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BREASTFEEDING PROMOTION IN BELIZE

*Costs and Savings of
The Breast is Best (BIB) League*

prepared by Nurture/
Center to Prevent
Childhood Malnutrition



Center to Prevent Childhood Malnutrition Policy Series 3(1):1-14. February, 1992



NURTURE

Center to
Prevent
Childhood
Malnutrition

Nurture/Center to Prevent Childhood Malnutrition promotes low-cost ways to improve infant and young child feeding and women's nutrition in the U.S. and in developing countries.

Nurture supports community self-help efforts that empower women to improve their lives and those of their children. All Nurture projects are evaluated to illustrate how projects work to these ends. Nurture also works to promote policy reforms that will lead to improvements in health of families.

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Breast is Best League (BIB)

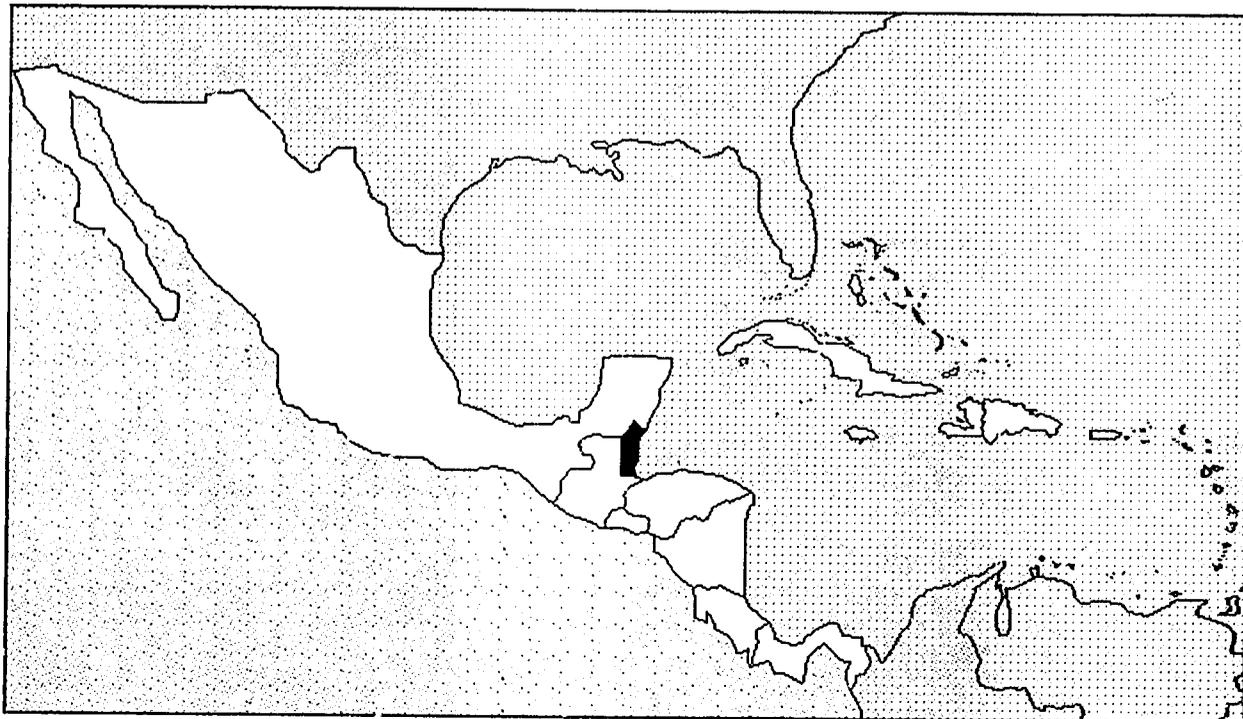
Belize is a small country with a population of 180,000 people residing in 6 districts. In 1990 the per capita GNP was about US \$1,700, the crude birth rate 34 per 1000 and the infant mortality rate 20 per 1000. Since 1985, Breast is Best League (BIB), a private non-profit organization in Belize, has actively promoted breastfeeding. Working closely with the Ministry of Health, BIB promotes breastfeeding through:

- **Counseling mothers**
- **Training health care professionals**
- **Increasing public awareness**

This report discusses the activities in each of these areas, their costs as well as the savings that breastfeeding brings to Belize. Breastfeeding reduces hospital costs, expenditures for breastmilk substitutes and a number of illnesses which would require treatment.

While the country is small, the lessons learned from its breastfeeding promotion program could benefit other countries.

BELIZE





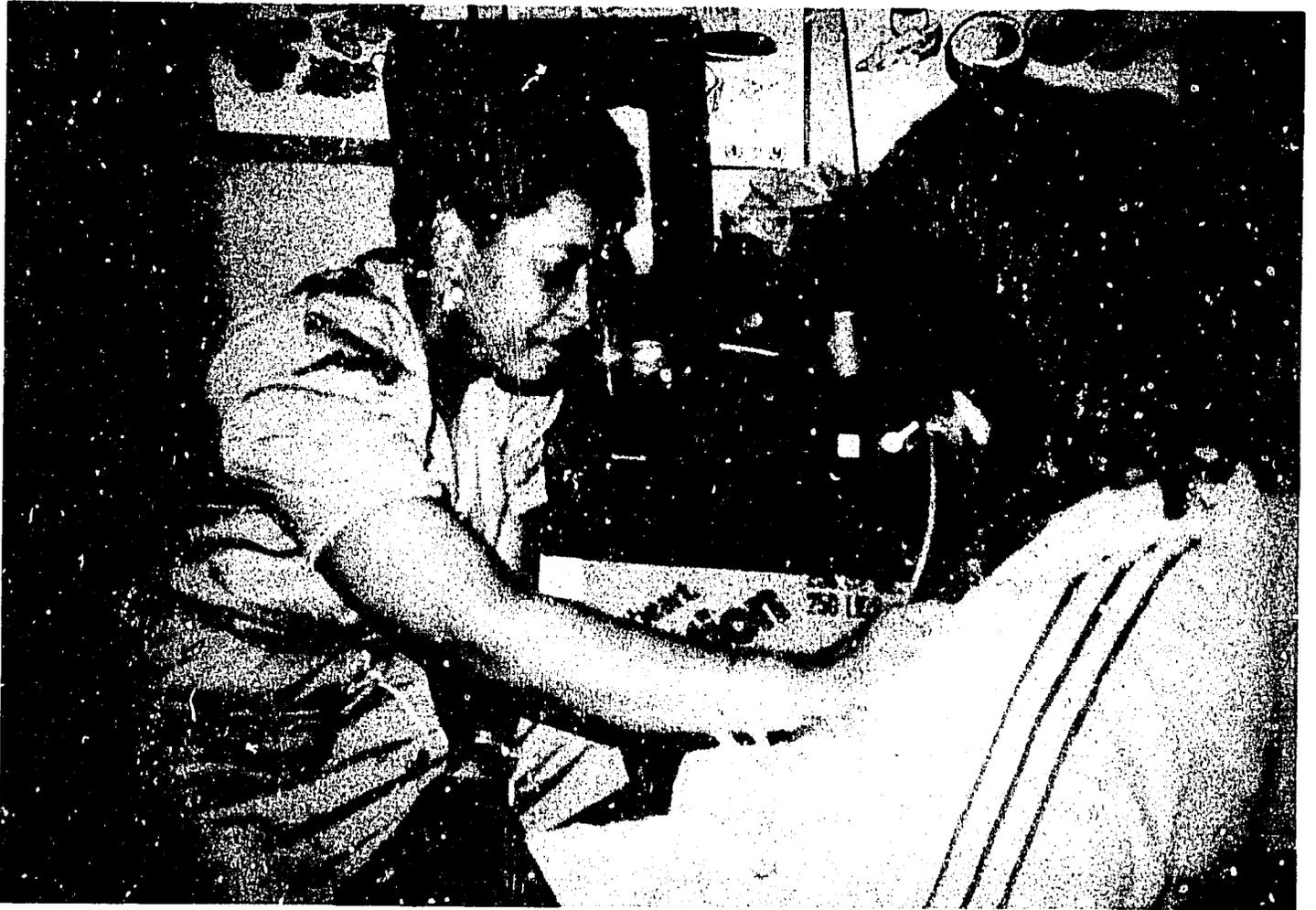
Counseling Mothers

Breastfeeding counselors - mostly volunteers - are trained by BIB to directly counsel mothers throughout the country. Counselors work in hospitals, prenatal and postnatal clinics and in the community.

- From 1985-1991, nearly 350 counselors were trained in Belize. Of these, 67% were community women, the others nurses, community health workers or traditional birth attendants.
- Although counselors were not paid, the retention rate was quite high at 62%.
- Each counselor worked about 8 hours per month and counseled an average of 9 women per month.
- Breastfeeding counselors within each health district met from 3-6 times a year for on-going training and supervision.
- Mother support groups were established to discuss issues of concern to the women, such as breastfeeding, appropriate weaning, or child spacing.



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Training of Health Professionals

Nurse-midwives deliver 60% of births in Belize, and 20% are delivered by traditional birth attendants. Both can play a major role in promoting breastfeeding in Belize.

- BIB trained 32 nurses (about 6 per district) and 16 traditional birth attendants as **breastfeeding counselors** targeting the obstetric and pediatric nurses. This represents 11% of all the 280 nurses and 10% of the 161 traditional birth attendants registered in Belize.
- BIB staff worked with the nursing school to include breastfeeding in its curriculum. BIB trains all nursing students in breastfeeding. Even though the amount of training is less than that needed for certification as a breastfeeding counselor, this means that 100% of nurses trained in Belize have had some lactation management training.
- Some nursing students do practical community-based work with BIB.



Increasing Public Awareness

BIB has been successful in raising public awareness about the importance of breastfeeding.

- Breastfeeding was incorporated into the curriculum of elementary schools.
- BIB staff and counselors spoke frequently about breastfeeding and weaning to community groups and schools.
- BIB produced billboards and had murals on breastfeeding painted on walls throughout the country. Even the sports stadium in Belize City has a breastfeeding mural on its walls!
- Breastfeeding information was frequently provided on radio, television and through the newspapers. A video was prepared which is often aired on television.
- BIB helped improve the policy climate to be supportive of breastfeeding, with some employers being more likely than before to allow mothers to have time to express breastmilk at work.



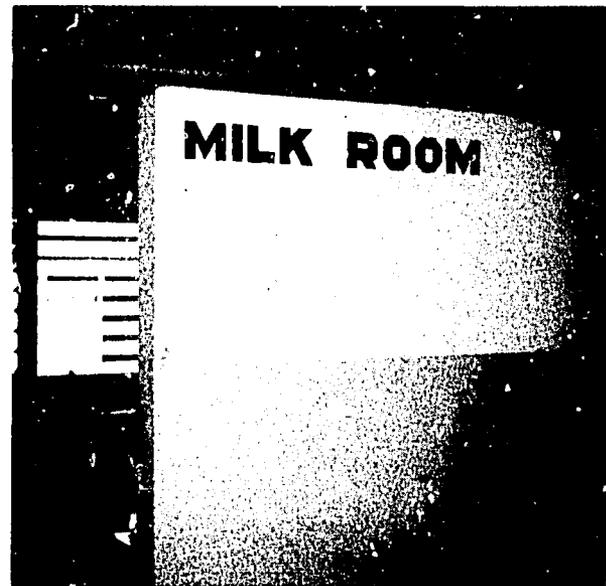


Impact of BIB on Breastfeeding in Belize

While there were no comparable studies to assess breastfeeding rates before and after initiation of BIB's activities, several studies and a recent national survey indicate that improvements in breastfeeding seem to have occurred over the last decade when BIB was actively promoting breastfeeding.

Changes in Hospital Practices

- Bottle feeding was discontinued in 5 out of the 6 hospitals with maternity services due to education and training by BIB. In most hospitals, bottles of infant formula are not allowed in the newborn wards, even if brought in by mothers.
- In most hospitals, rooms that previously were used to make up milk bottles for newborns are now empty or used for other purposes.

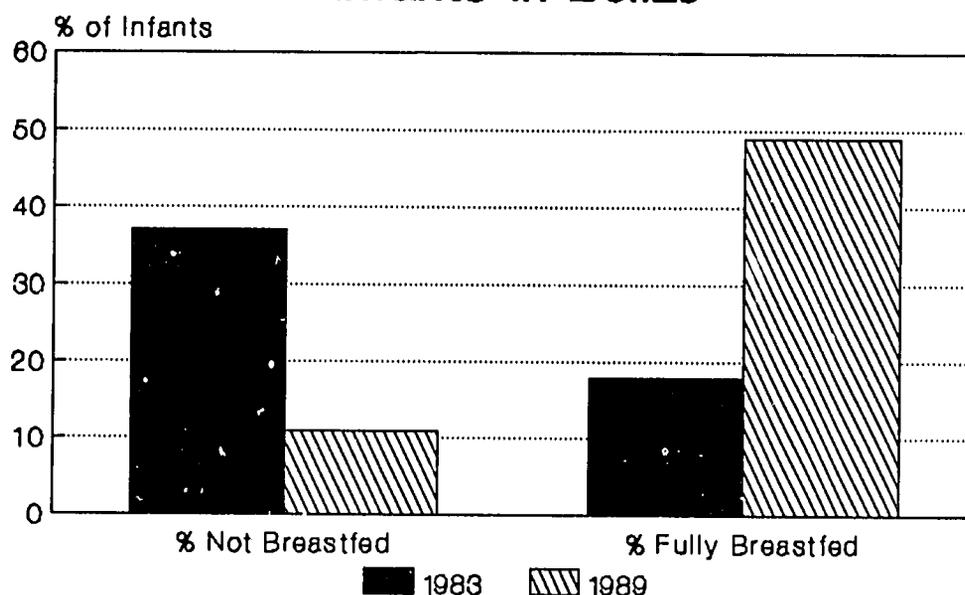


Changes in Breastfeeding Rates

Comparisons of a Ministry of Health survey conducted in 1983 to the health information system data from 1989 suggest that there were improvements in breastfeeding over the last several years.

- In 1983, at 4 months of age, 37% of infants were not breastfeeding compared to 11% in 1989.
- In 1983, at 4 months of age, only 18% of infants were fully breastfed (receiving breastmilk and other liquids, but no other milk) compared to 49% in 1989.

Breastfeeding Rates Among 4 month old Infants in Belize



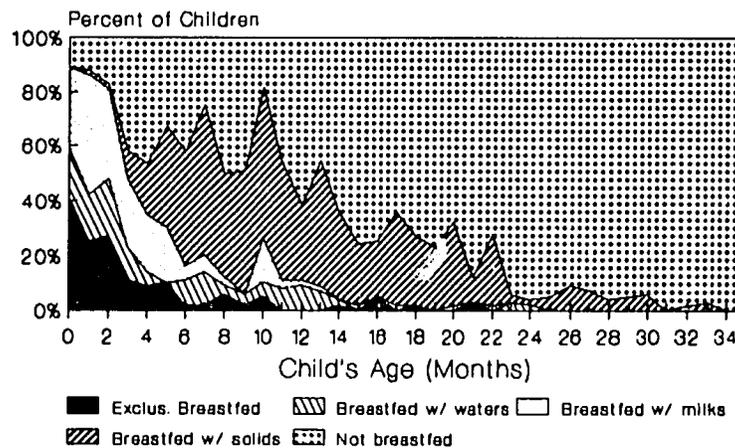
Source: Benguche, 1983; Ministry of Health information system, 1989



Current Breastfeeding Practices

- In 1991, 90% percent of newborn infants were breastfed. Infants in rural areas were more likely to have been breastfed (96%) than those in urban areas (86%).
- The mean duration of breastfeeding is 12 months (10 months in urban areas and 15 months in rural areas).

Infant Feeding Patterns in Belize, 1991



Source: Belize Family Health Survey

- This figure shows that although a high proportion of women breastfeed, exclusive breastfeeding rates are quite low, with many providing other supplements to their infants. This practice increases the risk of diarrhea and other illnesses among infants.
- These findings suggest that there is still room for improvement in breastfeeding in Belize, especially in urban areas.



Costs of Breastfeeding Promotion

With the use of a small staff (4-6) and numerous volunteers, the costs of breastfeeding promotion in Belize averaged \$74,000 per year. The Ministry of Health is estimated to spend \$10,000 on breastfeeding related health education efforts (including radio and television spots, pamphlets, and other educational materials).

There were no reported costs for construction in hospitals or health centers to promote rooming-in or other physical changes to facilitate breastfeeding. The costs of breast pumps often used in Belize to help women breastfeed are included within BIB's budget.

Annual Costs of Breastfeeding Promotion in Belize

Source	US \$
BIB promotion costs ^a	\$74,000
Health education costs ^b	\$10,000
Facilities construction costs	<u>0</u>
Total Costs	\$84,000^c

^a Includes costs of breastpumps

^b Expenditures attributed to breastfeeding are estimated at 25% of the health education budget of the Ministry of Health

^c All cost figures used in this report are in US dollars



Costs Associated with Bottle Feeding

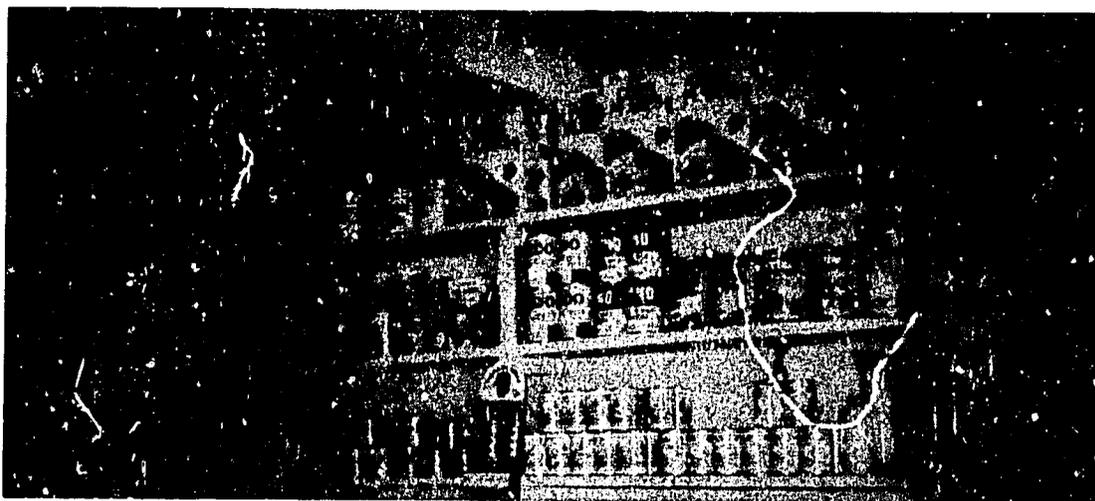
The direct costs of bottle feeding are the expenses that hospitals and households incur to purchase breastmilk substitutes and equipment (bottles and nipples). Governments use valuable foreign exchange and pay interest for its use as debt service on foreign exchange associated with the import of breastmilk substitutes.

Indirect costs of inadequate breastfeeding include excess morbidity among bottle-fed infants, caused primarily by diarrhea and acute respiratory infections that could be prevented by breastfeeding. Breastfeeding's effect on reducing fertility also results in savings in the costs of unwanted births and contraceptive supplies.

Imports of Breastmilk Substitutes

- In 1990 Belize had net imports of about 1,500,000 pounds of whole dried milk or infant formula at a wholesale cost of \$2,067,000. Assuming that 25% of this was used for infant feeding, the estimated cost of imports was \$516,750.
- With an interest rate of 12% on foreign debt in Belize in 1990, \$62,000 of interest can be attributed to the milk imported for bottle feeding.





Household Costs of Bottle Feeding

Using data on breastfeeding and bottle feeding rates in Belize, and the retail cost of breastmilk substitutes, the costs to households can be estimated.

- The cost of bottle feeding an infant for a year comes to \$360, representing 21% of Belize's average income per capita!
- If no infants in Belize were breastfed, the total annual cost to households for breastmilk substitutes would be \$2,160,000^a.
- The total cost of bottle feeding in Belize based on current feeding practices and cost estimates is \$1,205,100^b (\$716,400 for infants who never breastfed or who stop breastfeeding during the first year of life and \$488,700 for breastfed infants who are supplemented with other milk).

^a With 6000 births and an estimated cost of \$30 per month (for 12 months) for breastmilk substitutes.

^b This is about 2.5 times the wholesale costs of imports, allowing for costs of duties and mark-up. Our estimate of the proportion of imports used for infant feeding (25%) may also be too low.



Hospital Costs

In all hospitals except in the Belize City Hospital, breastfeeding among newborns is nearly universal before discharge.

- The total annual cost to the Belize City Hospital for infant formula, bottles and staff time is estimated at nearly \$175,000.
- If there were no breastfeeding in any of the hospitals in Belize, the total hospital costs would be over \$1 million.

Treatment of Illnesses

The Belize Family Health Survey conducted in 1991 reported a high prevalence of diarrhea and acute respiratory illnesses among young children.

- Over 10% of infants ages 0-5 months and 19% of infants 6-11 months had diarrhea in the two weeks prior to the survey.
- Nearly 50% experienced acute respiratory infections (ARI).
- Treatment costs for these illnesses are estimated at \$7.75 per episode of diarrhea, and \$5.48 per episode of ARI.
- Given the much lower relative risk of diarrhea and ARI when a child is breastfed, the added costs of treatment of illnesses in Belize are likely to be substantial if there were no breastfeeding.



Economic Value of Breastfeeding in Belize

The current costs of breastfeeding promotion in Belize are \$84,000. At current breastfeeding levels breastfeeding saves \$1,830,000 (see table below). With about 6000 births each year in Belize, breastfeeding promotion costs about \$14 per birth but saves \$305 per birth!

Economic Value of Breastfeeding

Level	Current Costs	Costs with No Breastfeeding	Net Savings
Household Costs			
Breastmilk Substitutes	\$1,205,100	\$2,160,000	\$ 954,900
Hospital Costs			
Belize City Hospital	\$ 174,872	\$ 350,000	
Other hospitals	0	\$ 700,000	
Sub-total	\$ 174,872	\$1,050,000	\$ 875,128
National			
Interest on debt	[\$ 62,000 ^a]	[\$ 111,000 ^a]	
Total	\$1,379,972	\$3,210,000	\$1,830,028

^a Not included in total current costs because households eventually pay this cost through the retail price



SOURCE LIST

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