

MADAGASCAR

Total Country Population (2001) 15 million

Project Catchment Population 6 million

Project Catchment Area 10 districts in Antananarivo and 13 in Fianarantsoa (two of the country's six provinces)

Country Profile

In Madagascar, one in 10 children dies before reaching the first birthday and one in six dies before the age of 5. Malnutrition is an underlying cause in 54 percent of all under five deaths. Among 19 sub-Saharan African countries for which Demographic Health Survey data are available, Madagascar has the highest proportion of children under the age of three years who are stunted (low height for age). Almost half of Malagasy children in this age group suffer from malnutrition.

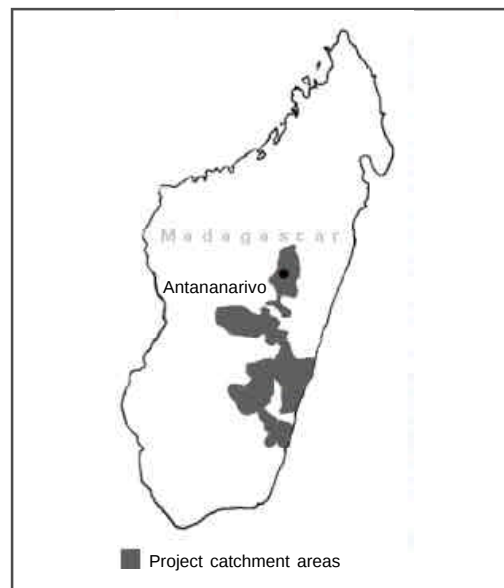
A major cause of death and malnutrition is sub-optimal breastfeeding practices. If breastfeeding practices do not improve, it is estimated that 114,000 Malagasy infants will die within the next ten years from diarrhea, malnutrition, and infectious diseases. Many of the infants who do survive will suffer from malnutrition, often a result of poor complementary feeding practices with foods that are inadequate in quality, quantity, and/or density.

Program Design

Two phases characterize the LINKAGES Project's activities in Madagascar.

Phase 1: National Policy Activities. For the first two years (1997–1999), LINKAGES provided support to the Ministry of Health for national policy activities, particularly the establishment and coordination of an intersectoral nutrition action group, known as the GAIN (Groupe d'Action Intersectoriel pour la Nutrition).

Phase 2: District and Community Activities. In 1999 LINKAGES' focus expanded to the district level, with activities in ten districts in Antananarivo and Fianarantsoa, two provinces with more than half of the population of Madagascar. LINKAGES built its community approach on the Integrated Management of Childhood Illness (IMCI) strategy adopted by the MOH and supported by JSI, UNICEF, and WHO, as well as the BASICS I Project's communication strategy of promoting small "do-able" actions with easily recognizable health benefits. This has allowed an integrated approach involving training, community mobilization, and harmonization of IEC messages



and materials on child survival and nutrition. As part of the strong field alliance forged with JSI's reproductive health activities, the program also offers the Lactational Amenorrhea Method (LAM) as one of the modern family planning methods.

The nutrition component of the strategy is based on Essential Nutrition Actions (ENA) that promote key nutrition behaviors at six critical health contact points: prenatal, delivery and immediate postpartum, postnatal and family planning, immunization, growth monitoring/well child, and sick child consultations. The key behaviors include the promotion of breastfeeding, complementary feeding, feeding of the sick child, and women's nutrition, as well as the control of anemia and vitamin A and iodine deficiencies.

In 2001 the program expanded to 13 more districts, nearly doubling the catchment area in Antananarivo and Fianarantsoa from 3.3 million to about 6 million. In addition, the program reaches a significantly larger population through the mass media, IEC materials used throughout the country, and training provided to non-governmental organizations (NGOs) working in districts outside of the program area.

In mid-2002, LINKAGES modified the Madagascar program to adapt to recent changes in the health sector. The revised strategy continues national activities (policy coordination, pre-service curricula reform, and the Baby-Friendly Workplace Initiative) as well as regional/district-level activities such as the Baby-Friendly Hospital Initiative (BFHI) and regional GAIN meetings.

Program Strategies and Activities

The following sections describe LINKAGES' five key strategies in Madagascar.

1. Policy and advocacy
2. Formation of partnerships with a variety of groups, agencies, and associations
3. Capacity building for health workers and community volunteers
4. Community mobilization and behavior change communication
5. Monitoring and evaluation

1. Policy and Advocacy

GAIN

In 1997 LINKAGES supported the Ministry of Health (MOH) in establishing and coordinating an intersectoral nutrition group. More than 50 organizations joined the GAIN. Representatives of government ministries, donors, and international and national NGOs met to harmonize nutrition messages, reach consensus on micronutrient protocols, and develop a nutrition IEC and advocacy strategy.

The national GAIN continues to serve as a forum for nutrition policy discussions. Since 2000, four regional intersectoral nutrition action groups have been established. Their goal is to disseminate and strengthen new national policies/protocols on nutrition.

PROFILES

One of the first GAIN workshops that LINKAGES supported examined how nutrition data could be interpreted for nutrition advocacy. This activity, in collaboration with the Measure Communication Project, has continued through *Profiles*, a process for nutrition policy analysis and advocacy. During two-week workshops, participants collect, review, and analyze national or regional nutrition data and prepare advocacy presentations for various audiences on the consequences of malnutrition on the country's health, education, and economy. Three *Profiles* presentations are available, one national, one for the province of Antananarivo, and one for the province of Fianarantsoa. More than 1,000 legislators, government officials, health professionals, journalists, and NGO partners have viewed them. Partners can use the national *Profiles* presentation, now available on videotape, particularly during pre-service training.

Mass media

LINKAGES reinforces breastfeeding messages through the mass media. Articles based on the *Profiles* analysis frequently appear in the press on nutrition topics, partly as a result of the participation by journalists in LINKAGES' policy, IEC, and media workshops. Key messages are also conveyed through local radio broadcasts, national radio and television spots, traditional singers, and songs by pop singer Poopy.

Madagascar's musical celebrity and breastfeeding/nutrition ambassador. In 2001 LINKAGES conducted an intensive multimedia campaign on LAM with approximately 3,400 radio and 460 television broadcasts, including a television and radio spot by Poopy.

Baby-Friendly Hospital Initiative (BFHI)

As part of its advocacy agenda, LINKAGES assists the MOH in the creation of supportive environments for breastfeeding. Activities have included a GAIN workshop to identify strategies for revitalizing the Baby-Friendly Hospital Initiative, design of a monitoring tool for self-evaluating implementation of BFHI's ten steps for successful breastfeeding, and development of four self-instructional training modules for facilities with maternities. Dissemination of information to doctors, nurses, midwives, and other health personnel is carried out through short technical updates at monthly hospital staff meetings. IEC materials are also supplied to Baby-Friendly Hospitals, particularly job aids, counseling cards and guidelines on breastfeeding, and woman and child health cards. With the support of LINKAGES and UNICEF, the MOH is currently expanding this strategy to the 60 existing Baby-Friendly Hospitals nationwide.

Baby-Friendly Workplaces

One of LINKAGES' new initiatives is to support the MOH in its advocacy for the establishment of lactation rooms at the workplace and development of modules to increase the understanding of the importance and benefits of optimal breastfeeding and complementary feeding practices for both employee and employees.

2. Partnerships

LINKAGES' program is built on the premise that strategic alliances with technical and programmatic partners forge a common vision, allow for rapid program expansion, and encourage sustainable activities. Each partner offers a particular set of skills, outreach, and geographic coverage.

Ministry of Health, Nutrition Unit

At the national and regional levels, LINKAGES works mainly with the Ministry of Health, along with other ministry partners. At the district level, LINKAGES works with the MOH management teams, under the supervision of the regional medical director, and with JSI in the implementation of nutrition, child survival, and reproductive health activities.

LINKAGES and JSI

The two USAID-funded projects together employ two field agents—most of whom are medical doctors—in each of the 23 districts. These field agents assist district-level MOH personnel in their training and supervision efforts. They serve as a link between community-based organizations and the MOH on community nutrition approaches. The LINKAGES

agents conduct training and mobilize, coordinate, and supervise nutrition activities in community and health facilities. The JSI agents provide training and support in immunization, reproductive health, and non-nutrition aspects of IMCI.

Community-based Organizations and NGOs

Grassroots organizations implement the vast majority of the community activities. LINKAGES provides technical assistance, training modules, and materials to help them succeed in their efforts. In addition, LINKAGES assists NGOs implementing USAID Title II programs and/or receiving USAID centrally funded grants.

Donor community

Technical partners include some USAID projects (such as MOST, Measure Communication, Health and Environment) as well as PSI, UNICEF, WHO, and the World Bank. They actively participate in the GAIN and share costs for training, workshops, media, translation, and dissemination of materials.

3. Capacity Building

LINKAGES supports training in the Essential Nutrition Actions and in behavior change communication. The training improves the capacity of health care providers and community health promoters to assist women in adopting practices to improve their children's health and their own health. The following groups have received training through the program.

LINKAGES/JSI staff

Before initiating program activities, LINKAGES/JSI field staff received training in the Essential Nutrition Actions, child survival, and reproductive health. They learned how to engage the target audience through trials of improved practices, negotiation of new practices with mothers, and storytelling. One of the primary activities of the JSI/LINKAGES field agents is building the capacity of health workers and community group leaders in interpersonal communication skills.

MOH Service Providers

Approximately 800 government health providers working in primary health care centers have received training in breastfeeding and LAM, 300 in complementary feeding and feeding of the sick child, and 100 in women's nutrition and micronutrients. To comply with the MOH training policy, LINKAGES developed self-directed learning modules on these topics.

Community-level Training

The joint LINKAGES/JSI strategy is to introduce or reactivate integrated health education into existing grassroots groups by training local health promoters on technical topics, counseling and negotiation

techniques, and the use of IEC materials such as counseling and health cards. Local leaders, local NGOs, and community volunteers receive short and practical training on child survival, nutrition, and reproductive health. Key behaviors, based on small doable actions, are encouraged through community mobilization, village theater, songs, and counseling.

Members of women's groups receive more specific training on the Essential Nutrition Actions. Training focuses on technical skills, techniques of counseling and of negotiation, and organization of community support groups. Some of the groups are affiliated with income-generating, health/nutrition, or social activities and others with religious organizations. Training occurs in three stages, totaling five days, over a ten-month period.

NGO Service Providers and Private Sector Providers

LINKAGES also trains staff from local Malagasy NGOs and from international NGO partners, such as Catholic Relief Services, CARE, and the Adventist Development and Relief Agency.

Through Population Services International (PSI), LINKAGES trains private physicians in breastfeeding, LAM, complementary feeding, feeding of the sick child, and women nutrition. The training also provides the opportunity to explain the nutrition jobs aids and distribute health newsletters on nutrition and child survival.

The table below illustrates the multiple groups that have received training on breastfeeding. Many of the same individuals have received training on complementary feeding and a smaller number on women's nutrition.

Number of Individuals Trained on Breastfeeding (As of Oct. 2001)

817	health workers
12,073	community health activities committee members
252	community-level trainers
2,639	women's group members trained by trainers

Training for NGOs

410	PSI
233	CRS directly, then 1,426 by CRS staff
79	ADRA and CARE
154	local NGO staff

Pre-service Training of Health Care Providers

As part of its capacity building strategy, LINKAGES focuses on pre-service training as well as in-service training. To ensure that future health care providers in Madagascar are knowledgeable about breastfeeding and other Essential Nutrition Actions, LINKAGES and the MOH integrated nutrition into the pre-service curricula of the medical school and the nursing and midwifery schools. The revised curricula were intro-

duced in the fall of 2001. This occurred in tandem with the incorporation of IMCI into the pre-service curricula of these same schools. Training teachers on the Essential Nutrition Actions has been initiated in each school.

4. Community Mobilization and Behavior Change Communication

LINKAGES uses interpersonal communications, community mobilization, and mass media to promote improved breastfeeding and complementary feeding practices. BASICS I conducted formative research and developed IEC materials, enabling LINKAGES to move directly into field implementation. Harmonization of messages from the national to the community level and saturation of these messages has resulted in repeated delivery of consistent messages through multiple channels, as discussed below.

Interpersonal communication

Home visits and counseling at health facilities provide opportunities for health workers and community volunteers to negotiate with mothers to try out a new feeding practice and to support them in their efforts to adopt and maintain this practice. LINKAGES supplies health workers and community volunteers with a variety of resources to assist them in their work. One such resource is the "Gazety" (a newsletter for community volunteers and health care providers) on topics such as breastfeeding and LAM, complementary feeding, breastmilk expression and storage, and solutions to breastfeeding problems. Through the GAIN, LINKAGES contributed to the development of counseling cards on LAM and maternal nutrition, a women's health book with a section on nutrition, nutrition job aids for use by health workers.

Group discussions

Women's and community groups offer a venue for promotion and support of optimal feeding practices. Members often provide each other support for feeding decisions and practical solutions to common problems.

Community events

Community events, such as village theater and festivals, are effective avenues for celebrating accomplishments, sharing information, and launching new activities. During World Breastfeeding Week in August 2000, the MOH and LINKAGES posted billboards at the entrance of Baby-Friendly Hospitals and maternity wards and sponsored community events with songs and theater by women's groups.

5. Monitoring and Evaluation

To assess changes in infant and young child feeding practices and LAM use, LINKAGES conducted rapid assessments at program and control sites in October 2000 and October 2001. Comparisons are made with the JSI/LINKAGES 1999 baseline surveys. The program in Madagascar is one of the first to document breastfeeding behavior change at such a scale.

The surveys were carried out in collaboration with JSI and the Ministry of Health. The quantitative surveys included interviews with mothers of children 0–5 months, 6–11 months, and 12–23 months of age. The results after two years (1999–2001) of program implementation demonstrate significant improvements in practices as measured by key indicators:

- **Initiation of breastfeeding** within the first hour: 34 percent at baseline, 69 percent in 2001
- **Exclusive breastfeeding** among women with infants less than six months of age: 46 percent at baseline and 83 percent in 2001 with the most dramatic increases in exclusive breastfeeding among infants four and five months of age (12 percent at baseline, 71 percent in 2001)
- **Timely complementary feeding** among infants 6–23 months of age: no difference in the 2001 control and program populations (88 percent) but significantly higher among infants 6 months of age in the program area (75 percent) compared with the control area (33 percent)
- **LAM use:** 2 percent at baseline, 47 percent in 2001

For more information on the Madagascar country program, the tools developed, and other LINKAGES' activities, contact:

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Madagascar Results

LINKAGES' behavior change strategy in Madagascar demonstrates that breastfeeding practices can be changed quickly. Using a Rapid Assessment Procedure (RAP), LINKAGES collected quantitative and qualitative data in October 2000 and October 2001 to evaluate the effectiveness of its district-level behavior change strategy to improve breastfeeding and complementary feeding practices. Most of the key indicators show that practices continued to improve between the two surveys.

The studies were conducted in one commune in each of the 10 districts where LINKAGES, in partnership with *Jereo Salama Isika* (JSI), had initiated activities in 2000 and in one control district. Since the goal of the study was to assess the effectiveness of the behavior change strategy, those communes with active women's groups that showed evidence of embracing this strategy were selected for the studies. An evaluation using random sampling will be conducted at the end of the project to assess overall effectiveness.

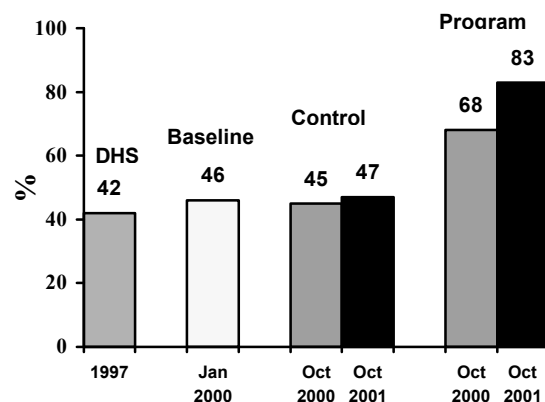
Study participants were selected to represent all activity target groups—either those trained directly by LINKAGES or, in the case of mothers, the intended beneficiaries of the training. The findings are based on interviews in 2000 with 303 mothers of children less than 12 months of age and in 2001 with 491 mothers of children less than 24 months of age. The 1997 Demographic and Health Survey (DHS), the project's baseline surveys, control data, and other country studies serve as points of comparison. The main findings of the survey are reported below. A full report on the 2001 results is available upon request from LINKAGES.

Exclusive breastfeeding increased dramatically. In the 2000 RAP, the rate of exclusive breastfeeding of infants less than six months was 68% in the program area compared with 45%–47% from the DHS, baseline, and control surveys. In the 2001 RAP, the exclusive breastfeeding rate rose to 83%. The most dramatic increases in exclusive breastfeeding

were among infants four and five months of age (12% at baseline to 71% at the 2001 RAP).

Infants exclusively breastfed were 2.5 times less likely to experience diarrhea in the previous two weeks than infants who were not exclusively breastfed.

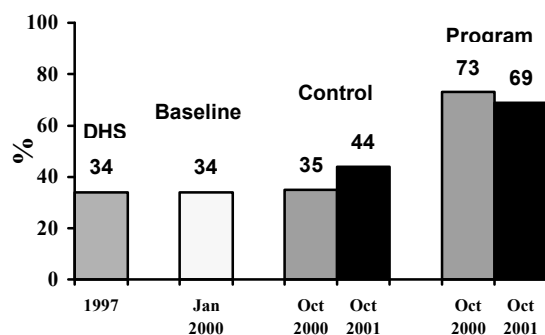
Exclusive breastfeeding in the first 6 months of life
(women with infants from 0–5 months)



Early initiation of breastfeeding (within one hour of birth) more than doubled.

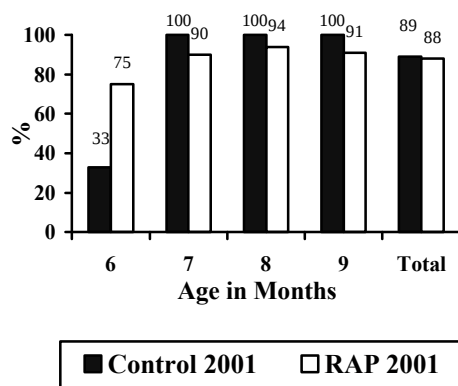
Data collected in the 2000 RAP indicate that early initiation more than doubled in the program area (73% compared with 34% in the DHS, baseline survey, and control site). The slight decrease (to 69%) in the 2001 RAP is not statistically significant.

Initiation of breastfeeding within first hour
(women with infants from 0–5 months)



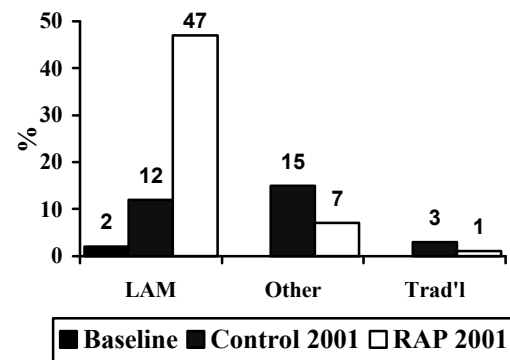
Timely complementary feeding at six months was measurably higher in the program area than in the control area. In the first year of the program, complementary feeding was not a major focus. Consequently, no data were collected during the baseline survey or the 2000 RAP on timely complementary feeding. This indicator is measured by 24-hour recall of food given to infants six to less than ten months of age. In 2001 the program placed greater emphasis on complementary feeding. The 2001 RAP showed no difference in the indicator reporting on timely complementary feeding (infants 6-<10 months) in the control area (89%) and the program area (88%). However, among infants six months of age—the recommended age for introducing complementary foods—complementary feeding was measurably higher in the program area (75 %) than in the control area (33%).

Timely complementary feeding
(infants 6–10 months given breastmilk and solid foods in previous 24 hours)



Use of the Lactational Amenorrhea Method (LAM) as a modern method of family planning quadrupled. In 1999 the Ministry of Health decided to focus family planning training on the four simplest and most commonly accepted family planning methods in Madagascar: oral contraceptives, injectables, barrier methods, and LAM. Among women with children under six months of age, 47% reported using LAM in the program area compared with 12% in the control area. Of women who practiced LAM, 43% went on to use another modern method at six months. Of women who did *not* practice LAM, 23% transitioned to another modern method at six months.

Proportion of women using LAM and other family planning methods
(women with infants from 0–5 months)



Other Key Findings

- **Feeding during illness:** Twenty percent of women with infants under six months reported breastfeeding more frequently when the baby was sick, a 16 percentage point increase from the baseline results.
- **Continuation of breastfeeding:** As shown in the DHS, baseline, and RAP 2001, breastfeeding is practiced by less than 60% of women with children 18–23 months. In the qualitative survey, women who discontinued breastfeeding before 24 months said that they did so because of work, a new pregnancy, illness of mother or child, and/or the influence of other family members.
- **Maternal nutrition during lactation:** At both rapid assessments, 75% of women with infants under six months in the program area reported increasing food intake during lactation compared with 58% of women in the control area. Among this same population, one-half reported receiving vitamin A supplementation after giving birth. This represents a 35 percentage point increase over baseline.
- **IEC.** In the program areas, 65% of women reported hearing messages about breastfeeding compared with 21% of women in the control area.
- **Channels of communication.** Women in the program areas most often cited health workers (62%) as the source of nutrition messages, followed by community volunteers (31%).

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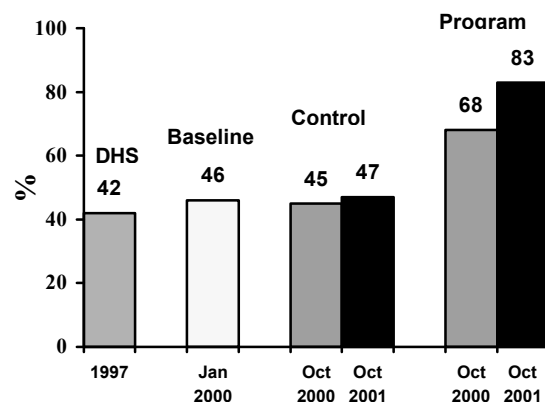
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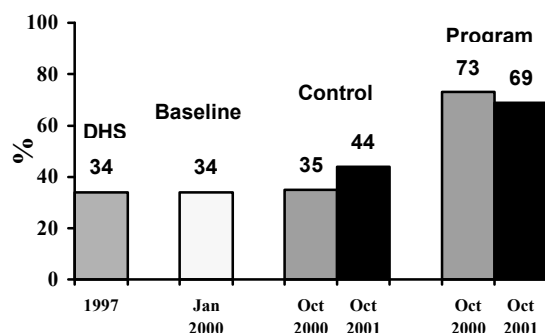
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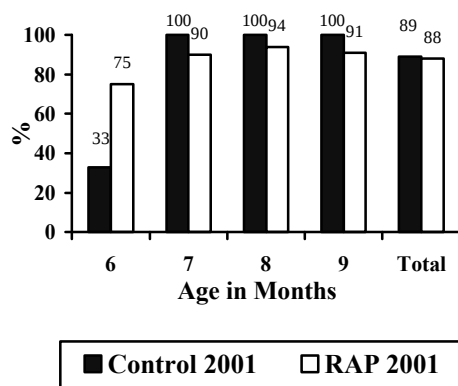
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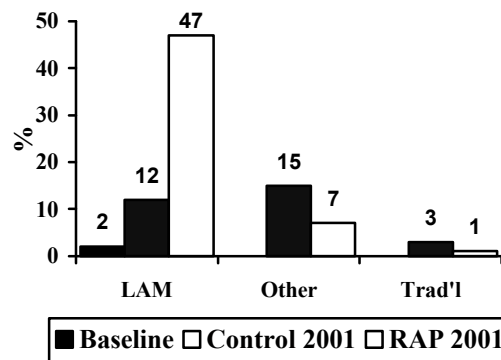
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