

# Measuring Success Beyond Cleanup Levels in Environmental Decontamination

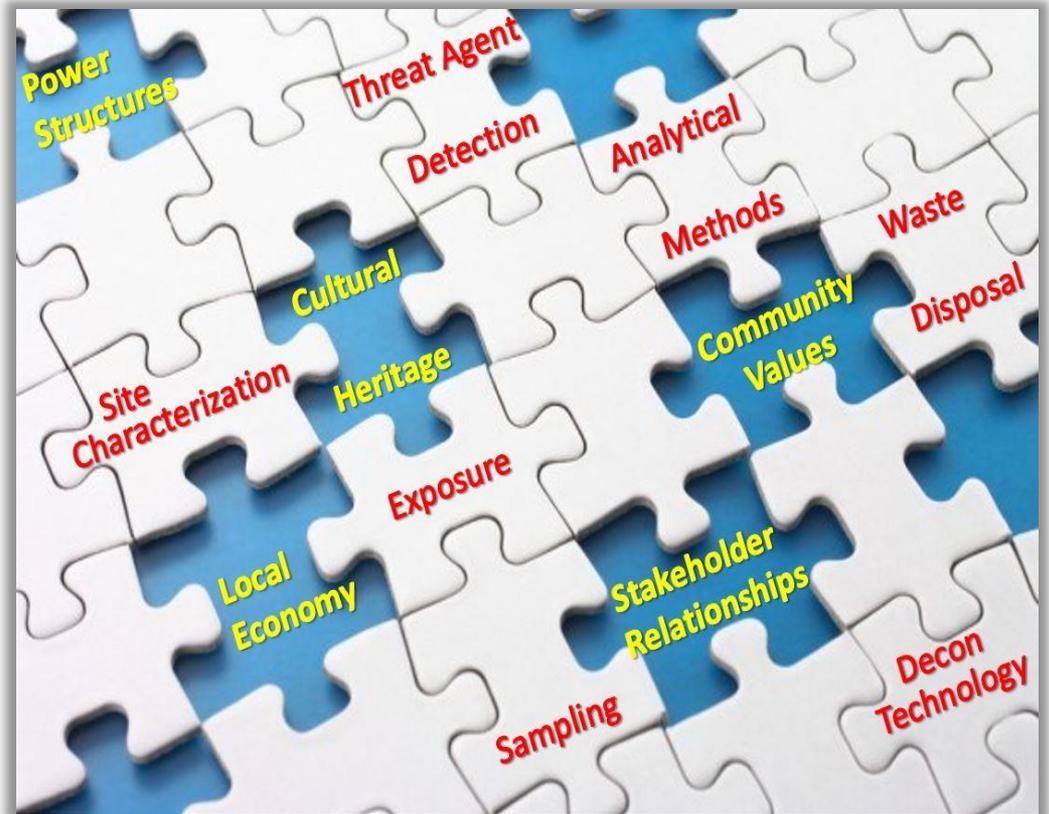
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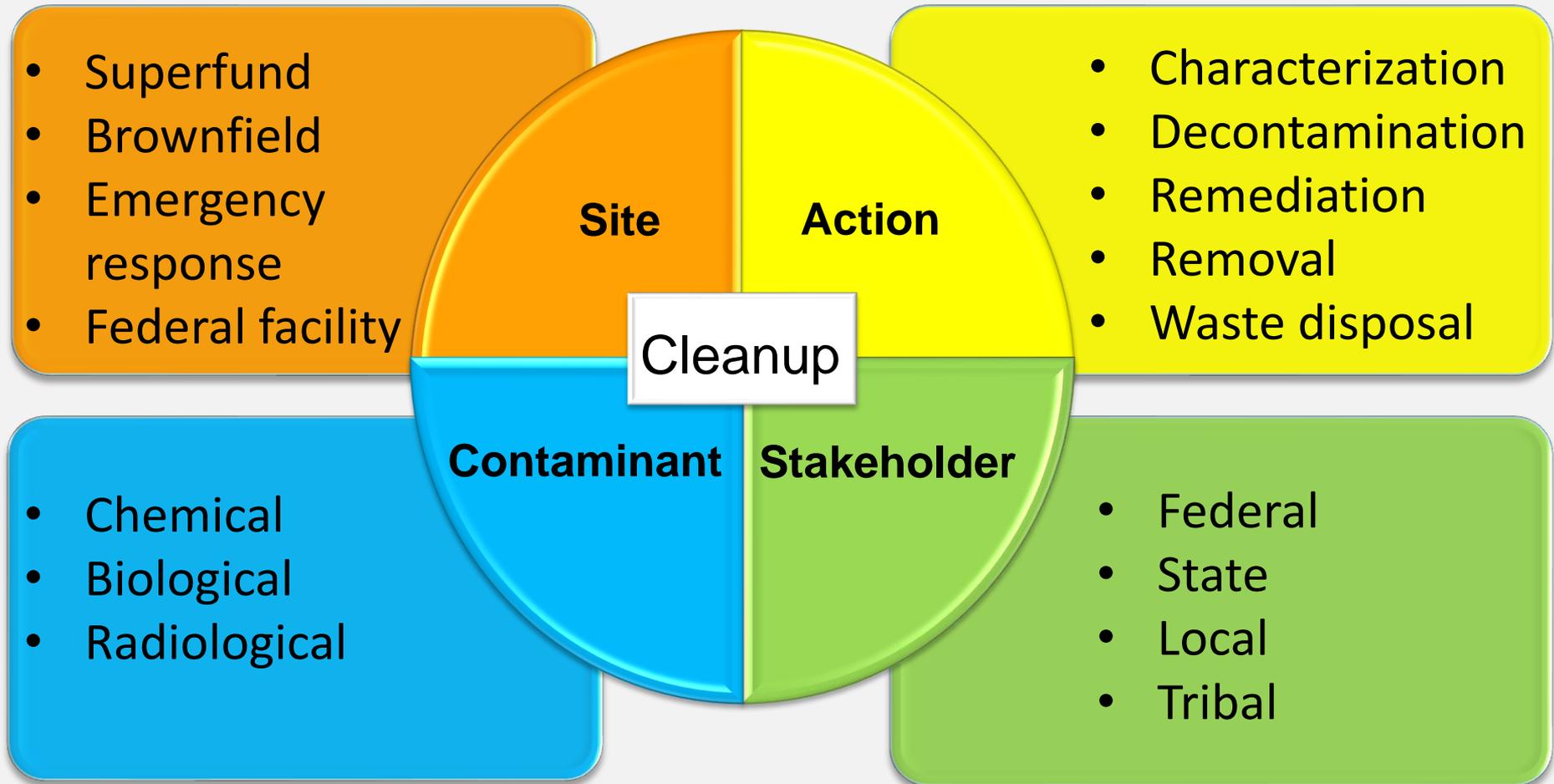
*Disclaimer: EPA funded & managed the research described. It has been subjected to the Agency's review & has been approved for publication & distribution. Note that approval does not signify that the contents necessarily reflect the views or policies of the Agency.*

# About the research team

- Cultural anthropologists
- Conducting applied research
- Our role:
  - Use social science to complement technical research on environmental cleanups



# Defining “environmental cleanup”



# Overview of our research

## Research Questions

- How do social factors affect cleanup processes?
- What are the social impacts of cleanup activities?
- What are the social outcomes of completed cleanups?

## Goals

- Fulfill needs of EPA Program and Regional offices
- Help integrate social considerations into cleanup work

## Research Phases

- ✓ Literature review
- ✓ Interviews
- Surveys
- Ideation workshop

# Interview Data

- Conducted 25 interviews
- EPA cleanup practitioners
  - On-scene coordinators
  - Brownfields managers
  - Remedial project managers
  - Community involvement coordinators
- All 10 EPA regions

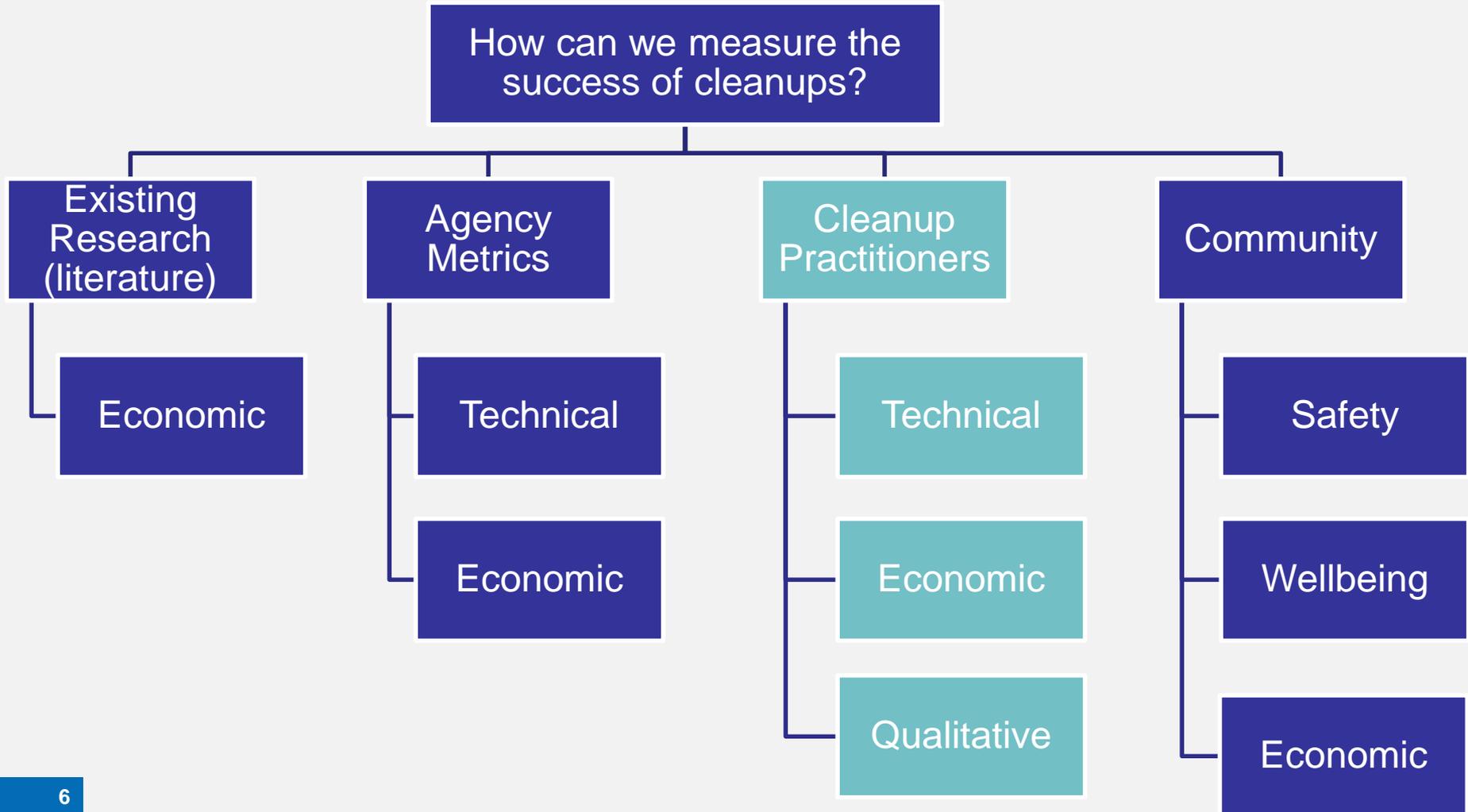


# Why Investigate Measuring Success?

- Cleanup stakeholders have distinct perspectives on what cleanup outcomes are & what successful cleanup is
- Because cleanup situations are diverse, there is no one way to succeed- understanding the spectrum is needed
- Knowing the building blocks of success can help improve processes in the future
- Help the Agency communicate its value and impact



# Comparing frameworks for measuring cleanup success



# Existing Research on Measuring Success\*

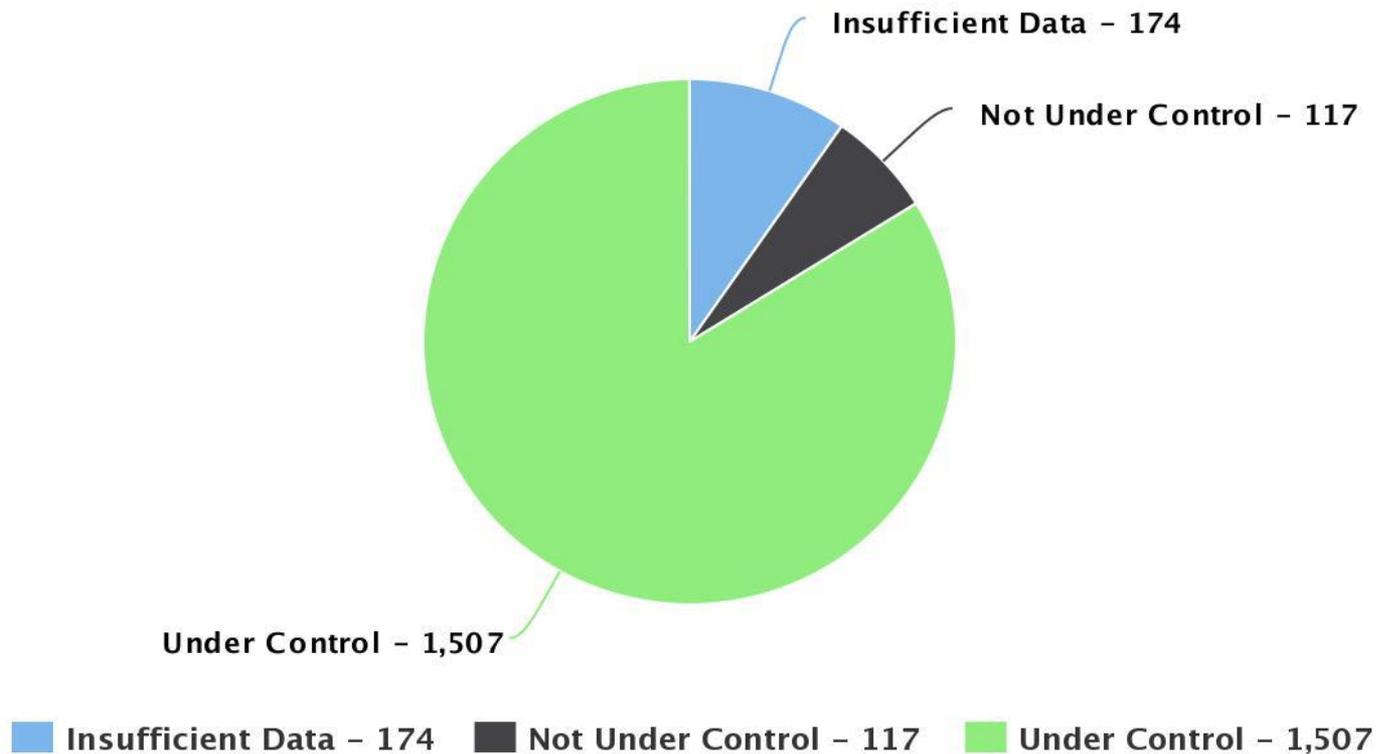
- Largely economic analysis
  - Job creation during cleanups
  - Housing prices after cleanups
- Limitations and research gaps
  - Types of cleanup situations analyzed
  - Concerns of gentrification
  - How do different stakeholders perceive success?



# Agency Measures of Success- Technical

## Human Exposure Under Control Status as of October 2018

For Final and Deleted NPL and non-NPL Superfund Alternative Approach Sites



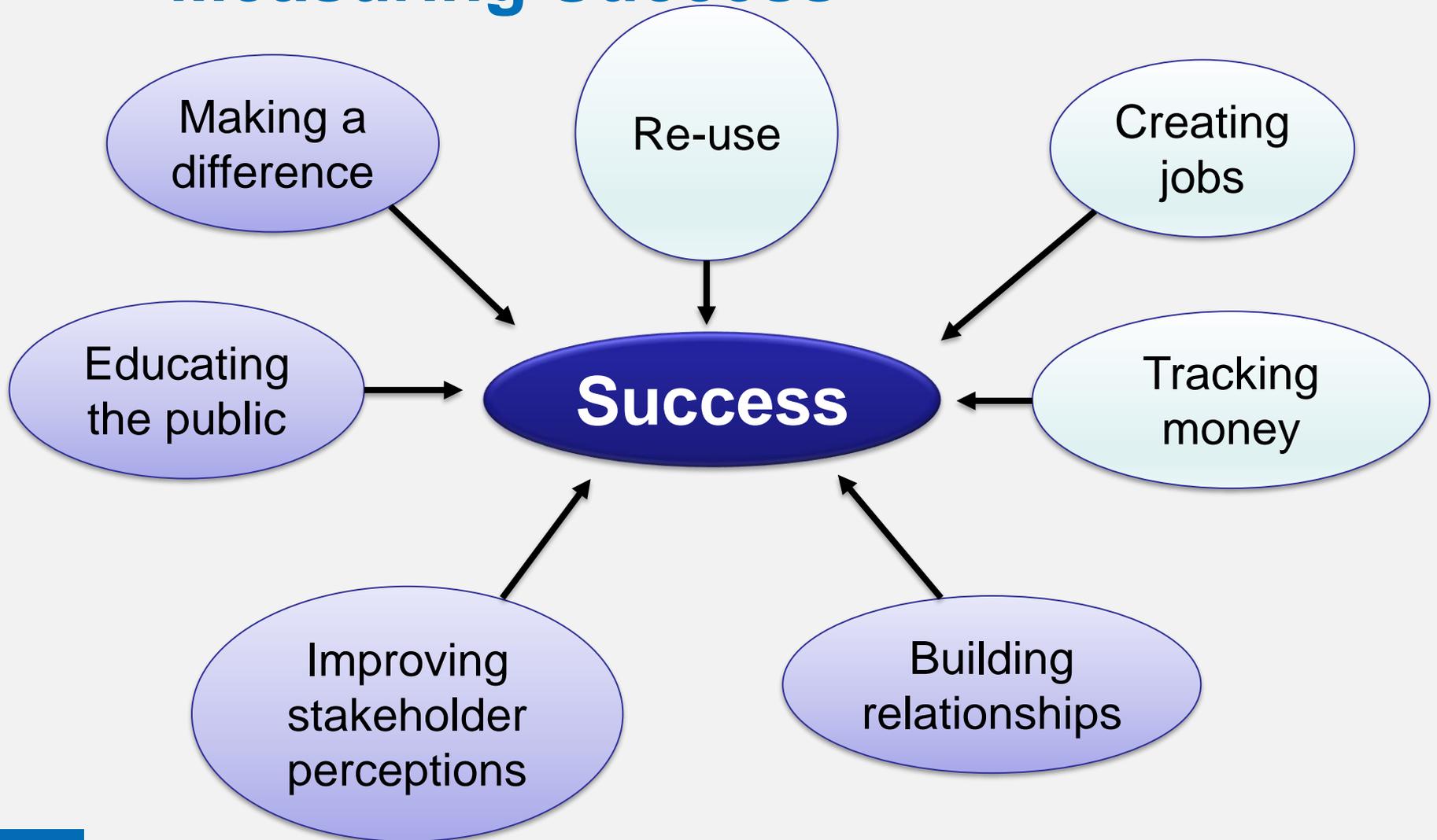
# Agency Measures of Success- Economic

Summary of Brownfields Program Accomplishment as of August 1, 2019

Performance Measure	FY2019 Targets	FY2019 Accomplishments	Cumulative Program Accomplishments
Properties Assessed	1,300	1,590	28,697
Properties Cleaned Up	130	181	1,816
Jobs Leveraged	7,000	13,346	144,800
Dollars Leveraged	\$1.3 BN	\$2.139 BN	\$27.527 BN
Properties Made Ready for Reuse	684	823	7,262
Acres Made Ready for Anticipated Reuse	5,500	10,206	80,952

Table accessed at <https://www.epa.gov/brownfields/brownfields-program-accomplishments-and-benefits>, 9/25/19

# EPA Cleanup Practitioners on Measuring Success



# Technical and Economic Measures

- Creating jobs, tracking money, re-occupancy and re-use

*“Well successful to me, is first of all, making sure the communities and the grantees are spending their money... We want the money spent in a timely manner... Secondly is that you know, these sites turn into something else. They are actually reused or redeveloped in some way.”*

*“So success with that project is not only being able to say that maybe we don’t have such a big problem, but being able to say that this \$10,000 a year that we’ve taken to spend on hiring these people has been really effective because it’s given them a job.”*

# Qualitative Measures – Making a Difference

- Seeing positive changes in the community
- Making progress
- Removing immediate danger

*“Well, I mean I always felt like when I completed the cleanup and I left this nice pretty place, that the contamination was gone, that was success for me.”*

*“Some of them had vegetable gardens that they were eating from all the time that were contaminated. So that’s a real cleanup success story because we were able to actually clean up their yard. And now the grass that their kids are playing in and the vegetables that they’re eating are not contaminated.”*

# Qualitative Measures - Improving Stakeholder Perceptions

- Making people happy
- Changing people's minds
- Improving public perception of Agency

*“And even more so if it was in a residential area and the residents were happy that was success for me.”*

*“I was always trying to negotiate down to something that was reasonable, but you know lots of back and forth. [They said] I was trying to rip them off. But in the end they had a party for me; they gave me cookies and presents and stuff.”*

# Qualitative Measures - Building Relationships

- Trust
- Making connections between stakeholders
- Collaboration

“There’s one site where I was able to work with an individual who would cause havoc at every meeting to the point where no one else wanted to participate. And I reached out and was able to develop a relationship with her outside of the public meeting forum, which allowed the public meetings to go a lot more smoothly. And actually allow other people to have their voice be heard.”

# Qualitative Measures - Educating the Public

- Teaching
- Spreading awareness

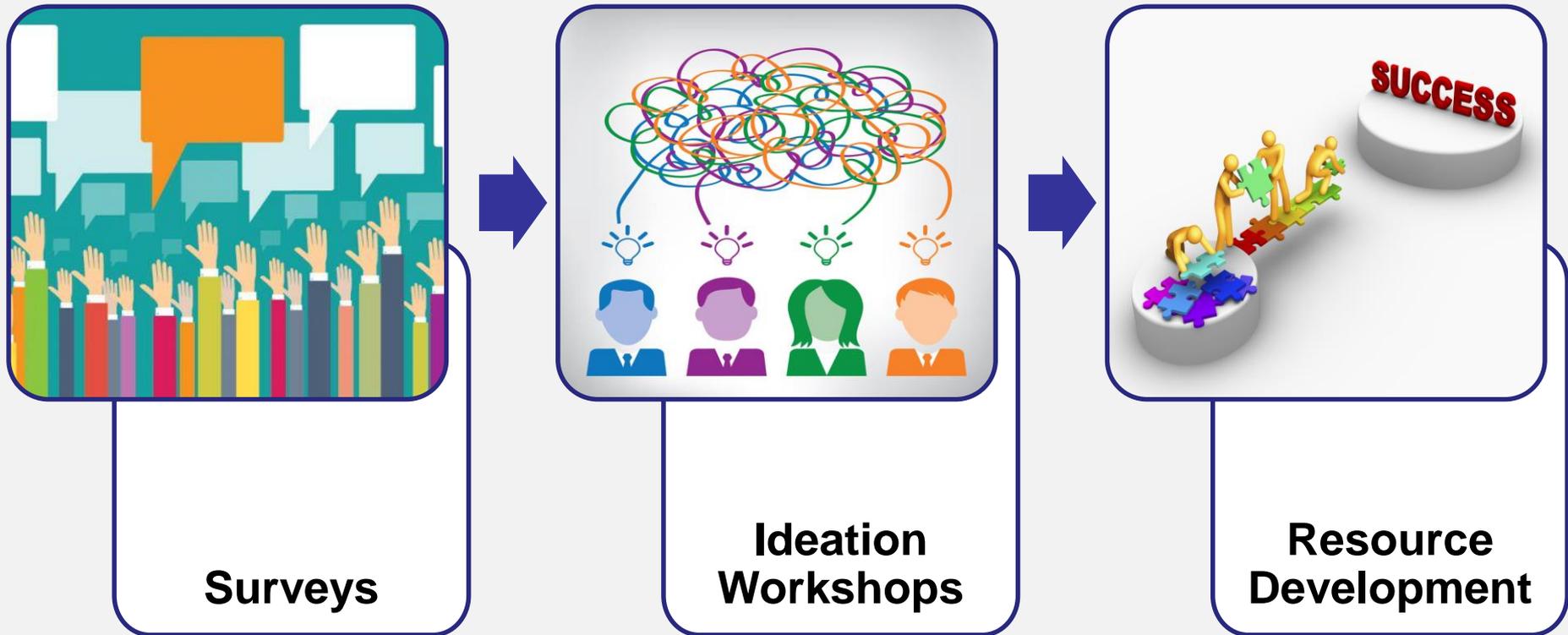
*“If [the public is] unhappy about it, they're protesting outside, -- in fact it almost makes you feel better. If they're there when you show up. ‘Cause at least they know about it. So that to me is important: people know about it and people understand. When people argue with me about the fine points of a cleanup, even if I disagree with them, I'm happy that they know this much, because I feel like we're doing our jobs, making sure they understand why we made a decision, what we're doing.”*

# Implications of This Research

- Need for holistic framework
  - Recognizes other types of value added by cleanups
  - Addresses disconnect between theory and practice
- *Building blocks of success = **relationships & trust***
- Ways to expedite the cleanup process



# Next Steps for Our Research



# Thank You!

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**Come see us tomorrow at the Tech Café!**

