



FEED ^{THE} FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

DEVELOPING LOCAL EXTENSION CAPACITY



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INSTITUTE





If it worked elsewhere, will it work here?

A practical framework for applying evidence in different contexts

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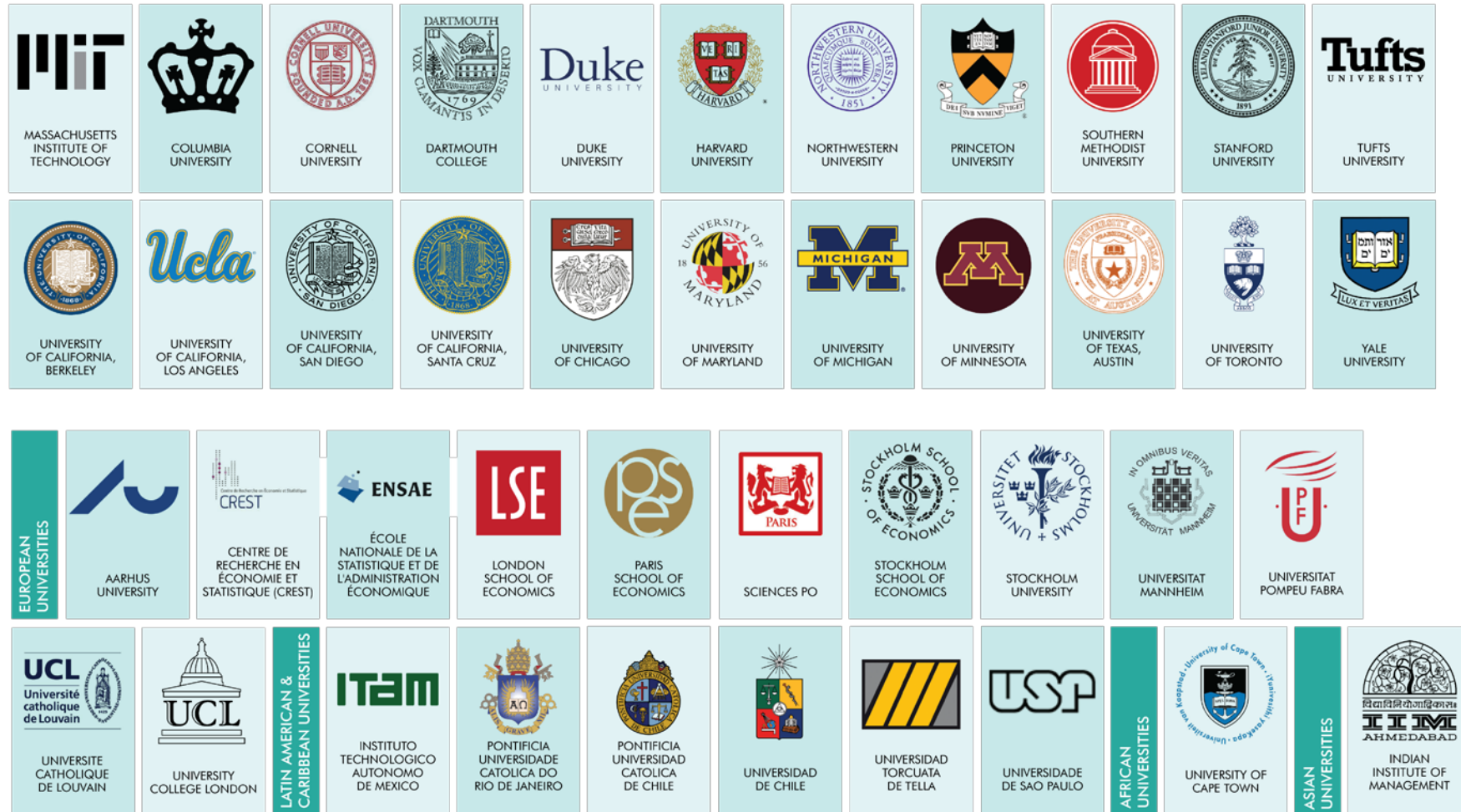
July 17, 2018



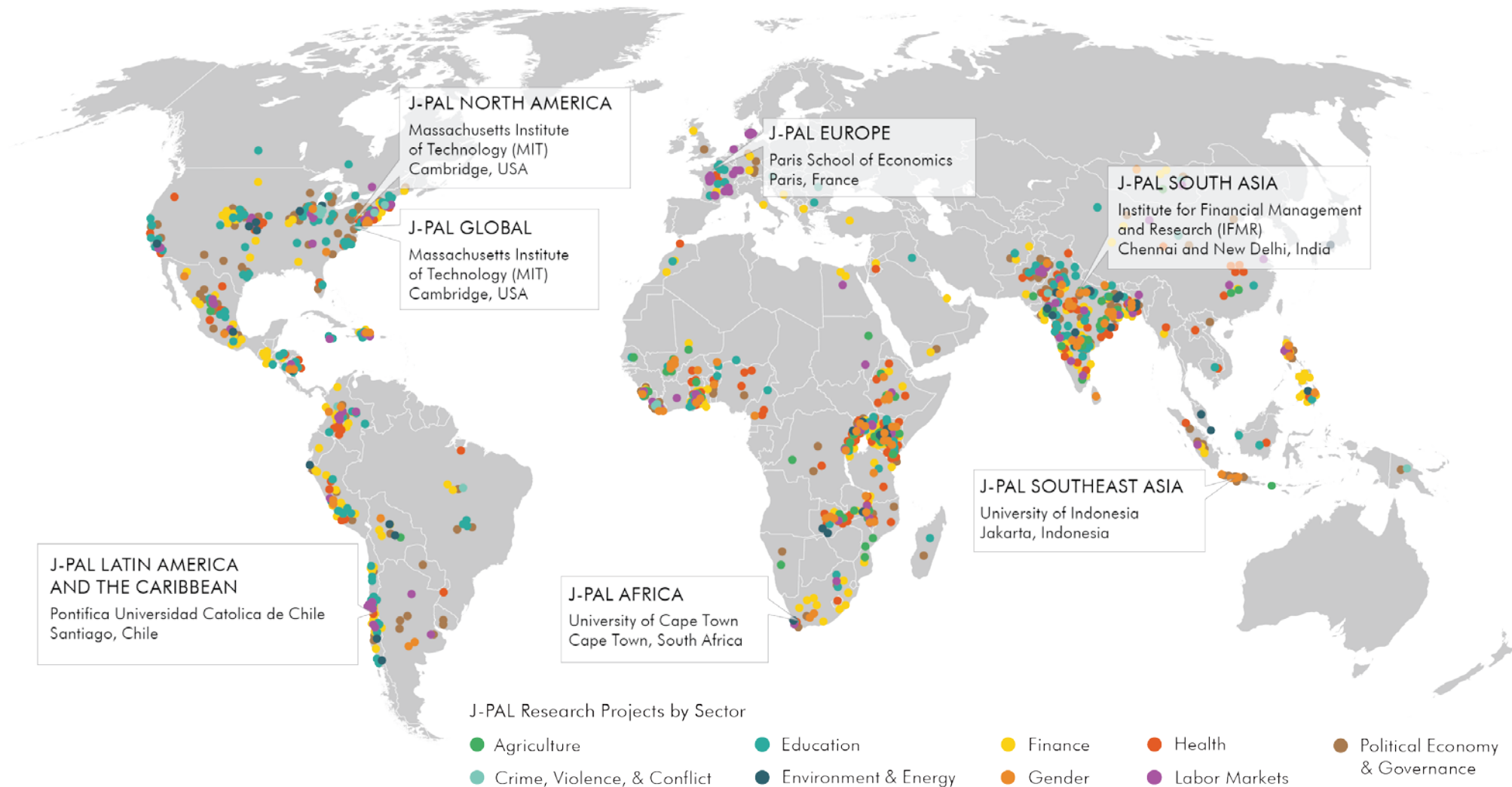
Outline

- **About J-PAL and ATAI**
- The challenge of using evidence in decision-making
- The generalizability puzzle: a practical framework for applying evidence in different contexts
- Case study: harvest storage loans

J-PAL is a global research center anchored by a network of over 160 professors who conduct randomized evaluations to inform policy



J-PAL's mission is to reduce poverty by ensuring that policy is informed by scientific evidence





- Co-managed with Center for Effective Global Action (CEGA) at UC Berkeley
- **Mobilized the research community:**
 - Funded 51 projects in 17 countries in South Asia and Africa since 2009
 - +100 researchers (nearly half had no previous agricultural research)
- **Policy outreach:** emerging insights briefs, matchmaking, customized trainings, evidence dissemination events
- **Scaling ongoing:** flood-tolerant rice, collateralized loans for watertanks, mobile-based extension, harvest-time storage loans

www.atai-research.org



BILL & MELINDA
GATES foundation

Developing research and policy partners

ATAI researchers have worked with over 50 partners on evaluations

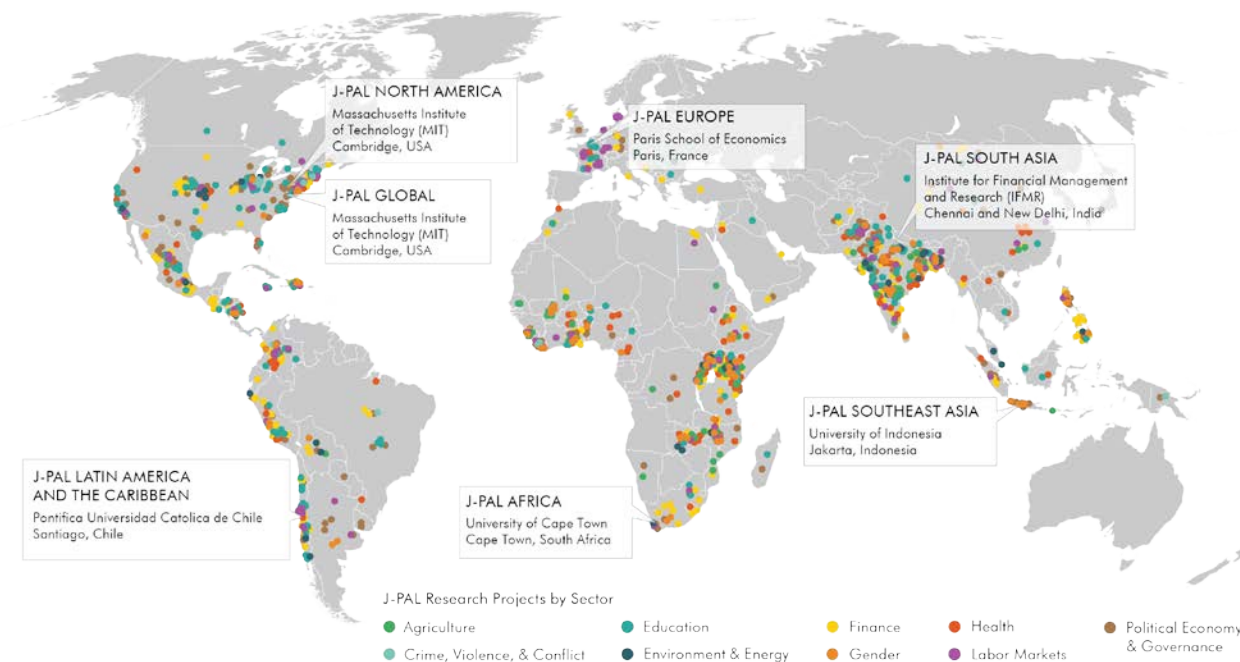


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The Challenge of Using Evidence in Decision-making

- Dramatic increase in the number of rigorous impact evaluations in developing countries in last two decades
- Despite this proliferation of research, it is unlikely there is a rigorous evaluation of the program policymakers want to introduce in exactly same location
- So how do we apply evidence from other programs and locations to our context?



The Challenge of Using Evidence in Decision-making

- Rigorous impact evaluations are hard to do well and we underutilize their potential if we only learn about the precise program and context they evaluate
- But understanding local needs, and informal and formal institutions is critical to good policy
- We should do more replications of RCTs of similar programs in different contexts, but there are limits
- Policymakers never have 100% certainty
 - Tomorrow is always a new context
 - Is imperfect evidence likely to be worse than no global evidence?

Structured Approach to Evidence Use

- Evidence from a single study is just one part of the puzzle
 - We weigh the evidence based on quality and adjust priors
- Combine theory, descriptive evidence, and results of rigorous impact evaluations to answer:
 - Whether results from one country likely to replicate in another
 - When we need more evaluation and when we don't

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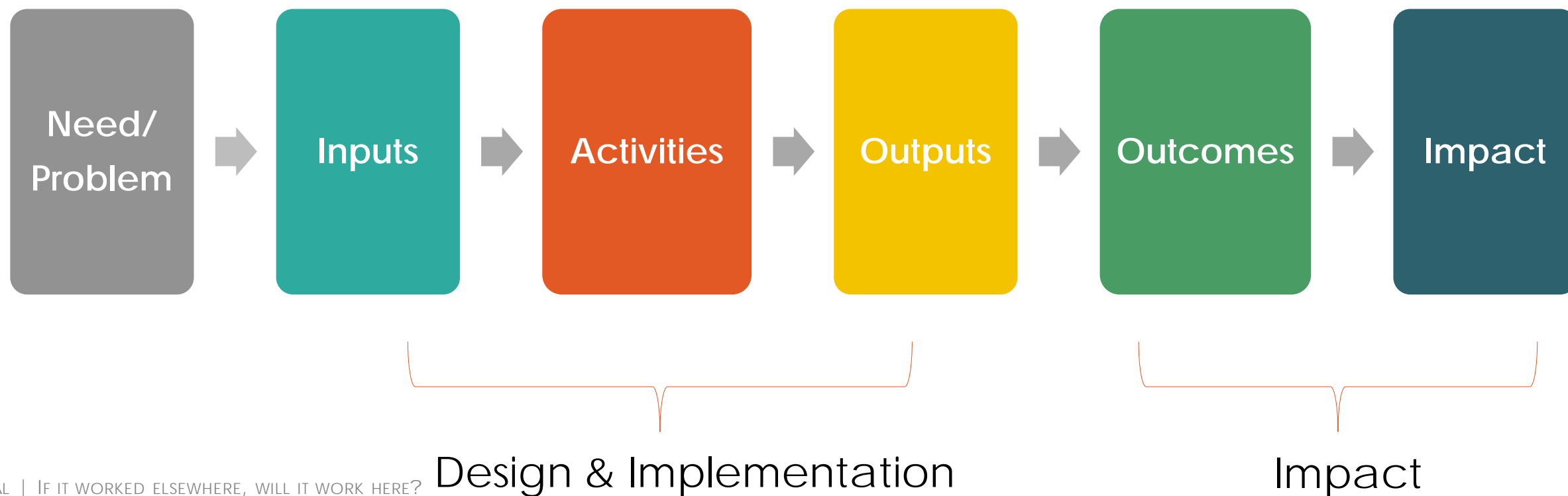
The Generalizability Framework: a Theory-Based Approach to Using Evidence

- Does a piece of existing evidence generalize to my current context?
- Break it down, based on the **theory of change** behind the evidence:
 1. Do the **local conditions** hold for that theory to apply?
 2. How strong is the evidence for the **general underlying mechanisms**?
 3. What is the evidence that the **implementation** process can be carried out well?

Bates, Mary Ann, and Rachel Glennerster. "[The generalizability puzzle](#)." *Stanford Social Innovation Review*. Leland Stanford Jr. University. Accessed September 11 (2017): 2017.

Start With A Theory of Change

A comprehensive description and illustration of how and why desired change is expected to happen in a particular context.



The Generalizability Framework: applying evidence across contexts



1. Local Conditions

Find descriptive data to better understand if the same issues are at play in your context



1. Does the issue or challenge that the original program aimed to solve exist in your community? To what extent?
2. Is there evidence that the underlying cause is the same or similar?
3. Are the same conditions that were important for the intervention to be implemented in the original context also true in your case?

The Generalizability Framework: applying evidence across contexts



2. General lessons from existing evidence

Assess the strength of the evidence for the mechanisms that make this program effective, and whether the key assumptions hold in your context



1. Why did this program work? What are the main mechanisms of change?
2. What evidence currently exists that these mechanisms are valid? What is the quality of the evidence?
3. What are the underlying reasons for why this theory is generally effective?
4. What assumptions are required and do they hold in the new context?

The Generalizability Framework: applying evidence across contexts



3. Local implementation

Assess whether the program can be successfully implemented in your context



1. What are the critical implementation assumptions that must be met for the program to be implemented with fidelity?
2. In this new context, who would implement the program and do they have the capacity?
3. What are potentially enabling/hindering factors?

The Generalizability Framework: applying evidence across contexts

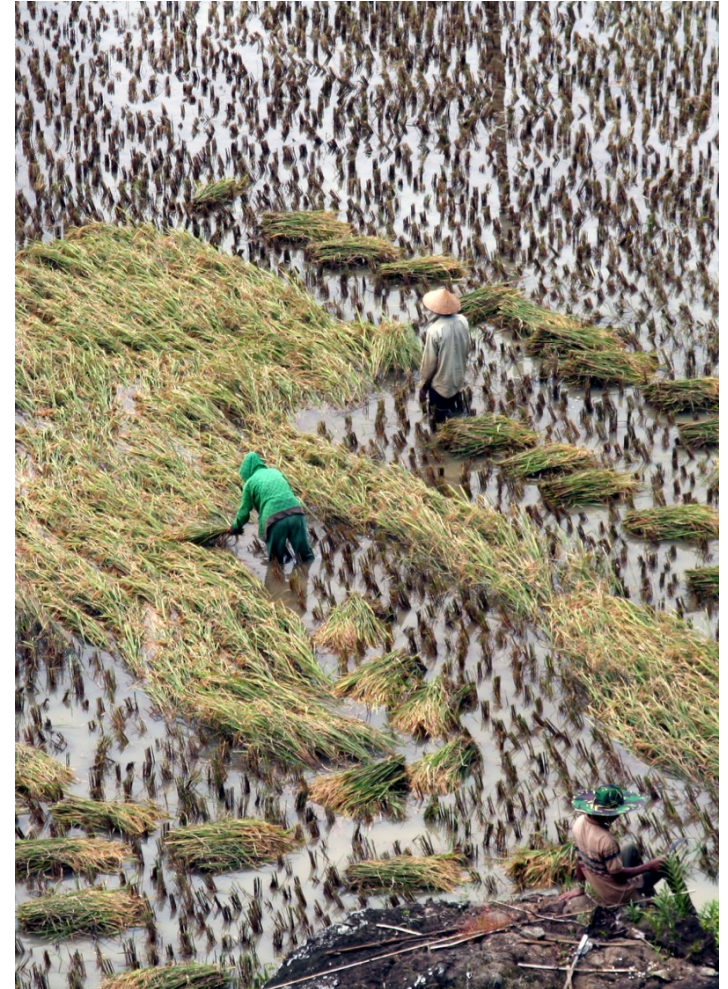


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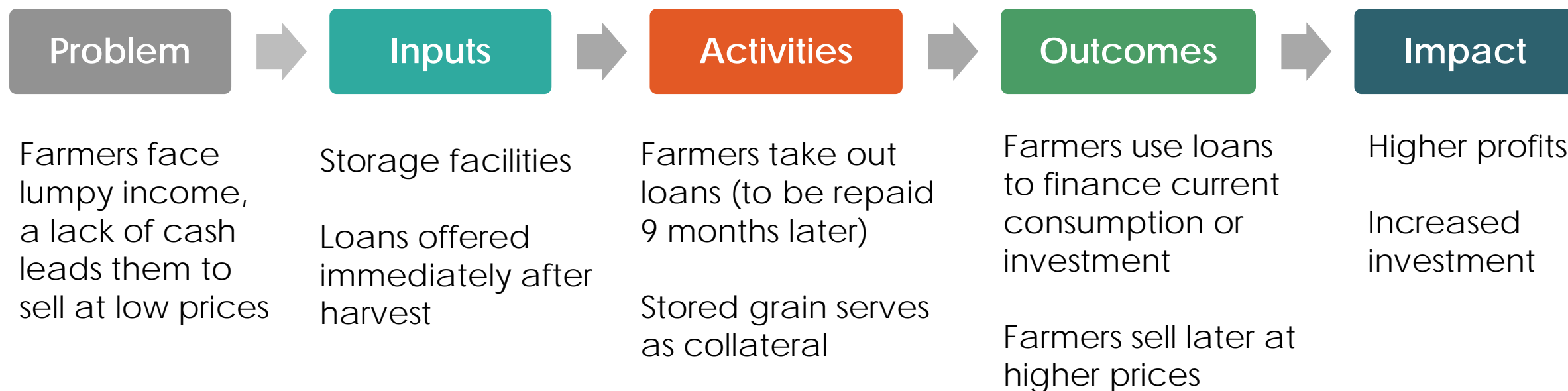
Replicating Harvest Time Loans in Indonesia

- J-PAL Southeast Asia with support from J-PAL Global is currently advising the Government of Indonesia
 - Interested in boosting profits in agriculture sector among maize farmers in eastern Indonesia
 - Building on / tweaking existing Warehouse Receipt Scheme
- Collecting descriptive information in Indonesia and implementation details from original implementer now



Start With A Theory of Change: Harvest storage loans

Providing timely access to credit allowed farmers in Kenya to purchase at lower prices and sell at higher prices, increasing farm profits and generating a return on investment of 28%



Burke et al. 2018



HARVEST-TIME
STORAGE
LOANS



LOCAL
CONDITIONS



GENERALIZED
LESSONS ON
BEHAVIOR



LOCAL
IMPLEMENTATION



HIGHER PROFITS
FOR
SMALLHOLDERS



**HARVEST-TIME
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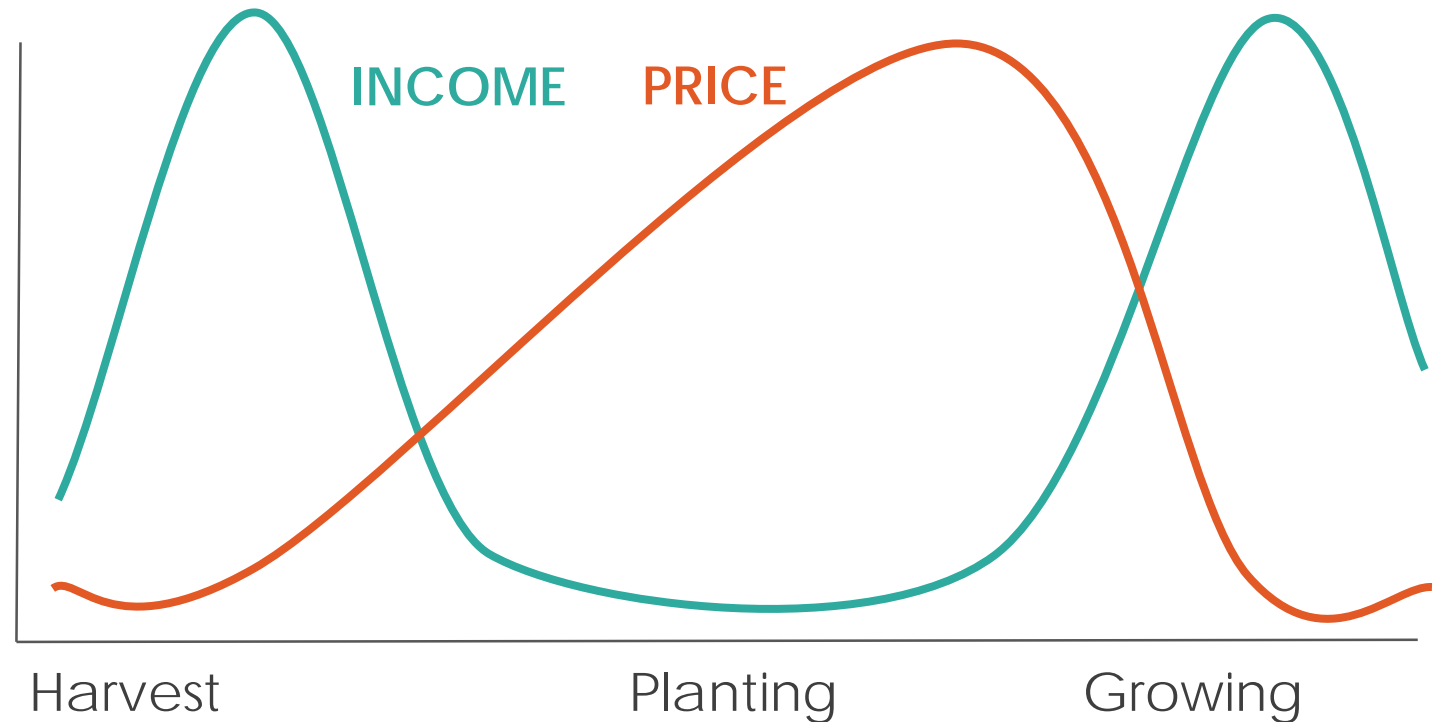


**HIGHER PROFITS
FOR
SMALLHOLDERS**

1. Farmers sell their produce and have an available market
2. Farmers' income and grain prices are both highly seasonal
3. Farmer income does not necessarily come at the time when farmers need to make investments
4. Markets are poorly integrated, so prices are very responsive to changes in local supply

Seasonal income and price fluctuations can prevent farmers from making potentially profitable investments

- Intra-seasonal price fluctuations of over 100% exist in many grain markets
- Farmers sell most of their crops at harvest, and generally need to make investments during the planting or growing season



Tailoring financial products to agricultural cycles can improve take-up and impact



HARVEST-TIME
STORAGE
LOANS



LOCAL
CONDITIONS



GENERALIZED
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LOCAL
IMPLEMENTATION



HIGHER PROFITS
FOR
SMALLHOLDERS

Tailoring financial products to agricultural cycles can improve take-up and impact

- [Zambia](#): loans timed to provide farmers with cash or food between harvests allowed smallholders to work less on others' farms for cash and hire labor to work on their own land
- [Zambia](#): 98 percent take-up of loan to be repaid after harvest and agricultural output rose by 8 percent
- [Mali](#): smallholders who were offered loans repayable after harvest invested more in inputs
- [Kenya](#): allowing farmers to delay payment for index insurance until after harvest increased take-up from 5 percent to 72 percent
- [Kenya](#): 44 percent of farmers took up asset collateralized loans for watertanks for dairy farmers



HARVEST-TIME
STORAGE
LOANS



LOCAL
CONDITIONS



GENERALIZED
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LOCAL
IMPLEMENTATION



HIGHER PROFITS
FOR
SMALLHOLDERS

1. Financial institutions are willing to lend to the agriculture sector and hold the necessary capital

2. Crops can be stored effectively and serve as collateral

3. Loan balances can be collected through seizure of crops

Implementation considerations

- **Capital for loans:** can the implementer hold and disperse large amounts of cash to borrowers?
- **Storage facilities:** do adequate storage facilities/solutions exist that protect crops from spoilage?
- **Collecting loan payments:** can the lender prevent side-selling and seize crops in the case of default? Can the lender effectively identify borrowers?

Tailoring financial products to agricultural cycles can improve take-up and impact



HARVEST-TIME STORAGE LOANS



LOCAL CONDITIONS



GENERALIZED LESSONS ON BEHAVIOR



LOCAL IMPLEMENTATION



HIGHER PROFITS FOR SMALLHOLDERS

1. Farmers sell their produce and have an available market
2. Farmers' income and grain prices are both highly seasonal
3. Farmer income does not necessarily come at the time when farmers need to make investments
4. Markets are poorly integrated, so prices are very responsive to changes in local supply

1. Financial institutions are willing to lend to the agriculture sector and hold the necessary capital
2. Crops can be stored effectively and serve as collateral
3. Loan balances can be collected through seizure of crops

How might you apply this framework?

How would you apply this framework to your extension programs?

Which steps in the process can you assess with existing knowledge and data?

Which steps in the process would you need to bring in outside expertise?

What barriers might constrain the application of this framework in your work?

Key Resources for Evidence

- [ATAI website](#)
 - [J-PAL evaluation database](#)
 - [J-PAL policy insights](#)
 - [J-PAL policy briefs](#)
 - [IPA evaluation database](#)
 - [3ie Evidence Gap Maps](#)
 - [Givewell Intervention Effectiveness Reports](#)
 - [Campbell Systematic Reviews](#)
- For doing research:
 - [IADB's Evaluation Hub](#)
 - [J-PAL research resources](#)
 - [IPA Goldilocks Right-Fit Toolkit](#)



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<https://www.surveymonkey.com/r/TRMDTVQ>

Join our Community of Practice:

<https://dlec.hivebrite.com/>



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Thank you!

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