

Understanding, Creating, and Using Logic Models

What is the document?

This document offers an overview of logic models, defines key terms, and provides a visual example for current and potential GusNIP grantees.

What is a logic model?

A logic model¹ is a picture of how an effort or initiative is intended to work. It explains why your strategy is a good solution to the problem at hand. Effective logic models make an explicit, often visual, statement of the activities that will bring about desired change for a community and its people.

A logic model presents the shared relationships among the resources, activities, outputs, outcomes, and impact for your project. Identifying all the components of a project helps keep participants moving in the same direction by providing a common language and point of reference. By displaying the sequence of actions involved in a project, a logic model:

- 1. **Clarifies** the linkages between investments and activities, outputs and expected outcomes of the project;
- 2. **Communicates** externally about the rationale, activities and expected results of the project;
- 3. Tests whether the project "makes sense" from a logical perspective; and
- 4. **Provides** the fundamental framework on which the performance measurement and evaluation strategies are based (i.e., determining what would constitute success).

What key terms should I understand?

• **Situation** – A description of the challenge or opportunity. The problem or issue to be addressed, within a complex of socio-political, environmental, and economic conditions.

¹ Synonyms include: road map, conceptual map, pathways map, mental model, blueprint for change, framework for action or program framework, program theory or program hypothesis, theoretical underpinning or rationale, causal chain or chain of causation, theory of change or model of change.

- **Inputs** What is invested, such as resources, contributions, and investments that are provided for the project.
- Activities Activities are what the project does with its inputs to services it provides to fulfill its mission.
- **Outputs –** Products, services and events that are intended to lead to the project's outcomes.
- **Outcomes –** Planned results or changes for individuals, groups, communities, organizations or systems. Types of outcomes include:
 - **Change in knowledge –** Occurs when there is a change in knowledge or the participants actually learn.
 - **Change in behavior** Occurs when there is a change in behavior or the participants act upon what they have learned.
 - **Change in condition –** Occurs when a societal condition is improved.
- External factors Variables that may have an effect on the project but which cannot be changed by the managers of the project.
- **Assumptions** The premises based on theory, research, evaluation knowledge, etc. that support the relationships of the elements of the logic model and upon which the success of the project rests.

What does a logic model look like?

There are many variations on the specific composition of a logic model. Each logic model uses a slightly different approach. Nevertheless, they are share a common foundation – the logic of how change happens. While logic models may not all look the same, they all do focus on inputs, outputs, outcomes, and impact. Below are two sample logic models – Figure 1: Logic Model from Gretchen Swanson Center's NTAE Application and Figure 2: Generic Logic Model for NIFA Reporting.

Questions?

Contact the GusNIP NTAE to ask questions about logic models.

Logic Model



Generic Logic Model for NIFA Reporting

(This model is intended to be illustrative guide for reporting on NIFA-funded research, education and extension activities. It is not a comprehensive inventory of our programs.)

Situation	Inputs	Activities	Outputs	Outcomes				
					Knowledge	Conditions	Actions	
 Description of challenge or opportunity Farmers face increasing challenges from globalization Opportunity to improve animal health through genetic engineering Insufficient # of trained & diverse professionals entering agriculture fields Youth at risk Invasive species is becoming an increasing problem Bioterrorism Obesity crisis Impaired water quality 	What we invest: - Faculty - Staff - Students - Infrastructure - Federal, state and private funds - Time - Knowledge - The collection of stakeholder opinions	 What we do (Activities): Design and conduct research Publish scientific articles Develop research methods and procedures Teach students Conduct non-formal education Provide counseling Develop products, curriculum & resources Who we reach (Participate): Other scientists Extension Faculty Teaching Faulty Students Federal, state & private funders Scientific journal, industry & popular magazine editors Agencies Policy and decision makers Agricultural environmental 	 Products, service: events that are intended to lead to program's outcom Scientific publication Patents New methods & technology Plan & animal varieties Practical knowle for policy and decision-makers Information, skill technology for individuals, communities and programs Participants read 	s and o the les: tions dge s & i thed	Occurs when there is a change in knowledge or the participants actually learn: - New fundamental or applied knowledge - Improved skills - How technology is applied - About new plant & animal varieties - Increased knowledge of decision-making, life skills, and positive life choices among youth & adults - Policy knowledge	Occurs when there is a change in behavior or the participant's act upon what they've learned and: - Apply improved fundamental or applied knowledge - Adopt new improved skills - Directly apply information form publications - Adopt and use new methods or improved technology - Use new plant & animal varieties - Increased skill by youth & adults in making informed life choices - Actively apply practical policy and decision-	Occurs when a societal condition is improved due to a participant's action taken in the previous column. For example, specific contributions to: - Increased market opportunities overseas and greater economic competitiveness - Better and less expensive animal health - Vibrant & competitive agriculture workforce - Higher productivity in food provision - Better quality-of-life for youth & adults in rural communities - Safer food supply - Reduce obesity and improved nutrition & health	
		industries - Public	- Students gradua in agriculture sciences	ted	-New improved methods	making knowledge	environment	
ASSUMPTIONS – These are premises based on theory, research, evaluation knowledge, etc. that support the relationships of the elements shown above, and upon which the success of the portfolio, program, or project, but whic rests. For example, finding animal gene makers for particular diseases will lead to better animal therapies.						FACTORS – A brief discussion of what variables have an effect on the portfolio, program or which cannot be changed by managers of the portfolio, program or project. For example, a ng program's success may depend on the variability of the weatheretc.		

Version 1.3

The Nutrition Incentive Program Training, Technical Assistance, Evaluation, and Information Center (NTAE) is supported by Gus Schumacher Nutrition Incentive Program grant no. 2019-70030-30415/project accession no. 1020863 from the USDA National Institute of Food and Agriculture.