Picturing Your Program: Logic Models Can Tell Your Performance Story

Community Involvement Conference

August 18, 2009

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You Will Learn:

- Common performance management terms
- How to develop a logic model for your program/project
- Understand how a logic model can be used to develop meaningful performance measures, prepare for evaluation and strategic planning.

Module 1:

Picturing Your Program

Performance Management Tools

PERFORMANCE MANAGEMENT

Performance management includes activities to ensure that goals are consistently being met in an effective and efficient manner. **Performance management tools include logic models, performance measurement and program evaluation.**

Logic Model

Tool/framework that helps identify the program/project resources, activities, outputs customers, and outcomes.

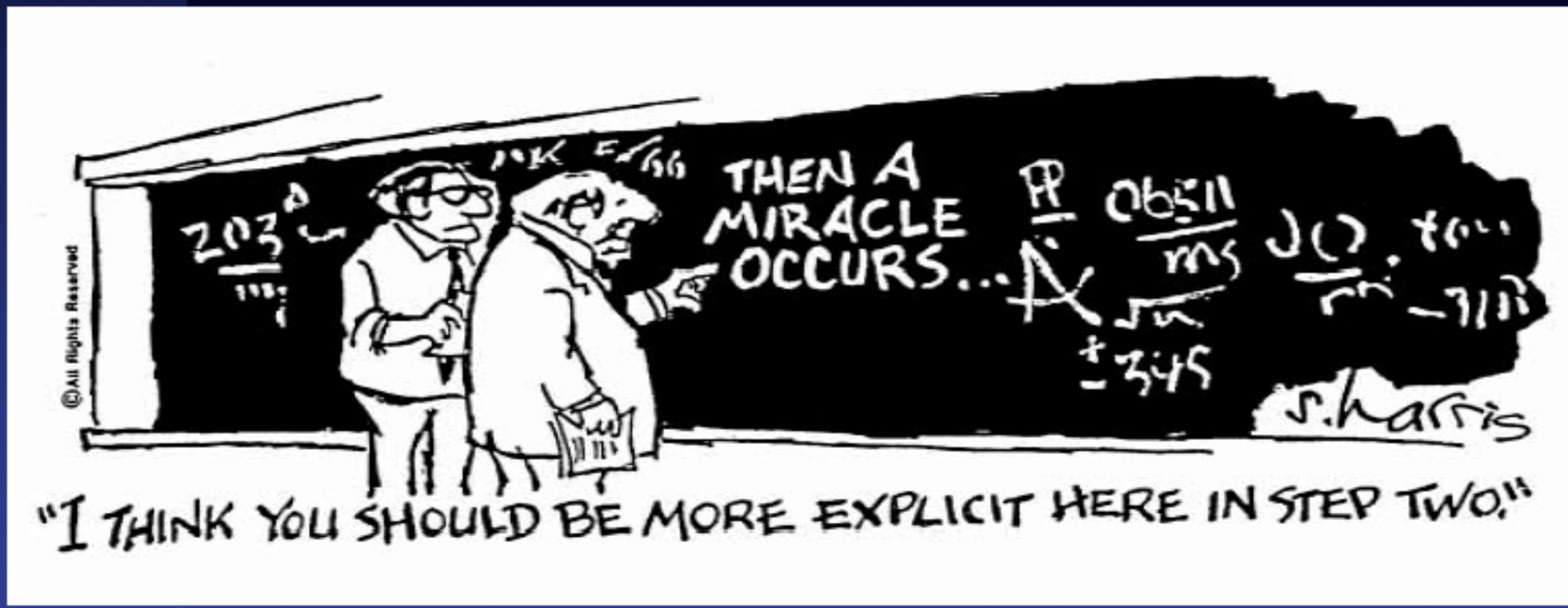
Performance Measurement

Helps you understand ***what*** level of performance is achieved by the program/project.

Program Evaluation

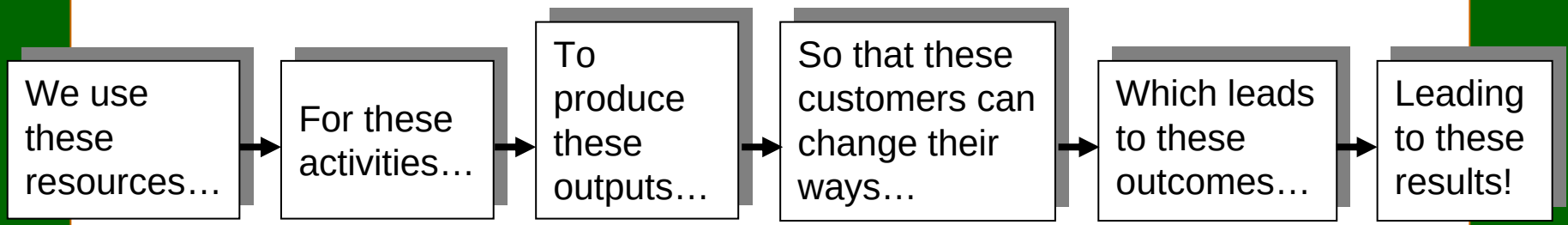
Helps you understand and explain ***why*** you're seeing the program/project results.

The Logic Model



What is a logic model?

*A picture of your program. Graphic and text that illustrates the **relationship** between your program's activities and its **intended** outcomes and results.*



Logic Models as Maps

- If you were going on a trip, what would be the first question you need to answer?
- Then, what tool would you need?

Resources	Activities	Outputs	Customers	Outcomes	Results
$$ Map Destination Camera	Rent a car Make hotel reservations Go site-seeing	Car Hotel room Photos	Family	Happy memories	Well rested & relaxed

Logic Models as Recipes

A Successful Chef…

Resources
Recipe/ $$
Ingredients
Utensils
Cooks
Restaurant

Activities

Chop, mix and bake

Outputs

Menu
Dinner

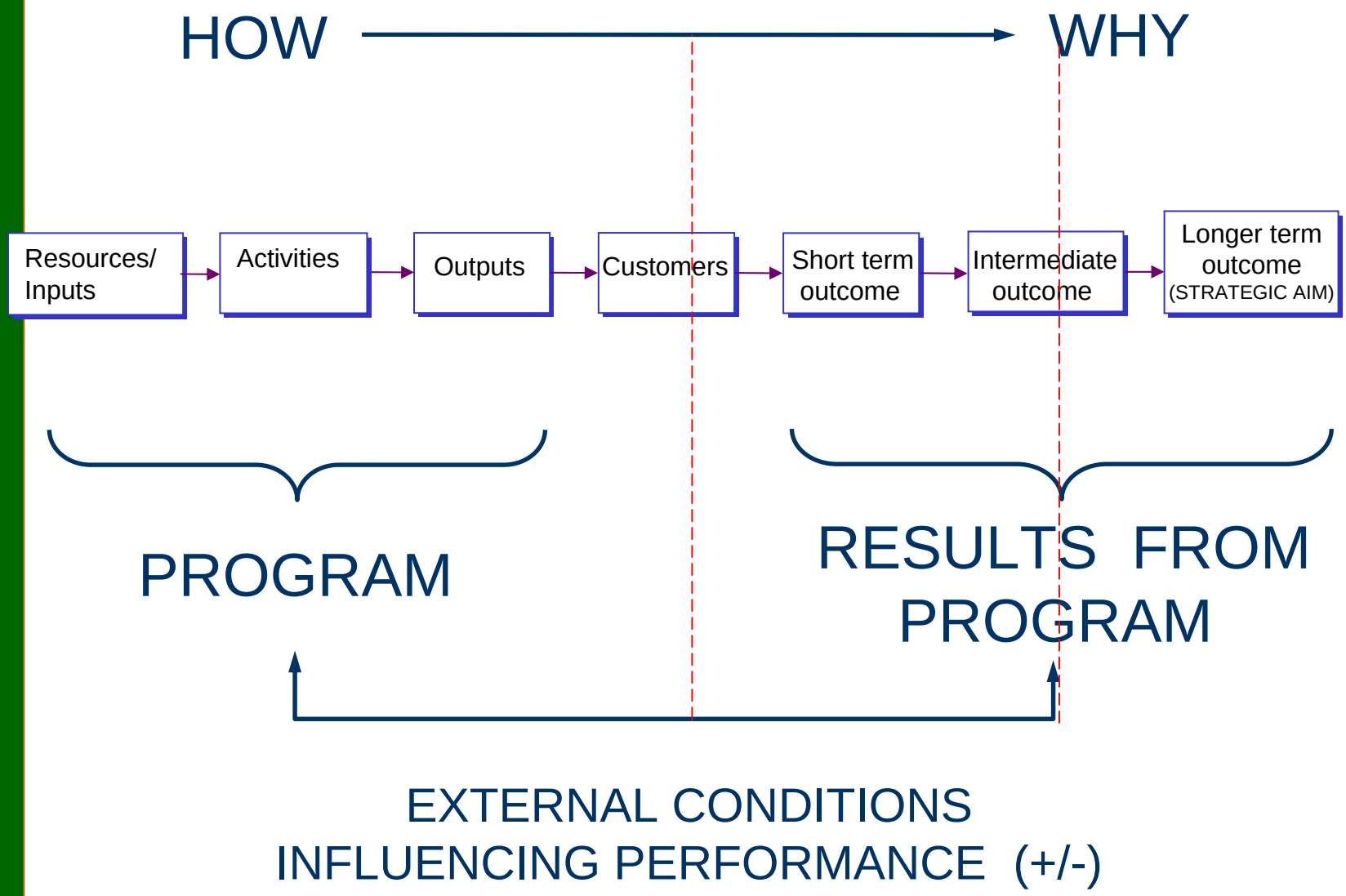
Customers

Diners

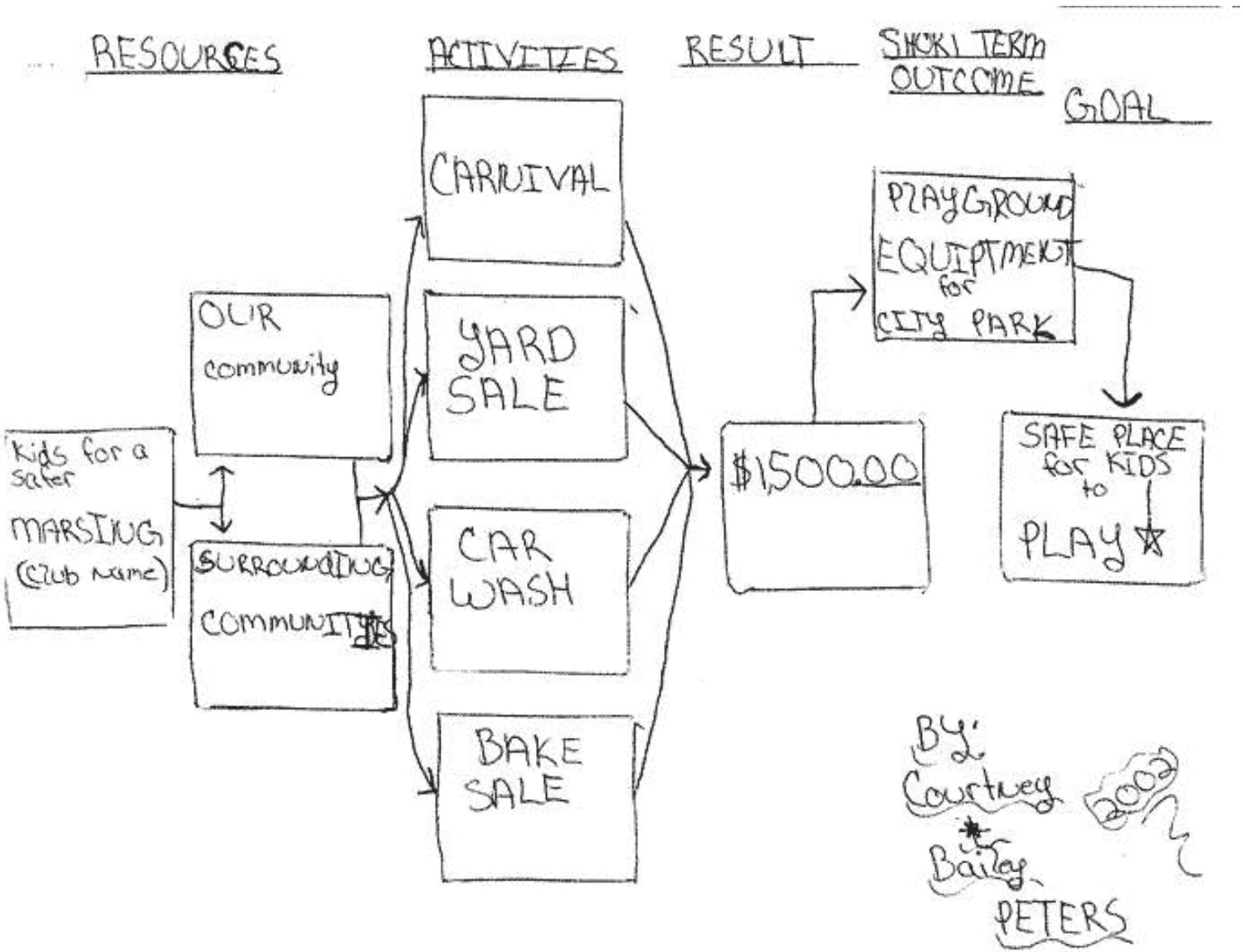
Outcomes
Satisfied Customers

Results
$$ Profit
Regular customers

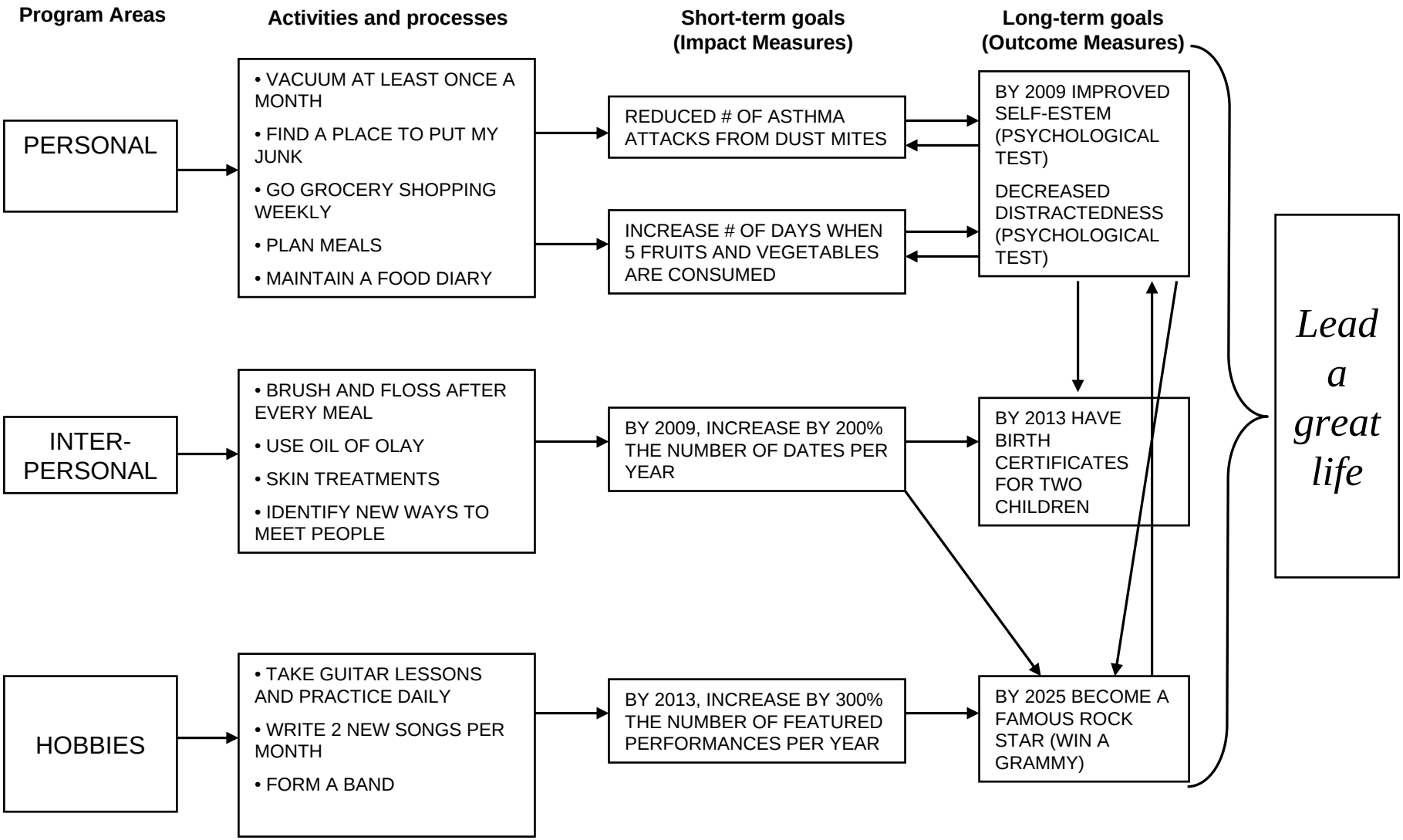
Logic Model


HOW
WHY
Resources/ Inputs
Activities
Outputs
Customers
Short term outcome
Intermediate outcome
Longer term outcome (STRATEGIC AIM)
PROGRAM
RESULTS FROM PROGRAM
EXTERNAL CONDITIONS INFLUENCING PERFORMANCE (+/-)

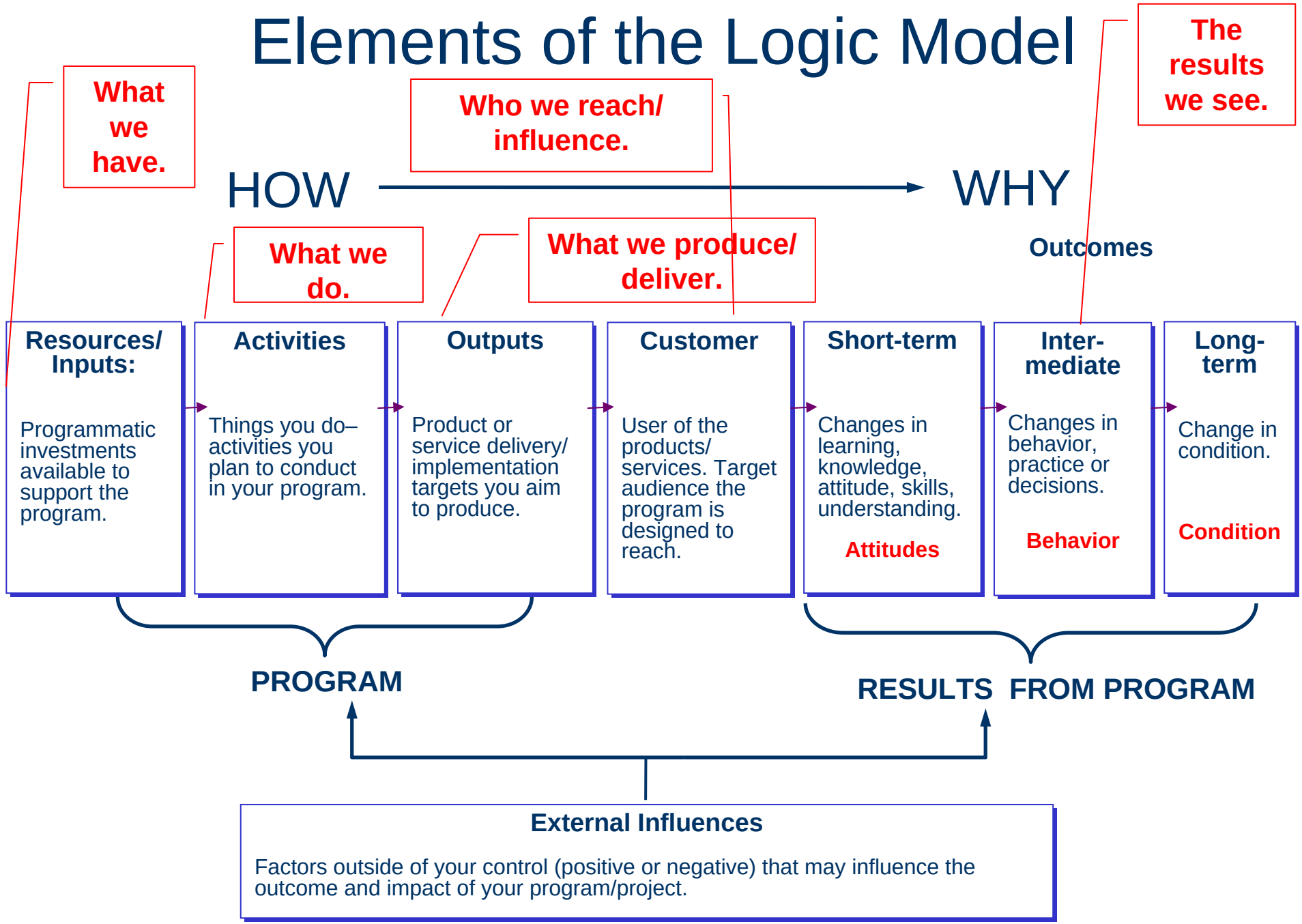
Courtney and Bailey Peter's Model: A Safe Place to Play



Lead A Great Life



Elements of the Logic Model



Case Study: West End Revitalization Association Environmental Justice Logic Model

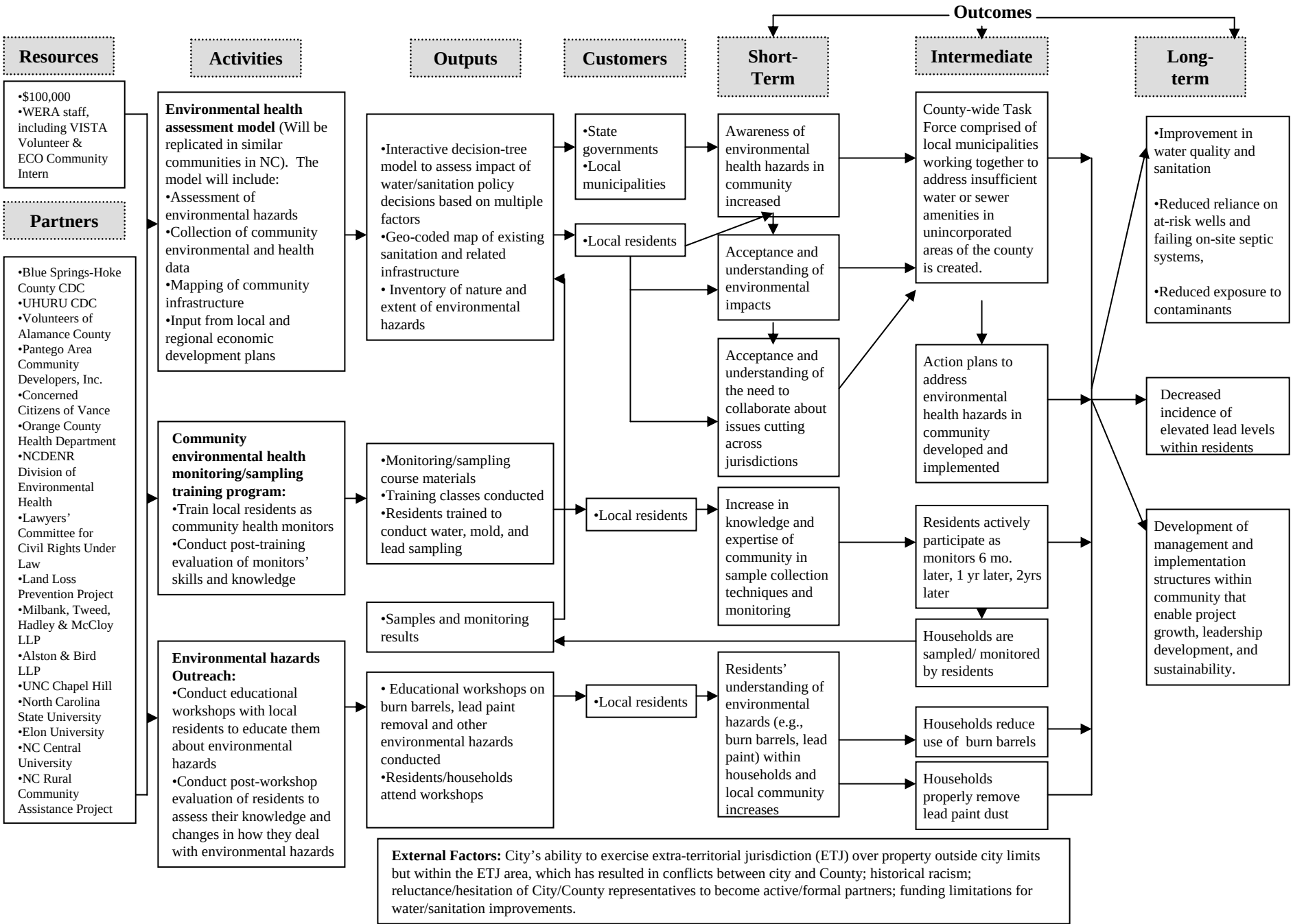
- The West End Revitalization Association (WERA) is a community-based organization in Mebane, North Carolina

- WERA:
  - Brought together three low-income African-American communities where environmental hazards created public health risks together for collaboration rather than litigation.
  - Addresses environmental hazards affecting low-income and minority communities.
  - Provides job training for youth and young adults.
  - Trains affected residents to become community monitors for community –based research on water, sewer and landfill hazards.

Exercise 1: Types of Program Elements

Example	Type of Program Element
1. Community awareness of environmental health hazards in the community increases	1. Short-term Outcome
2. Train local residents as community health monitors	2. Activity
3. Households properly remove lead paint dust	3. Intermediate Outcome
4. WERA Staff, VISTA Volunteer & ECO Community Intern	4. Resource
5. Decreased incidence of elevated lead levels within residents	5. Long-term Outcome

WEST END REVITALIZATION ASSOCIATION ENVIRONMENTAL JUSTICE LOGIC MODEL



External Factors: City's ability to exercise extra-territorial jurisdiction (ETJ) over property outside city limits but within the ETJ area, which has resulted in conflicts between city and County; historical racism; reluctance/hesitation of City/County representatives to become active/formal partners; funding limitations for water/sanitation improvements.

What are Logic Models Used For?

- Planning tool
- Communication tool
- Implementation tool
- Consensus building
- Measures development
- Evaluation design

What are the Benefits of Logic Models?

- Illustrates the logic or theory of the program or project.
- Focuses attention on the most important connections between actions and results.
- Builds a common understanding among staff and with stakeholders.
- Helps staff “manage for results” and informs program design.
- Finds “gaps” in the logic of a program and work to resolve them.

When Can You Use Logic Models?

- For new program's to make transparent the underlying assumptions about how the new program is to work to solve its problems and develop useful PM/PE systems

- For existing programs to understand and check assumptions about how the program is supposed to work

How Do You Develop a Logic Model?

1. **Clarify program goal and define the elements of the program in a table.**
2. **Verify the logic table with stakeholders.**
3. **Develop a diagram and text describing logical relationships.**
4. Verify the Logic Model with stakeholders.

Then use the Logic Model to identify and confirm performance measures and in planning and evaluation.

Step 1. Clarify the program goal and define the program elements in a table

WHAT and WHY

- HOW -			WHO	Outcomes		
Resources/ Inputs	Activities	Outputs	Customers reached	Short-term (change in attitude)	Intermediate (Change in behavior)	Long-term (change in condition)

External Influences:

West End Revitalization Association Environmental Justice Logic Model

	Resources	Activities	Outputs	Customer reached	Short-term Outcome	Intermediate Outcome	Long-term Outcomes
Logic Model Elements	▪$100,000 ▪WERA Staff ▪VISTA Volunteer ▪ECO Community Intern	▪Train local residents as community health monitors ▪Conduct post-training evaluation of monitors' skills and knowledge	▪Monitoring/sampling course materials ▪Training classes conducted ▪Residents trained to conduct water, mold, and lead sampling ▪Samples and monitoring results	▪Local residents	▪Increased knowledge and expertise of community in sample collection techniques and monitoring	▪Residents actively participate as monitors 6 mos. Later, 1 yr later, 2 yrs later ▪Households are sampled/ monitored by residents	▪Improved water quality and sanitation ▪Reduced exposure to contaminants ▪Decreased incidence of elevated lead levels within residents

External Influences: Level of participation from residents.

Step 2. Verify the logic with stakeholders

- Seek review from stakeholders.
- Check the logic
  - How-Why Questions. Start with Outcomes and ask "How?" Start at Activities, ask "Why?"
  - If-Then Questions. Start at Activities and move along to Outcomes asking "If this, then that?"
- Compare to what units in the organization do and define their contributions to the outcomes.
- Check the logic by checking it against reality.

Key Questions to Consider…

- Are the program's outcomes described?
- Are the program's customers described?
- Are the program's major resources, activities and outputs described and do they make sense?
- Are there things/issues that might influence the program's ability to achieve its goal?

Step 3. Develop a diagram and text describing logical relationships

- Draw arrows to indicate/link the causal relationships between the logic model elements.

If this, then that

Something to Consider…

- There are many different forms of logic models….

Oneida Nation Water Resources Program Logic Model

Brief Program Description: The program monitors and manages the physical, chemical and biological integrity of the waters of the Oneida Nation through scientific analysis, restoration and regulation.

Program target group: Water quality & tribal members who use the waters.

Environmental Condition of interest: Waters of the Reservation as defined by the Oneida Water Quality Standards.

Inputs	Activities	Outputs	Outcomes		
			Initial	Intermediate	Long Term
Staff *EQD* *WRTL* *WRS* *WPC* *LCS* Equipment Training Funding *EPA* *BIA* *OTC*	Reservation streams are assessed by monitoring physical, chemical and biological parameters Pristine areas are identified	Number of streams and lakes that are monitored	Scientific data is used in restoration decisions	Water quality improves in physical, chemical and biological parameters	Waters on the Reservation are fishable and swimmable.
		Number of physical, chemical and biological tests conducted	Regulated entities increase compliance with environmental laws	Waters receive less pollution discharges	
	Impaired watersheds are identified & restored •Physical impairments to waters are removed •Morphology is reconstructed •Buffers are installed on streams	Number of stream miles or wetland acres restored	Chemical pollutants are reduced	Water quality improves Biological communities improve in species numbers & diversity	
	Education •Youth & Elders Fishing Day •Kalihwiseks •Reports	Number of educational events	Tribal members awareness increases about recreation opportunities	Tribal members increase the amount of fishing & swimming on Reservation	
		Attendance at events	Tribal members, farmers, & residents awareness increases about pristine areas	Pristine areas maintain the existing quality	

Interagency Tribal Open Dump Clean Up Project

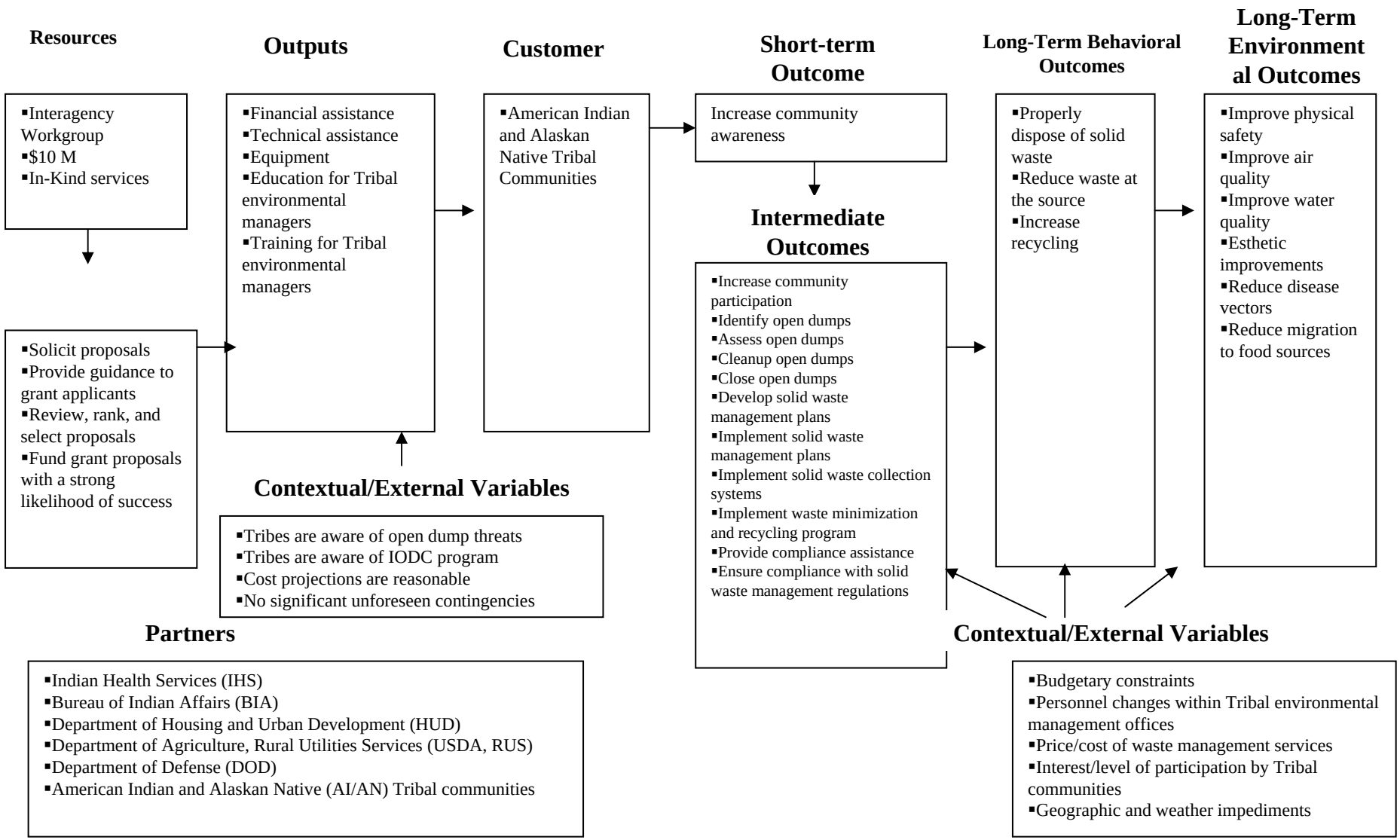
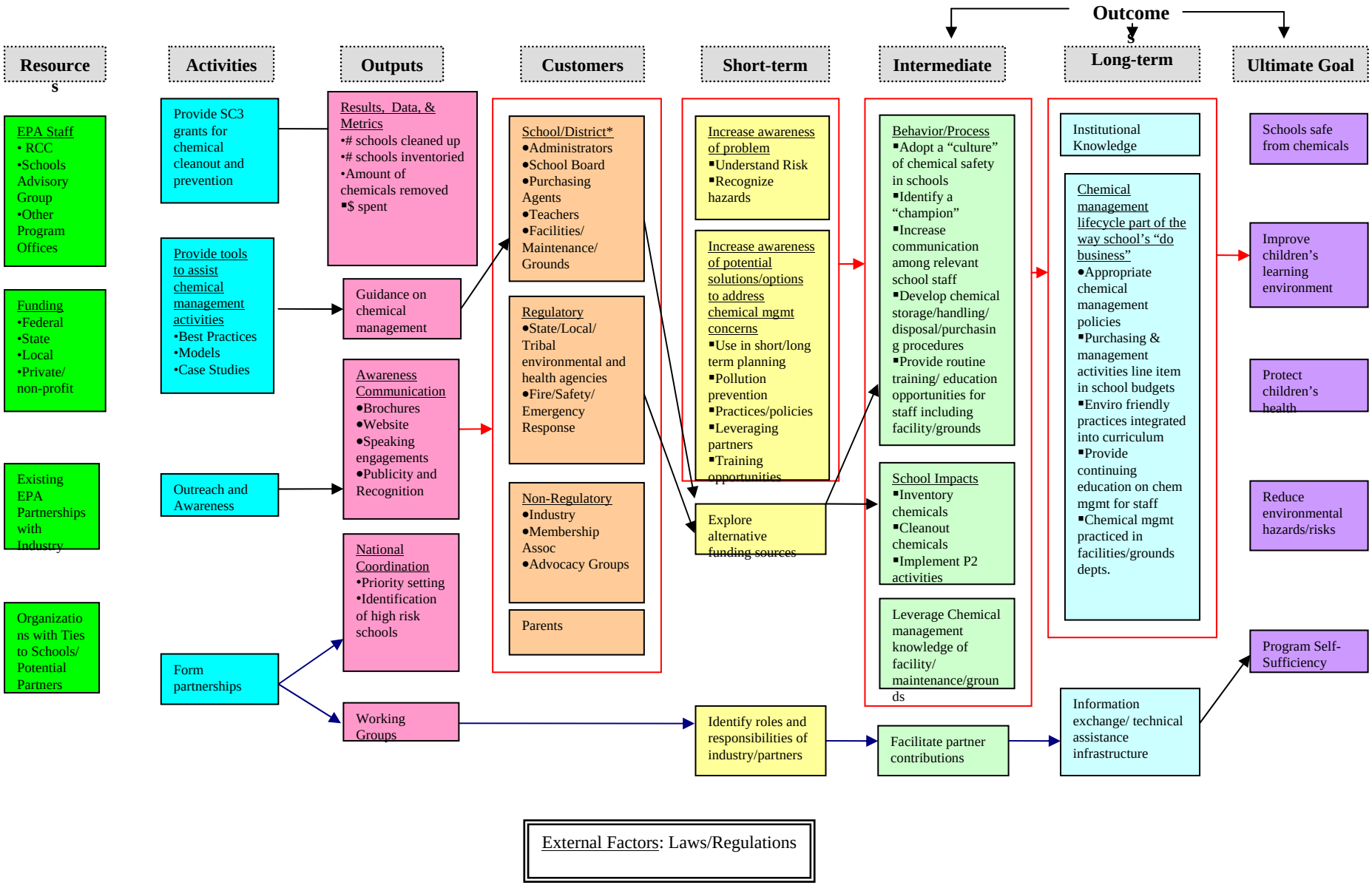
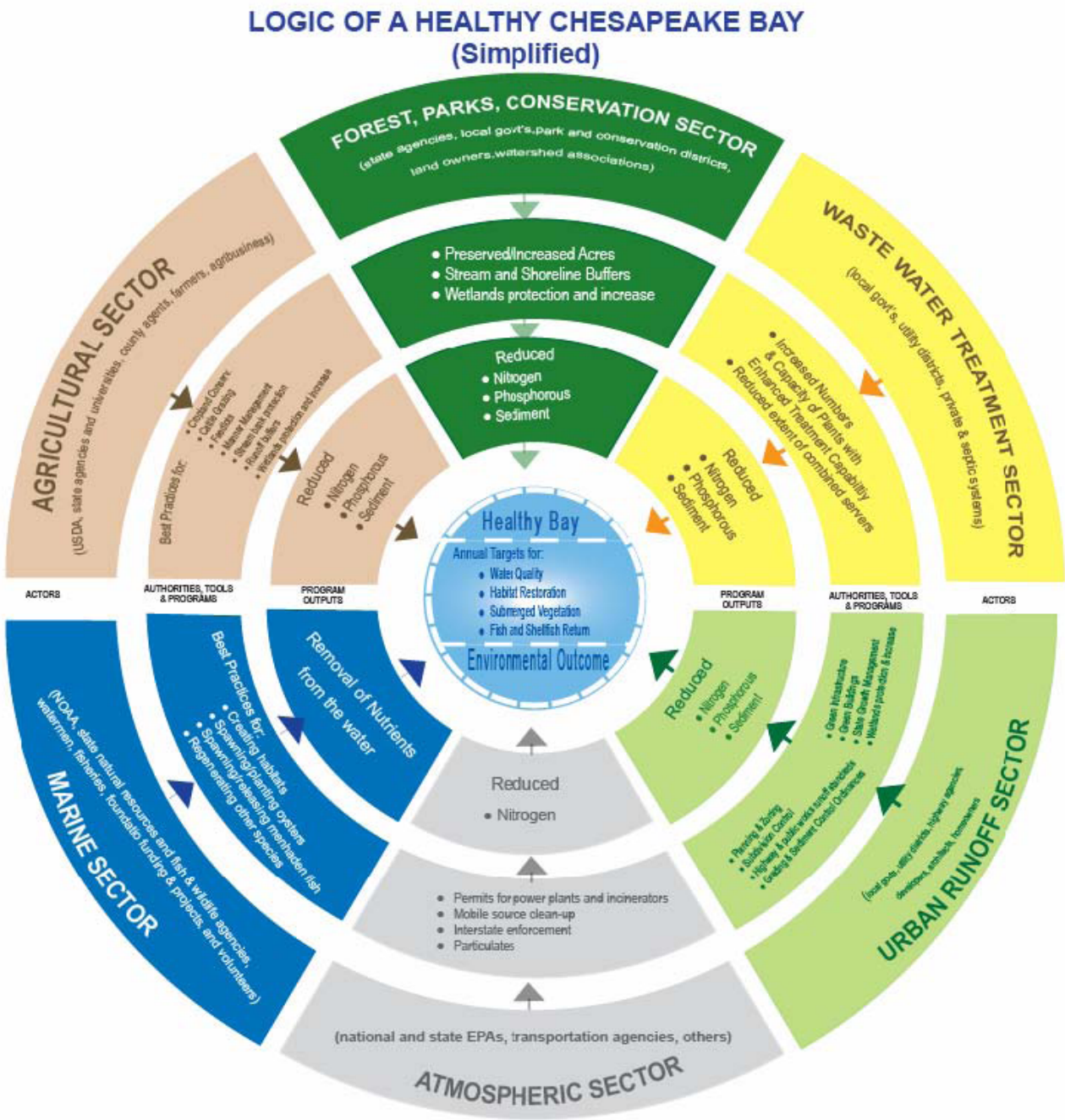


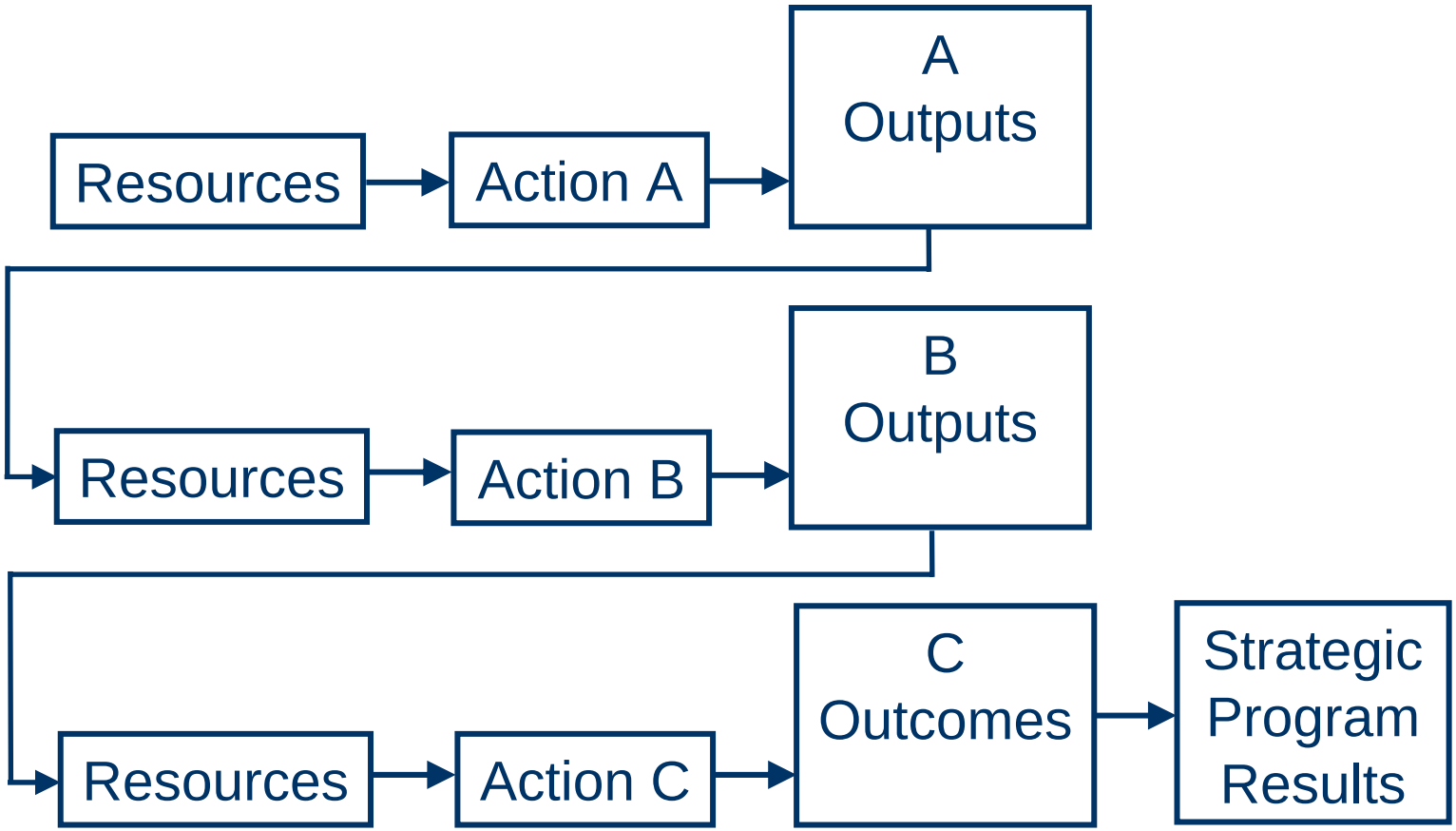
Exhibit 2: EPA Office of Solid Waste: Schools Chemical Cleanout Campaign
Logic Model(SC3)



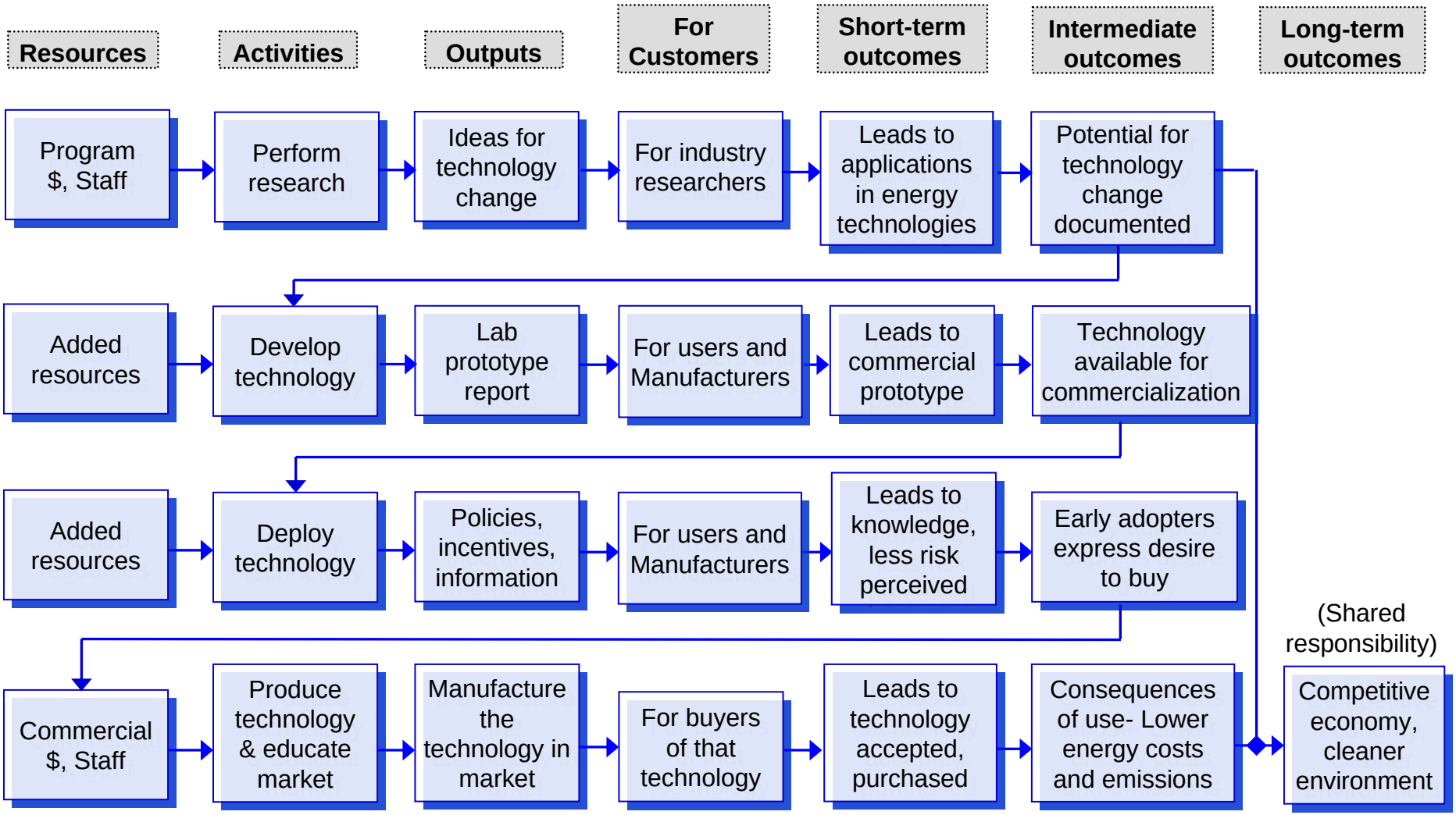
*Keeping in mind potential geographic (urban vs. rural) and socio-economic considerations


LOGIC OF A HEALTHY CHESAPEAKE BAY
(Simplified)
FOREST, PARKS, CONSERVATION SECTOR
(state agencies, local govt's,Park and conservation districts, land owners,watershed associations)
• Preserved/Increased Acres
• Stream and Shoreline Buffers
• Wetlands protection and increase
AGRICULTURAL SECTOR
(USDA, state agencies and universities, county agents, farmers, agribusiness)
Best Practices for:
• Cropland Conser.
• Cattle Grazing
• Feedlots
• Manure Management
• Stream bank protection
• Runoff buffers
• Wetlands protection and increase
Reduced
• Nitrogen
• Phosphorous
• Sediment
Reduced
• Nitrogen
• Phosphorous
• Sediment
WASTE WATER TREATMENT SECTOR
(local govt's, utility districts, private & septic systems)
• Increased Number's & Capacity of Plants with Enhanced Treatment Capability
• Reduced extent of combined servers
Reduced
• Nitrogen
• Phosphorous
• Sediment
Healthy Bay
Annual Targets for:
• Water Quality
• Habitat Restoration
• Submerged Vegetation
• Fish and Shellfish Return
Environmental Outcome
ACTORS
AUTHORITIES, TOOLS & PROGRAMS
PROGRAM OUTPUTS
PROGRAM OUTPUTS
AUTHORITIES, TOOLS & PROGRAMS
ACTORS
MARINE SECTOR
(NOAA, state natural resources and fish & wildlife agencies, watermen, fisheries, foundatio funding & projects, and volunteers)
Best Practices for:
• Creating habitats
• Spawning/planting oysters
• Spawning/releasing menhaden fish
• Regenerating other species
Removal of Nutrients from the water
Reduced
• Nitrogen
Reduced
• Nitrogen
• Phosphorous
• Sediment
• Green Infrastructure
• Green Buildings
• Slow Growth Management
• Wetlands protection & increase
• Planning & Zoning
• Subdivision Control
• Highway & public works runoff Abatement
• Funding & Sediment Control Ordinances
URBAN RUNOFF SECTOR
(local govts., utility districts, highway agencies, developers, watershed, homeowners)
• Permits for power plants and incinerators
• Mobile source clean-up
• Interstate enforcement
• Particulates
(national and state EPAs, transportation agencies, others)
ATMOSPHERIC SECTOR

What is “Z” Logic?



Energy R,D,&D Program Using 'Z' Logic



External Influences: Price of oil and electricity, economic growth in industry and in general, perception of risk of global climate change and need for national energy security, market and technology assumptions.

Source: McLaughlin and Jordan, 1999

Two Important Rules to Follow

- For every *action* identified in the Logic Model, the must be an *output that connects* to an *outcome* through a *specific customer.*

OR

- An *action* must produce an *output* that becomes a *key input* to another *activity*.

THINK CONNECTIONS!

Exercise 2: Logic Modeling

Developing your own logic model

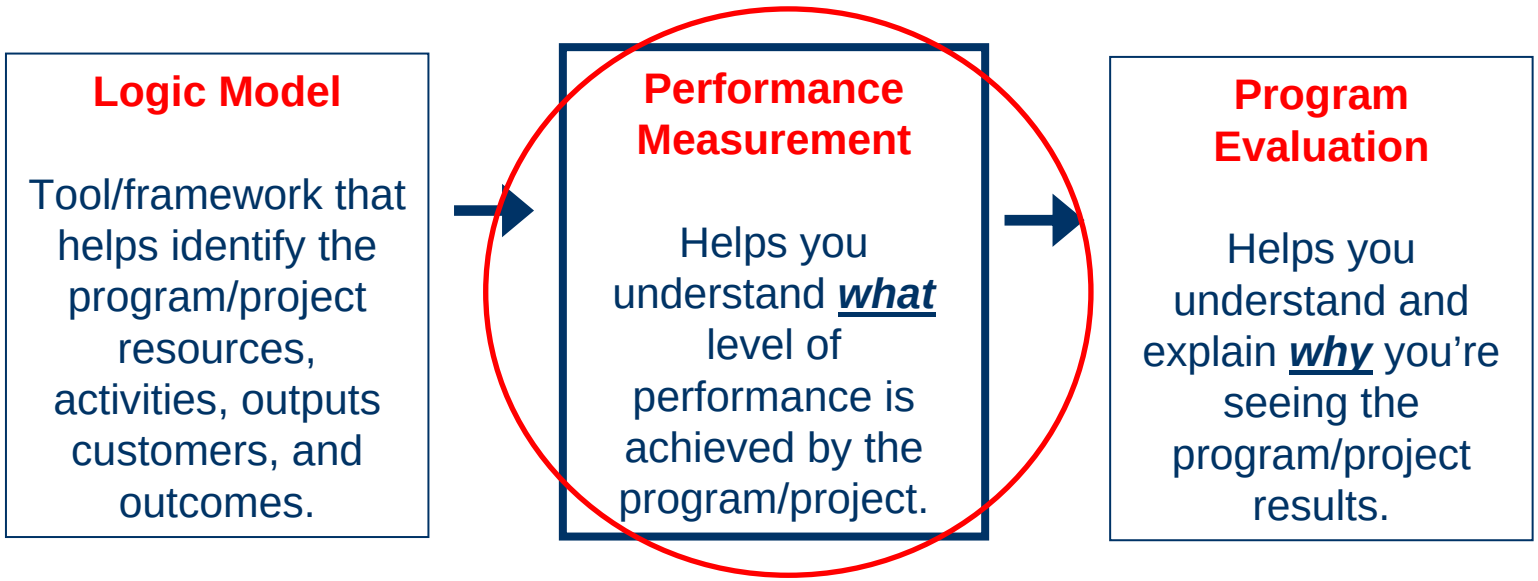
Module 2:

Measuring What Matters

Performance Management Tools

PERFORMANCE MANAGEMENT

Performance management includes activities to ensure that goals are consistently being met in an effective and efficient manner. **Performance management tools include logic models, performance measurement and program evaluation.**



The Logic Model as a Tool for Developing Performance Measures

Performance Measurement:

- Ongoing monitoring and reporting of accomplishments of your program or project.

Performance Measure:

- A metric used to gauge program or project performance.
  - Measures assess the effect of your program or project.
  - Measures help you determine if you achieved the activities that you had planned to conduct.
  - Describe program achievement in terms of resources, activities, **outputs and outcomes**.

Measures Across the Logic Model Spectrum

Element	Definition	Example Measure
Resources/ Inputs	Measure of resources consumed by the organization.	Amount of funds, # of FTE, materials, equipment, supplies (etc.).
Activities	Measure of work performed that directly produces the core products and services.	# of training classes offered as designed; Hours of technical assistance training for staff.
Outputs	Measure of products and services provided as a direct result of program activities.	# of technical assistance requests responded to; # of compliance workbooks developed/delivered.
Customer Reached	Measure of target population receiving outputs.	% of target population trained; # of target population receiving technical assistance.
Customer Satisfaction	Measure of satisfaction with outputs.	% of customers dissatisfied with training; % of customers “very satisfied” with assistance received.
Outcomes	Accomplishment of program goals and objectives (short-term and intermediate outcomes, long-term outcomes--impacts).	% increase in industry’s understanding of regulatory recycling exclusion; # of sectors that adopt regulatory recycling exclusion; % increase in materials recycled.

Work Quality Measures

Category	Definition	Examples
Efficiency	Measure that relates outputs to costs.	Cost per workbook produced; cost per inspection conducted.
Productivity	Measure of the rate of production per some specific unit of resource (e.g., staff or employee). The focus is on labor productivity.	Number of enforcement cases investigated per inspector.
Cost Effectiveness	Measure that relates outcomes to costs.	Cost per pounds of pollutants reduced; cost per mile of beach cleaned.
Service Quality	Measure of the quality of products and services produced.	Percent of technical assistance requests responded to within one week.

Performance Measurement Questions

- What are they?
  - Questions designed to assess progress/ accomplishments of various aspects of a program/project.
  - Performance measurement questions ask/tell you ***what*** your program is doing.

Performance Questions Across the Performance Spectrum

PROGRAM ELEMENTS:	Resources (We use these)	Activities/ Outputs (To do these things)	Target Customer (For these people)	Short term Outcome (To change them in these ways)	Intermediate Outcome (So they can do these things)	Long-Term Outcome (Which leads to these outcomes)
PERFORMANCE QUESTIONS:	▪Do we have enough, ▪The right, ▪The necessary level, ▪The consistency?	▪Are we doing things the way we say we should? ▪Are we producing products and services at the levels anticipated? ▪According to anticipated quality indicators measures?	▪Are we reaching the customers targeted? ▪Are we reaching the anticipated numbers? ▪Are they satisfied?	▪Did the customer's attitude, knowledge, skills or understanding change?	▪Are customers using the change as expected? With what results? ▪Are customers served changing in the expected direction and level? ▪If so, what did we (others) do to cause the change?	▪What changes in condition have occurred? ▪Did the program achieve its goals and objectives?
EXTERNAL INFLUENCES:	What factors might influence my program's success?					

Exercise 3: Types of Performance Measures

Example	Type of Measure
1. Level of funding per year	1. Resource
2. Percentage of residents surveyed who say they are aware of recent environmental health assessment work in their community	2. Short-term Outcome
3. # of educational workshops conducted	3. Activity
4. # of residents conducting monitoring six months after being trained	4. Intermediate Outcome
5. Number of hospital or emergency room admittances per year due to elevated lead levels	5. Long-term Outcome

Tips for Choosing the Best Measures

For each measure ask…

- Does the measure clearly relate to the project goal and objective?
- Is the measure important to management and stakeholders?
- Is it possible to collect accurate and reliable data for the measure?
- Taken together, do the measures accurately reflect the key results of the program, activity or service?
- Is there more than one measure for each goal or objective?
- Are your measures primarily outcome, efficiency, or quality measures?

Steps for Developing Measures

- Step 1: Identify Potential Measures
- Step 2: Assess Each Measure
- Step 3: Choose the Best Measures
- Step 4: Identify Baseline, Target, Timeline and Reporting Schedule

Key Steps in Identifying Potential Measures

STEP 1: Identify the information needed and the audience

- Identify measures in existing documents
- Review the logic model and select the appropriate logic model element
- Express the logic model element as a performance measure
- Determine if the measure clearly relates to the program/project goal or objective

STEP 1: Identify the information needed and the audience

- Review the performance measurement questions developed earlier
- Consider what information is needed to assess whether your program/project is meeting its goals and objectives.

  Ask yourself:

- Who needs to know what about the program, why, and in what format?

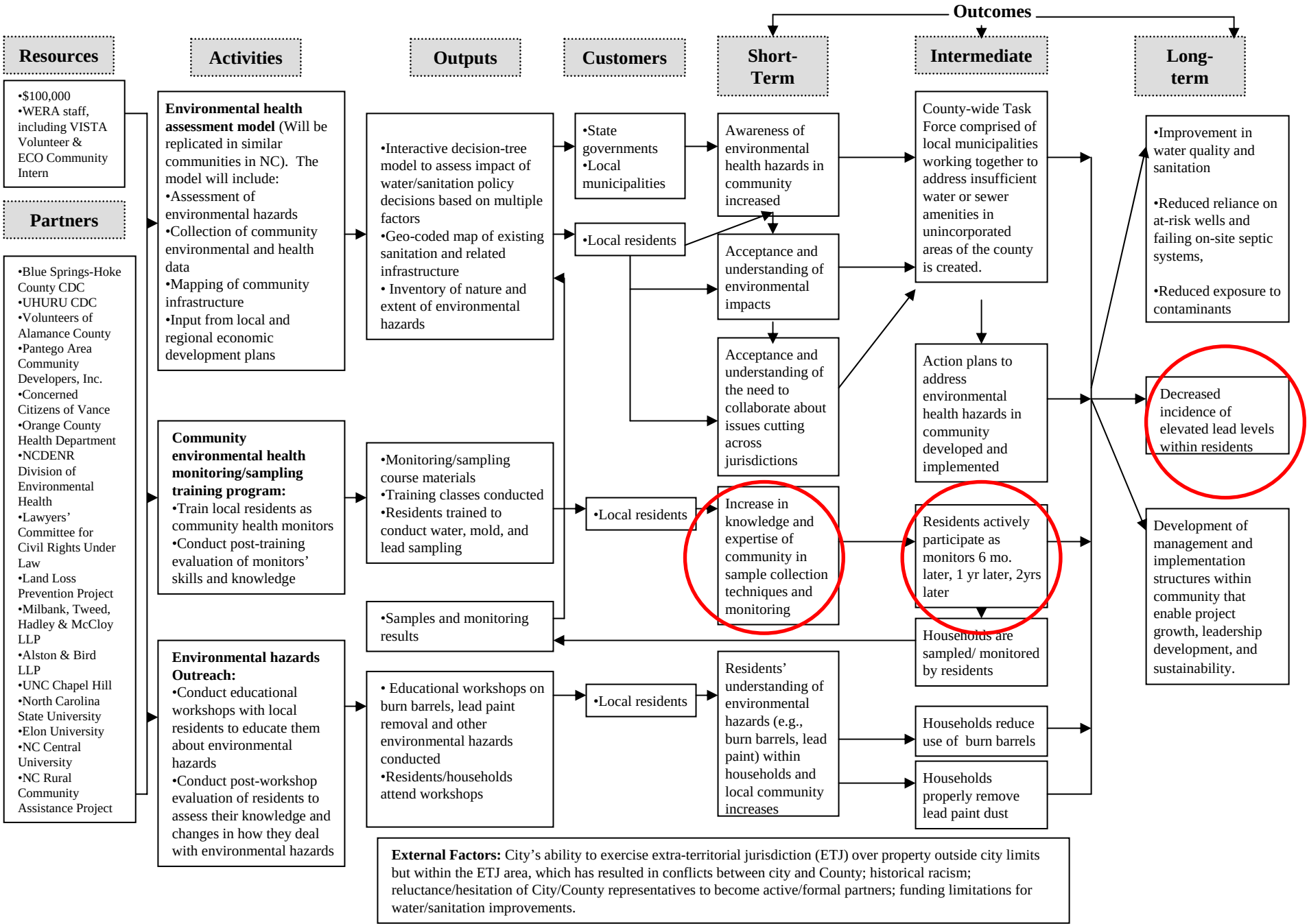
Identify Measures in Existing Documents

- Review measures specified in:
  - Program/Project Mission, Goals, Objectives, Service standards
  - Legislation, Strategic plans, Court Orders, Commitments
  - Previous evaluations and research reports
  - Consider other sources

Review the Logic Model

- Review the logic model –
  - Identify the aspects of performance that are most important to measure (resources, activities, outputs, outcomes)
  - Identify contextual factors that could influence the program either positively or negatively and generate measures for them as appropriate

WEST END REVITALIZATION ASSOCIATION ENVIRONMENTAL JUSTICE LOGIC MODEL



Express the Logic Model element as a performance measure

- Consider how to express the measure in terms of:
  - Data:
    - Raw Numbers (tons of VOCs reduced)
    - Averages (mean tons of VOCs reduced)
    - Percentages (% of dry cleaners reporting VOC reduction)
    - Ratios (Cost per ton of VOCs reduced)
    - Rates (tons of VOCs reduced per 100 dry cleaners)
  - Unit of Measure:
    - Is it appropriate to the measure?

West End Revitalization Association Environmental Justice Logic Model

	Resources	Activities	Outputs	Customer reached	Short-term Outcome	Intermediate Outcome	Long-term Outcomes
Logic Model Elements	▪$100,000 ▪WERA Staff ▪VISTA Volunteer ▪ECO Community Intern	▪Train local residents as community health monitors ▪Conduct post-training evaluation of monitors' skills and knowledge	▪Monitoring/sampling course materials ▪Training classes conducted ▪Residents trained to conduct water, mold, and lead sampling ▪Samples and monitoring results	▪Local residents	▪Increased knowledge and expertise of community in sample collection techniques and monitoring	▪Residents actively participate as monitors 6 mos. Later, 1 yr later, 2 yrs later ▪Households are sampled/ monitored by residents	▪Improved water quality and sanitation ▪Reduced exposure to contaminants ▪Decreased incidence of elevated lead levels within residents
Example Measures	▪ # Staff ▪ Level of funding per year	▪# of monitoring workshops delivered	▪# residents that complete training course	▪# of local residents participating in WERA	▪ Level of sampling knowledge and expertise	▪# of residents conducting monitoring six months after being trained	▪ # of hospital or emergency room admittances per year due to elevated led levels

Determine whether the measures clearly relate to the mission/goal

- Review the program/project mission and or goal
  - What key activities, outputs or outcomes are specified in the mission or goal?
- Review the list of potential measures developed
  - Will the data collected from the measures developed clearly demonstrate that the mission and or goal was accomplished?

Determine whether the measures clearly relate to the mission/goal

- **WERA's Mission:** Improve the quality of life for low-income and minority residents denied basic amenities by (1) providing affordable housing, safe drinking water and sewer services, and voting rights, through economic, social, legislative, and legal means, and (2) empowering residents to address institutional racism that fosters racial inequities.

- **Performance Measures:**

- **# WERA Staff**
- **Level of funding per year**
- **# of monitoring workshops delivered**
- **# residents that complete training course**
- **# of local residents participating in WERA**
- **Level of sampling knowledge and expertise**
- **# of residents conducting monitoring six months after being trained**
- **# of hospital or emergency room admittances per year due to elevated led levels**

Step 2: Assess the Measures

- Assess the value of the measures in relation to goals and objectives
- Assess the feasibility of the measure in terms of:
  - Data collection (availability, implementation cost, baselining)
  - Data quality (reliability, validity, objectivity)
  - Analysis
  - Reporting (how to report, to whom to report, frequency of reporting, meaningfulness to audiences)

Step 3: Choose the Best Measures

- Assess the value of the measures in relation to the goals and objectives of the program.
  - Required
  - Important
  - Interesting
- Select final list of measures – you won't be able to collect data for all measures.
- Check in with managers and stakeholders.
- Identify a priority list of measures

Step 4: Identify a Standard

For each performance measure develop a:

1. Baseline – current state
2. Target – desired level of performance
3. Timeline – date when performance will be achieved

Tips for Choosing the Best Measures

For each measure ask…

- Does the measure clearly relate to the project goal and objective?
- Is the measure important to management and stakeholders?
- Is it possible to collect accurate and reliable data for the measure?
- Taken together, do the measures accurately reflect the key results of the program, activity or service?
- Is there more than one measure for each goal or objective?
- Are your measures primarily outcome, efficiency, or quality measures?

Exercise 4: Performance Measurement

Developing your own measures

Module 3:

Strategic Planning

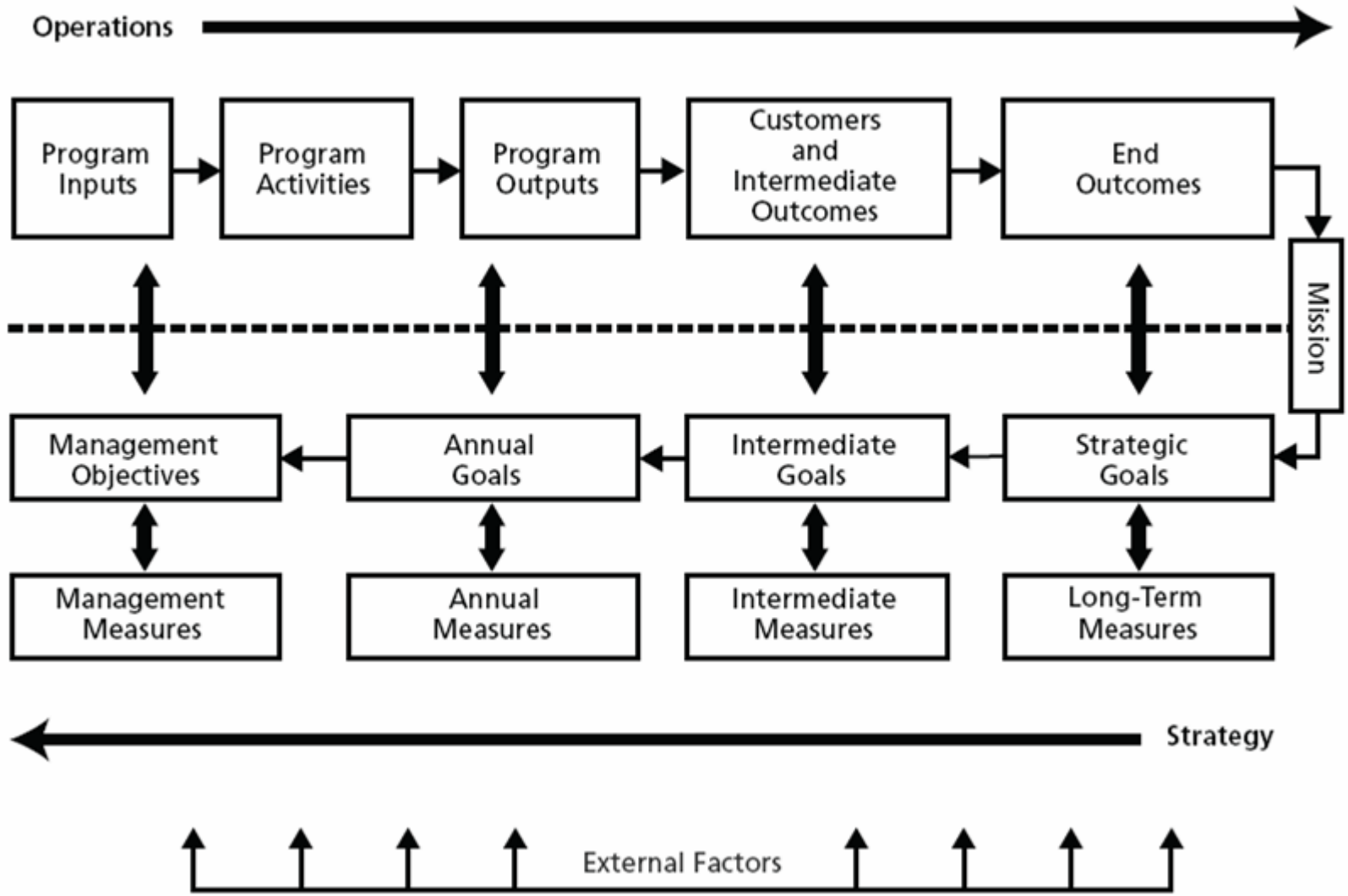
Strategic Planning and the Logic Model

- RAND Logic Model Template
  - Requires vertical alignment
  - Strategic goals relate to the program's end outcomes
  - Intermediate goals relate to Customer activities and intermediate outcomes (Changes in knowledge, attitudes or behavior)
  - Annual goals relate to program activities and outputs
  - Management objectives relate to program inputs and activities

Source: *Using Logic Models for Strategic Planning and Evaluation: Application to the National Center for Injury Prevention and Control, Victoria A. Greenfield, Valerie L. Williams, Elisa Eiseman, RAND, 2006*

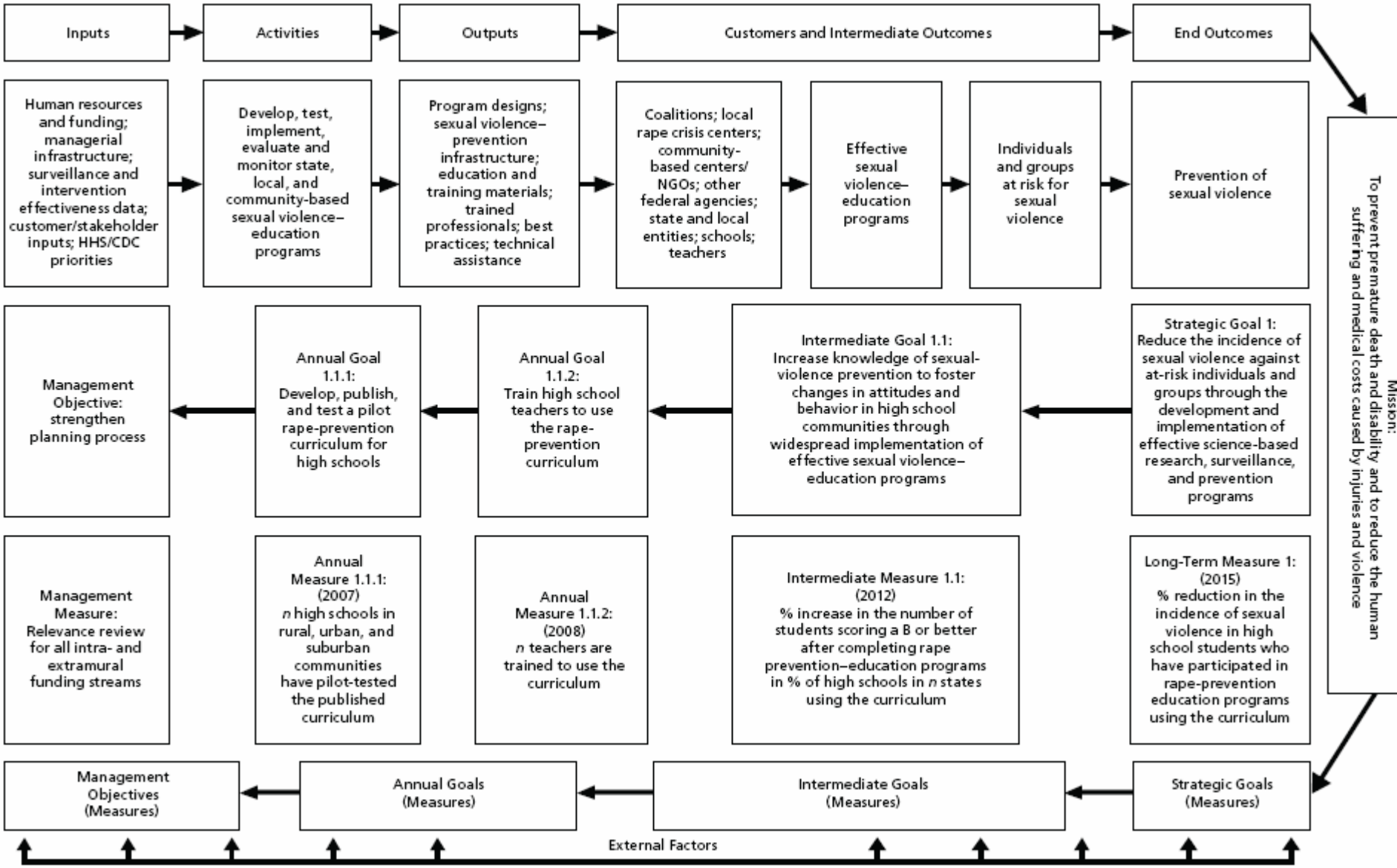
Strategic Planning

Figure 1.1
RAND Logic Model Template



RAND *TR370-1.1*

Figure 2.2
Complete Logic Model for Sexual-Violence Priority Area



RAND *TR370-2.2*

Module 4:

Program Evaluation

Performance Management Tools

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Logic Model

Tool/framework that helps identify the program/project resources, activities, outputs customers, and outcomes.

Performance Measurement

Helps you understand ***what*** level of performance is achieved by the program/project.

Program Evaluation

Helps you understand and explain ***why*** you're seeing the program/project results.

Definitions:

Program Evaluation:

A systematic study that uses measurement and analysis to answer specific questions about *how well a program is working to achieve its outcomes and why*.

Differences between PM and PE

Performance Measurement

- Ongoing monitoring and reporting of accomplishments.
- Examines achievement of program objectives.
- Describes program achievements in terms of outputs, outcomes in a given time against a pre-established goal.
- Early warning to management.

Program Evaluation

- In-depth, systematic study conducted periodically or on ad-hoc basis.
- Examines broader range of information on program performance than is feasible to monitor on an on-going basis.
- Explains why the results occurred.
- Longer term review of effectiveness.

Relationship between PM and PE

- Performance measurement data provides information needed to conduct the evaluation and assess program performance.
- Lack of performance measurement data is a major obstacle to conducting an evaluation.

Orientation/Approaches to Evaluation

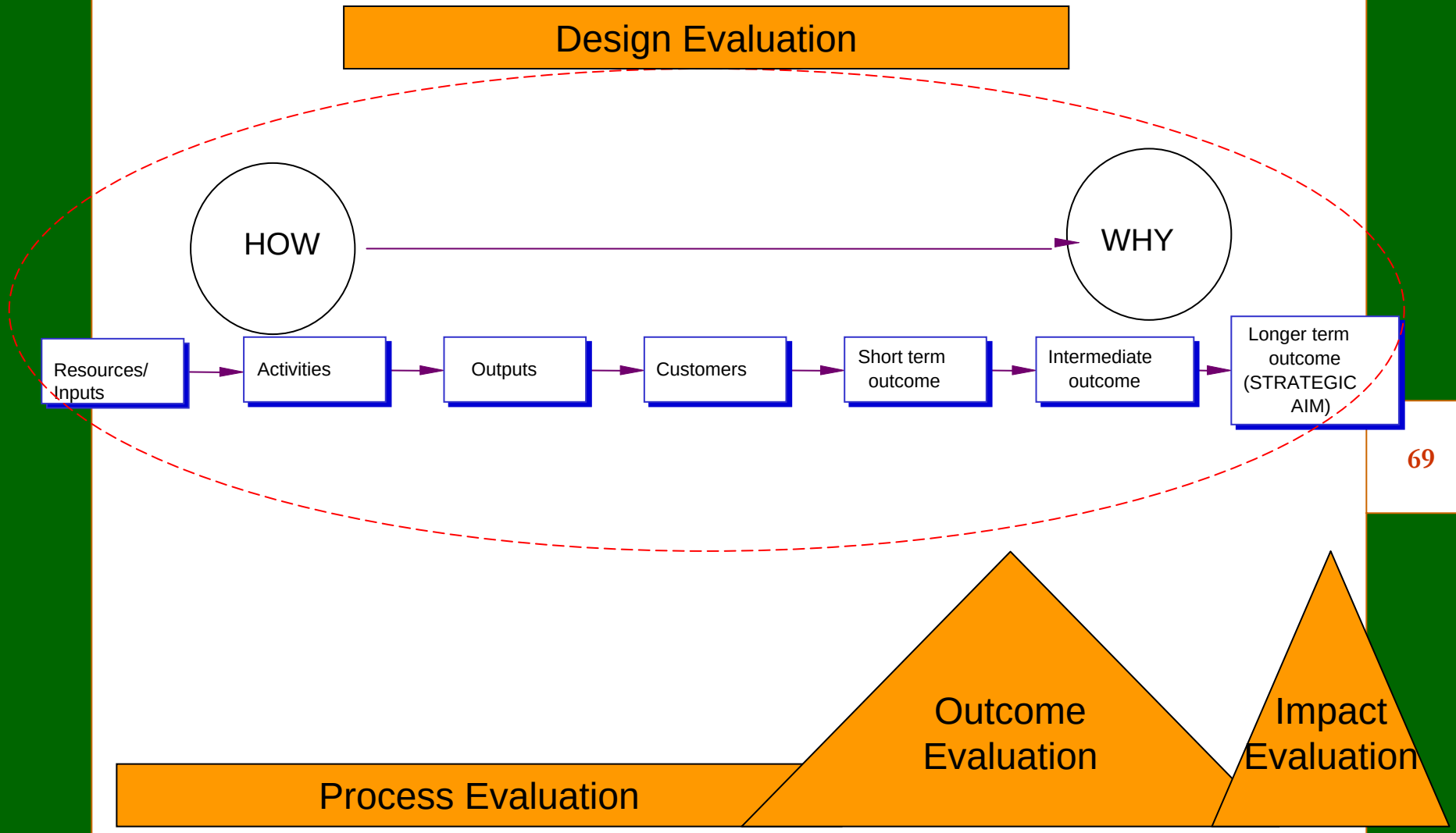
- Accountability
  - External Audience
    - What is my level of performance?
- Learning & Program Improvement
  - Internal/External Audiences
    - What is my level of performance?
    - What outcomes have been achieved and why?
    - What aspects of my program lead to these outcomes?
    - What roles did context play in my outcomes?

Types of Evaluations

Program Evaluation:

- Consists of various activities:
  - Needs assessment
  - Evaluability assessment
  - Design assessment
  - Process/Implementation
  - Outcome
  - Impact
  - Cost evaluation

Evaluation and the Logic Model



Adapted from Evaluation Dialogue Between OMB and Federal Evaluation Leaders: Digging a Bit Deeper into Evaluation Science, April 2005

Common Evaluation Questions

Evaluation Type	Common Evaluation Questions
Design assessment	▪Is the design of the program well formulated, feasible, and likely to achieve the intended goals?
Process evaluation or implementation assessment	▪Is the program being delivered as intended to the targeted recipients? ▪Is the program well managed? ▪What progress has been made in implementing new provisions?
Outcome evaluation	▪Are desired program outcomes obtained? ▪What role, if any ,did the program play? ▪What role, if any, did the context play? ▪Did the program produce unintended outcomes?
Net impact evaluation	▪Did the program cause the desired impact? ▪Is one approach more effective than another in obtaining the desired outcomes?
Cost evaluation	▪What are the specific costs for implementing and operating the program? ▪Is the program cost efficient? Cost effective? ▪How do the costs of the program compare to a similar program aimed at the same outcome?

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