resources to support such endeavors. The Global ARC aims to facilitate the development of this kind of civic science, infrastructure and social learning. Global-mindedness is key. The global dimensions of life in the 21st century are omnipresent.
4. Globalizing Scholarship of Engagement for Healthy, Just and Rooted Communities.

Global-mindedness is not an option these days; it’s an outlook essential to understanding the modern world. The Global ARC engages this point on two levels: (1) seeking clarity on how global mega-trends are impacting prospects for development; and (2) inventing new ways to link up creative sustainability solutions globally via emergent global networks among university based planning schools. The Global ARC dedicates roughly 25% of its time to this effort.

The Global ARC has been playing a significant role in efforts to make the academic discipline of planning (especially civicly-engaged planning research) more visible and impactful on the world stage. The magnitude of rapid urbanization on a planetary scale under conditions of poverty has thrust urban problems into the scientific spotlight. A recent issue of Science (Vol 319, 8 February 2008) focused on “Cities.” Topics in the special issue include global change and the ecology of cities.

<table>
<thead>
<tr>
<th>Global Topic</th>
<th>Transborder impacts and concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate Change</td>
<td>• Impacts on precipitation and the supply/distribution of fresh water&lt;br&gt;• Impacts on sea level rise and the frequency/magnitude of extreme weather events</td>
</tr>
<tr>
<td>Energy</td>
<td>• Unpredictability and volatility in global energy supplies and markets&lt;br&gt;• Inter-city and international cooperation in energy supply systems and management of energy impacts</td>
</tr>
<tr>
<td>Pollution</td>
<td>• Transnational/transborder pollution caused by acid rain, fires, dust clouds from changes in agricultural practices, urban-industrial emissions, warfare, and flows of hazardous wastes (including e-waste from ICT)</td>
</tr>
<tr>
<td>Natural Capital and Environmental Services</td>
<td>• Degradation of planetary ecosystems that provide sources and sinks for human activity&lt;br&gt;• Risks and economic costs associated with invasive species and loss of biodiversity worldwide</td>
</tr>
<tr>
<td>Economy</td>
<td>• Hyper-mobility of capital and shifting patterns of investment and disinvestment&lt;br&gt;• Local economic development where cities are dependent on regions and nations&lt;br&gt;• Effects of international trade on producers and consumers around the world</td>
</tr>
<tr>
<td>Disease</td>
<td>• Globalization of disease vectors through international air travel and shipping that co-mingles flows of people, animals, plants and other organisms worldwide. This raises concerns about possible new pandemics, and the spread of wicked maladies including malaria, Human Immunodeficiency Virus (HIV), avian influenza virus, Bovine Spongiform Encephalopathy (BSE, aka mad cow disease), and other public health threats that have spread globally</td>
</tr>
<tr>
<td>Disasters</td>
<td>• Large-scale natural disasters (earthquakes, tsunamis, volcanic eruptions, hurricanes, floods) and the need for defensive expenditures. Changing patterns of human settlement and poverty greatly exacerbate the impacts of catastrophic disasters.</td>
</tr>
<tr>
<td>Agriculture</td>
<td>• Stress on global agri-business and concerns about the globalization of genetically modified crops</td>
</tr>
<tr>
<td>Migration</td>
<td>• Transnational human migration and multicultural, political, and economic challenges</td>
</tr>
<tr>
<td>Knowledge Commons</td>
<td>• Globalization of knowledge production, distribution and consumption with mounting tension between: (1) open access to global knowledge commons, and (2) enclosure of the global commons by privatization.</td>
</tr>
</tbody>
</table>

Examples of mega-scale and global changes relevant to urban and regional planning

The Global ARC table above lists major concerns (see Attachment 7: Publications, pp. 33-36).
The Global ARC is mindful of these dynamics and the need to take them into account when planning at the local and regional level. The Global ARC concentrates on the local level while bridging local efforts across diverse boundaries thru intra-regional, inter-regional and global networking.

The Global Planning Educators Interest Group (GPEIG) is one of the Global ARC’s partners. The Global ARC-GPEIG relationship was established by a unanimous vote of those who participated in GPEIG’s business meeting held at the 2010 annual meeting of the Association of Collegiate Schools of Planning (ACSP). The ACSP is a North American consortium of university-based programs offering credentials in urban and regional planning. As an interest group within the ACSP, GPEIG’s mission is to enable planners to:

Work together as planning educators and students to create, integrate and share global perspectives in planning education and research; Foster an understanding of the global perspectives in planning education and research; and Foster an understanding of the global context of local and regional issues; an appreciation of and respect for cultural, economic, and political dimensions of planning; and the recognition of the rich array of planning processes that can be fully appreciated only by learning about what is being done in other countries (GPEIG Mission Statement: www.gpeig.org).

The Global ARC currently maintains GPEIG’s web site. GPEIG is part of the ACSP. ACSP member school programs and faculty collaborate to express their shared commitments to understanding the dynamics of urban and regional development, enhancing planning practices, and improving the education of both novice and experienced planners. The Global ARC participates in the Global Planning Education Association Network (GPEAN). GPEAN is a worldwide network of national and multi-national associations of university level planning programs and schools in urban and regional planning. GPEAN facilitates international communication on equal terms amongst university planning communities worldwide in order to improve the quality and visibility of planning pedagogy, research and practice, and to promote ethical, sustainable, multi-cultural, gender-sensitive, participatory planning.

The Global ARC organized and hosted a series of roundtables and panels in Perth, Western Australia this past summer, at the 3rd World Planning Schools Congress (WPSC). The Global ARC plans to spend roughly 25% of its time engaged in this kind of activity (i.e., globalizing planning scholarship and civically-engaged research). The 2011 WPSC in Perth, Western Australia was the third WPSC event to be held in a decade. It joined the ranks of the successful 2001 and 2006 Congresses held in Shanghai and Mexico City respectively. The Global ARC’s CEO participated in all three Congresses as a leader (serving as a chair of the Congress’s international and crossborder planning track). The 2011 WPSC included approximately 500 participants from 68 countries. The World Congress is an initiative of the Global Planning Education Association Network (GPEAN). GPEAN is the leading international convener of urban planning educators and university sector researchers. GPEAN is a global network linking nine regional associations of planning schools worldwide.

The Global ARC organized and led roundtable and panel discussions at the 2011 World Planning Schools Congress. We focused both discussions on how planners and allied partners are collaborating across nations, city-regions and global networks. The roundtable focused on Grand Challenges in Global Planning and Engaged Scholarship: Linking Diverse Networks, Sustaining Collaborative Infrastructure, and Creating Transdisciplinary Knowledge Commons (see Attachment 11: Globalizing Scholarship of Engagement, pp. 1-6).
How does this activity advance The Global ARC’s tax exempt purpose? The Global ARC pulled the WPCS roundtable together with colleagues from the African Association of Planning Schools (AAPS) to: (1) Explore the possibility of crafting a set of grand challenges around which to inspire, mobilize and scale up promising initiatives in global planning and networking; (2) Identify barriers and bridges to linking global planning networks (in research, education and practice) with kindred networks mobilized by civil society, government, allied professions and international scientific communities; and (3) Begin a discussion about the kinds of infrastructure and knowledge commons we need to sustain/amplify the benefits of global planning and networking. Food justice, water sustainability, renewable energy, affordable housing, and an informal economy that creates healthy livelihood opportunities were all deemed worthy of grand challenge status.

Very much in sync with The Global ARC’s tax exempt purpose, the Roundtable concentrated on the promise and challenges of co-joining educational and civil society networks. For planning students, experiential learning in informal settlements and with informal workers can shift sensitivity to these contexts more effectively than classroom-based teaching on its own. Along such lines, the Association of African Planning Schools (AAPS) recently signed a Memorandum of Understanding (MoU) with Slum Dwellers International (SDI). SDI is present in 33 countries in Africa, Asia, and Latin America. The MoU establishes a working relationship between African planning schools and SDI with the intent to promote initiatives, plans and policies which encourage pro-poor and inclusive development of African cities and towns. This effort has the potential to inspire other linkages—for instance, connecting scholarly planning networks active in the global south with WIEGO—Women in Informal Employment: Globalizing and Organizing. WIEGO is a global research-policy network that seeks to improve the status of the working poor, especially women, in the informal economy. The Global ARC is in contact with all of these organizations. Eventually we hope to make the Bioregional Workbench, ARC database, and our process models for Civic Science and community-based action research methods available thru these global networks.

Another way The Global ARC will develop its global reach it to do what we call Journeys of the Global ARC. We did our second Journey in Perth during the World Planning Schools Congress this past summer. Journeys of the Global ARC are field research and learning expeditions that focus on sustainability solutions in varying regions of the world. From the field, the Journeys draw attention to promising community-based initiatives to improve quality of life, health and place through the power of science, multimedia storytelling and social networking technologies. Our first Journey of The Global ARC took place in 2010; it focused on water, food and transportation. Journey 2010 participants traveled by bicycle and biodiesel bus from Canada to Mexico over a two month period, documenting 35 best practices in sustainability along the way (see Attachment 11: Globalizing Scholarship of Engagement, pp. 7-20). Journeys are one way in which The Global ARC has attracted members.

The Global ARC now has 160 registered members—though we use this term loosely. Members do not pay dues; nor do they have any kind of voting rights with respect to The Global ARC’s governance. Over the next 5 years we hope to increase our global membership from 160 to 10,000 participants. We intend to use a sister-bioregion approach to scale up and replicate our efforts. The idea is to catalyze bioregionally-focused action research agendas that help improve quality of life and habitat in particular places (starting with San Diego-Tijuana). Over time, we will federate bioregional collaboratives globally. As the USA’s National Research Council has pointed out the “city-region” is an important scale for making knowledge-action, local-global linkages. The Global ARC will replicate regional nodes—creating a
global sister-bioregion network—using a culturally sensitive and flexible process models to be shaped through learn-by-doing. We will build comparative evidence-based evaluation into the heart of this global networking process.

The Global ARC’s home base in San Diego, California puts us right on border with Mexico. Our location at the dynamic interface adjoining Mexico and the USA gives The Global ARC a living laboratory right in its own backyard. We don’t have to go far to globalize scholarship of engagement aimed at fostering healthy, just and rooted communities. The US-Mexico border provides a microcosm of the challenges faced on larger scales when global agencies try to get wealthy nations working collaboratively with less wealthy nations. The huge wealth differential between San Diego and Tijuana presents both opportunities and constraints.

The San Diego-Tijuana sister city metropolis spanning the border is characterized by rapid urbanization under conditions of social and ecological stress. There are serious weaknesses in the available knowledge, institutional capacity, communications and visualization infrastructure necessary to cope with and ameliorate the border region’s mounting environmental public health hazards and risks. Complicating matters is the fact that the San Diego-Tijuana crossborder metropolis is bisected by an international border that not only divides the two countries politically; it also divides a shared watershed and other vital ecosystem assets (e.g., wetlands and coastal resources). The economic crisis impacting all sectors of society in the border region ramps up the need for a robust civil society (empowered community groups and networks) that can effectively partner with universities and other stakeholders to produce use-inspired, problem-solving research.

By promoting civic science and action research linking major universities on both sides of the US-Mexico border, The Global ARC aims to help find common ground in struggles to improve quality of life and place. We don’t pretend to have all the answers; rather we aim to be a transparent, trusted resource to help diverse organizations begin asking the right questions. To the extent that we have guiding principles they can be summed up under the heading of critical bioregionalism. As noted at the outset of this narrative, bioregionalism becomes “critical” when it aims to eradicate root causes of poverty, social injustice and environmental degradation while taking into account the world’s increasingly globalized flows of material, energy and knowledge resources. Bioregionalism favors agropolitan as opposed to strictly urban-centric metropolitan development. Agropolitan development: (1) favors localism (i.e., an endogenous, yet globally-minded, approach to job creation, resource use, and rooted community development), (2) values healthy rural development and wildlands in relation to the urban and metro, (3) integrates nature and the city physically and ethically such that life and livelihood are meaningfully reconnected to the land and watersheds of one’s bioregion; and (4) creates new approaches to sustainable placemaking in light of widespread ecosystem degradation, climate change and other risks associated with human activities on a planetary scale. Moving on an agenda like this requires many diverse contributors willing and able to work together. The age old adage: it takes a village, is perhaps more resonate now than ever as the benefits of creating rooted communities with a robust civil sector becomes clearer.

The Global ARC works with many diverse organizations. In addition to scores of community-based organizations (Project New Village, Victory Gardens, Casa Familiar, Alter Terra), we also have good working relations with the following University of California, San Diego departments and programs: Urban Studies and Planning, Center on Global Justice, Center for Urban Ecologies, Sustainability
Solutions Institute, Center for Community Well-being, San Diego Supercomputer Center, and the California Institute for Telecommunications and Information Technology -- a partnership with over 1,000 researchers focused on the future of telecommunications and information technology. Other key partners outside the UC System include Sustainable San Diego, Community Commons, and the Global Planning Educators Interest Group.

Our most significant community-based partner right now, with respect to the activity set we’re describing here in this last section of our narrative, is Alter Terra. Alter Terra is a nonprofit organization that operates in both the U.S. and Mexico. Alter Terra focuses on environmental health challenges found in the San Diego-Tijuana area of the U.S.-Mexico border region, with an emphasis on protecting the Tijuana River Estuary in Imperial Beach, California and the Los Laureles Canyon in Tijuana. The organization promotes international partnerships to protect natural resources and promotes healthy practices within communities so that they may become self-sustaining.

With input from The Global ARC, Alter Terra addresses socioeconomic issues by promoting initiatives that reduce poverty, create jobs, and improve the general health of neighborhoods. Taking a watershed-based approach to planning, Alta Terra’s projects address a multitude of issues that are essential to the health and maintenance of all communities and ecosystems along the international border. Oscar Romo, one of The Global ARC’s directors, is the U.S. Co-Chair for the binational U.S. EPA Border 2012 Tijuana River Watershed Task Force, which has the largest group of binational stakeholders working together in the region. Romo’s innovative thinking and regional leadership has drawn a lot of attention, especially to the irregular human settlement and ecological problems found in Los Laureles Canyon, one of the sites our Global ARC has focused on consistently. The Global ARC worked closely with Romo and many others in the co-production (with UCSD-TV) of a major documentary focused on Los Laureles Canyon. In the spirit of good science communication using multimedia, the documentary we did bridged multiple perspectives: urban and bioregional planning, climate change science, new biology, environmental epidemiology, engineering, computer science and the visual arts. The National Science Foundation rebroadcast the documentary on their Research Frontiers Channel. It has been viewed over 100,000 times in English and Spanish (see Attachment 10: Convergence and Communication, pp. 6-9). Professor Romo thanks the attention this documentary drew to his U.S.-Mexico border community for a new spate of government investment in sorely needed sewer infrastructure.

As one observer describes the Los Laureles Canyon case, “the area has now become a hotbed for academics and researchers from various fields of study, and is now viewed as an important catalyst for a larger bi-national exchange as well as a model for sustainable development.” Alter Terra has an entry in The Global ARC database. It outlines Alter Terra’s strategic ambitions: “Through research and preservation of the canyon, Los Laureles will become an important and replicable model for making recommendations for the modification of city ordinances that will promote the development and maintenance of sustainable communities. Ultimately, a sustainable science center needs to be built in the canyon in order to educate local residents on the dangers of storms and pollution, to serve as a monitoring and communication center to promote open international partnerships to protect the estuary, and to set an example of sustainable building practices for the community to maintain and improve upon and be duplicated throughout the Tijuana River Watershed.” This entry has drawn dozens of students to the site to do action research as part of their university studies (see Attachment 9: The Global ARC in University Curriculum, pp. 7-14). This is precisely the kind of thing The Global ARC hopes to do more of and eventually scale up globally.
EIN: 27-2624803

**Inputs**
- Funding from foundations, grants, fees for service, donations
- Social and intellectual capital
- Technical resources
- Philosophy, ethics, wisdom, aesthetics
- Trusted relationships, social networks, knowledge-action collaboration

**Outputs**
- Activities: Bioregional Workbench, asset-based mapping for community development, Action Research Challenges Web Portal, regional networking, Leadership Development civic science, sci communication, social learning, Globalizing scholarship of engagement, transnational networking among universities and civic organizations
- Participation: Community organizations and leaders in the San Diego-Tijuana City-Region, People struggling to meet basic needs for food, water, energy, shelter, health, education, Universities, organized research units, faculty, students, staff, Transnational organizations and networks linking universities and global civic sector initiatives worldwide

**Outcomes**
- Short term (immediate): Increased knowledge of urban-rural-nature interdependencies & ecological ethics
- Medium term (intermediate): Societal behavior change and informed decision-making, Greater capacity to interconnect sustainability solutions, More scientifically literate & capable workforce/leadership
- Long term (ultimate): Improved built environments, landscapes, green infrastructure and planning in support of rooted community development, Effective transborder collaboration, Global network of mutually-supportive sister-city bioregions, Stronger community-university relationships and social intelligence, New ways to frame/value the benefits of improving community commons, public health & well-being

**Assumptions**
Global problems arising from climate change, peak oil, peak fresh water, mounting economic-ecological stresses, unhealthy food systems and living conditions are combining in troublesome ways. The prospect for solutions will increase if we build the capacity of civil society (community groups and social networks) to partner with universities and other research entities. Creating new equitable means for co-producing, sharing and applying knowledge is vital.

**External Factors**
The rapid growth—or in some cases decline—of cities worldwide has stressed the institutional, fiscal and management functions of many nations and regions to the breaking point. At the same time, changes in the funding and culture of science and technology are creating new opportunities to deal with these stresses. The value of holistic, use-inspired, civically-engaged research is on the rise—but the capacity for doing it is sorely lacking.