Aggregating the benefits and costs of nutrition-sensitive interventions

Comparisons across interventions

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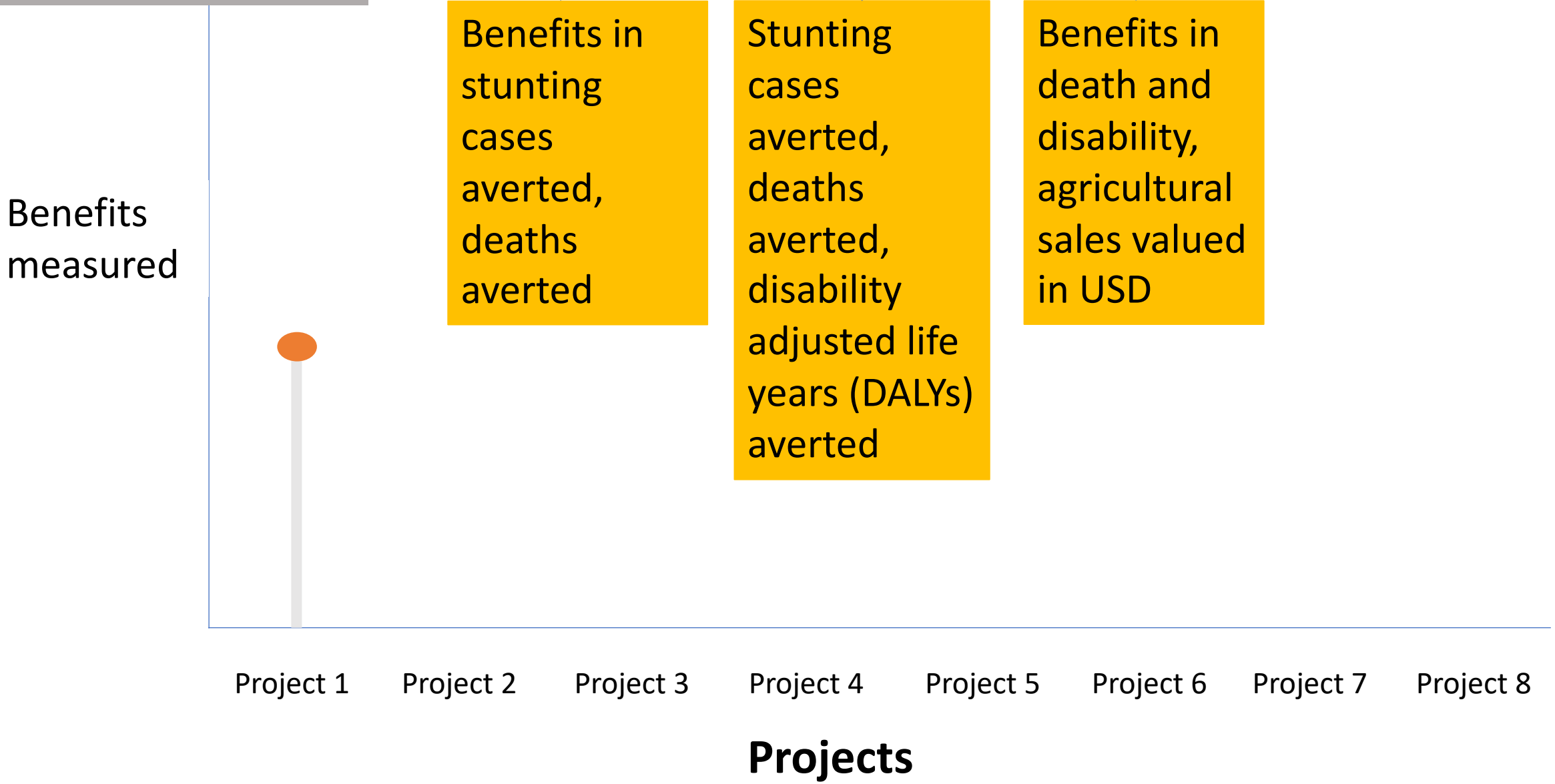
Limitations of existing economic evaluation approaches

- Nutrition-sensitive program designs are heterogenous
- Act as platforms to reach target groups with different activities
- It is challenging to value the benefit streams from these activities in a standardized way

EXISTING MODELS

LiST model	CEA model	BCA model
Benefits in stunting cases averted, deaths averted	Stunting cases averted, deaths averted, disability adjusted life years (DALYs) averted	Benefits in death and disability, agricultural sales valued in USD

Benefits aggregation model



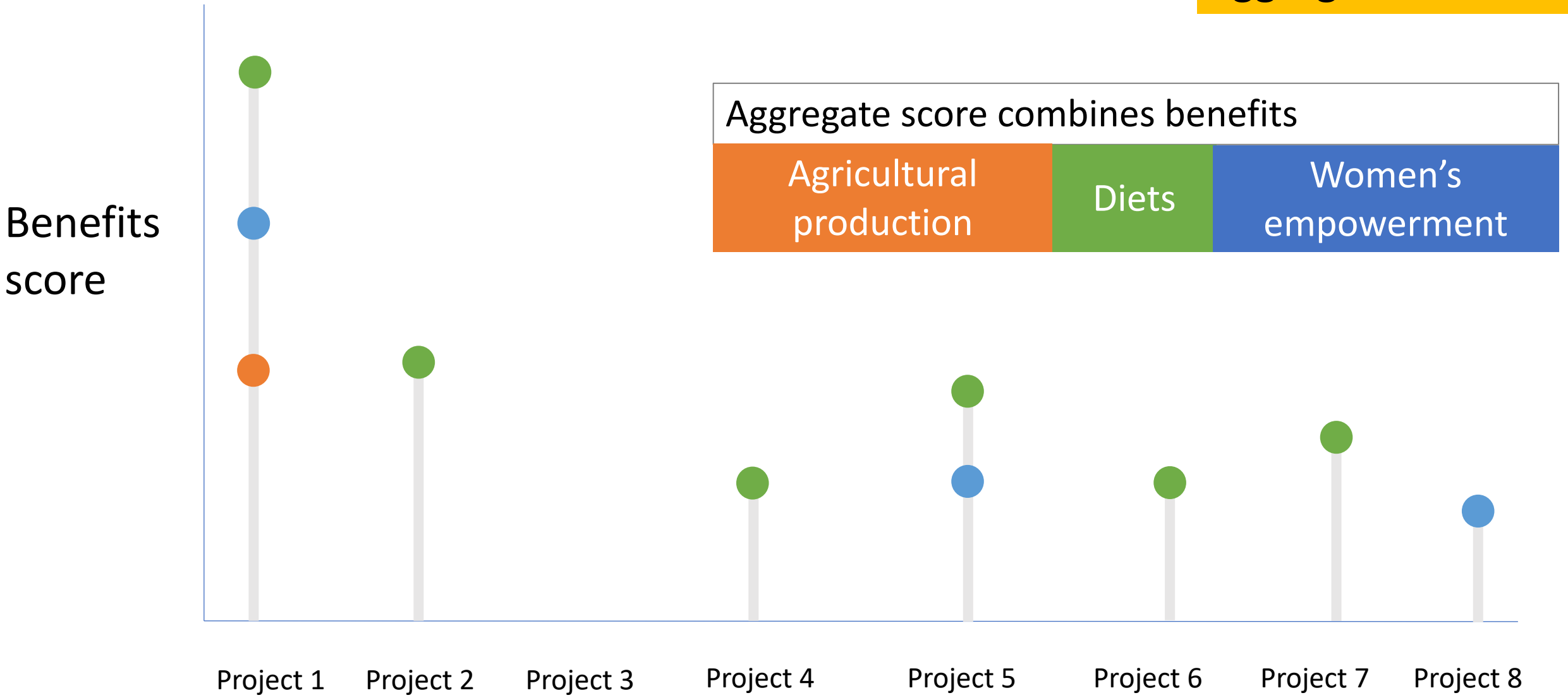
Developing a benefits aggregation model

- Agriculture-nutrition programs that are not designed with only one outcome indicator or impact pathway
- How can we develop an approach that assesses benefits across various impact pathways that does not depend on one underlying indicator to determine program benefits (i.e., stunting)?

MODEL

LiST model CEA model BCA model

Benefits aggregation model



Objectives

1. Develop methods for meaningful comparisons of multiple benefits of nutrition-sensitive programs
2. Demonstrate added value of aggregate benefit scores

Aggregation of Benefits and Costs

Review, synthesis and application

1. Review process
2. Develop framework to aggregate indicators across impact pathways
3. Apply framework using data from impact evaluations

Review process: what do interventions have in common?

- Assess current range of benefits in evaluations of nutrition-sensitive interventions
- Examine designs and outcome indicators
- Assess effectiveness

All programs measured indicators across different domains

…but not every intervention used the same indicators

How to create a score to compare programs?

What do we need to know?

Did the intervention have an impact?

What was the size of that impact?

What else do we need to consider?

Multiple indicators

Multiple impact pathways

Different program designs

How to answer these questions?

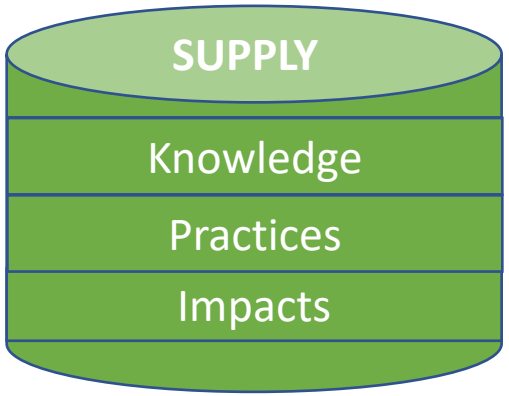
- Did the intervention have an impact?
  - Count score: a binary score for each impact pathway "bucket" to capture impacts on any outcome, then add scores across buckets
- What was the size of that impact?
  - Effect score: identify the most common, continuous indicator as proxy for effect size in each bucket

ALSO….

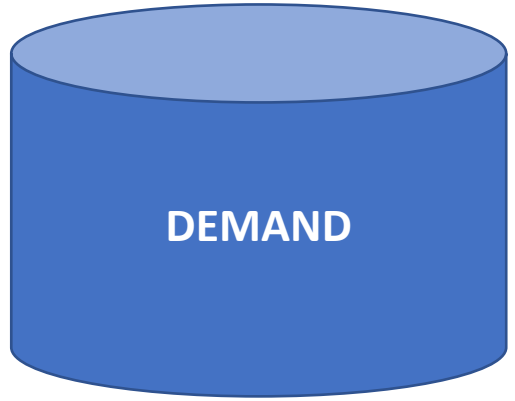
- What potential impact *could* this intervention have had if everything had been measured?
  - Potential scenarios: imputing missing data

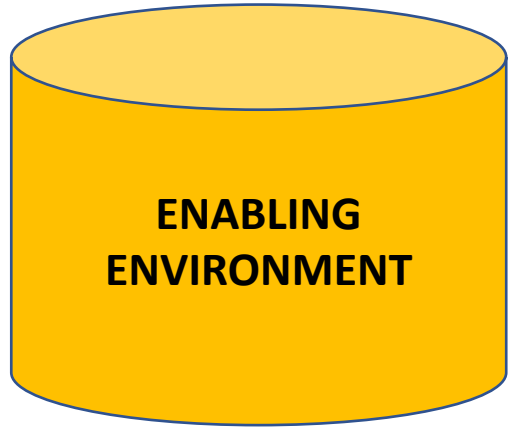
Was there an impact? (creating the Count score)

Is there an impact on any indicator in the sub-bucket? (YES=1, NO=0)



Score other impact buckets

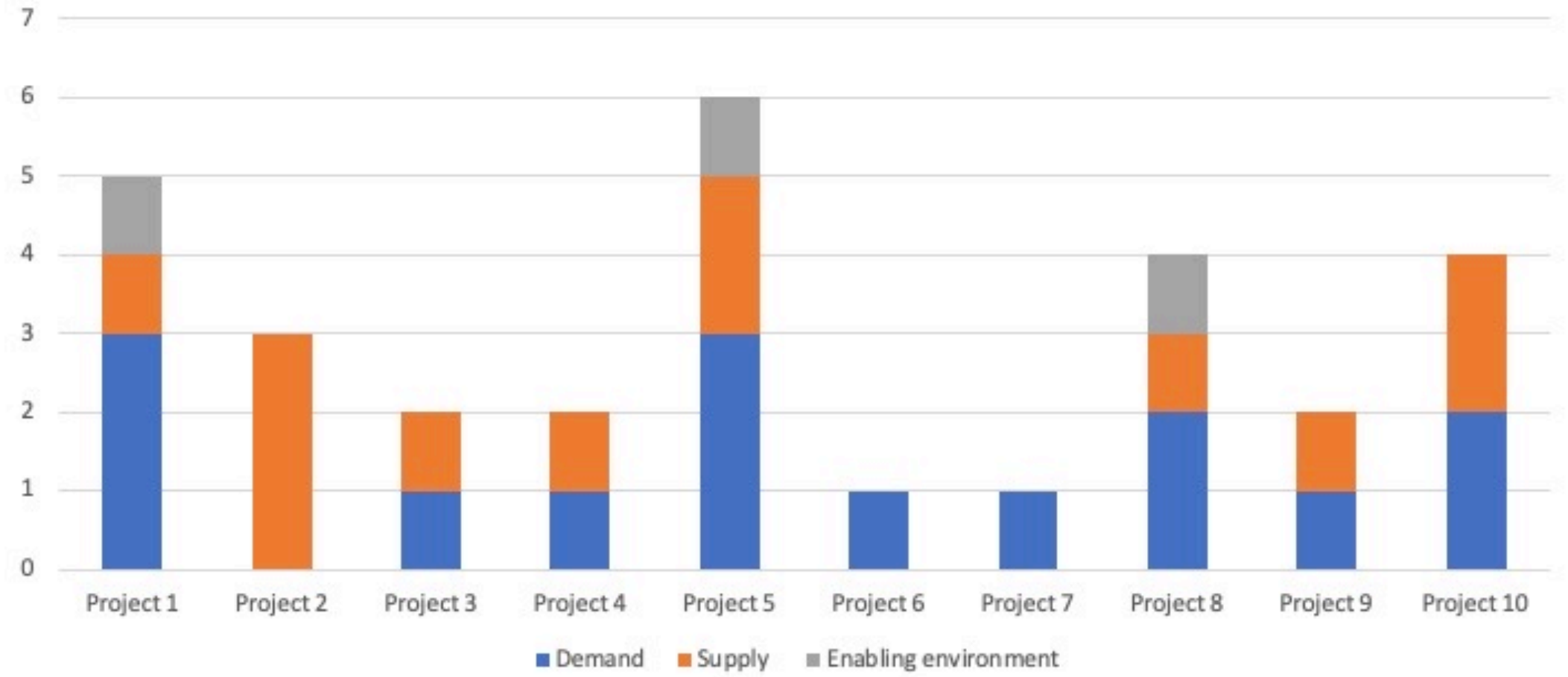




SUPPLY BUCKET	INDICATORS	Project 1	Project 2
Knowledge	Nutritious food production knowledge	Not measured	1
Sub-bucket total		0	1
Practices	Improved production practices	Not measured	1
Sub-bucket total		0	1
Impacts	-Production diversity/variety -Increase in targeted nutritious food or livestock -Food security	1	1
BUCKET TOTAL		**1**	**3**

Count scores

Addresses multiple impact pathways, but not the magnitude of effects



How to create a score to compare programs?

What do we need to know?

✓Did the intervention have an impact?

What was the size of that impact?

What else do we need to consider?

Multiple indicators

Multiple impact pathways

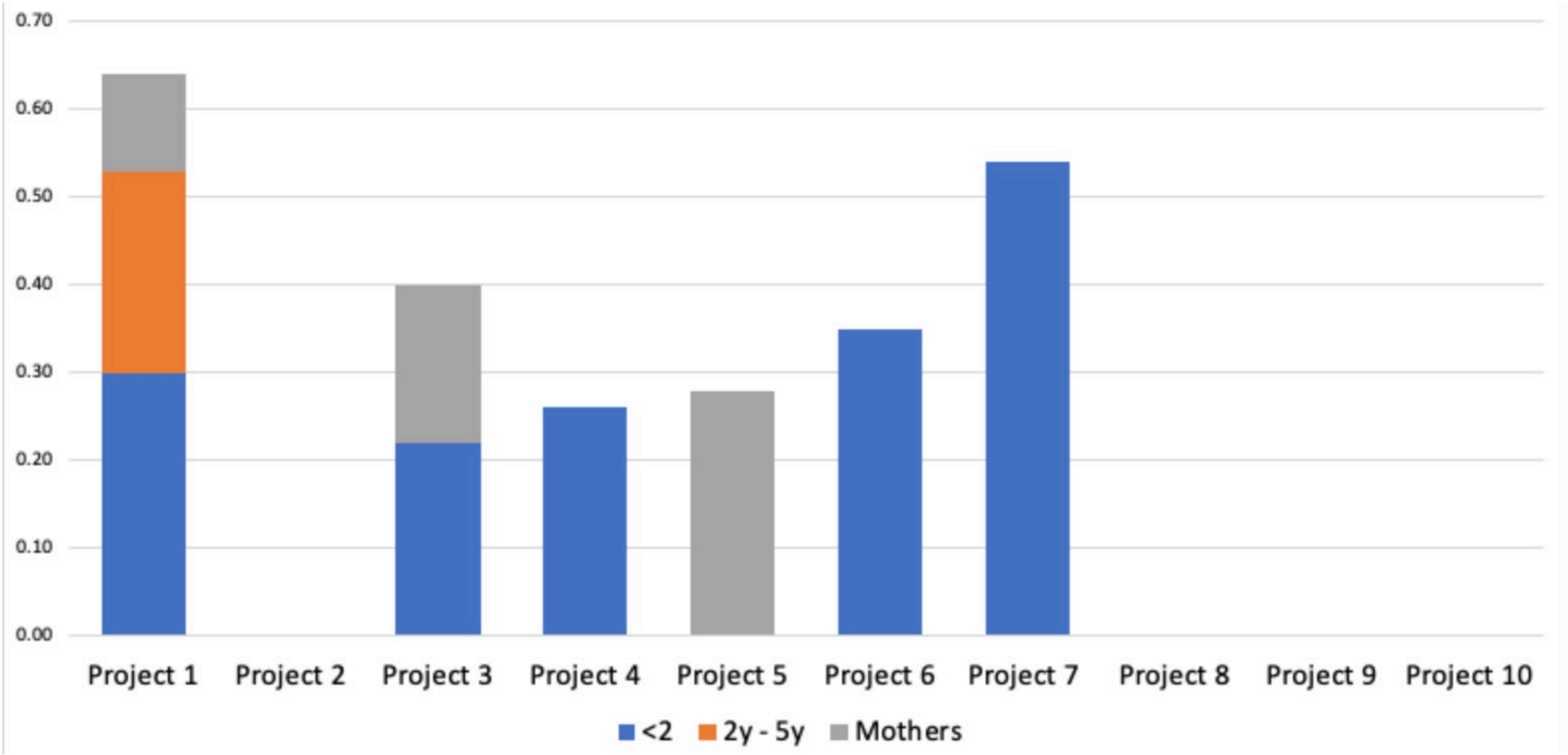
Different program designs

Creating an “effect score”

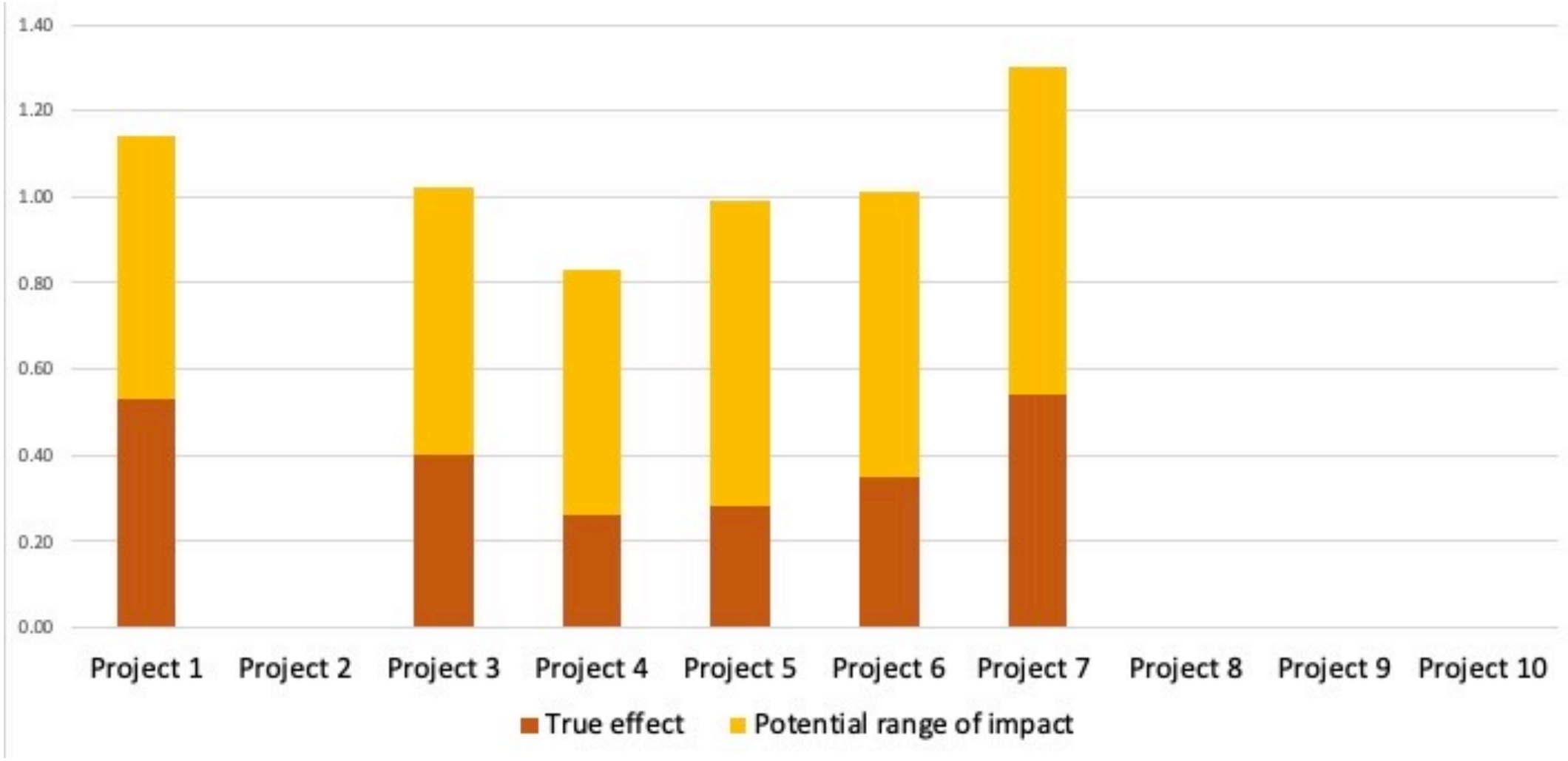
- Step 1: Screen interventions and extract data
- Step 2: Enter trial data into dashboard (measured impacts)
- Step 3: Create “potential impact” scenarios with imputation
- Step 4: Generate aggregate scores by impact pathway
- Step 5: Generate total aggregate score for relative project rankings

True effects: actual project impacts on diet diversity

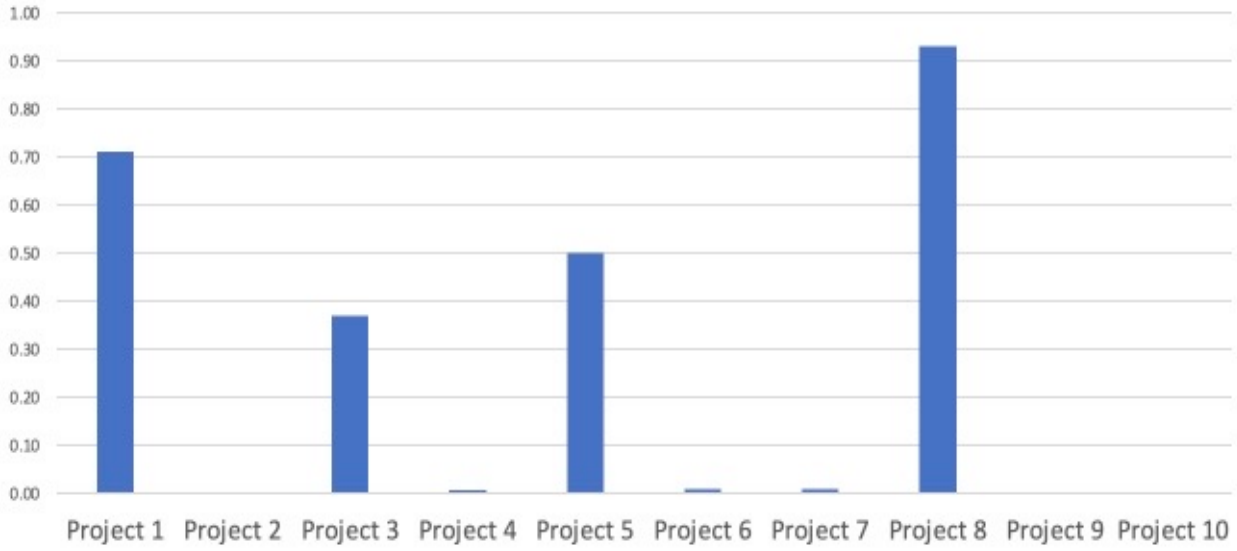
Sum of impacts on diet diversity scores (DDS)



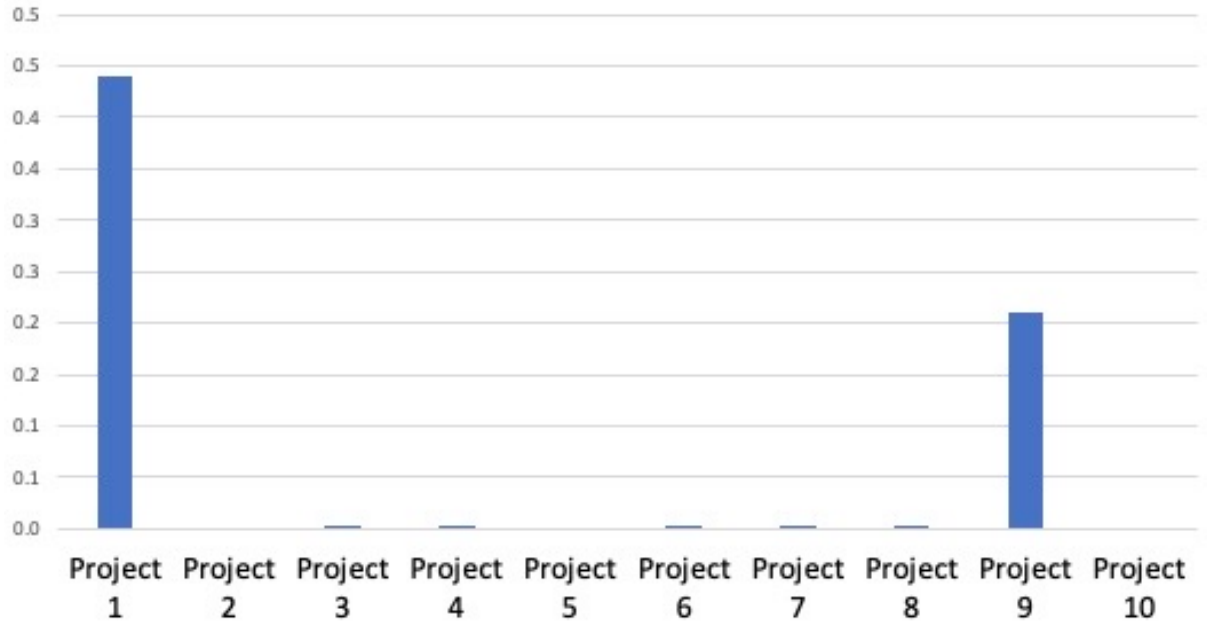
Actual vs. potential impacts on diet diversity scores



Extending this to other buckets…

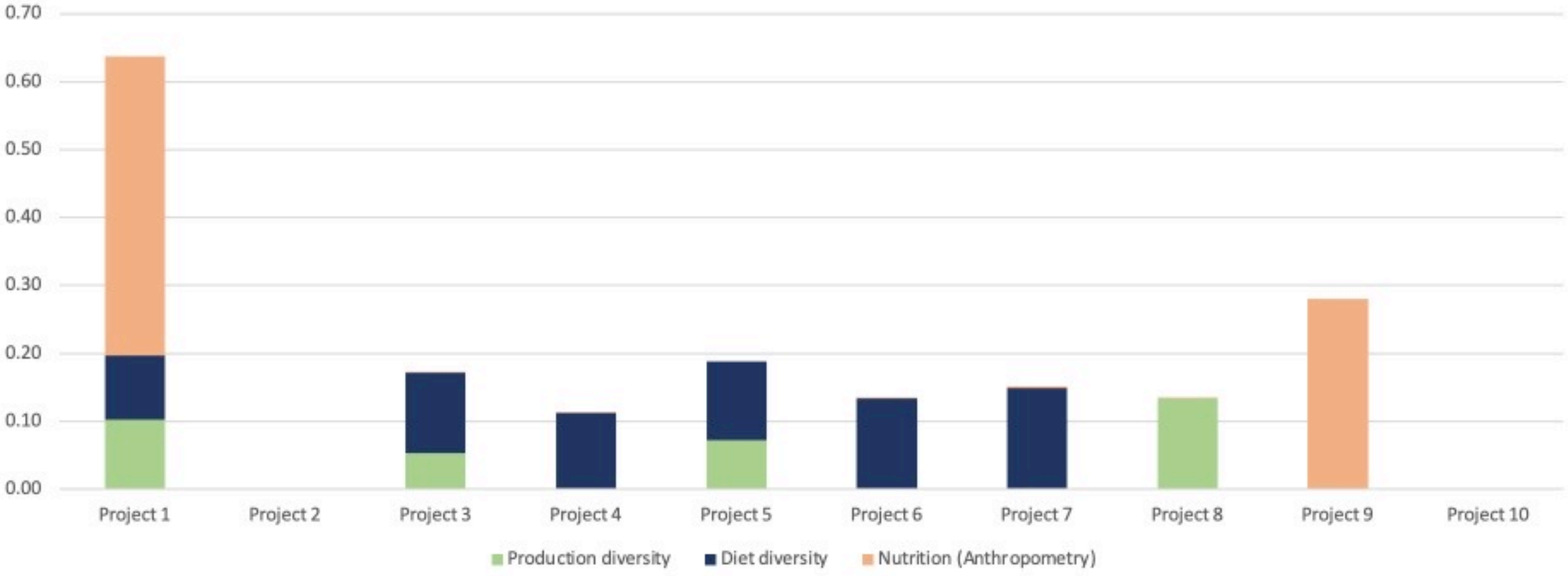


Production diversity

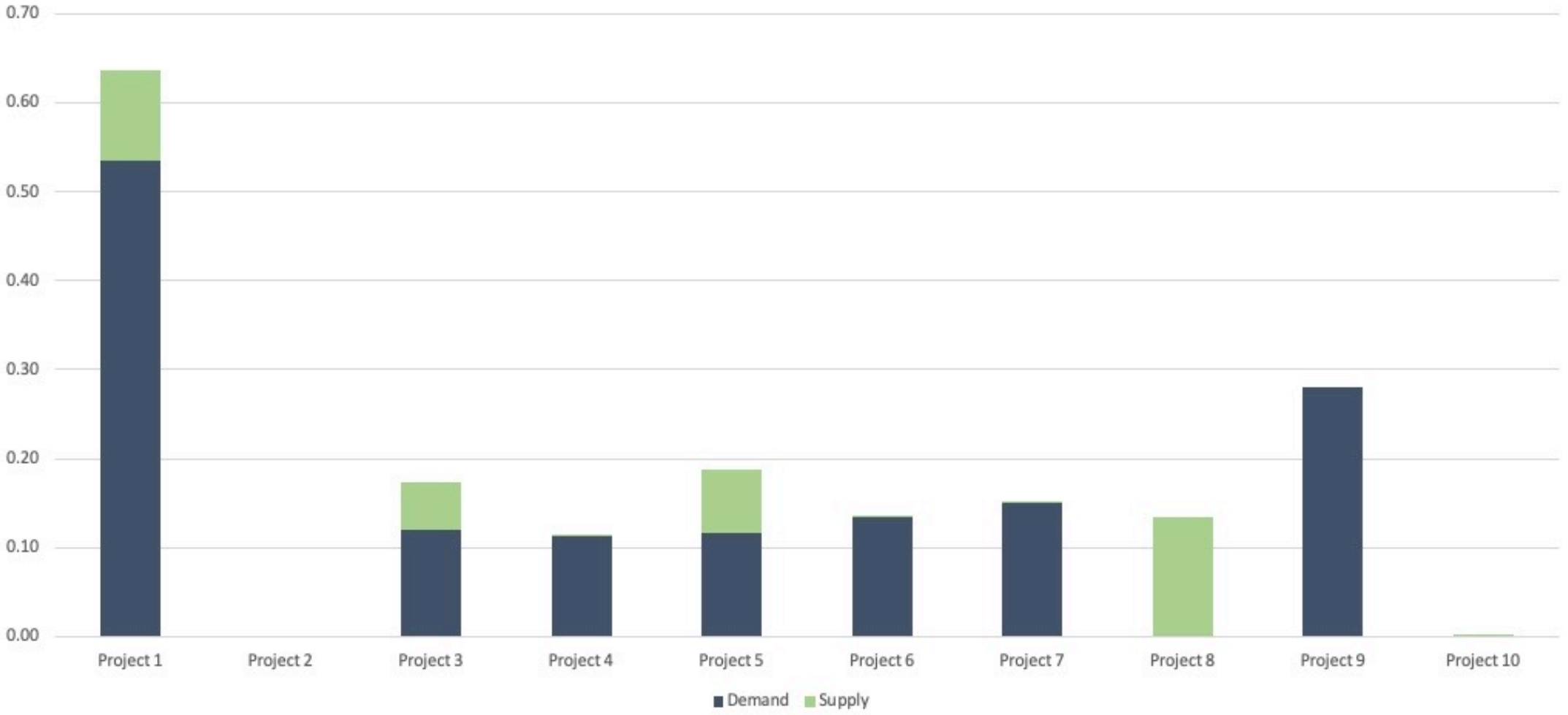


Anthropometry

Breakdown of effect sizes by buckets



By impact pathway…

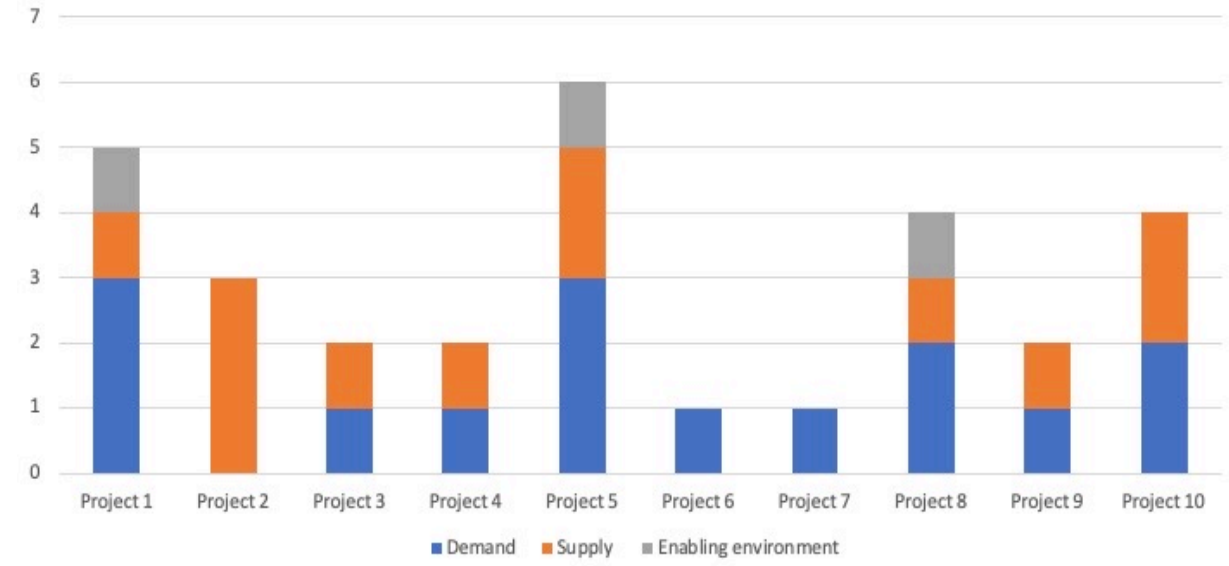


What's next? Developing a dashboard

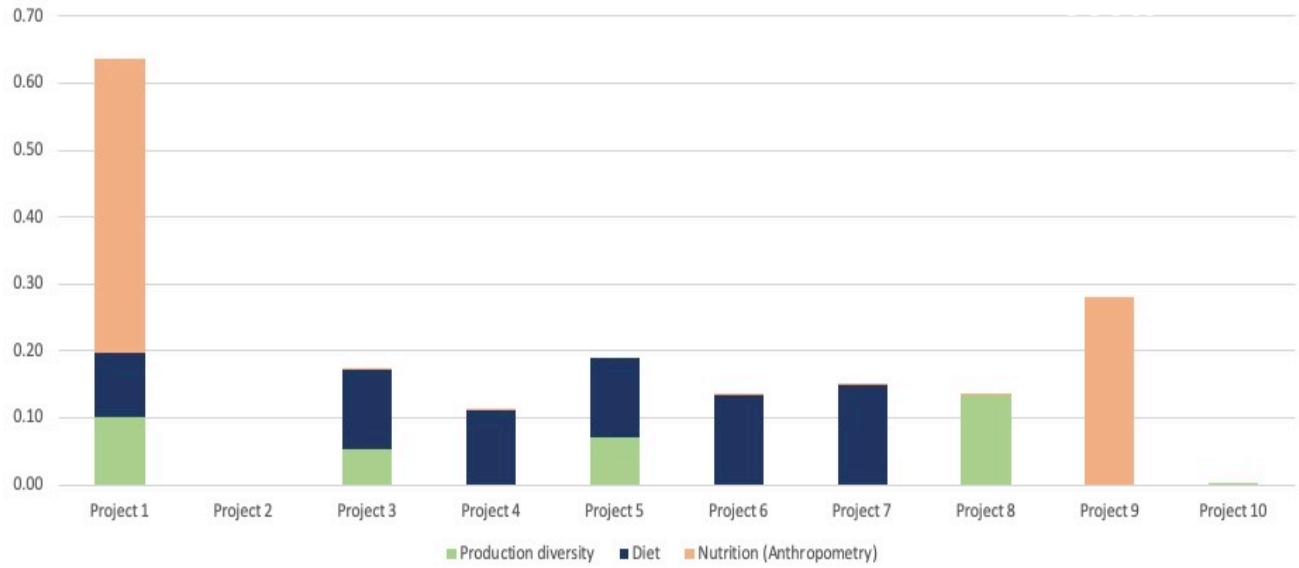
Helping users understand what the evidence means

- Bringing in costs from economic evaluations so the user can see relative cost/impacts and for comparison with nutrition-specific programs
- Exploring project rankings by different scores (count, effect, costs)

Count scores



Effect scores



Opportunities and limitations

Limitations

- Incomplete data regardless of the method used
- How do we handle the difference in importance in categories of benefits (in effect size this is weighted, not in count score)
- How to handle enabling environment pathway for different platforms
- Distilling complex designs into more simplified comparable measures

Opportunities

- Provides more information to the user on relative program performance, many methods to examine diverse interventions
- This is a starting point – eventually want to be able to determine implications of design choices on effectiveness
- Opportunity to strengthen and standardize evaluation approaches and measurement

Thank you!

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