

IIT Institute of Design  
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# **BARNRAISE 2017**

Co-designing Sustainable Food Systems

This design brief was created to inform the firms invited to the co-creation workshop about our intentions when structuring the activities during BarnRaise 2017

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Dear colleagues,

On behalf of the Institute of Design and BarnRaise 2017, we are honored to invite you for a co-creation workshop on Wednesday September 13th, 5pm at the Institute of Design (565 W. Adams Street, 7<sup>th</sup> floor).

The goal is to share advanced knowledge and best practices in the design field, and co-create the infrastructure of BarnRaise 2017, an impact-driven conference with the focus of co-designing sustainable food systems for Chicago.



BarnRaise

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Two-and-a-half-days

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BarnRaise 2017

### **What is BarnRaise?**

IIT- Institute of Design BarnRaise is an impact-driven conference that connects designers, community-based organizations, topic experts, and participants to promote greater impact in the Chicago community.

### **What is the theme of this year and why?**

This year our theme is **co-designing sustainable food systems**. We proposed to focus on food waste as we found out it is a critical path to reduce environmental impact and inefficient financial investments, as well as a means for promoting social innovation.

### **What is new?**

Maintaining the prototyping essence of this event, this year's BarnRaise team is iterating on past models while staying true to the original intent. We are expanding the heart of BarnRaise by adding collective commitment for impact to the conference process. Also, rather than working to solve one organization's challenge, designers will work collaboratively with other participants to tackle the overall challenge first, and then empower the organizations in the room to increase the impact.

### **What are the goals of BarnRaise?**

- Enhance and strengthen existing solutions to empower local initiatives
- Invest in alternative organizational models for sustainable food systems to thrive
- Explore new business opportunities based on food scraps management
- Develop a culture where managing food scraps is a valued experience for increasing (1) education, (2) social inclusion, (3) environmental performance.
- Accelerate innovation in food scrap management considering novel ways to (1) grow participation, (2) connect economic, ecologic, and social impact in food practices, (3) develop new partnerships considering a wide spectrum of benefits for the agents involved.

By the end, participants should share leadership of solutions, and take ownership within intervention spaces for making the future of a sustainable food system in Chicago a success.

### **How are we going to tackle this challenge?**

We want to propose design-led activities supported by the theoretical frameworks of shared-value models, the commons, and the seven capitals. Multidisciplinary teams should work together to discover common ground, unlock values, systematically approach the challenge, prototype ideas, and envision sustainable solutions.

The challenge

## Background

Technological development has allowed humans to insert their culture into nature. From agriculture to ceramics, from cities to global economy, civilizations have used natural capital considering their needs and beliefs. The lack of knowledge and technological advances to analyze and comprehend the impact promoted on ecological systems allowed humans to explore and intervene in natural resources without precedents. Even though the recognition between humans and the environment is not new (Marsh 1864), existing systems were built without accounting for the interconnectivity between them. Such precondition led societies to sophisticated but degenerative economic models that are now scaling unsustainable solutions for both natural and social systems.

Contemporary complex challenges, such as food waste, have never been faced in at the scale of impact they are promoting. Thus, existing knowledge is derived from imperfect systems, and the relationship between technical, social and ecological systems necessarily reflect in the contemporary debate of sustainable development, in which the integration between these three systems is a condition for any future practice.

## How can design help?

There are multiple roles for designers in solving complex problems. One of them is through the design for systemic impact. Design has long been recognized as the discipline responsible for advancing systems innovation in America, and around the world. Even though technology and communication have allowed designers to understand the unprecedented linkage between economic, social and environmental aspects at both global and local scale, designers still struggle to understand how these forces should be incorporated in their contributions and how they interact with one another. Without considering the complex network in which humans are engaged and the environment in which action is taken, design is limited in its ability to support innovative platforms and infrastructures that can generate sustainable solutions and value creation.

Redman, Grove, & Kuby (2004) emphasized the need for an “integrative framework equipped with comprehensive models, reinforcing methods, and complementary data” (p.162). This poses a critical challenge for the field of design, in which researchers and practitioners need to combine their expertise and experience to develop alternative models for “infrastructuring” sustainable systems solutions. This workshop represents one more step towards this direction.

# The workshop

As a graduate design school with a history of innovation, IIT Institute of Design is continuously developing and disseminating new knowledge, methods and frameworks in the design field. It is our understanding that new frameworks for analysis, knowledge generation and dissemination, and the creation of new system should support intervention on existing systems for sustainable solutions.

Building upon the effort presented by the Redman, Grove, & Kubby (2004), rather than working in silos, this work intends to explore the **how can we design new engagement models and frameworks to recognize and infrastructure the interconnectivity between economic, social and environmental systems for the design of sustainable systems solutions?**

This workshop focuses on combining advanced knowledge and best practices in the design field, and co-creating new dynamic methods of collaboration and multi-stakeholder engagement to be prototyped during BarnRaise 2017.

The workshop will be held at IIT Institute of Design, 565 W. Adams Street, on Wednesday September 13<sup>th</sup>, from 5pm to 8pm. Food and drinks will be served.

### **Goal of the Workshop:**

The overall goal is to transform the knowledge and experience in the room into assets for advancing the design practice. The specific goal is to share best practices, knowledge and experiences in planning and facilitating co-creation workshops with cross-sector and multi-level engagement for sustainable systems solutions. As colleagues, we are curious to understand if there are similarities in the process of planning, and if there are patterns of roadblocks encountered during the journeys. By the end of the workshop, we should leave the room with a clear, yet not defined, comprehension of a new dynamic model for engagement that will serve to infrastructure the interactions during the BarnRaise 2017 conference.

### **Who are the participants of this Workshop?**

Borough + Block - <https://www.boroughandblock.com>

Gensler - <https://www.gensler.com>

Insitum - <http://www.insitum.com>

Moment - <http://www.momentdesign.com>

OpenBox - <http://opnbx.com/about/>

Reve Consulting - <http://reveconsulting.com/>

Thought Works - <https://www.thoughtworks.com>

### **Challenge for the workshop:**

In this brief, you have received theoretical and practical references, tools and frameworks to complement your thinking and planning activity. **We invite you to present an outline of a two-and-a-half-day impact-driven conference.** Please use the knowledge-brokering toolkit provided by Carlos Teixeira to plan the activities. We ask you to keep in mind the goals of the workshop and that activities should be design for multidisciplinary, cross-sector and multi-level engagement.

You are welcome to present a sketch of a plan considering your best practices and experience. However, we request that you use the Seven Capital Framework (presented on the next section) as theoretical background and as a practical tools in your planning.

By working collaboratively, we believe we can provide an experience for participants during the BarnRaise 2017 that is not only unique to the City of Chicago, but also unique to the field of design. We appreciate this great collective effort to bring and leverage the field's capability to develop creative solutions for complex problems such as food waste in the City of Chicago.

# Guidelines

Designers are participants, just like others in the room.

We are curious to explore the contributions and the potential of designers as members of the community, rather than automatically assigned as facilitators. Designers are part of the problem, and they can be part of the solution as an active and integrative member of a team. This will require more from us, as design will be used as an infrastructure rather than a path.

Thus, we suggest the use of self-organized group practices, in which important roles are presented and team members are welcome to assume whatever position they feel comfortable with. While these are not extensive, here are four roles we have identified in best practices of self-organized groups.

**Facilitator:** Ensures that each person who wants to speak is heard within the time available. Keeps group on track to finish on time.

**Pacer:** Responsible for the group awareness of time. Manages time, and gives previously agreed signals with the remaining time to the member talking.

**Clarifier:** Record individuals and collective thoughts on the frameworks and flipcharts. Makes sure that long ideas can be briefly stated.

**Sharer:** Responsible for sharing the group's ideas, considering time pre-determined.

## Aim for sustainable principles in decision-making processes.

Design is a discipline interested in exploring alternative futures, and just like in any other field, the number of professionals interested in contributing for sustainable development is increasing. Considering the scale and complexity of the problems in which designers are engaging, sustainable development will only be achieved by expanding the practices of human-centered approaches towards systemic thinking. While all decisions are driven by humans, and design has been raising the awareness of human challenges and motivations to inform better solutions, the field still lacks proper tools and frameworks to support designers in their contributions to achieve sustainable solutions at the system level.

Thus, sustainably-driven outcomes still rely on the principles embedded in the user of the framework. Once designers also have their own limitations, solutions fall short in recognizing other forces and variables that influence the dynamics of the systems. If designers want to promote sustainable solutions, humans just like others system's component should represent a part of complex and dynamic continuous interaction. When combined, juxtaposed and integrated with others elements, humans become part of processes, and not the means or the goal of it. Our hypothesis is that by expanding the centeredness of design practice, designers will be able to advance their contributions towards sustainable systems solutions.

## Design for infrastructuring

The concept of “infrastructuring” in Scandinavian participatory design literature suggests the shift of design outcomes from “what” to “when”, bringing the importance of design after design (Björgvinsson, Ehn, & Hillgren 2010). Considering the goal of this conference, it is critical to infrastructure engagements before, during, and after the event. We are generating a report to be shared before the event as an outcome of a 3-month research done by IIT-Institute of Design students in the City of Chicago. It will present findings from primary and secondary research, existing tensions and systemic challenges through systems dynamics map, including variable definitions. This report aims to present a reframe of the challenge of food waste as a critical path towards the development of sustainable food systems for the City of Chicago.

The proposed workshop is intended to bring forward design-thinkers to combine their knowledge and expertise to develop dynamic models for cross-sector multi-level engagement for sustainable systems solutions. While the focus should be in designing infrastructure during the event, we encourage design firms to extend their efforts towards what is the necessary infrastructuring process that will allow participants to continue their interaction after conference.

## Sustainable framing: Seven Capitals Framework

The Seven Capitals Framework is a powerful theoretical and practical tool to expand the approach of designers towards sustainable systems solutions. The framework was developed by Flora, Flora & Fey in 2004, and utilizes the economic concept of wealth creation or 'capital'. Any individual, organization or system have stocks and flows of seven types of capitals - natural, human, social, manufactured, cultural, political, financial.

A capital is considered "any type of resource capable of producing additional resources" (Flora, Flora & Fey 2004 p.165). For some capitals, a continuous flow over time might become a stock.

BarnRaise activities should focus on the interactions between individuals and organizations activities, and systems dynamics through the notion of stocks and flows of capitals.

## Financial capital

The productive power of the other types of capital. It has no intrinsic value; it is a representative of natural, human, social or manufactured capital.

Examples of stocks: amount of money accumulated  
Example of flows: financial investments, exchange of values.

## Natural capital

Any stock or flow of energy and matter that yields valuable goods and services.

Examples of stocks: renewable (timber, grain, fish and water), non-renewables (fossil fuels);  
Examples of flows: extraction, absorption, neutralization of wastes, or processes, such as climate regulation.

## Manufactured capital

Comprises material and digital goods.

Stocks: buildings, tools, machines, buildings and other forms of infrastructure.

Flows: production, consumption, restoration, usage.

## Human capital

Individual health, knowledge, skills and motivation.

Example of stocks: level of poverty  
Example of flows: education and training

## Political capital

The power structure and the influence to achieve goals

Examples of stocks: organizational models, regulations, policies

Examples of flows: connections to people in power, access to resources, collective decision-making process

## Social capital

The value added to any activity or process by human relationships and cooperation.

Example of stocks: networks links between families, communities, businesses  
Example of flows: development of partnerships, voluntary work.

## Cultural capital

Values and beliefs inherent in community practices.

Examples of stocks: Ethnicity, spirituality, habits, heritage, festivals, traditions, cosine  
Examples of flows: Stories, practices, religion, traditions.

## Why the Seven Capitals Framework?

When dealing with complex problems, designers have been proposing solutions with a narrow comprehension of the resources being used in regards to the assets available within the system. As such, solutions tend to rely on inadequate investments that end up increasing stocks and flows of several capitals at the cost of the others. If designers could consider existing resources, clearly define the assets, and promote well-balanced investment of capitals, the dynamics of the stocks and flows of the seven capitals could promote sustainable systems solutions. However, designers lack proper tools and frameworks to map and manage the seven capitals in innovation processes. Therefore, we propose the use of this workshop to explore alternative tools that will incorporate the SCF in order to create sustainable systems solutions for complex problems.

Our hypothesis is that by infrastructuring the activities through the theoretical and practical appliance of the SCF, participants will be able to identify existing variables, emergent properties and emergent linkages that may affect the sustainability of a community in its environment. Moreover, it should provide opportunities for unique collaborations to emerge, while presenting the interconnectivity between the stocks and flows of the capitals available. In this context, this framework has potential in presenting adequate use of the available capitals and bringing into light alternative models in which participants can think about working with them.

Two-and-a-half-days

If you were to design a  
BarnRaise, how would you do it?

On the following pages you will find things to keep in mind when sketching your plan. The most important thing for us is that you use the Seven Capitals Framework, and that you come prepared to share the plan with your colleagues.

Remember, your planning does not have to be done in high fidelity. We want to learn about your best practice and experience, in engaging with complex problems to find sustainable solutions.

Tools and frameworks:

Theoretical background:

Economy of Choice, Patrick Whitney

Tragedy of the commons, by Garrett Hardin

Shared value, by Michael Porter

Suggested:

[101 design methods by Vijay Kumar](#)

[10 types of innovation by Larry Keeley](#)

Systemic design toolkit by Namahn (attached).

[Whole View Model by Patrick Whitney](#)

[Sustainable Development Goals](#)

Required:

[7 capitals](#)

## Day 01 - Finding the bright spots

### *Mapping assets and defining innovation spaces*

Groups are formed with individuals that have never met. While this is one of the most positive aspects of the event because it enhances diversity and opens for new perspectives, it also constrains engagements due to the lack of intimacy and trust among group members. They come from various backgrounds and bring their own experiences, increasing the complexity for agile and productive interactions (especially due to taxonomy and professional practices).

Purpose:

Participants should be able to discover common ground, understand the value of the group through its unique composition, and learn about the limitations of existing isolated approaches. Activities should enhance individual and community capabilities considering existing resources, and leverage sustainable principles. The goal is to set the stage for future interactions through innovation spaces, and even magnify sustainable impact during BarnRaise and beyond.

Time for the activity:

Afternoon: speaker + 3 hours.

Tools and frameworks:

Theoretical background:

Economy of Choice, Patrick Whitney

Tragedy of the commons, by Garrett Hardin

Shared value, by Michael Porter

Suggested:

[101 design methods by Vijay Kumar](#)

[10 types of innovation by Larry Keeley](#)

Systemic design toolkit by Namahn (attached).

[Whole View Model by Patrick Whitney](#)

[Communicating the new by Kim Erwin](#)

[Sustainable Development Goals](#)

Required:

[7 capitals](#)

## Day 02 - Define the point of view

### *Combining assets to enhance the capitals*

A clear path of the challenge needs to be defined, and ambiguity of the previous day should be translated into concrete positions. However, limiting the participants' contributions to the challenge presented by their own group might lead to inefficient use of knowledge and expertise considering all opportunities presented. On the other hand, the more options participants have, the more likely they will retreat to the default plan, meaning the status quo.

Thus, the second day should start by expanding the choices participants have to contribute in the best way they can considering their own interest. Keep in mind you can't sprint everyone's challenge in two-and-a-half-days, so activities should structure the development of concepts in alignment to the critical collective actions required for achieving sustainable systems solutions.

**Purpose:**

Participants should be able to define their challenge, explore potential sustainable solutions, and prototype their ideas.

**Time for the activity:**

Morning: Speaker + 3 hours.

Afternoon: Talking trash activity + 3 hours

Tools and frameworks:

Theoretical background:

Economy of Choice, Patrick Whitney

Tragedy of the commons, by Garrett Hardin

Shared value, by Michael Porter

Suggested:

[101 design methods by Vijay Kumar](#)

[10 types of innovation by Larry Keeley](#)

Systemic design toolkit by Namahn (attached).

[Whole View Model by Patrick Whitney](#)

[Communicating the new by Kim Erwin](#)

[Sustainable Development Goals](#)

Required:

[7 capitals](#), Intervention Map, and Roadmap Transition by design (Systemic design toolkit – Namahn)

## Day 03 – Anchor critical moves

### *Strategies for interconnections and roadmap for action*

It is time to transform concepts into a sustainable action strategy. This is the moment where participants should expand their perspective again from the prototyped idea into the comprehension of the system's opportunity area. When systemic innovations are introduced into existing systems, resistance to change often prevents the goals to be achieved. While some of the potential forces of resistance can be predicted, others might not be foreseeable. As such, sustainable systems change requires long-term commitment to action, and continuous adaptation.

**Purpose:**

Participants should be able to leave the conference with a clear comprehension of what are the next steps, and commit to action.

**Time for the activity:**

Morning: Speaker + 3 hours.

Afternoon: Set up + final share out

## Should I stick to the plan?

This is a work in progress, and the outcomes of this workshop represent an evolving approach to the development of tools and frameworks to embed sustainable principles in the design practice. Our hypothesis is that in order to promote sustainable solutions, alternative models for cross-sector and multi-level engagement need to be explored. As such, BarnRaise sets up an experimental environment in which tools that are being developed can be tested.

The overall goal of this brief is to offer common ground and suggestions on exploring sustainable systems solutions through the use of the Seven Capitals Framework. While BarnRaise activities are setup with a very specific time frame and dates, we want to highlight that the event can be also an opportunity for your firm to present models and frameworks to be prototyped.

This brief should be considered as one more effort in the light of new design practices rather than a prescription for how designers should go about planning a two-and-a-half-day impact-driven conference. With that said, we suggest the exploration of the SCF as a theoretical framework that should guide your infrastructuring activity.

We look forward to see your sketch plan, and learn from your design practice.

Sincerely,

Andre & Raina, co-chairs BarnRaise 2017

## References

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