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

Feed the Future Innovation Lab for Livestock Systems

INTEGRATING GENDER AND NUTRITION INTO THE PROJECT PLANNING CYCLE OF FOOD SAFETY RESEARCH IN THE PORK VALUE CHAIN

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OUTLINE OF WORKSHOP

- Why Integrate Gender and Nutrition into Food Safety Research?
- What is Gender? Why is it important to include in research?
- What is Nutrition? Why is it important to include in research?
- Gender Terms and Approaches
- Nutrition Terms and Approaches
- Food Safety Hazards
- Project Planning Cycle
- Project Design
- Data Collection and Analysis
- Framing and Reporting
- Harvesting the Learning

WHY INTEGRATE GENDER AND NUTRITION INTO FOOD SAFETY?

EXERCISE - WHAT IS A VALUE CHAIN?

Production.....Consumption

In small groups, draw a pork value chain and indicate where men and women are concentrated

Plenary Discussion: Why is understanding who does what in the value chain important to know?

BASIC CONCEPTS: GENDER

WHAT IS "SEX"?

WHAT IS "GENDER"?

Definitions of Sex and Gender

SEX is the *biological difference* between men and women.

Sex differences are concerned with men's and women's bodies. Sexual differences are the same throughout the human race.

GENDER refers to the *socially given* attributes, roles, activities, and responsibilities connected to being a female or a male in a given society.

These are learned, changeable over time, and have wide variations within and between

HOW DOES GENDER AFFECT AGRICULTURAL RESEARCH?

GENDER ROLES ARE:

- Dynamic and change over time
- Differ by particular local contexts
- Shaped by ideological, religious, cultural, ethnic and economic factors
- Key determinant of the distribution of resources and responsibilities between men and women; which are often unequal and inequitable

GENDER IS PART OF A RURAL LIVELIHOOD SYSTEM THAT INCLUDES THESE DIMENSIONS

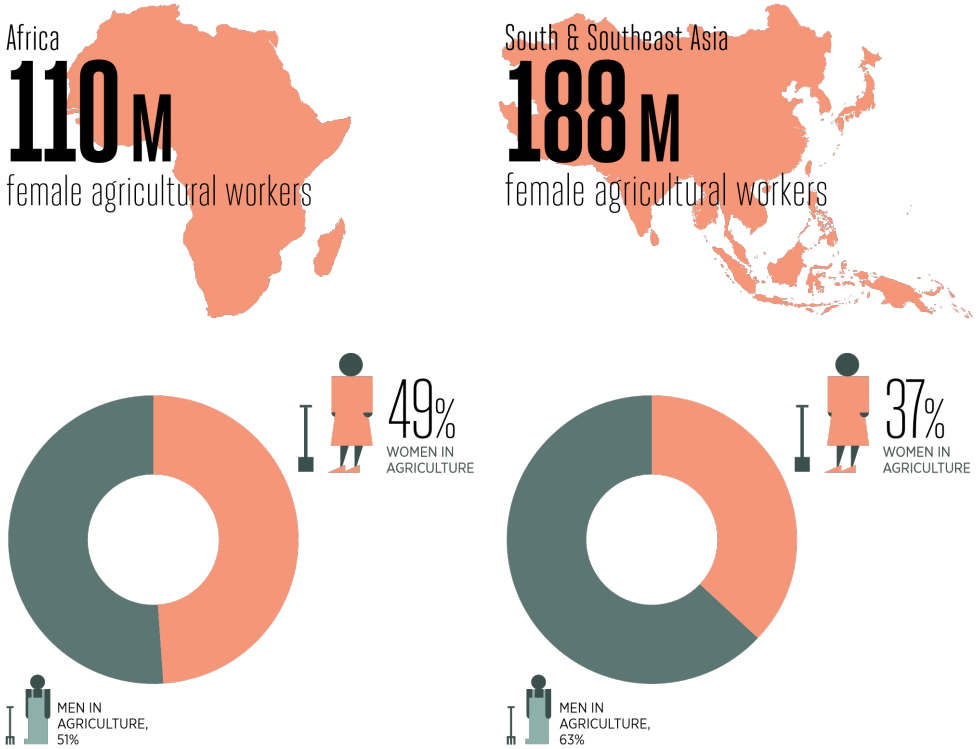
Physical – land, machinery, livestock

Human – labor, nutrition, education, health

Social – networks, labor sharing

Financial – formal and informal credit, savings

Natural – soil, water, air


Africa
110 M
female agricultural workers
49%
WOMEN IN AGRICULTURE
MEN IN AGRICULTURE, 51%
South & Southeast Asia
188 M
female agricultural workers
37%
WOMEN IN AGRICULTURE
MEN IN AGRICULTURE, 63%

GENDER AND AGRICULTURE CONSTRAINTS

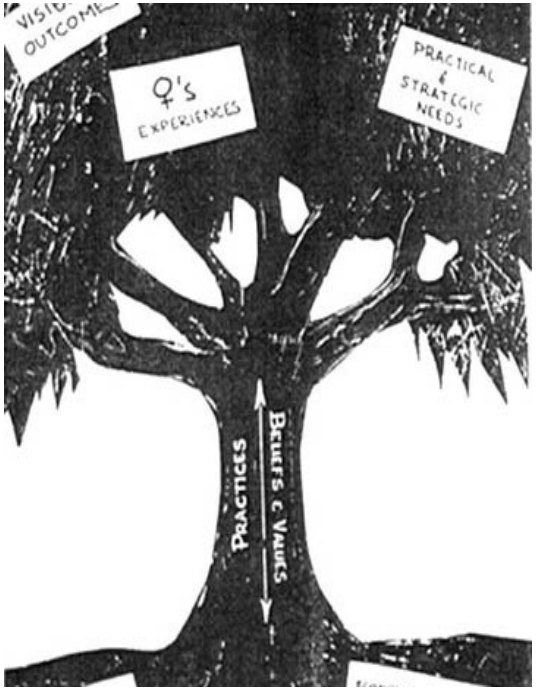
Women farmers provide much of the labor, but face constraints in accessing agricultural inputs, services and markets, including:

Limited control over assets and resources (including labor)
Lower levels of education
Greater domestic care responsibilities
Limited social ties facilitating wage employment
Less access to and ownership of land and credit
Less access to agricultural extension services

Source: Quisumbing *et al*., 2014

WHAT IS GENDER ANALYSIS?

"Processes that make visible the varied roles women, men, girls and boys play in the family, in the community, and in economic, legal and political structures"



GENDER ANALYSIS FRAMEWORKS

Gender roles framework (Harvard)

Triple roles framework (Carolyn Moser)

Web institutionalization framework (Caren Levy)

Gender analysis matrix (GAM)

Equality and empowerment framework (Sara Longwe)

Capacities and vulnerabilities framework (CVA)

People oriented planning framework (POP)

Social relations framework (SRF)

HARVARD FRAMEWORK

The socio-economic ***activity profile*** –
Who does what, when, where and for how long?

The *access and* ***control profile*** –
Who has access to resources (land, equipment, capital etc.)?
Who has access to benefits (education, health services, political power, etc.)?
Who has control over resources and benefits?

Gender Analysis Tools - Activity Profile

	Women/Girls	Men/Boys
Productive (ie. Egg and vegetable marketing)		
Reproductive (ie. child care, cooking, cleaning)		
Community (ie. School and Church meetings)		

Gender Analysis Tool - Access and Control Profile

	Access		Control	
	Men	Women	Men	Women
Resources Land Equipment Labor Capital Education / Training				
Benefits Outside Income Assets Ownership In-kind goods (food, clothing, shelter, etc.) Education Political Power				

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PARTICIPATORY RESEARCH METHODS THAT ENGAGE AND EMPOWER WOMEN

Quantitative and qualitative approaches:

surveys, semi-structured interviews, activity charts, focus group discussions, journaling, photo interpretation, maps

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Gender analysis tools

Women's Triple Roles

WEAI: Women's Empowerment in Agriculture Index

Women's Empowerment in Agriculture Index (WEAI)

Launched in 2012, developed by IFPRI, Oxford Poverty and Human Development Initiative and USAID, first tool of its kind to measure women's empowerment in the agriculture sector

Two sub-indices: women's empowerment and gender parity

Measures 5 domains of empowerment through survey questions:

- Decisions about agricultural production
- Access to and decision-making power over productive resources
- Control over use of income
- Leadership in the community
- Time use

Women's Empowerment in Agriculture Index (WEAI)

WEAI pros: standardized, consistent data, comparable across countries

WEAI cons: resource intensive, agriculture-specific

To address concerns and new findings other versions of WEAI have been developed: Abbreviated WEAI, Project WEAI (Pro-WEAI), WEAI for Value Chains (under development), examples of adaptations for livestock (see resources)

See resources page for links to more information about the WEAI

EXERCISE – APPLYING A GENDER TOOL

Break into smaller groups of men only and women only.

Ask the women's group to create a clock for the average man, and ask the men's group to create a clock for the average woman.

Draw a picture of a clock and fill in what the man or woman does on an "average" day (and night) in a 24 hour period.

Discuss drawings in plenary.

BASIC CONCEPTS: NUTRITION AND FOOD SAFETY

BASIC NUTRITION TERMS

The seven major classes of nutrients are:

MACRONUTRIENTS – needed in larger quantities

Carbohydrates

Fats

Fiber

Proteins

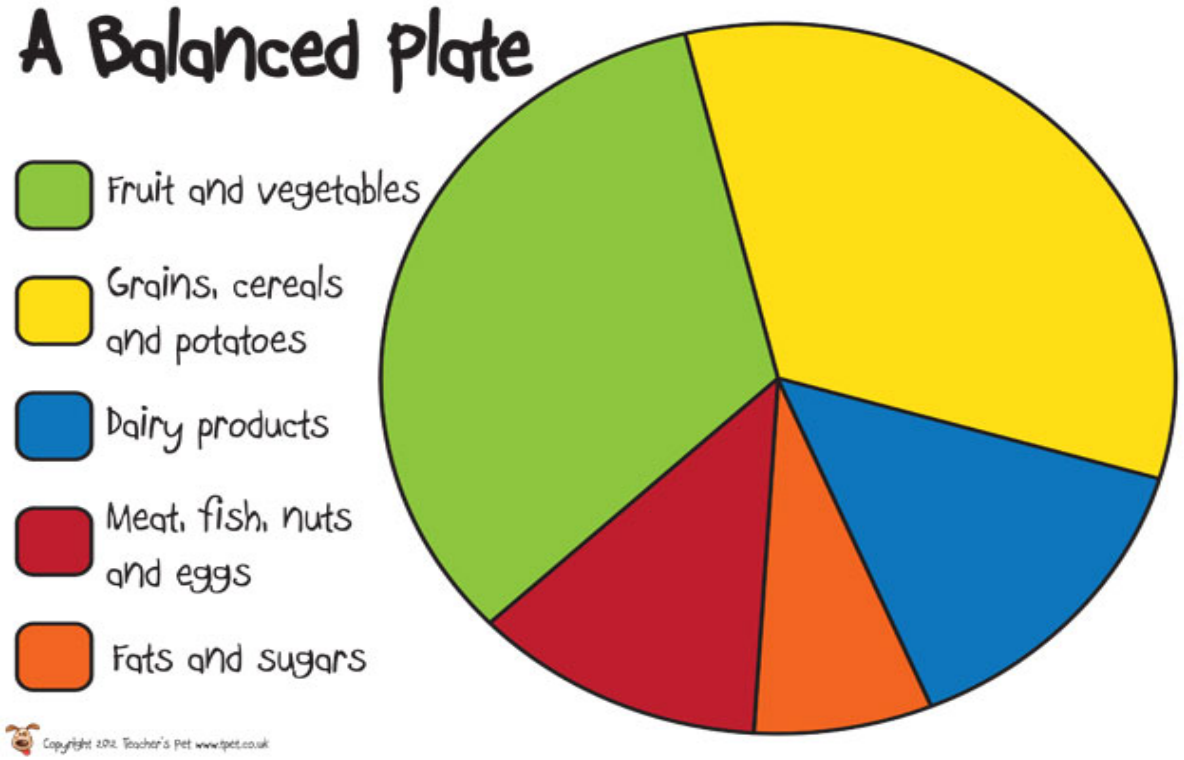
Water

MICRONUTRIENTS – needed in smaller quantities

Minerals – CA, P, K, Mg, Na, ZN, I, Fe

Vitamins – Fat Soluble (A,D,E,K) ; Water Soluble (C, B complex vitamins)

What types of foods provide the above nutrients?


A Balanced Plate
Fruit and vegetables
Grains, cereals and potatoes
Dairy products
Meat, fish, nuts and eggs
Fats and sugars
Copyright 2012 Teacher's Pet www.tpet.co.uk

Wasting (Height for weight z-score)	• Usually because of recent and severe weight loss due to not eating enough food or an infectious disease (ex. diarrhea) that caused them to lose weight • Moderate or severe wasting in children has an increased risk of death
Stunting (Height for age z-score)	• Due to chronic or recurrent undernutrition • Usually in conjunction with other issues such as poor socioeconomic conditions, inadequate maternal health and nutrition, frequent illness, and/or inadequate infant and young child feeding and care in early years • Affects physical and cognitive development
Underweight (Weight for age z-score)	• Also associated with increased risk of mortality • A child who is underweight can be stunted, wasted, or both
Micronutrient-related malnutrition	• Micronutrient deficiencies- lack of important vitamins and minerals • Micronutrient excess
Micronutrient deficiencies	• The most important micronutrients in terms of global public health are iodine, vitamin A, and iron
Overweight and Obesity	• Results from an imbalance between too much energy consumed and too little energy expended • Foods that are high in sugars and fats may not contain the essential micronutrients • Global trends show undernutrition is decreasing but overweight and obese trends are increasing • Highlights that diet quality (not necessarily quantity) is important

Nutrition Outcomes and Associated Tools

- Stunting, Wasting, Undernutrition
- Food Security
- Dietary Diversity
- ASF Consumption

- Anthropometric Measurements
- Household Food Insecurity Access Scale
- Dietary Diversity Questionnaire
- 24-hour Dietary Recall

EXERCISE: APPLYING A NUTRITION TOOL

<u>What Goes on the Plate (or Bowl)?</u>

Form small groups of men and women.

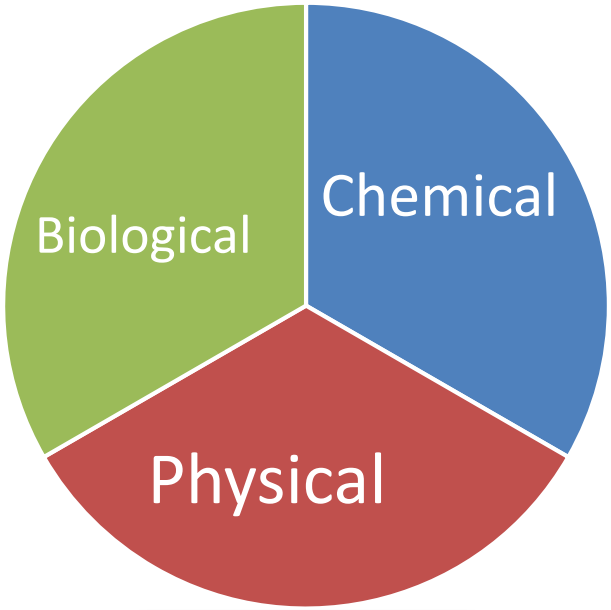
Using a blank flip chart, have groups draw a plate illustrating a lunch for a man and woman in a typical rural household.

Compare this drawing to what was discussed earlier regarding a “balanced plate”. Discuss.

What are some nutrient-dense foods you could suggest to help families on limited budgets eat more nutritiously? (ie. foods that have many nutrients but relatively few calories, and contain vitamins, minerals, complex carbohydrates, lean proteins, and healthy fats).

Food Safety Hazards

Biological Hazards
- Bacteria
- Parasites



Chemical Hazards
- Cleaners and sanitizers
- Paint
- Pesticides

Physical Hazards
- Wood
- Rust
- Broken glass

THE GLOBAL BURDEN OF FOODBORNE DISEASE

Food Safety Hazards

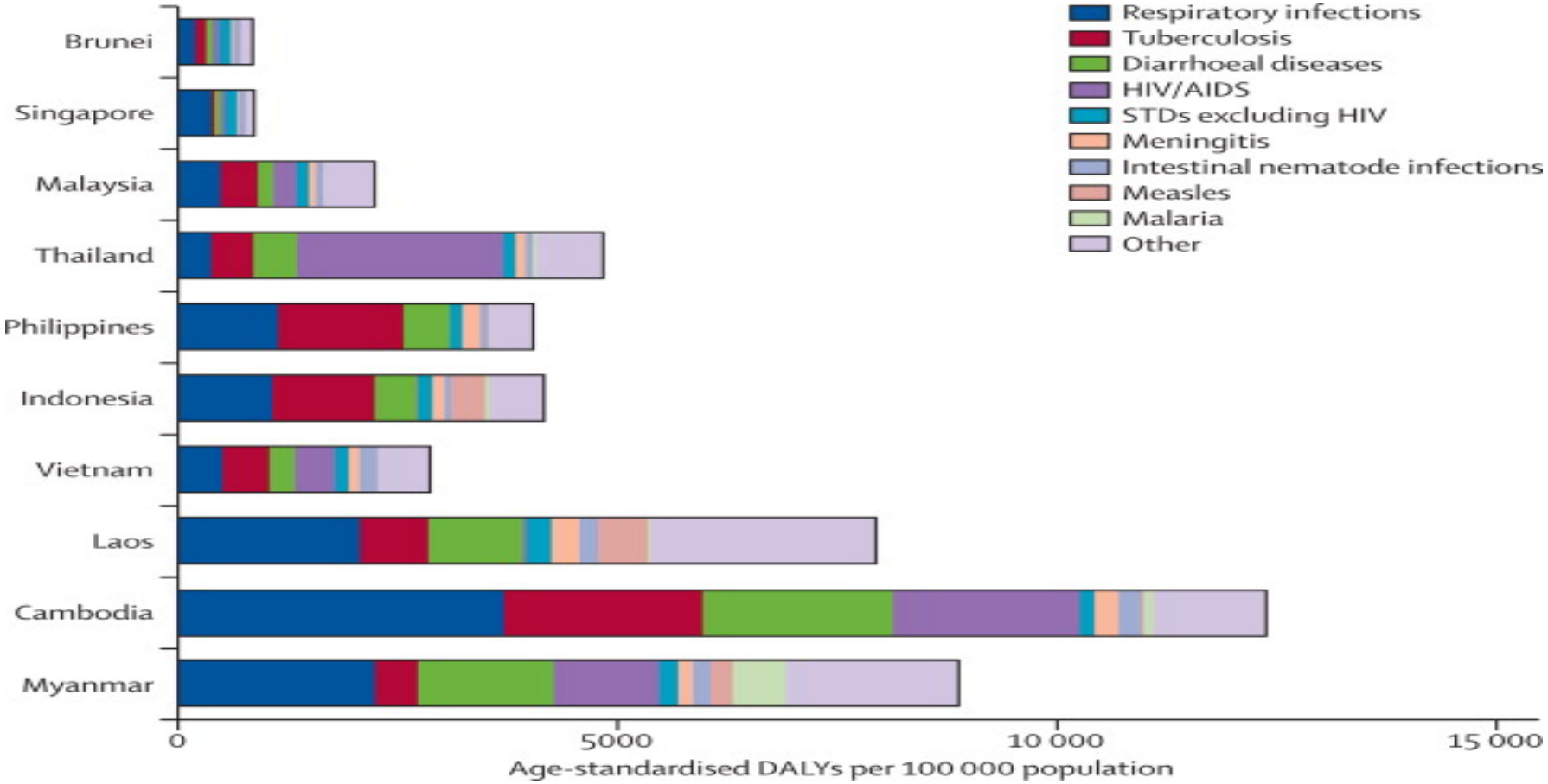
- Up to one-third of the populations of developed countries are affected by foodborne illness each year, and the problem is likely to be even more widespread in developing countries.
- Food and waterborne diarrheal diseases are leading causes of illness and death in less developed countries, killing an estimated 2.2 million people annually, most of whom are children.
- Diarrhea is the most common symptom of foodborne illness, but other serious consequences include kidney and liver failure, brain and neural disorders, and death. The long-term complications of foodborne disease include reactive arthritis and paralysis.

Food safety challenges facing the Asian Region

- Use of wastewater in agricultural production
- Sale of “hot” meat (unrefrigerated)
- Poor slaughterhouse hygiene
- Limited public knowledge and awareness of food borne illnesses
- High poverty
- Inadequate water, sanitation, and hygiene (WASH)
- Poor health and nutrition
- Vulnerability to climate change/severe weather events
- Absence of specific government policies and legal frameworks for surveillance and control of zoonoses
- Inadequate resources, insufficient animal–human public health cooperation, coordination, and collaboration
- Frail laboratory facilities
- Weak and disconnected reporting systems

Sources: (Davies et al., 2013; Vuong et al., 2007; FAO/ WHO, 2004)

WHO GLOBAL BURDEN OF DISEASE, 2004 UPDATE.[1] DALYS=DISABILITY-ADJUSTED LIFE-YEARS



CHEMICAL HAZARDS

Chemical contaminants in food include natural toxicants, such as mycotoxins and marine toxins, environmental contaminants, such as mercury and lead, and naturally occurring substances in plants.

Food additives, micronutrients, pesticides and veterinary drugs are deliberately used in the food chain; however, assurance must first be obtained that all such uses are safe.

BIOLOGICAL HAZARDS COMMON TO CAMBODIA

Salmonella species (Salmonella enterica due to consumption of chicken and pork)

Campylobacter species (*Campylobacter jejuni* due to chicken (ca. 50%); diarrhea represented 14% of FBDs in Cambodia

Streptococcus suis (pigs)

Opisthorchis viverrini due to fish consumption

Taenia Solium (from pork consumption)

Staphylococcus aureus is associated and mishandling, especially a problem in informal markets

Nipah virus, Zoonotic (close contact with pigs)

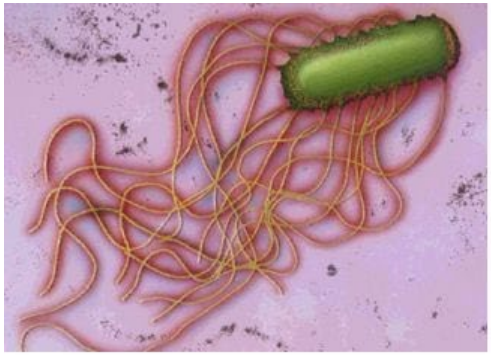
Avian influenza A H5N1, Zoonotic (close contact with poultry)

Sources: Journal of Food Quality, 2019;(https://doi.org/10.1155/2019/1048092) SFFF project profile, 2017 (https://www.ilri.org/node/53801)

Who do Food Hazards affect most?

Young, **O**ld, **P**regnant, **I**mmunocompromised

- Referred to as **YOPI's**



Salmonella

- Most common in children <4 years old and a peak in the first few months of life
- Transmitted via ingestion of contaminated food and contact with infected animals
- **fever, diarrhea and abdominal cramping**
- Antimicrobial therapy can prolong fecal shedding

Symptoms of Salmonella

<u>Common Symptoms</u>

- Nausea
- Vomiting
- Abdominal cramps
- Bloody diarrhea
- Fever

<u>Severity</u>

- Symptoms can last 2 to 7 days.
- Some *Salmonella* species can cause typhoid fever.
- Critical in **YOPI's**

E. coli O157:H7

Found in the intestines of cattle and swine

Potential contamination of the meat during slaughter

Eating meat that is raw or undercooked is the most common way becoming infected

Symptoms of E. Coli

Severe abdominal cramping
Diarrhea (bloody)
Vomiting
Low-grade fever

<u>Severity</u>
Symptoms can last up to 8 days
Can cause Hemolytic Uremic Syndrome (kidney failure)
Critical in **YOPI's**

STAPHLOCOCCUS AUREUS

- The bacterium releases a toxin into foods, causing a rapid onset of severe nausea and vomiting. It may also cause fever.

- Foods most associated with Staphylococcus food poisoning are eggs, meats, poultry, salads (egg, tuna, chicken, potato, macaroni), cream-filled baked goods, and dairy products.

CAMPHYLOBACTER SPECIES

Campylobacter is a foodborne pathogen that may be found in the feces of animals carrying the bacteria. Found in chicken and other poultry, cattle, pigs, sheep, ostriches, shellfish, cats and dogs.

Common symptoms of campylobacteriosis are:

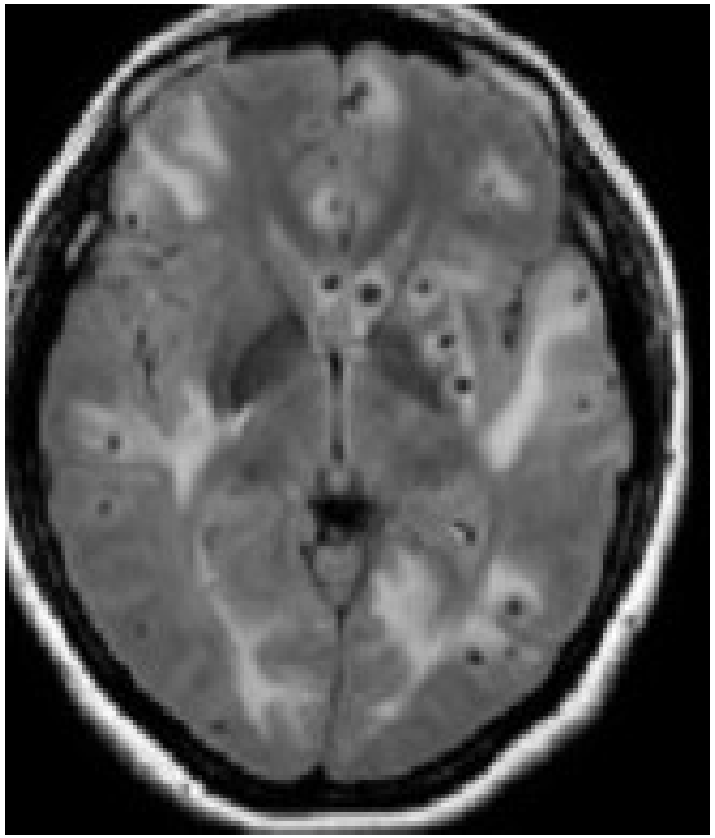
- Diarrhea (often bloody)
- Stomach/abdominal pain
- Headache
- Nausea
- Vomiting
- Fever

TAENIA SOLIUM

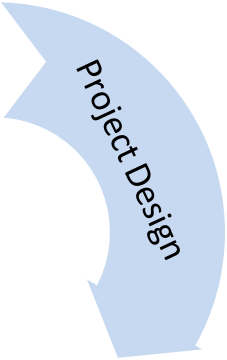
Taenia solium (pork tapeworm), and *Taenia asiatica* (Asian tapeworm) infect humans by eating raw or undercooked pork (*T. solium* and *T. asiatica*)

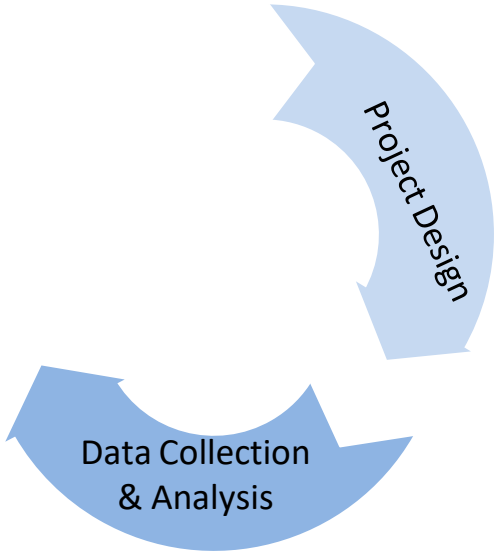
People with taeniasis may not know they have a tapeworm infection because symptoms are usually mild or nonexistent

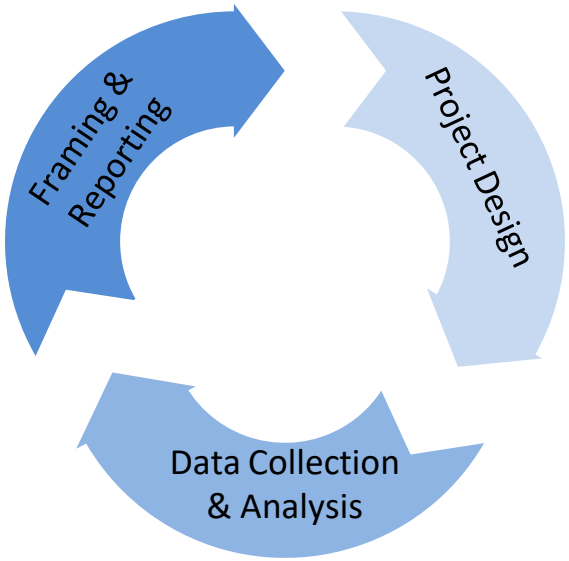
Cysticercosis is a parasitic tissue infection caused by larval cysts of *Taenia solium*. These larval cysts infect brain, muscle, or other tissue, and are a major cause of adult onset seizures

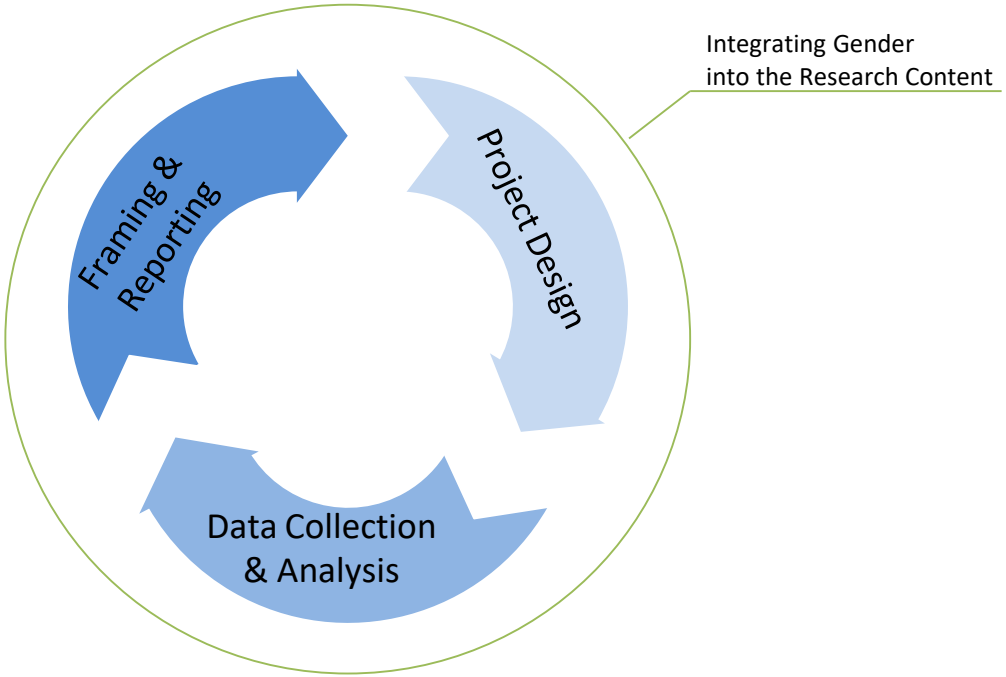


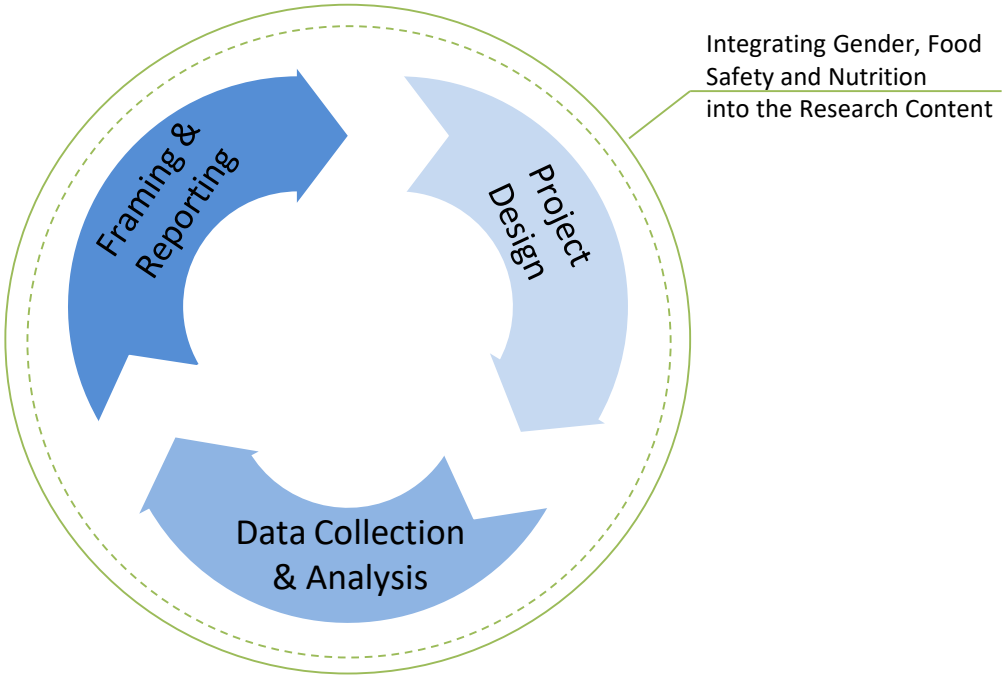
OVERVIEW OF PROJECT LIFE CYCLE


Project Design


Project Design
Data Collection
& Analysis


Framing & Reporting
Project Design
Data Collection & Analysis


Integrating Gender
into the Research Content
Framing &
Reporting
Project Design
Data Collection
& Analysis


Framing & Reporting
Project Design
Data Collection & Analysis
Integrating Gender, Food Safety and Nutrition into the Research Content

PROJECT DESIGN

What to consider when developing a research question

CONSIDERATIONS FOR DEVELOPING A RESEARCH QUESTION FROM A GENDER LENS

Who benefits from this project? How do they benefit?

Are benefits shared equally among all family members?

How will this project affect the workload of all family members?

Are all family members affected equally by food safety risks? If not, who is most affected?

What would you like to see as the outcome of this project as it relates to gender and nutrition equity within the household or the community?

PROJECT DESIGN – ADDITIONAL CONSIDERATIONS

Composition of Research Team?
- Number of males and females?
- Enumerators needed?
- Interdisciplinary? Social as well as Biophysical scientists?

Languages?

Literacy and Education Levels?
- Male and female respondents are often different

Interview protocol?
- Women and men often need to be interviewed separately using male and female interviewers

PROJECT DESIGN – ADDITIONAL CONSIDERATIONS

What research has already been conducted in the area of inquiry?

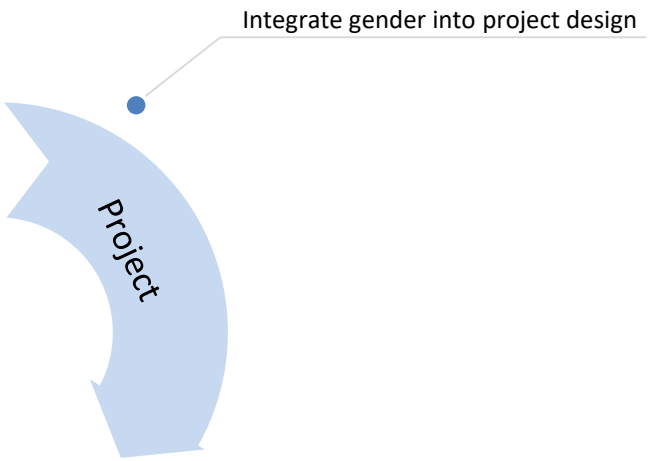
- Women's empowerment
- Nutritional status of children under 5
- Food Safety risks in value chains

Can you leverage existing data as baseline to save money and resources but answer questions about change?

What gaps exist within existing literature on gender, nutrition and food safety to which your research could contribute?

PROJECT EXAMPLE

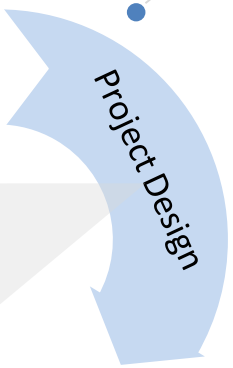
"Improving Milk Production through the Reduction of Food Safety Hazards in Cambodia"

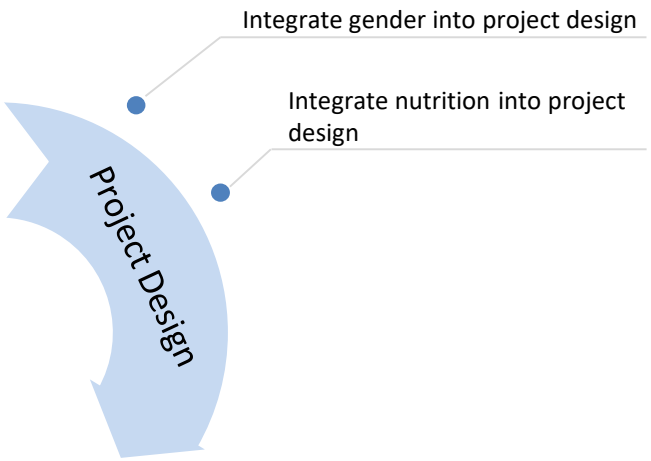

Integrate gender into project design
Project

Integrate gender into project design

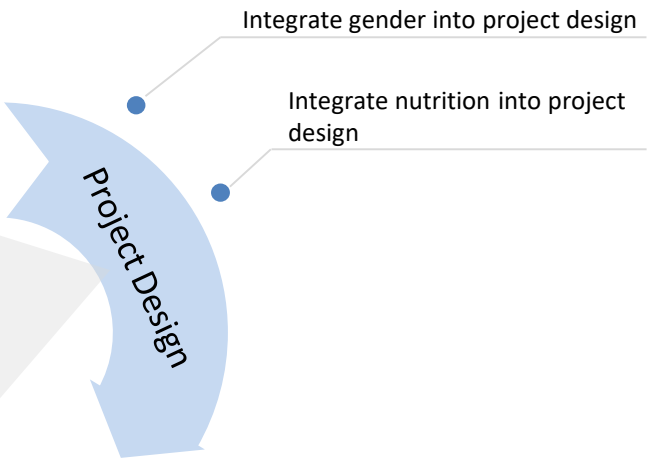
Identify ways that gender could influence the project objectives:

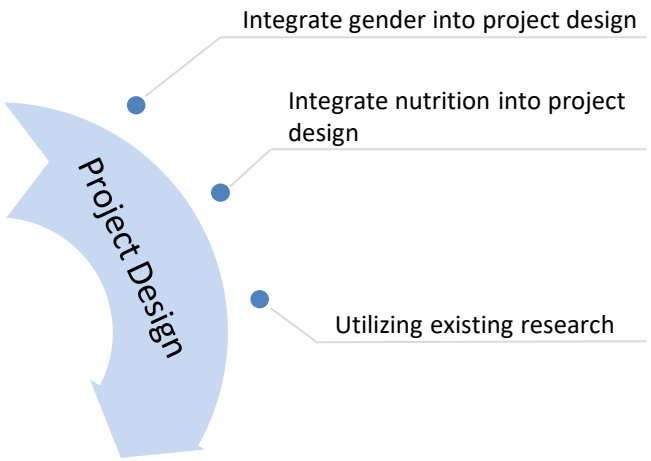
- Who does what in the dairy value chain?
- Do certain family members receive more exposure to food safety hazards? Why or Why not?
- How will this project affect the workload of all family members?
- What would we like to see as the outcome of this project as it relates to gender equity?



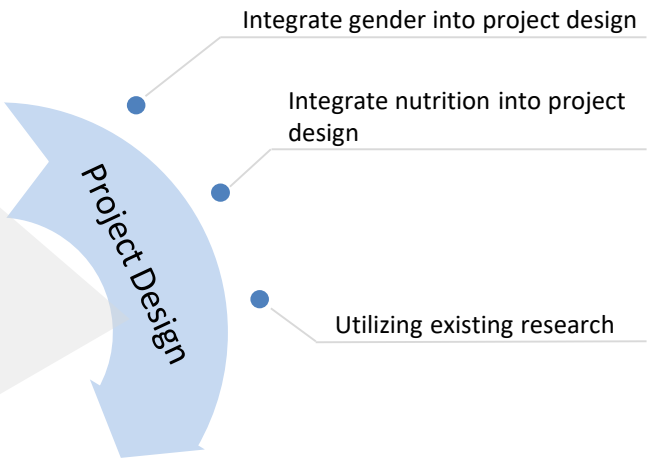

Integrate gender into project design
Integrate nutrition into project design
Project Design

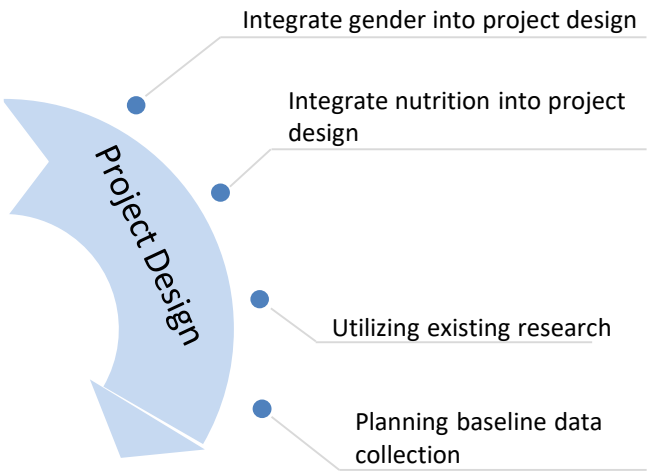
- Do you need to hire a nutrition specialist?
- Are certain family members involved more with the preparation, processing and serving of food? Who are they?
- Who are the people affected by the project, and are their health and nutrition affected directly or indirectly?
- Are children involved as subjects in the project?
- How will you address IRB requirements if human materials are collected?




Project Design
Integrate gender into project design
Integrate nutrition into project design
Utilizing existing research

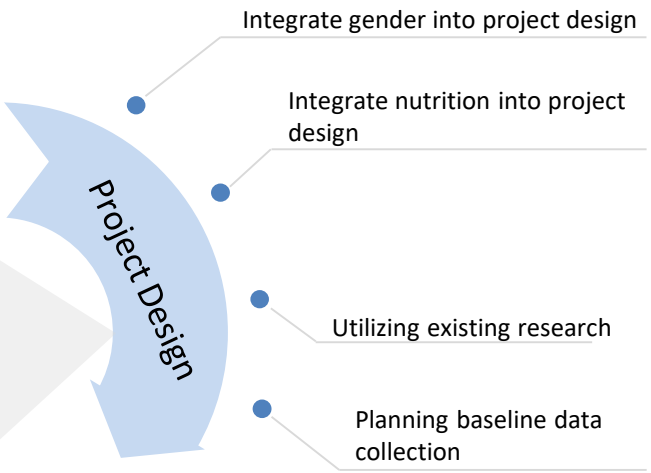
- What research has already been conducted in these areas?
  - Women's empowerment
  - Nutritional status of children under 5
  - Gender and food safety issues
- Can you leverage existing data as baseline to save money and resources but still answer the research questions?
- What gaps exist within existing literature on gender and food safety to which your research could contribute?




Project Design
Integrate gender into project design
Integrate nutrition into project design
Utilizing existing research
Planning baseline data collection

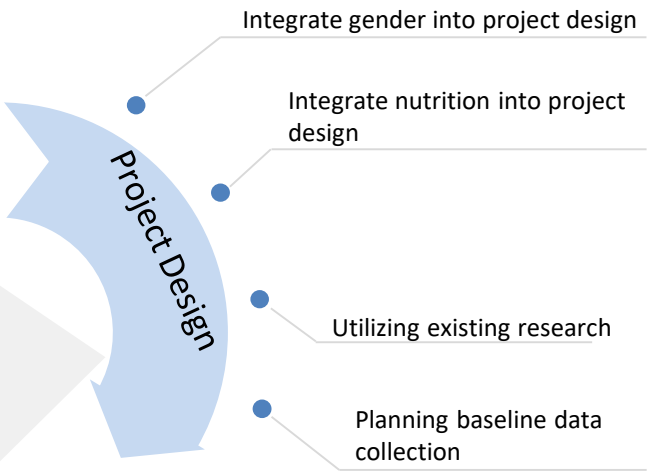
Plan for a **gender analysis** to determine:

- Who does what, when and where in the value chain?
- Who has access and control of the resources needed for production and marketing of the value chain products?
- Are men, women or children more at risk for food safety issues in the value chain?
- Who in the family handles and consumes milk or meat if it is not sold, or when processing occurs?



Plan for a **nutrition analysis** to determine:

- Who eats what, when and where related to the value chain products?
- Who has access and control of food resources?
- Who handles, processes and prepares the products?
- What validated tools and indices exist to better understand nutrition and food safety risks within a household?



CASE STUDY

Form small groups

Read the case study individually, and then as a group discuss and answer the questions related to Project Design.

Record the group's responses on a flip chart.

Post group flip charts on the walls and do a gallery walk to review other group's research questions. Look for whether the question answers the donor's request and includes key issues already discussed in class.

END OF DAY ONE

Thanks for your active participation!

See you tomorrow ~

REFERENCES

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Thank you!

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