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“This has been and will continue to be a learning process.”

Former World Vision North Zone Operations Manager,
“Jagriti: An Awakening” documentary film, 2004



Abbreviations and Acronyms

ADP	Area Development Program (World Vision)
AED	Academy for Educational Development
ANM	Auxiliary nurse-midwife
AWC	Anganwadi center
AWW	Anganwadi worker
BCC	Behavior change communication
BPNI	Breastfeeding Promotion Network of India
CDO	Community development officer (World Vision)
CP	Counterpart partner (CRS)
CRS	Catholic Relief Services
CSB	Corn-soy blend
DAP	Development activities program
DIP	Detailed implementation plan
FEW	Field extension worker (CARE)
ICDS	Integrated Child Development Services
INHP	Integrated Nutrition and Health Program (CARE)
MCH	Maternal and child health
MIS	Monitoring information system
NGO	Nongovernmental organization
OP	Operating partner (CRS)
PVO	Private voluntary organization
RCH	Reproductive and Child Health Services
RMP	Registered medical practitioner
SMCS	Safe Motherhood and Child Survival Program (CRS)
TIPs	Trials of improved practices
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization
WRAI	White Ribbon Alliance of India

Overview

From 1997 to 2004 the LINKAGES Project of the Academy for Educational Development (AED) provided technical assistance to three USAID-supported private voluntary organizations (PVOs) in India to mainstream behavior change communication (BCC) methodologies by developing program models to improve breastfeeding, complementary feeding, and maternal nutrition. The goal was to field test innovative approaches to introduce and reinforce simple, culturally appropriate, and effective nutrition practices in phase I (1997–2001) that could then be replicated in the organizations' wider programs in phase II (2001–2004).

CARE, Catholic Relief Services (CRS), and World Vision each chose a small geographic area to begin implementation of activities, with the intention of mainstreaming successful tools and approaches in a larger area. In partnership with LINKAGES, the PVOs implemented the following steps to develop behavior change initiatives to improve infant feeding and maternal nutrition: 1) a baseline of health and nutrition practices to establish benchmarks for evaluation, 2) formative research on maternal nutrition and infant and young child feeding practices, including field trials of improved practices, or TIPs, to determine community willingness to try and adopt recommended practices, 3) development of a behavior change community strategy matrix, 4) development of a detailed implementation plan (DIP), 5) training of field staff and partners in BCC implementation, and 6) an end-line survey to assess the extent of behavior change and the effectiveness of the behavior change strategy.

By the end of 2002 the PVO partners had made significant progress in mainstreaming the LINKAGES approach to reach a beneficiary population of 10 million. Over 2 years of CARE/LINKAGES Project implementation in Angarah Block, Bihar (now Jharkhand), the rate of initiation of breastfeeding within 1 hour of birth increased from less than 1 percent at baseline in 1999 to 6 percent at end-line in 2001. The proportion of mothers who initiated breastfeeding within 24 hours of delivery almost tripled, from 22 percent at baseline to 64 percent at end-line. The exclusive breastfeeding rate more than doubled, from 12 percent to 28 percent during the same period. In World Vision's Area Development Program (ADP) in Jagriti, Dehradun District, Uttar Pradesh (later Uttaranchal), the proportion of mothers who initiated breastfeeding as advocated over the project period rose from less than 1 percent in 1999 to 22 percent in 2001, although exclusive breastfeeding inexplicably declined. Data collected by partners on other indicators also clearly show the impact of the collaborative behavior change interventions for improved infant, child, and maternal nutrition.

Based on phase I results, CARE requested further technical assistance to integrate the LINKAGES BCC strategy in its Integrated Health and Nutrition Project (INHP) II sites in Madhya Pradesh and Uttar Pradesh. World Vision requested similar assistance to apply BCC methodologies in 8 ADPs in its North Zone. The organization planned to mainstream gradually into 105 ADPs (covering a population of about 10.7 million) without external LINKAGES technical assistance. Following the application of the LINKAGES approach over the first 18 months of the Bihar Child Survival Project, CRS began to develop model behavior change sites with counterpart partners in 4 zones to improve nutritional practices among the beneficiaries of the Safe Motherhood and Child Survival (SMCS) Program. The partner sites will become early learning centers for mainstreaming into 40 CRS SMCS sites in India.

LINKAGES responded to PVO requests by building the capacity of trainers and managers in all three organizations to mainstream behavior change strategies in additional target areas and with field partners. Throughout the life of the project, LINKAGES also provided technical assistance in designing and applying BCC methodologies and developing materials to promote optimal infant, child, and maternal nutrition practices to other PVOs, international organizations, and the Government of India. Over 7 years the project achieved improvements in infant, child, and maternal and nutrition; strengthened the BCC capacity of partner, government, and nongovernmental organization (NGO) staff; and mainstreamed the LINKAGES BCC methodology into partner programs in India and beyond.

Mainstreaming

LINKAGES provided technical assistance in India to mainstream a results-oriented behavior change methodology, quality technical information, and supportive policies into the programs and systems of partner organizations and institutions to improve breastfeeding and related complementary feeding and maternal dietary practices. Mainstreaming is the process of assessing an organization's needs, testing an innovation, and diffusing the innovation throughout the organization. This mainstreaming approach borrows from several organizational theories. One of these is *diffusion of innovation*, which identifies innovations, creates awareness and interest in these innovations, promotes their trial and adaptation, and seeks organizational confirmation. Another is *organizational learning*, which focuses on field workers, headquarters management, and communication officers to acquire, use, and share knowledge. The third theory is applied *behavior change*, which addresses the benefits of and barriers to change, focuses on the audience, introduces tools and skills to facilitate behavior change, considers trial critical for adoption and maintenance, and then places and promotes the optimal behavior,

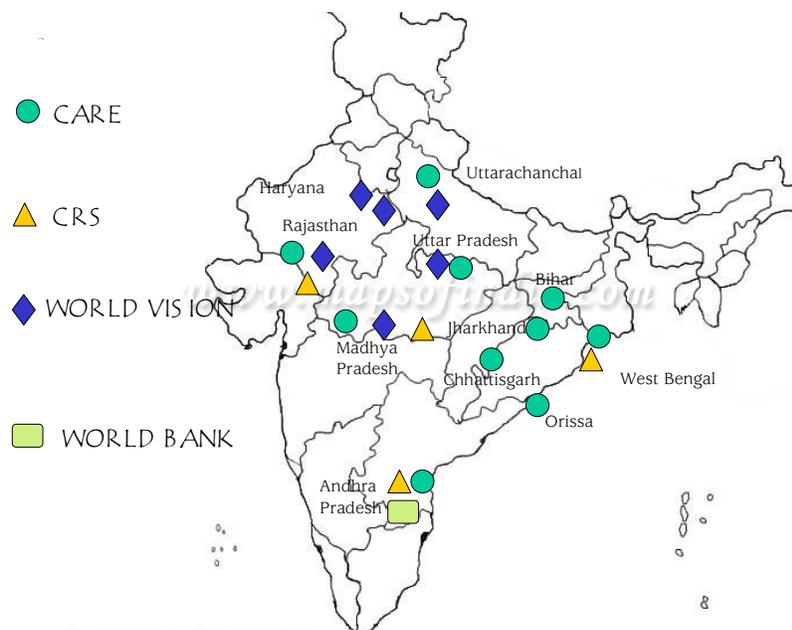
The goal of the LINKAGES mainstreaming project in India was to improve the knowledge and skills of PVO staff and their partners to introduce innovations to improve infant, child, and maternal nutrition practices in pilot sites that could then be replicated more widely in the PVOs' child survival, reproductive health, and Title II programs. Each PVO followed a series of steps leading to the development of a specific and well-defined behavior change initiative. Each chose a small geographical area in which to implement activities with the intent of scaling up successful innovations in a larger geographical area.

Mainstreaming follows four stages: 1) formation (recognizing and defining the problem or opportunity), 2) infusion (identifying and testing a relevant and acceptable innovation), 3) diffusion (testing and adapting the innovation and championing it through the organization's channels of communication, technical transfer, and management), and 4) inclusion (routine promotion of the refined innovation by the entire organization). LINKAGES and the PVO partners followed these stages to achieve behavior change results in pilot blocks between 1997 and 2001. On the basis of these results, the PVOs requested further assistance to mainstream behavior change communication (BCC) methodologies in their state and zonal programs. Mainstreaming results are described in detail in the "Achievements and Results" section.

Partners

USAID India provided funding and guidance to LINKAGES to integrate BCC methodology into the ongoing health and nutrition programs of PVO partner organizations. The main project partners in the mainstreaming project were CARE, CRS, and World Vision. LINKAGES was also asked to work with other PVOs, international organizations, and the Government of India. The main partner sites are shown in illustration 1. Partners are described below with a brief description of the technical assistance provided by LINKAGES.

Illustration 1 Map of LINKAGES partner sites in India



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CARE. CARE/India's Reproductive and Child Health, Nutrition, and HIV/AIDS (RACHNA) program includes the INHP, with a focus on child health and nutrition, the Chayan Project, with a focus on reproductive health and HIV prevention, the Maternal and Infant Survival Project, and Community-Based DOTS Project. Under the 10-year INHP launched in 1996, CARE promotes improved health and nutrition in 70 districts across 8 states (Andhra Pradesh, Chattisgarh, Jharkhand, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh, and West Bengal) participating in the Government of India's Integrated Child Development Services (ICDS) program (see p. 7). CARE works with the Ministry of Health's Reproductive and Child Health (RCH) Programme¹ and ICDS to generate demand for services through

¹ The RCH Programme, implemented by the Department of Family Welfare, provides maternal care, family planning, child immunization, other essential child health services, and prevention and

community mobilization, improve the quality and coverage of government maternal and child health services through capacity building and systems strengthening, and help communities sustain activities for improved maternal and child survival. The backbone of nutrition service delivery and communication is the network of *anganwadi* centers, or AWCs,² in every village of at least 700 people. On monthly nutrition and health days, take-home rations are distributed, and auxiliary nurse-midwives (ANMs) visit the AWCs and provide immunization and antenatal care. Community change agents have been trained in approximately 12,000 villages to promote and monitor health and nutrition practices. Each AWC has 5–6 change agents, and each change agent is responsible for 15–20 families.

The first phase of the INHP (1996–2001) reached 2.3 million children under 1 year old and 4.7 million pregnant and lactating women. Based on the recommendations of the INHP I final evaluation, INHP II (2001–2006) adopted a “life cycle” approach and a strategy of demonstration and replication. CARE and NGO partners demonstrate best practices in 10 percent of target villages, building the capacity of the ICDS and RCH Programme to replicate these practices. Best practices include block-level resource mapping through the government system, nutrition and health days, change agents, and community-based monitoring systems using wall writing, village social maps, and other mechanisms to track behavior change. Technical interventions include supplementary nutrition, antenatal care with an emphasis on maternal nutrition and birth preparedness, immunization, micronutrient supplementation, community-based newborn care, and nutrition education with an emphasis on infant feeding.

The INHP operates in 738 blocks (sub-districts), each containing about 100,000 people. Each INHP II district team includes a government partnership officer, capacity building officer, and demonstration partnership officer in each site. Ten percent of the AWCs are demonstration sites to develop strategies and tools for behavior change. In the remaining AWCs, CARE helps strengthen ICDS and RCH programs to promote replication of behavior change interventions and best practices. In 2003 the Government of India’s ban on genetically modified food caused CARE to revise its development activity program (DAP) to transition from imported to state government-supplied grain and Title II oil and assist the ICDS in food logistics management,

From 1997 through 2004, LINKAGES helped CARE formulate and integrate a BCC strategy across INHP II behaviors. Technical assistance was provided to train CARE staff and state teams in Bihar, Madhya Pradesh, and Uttar Pradesh to use materials to support BCC, develop training modules for health and community service providers, and modify CARE’s monitoring system to track breastfeeding, complementary feeding, and maternal nutrition indicators.

Catholic Relief Services (CRS). Since the early 1990s CRS has promoted behavior change and increased access to health services for pregnant and lactating women and children up to 3 years old in areas in India not served by public clinics. The USAID Food for Peace DAP (Development Activities Program) I funding cycle (1997–2001) marked CRS’

management of sexually transmitted infections through auxiliary nurse-midwives responsible for 3,000–5,000 people each.

² *Anganwadi* means “courtyard.” Anganwadi centers are village-based child development centers staffed by locally recruited workers and helpers and serve as the focal point for delivery of services to children < 6, pregnant women, nursing mothers, and adolescent girls. Each anganwadi center serves about 100 people.

transition from a Title-II supported maternal and child health (MCH) program to a community-based safe motherhood and child survival program. The goal was to ensure safe and healthy pregnancies for 90,000 women and improve nutrition of 50,000 children under 3 years old.

The Bihar Child Survival Project was implemented in 9 districts in central Bihar to enhance the health component of the Title II MCH program. Two indigenous counterpart agencies, the Bhagalpur Social Service Society and Dumka Social Development Center, acted as counterpart partners, or CPs (social service wings of Catholic dioceses and the legal entities with which CRS signs agreements). The CPs functioned through operating partners (OPs), Indian community-based organizations that each provided health, education, and social services to 5–7 villages of tribal and scheduled caste groups. By 2000 the Bihar Child Survival Project operated in 1191 villages covering about 100,000 people.

In 2001 CRS' USAID Title II food-assisted MCH program⁵ evolved into the community-based SMCS Program. During its DAP II (2002–2006), CRS established SMCS centers administered by OPs, relying on trained village health workers to mobilize women to accept SMCS services and change behavior. Title II food commodity distribution is used as an incentive for women to participate in monthly health education sessions. Beneficiaries pay a small monthly contribution for the health services that is used by the partners for monthly administrative expenses, while CRS focuses on capacity building of program staff. The SMCS Program has reached 182,000 mothers of children under 3 years old in about 4,000 villages in India. LINKAGES helped CRS apply the behavior change approach in the SMCS Program, training staff in formative research, BCC, and monitoring of BCC activities and developing prototype BCC messages and materials. From 2002 to 2004 the project also helped zonal offices develop communication strategies and DIPs on the basis of qualitative and quantitative research. With the support of LINKAGES, CRS aimed to develop a behavior change model with four CPs (one in each zone) to improve nutritional practices among participants in the SMCS Program. The partner sites will serve as learning sites to replicate the practices in other project areas

World Vision. World Vision began its work in India in 1962, focusing on institutional care for children through sponsorship. In 1995 the organization revamped its child sponsorship program by consolidating funds previously distributed to individual children into 105 ADPs. The organization commits to 15 years in each ADP community, beginning with community mobilization to identify priority development problems and a series of investments to address them through child-focused, sustainable, and community-based interventions. The ADPs work in active partnership with communities, local NGOs, and government programs such as the ICDS to access resources for the local communities. World Vision now works in 24 states serving 1.6 million children.

During LINKAGES' collaboration with World Vision, operations managers were responsible for supporting 4–5 ADPs each. Each ADP was staffed by a project manager, project coordinator, and community development organizer (CDO) who stayed in the project village and was responsible for 10–12 animators (*grameen swastha sevikas*, 1 per village).

⁵ The genetically modified corn ban also affected CRS, which has a food donation profile but was able to separate its food distribution and health education. CRS provided three food commodities (corn-soy blend, or CSB, vegetable oil, and bulgur), while CARE provided only CSB and oil.

World Vision/India was restructured in 2004 to improve effectiveness at the field level. The six zonal offices were converted to nine project monitoring offices, each headed by an associate director responsible for the ADPs under the office's jurisdiction. ADP program managers report to the associate directors of the project monitoring offices, and community development coordinators are responsible for all development work in their target areas.

LINKAGES helped World Vision apply BCC methodologies to improve maternal, infant, and child nutrition in ADP-Jagriti from 1997 through 2001 and then to mainstream these methodologies into the other 7 ADPs in the organization's North Zone from 2003 through 2004. Technical assistance included training of World Vision, NGO, and government staff in BCC, strategy development, revision of monitoring and evaluation systems, and development of BCC materials.

MOST. MOST (the USAID-funded Micronutrient Initiative) works in India with state governments, CARE, and UNICEF to support vitamin A supplementation as an entry point to strengthen immunization in the states of Jharkhand, Uttaranchal, and Uttar Pradesh. A national induction training curriculum for anganwadi workers (AWWs) is tailored by each state to local needs. In Uttaranchal MOST was asked to develop a state training of trainers (TOT) manual for AWWs. LINKAGES worked with MOST and the Uttaranchal ICDS to include maternal nutrition and infant and young child feeding messages in the manual and developed the training agenda.

Breastfeeding Promotion Network of India (BPNI). This national network to promote mother and child health through protection, promotion, and support of breastfeeding is the regional focal point for the World Alliance for Breastfeeding Action (WABA) and International Baby Food Action Network (IBFAN). BPNI acts on the targets of the Innocenti Declaration, National Plan of Action for the Child, Convention on the Rights of the Child, and International Code of Marketing of Breast-Milk Substitutes. Work includes education of the public and health workers, policy advocacy, training, social mobilization, information sharing and monitoring compliance with the Infant Milk Substitutes, Feeding Bottles and Infant Foods (Regulation of Production, Supply and Distribution) Act 1992. In 2003 LINKAGES provided technical assistance to BPNI in reviewing its draft handbook on breastfeeding for Indian nurses.

Integrated Child Development Services. LINKAGES PVO partners worked in coordination with the ICDS, the world's largest community development program. Aimed at children 0–6 years old and pregnant and lactating women through nutrition, preschool education, and health services, the ICDS is centrally sponsored through the Department of Women and Child Development (DWCD) and administered by state governments. The national government finances the salaries of AWWs hired under the program, and state governments cover the cost of supplementary feeding. Services are delivered through a network of 40,000 AWCs and cover 5 million pregnant and lactating women and over 25 million children under 6 years old. ICDS's main components are building AWCs, delivering supplementary food, supporting pre-school education, and training supervisors and AWWs. By September 2002 ICDS operated in 4,761 blocks and is expected to cover the remaining 891 blocks during the Tenth Five-Year Plan (2002–2007). The first phase of the ICDS (1991–97) focused on nutrition of pregnant and lactating women and children under 6 in 4 of India's poorest states. The project was restructured in 2000, and the state of Andhra Pradesh was added. ICDS I was known for pre-school education and child

feeding, but one of the most important components of ICDS II (1993–2002) was behavior change to improve the nutrition and health of pregnant women and children under 3.

White Ribbon Alliance of India. India has among the highest number of maternal deaths of any country. The White Ribbon Alliance of India (WRAI) was formed in 1999 to increase awareness of the need to ensure safe pregnancy and childbirth through health and nutrition interventions and use of essential obstetric care. Four subcommittees address families and communities; advocacy with policy makers and opinion leaders; media and communication; and dissemination of information on best practices for safe motherhood. LINKAGES contributed to safe motherhood message development and promotion and advocated for national infant feeding policy through participation in Alliance meetings and debates.

UNICEF. LINKAGES has interacted with UNICEF India on infant and young child feeding issues since 1997, and UNICEF has used the TIPs methodology to promote early childhood care and development in its project areas in several states. To communicate new messages regarding early childhood development, UNICEF assessed beliefs of parents, families, and AWWs in Bihar, Madhya Pradesh, Rajasthan, and Uttar Pradesh. In 2001 LINKAGES helped review these formative research proposals. In 2003 UNICEF requested LINKAGES technical assistance to build district staff capacity in a pilot PMTCT and infant feeding project in Sangli District, Maharashtra, but for cost reasons UNICEF and the National AIDS Control Organisation (NACO) decided to partner with a local NGO to carry out the capacity building.

World Bank. Under ICDS II the World Bank supported a strong communications component to promote health and nutrition education. Mothers' committees were established in Andhra Pradesh at AWC level to promote ICDS activities, improve AWC supervision, and act as change agents to improve pregnant women's diets, health-seeking behavior, and newborn care practices. The World Bank also strengthened capacity at central, state, and block levels by training and supporting ICDS functionaries. In 2001 LINKAGES was asked to provide technical assistance for an action research and behavior change project to improve infant feeding through mothers' committees in Andhra Pradesh. In 2004 LINKAGES assisted with a baseline survey on breastfeeding, complementary feeding, maternal nutrition, and mother-to-child transmission of HIV funded by the World Bank in 5 districts of this state and oriented state ICDS staff from 23 districts in planning and management of BCC. ICDS partners then developed action plans to conduct BCC activities, adapting the LINKAGES methodology for continuity of the action research project.

Evolution of the LINKAGES/India Project

LINKAGES-supported activities in India originated in 1997 at the request of three PVO partners—CARE, CRS, and World Vision—to develop and integrate a community-based program model to improve infant feeding and maternal dietary practices in their existing programs. In 2001 USAID discussed the feasibility of building on the success of the World Vision and CARE sites to other districts with an integrated approach to child health and mainstreaming the BCC nutrition strategy with government at district and state levels and NGOs. In 2002 and 2003 LINKAGES provided technical assistance to the three PVO partners under new sub-agreement to scale up the BCC methodology to additional project sites. LINKAGES continued to build the capacity of partners and stakeholders on infant feeding, maternal nutrition, formative research, and BCC; develop communication materials; and improve monitoring and evaluation of BCC interventions.

A mid-project evaluation of the first 5 years of the entire LINKAGES Project in 1999 recommended that the project work strategically in India with CARE, CRS, and World Vision to mainstream BCC methodology to improve infant, child, and maternal nutrition. In late 1999 LINKAGES and the three PVO partners held a pre-planning meeting to review the strengths of qualitative research in the context of maternal and infant nutrition and review project strategies and methodology. By the end of 1999 LINKAGES was providing technical assistance to all three partner PVOs to help develop program models to improve breastfeeding, complementary feeding, and maternal nutrition. The goal was to field test approaches which could then be replicated more broadly in the context of their child survival, reproductive health, and Title II programs.

Phase I

CARE. In 1997 LINKAGES began collaborating with CARE/India in a 3-year exercise (February 1998–April 2001) to help develop BCC strategies, protocols, and materials to improve nutrition of pregnant and lactating women and breastfeeding of infants < 6 months old within the INHP. The target area was Angarah Block in Ranchi District, Bihar, covering 104 villages with a largely tribal population of about 100,000. Ranchi was chosen for its cross section of ethnic groups and range of cultural and dietary practices. Angarah Block was well-connected by road to Ranchi town, villages were easily accessible, tourism had attracted the attention of the government, NGOs had been active for a long time, and the educational level was fairly high in most villages. The project was incorporated as an INHP “experimental block” with exclusive AED funding for 26 months.

In late 1998 AED staff traveled to India to participate in a strategy design workshop in Ranchi District with CARE, government, and potential NGO partners. In June 1999 LINKAGES and CARE agreed on a 6-month task order format and discussed the possibility that changing timelines might delay deliverables.⁴ In 1998–1999 the CARE/LINKAGES project covered 160 blocks and 15,643 villages. In this phase the CARE team in Bihar scaled up and mainstreamed the nutrition behavior change methodology into other blocks

⁴ Unlike in other donor-funded projects, in which grant installments are released periodically, LINKAGES costs were reimbursed on production of deliverables. The chain of approvals meant delays in finalizing deliverables and consequent delays in releasing funds and implementing activities.

in Ranchi District. Final qualitative and quantitative evaluations were conducted in 2001 to assess impact and review implementation.

CRS. In 1997, when it was reorganizing its MCH program to have a greater community focus, CRS asked LINKAGES to provide technical assistance to improve infant feeding practices in its child survival programs. When the SMCS DAP I evaluation found that existing health education messages were inadequate to bring about desired behavior change, there was renewed interest in mainstreaming the BCC methodology successfully tested by World Vision and CARE into the CRS program.

LINKAGES worked with the Bihar Child Survival Project from its inception in 1997 until funding from USAID/BHR/PVC⁵ was phased out in September 2000. The project covered about 140 villages of 133,000 people. PL 480 commodities were distributed along with MCH services. In 1999 CRS and LINKAGES initiated operations research in Patna District to investigate the causes of sub-optimal feeding and design a behavior change strategy to address these practices. Formative research was initially scheduled to begin in February 1998 but was delayed until August 1999 because of staff changes, contractual issues, weather problems, and political reasons. LINKAGES signed a contract with CRS in July 1999 and engaged a consultant to review the formative research conducted in World Vision and CARE sites to determine a framework for the CRS assessment of food intake of children 4–12 months old. CRS contracted an Indian research agency to undertake formative research, and LINKAGES facilitated a strategy design workshop in Patna. Data were collected in November 1999, and the formative research report was completed in September 2000.

World Vision. Beginning in 1997 LINKAGES helped World Vision explore ways to motivate communities to improve infant feeding as part of the ADP program. From 1999 through 2001, LINKAGES worked with ADP-Jagriti (“Awareness” in Hindi), which offered a good opportunity to test ways to link nutrition education to community development. ADP-Jagriti was established in 1998 and covered 60 villages of about 60,000 people. The ADP was staffed by a LINKAGES coordinator, project manager, 11 CDOs, 35 animators, and 2 trainers.

The first collaborative agreement between LINKAGES and World Vision covered the period from October 1997 to March 1999. A workshop was held in March 1998 to review findings from qualitative research, develop a behavior change strategy, and prepare a detailed implementation plan describing the activities to be carried out with LINKAGES funding. An AED representative attended the dissemination workshop for NGOs to present the research findings, review plans to expand ADP-Jagriti to new villages, review curriculum for training CDOs and animators, review reference materials developed for CDOs and animators by a nutrition consultant, and discuss integrating data collection on new breastfeeding and infant feeding interventions into the World Vision monitoring process. A senior AED research advisor provided a sampling plan for the research firm.

The joint program was extended through September 1999, and another no-cost extension was granted until December 1999. A second sub-agreement was signed for October 2000 to September 2001 (extended through December 2001) to design communication materials and train World Vision and community health workers. In 2000 LINKAGES hired

⁵ USAID/Bureau for Humanitarian Response/Private and Voluntary Cooperation

a consultant to write a World Vision/India mainstreaming case study and help World Vision establish effective monitoring and evaluation systems. After 12 months of implementation, an end-line survey was conducted in 2001 in most of the villages covered by the ADP-Jagriti project.

Phase II

By late 2002 PVO partners had made significant progress mainstreaming the LINKAGES approach. On the basis of behavior change results in pilot blocks between 1997 and 2002, they requested further assistance to mainstream the BCC methodology into their state and zonal programs. With USAID support, in FY03 and FY04 LINKAGES responded to those requests by building the capacity of senior trainers in all three organizations to mainstream behavior change strategies in additional target areas and with field partners.

CARE. From October 2001 to May 2002, LINKAGES worked with CARE to develop an operational strategy to enhance the impact of nutrition interventions in INHP II by co-facilitating BCC capacity building workshops for INHP staff and helped CARE, INHP, and BASICS II teams design curricula to build the capacity of district teams. Another agreement was signed for May–December 2002 to help integrate and operationalize BCC among district teams in INHP states. LINKAGES then signed a third sub-agreement with CARE for January–September 2003 to review training of trainers modules on counseling and negotiation and educational materials used during interactions, review BCC materials used by INHP II teams, develop counseling messages, and contribute to programming BCC interventions across the project. This collaborative agreement ended in December 2002.

A revised agreement from April through September 2003 covered assistance with formative research, staff capacity building in BCC and materials development, application of the BCC strategy matrix, and development of a BCC strategy including review of creative briefs and materials developed by a CARE consultant. At a workshop in June 2003, CARE and LINKAGES reviewed the INHP I evaluation to identify indicators and focus areas. This agreement was modified to include development of BCC strategies and materials for state change agents in Madhya Pradesh (29 blocks with 4,723 villages and AWCs) and Uttar Pradesh (132 blocks with 15,000 villages and AWCs). CARE had BCC point people in these states, and CARE Madhya Pradesh had already conducted formative research in three districts. In place of formative research, CARE asked LINKAGES to facilitate workshops in Uttar Pradesh for CARE and partner NGO staff, change agents, and government representatives to identify on current practices and feasible behaviors in the project area. CARE contracted the BCC strategy development in its six other INHP II states to consultants. LINKAGES was asked to provide technical assistance to INHP II staff and NGO partners in Madhya Pradesh and Uttar Pradesh at all stages of BCC strategy development.

CRS. In 2001 CRS again requested LINKAGES technical assistance to mainstream the BCC methodology successfully tested by CARE and World Vision into the SMCS Program. Four district sites (Kurnool in Andhra Pradesh, Patna in Bihar, Rae Bareilly in Lucknow, and Ajmer in Rajasthan) where CPs were implementing the SMCS Program in 73 villages through 35 OPs were selected for mainstreaming. Under a second sub-agreement with CRS (July 2002–April 2004), LINKAGES provided technical assistance to develop model behavior change sites with CPs working with the four CRS zonal offices in Hyderabad,

Kolkata, Lucknow, and Mumbai. The support began with a course for CRS partner staff on mainstreaming BCC in the SMCS Program, and CRS staff visited World Vision sites to understand the LINKAGES BCC approach. LINKAGES trained staff in CRS' regional office in Delhi and four zonal offices in formative research, BCC, and monitoring of BCC activities and helped the zonal staff and CPs develop communication strategies and DIPs on the basis of the formative research and baseline studies. The project developed a BCC manual for CRS that was used in the BCC training and helped develop prototype BCC messages and materials. Learning from the model sites was to be shared with the 40 established SMCS programs throughout India.

World Vision. World Vision and LINKAGES developed a new proposal to mainstream the BCC methodology that had proven successful in ADP-Jagriti into other blocks of Dehradun District and 7 more of the 18 ADPs in the North Zone (Anugraha, Aparajita, Dewas, Girideep, Mewat, and North Delhi). A third sub-agreement from October 2002 through June 2003 was later extended through March 2004. This phase was launched at a workshop in February 2003, when the ADP-Jagriti experience was shared with 50 World Vision participants. Because the sub-agreement was not signed until December, however, activities were extended through May 2004. World Vision hired a coordinator based in the New Delhi office to manage the financial and administrative aspects of the mainstreaming project. LINKAGES trained ADP, NGO, and government staff in counseling and negotiation skills and formative research. The project then helped the ADPs develop DIPs based on formative research and baseline survey data, revise monitoring and evaluation systems to collect key indicators, adapt and develop BCC materials, and develop ADP-Jagriti as center of excellence for breastfeeding, complementary feeding, and maternal nutrition.

Other donors. Based on the results of the PVO partnerships, other donors requested LINKAGES technical assistance in India. The World Bank asked LINKAGES to help conduct formative research and train state ICDS staff, mothers' committees, and AWWs in Andhra Pradesh. As the initial activity, a baseline survey of infant and young child feeding practices among mothers' committee members in 5 districts was conducted by the Indian research agency Blackstone/Synovate in 2003 and 2004, with World Bank funding. LINKAGES then trained state, district, and block ICDS staff as trainers in BCC and infant, child, and maternal nutrition. Further collaboration was curtailed with the end of the LINKAGES/India program.

Project Description

Each of LINKAGES' PVO partners followed a tested sequence of steps to design and implement BCC strategies to improve infant, child, and maternal nutrition. These steps are listed below and described in detail in the sections that follow.

1. **Formative research** to understand reasons for sub-optimal practices, identify simple changes in practices that are affordable and culturally acceptable, and test strategies for their efficacy. Formative research involves developing and pre-testing qualitative research instruments and protocols; training interviewers; collecting information using semi-structured interviews, 24-hour food recall, observation of feeding practices, and focus group discussions; analyzing data; and, based on the findings, recommending specific behavior changes appropriate to the partner sites
2. Field **trials of improved practices** (TIPs) to test the recommended behaviors and identify practical and feasible actions with the target audience through “designing by dialogue”
3. A **baseline survey** to establish benchmarks on key project indicators
4. A **strategy development workshop** to design a **detailed implementation plan** based on the formative research and field trials, outlining the BCC strategy and monitoring and evaluation plan for the project
5. Project **implementation**, including development of appropriate audio and visual materials, design of training and monitoring tools, training of staff and partners, and dissemination of messages through interpersonal counseling and various media
6. A **final qualitative and quantitative evaluation** to assess impact and review implementation processes

Program design. The partner projects began with few assumptions about needed activities. Instead, assessments among sample populations in target sites gathered information on knowledge, attitudes, and practices (KAP) related to breastfeeding, complementary feeding, and maternal nutrition (box 1), reasons for poor nutritional practices, seasonal food availability, and the role and perceptions of services providers. Formative research was completed by independent local research agencies. LINKAGES trained PVO staff, who in turn trained local enumerators to use questionnaires that had been prepared

Box 1 Formative research findings, CARE (Angarah Block, Ranchi District, Bihar, 1998)

- People believed that lactating women should “eat for two,” but eating more during pregnancy would hinder fetal growth.
- “Eating down” during pregnancy and for 6 days post-partum combined with food scarcity and low purchasing power contributed to women’s under-nutrition.
- Mothers-in-law and traditional birth attendants were influential during and after delivery, but men perceived food as a woman’s domain and were not active in dietary decisions.
- There was a common belief that women produced no milk for the first 12 hours after delivery.
- Short breastfeeds with frequent breast switching were routine.
- Most community members lacked formal education and would respond best to dance and song to promote messages.

by LINKAGES. LINKAGES then helped partner staff develop communication strategies and DIPs on the basis of formative research and baseline results.

In 1998 CARE contracted a research institute in Ranchi to conduct field research and a nutritionist from New Delhi to conduct a nutritional analysis. A LINKAGES consultant helped formulate research protocols, trained interviewers, and guided the analysis. Women and their mothers-in-law in eight villages were interviewed. A participatory rapid assessment (PRA) method was used to develop an agricultural calendar with women from the community, plus a market study of prices and affordability at different times of the year. LINKAGES helped *mahila mandal* (women's group) members and AWWs develop village profile charts and social maps to identify village beneficiaries. In phase II CARE asked LINKAGES to make recommendations for BCC activities in Madhya Pradesh and Uttar Pradesh based on formative research reports and facilitate consensus and BCC strategy development workshops in those states.

Box 2 Formative research findings, CRS (Santhal Pargana Area, Bihar, 1999)

- Despite a high rate of breastfeeding, mothers believed that “first milk was bad for baby.”
- Only 16% initiated breastfeeding within 1 hour of birth (cleaning mothers and infants after birth took priority), and 75% did not empty one breast fully before giving the other.
- More boy than girl infants were exclusively breastfed.
- Santhalis believed that breastmilk was sufficient at 6 months, and health workers had little knowledge of the need for complementary feeding at that age.
- Mothers ate special foods to increase milk flow and were given rice mixed with neem leaves 3–5 days after delivery.
- Most mothers felt infants with diarrhea should receive less breastmilk.
- Food aid rations were used mainly for common family foods and for snacks for older children and adults.

CRS interviewed Santhali and non-Santhali mothers of children 0–<24 months old and other family members in 8 villages, held focus group discussions, and conducted PRA with registered medical practitioners (RMPs), traditional healers, village health promoters, operating partner nurses, vendors, and customers. Instruments assessed complementary food intake of children 4–<12 months old and relevant household food consumption patterns. LINKAGES helped CRS develop the instruments and research design, and a consultant was hired to develop methods to give a more comprehensive picture of consumption patterns throughout the year. Data were collected and analyzed by the Development Research Group, a Calcutta-based research agency.

Under phase II collaboration with CRS in 2003–2004, LINKAGES co-facilitated a strategy development workshop with Patna CP in Bihar, 1 of 12 CPs under the Ranchi sub-office in Kolkota Zone. One CP from each of the other three zones participated and subsequently conducted formative research in their own sites, also using local research agencies.

In 1998 LINKAGES began its community-based infant feeding project with ADP-Jagriti with a survey to document breastfeeding and complementary feeding behaviors for children 0–12 months old in six villages in Sehaspur Block. LINKAGES trained World Vision staff, who in turn trained local enumerators to use questionnaires prepared by LINKAGES. Like CARE, World Vision used the PRA method to develop agricultural calendars and did

market studies of seasonal food prices. In phase II World Vision again contracted local agencies to conduct formative research in the expansion ADPs, and LINKAGES trained staff who trained local enumerators to use questionnaires prepared by LINKAGES.

Once the KAP studies had been analyzed, LINKAGES trained project staff to apply the TIPs approach of “designing by dialogue” to ensure community participation in identifying appropriate health messages. LINKAGES headquarters helped LINKAGES/India train partners to use TIPs to test recommendations as part of formative research training. TIPs training was held in two phases, including the field exercise. This method tests mothers’ responses to recommendations for improving infant and child feeding and determines feasible and acceptable recommendations. TIPs is conducted over two or three household visits. During the first visit the research collects information on current feeding practices and suggests practices for the mother to try. The mother then agrees on up to three trial practices. In the second visit the researcher finds out whether the practices were tried, and the mother explains her and her child’s reaction to them. Before this exercise, participants had never experienced testing recommendations before developing messages to promote them.

Box 3 Formative research findings, World Vision (Sehaspur Block, Uttar Pradesh, 1998)

- Nearly all women breastfed from birth until 2 years or the next pregnancy.
- “First milk” was considered dangerous (containing “seven thorns”), but because mothers squeezed out only a few drops, most infants probably benefited from colostrum.
- No mother had initiated breastfeeding within 1 hour of birth, but over half had done so within 48 hours.
- Prelacteals were given to rid the infant of “dirt” from the birth canal and meconium.
- Top milk (supplementary animal milk) was given at 4–5 months to offset “dwindling” breastmilk production or to help working mothers.
- Infants under 1 year old were thought to be unable to digest solid food and were not given food distributed at anganwadi centers.

After the formative research and baseline studies (see “Monitoring and evaluation” below) were completed, LINKAGES helped partner staff analyze the data and develop behavior change strategies based on the research and resources in their own projects. This process involved strategy development workshops to identify targeted and recommended behaviors, target audiences, messages, communication media, materials, and monitoring and evaluation tools. DIPs developed in these workshops became the sites’ workplans.

Policy and advocacy. LINKAGES worked with international and national organizations as well as the PVO partners in India to advocate for exclusive breastfeeding, complementary feeding, and optimal infant feeding in the context of HIV and AIDS. World Breastfeeding Week was celebrated annually in August in CARE, CRS, and World Vision sites with community events and advocacy.

As a member of the White Ribbon Alliance of India, LINKAGES contributed to safe motherhood message development and promotion and advocated for national infant feeding policy. In 2003 the Breastfeeding Promotion Network of India asked LINKAGES to help develop a manual on breastfeeding to be distributed to 40,000 nurses through the Trained Nurses Association of India. In November 2003 LINKAGES participated in the National Symposium on HIV and Infant Feeding and was asked by the National Institute

for Public Cooperation and Child Development (NIPCCD) to review IEC guidelines for the ICDS. LINKAGES also provided technical materials on infant feeding and PMTCT to the West Bengal State AIDS Control Organisation on request.

At CARE's request, in March 2003 the LINKAGES Policy Coordinator facilitated a workshop on PROFILES nutrition policy analysis and advocacy for 8 INHP II state M&E officers and government representatives, as well as CARE New Delhi technical and M&E staff. PROFILES is a process for nutrition advocacy developed by the Academy for Educational Development to quantify the consequences of malnutrition, demonstrate the economic and human benefits of nutrition improvement, and display these results graphically. As a follow up to the 2003 workshop, LINKAGES helped CARE collect and complete state- and national-level PROFILES spreadsheets and presentations in September 2003. In May 2004 the LINKAGES/India Resident Advisor and the CARE Nutrition Sector Director and Technical Specialist generated interest in the PROFILES process among WHO country offices in Asia during a presentation to the 8th WHO South East Asia Regional Office Nutrition Research-cum-Action Network Workshop.

In 2003 and 2004 LINKAGES explored collaboration with UNICEF in a pilot PMTCT project in Maharashtra and with the World Bank in an action research and behavior change project to improve infant feeding in Andhra Pradesh. A change in the directorship of the Maharashtra Department of Women and Child Development resulted in cancellation of the former, and funding complications reduced the latter to training of ICDS staff in BCC.

Capacity building. LINKAGES trained national and state PVO to develop communication strategies and DIPs, plan and manage BCC programs, apply formative research methodologies, and monitor behavior change results. Training was applied in a cascade approach so that PVO trainers could train local government and NGO health and nutrition staff and community volunteers in BCC, with a focus on interpersonal communication counseling and materials development.

During the first year of INHP II, CARE invested in capacity building of its state and district teams to understand how to operationalize BCC interventions. In phase I LINKAGES helped CARE train state teams to use materials to support BCC and developed training modules for health and community service providers that included skills development as well as technical information. Block coordinators, field officers, and field extension workers (FEWs)⁶ were trained in effective communication, technical skills, and planning of training for grassroots workers. Training was done by project personnel or consultants from local institutions. In a cascade approach, each block coordinator and an assistant trained up to three other block coordinators and five FEWs as trainers. These then trained health and ICDS staff as trainers to train AWWs, *dais* (traditional birth attendants), RMPs, and supervisors. ANMs, AWWs, and mahila mandal members were trained in counseling and communication to facilitate optimal breastfeeding and nutrition during pregnancy and lactation. Dais and local practitioners were trained in improved delivery practices, counseling, and communication. By 2002 the CARE/LINKAGES Project had trained 17 block-level ICDS and health staff, 25 FEWs, 201 dais (plus 22 as trainers), 295 RMPs, 118 AWWs, 32 ANMs, 229 mahila mandal officers, 20 NGO supervisors, and 15 NGO village workers.

⁶ Each FEW was in charge of one of the five sectors of Angarah Block and provided counseling to pregnant and lactating women.

In phase II CARE asked LINKAGES to provide technical assistance to design and conduct BCC capacity building sessions for INHP staff, train CARE program managers in planning and managing BCC programs, and integrate counseling into CARE's capacity building modules for government counterparts and NGOs.

LINKAGES also trained staff in the CRS regional office in New Delhi and four zonal offices in formative research, BCC, and monitoring of BCC activities. In phase II LINKAGES facilitated a 5-day TOT on BCC, formative research, and monitoring of behavior change for core training teams of CP coordinators and OP supervisors, who then organized capacity building and facilitated the implementation of the BCC methodology at zonal and community levels. LINKAGES conducted refresher training for CPs after 6 months based on trends in monitoring data and included sessions on reviewing management information systems (MIS) in BCC training courses. Altogether, 91 partner staff were trained in BCC and 54 in formative research.

In phase I of its collaboration with World Vision, LINKAGES helped ADP-Jagriti transition from an animator model to community-sustained behavior change by training 27 CDOs in qualitative research methods and 106 program staff and 53 health care providers (ANMs, dais, and RMPs) in BCC. World Vision shared the curriculum and materials with other ADPs in a regional workshop. LINKAGES helped ADP-Jagriti develop a training manual for CDOs in Hindi and English on effective communication, appropriate infant feeding practices, and counseling skills that was the backbone of the project. After initial instruction by project trainers, animators received monthly follow-up training by the CDOs. The World Vision validation study conducted in 2001 showed that ANMs, AWWs, dais, and RMPs needed more training on the importance of exclusive breastfeeding and that animators and CDOs needed refresher training on infant feeding and counseling skills. LINKAGES facilitated the recommended training during 2002.

In phase II World Vision ADP-Jagriti staff oriented other field staff in counseling and negotiation to promote recommended behaviors. A curriculum was developed to train RMPs to promote optimal breastfeeding, complementary feeding, and maternal nutrition behaviors. To help World Vision develop ADP-Jagriti as a center of excellence, in 2003 the LINKAGES Training and Community Coordinator trained Uttaranchal state health and ICDS staff, as well as World Vision and partner NGO staff, in mother-to-mother support group methodology. LINKAGES also trained 100 Sehaspur Block health and ICDS managers and implementers in BCC methodology. Four NGO partners that signed memorandums of understanding with World Vision to implement field activities were oriented in BCC, and baseline surveys were done in their project areas. In 2004 LINKAGES facilitated training in HIV and infant feeding counseling for 30 participants from World Vision.

In May 2002 the LINKAGES Behavior Change Coordinator conducted a 5-day training of PVO partner planners and managers on formative research, data analysis, strategy and message development, approaches to individual behavior change, management of media and materials, and evaluation. During phase II the LINKAGES Monitoring and Evaluation Manager facilitated training of CARE, CRS, and World Vision staff in monitoring and evaluation, and the LINKAGES/India Resident Advisor, Technical Specialist, Program Officer, and consultants trained partner PVO and NGO staff in the strategy development workshops. In March 2004 LINKAGES conducted a 5-day training of World Vision staff

from 8 ADPs in infant feeding counseling in the context of HIV and AIDS. Representatives from UNICEF, the National AIDS Control Organisation (NACO), Safdarjung Hospital, and World Vision facilitated the sessions.

In 2003 and 2004 LINKAGES provided limited technical assistance to include infant and maternal nutrition and counseling skills in the ICDS TOT curriculum for AWWs in the state of Uttaranchal. The curriculum will be accepted nationally by the NIPCCD, the government training organization. LINKAGES helped MOST pre-test the TOT curriculum by facilitating a session on infant feeding in Dehradun and oriented MOST staff in BCC to promote vitamin A and other micronutrients. MOST and the NIPCCD will train block and district ICDS trainers using the TOT curriculum, and these trainees will then train AWWs.

In 2004 LINKAGES/India staff participated in a WHO Inter-Country Workshop on HIV and Infant Feeding in Delhi. The LINKAGES Resident Advisor was certified as a WHO HIV and infant feeding counseling trainer, and the Senior Technical Specialist and Program Officer were certified as WHO HIV and infant feeding counselors. LINKAGES/India also conducted a 3-day orientation on BCC for 35 state and district ICDS staff in Andhra Pradesh on BCC methodologies to promote infant, child, and maternal nutrition.

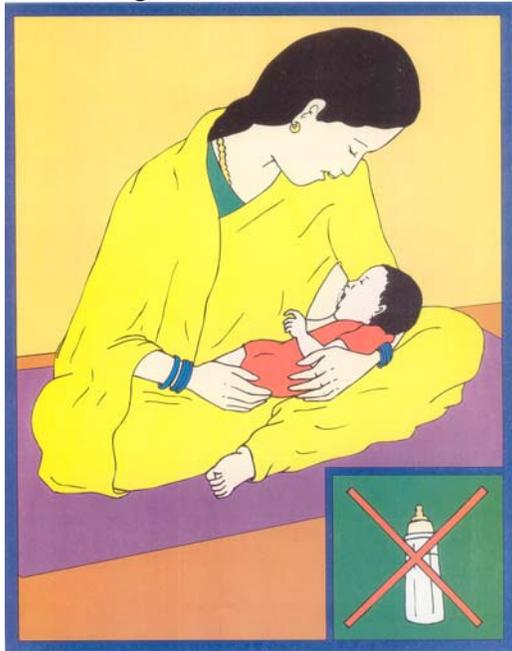
Behavior change communication. LINKAGES' BCC strategy in India was extensive, intensive, and reiterative, focusing on home visits to change individual behavior while supporting individual decisions through community empowerment. The BCC strategies developed in the partner DIPs defined the target audiences, change agents, messages to communicate to target audiences, channels of communication, and a materials development strategy. Community interventions included individual counseling and negotiation, involvement of mothers-in-law and husbands, and a focus on locally available nutritious foods. The materials developed with LINKAGES technical assistance are listed by partner in attachment 1.

BCC was seen as a major challenge in the INHP's effort to address child health and malnutrition in India's primary health care system, and CARE put intensive effort into behavior change in its demonstration sites. LINKAGES helped CARE formulate and integrate a BCC strategy across all INHP II behaviors that included monitoring and evaluation of BCC interventions to improve infant, child, and maternal health and nutrition practices. Materials developed included counseling cards on breastfeeding and maternal diet, audio cassettes with jingles and songs, and hanging messages ("danglers") for display in shops and public places. Languages, symbols, and images were familiar to target audiences. Messages were communicated by project staff, government health and ICDS functionaries through interpersonal counseling. Folk entertainment attracted crowds to hear health and nutrition messages, and wall paintings by local artists reinforced the project's central messages. CARE staff and volunteers conducted home visits and community events such as health fairs, meetings with community leaders, and healthy baby shows, in which babies were "judged" and their mothers recognized by health workers according to the criteria of weight, immunization records, breastfeeding status, and complementary feeding practices. In phase III CARE requested LINKAGES technical assistance in materials development based on the BCC strategies for Madhya Pradesh and Uttar Pradesh.

For CRS LINKAGES developed a BCC manual that was used in the SMCS Program's BCC training. One hundred copies were printed in English and distributed within and outside

CRS. Each CRS project site developed a flipchart that was distributed to all village health workers and partners. For community outreach, nutrition activities were linked to youth clubs, village development committees, and mahila mandals whose members were SMCS Program participants.

Illustration 2 World Vision counseling card



World Vision's BCC strategy focused on home visits to change individual behavior, small group activities, and community events. CDOs and animators in ADP-Jagriti were trained to provide counseling during home visits and interpersonal communication using a set of 9 pictorial counseling cards with messages on breastfeeding and complementary feeding (illustration 2) developed with the local agency New Concepts. Key messages included putting the infant on the breast soon after birth, feeding colostrum, and using a clean utensil to feed any additional liquids if necessary. The counseling cards were color coded according to behaviors for different age groups. A set of the cards was distributed to each animator, ANM, AWW, and CDO. The information in the counseling cards and a wall chart made for RMPs to remind mothers who might visit of infant feeding messages complemented that in the CDO manual.

Community outreach was conducted by ANMs, AWWs, dais, mahila mandals, RMPs, panchayat leaders, village development committees, and youth groups. The animators' main task was to make 4-10 home visits daily to promote optimal infant feeding practices, negotiate behaviors with mothers, and ensure immunization to support the ANMs and AWWs. Mahila mandals counseled families and reinforced infant feeding messages at least once a month.⁷ Village development committees shared information from CDOs and animators and reported on community receptivity to the World Vision/LINKAGES curriculum and materials. Like CARE, World Vision conducted regular health fairs in the ADP-Jagriti village. The mahila mandals invited RMPs to give mothers awards for healthy babies according to the same criteria used in the CARE sites. At the end of the baby shows, RMPs promoted breastfeeding practices.

Monitoring and evaluation. LINKAGES' M&E strategy in India involved capacity building to collect and interpret maternal nutrition and infant and young child feeding data and to provide follow-up monitoring, support, and supervision of providers trained through the project. LINKAGES helped develop M&E tools for integration into PVO management information systems and trained staff in their use. As with the formative research, the

⁷ In the World Vision ADPs, mahila mandal members promote health behaviors, negotiate in conflicts, collect money, supervise teachers, and determine beneficiaries of toilets or tin sheets from World Vision.

PVO partners contracted baseline surveys in their project sites to local research agencies and in phase I scheduled end-line surveys 1 year after initiation of community activities.

All project sites identified indicators in the context of their organizational goals. The objectives of the CARE/LINKAGES Project in phase I were to improve the nutrition of pregnant and lactating women by changing dietary practices and promoting consumption of fortified corn-soy blend (CSB) and iron and folic acid tablet and to increase initiation of breastfeeding immediately after birth and exclusive breastfeeding for 6 months. CARE's baseline survey in phase I gathered information on breastfeeding practices and maternal nutrition from 524 pregnant women, 868 lactating women with children < 6 months old, 504 husbands of pregnant and lactating women, and 125 service providers.

After the formative research and baseline were completed, LINKAGES helped CARE staff teams in Bihar and Uttar Pradesh modify CARE's monitoring system to enable tracking of breastfeeding, complementary feeding, and maternal nutrition indicators. The main monitoring tool used by CARE in Bihar was an adapted version of the INHP home visit questionnaire.⁸ The questionnaire was filled out by block coordinators and FEWs and allowed FEWs to assess levels of desired behavior and counsel mothers and families accordingly. The data were analyzed quarterly at block level. In 2000 LINKAGES engaged a consultant to modify the tool to include key maternal nutrition indicators. New monitoring formats were then introduced, and a detailed monitoring manual was circulated. Additional monitoring tools included an observation checklist for national health days, monthly and quarterly reports, and checklists for special events.

CARE completed an end-line survey in Angarah Block in 2001. In 2003 CARE planned ongoing qualitative and quantitative assessments to capture process rather than outcomes. Instruments were developed for external rapid assessment procedures (RAPs) to be done biannually and then annually in one district per state.

Monitoring and evaluation tools were also reviewed by LINKAGES in CRS' SMCS Program and modified to reflect maternal and child health indicators. An MIS was in place in the project area to measure the organization's 14 indicators. At field level, village health workers (VHWs) and supervisors maintained a beneficiary cards and growth monitoring cards, registers of food distribution to children and pregnant women; registers of immunization, vitamin A supplementation, and growth monitoring for children 0- < 36 months old; registers of immunization and antenatal and post-natal care of pregnant women; and registers of home visits to priority households for safe motherhood and child survival activities for children 0- < 6 months old. In 2003 local research agencies did baseline surveys in 15 *gram panchayats*⁹ (village councils) in the four phase II zones. In mid-2004 CRS conducted a process evaluation of its application of the LINKAGES BCC methodologies for improved maternal, infant, and child nutrition.

⁸ After the mid-term review of the INHP in 2002, the INHP discontinued use of this questionnaire and developed with LINKAGES technical assistance a new system that included community-based BCC indicators.

⁹ The *gram panchayat* is the basic unit of local self-government in India. Gram panchayat chairs are members of the block council (*panchayat samiti*). Panchayats were largely inactive until the late 1970s, when efforts were made to reinvigorate the system. In 1992 a constitutional amendment institutionalized panchayats at village, block, and district levels in states with 2 million people or more.

In January 1999 World Vision surveyed 1,190 mothers of children <1 year old in 49 communities to gather baseline information on neonatal feeding practices, breastfeeding patterns, complementary feeding (timing and food quality and quantity), and feeding during and after children's illness. In the ADPs each CDO maintained a daily log of community events and other activities, as well as a log of sponsored children that was reviewed monthly. Animators kept registers to track pregnant and lactating women and immunization coverage and updated them regularly at mahila mandal meetings and in household visits. The CDOs reinforced the training of animators by monitoring the messages conveyed by the ANMs, AWWs, dais, and RMPs and reviewing the animators' registers monthly. An end-line survey of phase I World Vision catchment areas was completed in March–April 2001. In phase II of the collaboration with LINKAGES, research agencies were contracted to conduct baselines in all ADPs except Ballia.

At the request of the World Bank, in 2004 LINKAGES provided technical assistance for a baseline survey by an Indian research agency to establish current infant feeding behaviors in 5 districts of Andhra Pradesh. The survey was administered to mothers of infants <2 years old using a quantitative questionnaire that included a 24-hour dietary recall question.

Achievements and Results

The BCC mainstreaming model provides a systematic approach to planning BCC interventions, a clearly defined plan, and simple action steps that translate knowledge and attitudes into practice. Data collected by partners has clearly shown the impact of the collaborative behavior change interventions with LINKAGES in the partner sites. Outcomes were captured by quantitative measures as well as qualitative evaluations.

Project achievements include the following:

- Improved infant, child, and maternal health and nutrition
- Strengthened BCC capacity of partner, government, and NGO staff
- Mainstreaming of BCC methodology into wider partner programs in India and beyond

Health and Nutrition Results

As an operations research project with the overall objective of mainstreaming, LINKAGES/India did not have as its goals changes in physical and physiological benchmarks. Nevertheless, because epidemiological research has demonstrated that breastfeeding provides health, growth, and development advantages to infants and decreases the risk of many acute and chronic diseases, improved health and nutrition practices are assumed to contribute to improved health and nutrition status. In a joint mainstreaming workshop in 2000, CARE, CRS, and World Vision agreed that designing by dialogue helped achieve significant behavior change results. Results of end-line surveys conducted by PVO partners in 2001 showed significant improvement in infant feeding and maternal nutrition indicators.

CARE. The end-of-project evaluation of phase I of the CARE/LINKAGES Project found that knowledge had improved among pregnant and lactating women, and contact between pregnant and lactating women and service providers had increased. What was learned was shown to be put into practice. Interpersonal communication supported by teaching aids and reiteration of recommended behaviors from multiple sources were identified in the evaluation as the causes of changed behavior. The qualitative final evaluation of the CARE/LINKAGES project found that “The project has been successful in debunking several taboos (e.g., discarding of colostrum, post-partum fasting, avoidance of certain foods ...) ... women ... have taken on board the advice received and have ... proceeded to have successful pregnancies and raise healthy babies. This unambiguous demonstration of the positive nature of the counsel provided is likely to have been entrenched in the collective memory of village women” (p. 24).

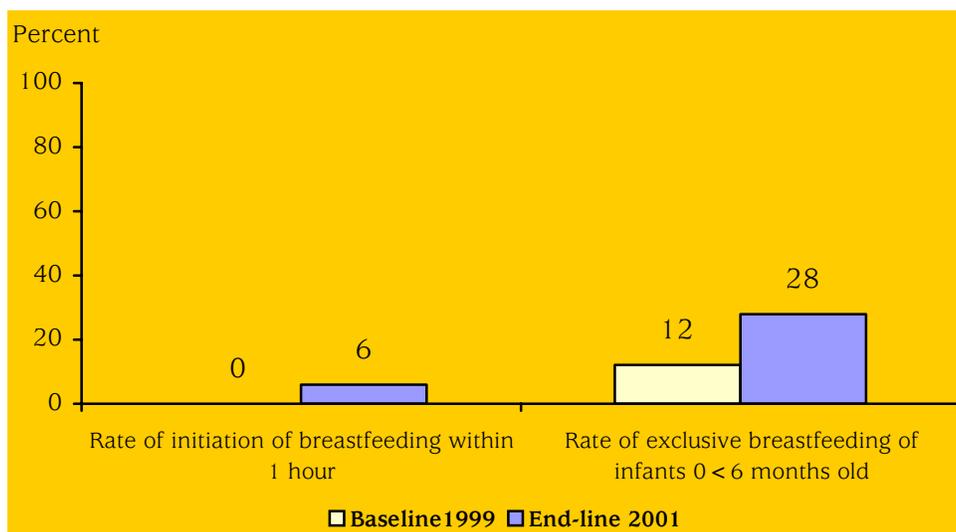
The evaluation also found that “Secondary audiences seem to have imbibed some messages, though not as effectively.”¹⁰ Formative research had concluded that mothers-in-law and husbands were important influences on the nutritional decisions of pregnant and lactating women, but the final evaluation interviews indicated that women allowed their daughters-in-law to follow the advice of the AWWs and FEWs without objection and husbands considered health and nutrition “women’s issues.”

¹⁰ Grover, Deepa, and Arun Kumar Roy. 2001. “Final Evaluation of CARE/LINKAGES Project for Improved Maternal and Child Health,” July. New Delhi, p. 22.

Phase I end-line results showed that 82 percent of pregnant women received and consumed their food ration, compared with 38 percent in 1999. An increase in awareness of the need to initiate breastfeeding within 8 hours of birth increased among pregnant women from 28 to 64 percent. Not only awareness, but also practice, improved. For example, 71 percent of lactating women discarded colostrum in 1999, compared with 47 percent in 2001. Folk entertainment (dance and drama performances) was the most popular way to relay health and nutrition messages.

Table 1 below shows CARE’s phase I results for LINKAGES infant and young child feeding indicators. These findings are based on interviews with 868 mothers of children <6 months old during the baseline in 1999 and 857 mothers during the end-line in 2001. The rate of initiation of breastfeeding within 1 hour of birth increased from less than 1 percent at baseline in 1999 to 6 percent at end-line in 2001. The proportion of mothers who initiated breastfeeding within 24 hours of delivery almost tripled, from 22 percent at baseline to 64 percent at end-line. The rate of exclusive breastfeeding up to 6 months more than doubled, from 12 percent to 28 percent during the same period.

Table 1 CARE/LINKAGES phase I results



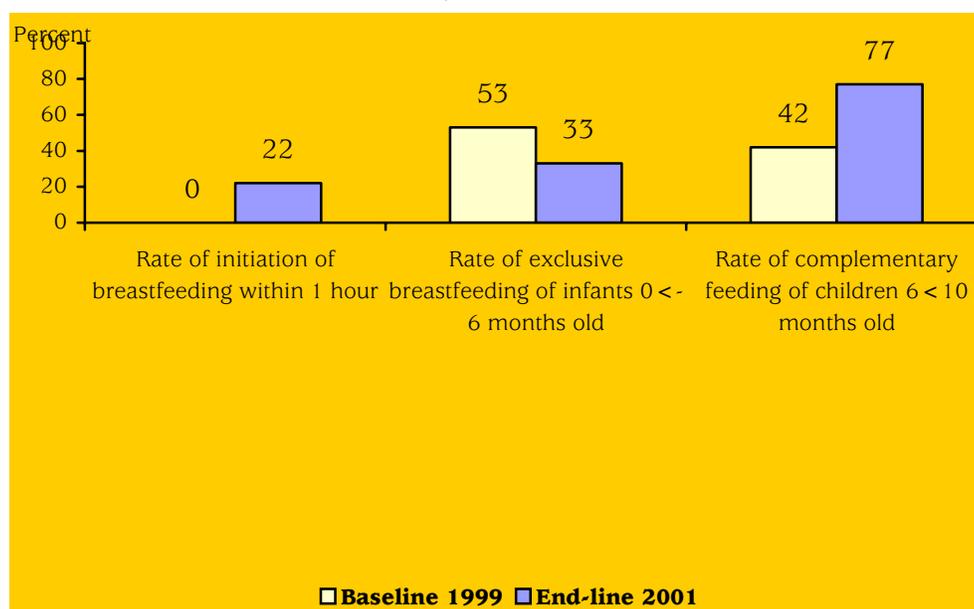
Source: CARE. 2001. “CARE-India LINKAGES for Improved Maternal and Infant Health: End-of-Project Report,” New Delhi.

CRS. Because of the disruption of LINKAGES collaboration with CRS in phase I, no end-line survey was completed in 2001. CRS plans a quantitative end-line evaluation of the CRS/LINKAGES collaboration in late 2004. A process evaluation in 2004 found that during the limited CRS/LINKAGES phase II time frame of 9 months, the BCC methodology significantly influenced identified behavior areas and should continue. However, results were uneven. The most positive effects were observed in initiation of breastfeeding and exclusive breastfeeding, immunization, colostrum feeding, registration of pregnancies, and antenatal checkups. Results pertaining to food intake of lactating women, deliveries in health facilities, and rest during pregnancy were less encouraging. The evaluation report concluded that certain socio-economic and cultural constraints beyond the scope of the project were key barriers to behavior change. While CRS emphasized that the sample selected for the process evaluation was too small to extrapolate results to the entire

project population, it found that illiterate village health workers were less effective than anticipated in disseminating messages and maintaining records. On the other hand, links with government health staff and local authorities had increased the accessibility and uptake of health services.

World Vision. Results from World Vision’s 2001 end-line survey for key infant nutrition indicators are shown in table 2. The findings are based on interviews with 1,190 mothers of children < 12 months old in World Vision program areas during the baseline in 1999 and 1,052 mothers during the end-line in 2001. Data indicate a significant increase in the proportion of mothers who initiated breastfeeding within 1 hour of birth as advocated over the project period (22 percent at end-line compared with less than 1 percent at baseline; $p < 0.001$). Moreover, 3 in 5 mothers (61 percent) initiated breastfeeding within 24 hours of delivery in the end-line, compared with only 17 percent at baseline ($p < 0.001$).

Table 2 World Vision/LINKAGES phase I results



Source: World Vision. 2002. “Final Evaluation Report: Improved Breastfeeding and Complementary Feeding of Infants under One Year.” New Delhi.

The exclusive breastfeeding rate unexpectedly decreased from 52 percent at baseline to 33 percent at end-line ($p < 0.001$). A validation survey several months after the end-line survey confirmed this decline. Although the cause of the decrease is still unknown, the difference between the rate at baseline and end-line was primarily a result of an increase in plain or sugared water given in addition to breastmilk during months 2 through 5. This trend was accompanied by an increase in premature complementary feeding in months 3 to 5. In addition, the drop in exclusive breastfeeding was found only among children of illiterate mothers. At baseline significantly more illiterate (60 percent) than literate mothers (35 percent) exclusively breastfed their children ($p < 0.001$). The end-line survey showed no change among literate mothers, while the rate among illiterate mothers dropped to the same rate as that among literate mothers (33 percent).

The project was successful in emphasizing the importance of introducing complementary foods by the age of 6 months. The number of mothers who gave their 6- < 10-month-old children solid or semi-solid foods along with breastmilk increased substantially over the project period, from 42 percent at baseline to 77 percent at end-line ($p < 0.001$). Moreover, at end-line almost all mothers (90 percent) reported giving their 10- < 12-

Box 5 Other infant feeding results from the World Vision end-line survey, 2001

- Increase in proportion of mothers completing a feed on one breast before switching to the other, from 15 percent to 53 percent
- Increase in initiation of breastfeeding within 24 hours of delivery, from 17 percent to 61 percent
- Increase in feeding of colostrum, from 9 percent to 49 percent
- Increase in proportion of mothers giving their 6- < 1 h-old children 3 meals a day, from 5 percent to 17 percent

month-old children solid or semi-solid foods along with breastmilk, a significant increase over the baseline rate of 66 percent ($p < 0.001$). ADP-Ballia staff noted in a LINKAGES mainstreaming review visit in late 2003 that “Children were earlier given only lentil soup, etc., but we now promote the right consistency and frequency for the growing child.”

Other infant feeding results included increased understanding among mothers of the value of giving both fore and hind milk, finishing a feed on one breast before switching to the other, and giving infants over 6

months old three meals a day (box 5). Findings also indicated extensive outreach of messages given during the World Vision/LINKAGES project: 76 percent of mothers in the end-line survey reported hearing messages on infant feeding practices during the previous 3 months.

Capacity Building Results

LINKAGES contributed to strategic frameworks for programming BCC interventions across projects that included reproductive health and safe motherhood components. Interventions were designed to fit into the ICDS, INHP, ADP, and SMCS infrastructures and to link with existing agencies and structures. LINKAGES trained approximately 150 PVO partner staff in formative research, introducing the TIPS methodology for the first time in India. Almost 500 PVO partner staff, 200 government staff (including ANMs and AWWs), and 50 NGO staff were trained in BCC strategy development and implementation; 24 PVO partner staff in monitoring and evaluation of BCC programs; CARE staff from the New Delhi office and all 8 INHP states in PROFILES, 28 World Vision ADP staff in mother-to-mother support group methodology; and 70 ADP staff in infant feeding in the context of prevention of mother-to-child transmission of HIV.

CARE felt that “LINKAGES had a major influence on the functions, services, and acceptability of the AWCs ... service providers who interface with the AWC have been enhanced; they have gained greater confidence [and] greater faith in the system, earned more trust from the community, and developed a feeling of greater accountability” (final evaluation, p. 23).

In addition to enhancing technical expertise and counseling skills, the CARE/LINKAGES collaboration increased the visibility of the INHP in the health sector. The final evaluation found interpersonal communication agents “well informed and thorough” (p. 22). The

phase I end-of-project report found that AWWs had achieved greater legitimacy, communication between block and sub-block personnel had improved, and NGOs had been helped to further their sectoral objectives (e.g., planting fruit trees to improve household nutrition). CARE also reported that LINKAGES had provided forums for block and sub-block personnel from various development sectors to meet and exchange ideas and encouraged all agents to promote a common set of messages. The final evaluation observed that “strengthened and streamlined service delivery at the AWC as a result of the combined INHP and LINKAGES inputs resulted in greater and more regular contact between pregnant and nursing [women] and field-level service providers ... Repeated interaction, participatory discussion, and the generation of faith in the services and personnel associated with the programs created an openness to learn and laid the ground for acceptance of advice from interpersonal channels.” (p. 22)

The CRS health manager stated in a 2003 strategy development workshop that without LINKAGES technical assistance, CRS would have continued to pass out information through health education rather than promoting good public health behavior and negotiation skills.

For World Vision, partnership with LINKAGES not only increased optimal infant feeding behaviors, but also enhanced the staff’s technical and counseling skills and facilitated the establishment of an easily managed monitoring system. World Vision’s 2001 evaluation described enhanced technical expertise and counseling skills among staff, improved BCC materials to promote appropriate mother and child nutrition counseling messages, increased visibility of the ADP in the health sector, and a more focused ADP child development intervention. “LINKAGES added value to the ADPs, specifically in the areas of better planning, monitoring, and establishing links with other agencies.” World Vision staff in ADP-Ballia noted in 2003. “We started promoting colostrum feeding earlier as well but really did not know [then] why it was important.” The ICDS director in Dehradun, quoted in the 2004 World Vision documentary “Jagriti: An Awakening,” reported that, “AWWs are more knowledgeable and confident, and their communication skills are better than [those of] the untrained ones.” A midwife interviewed in the same film said, “I used to feed ghutti,¹¹ but I stopped when I started coming to the meetings. I also try to make other mothers understand.”

Mainstreaming Results

Mainstreaming is the process of assessing an organization’s needs, testing an innovation, and diffusing the innovation throughout the organization. The results of LINKAGES mainstreaming with PVO partners in India are analyzed below according to each stage.

1. Formation

What problems were identified? What key indicators did the organizations feel they needed to change? What innovations were identified for this purpose? How did each level of the organizations interact and share information and resources? How do the organizations’ networks interact and learn from each other? How do clients interact, communicate with, and learn from the PVOs?

¹¹ A prelacteal feed consisting of herbs, water, glucose, etc.

In terms of health and nutrition, the most critical period of women's life is the maternity period, and maternal health has an intergenerational effect. India has a high maternal mortality rate (540 per 10,000 live births)¹² and accounts for 40 percent of the world's malnourished children.¹³ Under-nutrition among women of reproductive age is compounded by poor utilization of government services designed to promote safe motherhood and child nutrition. LINKAGES' PVO partners recognized that health improvements depended not only on women's knowledge about nutrition, pregnancy and childbirth, but also on positive changes in practices. However, presenting health messages on best practices was insufficient to bring about behavior change. To promote key target behaviors, the organizations needed to understand community perceptions and constraints to and motivators for proposed behavior change.

All three PVO partner programs targeted health and nutrition of pregnant and lactating women and children < 3 years old. Initiation of breastfeeding within 1 hour of birth, exclusive breastfeeding of infants 0– < 6 months old, and initiation of complementary feeding at completion of 6 months were jointly agreed on as indicators by LINKAGES and the PVOs.

LINKAGES helped the PVOs conduct formative research to identify barriers and facilitators to optimal practices and design comprehensive behavior change strategies based on an in-depth understanding of the target communities, local resources, and context-specific factors that affected practices. Roles were established for each partner in mutually developed sub-agreements. PVO India headquarters staff were involved in project planning and strategy development workshops. CRS developed model behavior changes sites, and World Vision established ADP-Jagriti as a center of excellence. LINKAGES helped field staff design baseline and end-line surveys and registers to monitor and evaluate behavior change.

2. Infusion

How did the PVOs and LINKAGES test the innovations and in what catchment areas? Were they advantageous over current practices, minimally complex to use, testable in an affordable and relevant setting, and able to show achievements of specific objectives in a cost-effective way? What were the results of testing the innovations?

Innovations to address suboptimal maternal, infant, and child nutrition behaviors were identified in strategy development workshops facilitated by LINKAGES and tested in pilot blocks or districts through negotiation and interpersonal communication with mothers and families. The focus on community participation and grassroots capacity building facilitated progress and sustainability.

PVO partners agreed on TIPs' ease of use, affordability, and effectiveness in encouraging and supporting beneficiaries to adopt new practices despite the length of time it took to conduct. CARE included counseling and negotiation skills in its change agent training curriculum but did not use TIPs to test recommendations. During phase II in Madhya Pradesh and Uttar Pradesh, CARE conducted focus group discussions, in-depth interviews, observation, and market surveys.

¹² National Family Health Survey, New Delhi, 1999.

¹³ "Integrated Nutrition and Health Project—An Overview," CARE, April 2003, p. 1.

Through a cascade approach, LINKAGES trained partner staff who then trained partner NGOs. Training of NGO staff and government service providers ensured that technical updates on maternal nutrition and infant and young child feeding reached front-line workers such as animators, AWWs, and RMPs.

In the 2000 mainstreaming workshop, partners identified consistent messages in all program components as a lesson learned for the infusion stage. In some cases target messages were included in existing and familiar materials and events, while in other cases LINKAGES helped develop new counseling cards and training manuals.

3. Diffusion

How did the organizations promote the innovation throughout their networks? How were champions and decisionmakers informed of the innovation and results? How was the innovation transferred?

LINKAGES contributed to long-term strategic frameworks for programming BCC interventions and with its partners developed behavior change indicators that can be adapted for monitoring systems in similar programs. All LINKAGES PVO partners held mainstreaming workshops with staff from other parts of their programs to share the experience from the pilot sites and wrote evaluation reports for wider distribution.

CARE, CRS, and World Vision all have complex organizational structures in India that provided a broad audience for mainstreaming LINKAGES' BCC methodology. For CARE, one of the objectives of phase I collaboration was to identify processes or results that could be incorporated into scale up through the INHP program in other parts of India. In phase I the extent of the CARE program allowed staff exchange visits between the Maternal and Infant Survival Project staff in Madhya Pradesh and Building on Health and Nutrition Project staff in Rajasthan. In CRS, the SMCS Program had 5 years of established human resources and infrastructure when the partnership between CRS and LINKAGES resumed in phase II. CRS and its partners developed early learning sites in each of the four zones for mainstreaming into 40 SMCS sites. The extensive ADP system allowed World Vision to mainstream the BCC methodology from Sehaspur Block to other blocks in Dehradun District in phase I and later to 7 other ADPs in the North Zone.

Efforts were also made to link project activities with NGOs in the target regions. CARE sought collaboration with the Trust for Community Development and Research, CRS worked through partner community-based organizations, and World Vision signed memorandums of understanding with four NGO partners in Dehradun District. World Vision trained NGO partners in formative research, BCC, and M&E and helped them include breastfeeding, complementary feeding, and maternal nutrition indicators in their MIS.

In phase I World Vision prepared a strategy paper for mainstreaming the LINKAGES BCC methodology into its wider program in India. The paper noted that "While the need for the LINKAGES project in Dehradun is clear, the real value of the project for World Vision is the opportunity to replicate the results in 105 of its ADPs around India" (p. 5).¹⁴ The North Zone was chosen for a phased approach to mainstreaming because of its high incidence of malnutrition, a strong child focus in many of the ADPs, proximity to the pilot site in Dehradun, managerial experience with the pilot in the zonal office, and expression of interest from other LINKAGES partners in Chattisgarh and Jharkhand. A second phase was considered in the Central, Western, and Northeastern zones.

In 2004 LINKAGES facilitated a workshop for Dehradun District health, ICDS, NGO, and World Vision staff to share lessons learned in ADP-Jagriti and visited all North Zone ADPs to discuss institutionalization of mainstreaming. ADP staff with experience

¹⁴ World Vision, "Plan for Mainstreaming LINKAGES," draft, 2001.

from phase II expressed a continued belief in the effectiveness of the LINKAGES BCC methodology for World Vision/India. The organization envisaged that “As newer generations of mothers participate in LINKAGES, a ‘community memory’ will be built up to support these norms. Within several years of beginning implementation, ADPs will be able to scale back their involvement in the program and assess the extent to which the recommended practices are propagated by experienced mothers’ own advice to each other” (p. 1).

Even if the entire process was not mainstreamed into PVO country programs, elements of LINKAGES technical assistance were assumed into all the organizations’ plans.

- PVO health programs will now include modules on negotiation skills to train front-line health workers.
- LINKAGES’ objective was to improve maternal, infant, and young child nutrition, but the PVO programs targeted other health behaviors related to safe motherhood, family planning, and HIV and AIDS. CRS was able to use the BCC methodology to improve other SMCS behaviors, extending the reach of LINKAGES technical assistance.
- The final evaluation of phase I of the CARE/LINKAGES Project found that lessons and materials had been informally, if not systematically, adopted by the INHP. The program was extending the designing by dialogue methodology “to gain a deeper and clearer understanding of change related barriers” (p. 25) and had adopted training modules for service providers, especially TBAs. The village social mapping chart was adopted by CARE’s savings and credit programs WISH and SEED.
- CRS plans to integrate the BCC strategy into program activities, focusing on recipe demonstration and application of TIPs methodology at household level.
- While the partners at first saw the unfamiliar BCC methodology as a separate, LINKAGES, project, after working with the strategies and seeing the results, they will include a BCC component in future funding proposals to USAID and budget accordingly.
- World Vision’s ADP-Girideep will continue to use the monitoring register refined with LINKAGES technical assistance after the collaboration ended.
- In phase I World Vision shared the TIPs method with the Child Survival Project in Madhya Pradesh, included maternal and infant nutrition in technical training for field staff, and adapted the home visit questionnaire revised by LINKAGES to use in other sites.
- In phase II World Vision produced a documentary film on mainstreaming the BCC methodology for improved health and nutrition based on the ADP-Jagruti experience that will be distributed to all ADPs. In this documentary the former North Zone Operations Manager says, “As formal partnership with AED/LINKAGES is winding up in India in...2004, World Vision will continue to work on [the BCC

interventions] as the organization has incorporated the indicator for exclusive breastfeeding by working with AED/LINKAGES.”

- World Vision has included breastfeeding an indicator of success in all ADPs in India, and with a Child Survival Coordinator on staff beginning in 2004, hopes to expand mainstreaming of the BCC methodology in the Asia region.
- The INHP and ICDS may be able to incorporate the BCC indicators pertaining to maternal nutrition and breastfeeding that were developed in the CARE and World Vision collaboration.
- The ADPs felt that replication was assured in ICDS Dehradun, and ADP-Dewas said that the BCC methodology had been extended to the district level.
- The ADPs’ BCC experience had also been shared with NGO partners, some of which had adopted the methodology in their areas. An infant feeding project of the Organisation for Prosperity, Education, and Nutrition (OPEN), an NGO partner of World Vision in the extension block in Dehradun, had adopted TIPs, and another partner NGO had put up billboards promoting exclusive breastfeeding.

Partners noted in the 2000 mainstreaming workshop that “few programs achieve a paradigm shift.” Mainstreaming is a long-term process that depends on partner organizations’ philosophy, sustained leadership at all levels, consistent and continuous commitment, and resources. During its 5 years of work with partners in India, LINKAGES was able to achieve significant results but unable to control these variables.

For example, CARE’s restructuring during phase I led to loss of trained staff and a disruption of village activities and monitoring.¹⁵ FEWS were withdrawn from the field because of a corporate decision that government employees would no longer be placed under the CARE salary structure. Another change that affected the CARE/LINKAGES project in phase I was the modification of the original INHP strategy of dividing target sites into High Impact, Capacity Building, and Basic Nutrition blocks to differentiating only “demonstration sites” and “other villages.” Modifying project activities in Angarah Block, which was scheduled to be converted from a Capacity Building to a High Impact block, in the middle of the project led “to considerable confusion at the field level.”¹⁶

While LINKAGES targeted community behavior change, CARE also hoped to use the BCC methodology to change the behavior of service providers in the INHP II network. Given the large numbers of these service providers and the extensive geographical coverage of the INHP, scaling up the BCC methodology remains a challenge.

After the BCC strategy development workshop in June 2003, CRS expressed an interest in “cross-fertilization” of the LINKAGES BCC methodology, with the BCC in-charges to whom LINKAGES had provided technical assistance training their counterparts in other CPs and zones. However, scaling up to CRS sites was constrained by the distance between target villages, staff shortages in the zones, and

¹⁵ CARE-India, “LINKAGES for IMPROVED Maternal and Infant Health: End of Project Report,” 2001, p. 18.

¹⁶ *Ibid.*

the decentralized nature of the CRS program. Zonal offices choose OPs independent of the national headquarters, and CRS is less an implementer than a partner with the CPs and OPs. Dioceses are more comfortable working where they have established long-term relationships with CPs they know are financially sound and will produce results than in expanding to new areas. Moreover, the independence of the CRS zonal offices from the regional directorship in New Delhi made them less likely than other partner staff to invite close technical assistance after the strategy development workshops.

The mainstreaming coordinator originally envisioned by World Vision did not continue in the position in phase II. World Vision, too, began restructuring internally in 2003, and many World Vision staff who worked with or were trained by LINKAGES were reassigned or left in this process.

4. Inclusion

How will the tested innovations be promoted throughout the organizations and their networks as routine methodology? How will the organizations measure that they have successfully mainstreamed the innovation?

Because of the relatively short time frame of LINKAGES/India's collaboration with PVO partners, inclusion of the BCC methodology throughout their' global programs was not a realistic goal. However, the vision of mainstreaming retained by the PVOs is to some extent being incorporated in their organizations beyond India.

- In its 2001 mainstreaming strategy paper, World Vision noted that, "As the PVO partners gained experience mainstreaming one innovative program, such as LINKAGES, the lessons of that process could benefit the mainstreaming of many other programs within the organization" (p. 1). Because the ADP is World Vision's core programming unit throughout the world, World Vision/India saw collaboration with LINKAGES as a catalyst for promoting NGO and government services in the Asia region and beyond. World Vision has shared the World Vision/LINKAGES experience with the Tanzania office and will distribute the documentary on mainstreaming the BCC methodology in ADP-Jagriti internationally.
- The CRS BCC manual developed with LINKAGES in India is being used in Afghanistan, Sri Lanka, and other CRS program countries, and the former health manager in India requested LINKAGES technical assistance to apply the BCC methodology to improve child survival and health in the CRS program in Sierra Leone.

Table 3 captures the pilot and mainstreaming beneficiary populations of the LINKAGES' PVO partners in India, as well as the innovations promoted and outcomes of the collaboration.

Table 3 Mainstreaming results of LINKAGES collaboration with PVO partners in India

PVO	National catchment population	Pilot catchment population	Main-streaming catchment population	Innovations	Outcomes
CARE	7 million	88,554	1.5 million ¹⁷	<ul style="list-style-type: none"> Formative research (including TIPs and designing by dialogue) BCC strategy development Interpersonal counseling Print materials (flashcards, posters, danglers) Folk media (songs, dance, drama) BCC training and training manuals Monitoring manual 	<ul style="list-style-type: none"> Initiation of breastfeeding within 1 hour of birth from < 1 % to 6 % Initiation of breastfeeding within 0–8 hours from 15 % to 54 % Exclusive breastfeeding for 6 months from 12 % to 28 % Consumption of CSB by pregnant women from 38 % to 82 %

Sources: "CARE-India LINKAGES for Improved Maternal and Infant Health End of Project Report," 2002

CRS	182,000 women and children 0–<3 years old	100,000 (Bihar)	179,185 ¹⁸	<ul style="list-style-type: none"> Formative research (including TIPs and designing by dialogue) BCC strategy development Interpersonal counseling and house visits Print materials (posters, flip books, counseling cards) BCC training BCC manual Case studies Group meetings Mother-to-mother support groups 	<ul style="list-style-type: none"> Increase in number of deliveries with trained birth attendants Increase in colostrum feeding Increase in exclusive breastfeeding for first 6 months Increase in feeding of complementary foods at 6 months in a separate dish Increase in consumption of iron-folic acid tablets in third trimester of pregnancy
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Sources: CRS Formative Research Report, December 1999, "Process Evaluation Report of BCC Project under SMCS Programme," 2004

World Vision	3.5 million	75,000	700,000 (7 ADPs) Long-term: 10.8 million (105 ADPs)		<ul style="list-style-type: none"> Increase in initiation of breastfeeding within 1 hour of birth from 7 % to 22 % Increase in exclusive breastfeeding from 52 % to 44 % Increase in median frequency of breastfeeding of infants 0– < 6 months old in previous 24 hours from 9 % to 10 % Increase in timely complementary feeding of infants 6– < 10 months old from 42 % to 77 %
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Source: "Final Evaluation Report, World Vision/LINKAGES Project, ADP-Jagriti," World Vision, September 2002

¹⁷ 3 districts, Madhya Pradesh: total population (2001): 2.8 million; 132 blocks, Uttar Pradesh: total population 15.8 million, beneficiary population 1.4 million

¹⁸ Patna, Kolkota Zone: total population 36,808, beneficiary population 4,000; Ajmer, Mumbai Zone: total population 42,377, beneficiary population 3,900; Rae Bareilly, Lucknow Zone: total population 45,000, beneficiary population: 4,500; Ongole, Hyderabad Zone: total population 55,000, beneficiary population 4,000.

Recommendations for Future Projects

Extensive reporting and assessment of process and progress emerged from the collaborative projects with LINKAGES partners in India. This documentation provides lessons for designing similar behavior change or mainstreaming efforts.

Project design and strategy development

1. **Formulate links with government health and child development services at project conception.** Support from ICDS and health authorities in LINKAGES partner sites was enthusiastic and productive. Clearly delineating cooperation from the beginning of a project can maximize collaboration, and ensure the ability to supply health and other relevant services once demand is generated, and increase sustainability of interventions. The 2004 CRS process evaluation recommended formalizing links with government functionaries at project conception for smooth program functioning and supply of health services once demand is generated.
2. **Integrate behavior change communication interventions into existing systems.** The BCC strategies facilitated by LINKAGES were designed to fit within activities of ongoing partner programs, all of which collaborated with government health and nutrition infrastructure. Garnering the cooperation and building the capacity of local partners from government to community-based organizations was key to the success and sustainability of the LINKAGES collaboration with partners.

The extensive INHP, ADP, and SMCS systems allowed partners to mainstream the BCC methodology from pilot sites to other blocks, districts, and states. CARE felt it was important to maintain an implementation mechanism with LINKAGES that was similar to that of the INHP so that replication would be easier at other sites. World Vision ADP staff told LINKAGES in 2003 that the project “was so well-integrated that it did not seem separate ... nothing seemed like an add-on. The good part was that no additional structure was required [which] would have added an extra burden.”

3. **Plan behavior change communication interventions at the beginning of a project to continue through the project life.** BCC strategies should not be seen as one-time activities or remedial actions but rather as integral to project design and development. The utility and influence of communication activities dissipate toward the end of a project cycle, when it is too late to change behavior. Staff need time to demonstrate their acquired knowledge and skills through implementation and continued technical assistance to adjust strategies. A longer time frame for mainstreaming activities with PVO partners in India would have allowed LINKAGES to help review materials to ensure technical information was correct and illustrations were appropriate and to monitor the performance of trainees in counseling and negotiation.
4. **Base communication aids on social communication inputs from professional sources and pre- and post-test them** to determine their contribution to changing behavior and reinforcing changed practices. When resources are limited and scaling up or mainstreaming are the objective, communication aids and events should be selective, focused, and powerful. Translation and re-translation should be carefully cross-checked to minimize loss of communication nuances. Staff should adhere to a detailed time plan with a specific rationale for sequencing and introducing

communication inputs. Finally, BCC messages should address traditional and cultural barriers and strongly convey the benefits of adapting new practices.

5. **Allow time and flexibility for the formation and infusion phases of piloting the BCC model.** In the 2000 mainstreaming workshop, the three PVO partners agreed that significant technical assistance was required from LINKAGES in the formation stage. They identified as important elements of this stage a well-defined strategy and clear roles for each partner. Recommendations included involving organizational leaders in mainstreaming decisions, developing centers of excellence to springboard from, and establishing M&E systems to capture change over time.
6. **Include experienced M&E staff at field level from the beginning.** Monitoring is critical for effective project implementation. LINKAGES partner DIPs included collecting monitoring information from the beginning of projects. However, LINKAGES/India's inability to recruit a monitoring and evaluation officer was a significant handicap. The PVO partners found formative research and TIPs useful but felt information gathering was too specialized to implement without continued M&E technical assistance. LINKAGES staff in New Delhi were more experienced in qualitative than quantitative research. Concerns persisted throughout the project about the quality of the baselines contracted out to external research agencies. The PVOs had confidence that these agencies knew how to sample, calculate, and report on data but had little control over the surveys. An M&E officer could have helped local organizations design and conduct baseline and end-line surveys, taught partner staff to analyze and follow up these surveys, and saved considerable headquarters effort cleaning and redoing data. Moreover, LINKAGES/India staff needed training to be able to scrutinize research results.

Maternal, infant, and child nutrition projects might consider tracking the nutritional status of a sample and control group of project beneficiaries to demonstrate that BCC efforts are related to the goal of improved nutritional status. Such a research sub-component could track physical benchmarks and outcomes by, for example, weight.

Implementation

7. **Use formative research and TIPs to focus staff and beneficiaries on barriers to and motivators for optimal practice and formulate context-specific and culturally appropriate BCC strategies.** From 15 years of experience in Title II programs in Bihar, CRS recognized that presenting messages on best practices was insufficient to bring about behavior change. Organizations also need to understand community perceptions, norms, constraints, and enabling factors and strategize project interventions accordingly. In CARE's Angarah Block, for example, formative research found that many beneficiaries were unaware of their entitlement to the CSB food supplement and other AWC services. The project strategy was developed to identify beneficiaries more accurately (e.g., through social mapping by AWWs) and increase utilization of available ICDS services. The formative research also identified a calorie deficit among pregnant women that could not be met by the ICDS supplement, resulting in the promotion of messages to encourage consumption of extra food.
8. **Ensure intensive capacity building at all levels for success of the inclusion stage of mainstreaming.** LINKAGES trained partners and service providers in counseling

and negotiation to enable them to change behavior at the community level. Partners then trained additional service providers and local NGO partner staff to maximize the diffusion of technical information and counseling skills. Capacity building was both individual and institutional, also enhancing government planning and monitoring skills.

9. **Employ interpersonal counseling on options and negotiation of behavior change to address individual barriers to optimal dietary practices.** Family situations differ. Community change agents should negotiate behavior change based on each beneficiary's needs and circle of influential people, discussing feasible behavior change options. CRS, for example, pointed out the importance of involving mothers-in-law as change agents because of their influence in the Indian cultural context. Recommended practices are more acceptable to people who help to identify them, for example, through TIPs and negotiation. LINKAGES partners found household visits, interpersonal communication, and use of counseling cards an effective way to bring about behavior change. CRS and World Vision staff successfully used TIPs to test recommendations, and UNICEF India has decided to use the methodology to promote early childhood care and development in several states.
10. **Deliver consistent messages through multiple channels to reinforce and endorse optimal behaviors.** Interpersonal counseling at household level was the main channel for messages on optimal practices in LINKAGES partner sites, but the project reinforced these messages frequently, intensively, and repeatedly through multiple authoritative sources. These included "danglers" hung in shops, entertaining street plays, baby shows, audio cassettes played at local markets, and wall paintings in villages. RMPs and dais were enlisted in developing and promoting the messages. The 2004 CRS process evaluation recommended uniform messages delivered by various service providers and regular reiteration of messages as beneficiaries move through the stages of behavior change.
11. **Emphasize facilitation skills in training.** The project trained CARE and project staff, government supervisors, and community volunteers in a cascade approach, with the first level of trainees training the next level. Training focused on building counseling and negotiation skills as well as technical skills, and training modules included relevant field practice exercises. Practical skills training gave partner staff confidence to perform as effective change agents. Both LINKAGES India and partner staff would have benefited from training in conducting and analyzing quantitative surveys. Projects should also institute some method of supervision and monitoring of trainees' counseling and advocacy.

Finance, administration, and management

8. **Ensure that contractual agreements are clear regarding financial issues, reporting, and monitoring.** Financial, contractual, and reporting requirements, indicators, deliverables, and due dates should be clearly delineated in project sub-agreement and scopes of work. In contractual relationships, time lags caused by chains of approval should be factored into task orders if partners cannot allow separate tracking of expenses by donor or client to allow cost-reimbursable contracts. Other relevant issues should be identified during the first reporting cycle so that shortcomings or

misunderstandings (such as the need to remove funds from sub-agreement budgets when activities are cancelled) can be corrected early.

9. **Allow for a mid-term review in DIPs.** A qualitative and quantitative review halfway through project implementation can identify problems that should be corrected. Mid-term evaluation allows recouring to ensure effective use of resources.
10. **Prepare for possible restructuring and staff changes by developing strategies to sustain the mainstreaming process.** Restructuring is often part of organizational decisions, but its impact on partnership projects can be serious. Partners should notify the technical assistance organization as soon as possible of personnel changes and the impact of broader program changes. The technical assistance organization should then arrange a meeting to clarify the implications of the restructuring on partner agreements. This should be followed by clear redefinition of roles and lines of reporting and a review of outstanding planned activities

Attachment 1 Materials and Tools Produced

Abundant research, training, BCC, and evaluation materials emerged from the LINKAGES partner projects in India. These are listed below by PVO.

CARE/LINKAGES: CARE materials development was done in house by the CARE India technical specialist. All messages were designed based on TIPS, and a core set of visual materials was pre-tested.

- Formative research instruments (observation of child breastfeeding patterns; focus group discussion guide for fathers; semi-structured interview guides for AWWs, dais, lactating women, mothers with children 0–5 months old, mothers-in-law, pregnant women, and community health providers), 1998
- Hajeebhoy, Nemat, Rachna Bhandari, and Monica Tandon, “Maternal Diet and Breastfeeding Practices in Angara Block, Ranchi District, Bihar, India: Formative Research and Recommendations,” 1998
- Kanani, Shubada, “Formative Research Report: Behaviour Change Trials for Better Nutrition of Pregnant and Lactating Women in Angarah Block, Bihar,” 1998
- Baseline survey instruments (questionnaires for mothers, AWWs, ANMs, husbands, dais, pregnant women), 1999
- Baseline (quantitative) report, 1999
- Set of 17 counseling cards (in Hindi), 1999
- Dancers (in Hindi), 1999
- 2 audio cassettes with jingles and songs in Sadri
- Home visit questionnaire, 1999
- Aarogya Center for Health-Nutrition Education and Health Promotion, “Food and Nutrient Intake of Infants (2–12 Months) in Patna District: A Focus on Complementary Feeding Practices,” 1999
- Grover, Deepa, “Good Health in Pregnancy and Lactation: A Manual for Building the Capacity of Field Workers for Improving Maternal Nutrition and Breastfeeding Practices,” 1999
- Monitoring book and monitoring summary sheet, 2000
- Monitoring tables (village profile, pregnant women, newly delivered women, lactating women with infants < 6 months, group activities sheet, village nutrition and health day, quarterly summary sheet for block-level activities), 2000
- Training of trainers module for CARE field staff, 2000
- “Report of Drama Troupe and Chhau Dance on LINKAGES Interventions,” 2001
- End-line survey instruments (questionnaires for mothers, AWWs, ANMs, husbands, dais, pregnant women), 2001
- “CARE-India/LINKAGES for Improved Maternal and Infant Health: End of Project Report,” 2001
- Talwar, Dr. P.P., Dr. Padam Singh, and Dr. Manish Subharwal, “Final Evaluation of CARE/LINKAGES Project for Improved Maternal and Child Health,” 2001
- Scripts for radio spots and folk drama, 2003

CRS/LINKAGES

- Formative research instruments (in-depth interview guides for mothers or caretakers of children 0–5 months old, mothers or caretakers of children 6–12

months old, and dais; focus group discussion guides for caretakers, fathers, and mothers-in-law; and observations of breastfeeding patterns of children < 6 months old), 1999

- Formative research instruments (background information, 24-hour dietary recall of infant, food frequency of infant, food frequency of family, behavior selection, rationale for field trials, recommended practices and counseling guide for infant feeding trials, feedback on trial behaviors, complementary food options for field trials, counseling guide, and field trials recommendations), 2000
- “Behavior Change Communication for the Safe Motherhood and Child Survival Program” training manual, 2003
- Baseline survey reports for each of the four mainstreaming sites
- Formative research reports for each of the four mainstreaming sites
- 20 flashcards on breastfeeding and maternal nutrition in Lucknow Zone and 30 in Hyderabad Zone
- “Process Evaluation Report of BCC Project under SMCS Programme,” 2004

World Vision/LINKAGES

- Qualitative research instruments, 1998
- Hajeebhoy, Nemat, “Recommended Complementary Food Recipes for Infants Ages 6–11 Months,” 1998
- Keith, Nancy, and Nemat Hajeebhoy, “Breastfeeding and Complementary Feeding of Children under One Year, Sehaspur Block, U.P., India: Qualitative Research and Field Trials,” 1998
- Set of 19 flashcards on breastfeeding and maternal nutrition (in Hindi), 2000
- Dangles to encourage male involvement, 2000
- Scripts for plays and dance dramas on breastfeeding and maternal nutrition, 2000
- Training of trainers curriculum on breastfeeding and maternal nutrition, n.d.
- Monitoring forms (monthly monitoring form, CDO home visit form, CDO monthly reporting form, CDO monthly summary sheet, program coordinator monthly form, animator monthly monitoring form, animator monthly summary sheet), n.d.
- Monitoring forms (village profiles, behavior change monitoring indicators, village profile, illustrative quarterly summary sheet for block-level activities), 2000
- “Handbook on Infant Feeding (0–11 Months) for Community Development Organizers,” 2000
- “Jagriti Area Development Programme, Dehradun: Monitoring Manual” (Hindi and English), 2000
- “Final Evaluation Report: Improved Breastfeeding and Complementary Feeding of Infants under One Year, World Vision/LINKAGES ADP-Jagriti Project,” 2002
- “Facilitator’s Guide: Steps to Be Used by Block-Level Facilitators for Capacity Building of Change Agents/CBOs,” 2002
- Counseling cards developed in ADP-Jagriti, 2002 and 2003
- “Jagriti: An Awakening” (documentary film in English and Hindi, on DVD),