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**BREASTFEEDING AND INFANT FEEDING GRAPHS**

**BASED ON DATA FROM THE  
DEMOGRAPHIC HEALTH SURVEYS**

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**NUTRITION COMMUNICATION PROJECT**

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**TABLE OF CONTENTS**

**I. INTRODUCTION . . . . . 2**  
**II. IMPLICATIONS OF DATA FOR INFANT FEEDING MESSAGES . . 3**

**APPENDIX A:     **Graphs****  
**APPENDIX B:     **Data From Graphs****

## **INTRODUCTION**

The U.S. Agency for International Development (A.I.D.), Office of Nutrition, recently supported a review of data and preparation of graphics based on results from the Demographic Health Surveys (DHS)<sup>1</sup>.

The Office of Nutrition felt that similar types of graphics would be useful for the AED Nutrition and Social Marketing Field Support Project (NCP) and that certain graphs could also be used in the report to Congress on Breastfeeding being prepared by A.I.D.

These graphs were prepared by Logical Technical Services (LTS), a subcontractor to the Academy for Educational Development, in February of 1990. ( See Graphs 1 to 44 in Appendix A).

As part of the scope of work LTS also analyzed infant feeding patterns and made recommendations concerning important factors to consider in developing messages and the important topic of breastfeeding and infant feeding.

### Note on Methodology

ISSA, a program specifically developed for analyzing the DHS surveys, was used for analysis with cooperation from the DHS team.

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<sup>1</sup> Cross-country comparisons and intra-country differentials in nutritional status and infant feeding (Zerfas and Teller, 1990). Mimeo, Office of Nutrition, U.S.A.I.D.

## IMPLICATIONS OF DATA FOR INFANT FEEDING MESSAGES

National-level information is extremely useful for presenting to decision-makers about the severity and scope of problems. Cross-sectional surveys in the nature of DHS are primarily for administrative and planning information and are generally inappropriate for formal causal analysis.

The Demographic Health Surveys encompassed the whole country using accepted sampling procedures, usually with a sufficient sample size to describe nutritional status and feeding practices in infants and young children. The response rate was usually over 90%.

Examples of key messages for which data and graphics may be used relates to the extent of "problems" related to nutrition.

### A. Inappropriate breast feeding.

In several countries, particularly in Africa, although the prevalence of breast feeding is high in infants, it appears "inadequate", based on the unnecessary addition of added water, milk, other liquids and "foods" at times with bottle feeding. In the graphs this was usually grouped as exclusive (breast milk alone), with only plain water added and with anything else added.

For countries, this is summarized for infants aged 0-4 months in Graphs 22-24 and for urban/rural comparisons in Graphs 16-19. In Graphs 33-37, the order of countries is based on the level of prevalence for "exclusive" and other additions. In some, the location of East and West African countries is identified. In Graph 32, the focus for selected countries is on exclusive breast feeding by urban/rural, with the remainder of 100% being the WHO recommendation.

This message was presented for rural areas in four countries (Graph 25). The pie on the left indicates the prevalence of breast feeding, the bar on the right shows the "quality" in terms of inappropriate additions.

For three countries (Ghana, Mali and Zimbabwe) more detailed information is shown with regards to the types of additions, by month for the first year (Graphs 38 to 40). In each country the level of exclusive breast feeding is low, but the pattern for additions vary. The left graph is based on each of the additions. Hence for Ghana, almost all breastfed infants had added water. The right graph cumulates each addition up to a total percent of those breastfed.

Thus for Ghana, in the first month of life (0 in graph) only about 5% were exclusively breastfed, 80% had added water alone, about 10% had juice/other liquids (may also include water) and the remaining

5% had milk or mushy foods (may also include juice/other liquids, water). Obviously, the result for exclusive breast feeding (Breast only) falls far below recommendations (100%) even in the first month of life. If this is "relaxed" to include plain water only added the result for the first month of life (85%, including the exclusive group) would appear more satisfactory, although by 4 months, this declines to 50%. It would appear that non-breast milk was rarely given to infants; whereas juice and other liquids was more common.

The pattern in Mali differs somewhat from that of Ghana. Although the level of exclusive breast feeding is still low, there appears more reliance on added water only and milk (particularly fresh) rather than other liquids and juice.

Zimbabwe is included, because of the lower mortality rates and generally better economic situation than Ghana or Mali. In Zimbabwe, the earlier introduction of "mushy or solid" foods is the major difference. Indeed, because of the small percent having other milk or juices (right graph), it would appear that infants not exclusively breast fed in the first four months of life either receive water alone or "mushy/solid foods" with other additions.

#### **Bottle feeding**

This is summarized in Graphs 19 and 33 for infants aged 0-5 months. Outside Africa, bottle feeding appears a problem in both rural and urban areas. Within Africa, the prevalence of bottle feeding is low throughout in certain countries (e.g. Mali), is a major problem in urban areas (e.g. Uganda) and is high in both rural and urban areas (e.g. Ghana). Hence messages must be appropriately targetted according to the extent of the problems.

#### **B. Delay in introduction of solid or semi-solid ("mushy") food.**

Expectations are that by the sixth month of life, all infants should be receiving such food. In the graphs prepared for the report to congress (Nos. 20, 21) a "conservative" age range was selected (7-12 months). There are two major options. The percent not eating food focuses more clearly on the problem and indicates a deficit from the level of expectation (100%). Decision-makers may be more impressed with the statement that "25% of infants don't have added foods" rather than 75% do.

The quality of this information is open to question because of its imprecise nature with regards to "added foods" and the lack of probing. This would result in an underestimate. However, the amounts or frequency were not considered. Thus even though added foods may have been given, these could often be inadequate.

The low percent (48%) for Mali for foods taken the past 24 hours was questioned, even accounting for bouillie. On the other hand, the 1978 National Survey in Cameroon, where qualitative intake was done more thoroughly, 35% of children 6-11 months in the North (Sahelian) Zone had no food other than milk, compared with 17% for the rest of the rural areas. In 1980, in the Niger (Niamey Department) survey, 39% of infants 6-11 months had no food.

For individual countries, the graphs for Ghana, Mali and Zimbabwe (Nos. 38-40) may be again referred to. Only in Mali are "weaning-type" foods, such as bouillie, included. Messages should consider patterns where some infants are receiving water or juices only (40-60%, according to age) and others on milk alone (about 10%). Further within country analysis may be useful.

### **C. Outcome Indicators**

Messages in relation to inappropriate feeding practices will benefit with reinforcement with regards to unfavourable outcomes such as nutritional status and morbidity rates.

#### **1. Nutritional Status**

In order to show problems in the first year of life, reliance must be focused on prevalence of underweight or stunting (low height-for-age) rather than wasting and should be presented to show the changes occurring before six months of age as well as after. In addition, graphs which show a "decline" are perhaps visually more appreciated (e.g. analogy for values of stocks and shares) and emphasize prevention. Such graphs were not part of the Report presentation to Congress, but are included in this report, by request.

Wasting as a population indicator of nutritional status is apparently much more sensitive in the second year of life.

#### **2. Infection**

The high prevalence (up to 40%) of recent diarrhea, fever and severe cough in the first six months of life (cf Presentation to Africa Bureau Graphs 9 and 10) reflects both the outcomes of undernutrition and some of the causes, for example, contamination by inappropriate additions to breast milk, including the use of the bottle. This linkage should be used in messages to reinforce the need for breast feeding "exclusivity".

### **D. Linkage between growth decline and feeding practices**

Based on information from Uganda, I have tried to show that the "decline" in growth in the first year of life is linked to

inappropriate feeding practices and infections, in spite of the fact the almost all infants are breastfed (Graph 26).

This exercise illustrates the importance of the sequence of messages (support breast feeding from 0-4 months, provide appropriate added foods from six months) and the critical role of infection, particularly in Africa.

#### **E. Examples from Sri Lanka**

Four graphs (Nos. 41-44) from Sri Lanka profile within-country information with regards to feeding practices in infants: breast feeding, including on demand; bottle feeding and addition of foods. Although variations occur (e.g. urban/rural), the problems exist throughout. The major messages are included with each graph.

**APPENDIX A**

**GRAPHS**

## LIST OF GRAPHS - FEEDING OF BREAST FED CHILDREN

Prepared by A. Zerfas INU/LTS for Nutrition Communication Project and Support for Breast Feeding Report for Congress Information for 18 countries from DHS data

### I. National Information all countries

#### A. Infants aged 0-4 Months

##### Number

1	Percent Breast Fed	(with ANY Liq/Food)	Urban
2	Percent Breast Fed	(with ANY Liq/Food)	Rural
3	Percent Breast Fed	(with ANY Liq/Food)	National

##### Of those Breast Fed

4	Percent Exclusively Breast Fed	(Breast Only)	Urban
5	Percent Exclusively Breast Fed	(Breast Only)	Rural
6	Percent Exclusively Breast Fed	(Breast Only)	National
7	Percent Breast Fed Plus Water Only		Urban
8	Percent Breast Fed Plus Water Only		Rural
9	Percent Breast Fed Plus Water Only		National
10	Percent Bottle Fed (0-5 months)		Urban
11	Percent Bottle Fed (0-5 months)		Rural
12	Percent Bottle Fed (0-5 months)		National

#### B. Infants aged 7-12 months

##### Of those Breast Fed

13	Percent Not Eating Food	(Mushy/Solid Food)	Urban
14	Percent Not Eating Food	(Mushy/Solid Food)	Rural
15	Percent Not Eating Food	(Mushy/Solid Food)	National

#### C. Infants aged 0-4 months

##### Urban vs Rural

16	Percent Breast Fed	(with ANY Liq/Food)	Urban/Rural
17	Percent Exclusively Breast Fed	(Breast Only)	Urban/Rural
18	Percent Breast Fed Plus Water Only		Urban/Rural
19	Percent Bottle Fed (0-5 months)		Urban/Rural
20	Percent Not Eating Food (7-12m)	(Mushy/Solid Food)	Urban/Rural
21	Percent Eating Food (7-12m)	(Mushy/Solid Food)	Urban/Rural

##### Combinations (Percents for all Infants 0-4 months)

22	Percent Breast Fed	(Alone/Water/Other)	Urban
23	Percent Breast Fed	(Alone/Water/Other)	Rural
24	Percent Breast Fed	(Alone/Water/Other)	National

#### D. Questions of Special Concern

25	Breast Feeding	(Prevalence/Quality)	Rural
26	What causes decline in Growth in First Year of Life?		Uganda

**E. Graphs from Breast Feeding Report to Congress**

(Fig Number refers to place in draft version of report)

Graphs here may not be identical to those in final report

- 27 Relative Risk of Mortality from Infectious Disease (Fig 6)  
by Feeding Patterns, Infants 0-2 Months, Brazil
- 28a Relationship between Duration of Birth Interval and (Fig 7)  
Lactational Amenorrhea - Selected Countries [Plot]
- 28b Relationship between Duration of Birth Interval and (Fig 7)  
Lactational Amenorrhea - Selected Countries [Bar]
- 29 Relationship between Prevalence of Postpartum (Fig 9)  
Amenorrhea and Breastfeeding - By Country
- 30 Incidence of Diarrhea, before and after the (Fig 11)  
Rooming-in System
- 31 Percent Breast Fed, National - Infants 0-4 Months (Fig 3)
- 32 Percent of Infants 0-4 Months Exclusively Breastfed  
by Urban and Rural Areas - Selected Countries (Fig 4)
- 32a (Vertical Bars) 32b (Horizontal Bars)

**II. Additional Graphs - All countries**

- 33 Percent Bottle Fed Urban vs. Rural, Infants 0-4 Months  
(revised from Graph 19 above)
- 34a Percent of Infants 0-4 Months Exclusively Breast Fed (ordered)
- 34b Percent of Infants 0-4 Months Exclusively Breast Fed (ordered)  
(includes African Countries identified)
- 35 Percent of Infants 0-4 Months Breast Fed + Water (ordered)  
(includes African Countries identified)
- 36 Percent of Infants 0-4 Months Breast Fed + other (ordered)  
(includes African Countries identified)
- 37a Percent of Infants 0-4 Months Breast Fed (ordered)  
- Cumulative with combination
- 37b Percent Breastfed - Urban/Rural (Africa)

**III. Graphs - Specific Countries**

- 38a Percent of Breast Fed Infants by Month having  
liquids/foods in Past 24 hours - Ghana
- 38b Breast Milk, Liquids and Food - Infants  
Cumulated additions to breast milk - Ghana
- 39a Percent of Breast Fed Infants by Month having  
liquids/foods in Past 24 hours - Mali
- 39b Breast Milk, Liquids and Food - Infants  
Cumulated additions to breast milk - Mali
- 40a Percent of Breast Fed Infants by Month having  
liquids/foods in Past 24 hours - Zimbabwe
- 40b Breast Milk, Liquids and Food - Infants  
Cumulated additions to breast milk - Zimbabwe

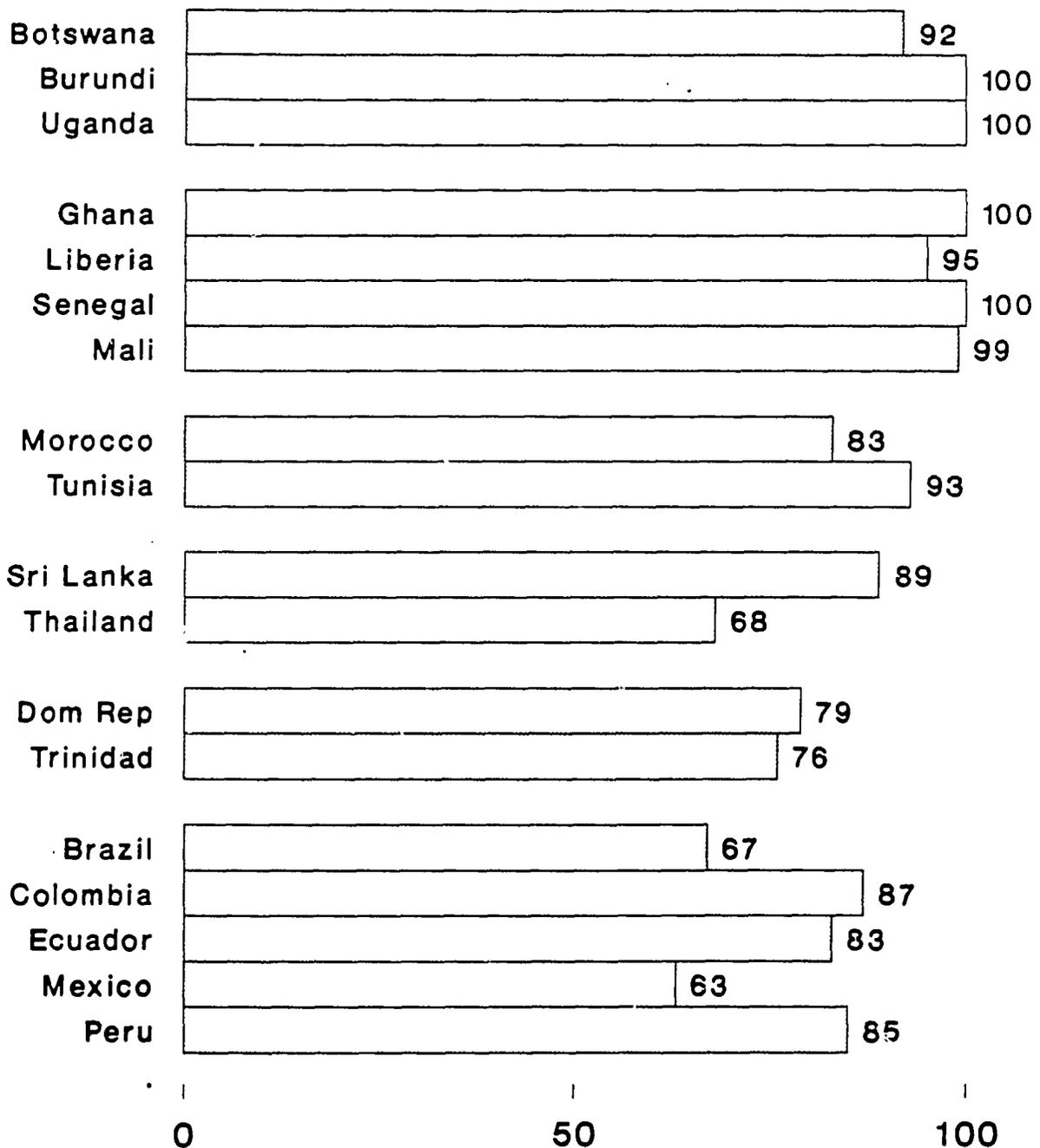
**Graphs - Sri Lanka examples**

- 41 Breast Feeding**
- 42 Breast Feeding on Demand**
- 43 Bottle Feeding**
- 44 No Added Foods**

# Percent Breast Fed

## Urban Areas - Infants 0 to 4 Months

Range 63-100%



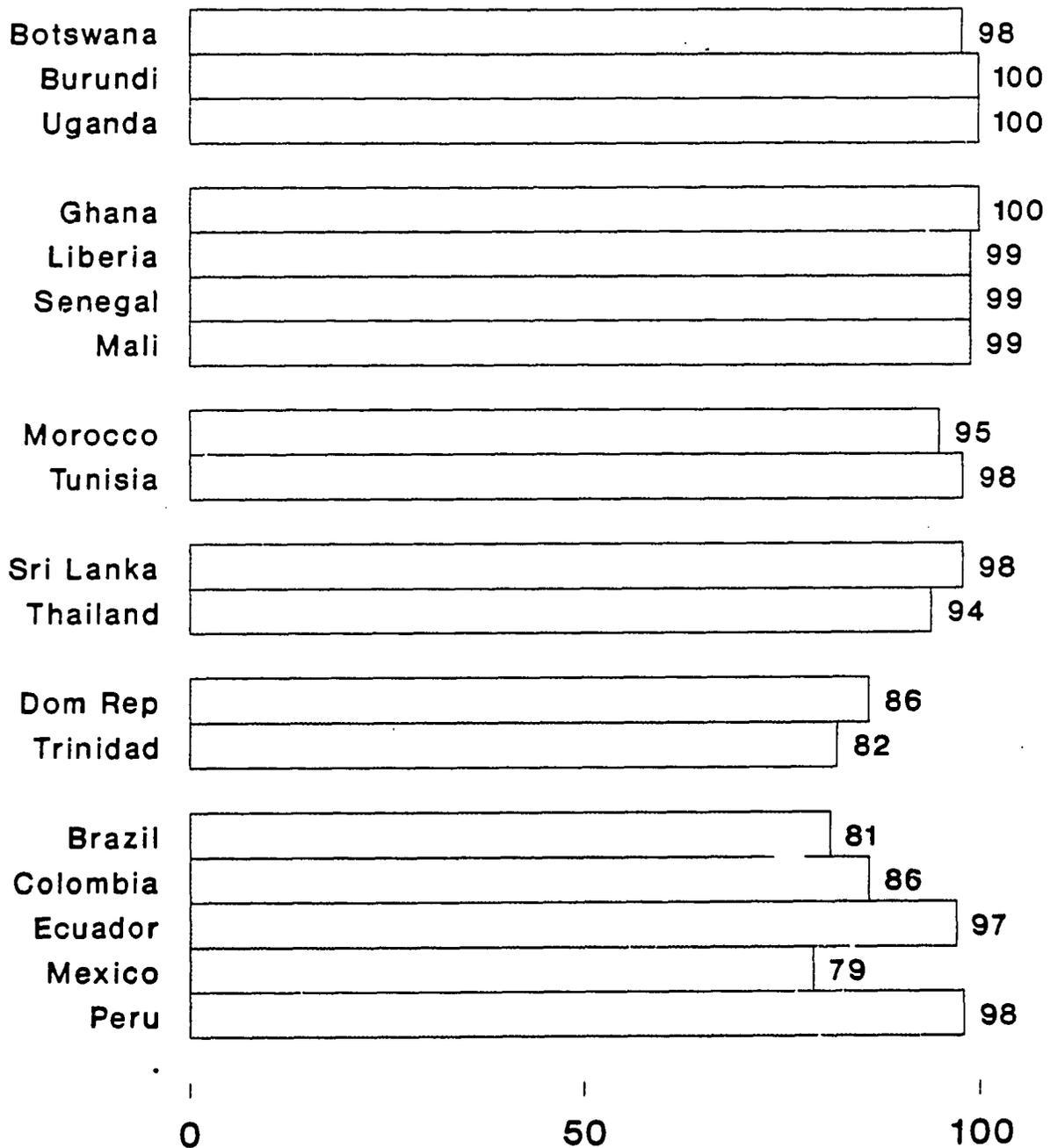
% Breast Fed in Past 24 Hours (with any other Liquid/Food)

Data from DHS 1986-9      Graphed by LTS for Nutrition Comm. Project

# Percent Breast Fed

## Rural Areas - Infants 0 to 4 Months

Range 79-100%



% Breast Fed in Past 24 Hours (with any other Liquid/Food)

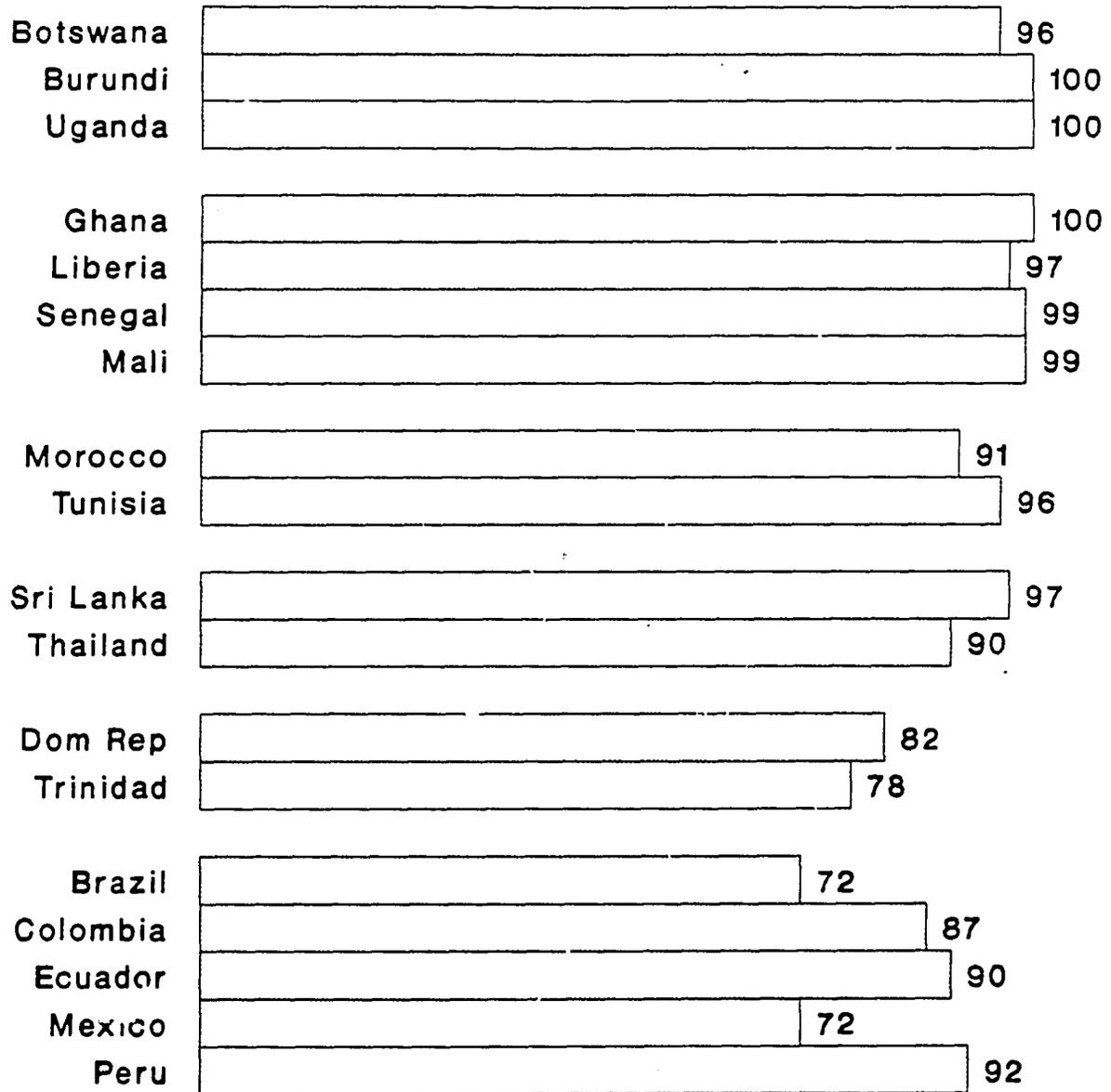
Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

# Percent Breast Fed

## National - Infants 0 to 4 Months

Range 72-100%



0

50

100

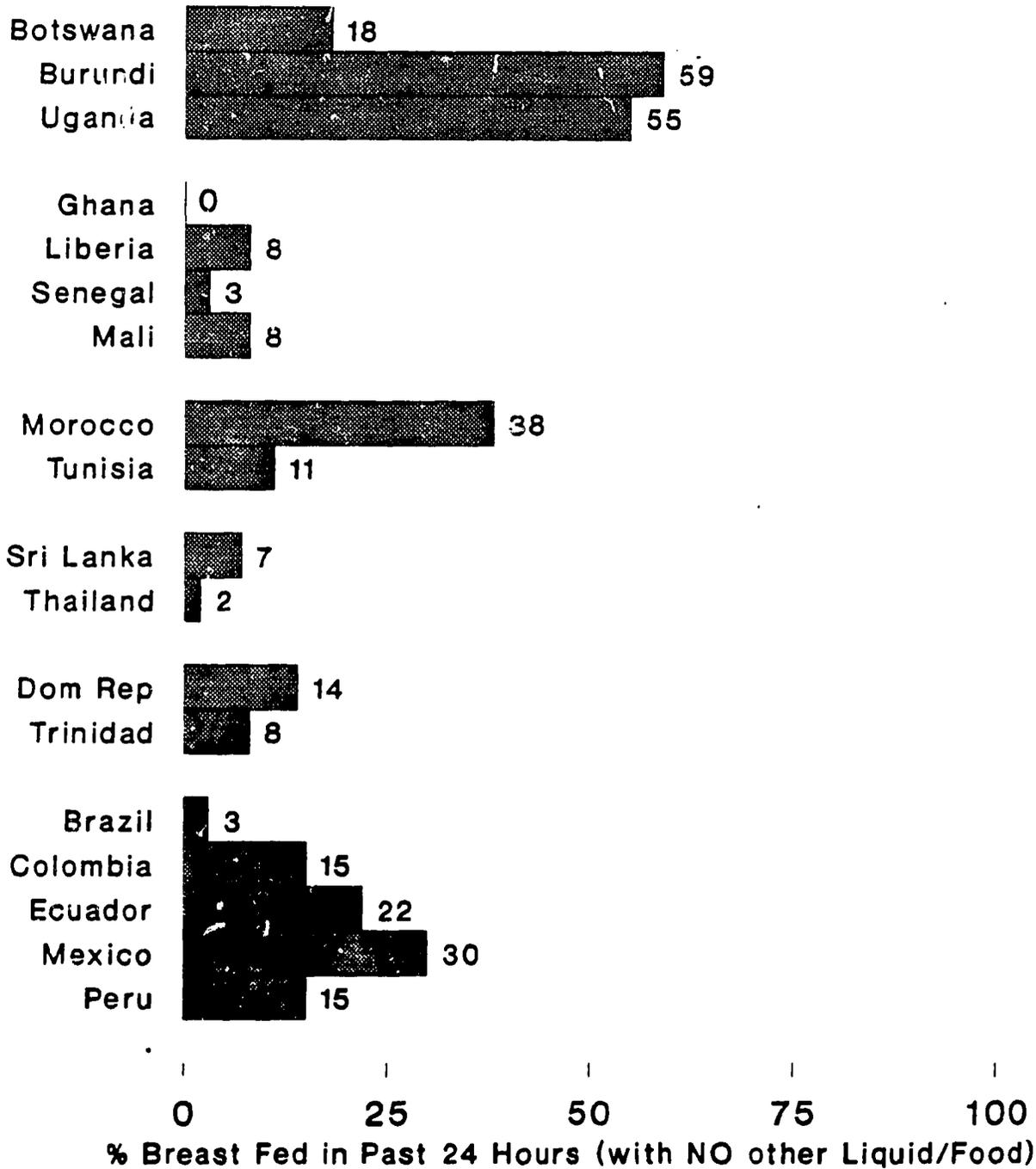
% Breast Fed in Past 24 Hours (with any other Liquid/Food)

Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

# Percent Exclusively Breast Fed Urban Areas - Infants 0 to 4 Months

Range 0 - 59%



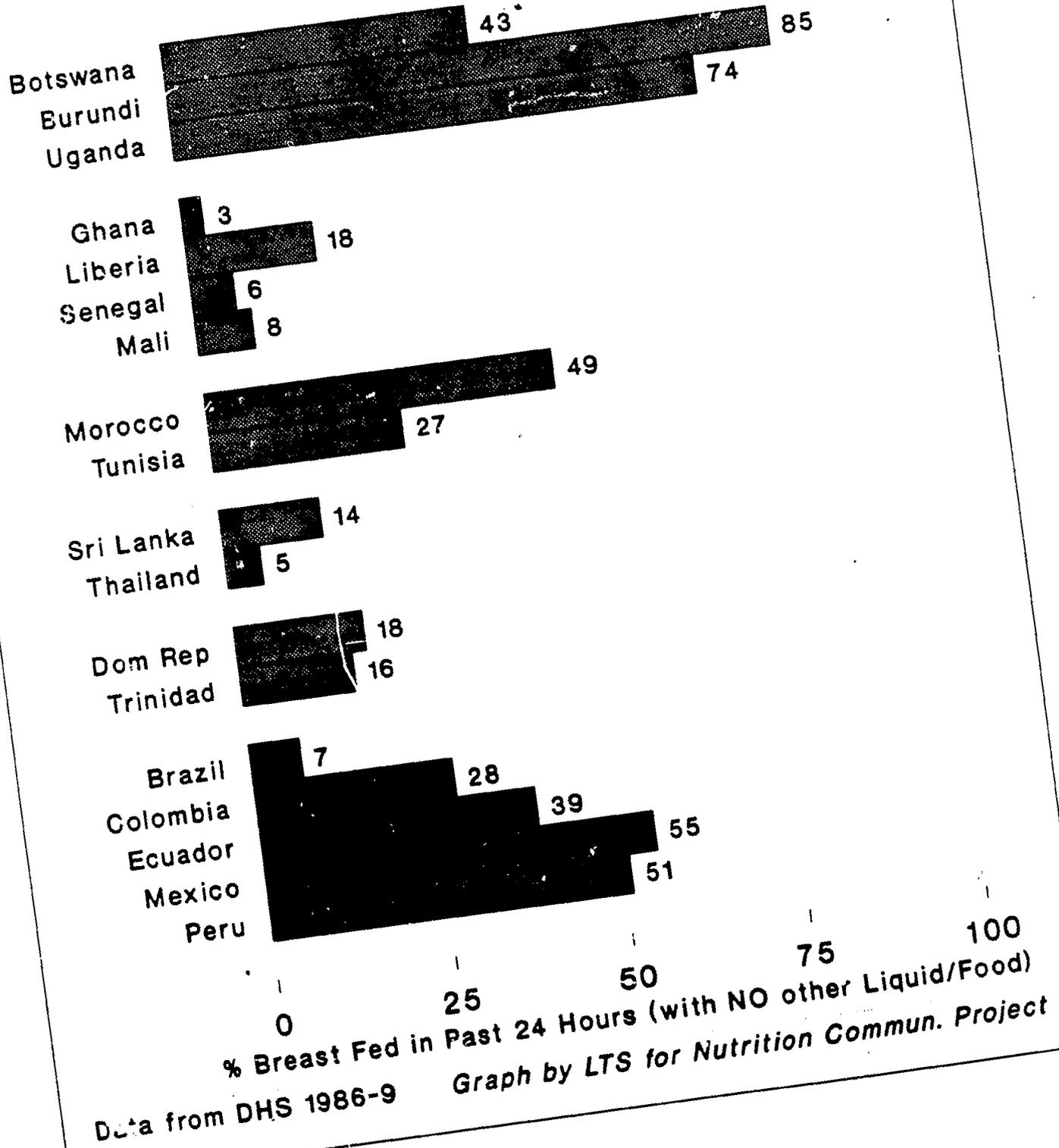
Data from DHS 1986-9

Graph by LTS for Nutrition Commun. Project

15

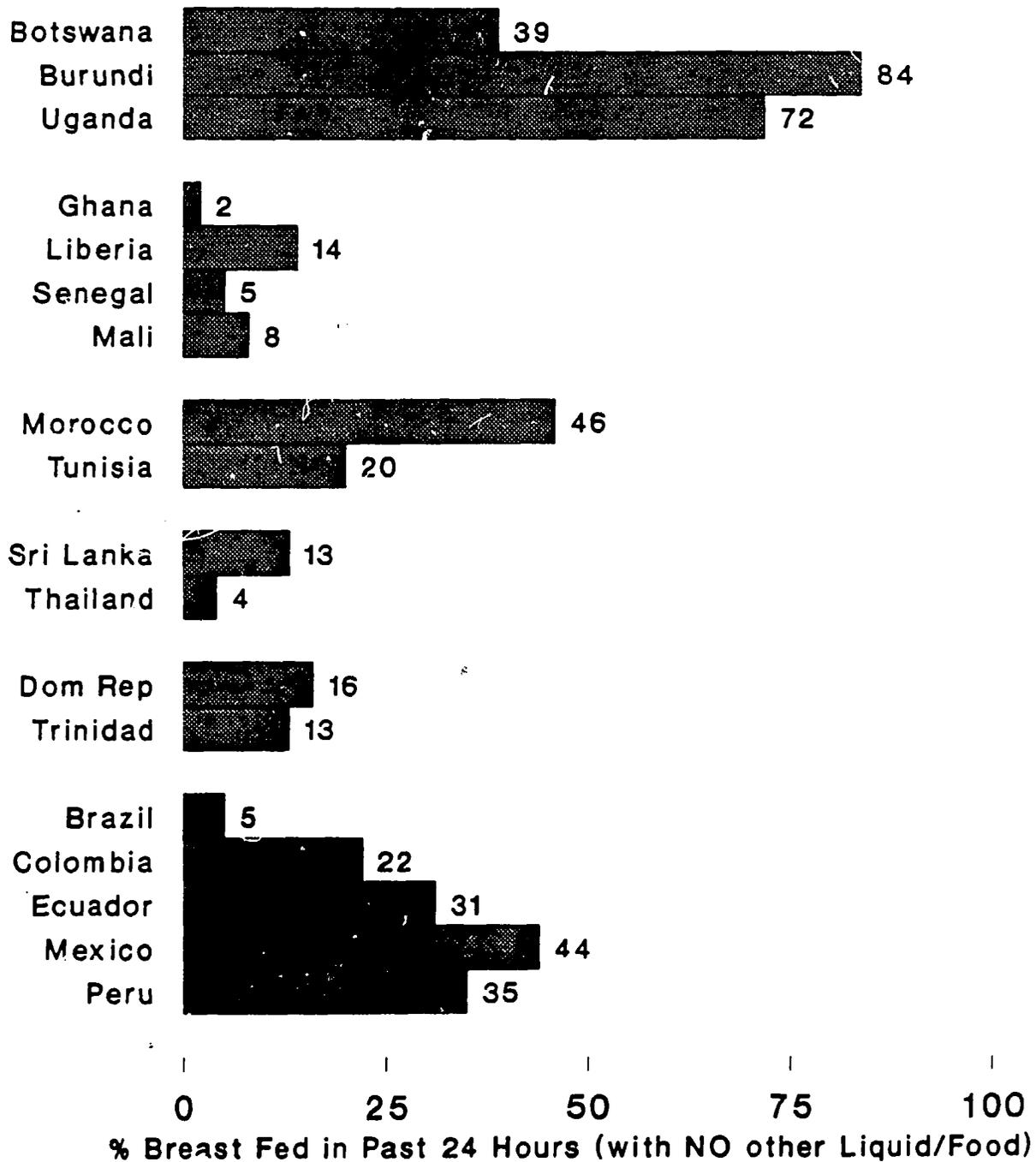
# Percent Exclusively Breast Fed Rural Areas - Infants 0 to 4 Months

Range 3 - 85%



# Percent Exclusively Breast Fed National - Infants 0 to 4 Months

Range 2-84%



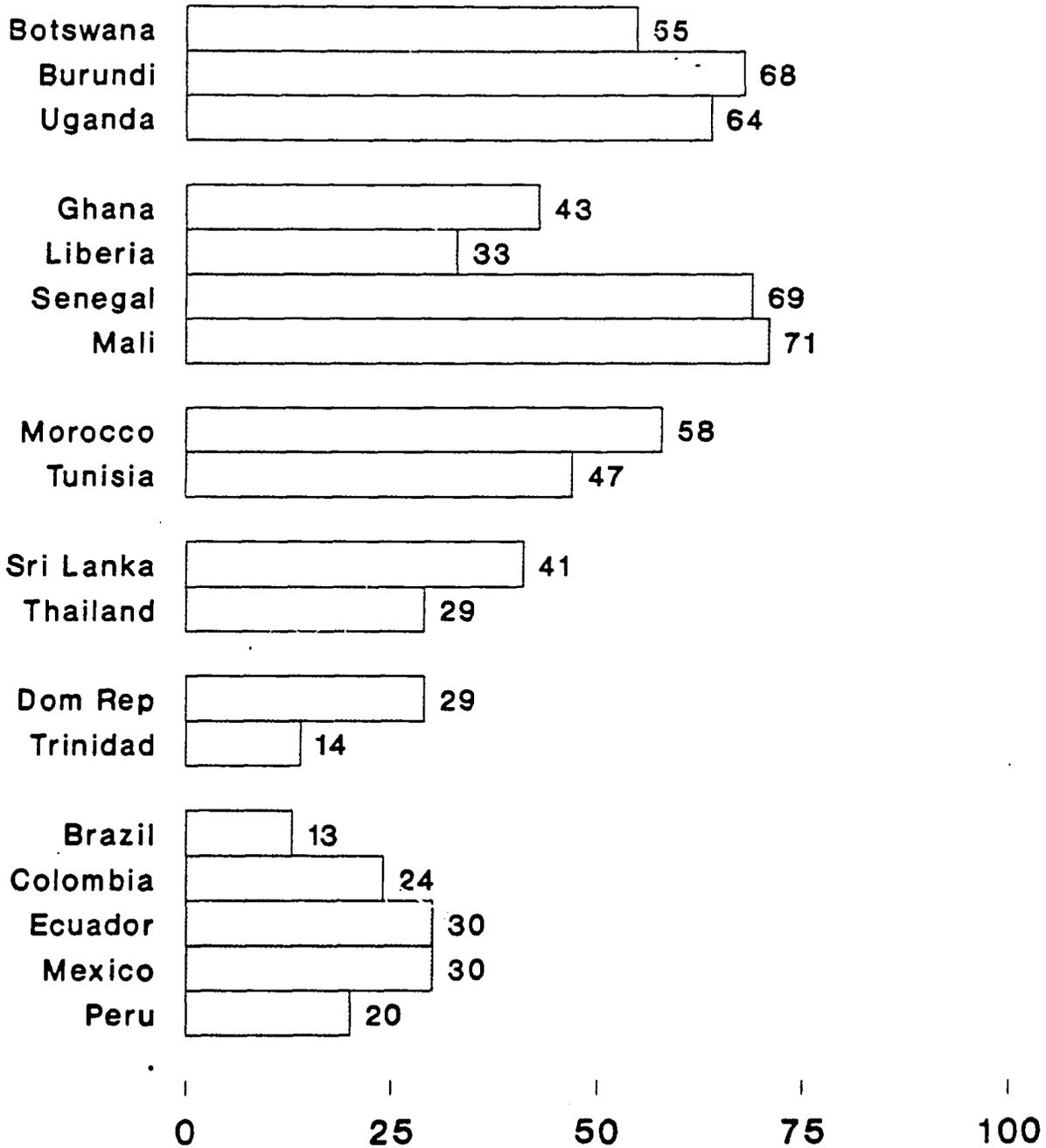
Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

# Percent Breast Fed Including Added Water

## Urban Areas - Infants 0 to 4 Months

Range 13-71%



% Breast Fed Past 24 Hours, with at most Plain Water added

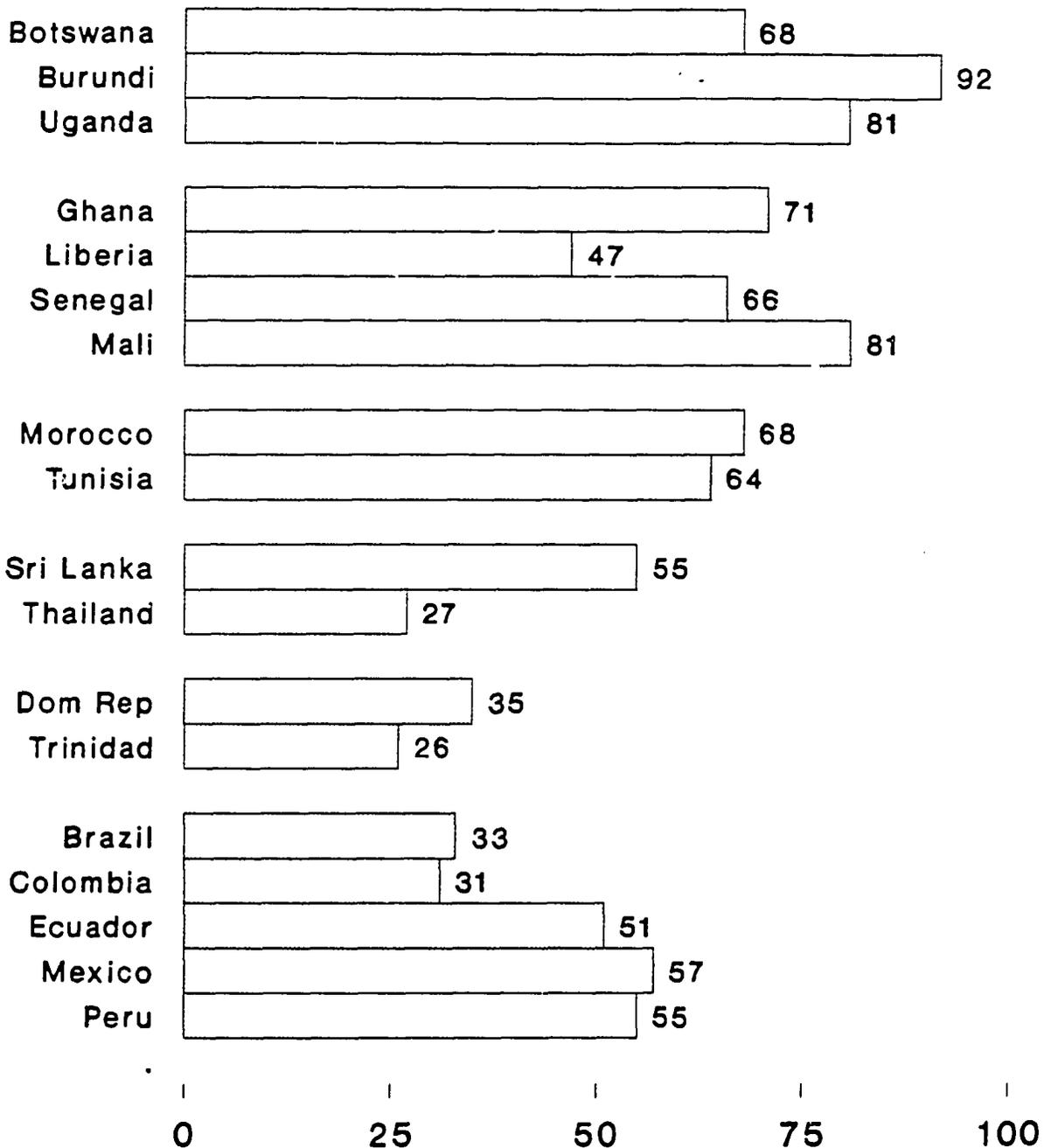
Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

# Percent Breast Fed Including Added Water

## Rural Areas - Infants 0 to 4 Months

Range 26-92%



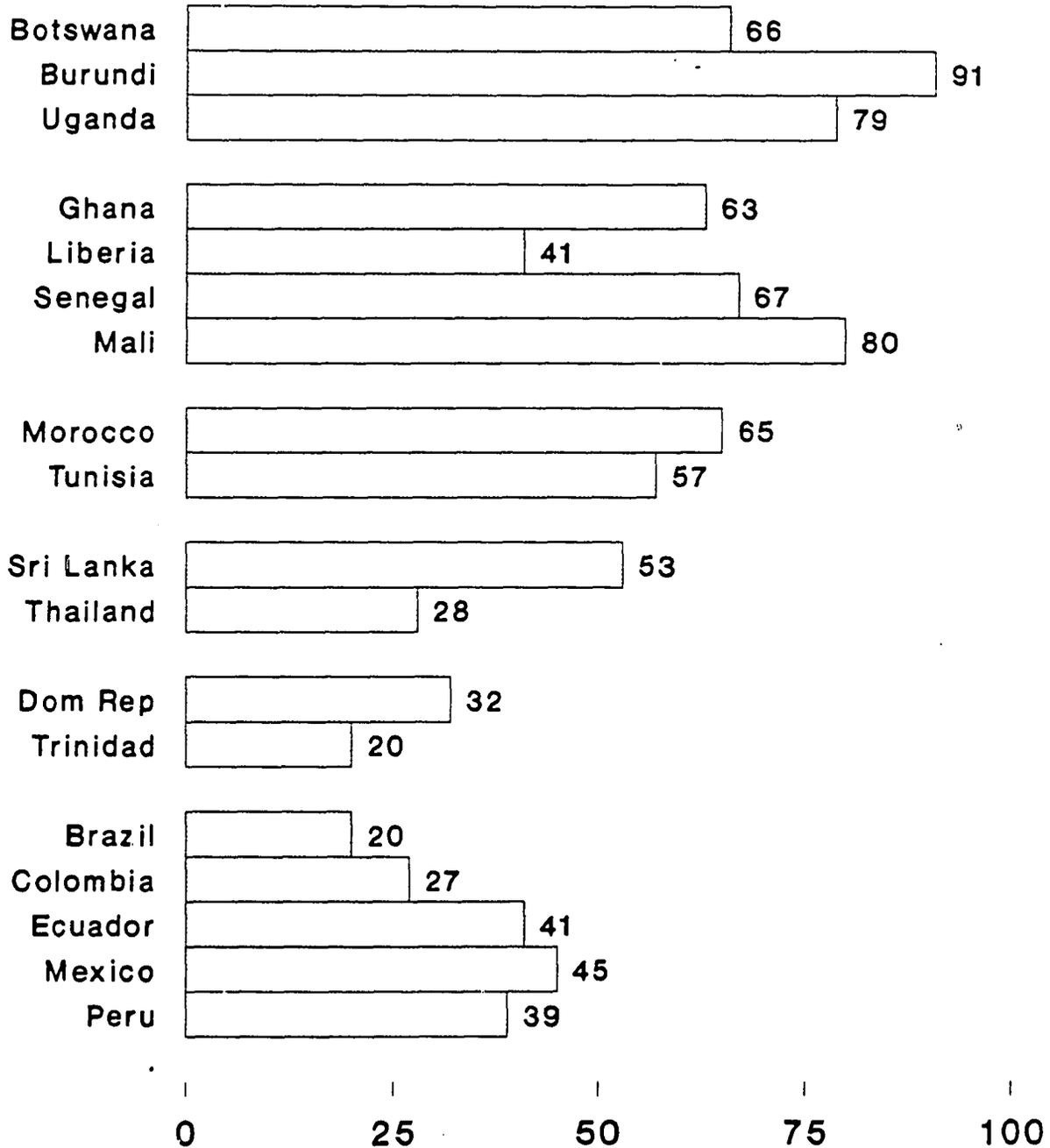
% Breast Fed Past 24 Hours, with at most Plain Water added

Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

# Percent Breast Fed Including Added Water National - Infants 0 to 4 Months

Range 20-91%



% Breast Fed Past 24 Hours, with at most Plain Water added

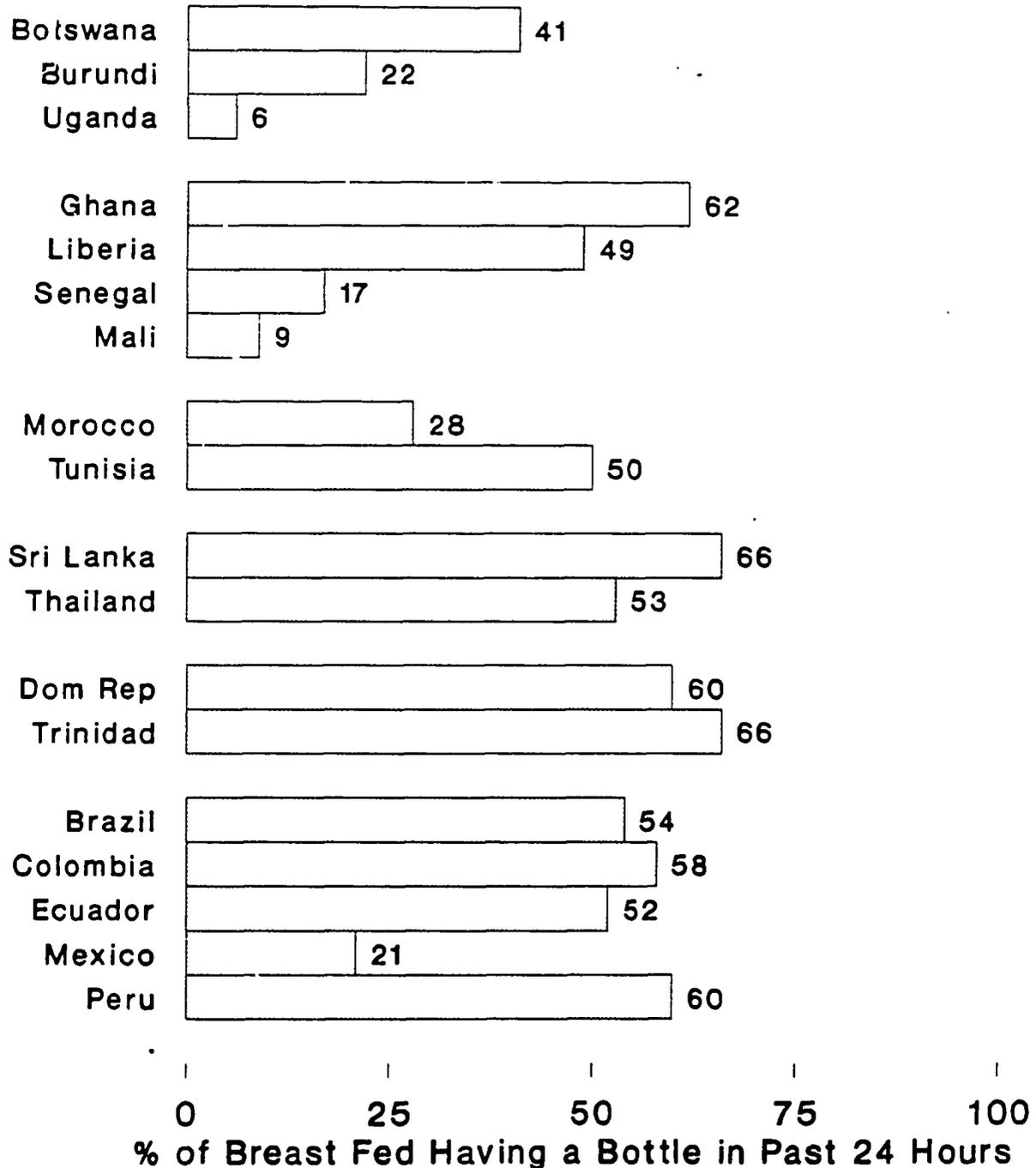
Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

# Percent Bottle Fed

## Urban Areas - Infants 0 to 4 Months

Range 6-66%

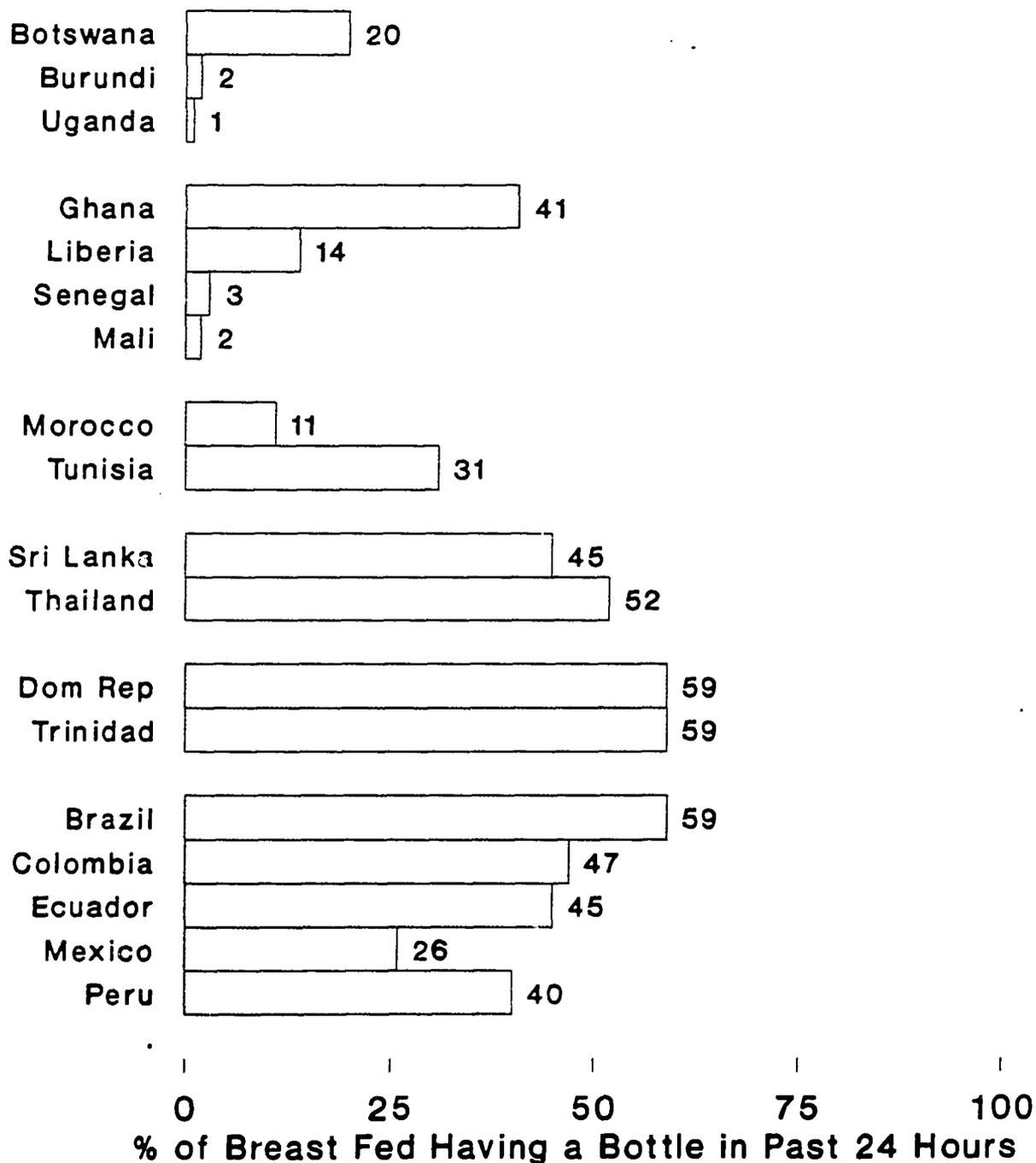


Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

## Percent Bottle Fed Rural Areas - Infants 0 to 4 Months

Range 1-59%



Data from DHS 1986-9

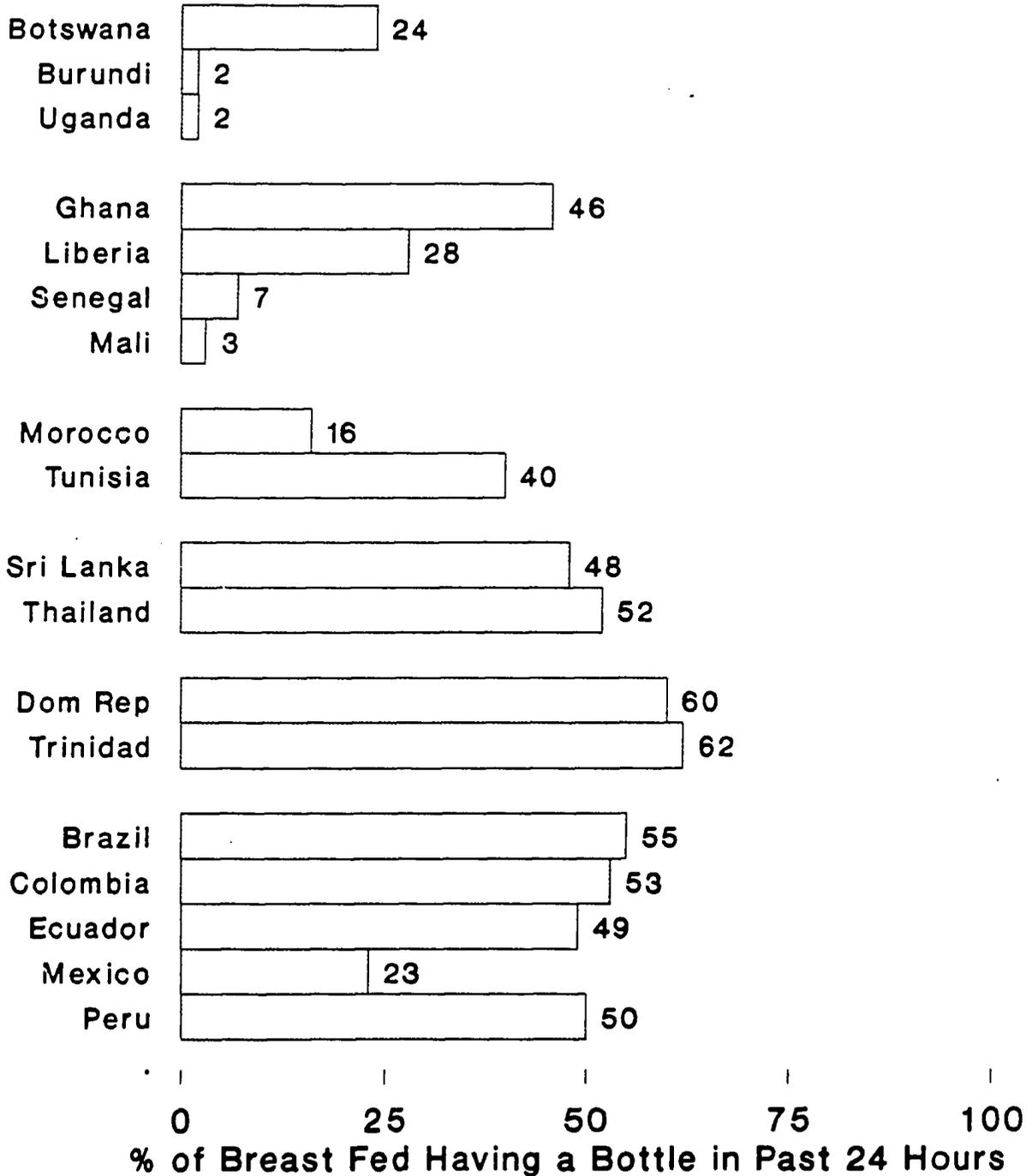
Graph by LTS for Nutrition Comm. Project

22

# Percent Bottle Fed

## National - Infants 0 - 4 Months

Range 2-62%



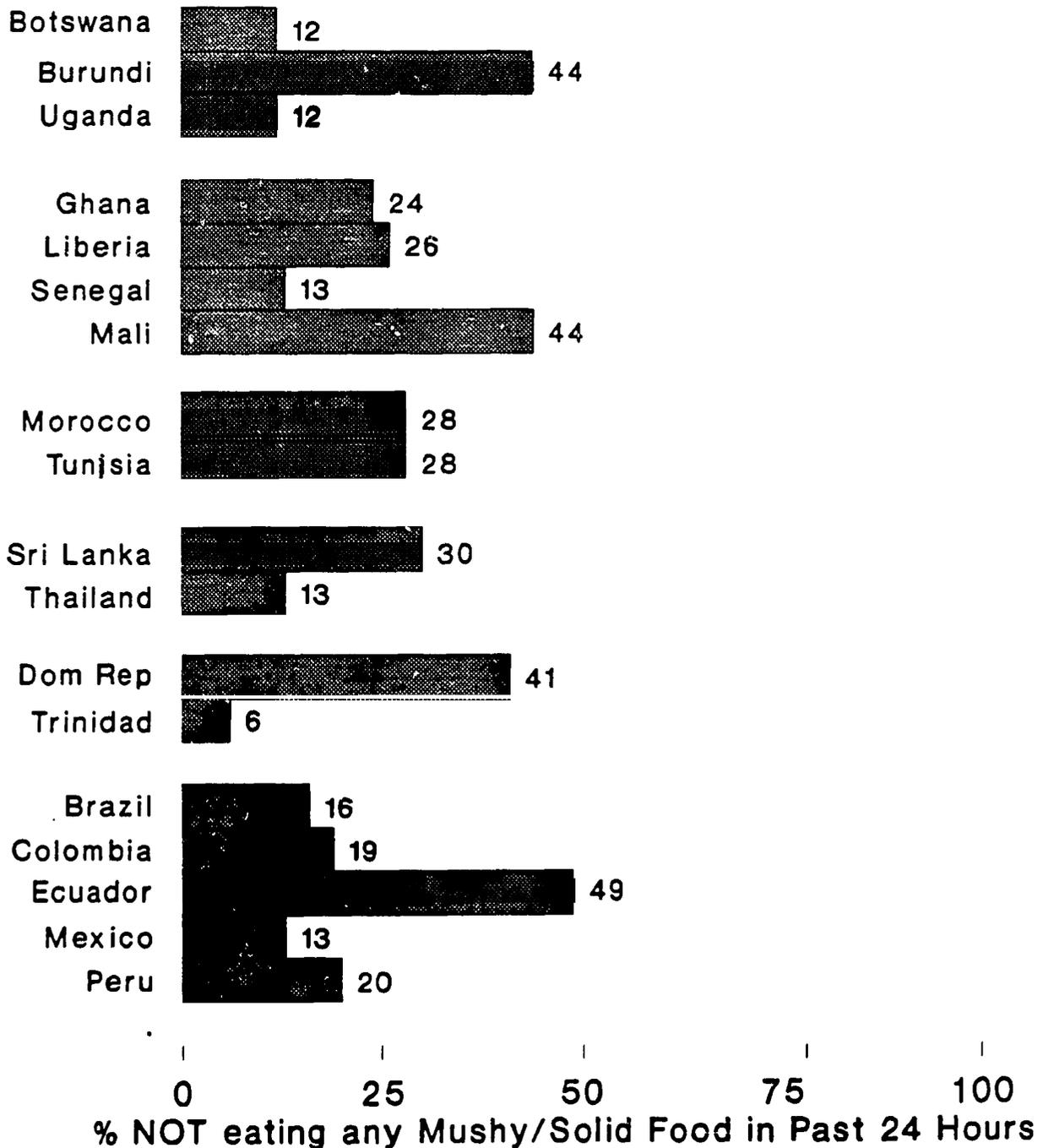
Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

23

# Percent Breast Fed With No Added Food Urban Areas - Infants 7 to 12 Months

Range 6-49%



Data from DHS 1986-9

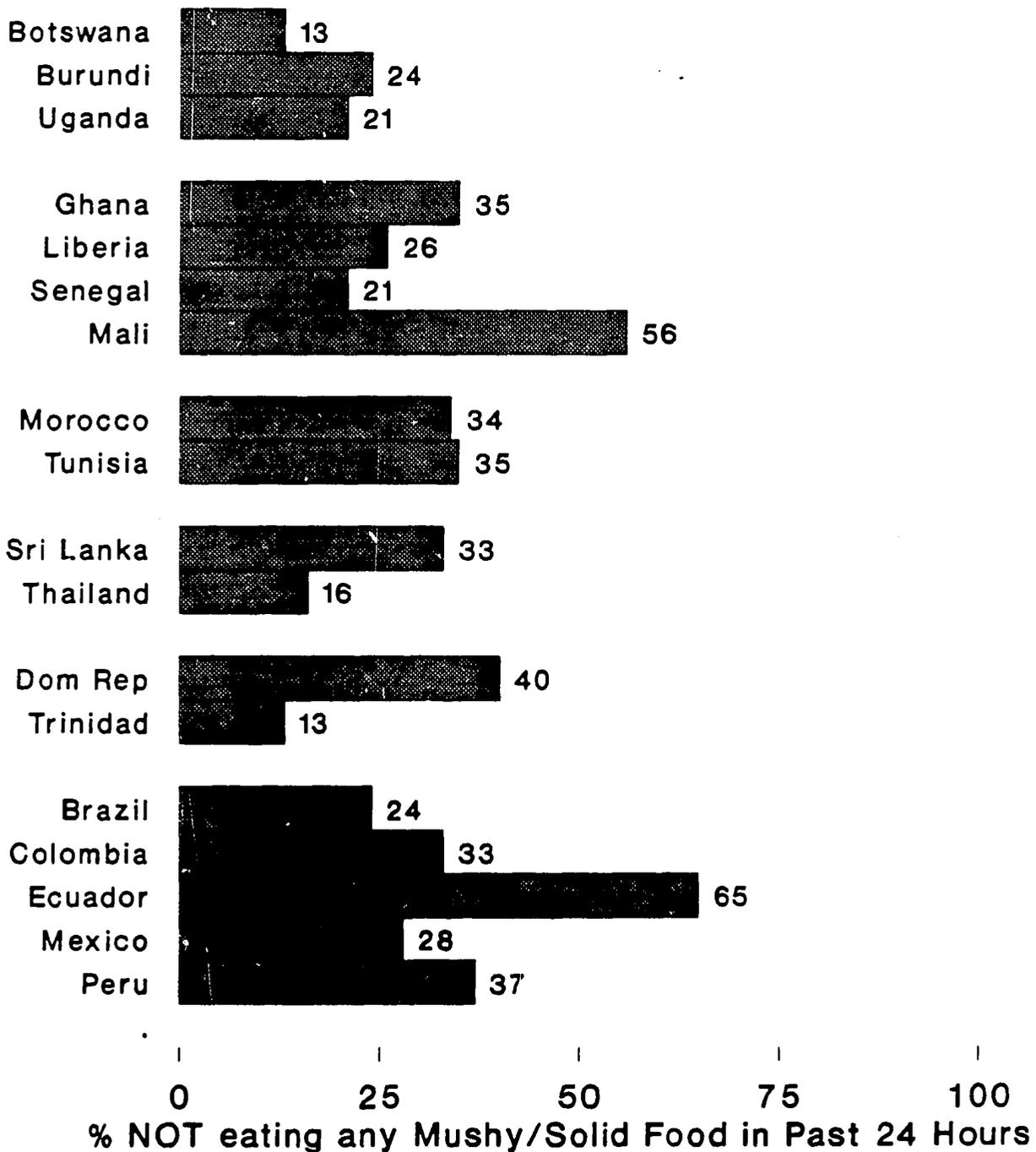
Graph by LTS for Nutrition Comm. Project

24

# Percent Breast Fed With No Added Food

## Rural Areas - Infants 7 to 12 Months

Range 13-65%

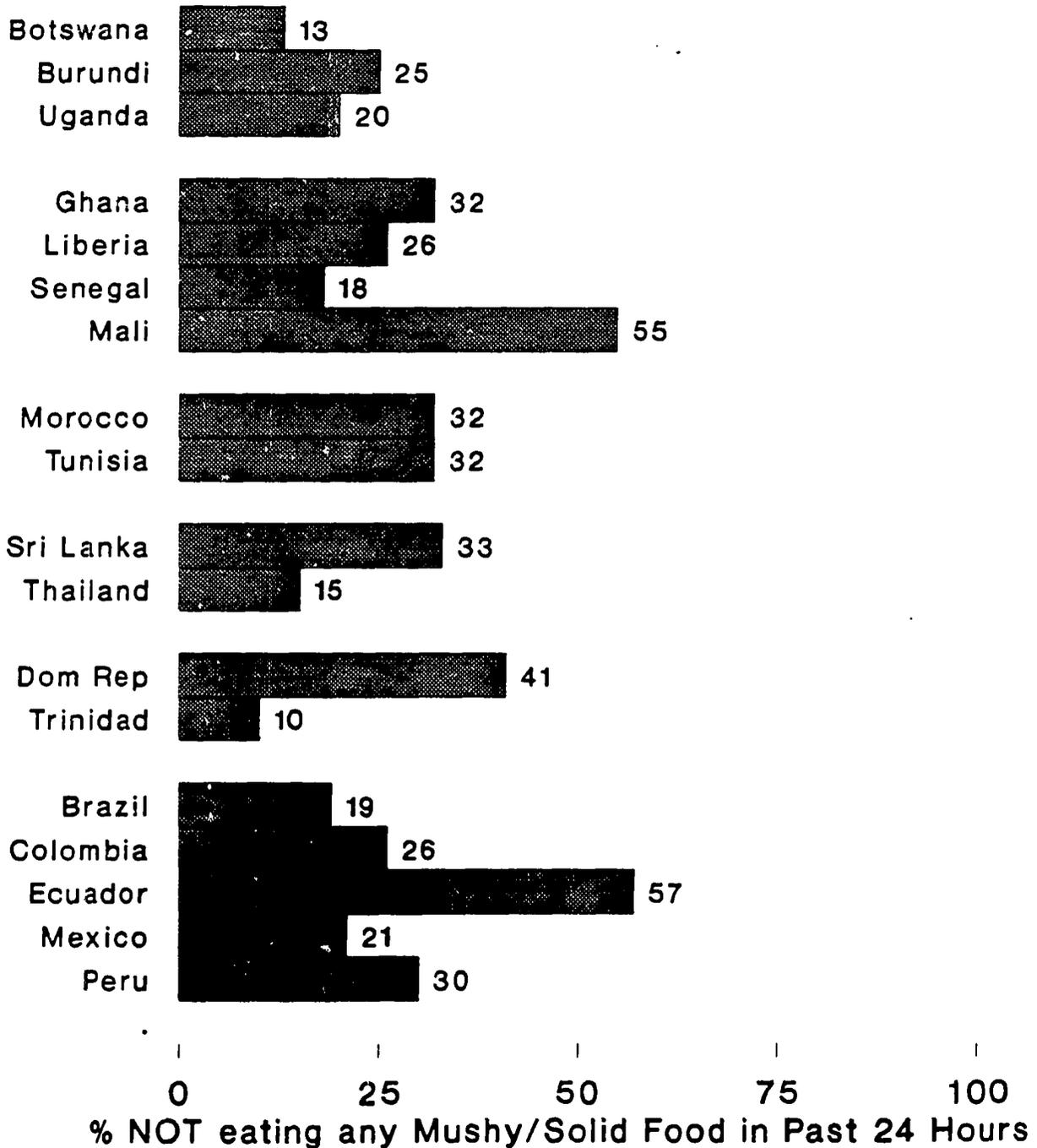


Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

## Percent Breast Fed With No Added Food National - Infants 7 to 12 Months

Range 10-57%

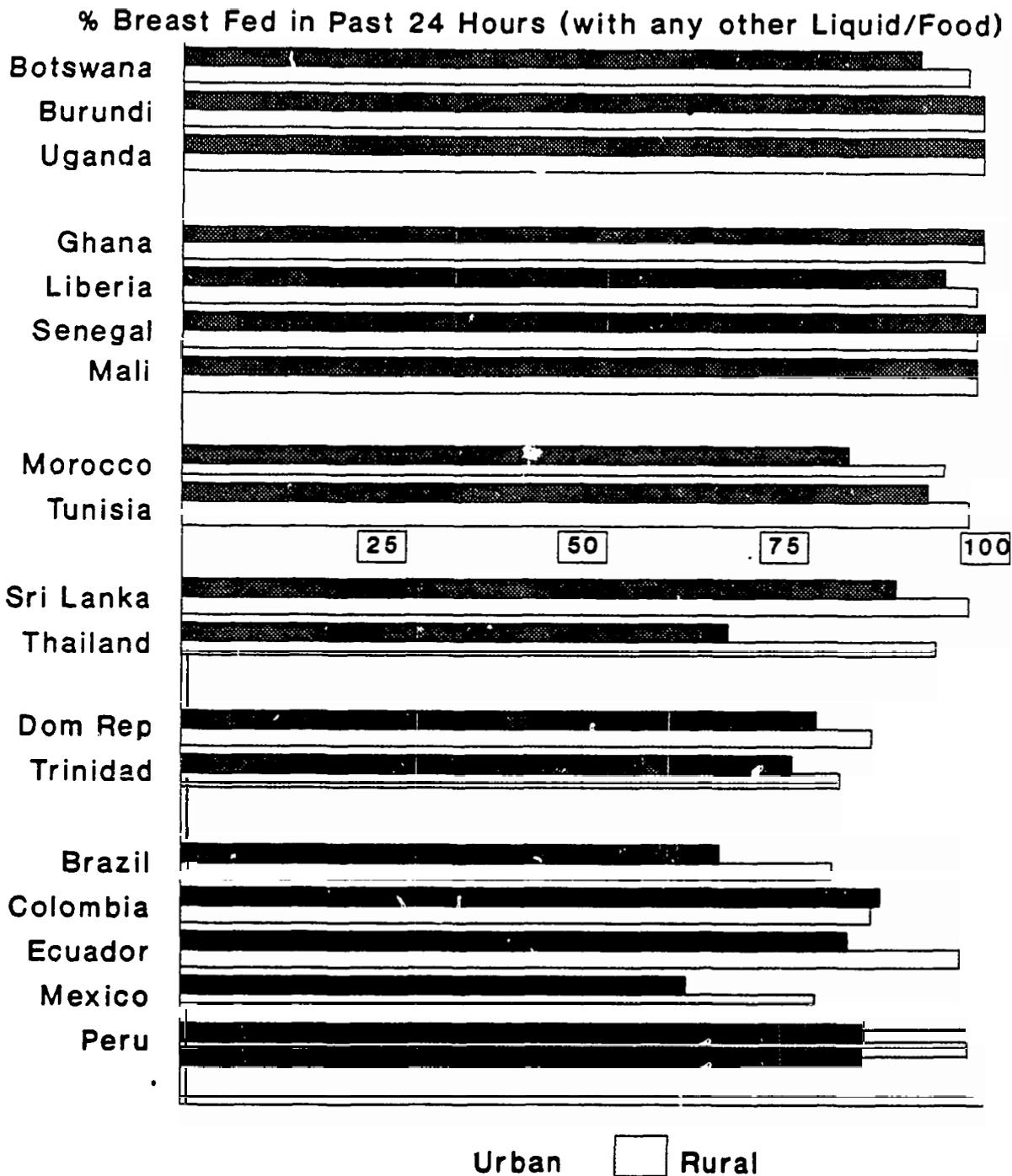


Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

# Percent Breast Fed

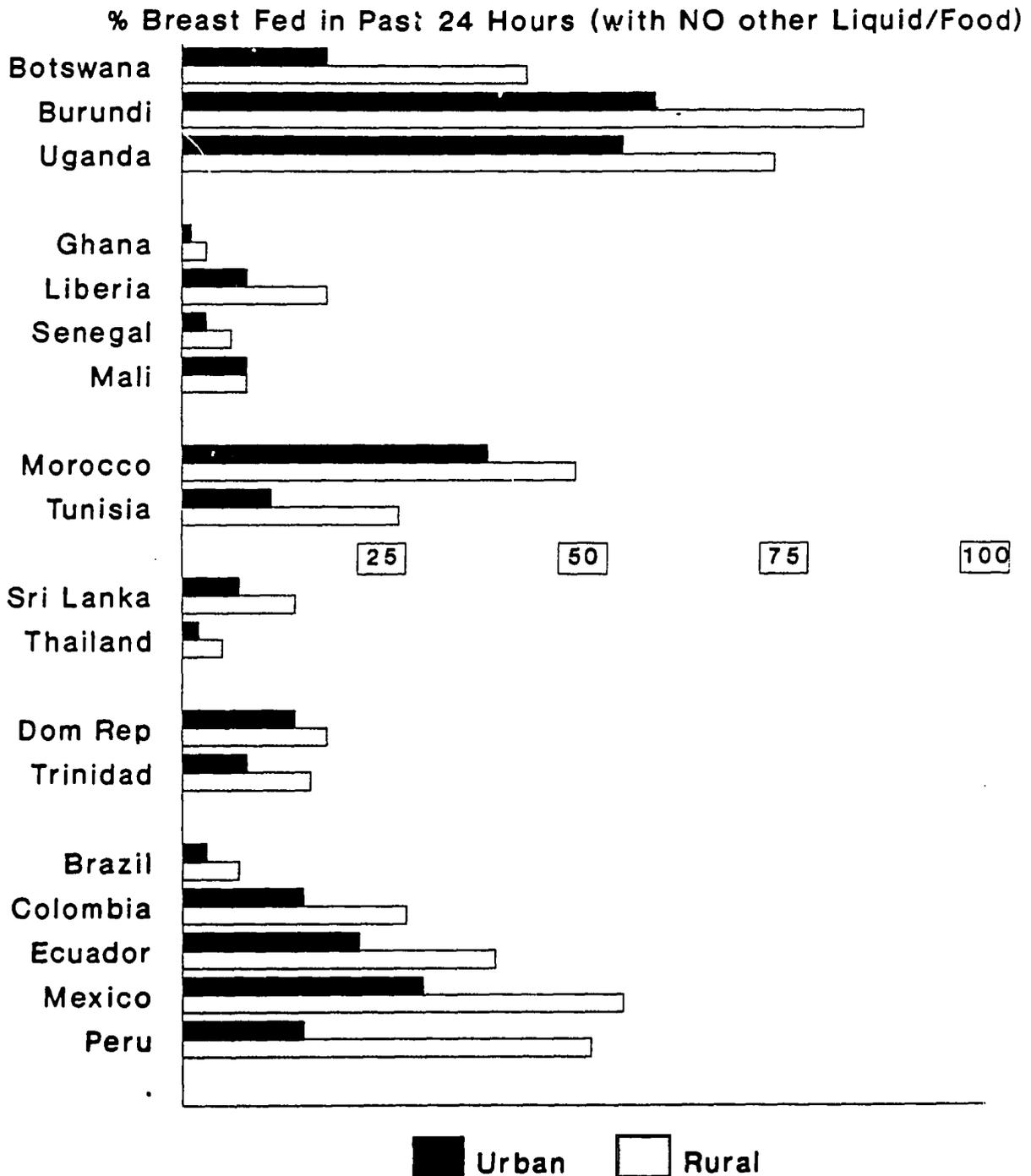
## Urban vs Rural - Infants 0 - 4 Months



Data from DHS 1986-9

*Graph by LTS for Nutrition Comm. Project*

## Percent Exclusively Breast Fed Urban vs Rural - Infants 0 - 4 Months

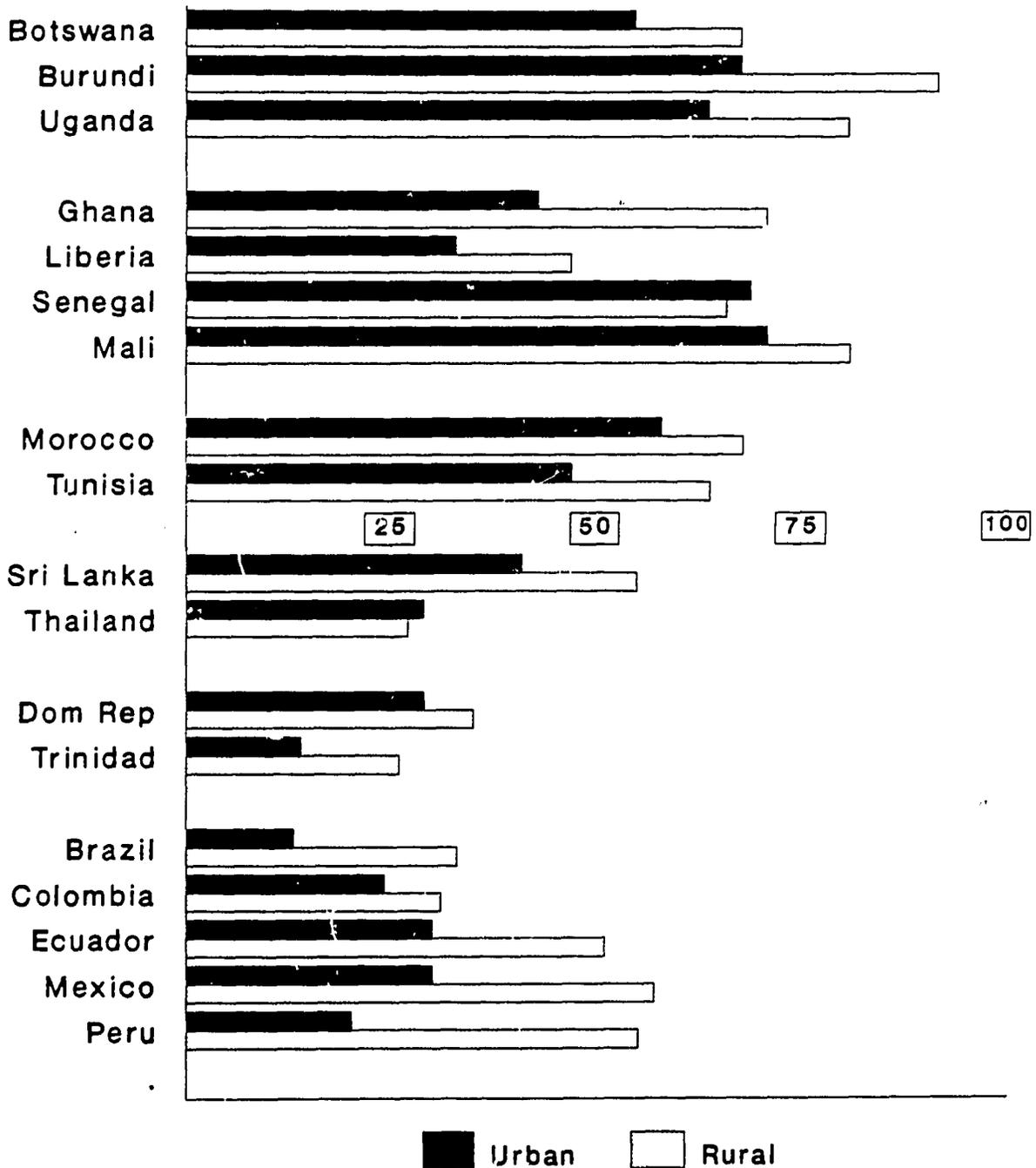


Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

# Percent Breast Fed Including Added Water Urban vs Rural - Infants 0 - 4 Months

% Breast Fed Past 24 Hours, with at most Plain Water added

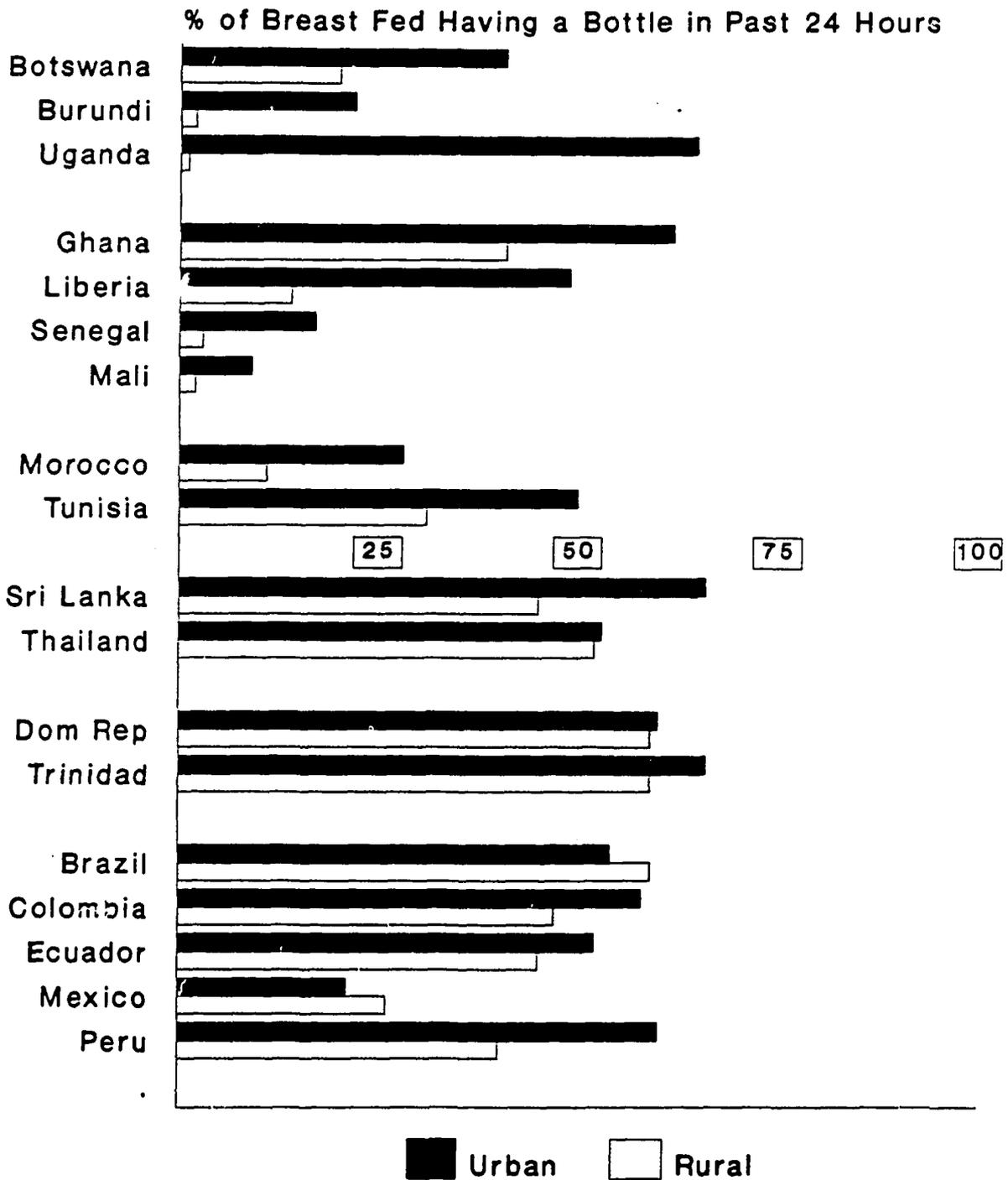


Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

# Percent Breast Fed Using Bottle

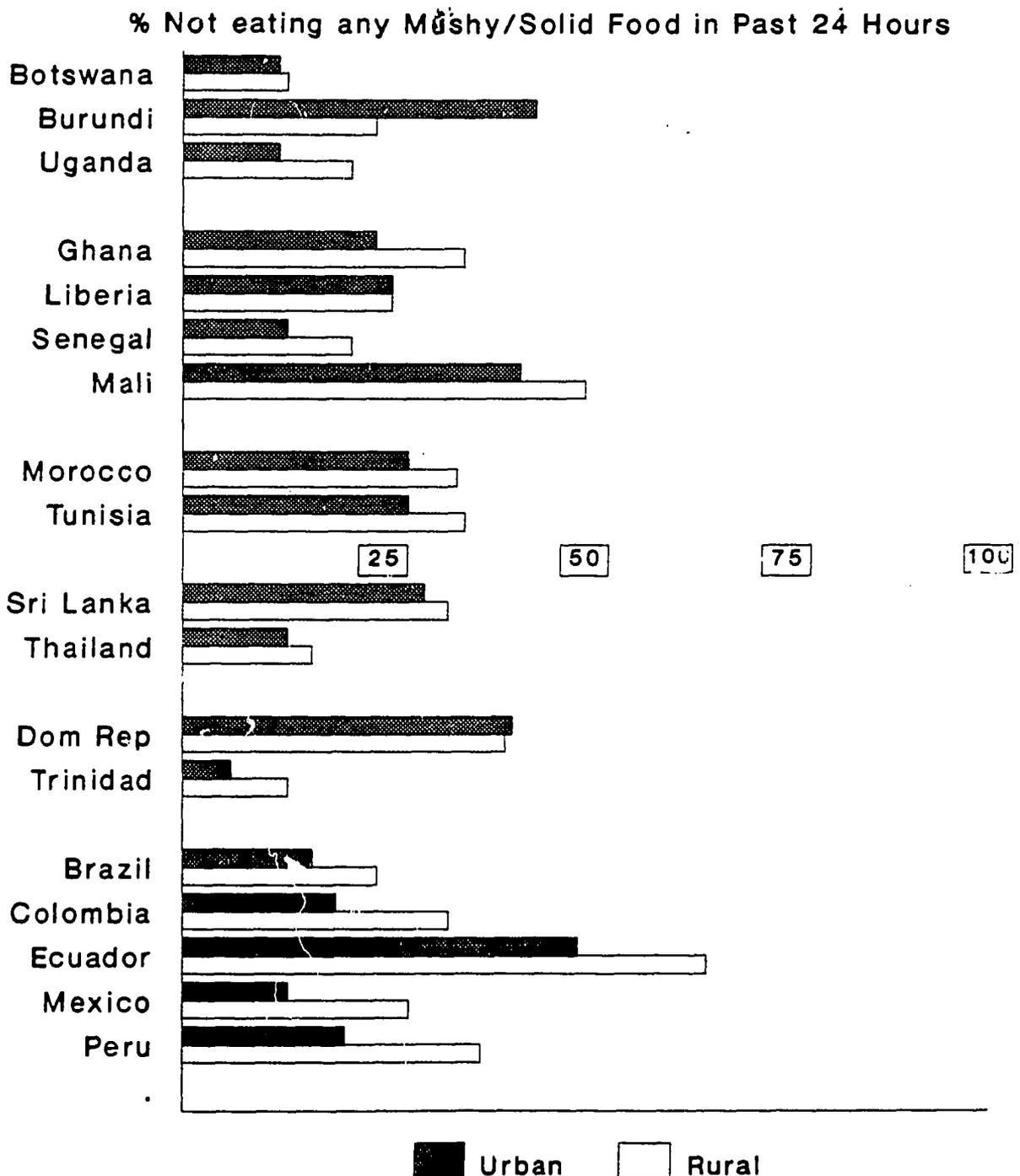
## Urban vs Rural - Infants 0 - 5 Months



Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

# Percent Breast Fed With No Added Food Urban vs Rural - Infants 7 - 12 Months



Data from DHS 1986-9

Graph by LTS for Nutrition Comm. Project

31

# Percent Breast Fed With Added Food

## Urban vs Rural - Infants 7 - 12 Months

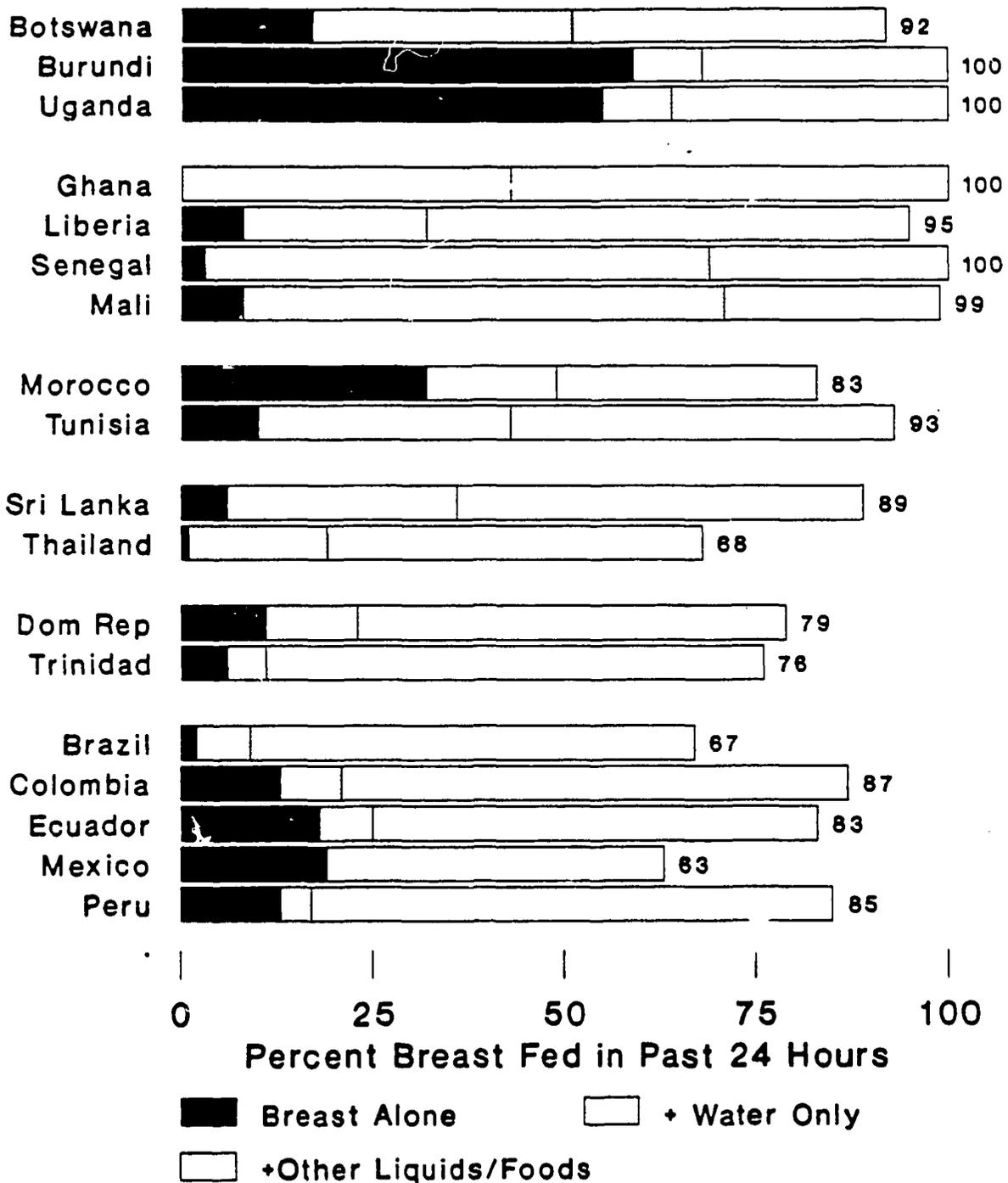
Percent Eating Any Mushy/Solid Food in Past 24 Hours



Data from DHS 1986-9

Graphed by LTS for Nutrition Comm. Project

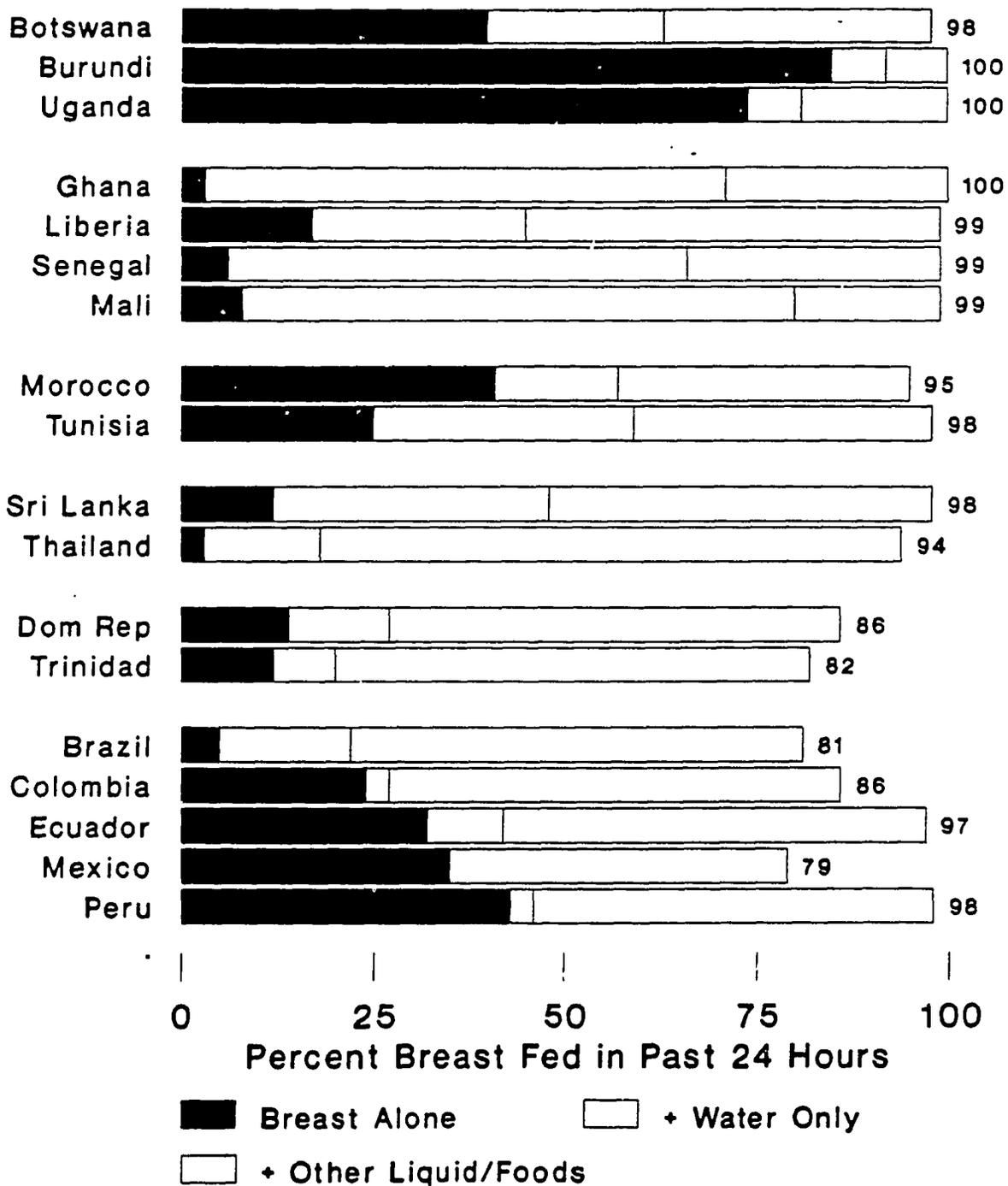
## Percent Breast Fed Urban Areas - Infants 0 to 4 Months



Data from DHS 1986-9

*Graph by LTS for Nutrition  
Communication Project*

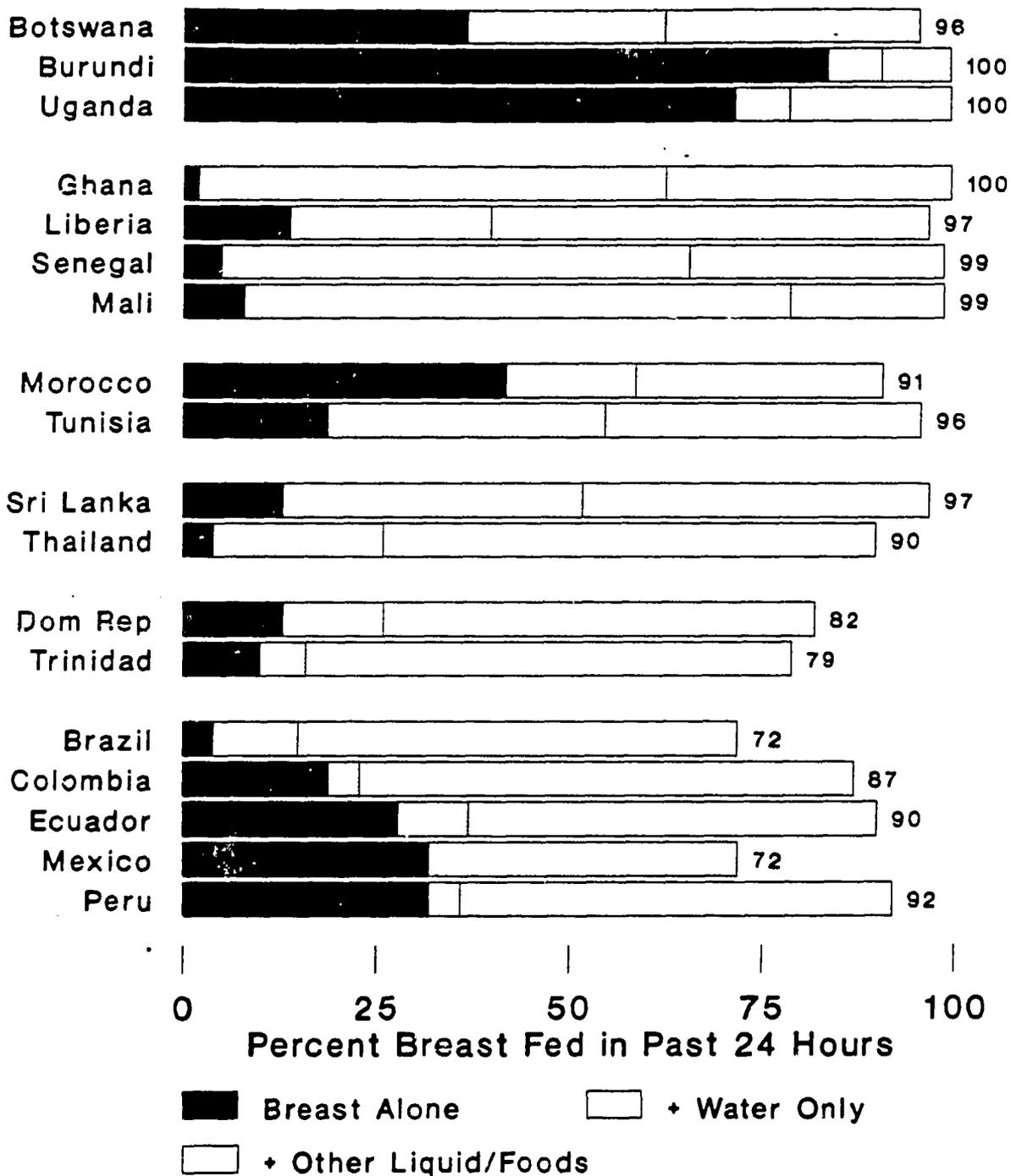
## Percent Breast Fed Rural Areas - Infants 0 to 4 Months



Data from DHS 1986-9

*Graph by LTS for Nutrition  
Communication Project*

## Percent Breast Fed National - Infants 0 to 4 Months



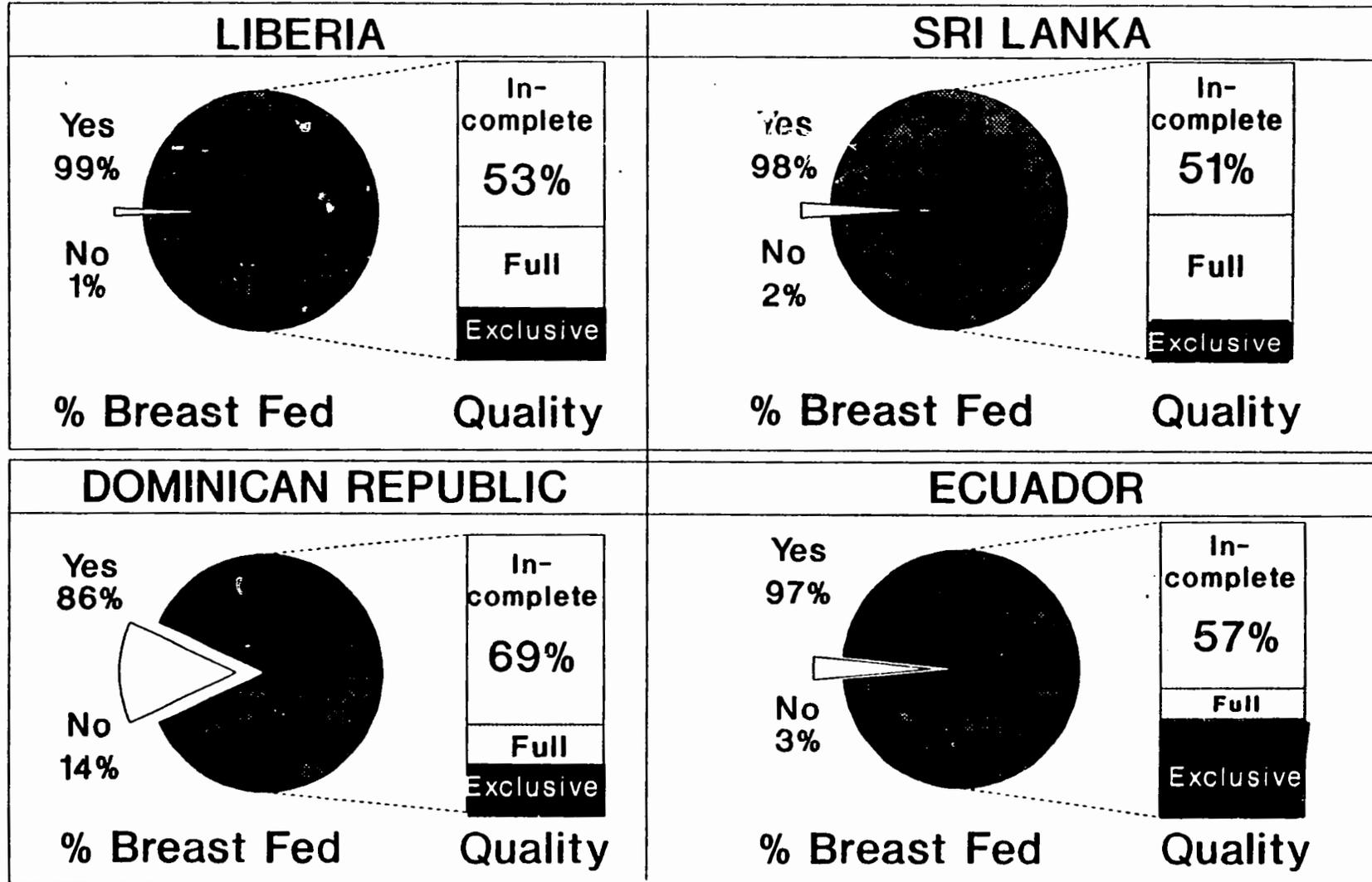
Data from DHS 1986-9

*Graph by LTS for Nutrition  
Communication Project*

25

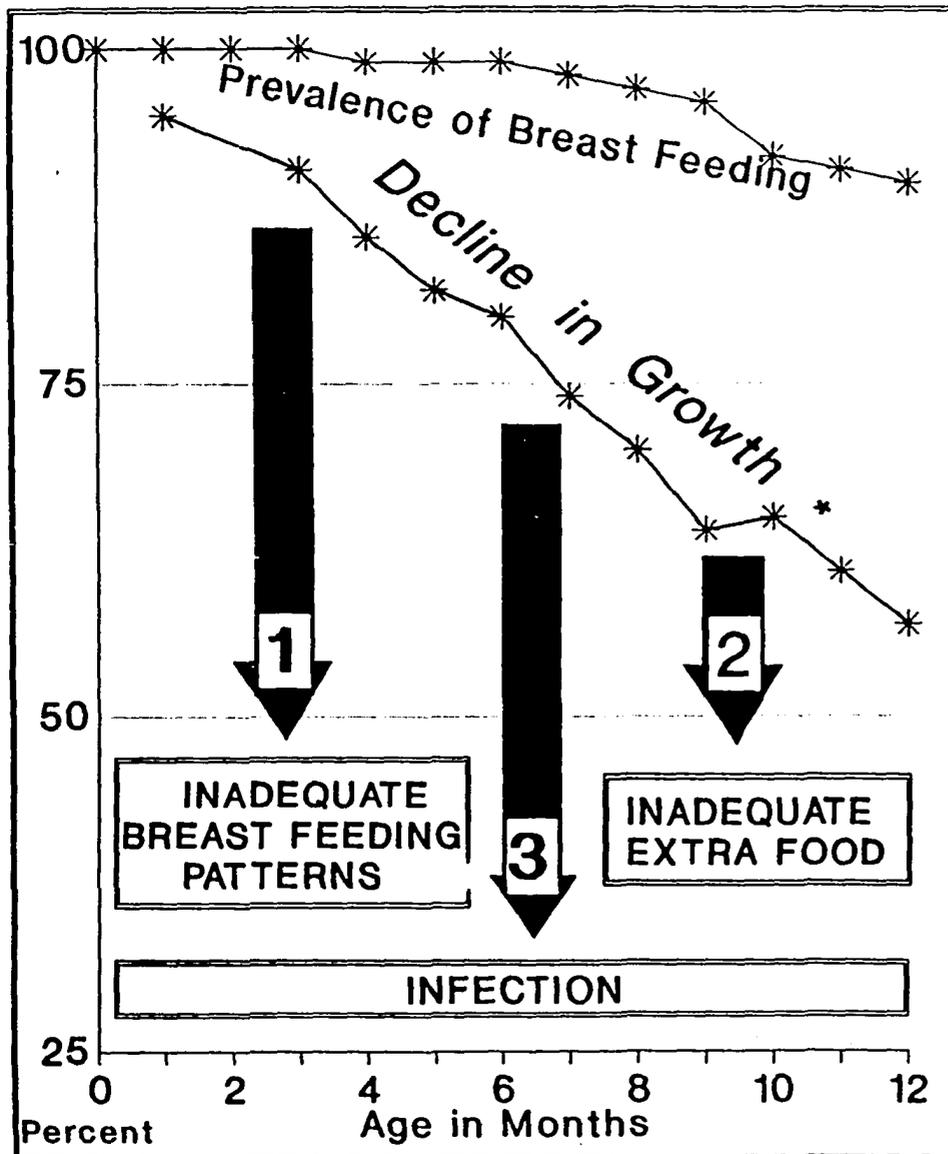
# Breast Feeding - Infants 0 to 4 Months

## Prevalence and Quality - Rural Areas



Exclusive: Breast Alone    Full: Added Water Only    Incomplete: Added Other Liquids/Foods

## What Causes Decline in Growth in the First Year of Life?



DATA FROM UGANDA 1989  
Demographic Health Survey

*The percent of infants with adequate growth drops from 95% at 1 month to 55% at 12 months of age*

*This occurs in spite of a high prevalence of breast feeding (90% at 12 months)*

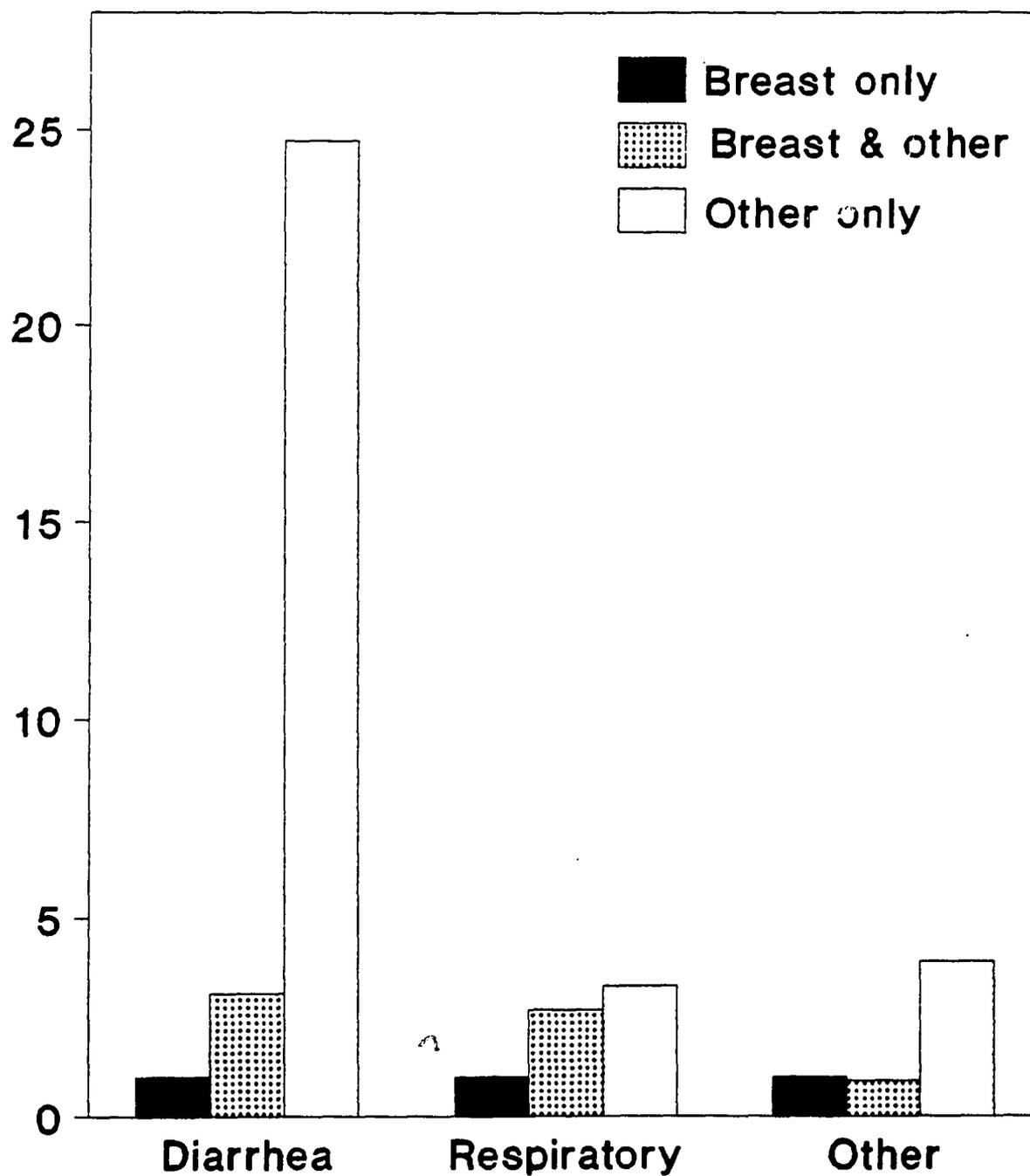
### - MAJOR CAUSES -

- 1** 30% of Infants 0-4 months were NOT exclusively Breast Fed (in past 24 hours)
- 2** 20% of Infants 7-12 months did not eat any food other than milk
- 3** Of those aged 0-12 months
  - 35% had recent diarrhea
  - 44% had recent fever
  - 26% had severe cough or difficult breathing

• Adequate Growth - Greater than - 2 Standard Deviations of WHO Reference International Data

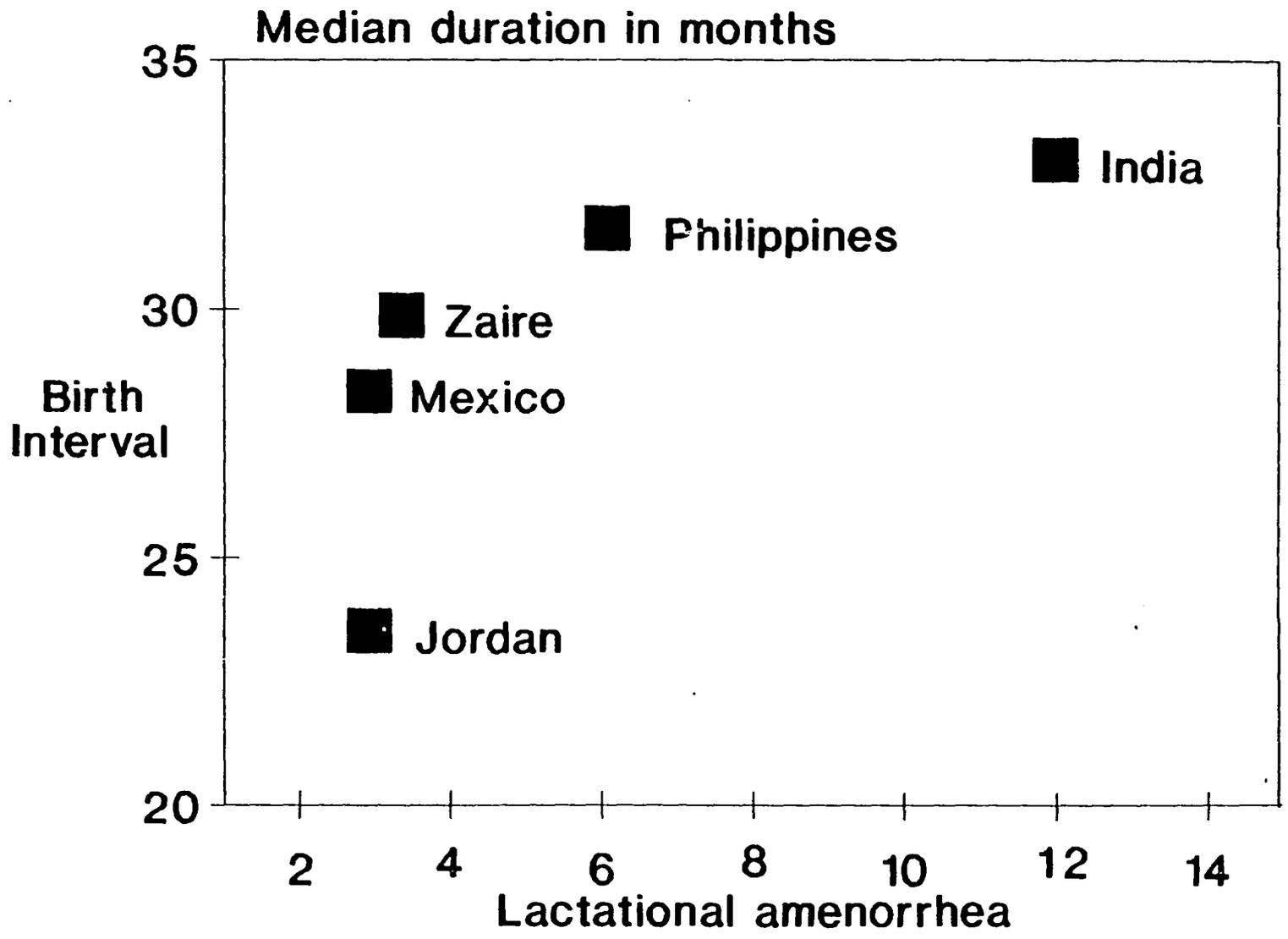
Prepared by LTS in support of NCP

### Relative Risk of Mortality from Infectious Disease By Feeding Patterns, Infants 0-2 Months, Brazil



Source : Victoria C. et al., Lancet i: 319, 1987

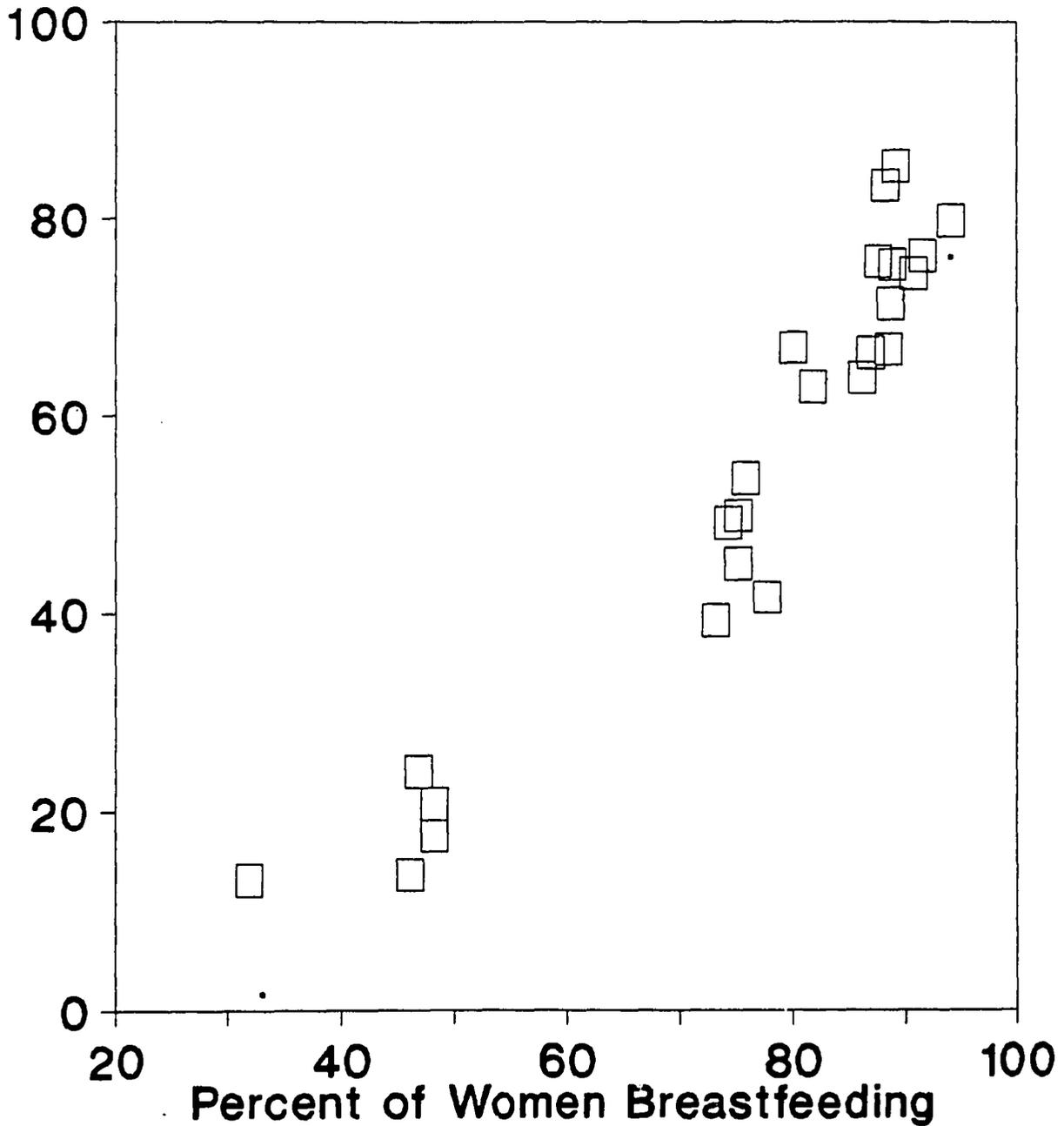
# Relationship between Duration of Birth and Lactational Amenorrhea - Selected Countries





# Relationship Between Prevalence of Postpartum Amenorrhea and Breastfeeding By Country

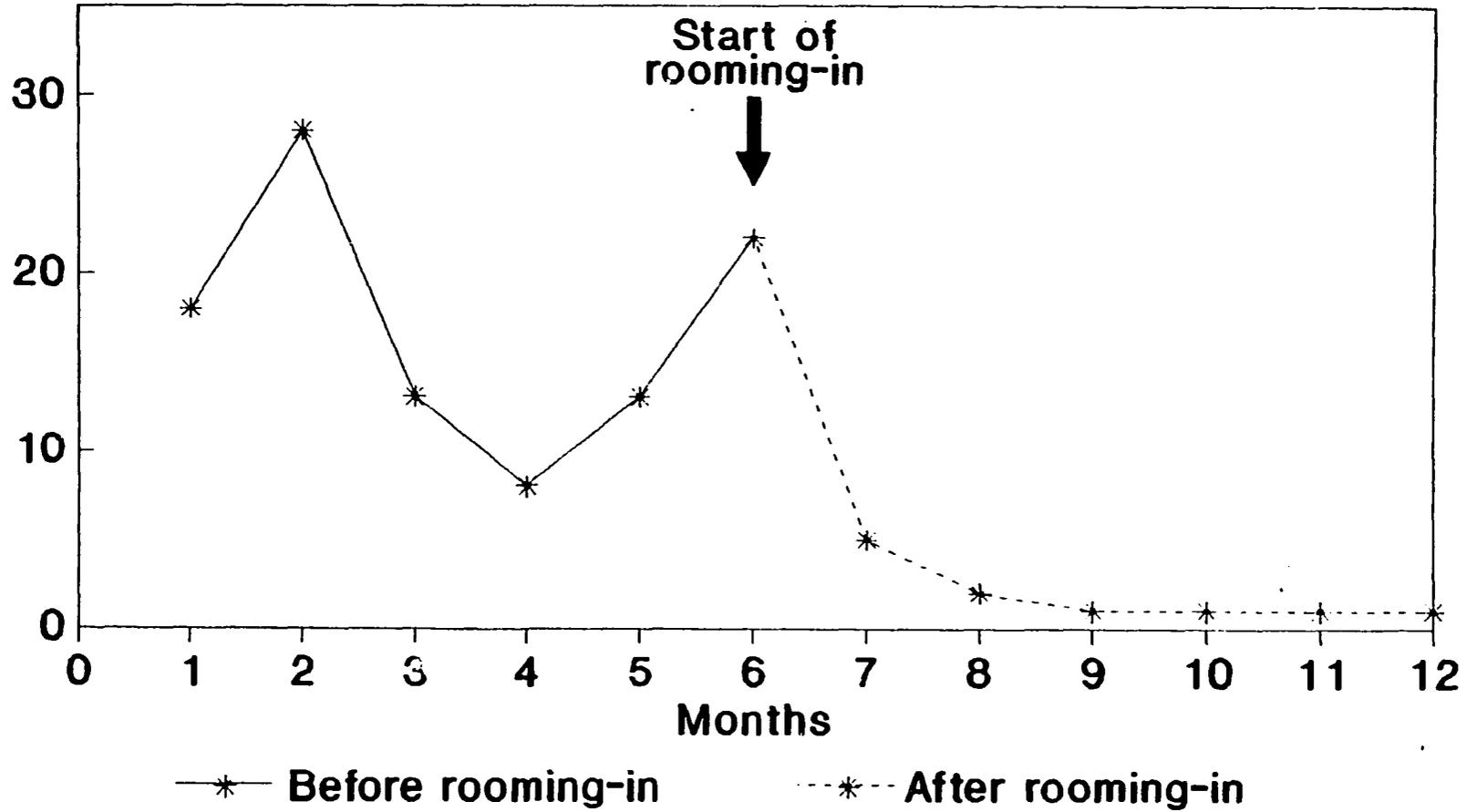
Percent with Amenorrhea



Data from Demographic Health Surveys 1986-9

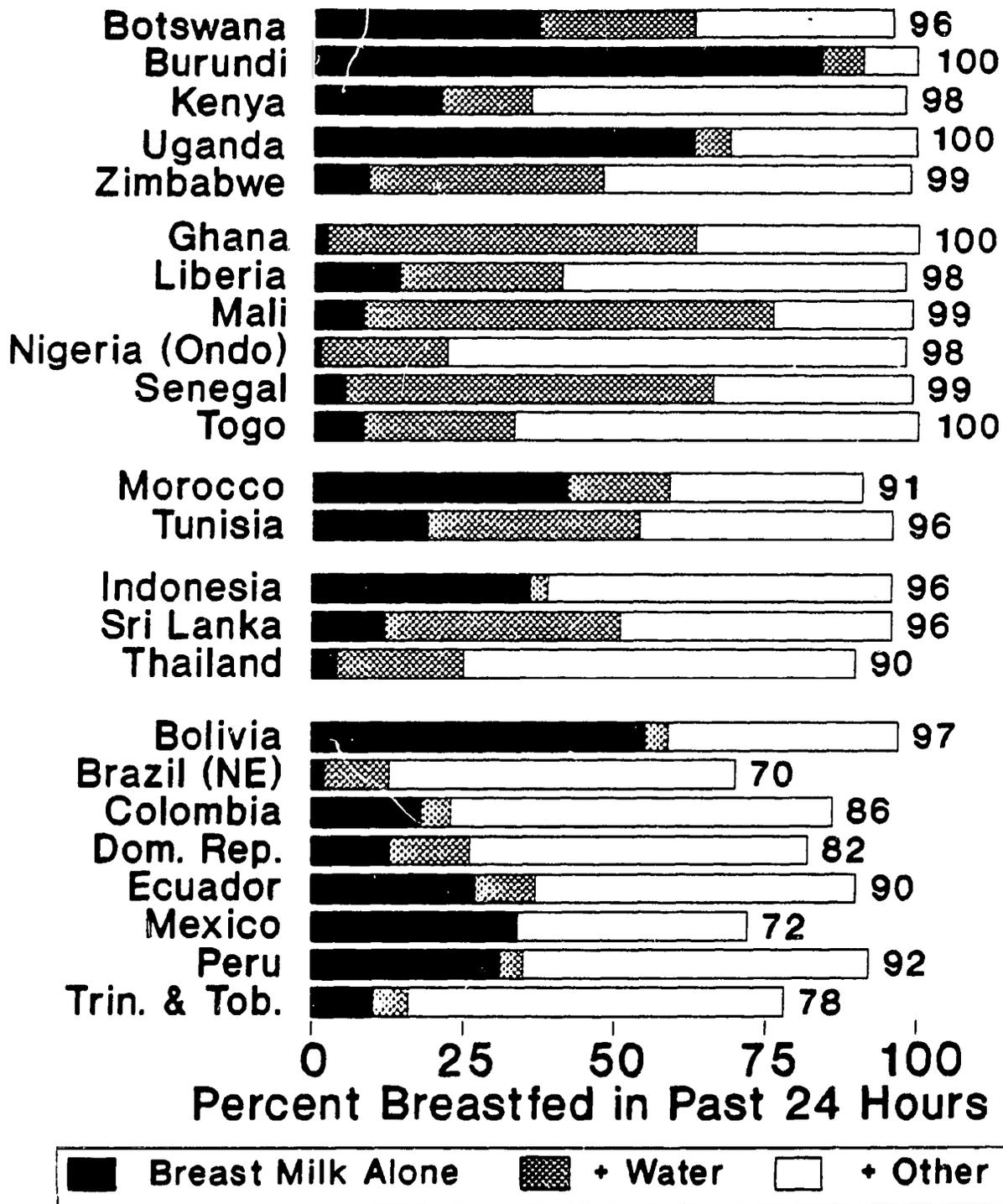
# Incidence of Diarrhea, before and after the Rooming-in System

New cases of diarrhea per month



Source: Soetjningsih and Suraatmija, *Pediatrica Indonesia* 26: 229, 1986

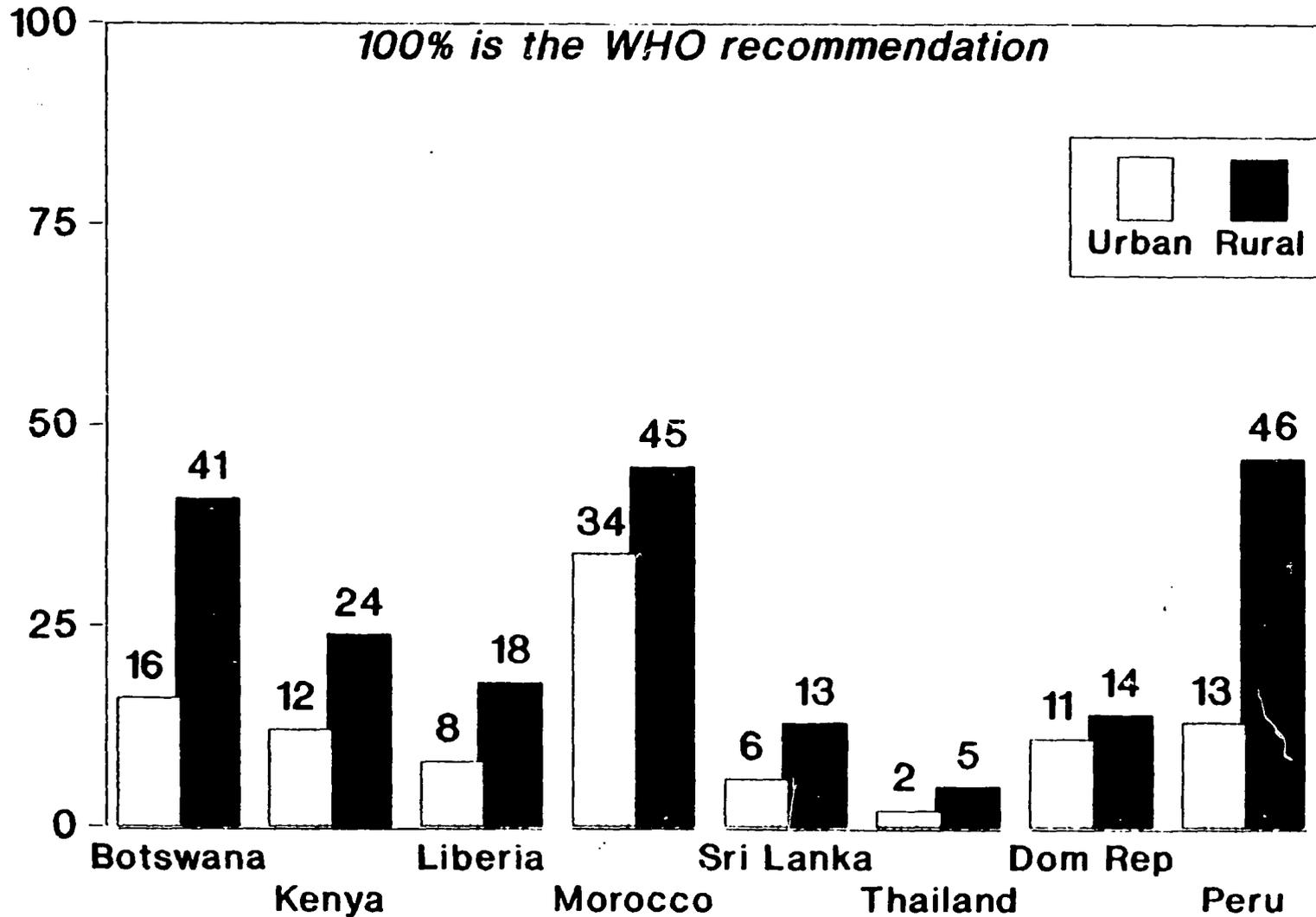
## Percent Breast Fed National - Infants 0 to 4 Months



Data from DHS 1986-9

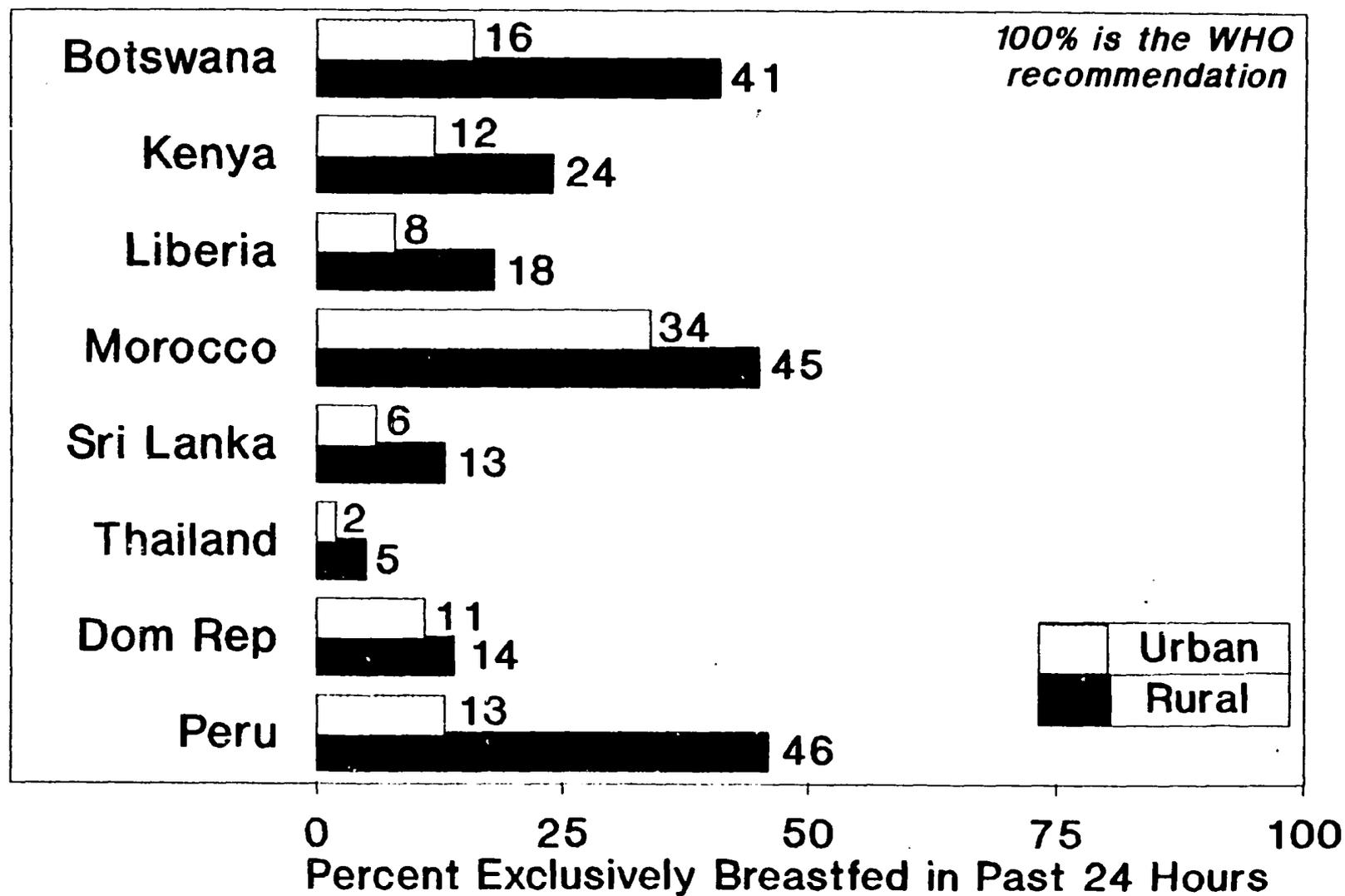
*Graphed by LTS for  
Nutrition Communication Project*

## Percent of Infants 0-4 Months Exclusively Breastfed By Urban and Rural Areas - Selected Countries



Data from Demographic Health Surveys 1986-9

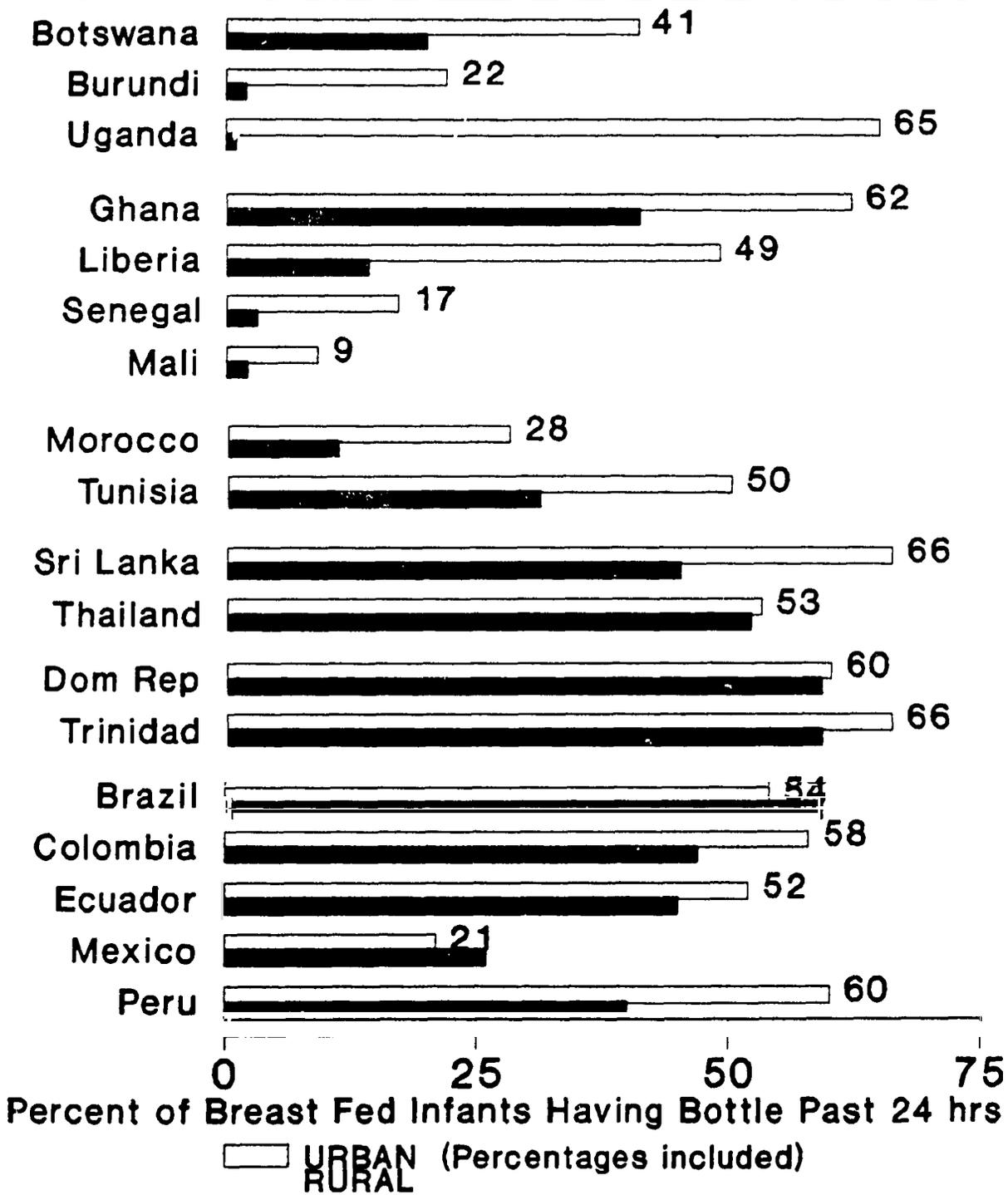
## Percent of Infants 0-4 Months Exclusively Breastfed By Urban and Rural Areas - Selected Countries



Data from DHS 1986-9

# Percent Bottle Fed

## Urban vs Rural - Infants 0 - 4 Months



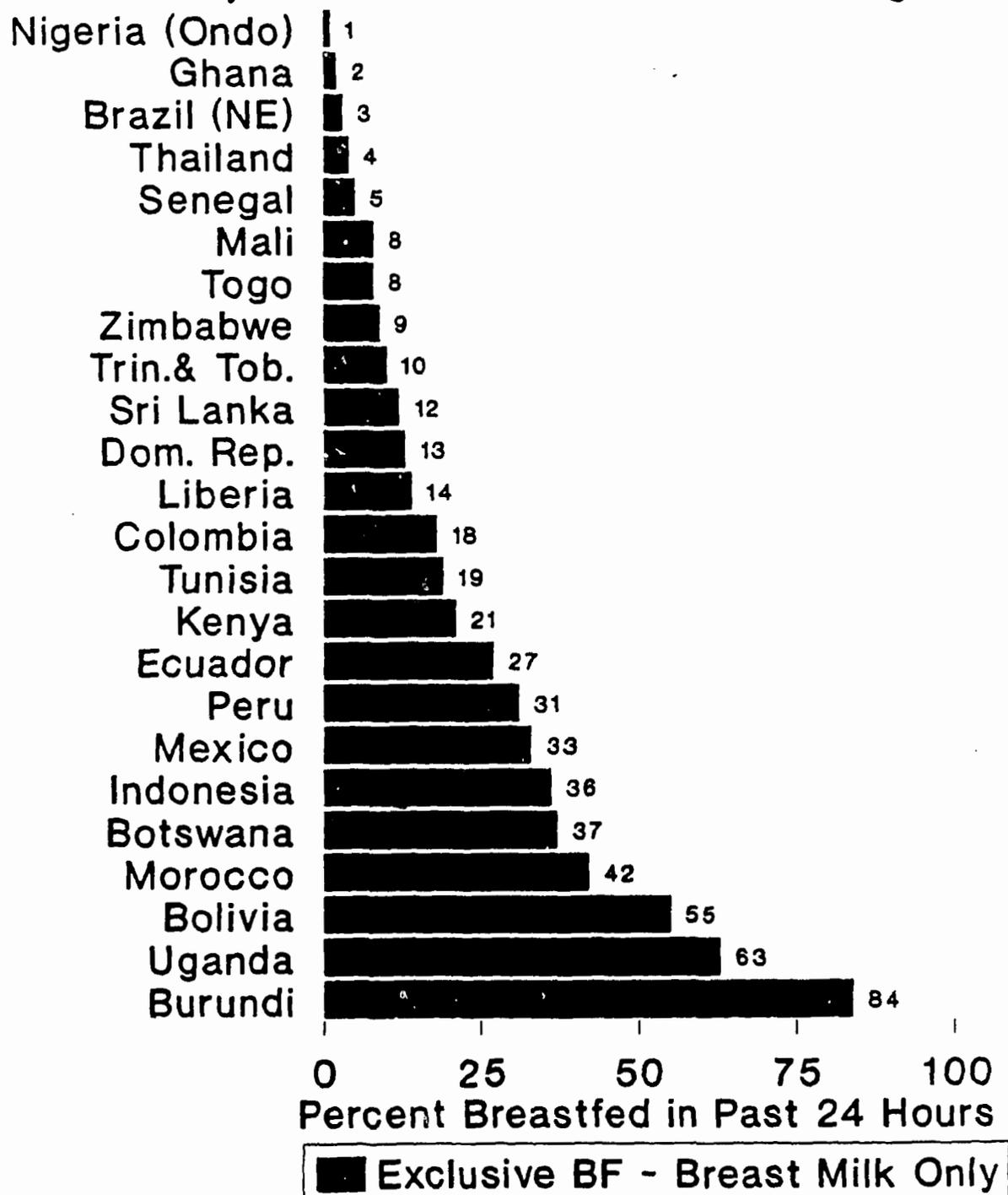
Data from DHS 1986-9

*Graphed by LTS for Nutrition  
Communication Project*

246

## Percent of Infants 0-4 Months Breast Fed By Country

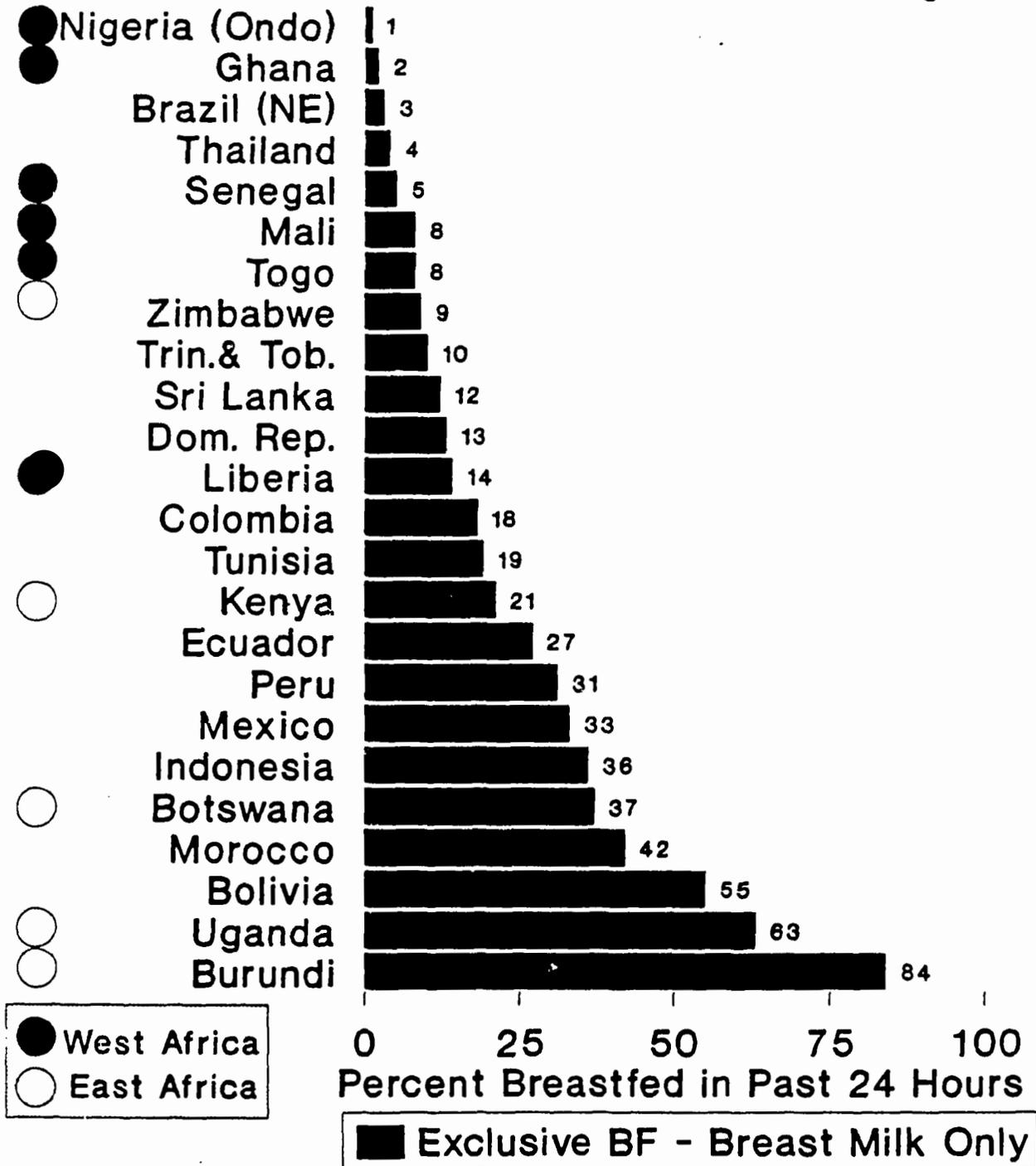
Ordered by Level of Exclusive BF - Lowest to Highest



Data from Demographic Health Surveys 1986-9

# Percent of Infants 0-4 Months Breast Fed By Country

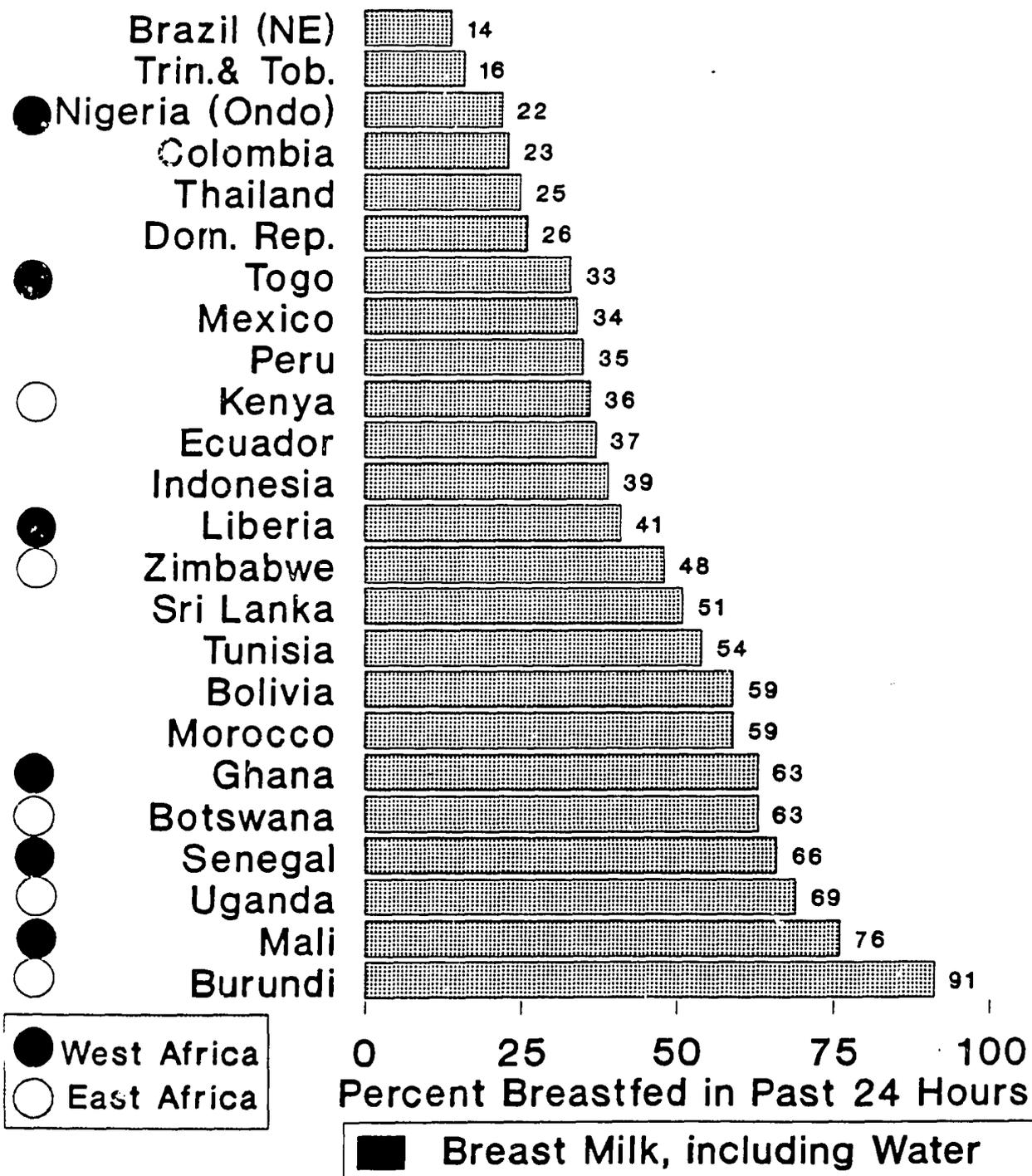
Ordered by Level of Exclusive BF - Lowest to Highest



Data from Demographic Health Surveys 1986-9

# Percent of Infants 0-4 Months Breast Fed By Country

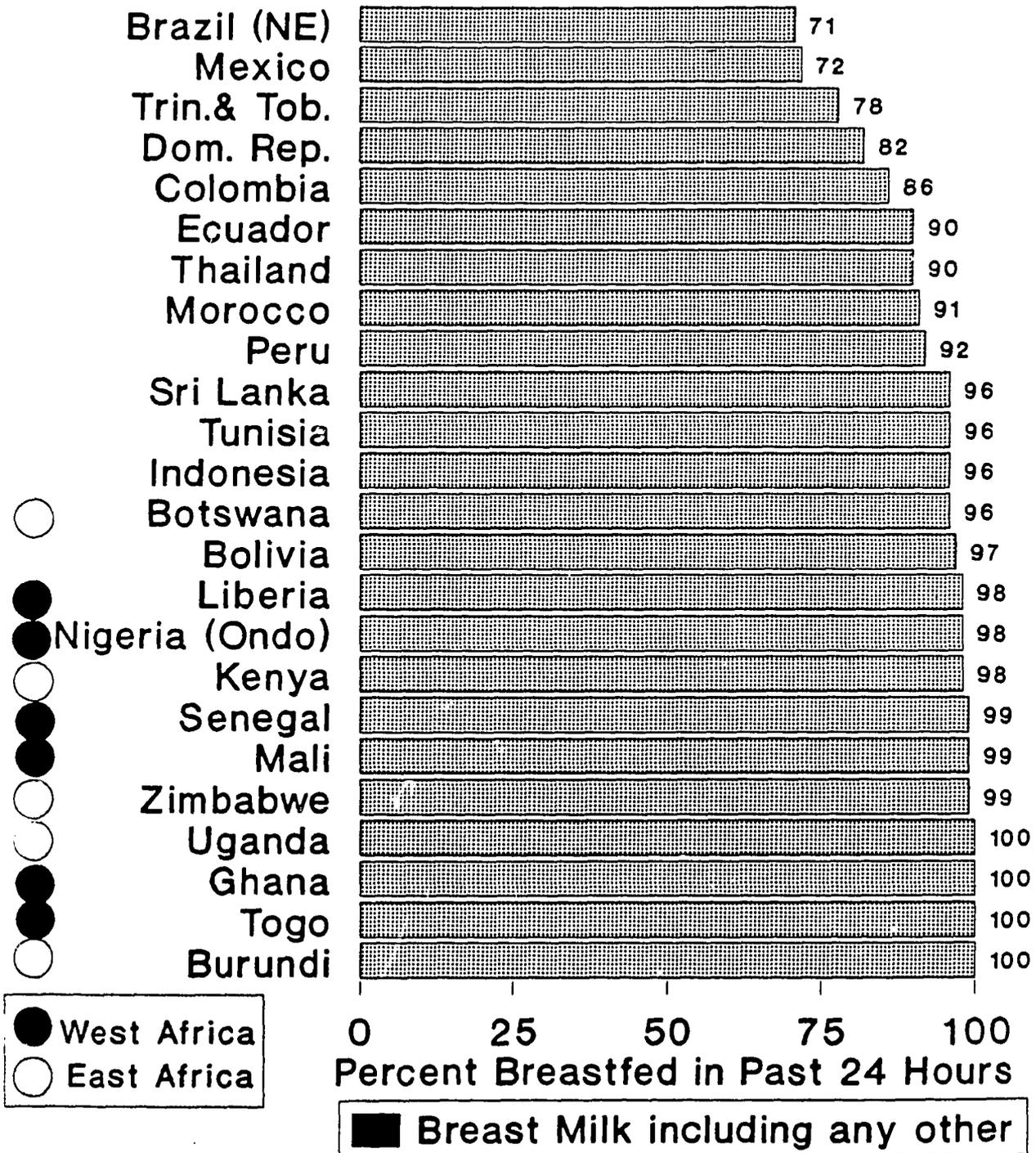
Ordered by Level of Breast + Water - Lowest to Highest



Data from Demographic Health Surveys 1986-9

# Percent of Infants 0-4 Months Breast Fed By Country

Ordered by Level of Breast Feeding - Lowest to Highest



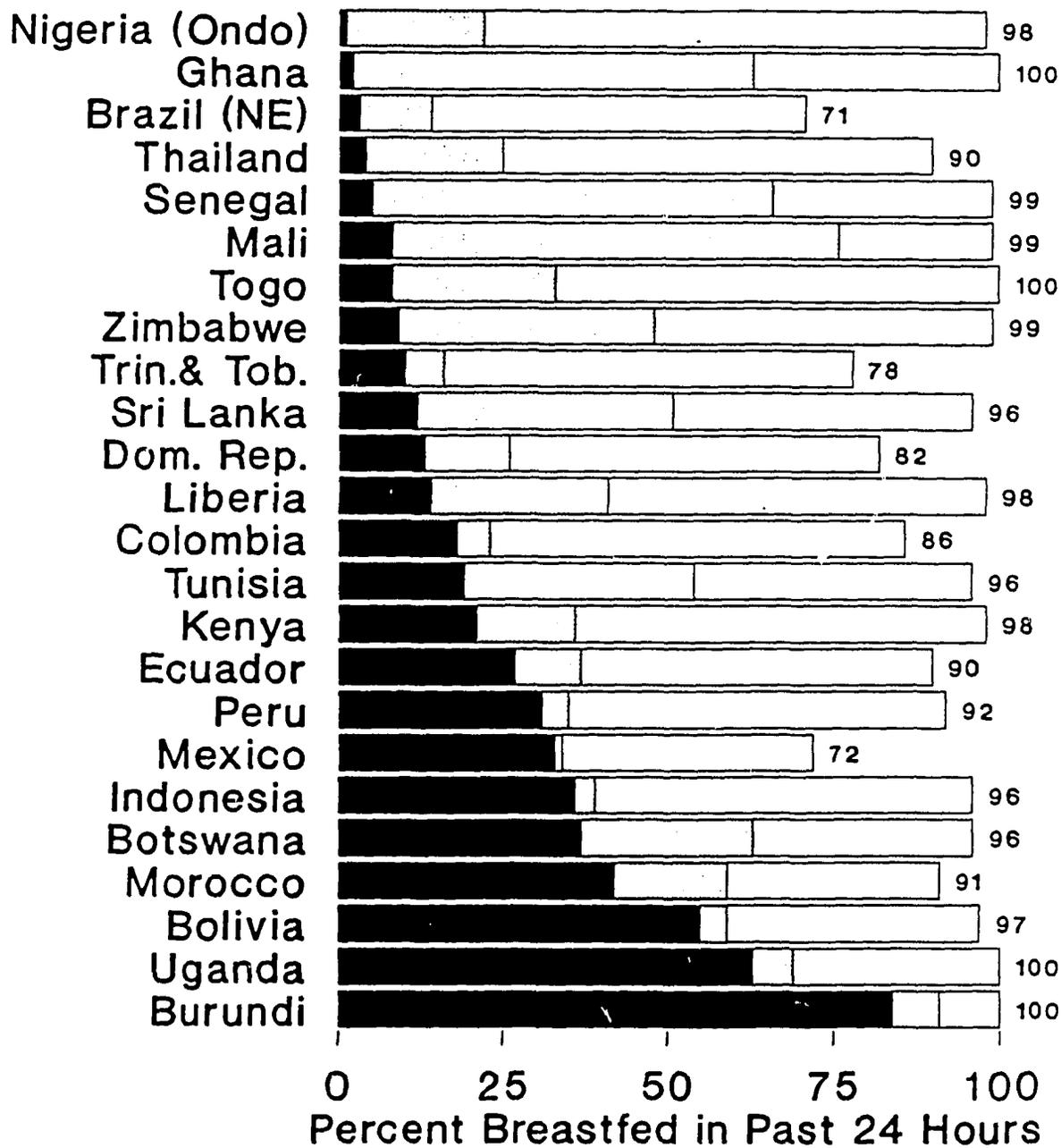
Data from Demographic Health Surveys 1986-9

# Percent Breast Fed by Country

## Infants 0-4 Months

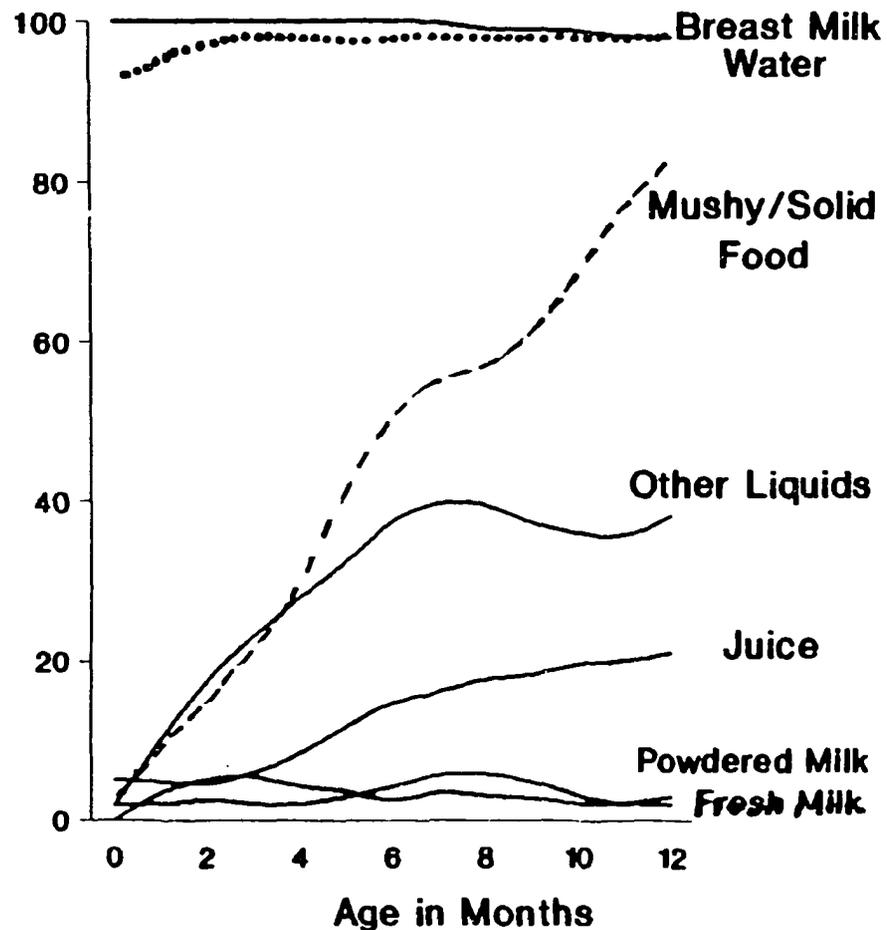
(Based on data from DHS 1986-9)

Ordered by Level of Exclusive BF - Lowest to Highest



Exclusive BF
  BF+Water
  BF+Other

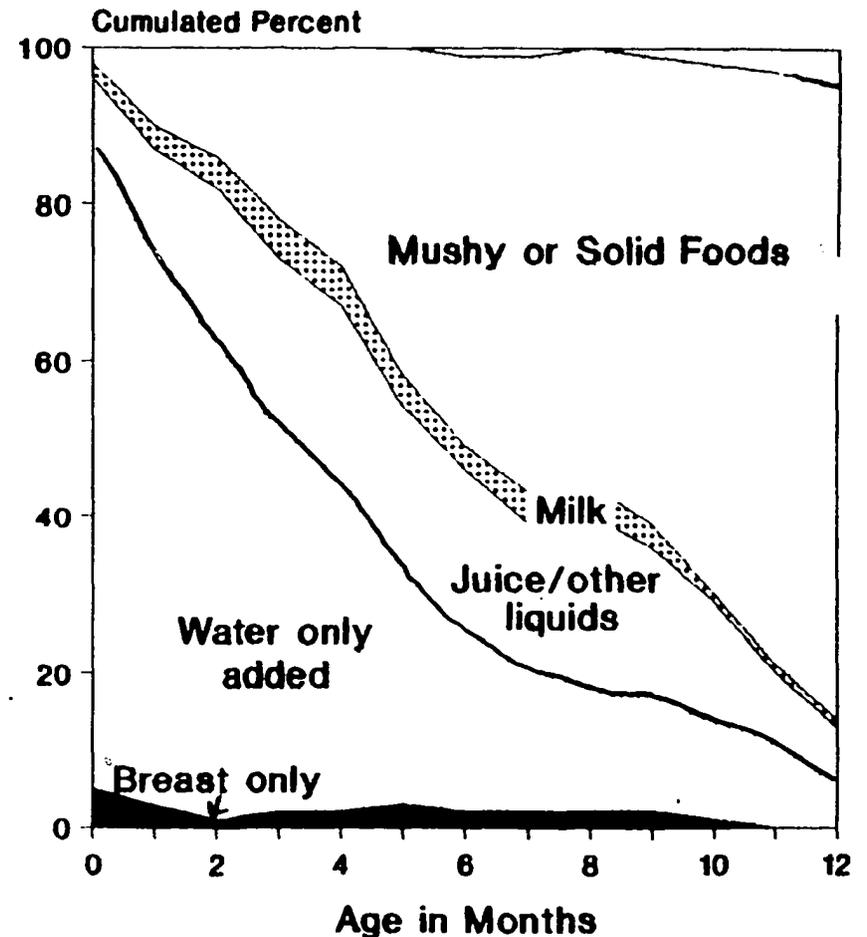
**Percent of Breast Fed Infants by Month Having Liquids/Foods in past 24 Hours  
GHANA - National**



Data from GDHS 1988

Graphed by INU/LTS for NCProject

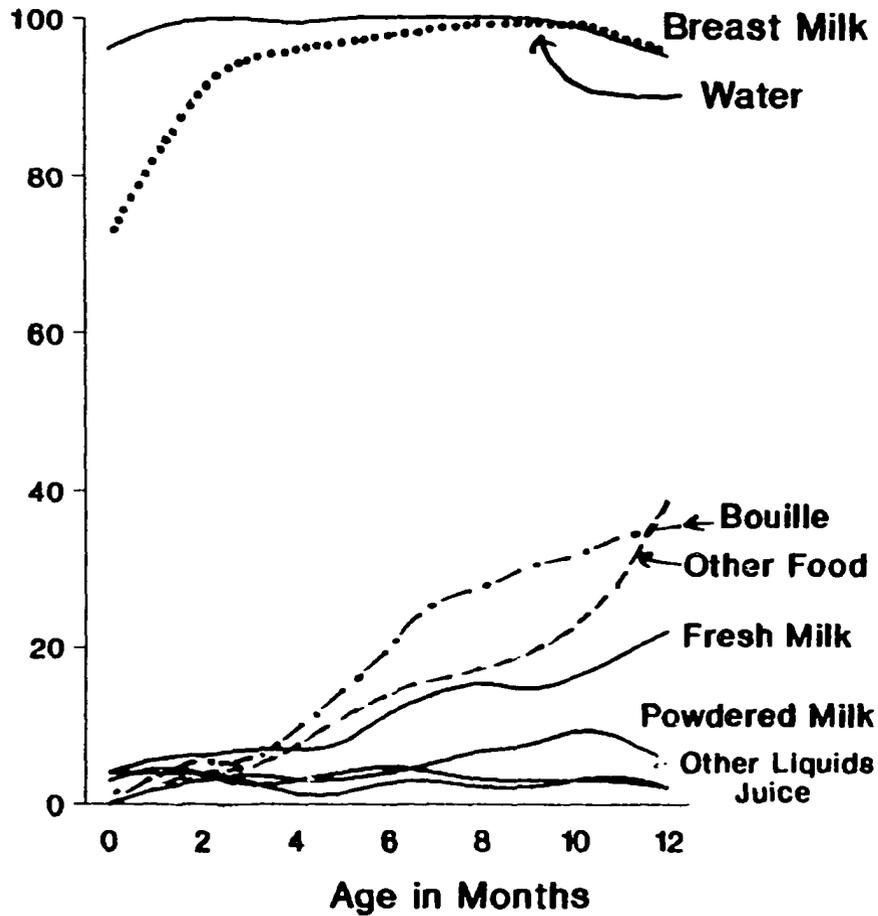
**Breast Milk, Liquids and Food - Infants  
Cumulated Additions to Breast Milk  
GHANA - National**



Data from Ghana DHS 1988

Graphed by INU/LTS for NCProject

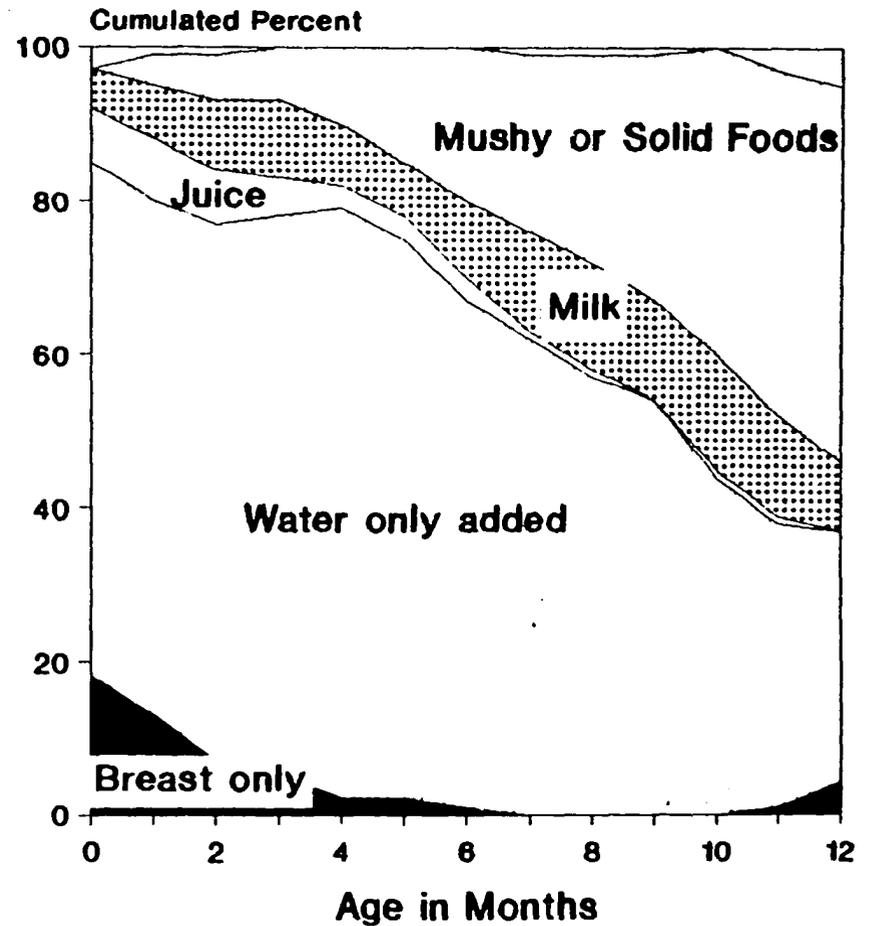
**Percent of Breast Fed Infants by Month Having Liquids/Foods in past 24 Hours**  
**MAI - National**



Data from Mali DHS 1987

Graphed by INU/LTS for NCProject

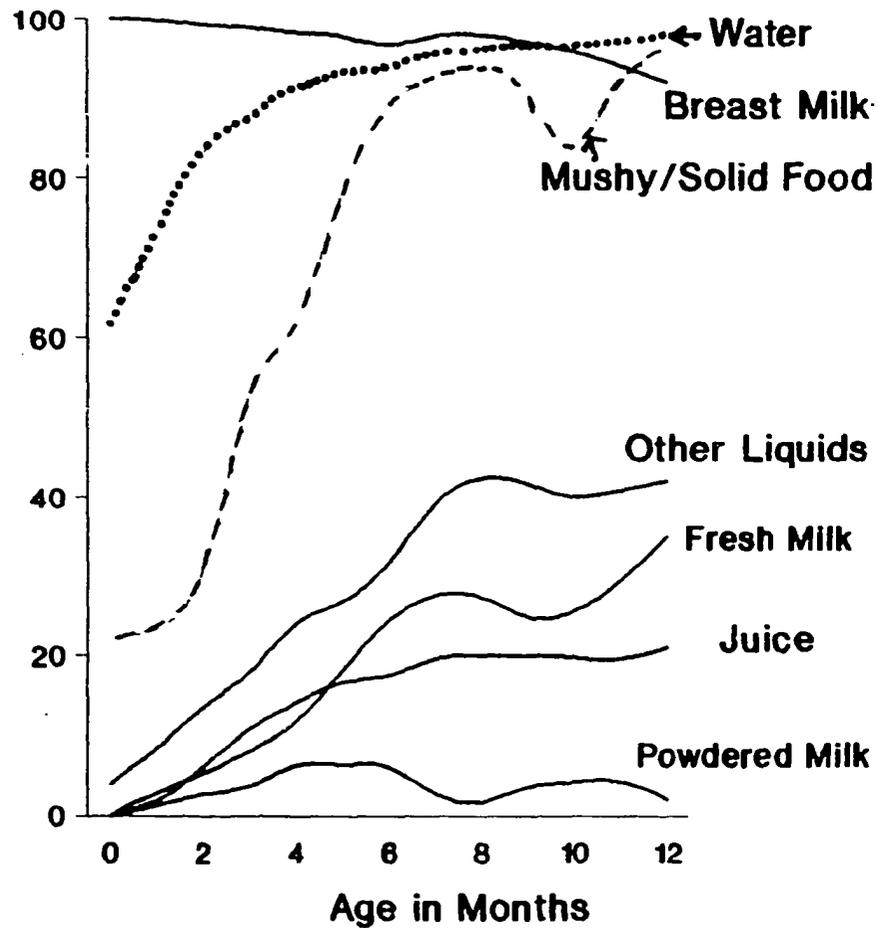
**Breast Milk, Liquids and Food - Infants**  
**Cumulated Additions to Breast Milk**  
**MAI - National**



Data from Mali DHS 1987

Graphed by INU/LTS for NCProject

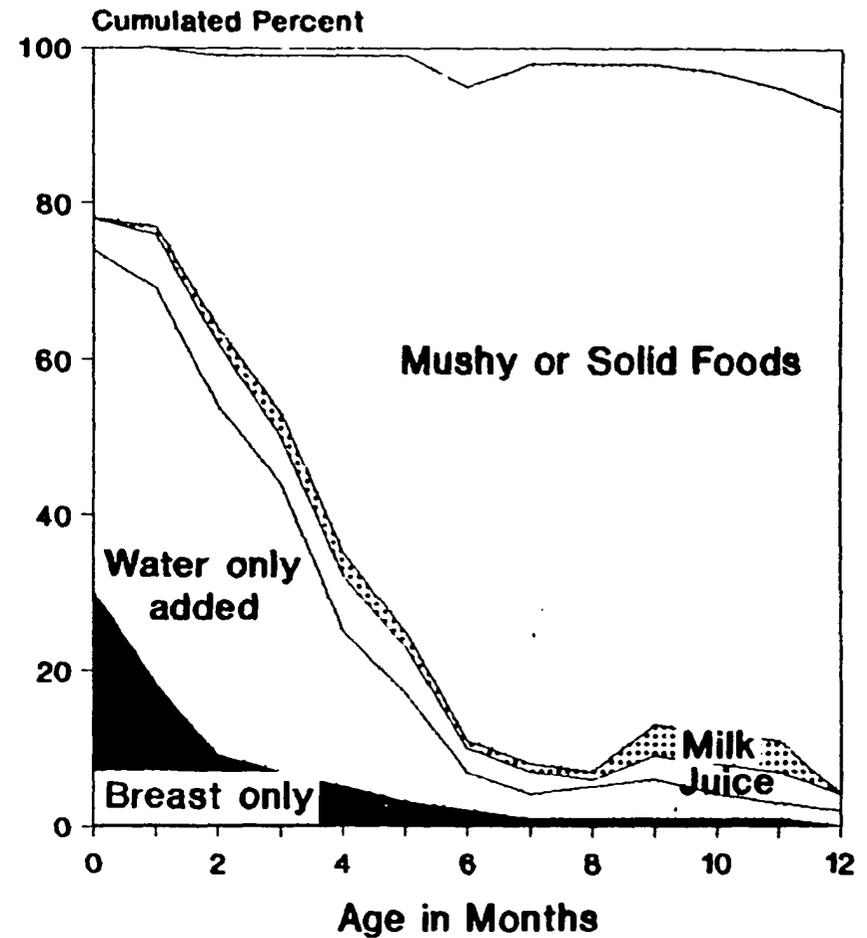
**Percent of Breast Fed Infants by Month Having Liquids/Foods in past 24 Hours  
ZIMBABWE - National**



Data from ZDHS 1988

Graphed by INU/LTS for NCPProject

**Breast Milk, Liquids and Food - Infants  
Cumulated Additions to Breast Milk  
ZIMBABWE - National**

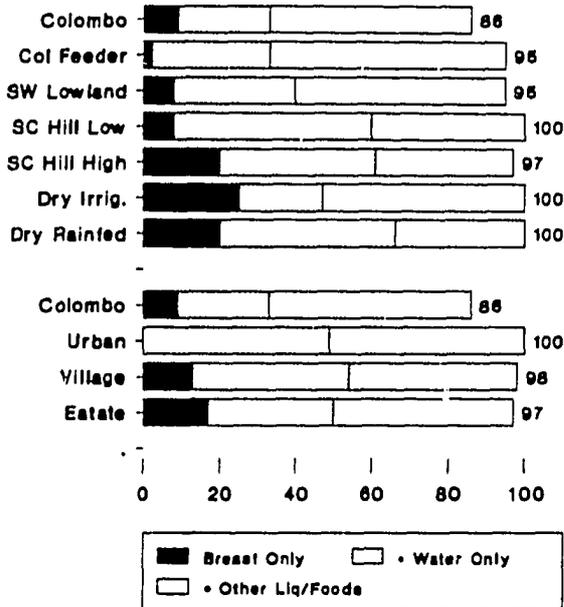


Data from ZDHS 1988

Graphed by INU/LTS for NCPProject

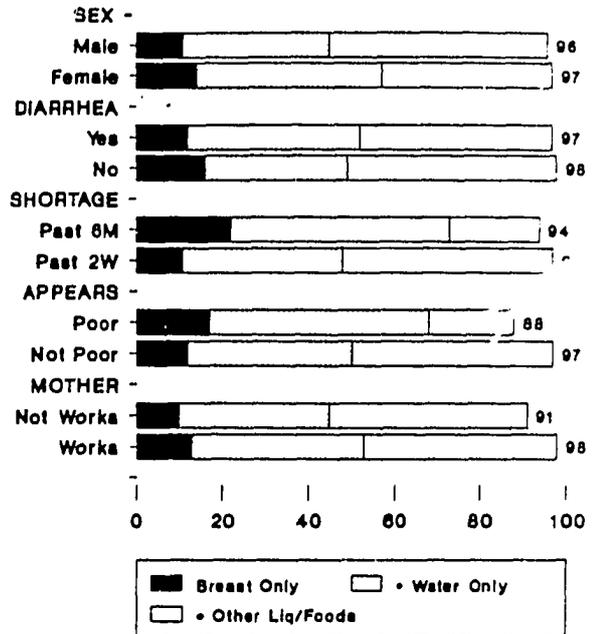
**Percent Breast Feeding - Sri Lanka**  
Infants 0 - 4 months

By Area



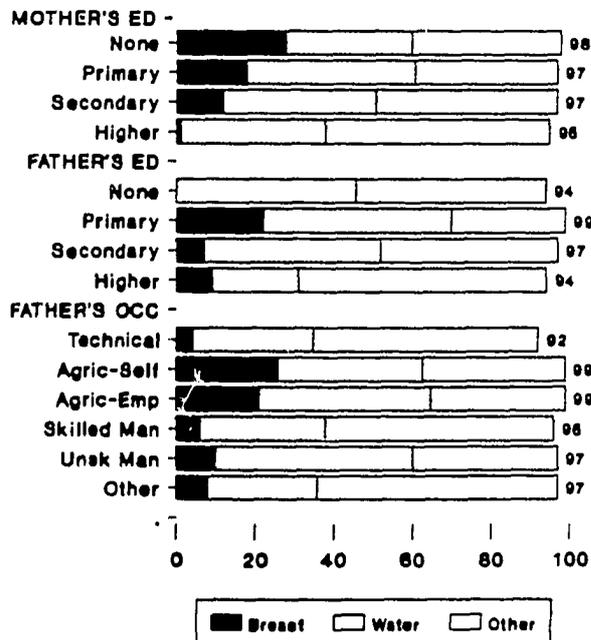
Data from SLDHS 1987

**Percent Breast Feeding - Sri Lanka**  
Infants 0 - 4 months



Data from SLDHS 1987

**Percent Breast Feeding - Sri Lanka**  
Infants 0 - 4 months



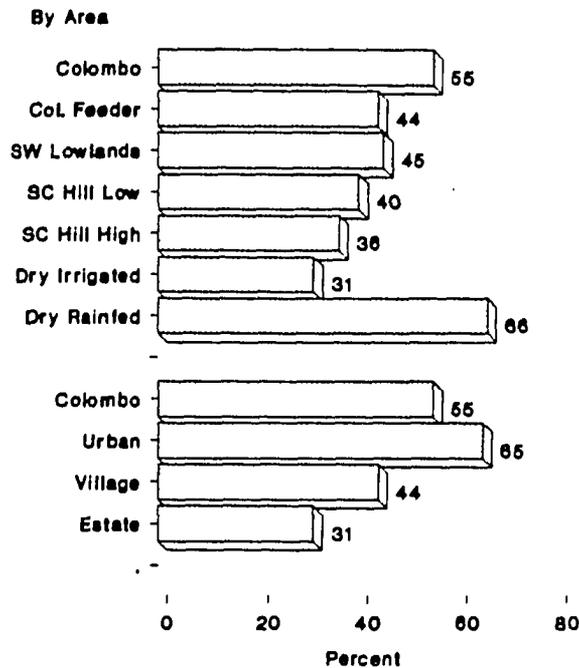
**BREAST FEEDING AND  
ADDED SUBSTANCES  
EARLY IN INFANCY**

**NOTE:**

1. The prevalence of Exclusive Breast Feeding is relatively low throughout most of Sri Lanka, even in rural areas (up to 30%)
2. This is higher (40-70%) when water is included.

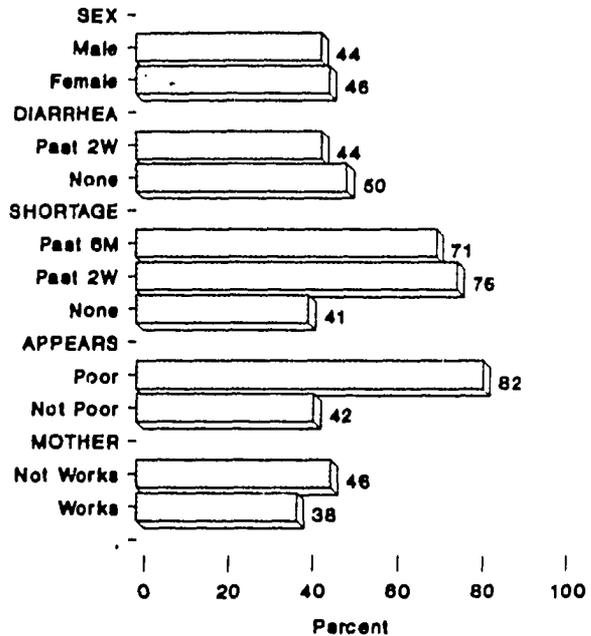
*Although the prevalence of Breast Feeding is high (ave. 96%) in most of the country, its quality is suspect in about one half of all young infants.*

**Breast Feeding on Demand - Sri Lanka**  
Of Breast Fed Infants Aged 0-4 Months



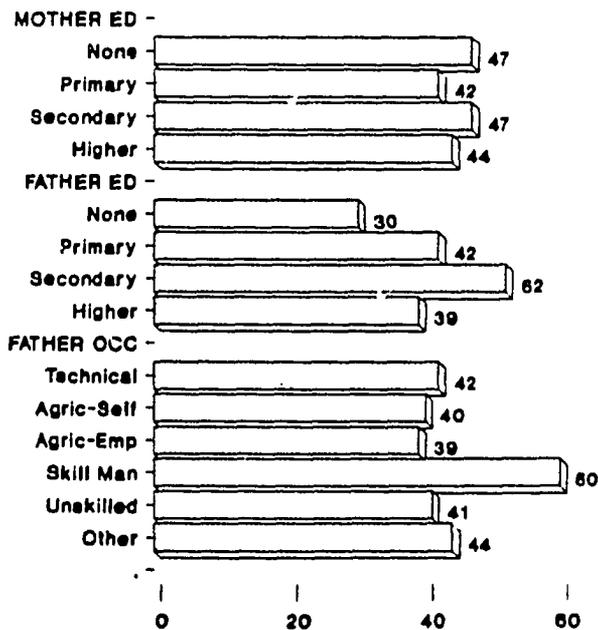
Demand or 6+ times day and night

**Breast Feeding on Demand - Sri Lanka**  
Of Children Aged 0-4 Months



Demand or 6+ times day and night

**% Breast Feeding on Demand - Sri Lanka**  
Of Breast Fed Infants 0-4 months



Data from SLDHS 1987

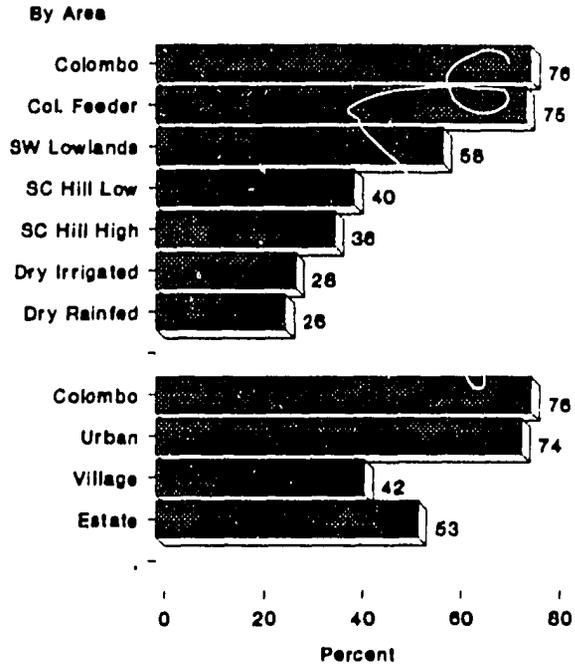
**BREAST FEEDING ON DEMAND**

**NOTE:**

1. This reflects an appropriate breast feeding practice in early infancy. Prevalence ranges from 31% in Estates to 65% in urban areas.
2. There is little variation by Mother's education

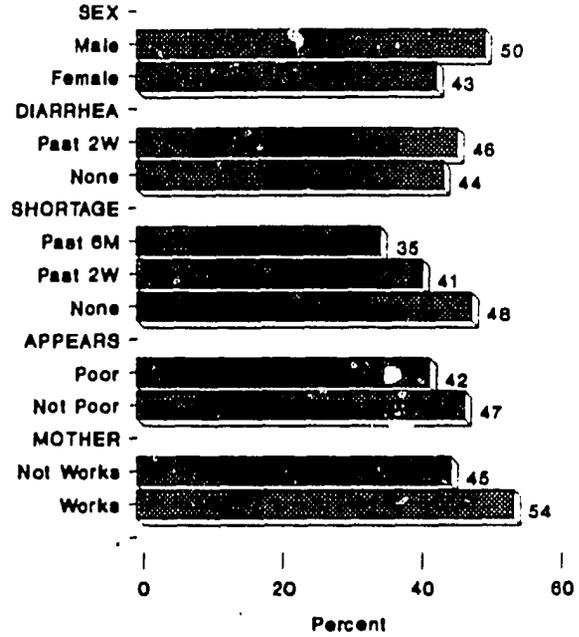
*Low prevalences suggest problems, but should be taken into consideration with other indicators of Breast feeding practices*

**Percent Bottle Fed - Sri Lanka**  
Of Breast Fed Infants 0-4 months



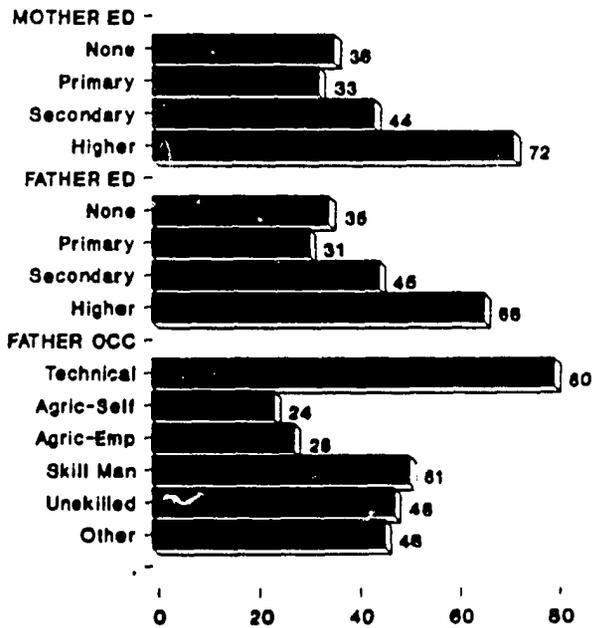
Data from SLDHS 1987

**Percent Bottle Fed - Sri Lanka**  
Of Breast Fed Children Aged 0-4 Months



Data from SLDHS 1987

**Percent Bottle Fed - Sri Lanka**  
Of Breast Fed Infants 0-4 months



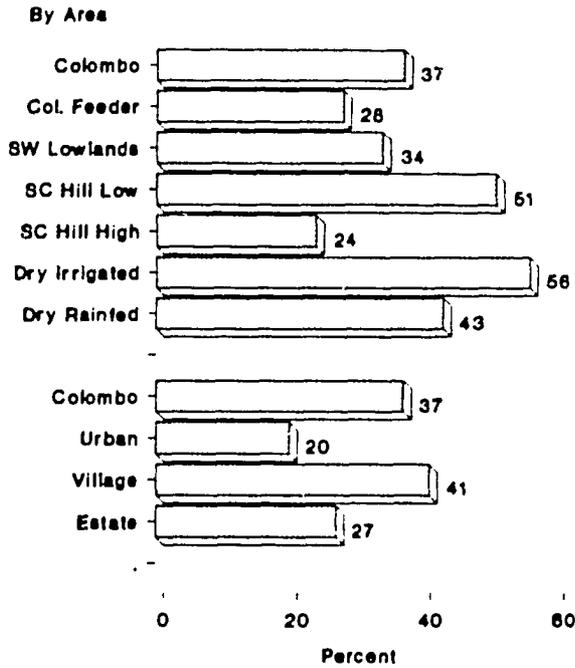
## BOTTLE FEEDING IN EARLY INFANCY

### NOTE:

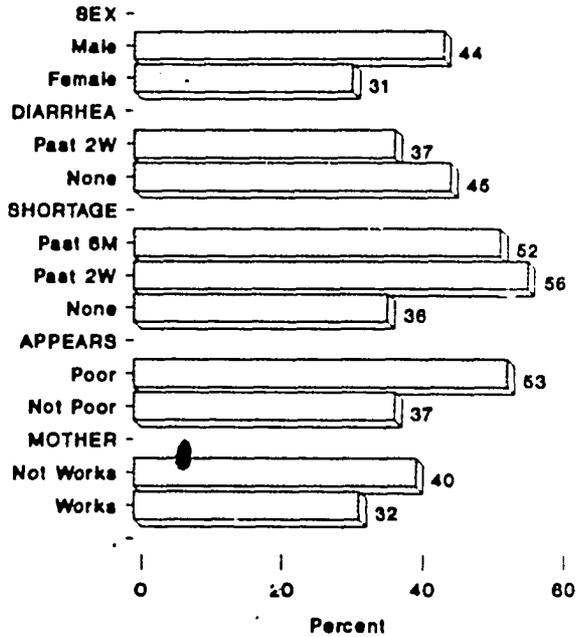
1. Bottle feeding is common throughout the country
2. Although highest in urban areas it is common (26 to 58%) elsewhere

*Bottle feeding in early infancy is a major impediment to proper Breast Feeding practices*

Percent Not Eating Food\* - Sri Lanka  
Of Breast Fed Infants 6-11 months



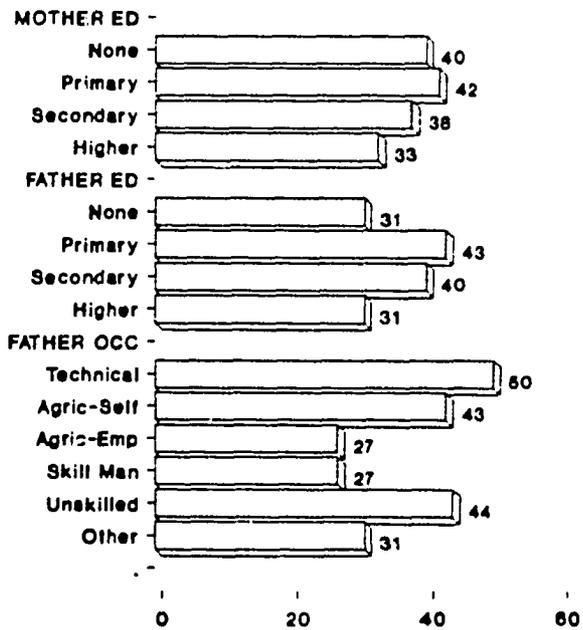
Percent Not Eating Food\* - Sri Lanka  
Of Breast Fed Infants 6-11 months



\* Mushy/Solid Food - Data SLDHS 1987

\* Mushy/Solid Food - Data SLDHS 1987

Percent Not Eating Food\* - Sri Lanka  
Of Breast Fed Infants 6-11 months



**BREASTFED INFANTS 6-11M  
% WITH NO ADDED MUSHY-  
SOLID FOODS**

**NOTE:**

1. The percent of infants aged 6-11 months not eating any foods apart from milk ranges from 20 to 60%.
2. It appears higher in Colombo, villages, males, recent food shortages and those appearing poor.

*Throughout Sri Lanka, adequate food supplementation in later infancy is often inadequate.*

**APPENDIX B**  
**DATA FROM GRAPHS**

## APPENDIX B

### Data from Graphs on feeding\*

Percent Breastfeeding (Urban/Rural) - National Data

Country	0 - 4 months									7 - 12 mo			0 - 5 mo		
	Total Breastfed			Breast Only			Breast +/- Water			Not Received Food			Received Bottle		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Botswana	92	98	96	18	43	39	55	68	66	12	13	13	41	20	24
Burundi	100	100	100	59	85	84	68	92	91	44	24	25	22	2	2
Uganda	100	100	100	55	74	72	64	81	79	12	21	20	6	1	2
Ghana	100	100	100	0	3	2	43	71	63	24	35	32	62	41	46
Liberia	95	99	97	8	18	14	33	47	41	26	26	26	49	14	28
Senegal	100	99	99	3	6	5	69	66	67	13	21	18	17	3	7
Mali	99	99	99	8	8	8	71	81	80	42	50	48	9	2	3
Morocco	83	95	91	38	49	46	58	68	65	28	34	32	28	11	16
Tunisia	93	98	96	11	27	20	47	64	57	28	35	32	50	31	40
Sri Lanka	89	98	97	7	14	13	41	55	53	30	33	33	66	45	48
Thailand	68	94	90	2	5	4	29	27	28	13	16	15	53	52	52
Dom Rep	79	86	82	14	18	16	29	35	32	41	40	41	60	59	60
Trinidad	76	82	78	8	16	13	14	26	20	6	13	10	66	59	62
Brazil	67	81	72	3	7	5	13	33	20	16	24	19	54	59	55
Colombia	87	86	87	15	28	22	24	31	27	19	33	26	58	47	53
Ecuador	83	97	90	22	39	31	30	51	41	49	65	57	52	45	49
Mexico	63	79	72	30	55	44	30	57	45	13	28	21	21	26	23
Peru	85	98	92	15	51	35	20	55	39	20	37	30	60	40	50

Data from DHS 1986-89

\* Data from Togo, Kenya and Zimbabwe were not available by urban/rural breakdown when this report was prepared.

increasing and...  
based on data from  
Demographic and Health Surveys 1986 - 1989  
(For Last-Born Living Children)

Percent of Children 0-4 Months

Percent of Children 7-11 Months

Country	(a) Breastfed Exclusively (No Bottle)	(b) Breastfed + Plain Water	(c) Breastfed + Other Foods	(d) Any Breastfeeding	(e) Breastfed + Solids (No Bottle)	(f) Breastfed No Solids	(g) Not Breastfed	(h) Percent of Children 12-14 months (Still Breastfed)
Morocco	42	17	32	91	43	26	24	68
Tunisia	19	35	42	96	37	22	30	61
Botswana	37	26	33	96	73	12	7	79
Burundi	84	7	9	100	71	23	1	96
Ghana	2	61	37	100	45	36	1	88
Kenya	21	15	62	98	71	7	4	97
Liberia	14	27	57	98	50	23	17	69
Ondo State	1	21	76	98	24	53	7	79
Mali	8	68	23	99	51	44	1	91
Senegal	5	61	33	99	72	19	2	96
Togo	8	25	67	100	84	10	0	95
Uganda	63	6	31	100	74	19	6	90
Zimbabwe	9	39	51	99	88	3	3	90
Indonesia	36	3	57	96	83	9	8	82
Sri Lanka	12	39	45	96	30	29	16	73
Thailand	4	21	65	90	48	10	24	63
Bolivia	55	4	38	97	39	24	15	71
Brazil	3	11	57	71	15	9	60	24
Colombia	18	5	63	86	13	12	52	36
Dominican Republic	13	13	56	82	11	16	59	26
Ecuador	27	10	53	90	15	42	25	56
Mexico	33	1	38	72	20	13	48	35
Peru	31	4	57	92	24	23	26	66
Trinidad and Tobago	10	6	62	78	12	4	62	33

\* Indonesia has no information on bottle feeding.  
Source: Demographic and Health Surveys, 1986-89.

Note: Column (a), (c), and (h) represent the optimum infant feeding behaviors that A.I.D. is currently promoting, and should equal 100%.