RESEARCH PROBLEM

(Dhirendra Kumar, Ph.D.)

Research Department APHI, MOPH
Afghanistan
Contents

- Identification
- Define and Justification
- Hypothesis and Research Question
- Objectives
What is research?

Research is:
- Question, problem, hypothesis
- Based on theoretical framework
- Plan, design for conducting a study or experiment
- Data collection and analysis
- A Contribution to a body of knowledge

Research is not:
- Collecting information
- Rearranging facts
- Linear
- Selling or persuading
- A neat, grammatically correct paper
- Experimentation
- Surveys, questionnaires
Identify the Problem

START WITH PROBLEM

NOT

WITH INTERVENTION
## Non Programmatic and Programmatic Problem

<table>
<thead>
<tr>
<th>Non-program</th>
<th>Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why are maternal syphilis rate increasing?</td>
<td>How can pregnant women be managed to prevent transmission of syphilis?</td>
</tr>
<tr>
<td>Why do women prefer Injectable contraceptive?</td>
<td>How can injectables be offered to increase its use?</td>
</tr>
</tbody>
</table>
What factors will you like to see before deciding whether a given situation is a programmatic research problem?
Situation Indicating a Researchable Problem

- A Perceived discrepancy between what is and what should be
- A question why the discrepancy exits
  (Factors responsible)
- At least two possible and plausible answers to the question exit
## Non-Researchable and Researchable Problems

<table>
<thead>
<tr>
<th>Non-research</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A discrepancy exits between desired and observed situation</td>
<td>1. A discrepancy exits between desired and observed situation</td>
</tr>
<tr>
<td>2. We know why the discrepancy exits</td>
<td>2. We do not know why discrepancy exits</td>
</tr>
<tr>
<td>3. We know the best solution</td>
<td>3. We do not know the best solution</td>
</tr>
</tbody>
</table>
Problem Situation: A recent survey indicates that 1000 women who were continuously using OCP were not using this month.

What is the discrepancy?

What is the problem question?

Answer: Because of heavy snowfall in the area OCP was not supplied and nothing was available in the clinic stock.

Is this researchable problem?
A Research Problem?

Problem Situation: Out of the 10 clinics functioning in district A only 3 have good ANC workload. The rest show different degree of underutilization.

What is the discrepancy?

What is the problem question?

What are the possible answers?

Is this researchable problem?
A Research Problem?

- Problem Situation: Monsoon rain makes it impossible to supply 100 health center with material and supply
- What is the discrepancy?
- What is the problem question?
- What are the possible answers?
- Is this researchable problem?
A Research Problem?

- **Problem Situation:** All pregnant women are expected to receive three ANC check-up. Available information shows that 30 percent receive 3 ANC checkup, 11 percent 2 and 5 percent only one checkup.

- What is the discrepancy?
- What is the problem question?
- What are the possible answers?
Sources That Could Give Lead to OR Problems

- Discussion with program managers
- Literature Review
- On going research activities
Problem Definition

- Level of incidence or prevalence
- Geographic areas affected
- Characteristic of the population affected
- Findings of other research studies (Possible reasons for the problem)
- Past experience to address the problem (to understand possible solution)
- Success of earlier initiatives (OR)
- Unanswered questions
Problem Justification

- Is the problem current and existing?
- How wide spread is the problem?
- Is this a problem of special group?
- Is the problem relate to an on going program activities?
- Who are concerned with the problem?
- Is the problem under study is in the control of program managers
Objectives

- Ultimate objectives
  - (expected contribution from OR wishful thinking)

- Immediate objectives
  - Relate directly to the research problem
  - It specify
    - Who will do
    - How much of what
    - To whom
    - When, Where, What

- Follow SMART rule
Illustration: Objectives

- To reduce maternal morbidity (Ultimate)

- To improve the coverage of full ANC (three check-ups + 2 TT + 100 IFA) from the current level 14.7 percent to 60 percent by 2010. (Specific)
  - Improve antenatal services by increasing the early registration of all the pregnant women to 15 percent by 2007 and 40 percent by 2010. (immediate)
  - Increase the proportion of pregnant women receiving IFA tablets from 25 percent to 45 percent by 2007 and 60 percent by 2010. (immediate)
  - Increase the administration of two TT injections to 55 percent by 2007 and 75 percent by 2010. (immediate)
Research Question Activity

- State your research question
- What are the key variables?
- What are the *Conceptual* definitions of your key variables?
- What are the *Operational* definitions of your key variables?
Hypothesis

- A statement about an expected relationship between two or more variables that permits empirical testing
- Direct relationship between dependent and independent variables
- Indirect relationship between dependent and independent variables through intervening variables
Hypothesis

Direct relationship

Independent Variables

Cause or Determine or influence

Dependent Variables
Example of hypothesis

- Women with higher education level have used more health care services (ANC/FP)
- Urban area has low IMR than rural
- Development is the best contraception
Hypothesis
Indirect relationship

Acting on and Operating through
People’s knowledge, Attitudes, beliefs

IEC Program

Cause or Determine or influence
Contraceptive acceptance
Template for research protocol

- Research Problem
  - (Identify, define and justification)
- Research Question/Hypothesis
- Objectives
- Strategy to achieve objectives (methodology)
- Study Design
- Area
- Methods (tools)
- Evaluation
- Outcome
- Time frame
- Budget