



## Cusco, Peru: Child and Maternal Health Impact Report

NEXOS:  
Promoting Maternal and Child Health  
Linked to Co-Management of  
Primary Health Care Services  
2005-2009

*To strengthen collaborative management  
between communities and government for  
equitable and sustainable solutions in  
health and development*



## Letter from the Peru Country Director

Dear Friends and Colleagues:

In the Andes highlands of Cusco Peru, communities partner with the government to improve the quality of health services. In 2002, Future Generations Peru joined this partnership to provide training and technical support with the goal of improving maternal and child health. In 2005, the organization received funding from a four-year USAID Child Survival and Health Grants Program to work with 28 primary health facilities and 258 communities in the rural area of Cusco, home to the Inca empire and Macchu Pichu. Cusco evaluation data from 2005 and 2009 shows significant impacts:

- Chronic malnutrition in children 6-23 months of age declined from 38.0% to 29.8%
- Underweight children 0 – 23 months of age declined from 17.6% to 12.0%
- Diarrhea prevalence dropped from 27.6% to 17.4%
- Levels of exclusive breastfeeding increased from 78.9% to 87.9%
- Maternal mortality declined by 75% within the project area compared with 50% in the surrounding region of Cusco
- The percentage of mothers who know two or more danger signs in pregnancy rose from less than 10% to 59%

In addition to the direct health impacts, this project also developed an effective system for sustaining impacts and improving health over time. The system is based on a three-way partnership among communities, government, and the health facility staff.

In 2010, this work in Cusco continues with a one-year subgrant from EngenderHealth, a recipient of funds from the Gates Foundation. Also, I am pleased to announce a second four-year grant (2010-2014) from the USAID Child Survival and Health Grants Program to expand the organization's work in Huánuco. Both projects will use a new process for training women as community health agents developed by the late Senior Health Advisor of Future Generations, Dr. Carl E. Taylor.

Future Generations welcomes your review and feedback. I will look forward to an opportunity to dialogue with you about lessons learned and how Future Generations may collaborate for continued expansion of these achievements.

Cordially,

Laura Altobelli  
Director, Peru Country Program



# Cusco Peru: Child and Maternal Health Impact Report

## Overview of FutureGenerations Peru

Future Generations began working in Peru in 2001 to strengthen the national primary health care system. Today, community health administration associations known as CLAS partner with the government to co-manage 2,158 of Peru's 7,100 primary health care centers.

With advocacy from Future Generations Peru, the national CLAS system has been granted into law and promoted by the Peruvian Ministry of Health (MOH). CLAS co-managed facilities have been proven to provide higher quality health services and greater coverage of basic services for poor and underserved women and children.

Future Generations Peru identifies the best CLAS co-managed primary care centers in a region and develops their capacity to improve the quality of health services through community participation and to become regional learning and training centers (Model CLAS).

Two Model CLAS projects have been implemented in Huánuco and Cusco Departments. In the pilot model CLAS of Huánuco, evaluation data from 2003 and 2005 shows a decrease in chronic childhood malnutrition from 48% to 18% and a 21% increase in immunization rates.

This report details the strategy and impact of the Cusco project, named the NEXOS Project, which was funded from 2005-2009 by the United States Agency of International Development (USAID) Child Survival and Health Grants Program.

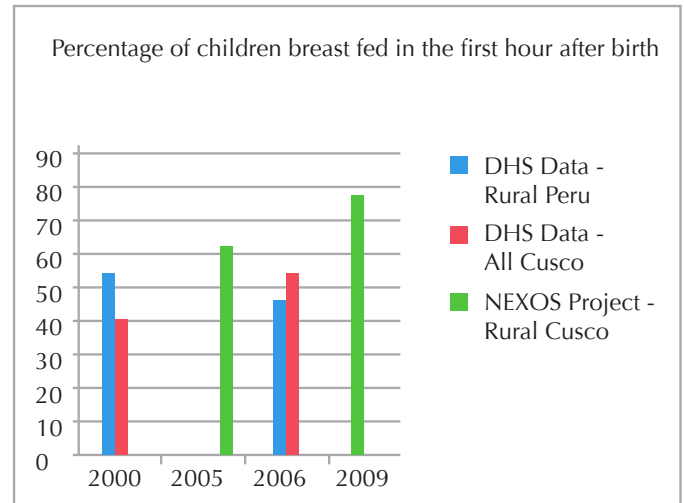
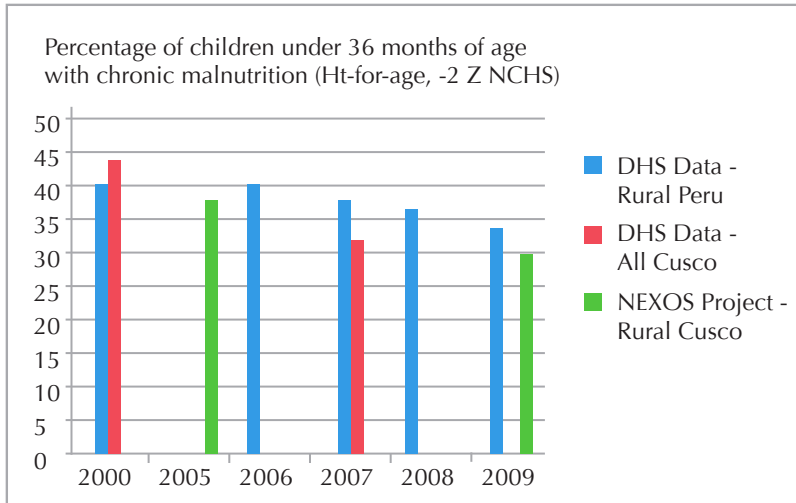
## Program Leadership



Dr. Laura Altobelli has served as Peru Country Director for Future Generations since 2002. With more than 30 years of experience, Dr. Altobelli is a recognized expert in the field of maternal and child health and nutrition issues and programs. Within this field, she has specialized in maternal-

child health and nutrition matters that are of concern to developing countries, and in particular, to the poorest population segments. Dr. Altobelli has a Dr.P.H. from the Johns Hopkins University and more than 20 years of Peru country experience.

# Major Health Impacts of NEXOS Project



\* The blue denotes data from the Demographic Health Survey of rural Peru. The red denotes data from the Demographic Health Survey of all of Cusco Department. The green denotes data from Future Generations surveys of the project area, including a baseline survey in 2005 and an end of project survey in 2009

## Nutrition and Prevention of Chronic Child Malnutrition

The NEXOS Project reduced the rates and duration of infant illness and improved dietary intake. Pre (2005) and post (2009) household surveys of, respectively, 630 and 616 mothers of children under two years of age showed significant reductions in both chronic and acute malnutrition.

The percentage of children 6 - 23 months of age who were chronically malnourished (low height for age) dropped significantly from 38.0% to 29.8%. The percentage of children 0 - 23 months of age who were underweight for their age dropped significantly from 17.6% to 12.0%.

NEXOS promoted “Demonstration Sessions” where groups of women prepared appropriate weaning foods with traditional foods and practiced hygiene behaviors. Health facility personnel, with support from community health agents (CHA), organized 86 demonstration sessions.

NEXOS had a strong focus on hand-washing and water storage and treatment for prevention of diarrhea and respiratory illnesses that contribute to malnutrition. Continued feeding during illness and recuperation were also important educational messages.

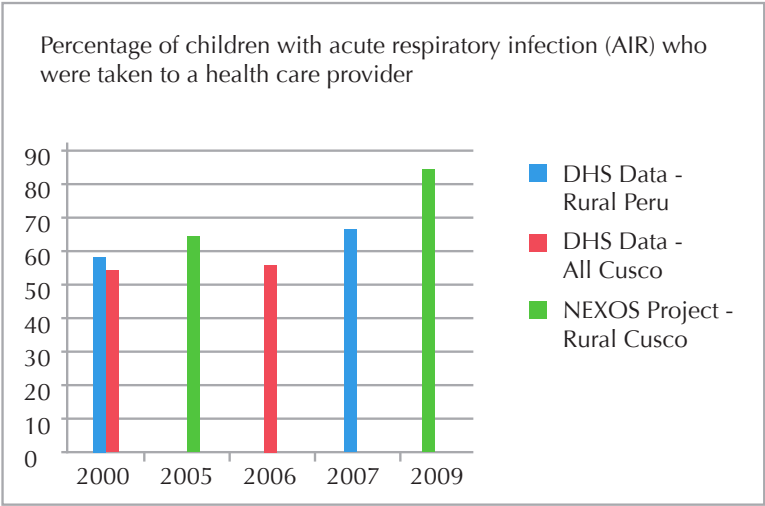
Levels of exclusive breastfeeding increased from 78.9 to 87.9% and children 6 - 9 months who received breast milk and appropriate complementary food increased significantly from 56.1% to 89.6%.

## Maternal and Newborn Care

According to the NEXOS Project pre and post household surveys, the percentage of mothers of a 0-23 month old child whose birth was attended by skilled health personnel increased from 72.3% to 87.7%. The percentage of women with at least six prenatal visits during pregnancy rose significantly from 66.4% to 88.4%. The percentage of mothers who knew two or more danger signs in pregnancy rose significantly from less than 10% to 59%.

As a result of improved practices in maternal care, maternal mortality declined by 75% within the NEXOS target area and by 50% in the rest of the Cusco Region.

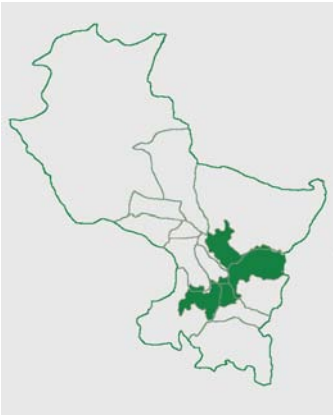
The percentage of newborns that were immediately dried and kept warm increased significantly from 73.3% to 88.1%. Mothers who received a visit in the first week after birth by a community health agent (CHA) or other health provider increased from 34.8% to 70.3%.



## Project Area



Map of Peru, Cusco in green



Map of Cusco, Project area in green

## Pneumonia Case Management and Diarrheal Disease Control

According to the NEXOS pre and post household surveys, the percentage of caretakers who sought medical care for a 0-23 month old child with a cough and difficult or rapid respiration rose significantly from 64.5% to 84.8%. The percentage of caretakers of a 0-23 month old child who knew at least two or more signs of severe respiratory illness increased substantially from 17.0% to 44.5%.

In regards to sanitation and hygiene behaviors promoted to prevent diarrhea in children, proper elimination of child feces increased from 29.2% to 75.9% of mothers interviewed. Also at the end of the project, 86.5% of mothers properly treated water for drinking. These results help explain the significant drop in diarrhea prevalence from 27.6% to 17.4% in children under two years of age. The percentage of mothers of a 0-23 month old child who knew at least two or more danger signs of diarrhea increased significantly from 12.2% to 38.6%

The project collaborated with the Healthy Community initiative, which installed improved stoves to decrease the amount of smoke in the home to reduce respiratory illness and improve child growth.



Close up of the project area, in green

# Summary of Project Methodology

Future Generations Peru uses a process known as Seed-Scale to facilitate community-led development in partnership with the government to achieve sustainable health impacts on a regional scale. This process strengthens a three-way partnership and builds capacity among communities, local governments and regional health ministries, and health facilities to improve health and development needs based on local priorities.

## Enhancing Government Roles in the Three-Way Partnership - Sectorization Strategy

The NEXOS Project in Cusco linked 28 rural primary care health facilities with 258 communities and 17 municipal governments to improve maternal and child health.

Future Generations developed a more detailed implementation plan to improve the Ministry of Health's "sectorization" strategy. "Sectorization" is a Ministry of Health (MOH) term for organizing primary health care facilities to do community outreach, which ensures that the health needs of the poorest and at-risk community members are met.

The sectorization strategy helps to strengthen and organize the work of a MOH primary health care facility, enabling it to work more effectively in communities and define the roles of Community Health Agents (CHA).

MOH staff are responsible for specific communities; they train and supervise CHAs to promote healthy behaviors and monitor the health of pregnant women, newborns, and children. Each CHA is responsible for a limited number of households. CHAs meet regularly with their assigned MOH staff member and make referrals to the health clinic when necessary. In addition, CHAs work with their community leadership council to facilitate community workplans that address other local priorities. Municipal governments provide funds to help implement these community workplans.

MOH staff identified the sectorization method as one of the major contributions of the NEXOS Project, as it helped them systematically work with community leaders and CHAs using methods, tools, and instructional materials developed by Future Generations Peru.

The linkages and processes strengthened through the NEXOS Project are more likely to continue even though the formal grant period has ended. A key factor in the ongoing success of this project is that each partner has a clear role. Each partner has increased capacity and new systems to promote maternal, newborn, and child health, nutrition, and hygiene. See the chart the right to learn more about the roles of each partner.

## Other Factors and Strategies Responsible for Project Successes

*Government programs that contributed to the results include:*

- The Integrated Health Insurance Program, which provides free health services to low income families

- A conditional cash transfer program in selected communities called Juntos in which poor women receive cash payments on the condition that they obtain preventive health services for themselves and their children
- The Integrated Nutrition Program, which provides donated food to women and children who attend health services

*Factors attributed to the NEXOS Project include:*

- The organizing of communities around health, which led to a community vision and local workplans
- The creation of community obstetrical emergency evacuation committees
- The community health referral system
- The improved organization and quality of care in health facilities
- Increased education of mothers
- Home monitoring of mothers and children
- Radio messages and other forms of information
- New municipal regulations and municipal ordinances requiring utilization of maternal health services

*NEXOS project interventions and instructional materials include:*

- A total of 154 health facility staff were trained in obstetrical and neonatal emergencies, using three sets of training models of human figures, which were donated to the Cusco Regional Health Directorate for further training.
- A Community Birth Plan card was provided to pregnant women to help them plan and prepare for care during pregnancy and delivery. It also teaches signs of danger during pregnancy, delivery, postpartum, and in newborns. The NEXOS evaluation found the percentage of mothers who had used a birth plan increased significantly from 42.2% to 75.6%.
- 213 CHAs received flipcharts for educating mothers on pneumonia danger and chronometers for measuring respiration rates. The NEXOS pneumonia flipchart was later adopted by the MOH for reprinting and distribution to all high-altitude regions of Peru affected by high rates of infant pneumonia deaths.
- The NEXOS newborn flipchart was later expanded in collaboration with the MOH and UNICEF for reprinting and distribution for use by primary health care centers.

# The Role of a Three-Way Partnership — Sectorization Strategy Chart

## Roles for Health Staff as Sectorists

- Orient, train, and advise community leaders and community health agents.
- Maintain information file on each community and report surveillance data to the health facility.
- Facilitate organization of a community file for each community health agent to manage.
- Supply community health agents with monitoring and reporting formats and educational materials.
- Monitor and support community health agents work on a monthly basis.
- Train and support communities for development of Community Work Plans.
- Coordinate with other sectors and programs working in the same community.
- Report to the health facility - discuss solutions with other sectorists.

## Roles for the Health Facility Management Team

- *Organization:* Define sectors in the catchment area based on number of staff.
- *Technical regulation:* Establish priorities, train health staff in sectorization, maintain stock of formats and materials, plan/monitor/evaluate work of sectorists.
- *Administration:* Approve monthly community visit schedules, receive monthly sectorist reports to summarize and display, establish incentives and sanctions.
- *Finance:* Do cost analysis and budgeting to ensure funds.

## Roles for Community Leaders

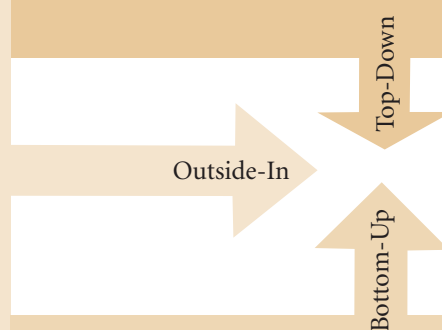
- Select, designate, monitor, and provide incentives for community health agents.
- Form Evacuation Committee for Obstetrical and Neonatal Emergencies.
- Create vision and iterative Community Work Plans.

## Roles for Local Governments

- Organize a Municipal Health Committee (COMUSA) to coordinate the work of multisector local government partners with community leaders.
- Pass municipal ordinances for health and sanitation actions required of communities and families.

## Roles for the Regional Ministry of Health

- Establish policies on sectorization strategy and new community orientation of primary health services.
- Monitor, supervise and evaluate new policies in the field.



## Roles for Mothers and Families

- Learn and adopt key preventive health, nutrition, and hygiene behaviors.
- Learn danger signs for maternal, newborn, and infant conditions.
- Seek timely health care when danger signs occur.

## Roles for Community Health Agents

- Conduct community census, community mapping, 3-Question Survey.
- Carry out monthly checklist monitoring of children and women.
- Provide education/orientation to mothers in the home.
- Conduct nutrition and hygiene demonstration sessions for groups of women.
- Refer cases for timely prevention and cure.
- Fill out monthly reports and attend continued training sessions.

# FutureGenerations

## Mission Statement

Future Generations teaches and enables a process for equitable community change that integrates environmental conservation with development.

As an international school for communities offering graduate degrees in Applied Community Change and Conservation, we provide training and higher education through on-site and distance learning. Toward this end, we support field-based research, promote successes that provide for rapid expansion, and build partnerships with an evolving network of communities that are working together to improve their lives and the lives of generations yet to come.

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