

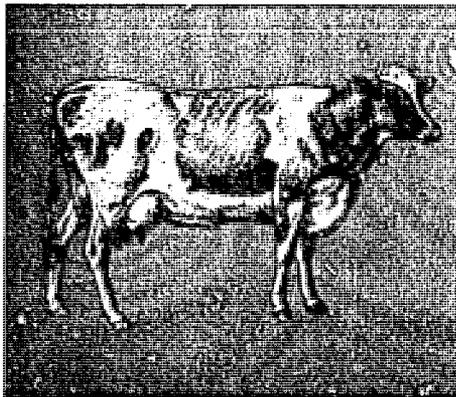
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# THE ECONOMIC VALUE OF BREASTFEEDING

*Four Perspectives for Policymakers*

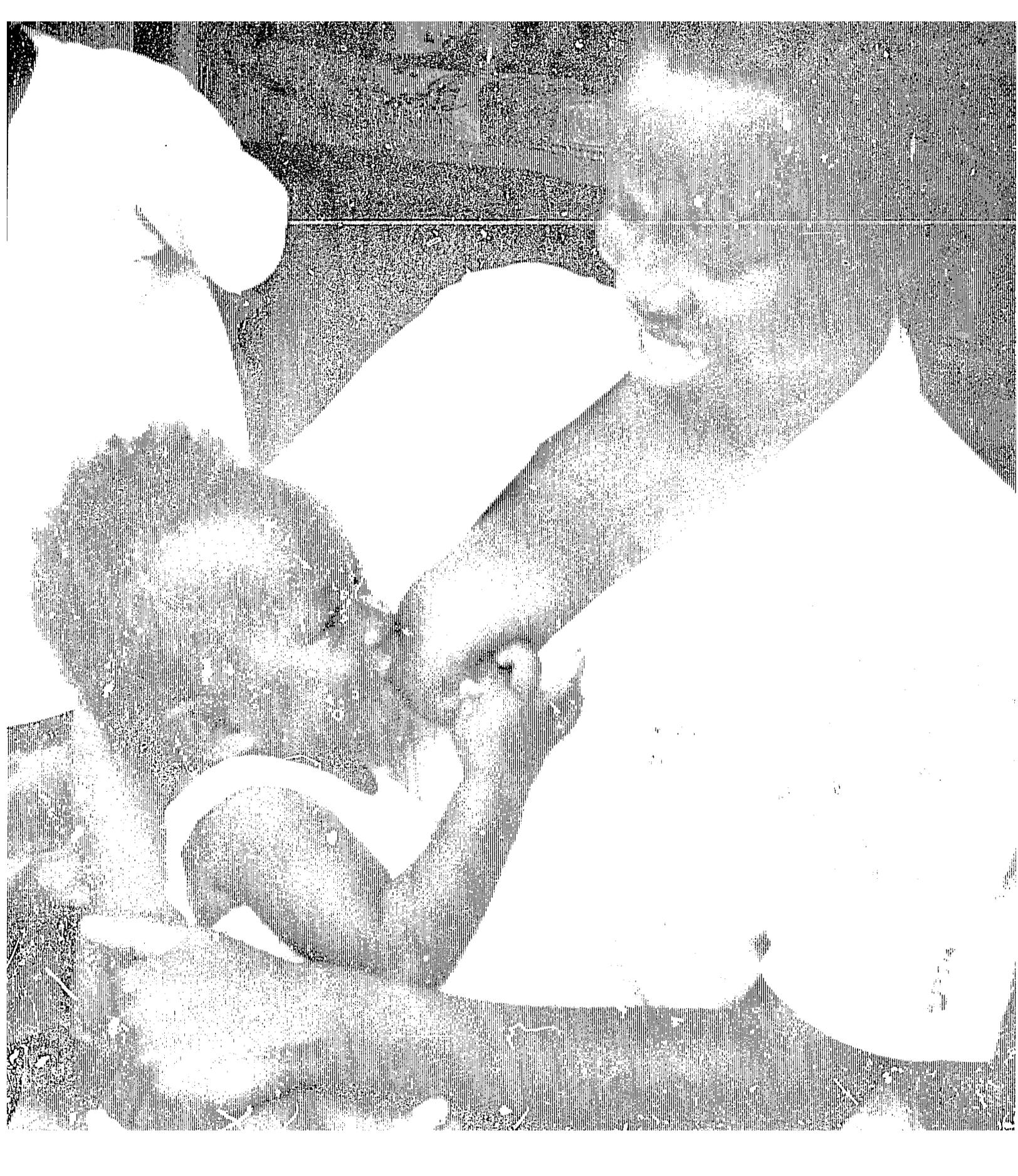


prepared by the  
Center to Prevent  
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for the  
*Social Sector Policy  
Analysis Project*  
of the  
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operated by the  
Academy for Educational Development



# THE ECONOMIC VALUE OF BREASTFEEDING:

**AED**



**T**his booklet is intended to introduce the notion of breastmilk as an economic resource, to suggest the range of economic activities on which it impacts, and to present illustrative experiences from around the world.

Policymakers will find information summarized here on the costs of breastfeeding and bottlefeeding from four developing country perspectives:

- the **national perspective** refers to the aggregate costs to a nation of alternative infant feeding practices
- the **public sector** is distinct from the national perspective, and comprises the full range of government-supported agencies and programs
- **hospitals** and
- **households**.

From each perspective, both breastfeeding and bottlefeeding carry with them direct costs (the time and materials required) and indirect costs (the health and fertility effects associated with each mode of infant feeding).

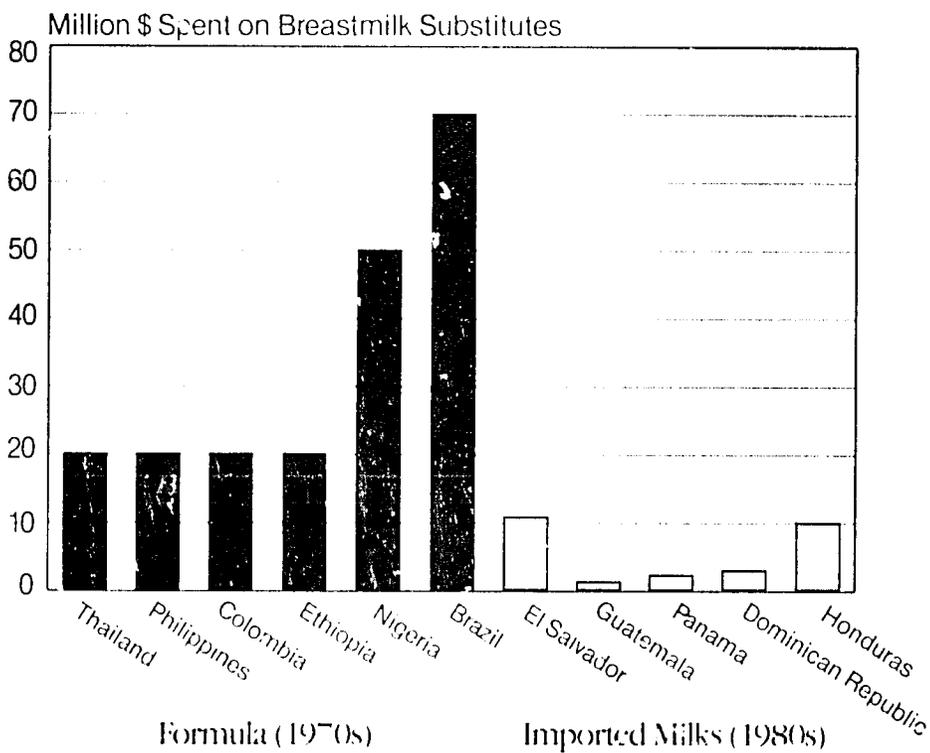
## COSTS OF BREASTFEEDING

- potential loss of women's economic productivity, if breastfeeding conflicts with participation in the labor force

## COSTS OF BOTTLEFEEDING

- aggregate expenditures on breastmilk substitutes and supplies
- infant and child lives lost

### Annual National Expenditures for Breastmilk Substitute Imports



## How much money is needed to replace breastmilk when the prevalence of breastfeeding declines?

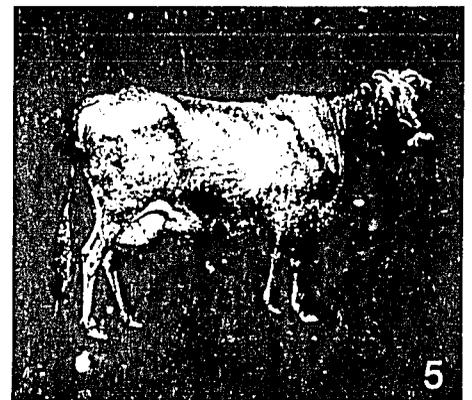
- CASES: ■ In Singapore, an additional \$1.8 million was required to pay for breastmilk substitutes when the prevalence of breastfeeding (at 3 months) fell from 71% to 42%.
- An additional \$16 million was spent on breastmilk substitutes in the Philippines when the prevalence of breastfeeding dropped by 31%.

Source: Berg (1973)

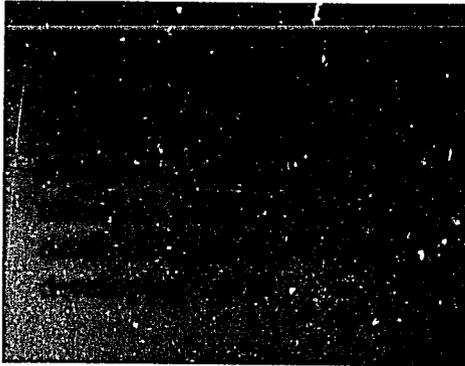
## What resources would be needed to replace currently produced breastmilk?

- CASES: ■ Indonesia would need \$62 million
- Tanzania would need \$22 million
- Papua New Guinea would need \$12.5 million
- India would need an additional 114 million lactating cattle
- ...and worldwide, \$15 billion would be required to feed the 120 million infants each year.

Sources: Ronde (1982); Latham (1977); Marshall (1988); Jelliffe and Jelliffe (1975)

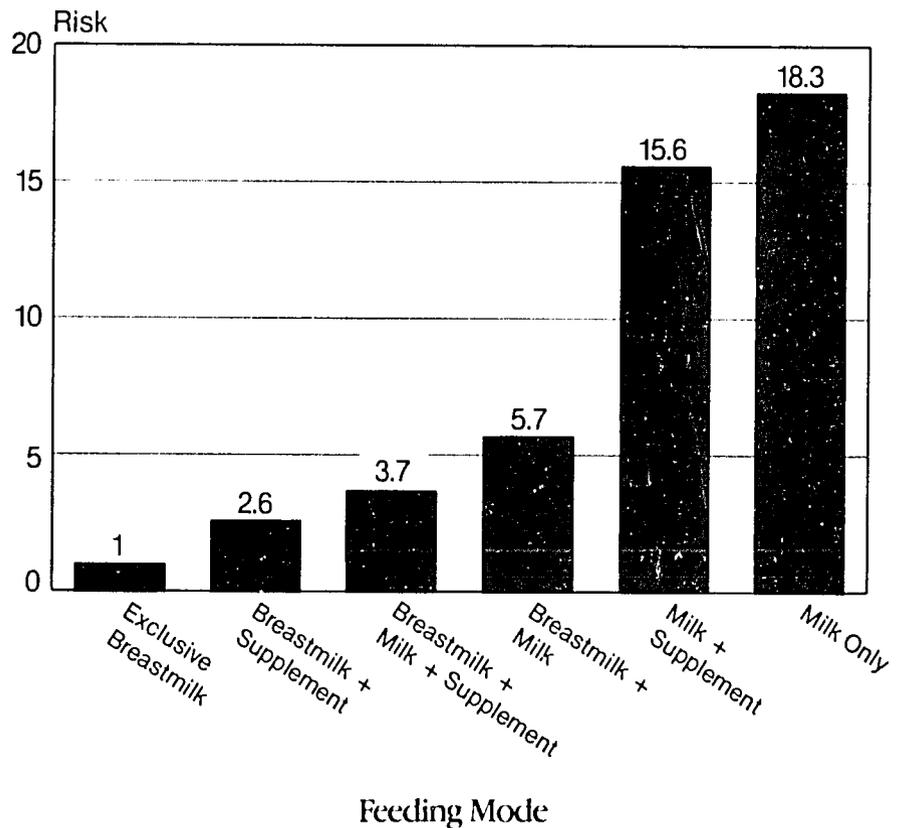


# THE NATIONAL PERSPECTIVE . . .



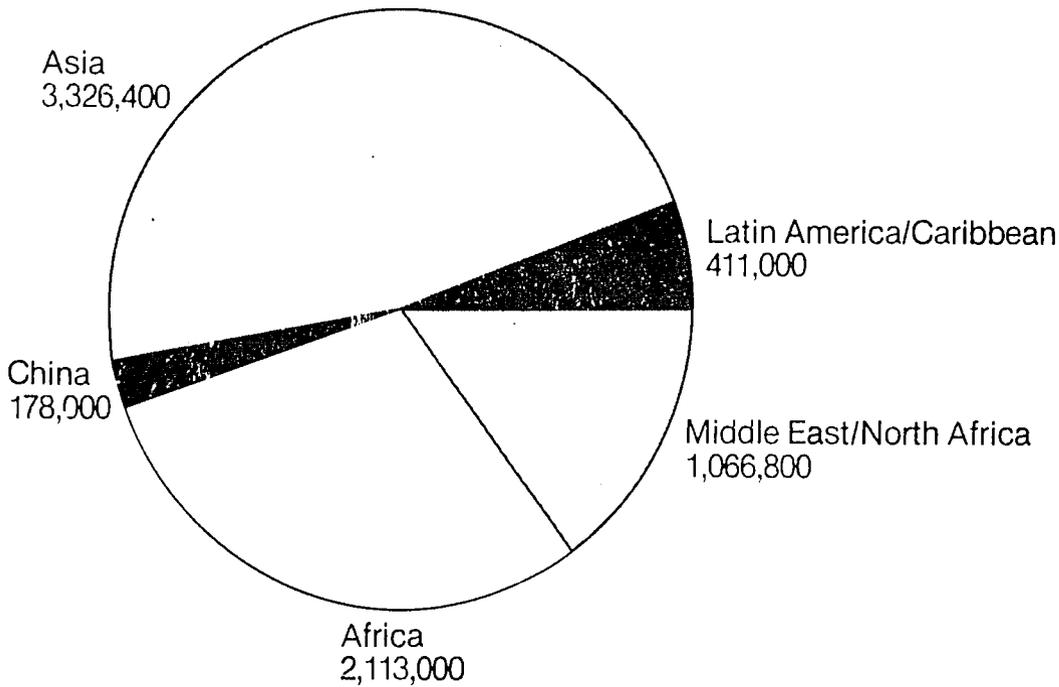
## Relative Mortality Risk Due to Diarrhea, by Feeding Mode

In Porto Alegre and Pelotas, Brazil (age 0–12 months)



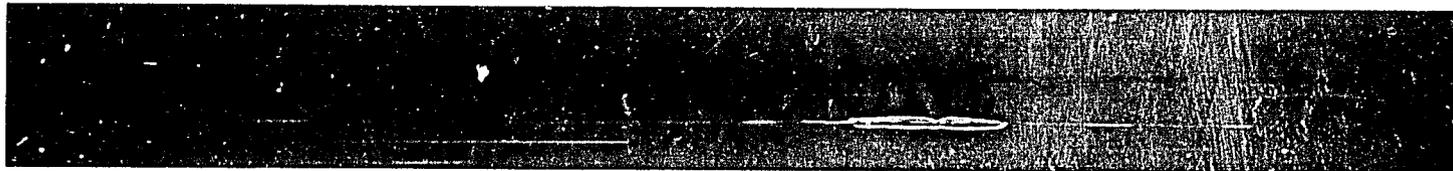
How many deaths from diarrheal disease and acute respiratory infection currently are averted by breastfeeding?

### Infant Lives "Saved" by Breastfeeding (by Region)



Total = 7,095,200

Source: Levine et al. (1990)



## COSTS OF BREASTFEEDING

- costs of breastfeeding promotion activities (mass campaigns and promotion in public health care institutions)
- potential loss of tax revenues from local breastmilk substitute manufacturers

## COSTS OF BOTTLEFEEDING

- expenditures for breastmilk substitutes and supplies by government institutions (see *The Hospital Perspective* for details)
- public health care costs
- family planning costs
- interest on debt incurred by importation of breastmilk



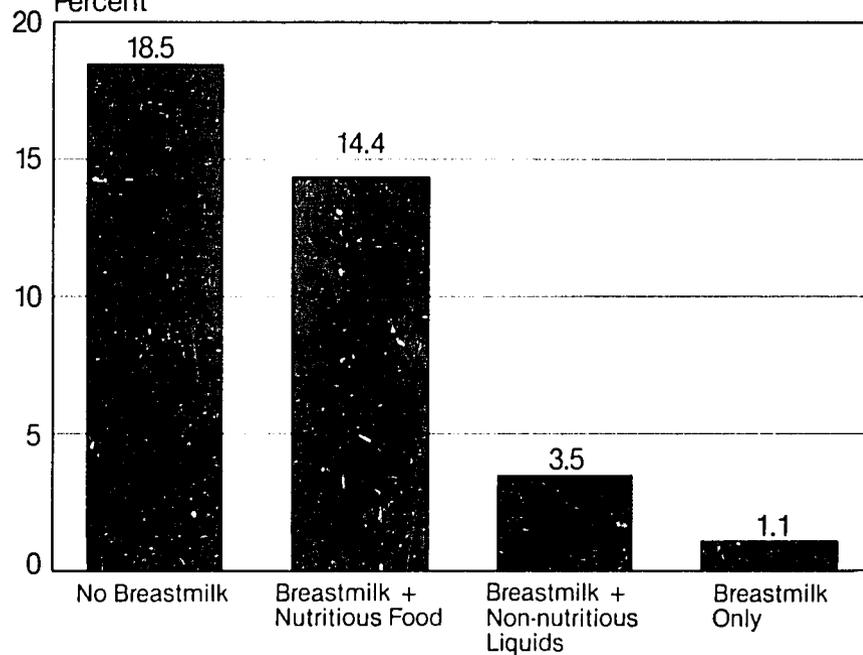
**Breastfeeding prevents the occurrence of malnutrition, diarrheal disease and other infectious diseases in many settings.**

CASE: Among 2-month-old infants in the Philippines, those not breastfed were 18.5 times as likely to contract diarrheal disease as those who were exclusively breastfed.

### Risk of Diarrhea by Feeding Mode in Philippines

(Infants 0–2 months)

Percent



Source: Popkin et al. (1990)

**What is the effect of breastfeeding on public health care costs?**

CASE: In Indonesia, a 25% reduction in the number of mothers who breastfeed would result in costs of an additional \$40 million in diarrheal disease treatment (20% of the nation's health budget).

Source: Rohde (1982)

## THE PUBLIC SECTOR PERSPECTIVE . . .

**Exclusive breastfeeding during the first six months contributes to the reduction of total potential fertility.**

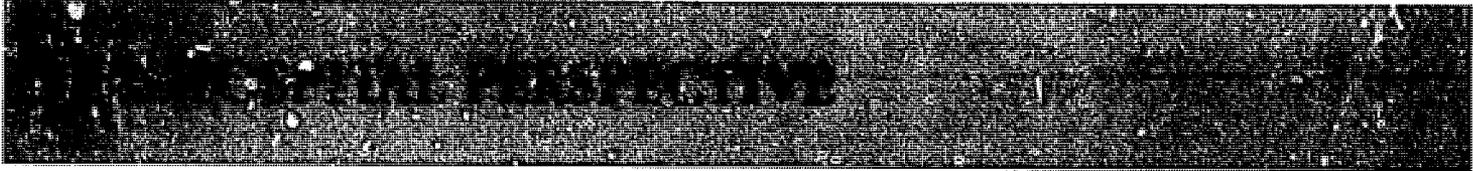
- CASES: ■ Temporary infertility associated with breastfeeding is considered to be responsible for reducing total potential fertility by nearly 7 births per woman in Bangladesh, and around 5 births per woman in Indonesia and Senegal.
- Breastfeeding is responsible for reducing total potential fertility by 34% in Africa, 30% in Asia, and 16% in the Americas.
  - If current duration of breastfeeding declined by one-half, total fertility would increase by approximately 30% in Ghana, Senegal and Nepal, 17% in Haiti, and 37% in Indonesia.

Sources: World Bank (1989); Thapa et al (1988)

**What is the effect of breastfeeding on family planning costs?**

CASE: In Indonesia, to achieve a similar reduction in fertility, an additional \$80 million would have to be spent on family planning activities if there were no breastfeeding.

Source: Rohde (1982)



## **COSTS OF BREASTFEEDING**

- staff training
- education and support of new mothers
- modification of the physical plant to allow rooming-in

## **COSTS OF BOTTLEFEEDING**

- staff time for preparation and feeding
- expenditures on breastmilk substitutes and supplies (bottles, glucose water, pharmaceuticals such as uterine-contracting oxytocin, used after delivery, etc.)
- increased hospital stay and health care costs



## THE HOSPITAL PERSPECTIVE . . .

### Costs of Changes in Hospital Practices to Promote Breastfeeding

| ACTIVITY               | SITE                 | COST  |
|------------------------|----------------------|---|
| promotion & conference | hypothetical         | \$475 per trainee<br>\$0.01–1.00 per birth*   |
|                        | Panama               | \$463 per trainee                             |
|                        | Ecuador              | \$65 per trainee                              |
|                        | Ethiopia/Liberia     | \$600 per trainee                             |
|                        | Colombia             | \$51 per trainee                              |
|                        | Indonesia            | \$150 per trainee                             |
| staff training         | hypothetical         | \$10–860 per trainee<br>\$0.05–1.10 per birth |
|                        | Panama               | \$10–67 per trainee                           |
|                        | Honduras             | \$212 per trainee<br>\$5.50 per birth         |
|                        | El Salvador          | \$44 per trainee                              |
|                        | lactation counseling | hypothetical                                  |
| rooming-in             | Panama               | \$0   |
|                        | Indonesia            | \$0   |

\*The cost per birth depends on the size of the hospital and the patient/staff ratio.

Source: Levine and Huffman (1990)(original sources cited)

## THE HOSPITAL PERSPECTIVE . . .

### Savings Associated with Changes in Hospital Practices to Promote Breastfeeding

| SOURCE                          | SITE        | SAVINGS          |
|---------------------------------|-------------|------------------|
| less staff time with rooming-in | Philippines | \$4.20 per birth |
| less infant formula             | Honduras    | \$1.20 per birth |
|                                 | Philippines | \$0.80 per birth |
| fewer bottles                   | Philippines | \$0.32 per birth |

Source: Levine and Huffman (1990) (original sources cited)



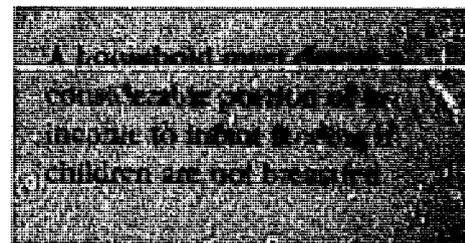
# HOUSEHOLD PERSPECTIVE

## COSTS OF BREASTFEEDING

- maternal time for feeding and lost employment opportunities
- maternal nutritional supplementation

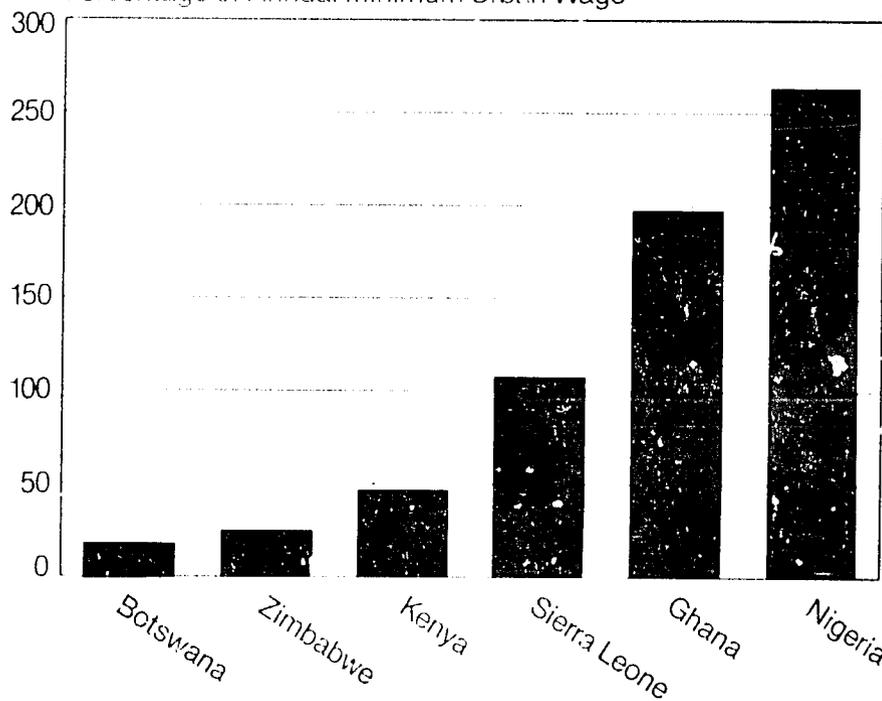
## COSTS OF BOTTLEFEEDING

- caretaker's time for preparation of breastmilk substitutes and feeding, and care of bottlefeeding-related illness in children
- expenditures on breastmilk substitutes and supplies (including fuel)
- potential loss in child's economic contribution due to ill health
- expenditures associated with higher fertility, or increased use of contraceptives

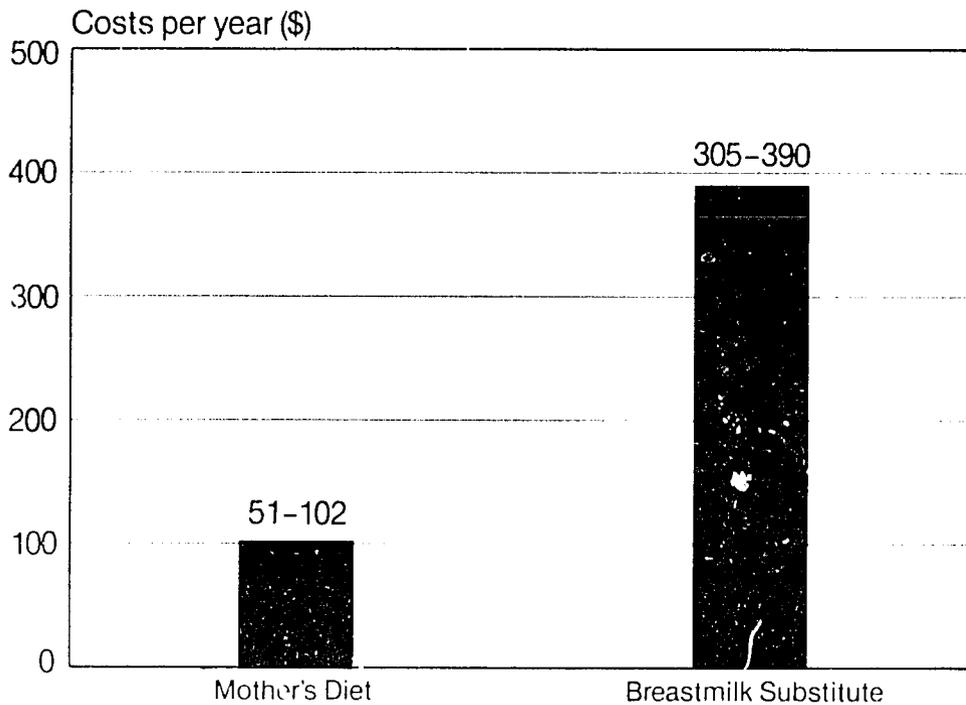


## Percentage of Income Spent to Feed Baby with Infant Formula In First Year

Percentage of Annual Minimum Urban Wage



## Costs in Côte d'Ivoire



Source: Greiner et al. (1979)

**The cost of additional food for breastfeeding mothers is relatively low, compared to the cost of breastmilk substitutes.**

CASE: In the Côte d'Ivoire, additional food for a breastfeeding mother would cost \$51-102 per year. We can compare this with the goods cost of artificial feeding for an infant (including breastmilk substitutes, supplies and fuel), which would total \$305-390 per year. The goods cost of artificial feeding exceeds that of breastfeeding by at least three times.

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