

# Education in City Gardens

## Staying relevant in times of change



Cornell Botanic Gardens

Cornell University



Botanic Gardens Conservation International  
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# Social change





# Social change





# Climate change





# Climate change





CHICAGO BOTANIC GARDEN

Closed  
Today

• information go

botanic.







**How can botanic gardens  
stay open—and relevant—  
in a changing world?**



**How can botanic gardens  
stay open—and relevant—  
in a changing world?**

**Social-environmental change**





# How can botanic gardens stay open—and relevant—in a changing world?



**Conservation  
behaviors**



# How can botanic gardens stay open—and relevant—in a changing world?



**Conservation  
behaviors**



**Organizational change**



# Botanic gardens: Staying relevant



Lynch, B. & S. Telfer (2015). *How can botanic gardens grow their social role?* London, UK, Calouste Gulbenkian Foundation





# Botanic gardens: Staying relevant



Jessica Johns, Bristol Zoo Gardens





# Outcomes

- Confidence
- Connection to nature
- Trust
- Social interactions across different backgrounds



*We wanted to be able to talk about tree conservation and climate change but [it became clear] this is not necessarily what these groups want to talk about.*

*Ben Oliver, Learning and Participation Manager,  
Westonbirt, The National Arboretum*



Forestry Commission England

Lynch, B. and S. Telfer (2015). *How can botanic gardens grow their social role?* London, UK, Calouste Gulbenkian Foundation.



# Outcomes

- *Most projects focused on social inclusion, not environmental issues.*



BCGI

Lynch, B. and S. Telfer (2015). *How can botanic gardens grow their social role?* London, UK, Calouste Gulbenkian Foundation.





## Outcomes

- *Most projects focused on social inclusion, not environmental issues.*
- *They tended to avoid directly tackling ‘problematic’ environmental issues, such as climate change.*



BCGI

Lynch, B. and S. Telfer (2015). *How can botanic gardens grow their social role?* London, UK, Calouste Gulbenkian Foundation.





## Outcomes

- *Most projects focused on social inclusion, not environmental issues.*
- *They tended to avoid directly tackling ‘problematic’ environmental issues, such as climate change.*
- *Bringing together social and environmental concerns remains a challenge.*

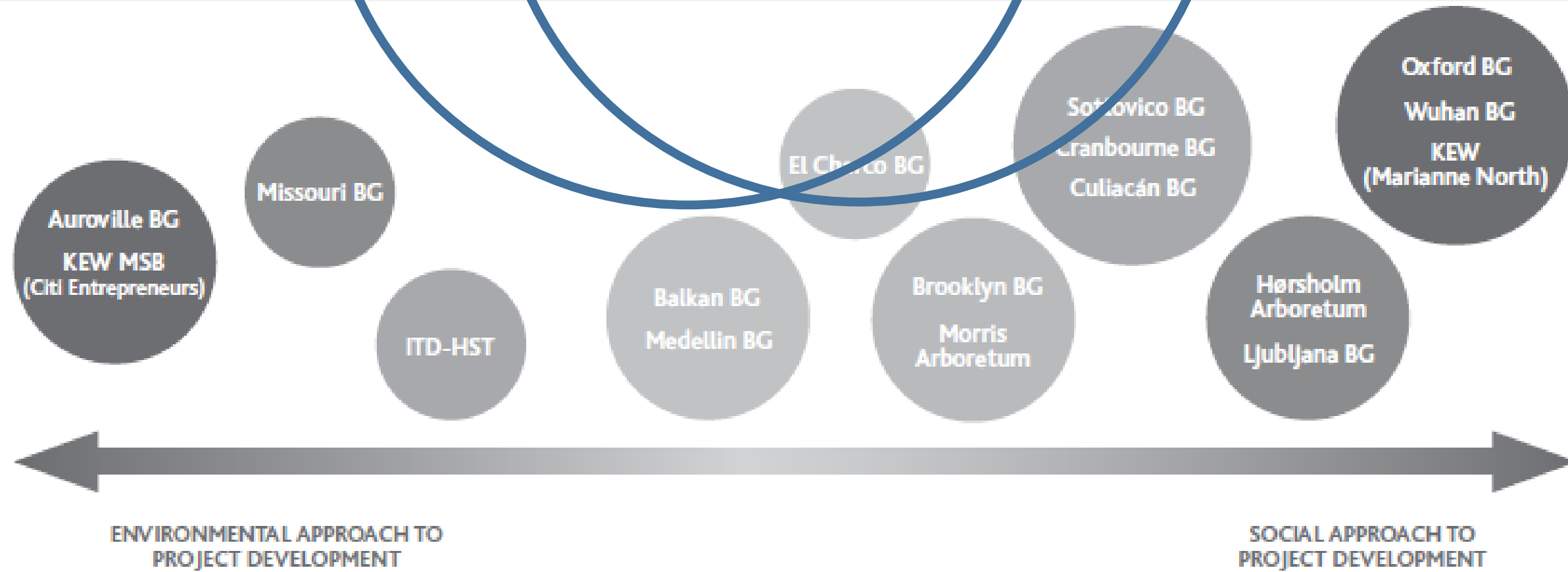






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# Social- Environmental Approach



Derewnicka, L. Vergou, A. Moussouri, T.& Fernández Rodríguez, A. (2015) *Caring for your community: A manual for botanic gardens*. London, BCGI

Krasny, M.E. and K.G. Tidball (2015). *Civic Ecology: Adaptation and Transformation from the Ground Up*. MIT Press.



# ***Civic Ecology Practice***

**local environmental stewardship actions**

**to enhance**

**green infrastructure**

**and**

**community well-being**

**in cities and other human-dominated  
systems**











Bandalong Litter Trap  
Cleaning Our Waterways  
www.bandalongtrap.com







Forest for Life











Samar Deen







A Russ





## Social- Environmental Approach



# Conservation



## Social outcomes

- Confidence
- Connection to nature
- Trust
- Social interactions across different backgrounds





# Self-efficacy

Beliefs about whether one's actions will achieve their individual or group goals.

Built through:

- Mastery experiences
- Role models
- Supportive social relations

*Civic Ecology / Communities in Nature:  
Social outcomes*





# Nature connection

Feeling of being connected  
and belonging to the natural  
community

Built through:  
long-term, repeated, sensory  
experiences in nature,  
often with family members

*Civic Ecology / Communities in Nature:  
Social outcomes*



A Russ





# Sense of place

Feelings of attachment to a place and meanings attributed to a place.

Built through:

- Recreational activities
- Stewardship
- Citizen science and action research
- Unstructured time in nature

*Civic Ecology / Communities in Nature:  
Social outcomes*





# Social capital (trust, social connections)

Trusting relationships and  
cooperation for mutual benefit

Built through:

- Challenging cooperative activities coupled with support
- Fairness and open communication
- Community partnerships

## *Civic Ecology / Communities in Nature: Social outcomes*





**Conservation**



**Conservation behaviors  
(e.g., green school designation)**



**Self-efficacy  
Connection to nature  
Sense of place  
Social capital**



**Garden Activities  
Civic Ecology  
Practices**





**Conservation**



**Conservation Behavior**



**Social Outcomes**



**Garden Activities  
Civic Ecology  
Practices**





**Conservation**

**Conservation Behavior**

**Social Outcomes**

**Garden Activities  
Civic Ecology  
Practices**





# Evaluation: How do we know?

## Pre-post surveys

- Self-efficacy
- Connection to nature
- Sense of place
- Trust



A Russ

## Sense of Place Survey

### Place Attachment Scale

- The Bronx is the best place for what I like to do.
- I feel like the Bronx is part of me.

...

### Ecological Place Meaning Scale

- The Bronx is a place to watch animals and birds.
- The Bronx is a place where people can find nature.
- The Bronx is a place to grow food.

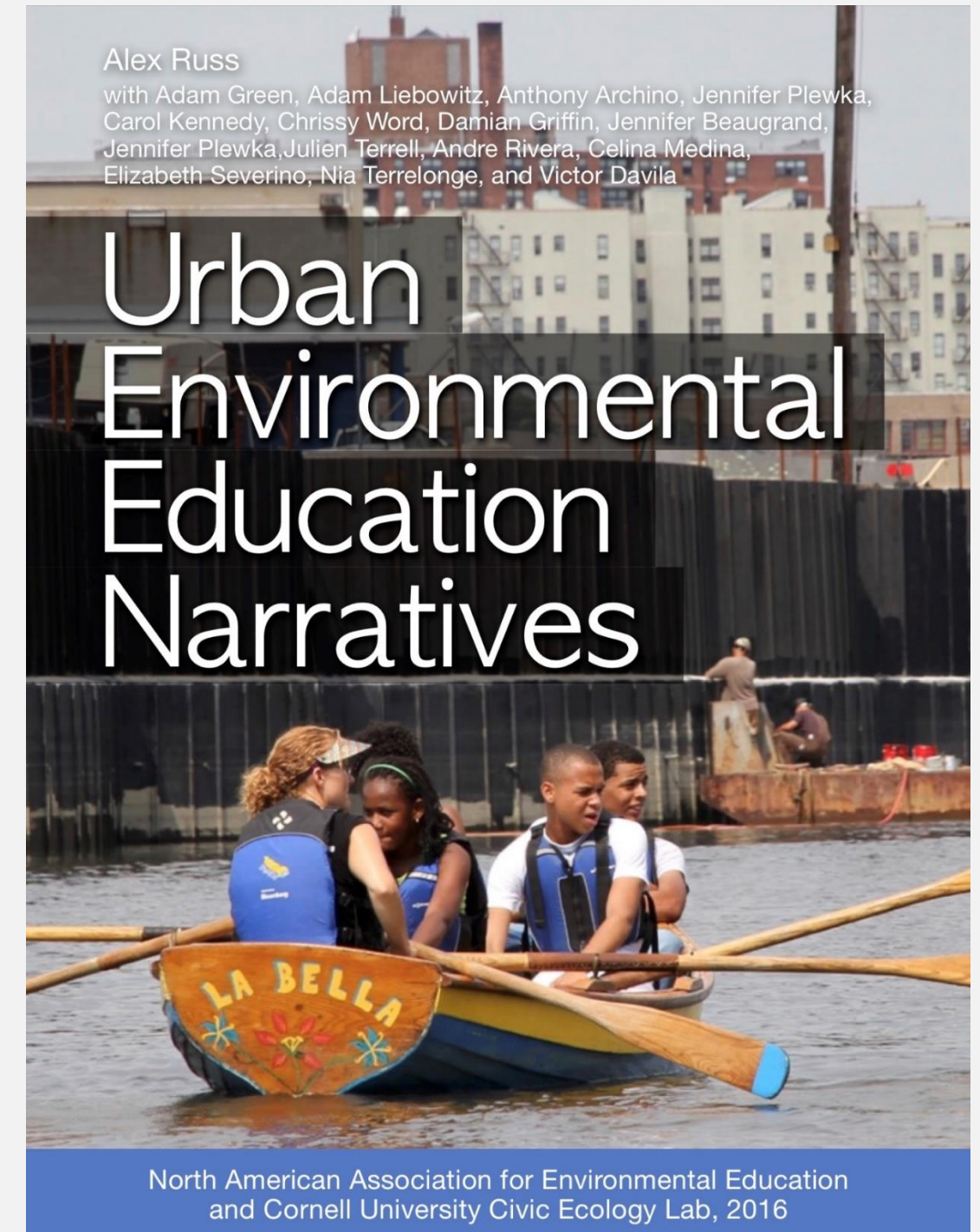
...

Kudryavtsev, A., M.E. Krasny and R. Stedman (2012). *The impact of environmental education on sense of place among urban youth*. *Ecosphere* **3**(4): 29.



# Evaluation: How do we know?

## Stories and narrative





# Evaluation: How do we know?

## Embedded evaluation

- photo elicitation



US Air Forces Central Command



# Evaluation: How do we know?

## Most Significant Change



“During the last month, what was the most significant change you experienced through participation in the program?”



# Evaluation: How do we know?

## Appreciate evaluation

- participant observation



J Delia

Delia, J. E. and M. E. Krasny (2018). *Cultivating Positive Youth Development, Critical Consciousness, and Authentic Care in Urban Environmental Education*. *Frontiers in Psychology* **8**(2340).



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**Organizational change**



# Organizational change

- Default options
- Role models



Yue Li



M Krasny



# Organizational change

- Greening vacant lots



## LandCare Program



Pennsylvania Horticultural Society

Garvin, E., C. Cannuscio & C. Branas (2013). *Greening vacant lots to reduce violent crime: a randomised controlled trial*. Injury Prevention **19**(3): 198-203.



# Organizational change

- Community engagement





# Organizational change

- Community support post-disaster







**Social-  
Environmental  
Approach**

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Conservation behaviors



Organizational change



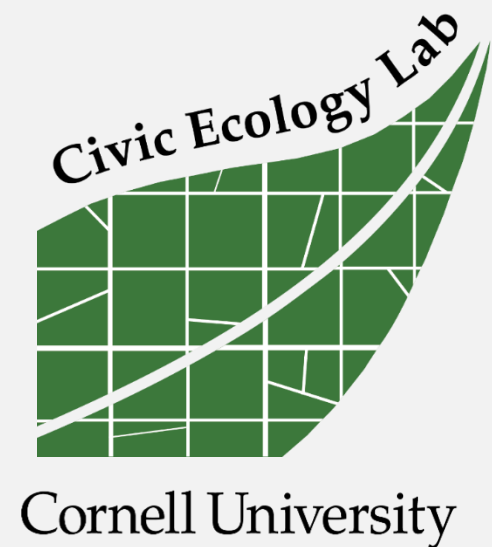
# THANK YOU!

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Yueyang Yu

Helen Miller



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