Report to USAID

WORKING TOWARD REDUCING MICRONUTRIENT DEFICIENCIES, MATERNAL AND CHILD MORTALITY

A2Z: The USAID Micronutrient and Child Blindness Project
Country Program Experience and Results
Mid-Project Report 2005–2008

November 2008
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<td>USAID Micronutrient and Child Blindness project</td>
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<td>ANC</td>
<td>Antenatal Care</td>
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<tr>
<td>ANM</td>
<td>Auxiliary Nurse Midwives</td>
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<tr>
<td>ARMM</td>
<td>Autonomous Region in Muslim Mindanao</td>
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<td>ASHA</td>
<td>Accredited Social Health Activist</td>
</tr>
<tr>
<td>AWC</td>
<td>Anganwadi Centers - India</td>
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<tr>
<td>AWWW</td>
<td>Anganwadi Workers - India</td>
</tr>
<tr>
<td>BCC</td>
<td>Behavior Change Communication</td>
</tr>
<tr>
<td>BFAD</td>
<td>Bureau of Food and Drugs</td>
</tr>
<tr>
<td>BSPM</td>
<td>Bal Swasthya Poshan Mah (Biannual Child Nutrition Days)-Uttar Pradesh</td>
</tr>
<tr>
<td>CDC</td>
<td>Center for Disease Control</td>
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<tr>
<td>CDHS</td>
<td>Center for Development of Human Services</td>
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<tr>
<td>CDP</td>
<td>Child Days Plus</td>
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<tr>
<td>CHD</td>
<td>Child Health Days</td>
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<tr>
<td>CMOs</td>
<td>Chief Medical Officers</td>
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<tr>
<td>DHS</td>
<td>Demographic and Health Surveys</td>
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<tr>
<td>DOH</td>
<td>Department of Health</td>
</tr>
<tr>
<td>EA</td>
<td>East Africa</td>
</tr>
<tr>
<td>ECOP</td>
<td>Employer Confederation of the Philippines</td>
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<tr>
<td>ECSA</td>
<td>East, Central, and Southern Africa</td>
</tr>
<tr>
<td>ESARO</td>
<td>Eastern and Southern Africa Region</td>
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<tr>
<td>FANC</td>
<td>Fanconi Anemia Contemplation Group</td>
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<tr>
<td>FHSIS</td>
<td>Field Health Service Information System</td>
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<tr>
<td>FNRI</td>
<td>Food and Nutrition Research Institute</td>
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<tr>
<td>GAIN</td>
<td>Global Alliance for Improved Nutrition</td>
</tr>
<tr>
<td>GOJ</td>
<td>Government of Jharkhand</td>
</tr>
<tr>
<td>GOUP</td>
<td>Government of Uttar Pradesh</td>
</tr>
<tr>
<td>HIES</td>
<td>Household Income and Expenditure Surveys</td>
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<tr>
<td>HIS</td>
<td>Health Interview Survey</td>
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<tr>
<td>HKI</td>
<td>Helen Keller International</td>
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<tr>
<td>HMIS</td>
<td>Hazardous Material Information System</td>
</tr>
<tr>
<td>HPDP</td>
<td>Health Promotion Disease Prevention</td>
</tr>
<tr>
<td>HSC</td>
<td>Health Sub Center</td>
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<tr>
<td>ICCIDD</td>
<td>International Council for the Control of iodine Deficiency Disorders</td>
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<tr>
<td>ICDS</td>
<td>Integrated Child Development Services</td>
</tr>
<tr>
<td>IDA</td>
<td>Iron Deficiency Anemia</td>
</tr>
<tr>
<td>IEC</td>
<td>Information, Education and Communication</td>
</tr>
<tr>
<td>IFA</td>
<td>Iron Folic Acid</td>
</tr>
<tr>
<td>IHRDC</td>
<td>Ifakara Health Research and Development Centre</td>
</tr>
<tr>
<td>ISLI</td>
<td>International Life Sciences Institute</td>
</tr>
<tr>
<td>IPT</td>
<td>Intermittent Preventative Treatment</td>
</tr>
<tr>
<td>IMCI</td>
<td>Integrated Management of Childhood Illness</td>
</tr>
<tr>
<td>IMNCCI</td>
<td>Integrated Management of Neonatal and Childhood Illness</td>
</tr>
<tr>
<td>INCAP</td>
<td>Institute of Nutrition of Central America and Panama</td>
</tr>
</tbody>
</table>
Introduction
The A2Z project, a five-year (2005–2010) Cooperative Agreement, is directed to continue and expand USAID’s more than 20 years of global support and leadership to reduce micronutrient malnutrition. The overall goal of A2Z is to increase the use of key micronutrient and blindness interventions to improve child and maternal health. A2Z attempts to consolidate, build on, and expand USAID’s leadership in micronutrients, child survival, and nutrition overall, by taking proven interventions to scale, introducing innovation, expanding services, and building sustainable programs.

The A2Z project targets high need countries with greatest potential for impact. Of the 30 priority countries that USAID has identified for improvements in maternal and child health, A2Z works directly in the following: Bangladesh, Cambodia, India, Nepal, Philippines, Tanzania, and Uganda, as well as an East Africa regional initiative. The project helps another 12 USAID priority countries by developing and disseminating tools and capacity building, and engaging in analysis, advocacy, and partnerships.

This document highlights A2Z country program experiences and results as part of the Mid-project Report: 2005–2008. The countries covered in this report are:

- Cambodia
- East, Central, Southern Africa (ECSA)
- Jharkhand State, India
- Philippines
- Tanzania
- Uganda
- Uttar Pradesh State, India
- West Bank.

In addition to the programs in the countries listed above, A2Z, through partner Helen Keller International, provided limited technical assistance to support activities in Guinea and Sierra Leone in 2006-2007. In Guinea, A2Z assessed the feasibility of using community-based distributors and alternative access points to deliver VAS, and promoted increased routine distribution of vitamin A to post-partum women and sick children at local health centers and through private health care providers. In maternal anemia, A2Z helped to
finalize and promote the "Foyers d'Apprentissage et de Réhabilitation Nutritionnelle des Femmes en Grossesses" (FARNG) strategy (to) with the Ministry of Public Health, and helped almost 2,000 Guinean families in 77 communities to support successful pregnancies through the pregnant women support groups which encourages antenatal care interventions such as IFA supplementation, IPT for malaria prevention and control, and deworming. In Sierra Leone, A2Z tested and evaluated a pilot initiative to integrate VAS into an onchocerciasis control program in remote rural areas; trained traditional birth attendants and private health care providers in VAS; and monitored mass, routine and community based VA distribution efforts. A2Z partnered with international and faith-based NGOs to strengthen community based VAS programs. In 2006, vitamin A coverage increased by 9 percentage points, indicating 100 percent coverage. A2Z's major anemia-reduction activities focused on advocacy with pregnant women support program partners, developing training and monitoring tools, and monitoring and supervising 11 sites in Kambia District.

Considerable progress has been achieved in terms of Universal Salt Iodization (USI) coverage in Guinea. Over the past 15 years, iodine deficiency has decreased from 64 percent to 27 percent, and household level consumption of iodized salt has increased to 55 percent. However, much is still needed to attain USI (at least 90% coverage at the household level with adequately iodized salt) in Guinea. A2Z generated interest and enthusiasm for improving salt production techniques (solar salt production and salt quality), centralizing salt marketing and iodization tasks, and improving salt monitoring and evaluation. In addition, new sources of iodate and smaller packaging options were identified, which will improve the sustainability of national salt iodization efforts. A2Z developed new analytical skills that were used at national laboratories, allowing Guinea to describe, for the first time ever, the actual amount of iodine available in salt at the household level. These analytical skills should help the local iodized salt team to strengthen monitoring and evaluation capacity, and eventually improve overall salt iodization coverage.
Program Design and Partners

Four high impact interventions form the core of A2Z’s strategy:

- **Sustainable high coverage vitamin A supplementation (VAS)** through twice-annual Child Health Days (CHD).
- **Food fortification** to deliver micronutrients through the private sector
- **Maternal anemia reduction** through reducing iron deficiency, improving antenatal care, and integrating malaria control and deworming interventions.
- Developing delivery systems to reach young children with a package of nutrition interventions aimed at **reducing anemia in children 6–23 months**.

The main partner is MOH’s National Nutrition Program. A2Z works closely with RHAC, RACHA, World Vision, CARE, HKI, UNICEF, World Bank, National Institute of Public Health Laboratory, WHO and others. Partners in food fortification also include the Ministry of Planning (NSCFF), HAGAR, IRD, INCAP/Guatemala and ILSI.

Strategies and Activities

- **Vitamin A**: A2Z’s strategy to expand vitamin A coverage is to provide technical support to the National Nutrition Program to strengthen its capacity to develop and manage a national standardized program and to coordinate inputs from a broad range of partners efficiently. In the past various agencies implemented their own vitamin A program resulting in fragmentation and uncertain results. With the Nutrition Technical Working Group, A2Z and partners finalized a National Nutrition Strategy 2008–2015. A2Z also performed a comprehensive vitamin A program review and updated and disseminated the map of partner support. The project helped to develop a postpartum care training package for use at the national level that includes information on vitamin A supplementation, mebendazole treatment (deworming), and iron/folic acid supplements.

- **Food Fortification**: A2Z provides technical support to the National Subcommittee for Food Fortification at the Ministry of Planning. Staff from eight ministries, NGOs, UN partners and representatives from the private food industry participate in this committee.
• **Maternal Anemia Reduction:** A2Z supports the MOH and partners to increase the number of women who access ante-natal care and follow anemia prevention protocols.

• **Child Anemia Reduction:** A2Z developed and helps to implement a study on child anemia and nutrition (Good Food for Children Study). The 27–month study was launched in Svay Rieng province in December 2007 and will determine the feasibility and effectiveness of delivering home-based fortification with multiple micronutrient powders and IYCF education through the government system.

**Progress and Results**

**Vitamin A**

Vitamin A coverage under the MOH twice-annual vitamin A supplementation program for children 6–59 months is shown in Figure 1. National vitamin A coverage trends based on HMIS and coverage data in the A2Z-HKI focus districts is given. It also shows the CDHS 2005 reported coverage for vitamin A supplementation.

Vitamin A supplementation during Round 1 of 2007 was conducted as a part of the national measles campaign, and as such, the number of children 6–59 months who received vitamin A through the national campaign was much higher than the established target figures. For the A2Z/HKI focus districts, the coverage for Round 2 of 2006 represents 11 districts while Round 2 of 2007 covered nine districts. For Round 1 of 2008, 12 districts were covered through A2Z/HKI support during the vitamin A supplementation round.

**Figure 1. Cambodia Vitamin A Coverage In Children 6-59 months**

![Graph showing vitamin A coverage](image)

Source: HIS

**Re-analysis of 2005 CDHS Vitamin A Data.** A2Z analyzed the 2005 Cambodia DHS vitamin A data to examine the vitamin A coverage trend between the 2000 and 2005 CDHS. The analysis revealed that the vitamin A supplementation survey question changed from 2000 to 2005, allowing mothers to respond “don’t know” to whether the child received vitamin A. A re-analysis of the 2005 vitamin A data showed that mother’s poor recall and mothers reporting “don’t know” to whether the child received vitamin A (30%) significantly biased the estimate. Adjustments for recall bias and use of imputation for cases where mothers reported “don’t know” produced a coverage estimate of 50 percent, higher than the official figure of 34.5 percent, among children 6–59 months. Though supplementation rates for children under five improved from...
2000 to 2005, the trend of vitamin A coverage as based on DHS data is not precise due to the high percentage of “don’t know” responses in the 2005 CDHS.

- **Policy.** Revised and updated the National Vitamin A Policy. Key changes in the policy are important and should be noted:
  
  - Supplementation rounds changed from an eight month gap (March and November) to every six months (May and November).
  - Vitamin A supplementation for post partum women changed from within eight weeks after delivery to within six weeks after delivery.
  - A new section was added describing the roles and responsibilities of all stakeholders involved in vitamin A supplementation. This was the first time that the MOH officially recognized the village volunteers’ role for vitamin supplementation in a policy document. Village volunteers are allowed to distribute VAC during mop up activities and to post partum women.
  - Key messages for vitamin A now focus on child survival benefits and de-emphasize the previous focus on night blindness.
  - Vitamin A supplementation is now linked with the Cambodia Child Survival Strategy 2006-2015 and uses the same targets. (Vitamin A is one of the 12 child survival scorecard interventions.)

- **Planning and implementation.** A2Z built capacity among district health teams to plan, supervise and report vitamin A rounds: prioritized low coverage-high population districts for support; advocated for budgeting for vitamin A rounds in provincial annual operational plans; coordinated partner agency inputs efficiently to ensure that all 77 districts are supported for vitamin A rounds; and used a standard package of tools nationwide. For example, substantial progress was made in 12 districts that received focused support to implement vitamin A supplementation rounds through HKI from 2006–2008.

- **Communications:** A2Z developed a National Vitamin A communication strategy and communication materials that included a TV spot, radio spots and a vitamin A song with complete re-branding of the vitamin A materials (colors, messages, themes, and channels).

- **Human capacity development.** To upgrade the knowledge and skills of health center staff, A2Z led the revision and redesign of a Vitamin A training package and job aids, integrating practical and theoretical information into the national in-service training curriculum (MPA 10). Upgrading village volunteers’ skills is now feasible because A2Z also revised and redesigned the micronutrient training module and job aids for community workers.

- **Pharmaceutical systems strengthening.** A2Z subcontractor Management Sciences for Health (MSH) completed a key assessment in 2008 to analyze the micronutrient supply systems and recommend interventions. The analysis showed no stock-outs of Vitamin A at the national level (Table 1), though issuing drugs with close expiry dates to district stores created problems at the district and facility levels. Recommendations for strengthening the current system were presented to the National Nutrition Program and Nutrition Technical Working Group, and country teams are providing technical assistance to implement priority interventions.
Table 1: Availability of Micronutrients Assessed

<table>
<thead>
<tr>
<th>Product</th>
<th>Specs</th>
<th>Availability at visit</th>
<th>% days out of stock in 1 year</th>
<th>Losses due to expiry</th>
<th>Stock level on 7/1/08, expressed in months of stock, based on AMC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitamin A 100,000 IU</td>
<td>Yes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6.48</td>
</tr>
<tr>
<td>Vitamin A 200,000 IU</td>
<td>Yes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>8.57</td>
</tr>
<tr>
<td>IFA 400+.4mg</td>
<td>Yes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12.49</td>
</tr>
<tr>
<td>Mebendazole 500 mg</td>
<td>Yes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>17.76</td>
</tr>
</tbody>
</table>

Source: A2Z

- **Monitoring and evaluation.** A2Z improved program effectiveness and results reporting at the national level through stakeholder consensus on a common monitoring and evaluation framework for vitamin A program. The project also piloted a standard national post vitamin A supplementation round validation survey (LQAS), and took steps to improve data quality and use by carrying out a qualitative study on recording and reporting. An integrated national nutrition database will be developed to improve data utilization at the national level and enable more accurate targeting of low coverage districts for vitamin A.

**Food Fortification**
- **Scaling Up Food Fortification.** A2Z developed recommendations for scaling up food fortification in Cambodia and helped to form the National Subcommittee for Food Fortification, which resulted in a work plan and budget. A new national food fortification logo was created.

- **Assessing Staple Foods.** The project documented the staple food industry in Cambodia and disseminated the report to relevant stakeholders.

- **Testing Samples.** A2Z collaborated with INCAP/Guatemala to test the iodine content of fish sauce and salt samples from various regions of Cambodia.

**Maternal Anemia Reduction**
A2Z is supporting progress in national coverage of iron and folic acid (IFA). Sixty-three percent of pregnant women reported receiving iron folate tablets during pregnancy in 2005 (CDHS) compared with 20 percent in 2000.

- **Policy and guidelines.** A2Z helped to develop a National Anemia Policy with input from a multi-sectoral group of stakeholders. The project also developed, published and disseminated nationally the National Guidelines for Prevention and Control of Anemia in Pregnant and Post Partum Women. A2Z supported the National Nutrition Program to develop and disseminate the document *National Guidelines for the use of Iron Folate Supplementation to Prevent and Treat Anemia in Pregnant and Post Partum Women.* This was the first national IFA guidelines for maternal anemia in Cambodia.

- **Human capacity development.** A2Z updated the anemia module and key messages, and integrated these into the in-service training (MPA 10) for health staff with job aids developed for health workers. The project revised the micronutrient module for community volunteers and developed a job aid for village volunteers.

- **Pharmaceutical systems strengthening.** The A2Z-MSH pharmaceutical assessment analyzed IFA stock management and recommended system strengthening improvements to stakeholders such as improving quantification of need and inventory control, building capacity, conducting monitoring and evaluation, and paying additional attention to drug quality. A2Z also recommended a specific strategy to increase demand for and compliance with IFA.
Child Anemia Reduction

- Research and capacity development. Through technical input, assistance in developing training materials, counseling aids, and health worker manuals on infant feeding, A2Z with partner HKI, built capacity and mentored NNP staff to implement the Good Food for Children study. The project also trained eight provincial and district health staff and 86 health center staff from 20 health centers on anemia, in-home fortification, IYCF, and monitoring and supervision. A2Z also trained and provided monthly refresher training to 704 village volunteers from 326 villages in Svay Reing District on anemia and IYCF while implementing the study. A total of 146,100 sachets of sprinkles were distributed in the target area from March to August 2008 and approximately 1,261 children have received micronutrient powder sachets.

In conclusion, A2Z in Cambodia has ‘mainstreamed’ micronutrient interventions into the ongoing maternal, neonatal, and child survival programs. The project’s main role is to facilitate and support partner coalitions at the national level while carrying out analyses, developing materials and databases, and testing innovations in the field.
ECSA Profile

The East, Central and Southern African (ECSA) Health Community, formerly known as Commonwealth Regional Health Community Secretariat, was established under the auspices of the Commonwealth Secretariat in London.

Member States: Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe.

Population: The 14 member states together have a combined population of more than 190 million people, making ECSA one of the largest health organizations in the region.

Mission: Contribute to improving health in the region by undertaking activities that promote and encourage efficiency and relevance in the provision of health services in the region. Most activities focus on capacity building, policy and advocacy, research and evaluation, and information sharing.

Program Design and Partners
USAID (Global Bureau and East Africa) supports ECSA’s food fortification efforts as a public health intervention to prevent and reduce micronutrient deficiencies. Since 2006, A2Z has provided technical assistance to ECSA countries and guides Country Technical Working Groups. Technically sound principles are increasingly being used to guide program design, however, gaps exist in following up and enforcing standards, implementing quality control procedures, and ensuring proficient laboratory facilities.

Key partners include ECSA, UNICEF and Micronutrient Initiative (MI) to support regional and country activities. Specifically, the UNICEF regional office (UNICEF/ESARO) is engaged in regional activities and country participation not covered by USAID/EA. UNICEF country offices are also contributing: UNICEF/Tanzania supported public-private partnership meetings and has helped revive the National Fortification Alliance; UNICEF/Malawi has supported sugar fortification initiation by mediating talks between the government and the sugar factories and supporting sugar trials. The World Bank, CDC, GAIN and private companies also have a potentially important role in ECSA activities.
Strategies and Activities
A2Z provides a full-time food fortification advisor to ECSA to guide, coordinate, and manage technical support to the regional bodies and National Working Groups for food fortification. The project has produced and disseminated tools and manuals, supported technical and advocacy meetings, formed a laboratory network for quality control activities and strengthened program monitoring.

Progress and Results
A2Z’s ECSA activities have had an impact at regional and country levels, both directly and through other partners. For example, A2Z/ECSA guidelines have been adapted in three of eight ECSA countries and contribute to individual fortification plans. An additional two countries are revising their national standards. MI used the fortification standards under the Rapid Results Initiative in Kenya, which helped to start oil fortification in the country. UNICEF is using the harmonized salt standards to encourage countries within and outside the region to revise national regulations. UNICEF is also using the food control manuals to support country control practices and systems to ensure improved compliance.

Regional Results
- Institutional strengthening and sustainability. A2Z’s support and the new ECSA website has helped ECSA become recognized regionally and reinforced its leadership in food fortification. International partners are eager to work with ECSA, and often use this African institution as an entry point into the region.

- Capacity building. At the regional level, fortification guidelines including fortification levels and manuals on food control and laboratory methods have been developed; member countries have been trained on their use. As a result, member governments are motivating food processing industries to fortify proposed staple foods, which has also led to voluntary fortification. The Laboratory Proficiency Network has enhanced food laboratory capacity.

- Harmonized standards for food control. A2Z designed and developed harmonized regional food fortification standards to use for factory and governmental inspection activities. The standards provide average, minimum, and maximum levels at which fortificants can be added to foods, and also consider the intrinsic content of micronutrients in unfortified foods. The project developed simple and practical manuals on quality control and assurance in factories, and auditing and inspection actions at factories, importation sites, retail stores, and distribution centers for the main staples being fortified (salt, oil, sugar, and wheat and maize flours). These manuals were reviewed by ECSA country delegations in a special meeting convened in Arusha in 2007. Uganda and Malawi have revised their national standards to incorporate the fortification levels and are currently using the manuals to inspect and control fortified foods.

- Laboratory network. A2Z’s technical assistance helped establish a Laboratory Proficiency Network among five ECSA countries (Kenya, Malawi, Tanzania, Uganda and Zambia). Laboratory proficiency testing (LPT) will help to improve laboratory performance, increase data reliability, and facilitate interaction between participating laboratories (especially those enforcing fortification standards). A2Z conducted two LPT rounds among the five countries followed by evaluation meetings to share results and experiences and to identify key areas that need strengthening. The first LPT occurred April–June 2007; the evaluation meeting was held Uganda in June 2007. The second round occurred October 2007–January 2008; the evaluation meeting was held in Malawi in March 2008. A third round is in progress (August–October 2008) and an evaluation meeting will follow. A2Z developed a laboratory manual that outlines qualitative, semi-quantitative, and quantitative test methods for key/indicator micronutrients in fortified foods. Food control laboratories in the five countries participating in the LPT activity using the methods provided in this manual have reported good applicability and ease of use. LPT methods have been adopted in these countries and are now routine as are reference methods in analyzing micronutrients in fortified foods.

- Food fortification programs for specific staple foods. In November 2007, with technical assistance from A2Z, ECSA conducted an industrial assessment in Tanzania to establish the capacity of the oil factories
and wheat millers to fortify their products. While industries were observed to have the capacity to fortify they required government guidelines, regulations, and standards. Implementing the study recommendations, Tanzania has now developed food fortification standards, regulations, guidelines and manuals, and revised the national food fortification standards to incorporate the ECSA harmonized fortification levels. A2Z assisted Tanzania to draft these food fortification guidelines and standards. A2Z is guiding and supporting Kenya to initiate sugar fortification. The A2Z-supported food fortification specialist at ECSA is planning a study tour for the Kenyan delegation (sugar factory and government officials) to visit Nigeria.

- **Regional coordination, resource mobilization, and advocacy group.** A2Z-prepared proposals have helped ECSA secure additional funding and technical support from non-USAID partners that include UNICEF, MI, and International Council for the Control of Iodine Deficiency Disorders (ICCIDD). The World Bank and the Global Alliance for Improved Nutrition (GAIN) are evaluating additional proposals. A2Z has promoted improved communication and advocacy through the re-designed and updated ECSA web-page on food fortification. A food fortification specific website (http://www.crhcs.or.tz/rffn/) has been established and continues to be updated. The project encouraged ECSA member governments to support food fortification initiatives, and advocated for support from other ministries that influence fortification program success.

**Country Specific Results**

- **Uganda.** Uganda is the model food fortification country in the ECSA region, and tools that have been used and validated in Uganda are being shared with other ECSA members to replicate successes. The Government of Uganda revised its National Standards and Regulations relating to food fortification in 2007 based on A2Z/ECSA guidance. Uganda is currently fortifying oil and maize flour and will start wheat flour fortification before 2009. Eighty-five percent of oil in the market is fortified at more than 20 parts per million of Vitamin A. Iodine deficiency is under control due to the 95 percent coverage of the salt iodization program. Sugar fortification trials have been conducted. The country has conducted two national food control exercises to assess the fortification program’s performance at the national level. This has been documented and will be shared with other ECSA countries.

  Through its leadership in food fortification in the ECSA region, A2Z mobilized support from CDC to conduct an evaluation survey on the impact of micronutrient interventions in Uganda. Lessons learned will be replicated in other countries.

- **Kenya.** With assistance from MI, Kenya embarked on an ambitious program (Rapid Results Initiative) to fortify oil with vitamin A. The Government of Kenya then revised its National Standards and Regulations relating to food fortification in 2007 based on A2Z/ECSA guidance. Salt and some oil and maize flour are currently being fortified in Kenya, with a push to start fortifying sugar with vitamin A.

- **Malawi.** The Government of Malawi is revising its National Standards and Regulations relating to food fortification based on A2Z/ECSA guidance. Malawi is currently fortifying salt, and some oil and maize flour, with efforts to begin sugar fortification soon. The country has received training on the food control manuals and with assistance from UNICEF/Malawi has organized detailed sector-wide trainings on the manuals focusing on oil and maize flour industries and on government inspectors at the points of entry and retail and wholesale levels.

- **Tanzania.** The Government of Tanzania has already revised its food fortification guidelines to support the government policy on Micronutrient Deficiency Control with A2Z/ECSA guidance. Regulations are being developed and fortification manuals are ready for relevant industry partners. The plan is to start oil and wheat flour fortification in 2009. A2Z/ECSA has catalyzed partners (UNICEF, World Bank, and World Food Programme) to support food fortification initiation. The World Bank country office will sponsor government representatives at the First African Flour Fortification Workshop in Arusha, Tanzania in November 2008.
• Zambia. Zambia is currently fortifying sugar and GAIN is supporting the country to start maize flour fortification. Noting its capabilities, Zambia has approached A2Z for assistance in conducting a monitoring and evaluation study of its food fortification programs.

In conclusion, in ECSA, A2Z has expanded the use of improved practices for food fortification and built capacity at regional and country levels. The project’s main role has been to facilitate ECSA to expand food fortification in the region as a public health measure. Partner coalitions are being strengthened while carrying out analyses, developing materials/tools/methodologies, and focusing on monitoring the quality and impacts of programs in the field.

The following table shows the status of food fortification in the region.

Table 1. Monitoring Food Fortification programs in the ECSA Region – February 2008

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>SUB-COMPONENTS</th>
<th>TARGETS</th>
<th>COUNTRIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. National Policies</td>
<td>1.1 Current governmental documents expressing decision of using food fortification as a public health intervention.</td>
<td>X X X X X X X</td>
<td>ECSA Kenya Uganda Tanzania Malawi Zambia Zimbabwe Lesotho Swaziland</td>
</tr>
<tr>
<td></td>
<td>At least two annuals meetings of an inter-institutional public/private alliance in F.F. documented with minutes.</td>
<td>X X X X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual public meeting to recognize contribution (public and private sectors) to the food fortification programs.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 1. National Policies | 2.1 Salt Iodization | Fortificant and premix specifications are included in standards. Participating in regional certification scheme. | X X |
| | Standard specifies level of addition of micronutrients. | | X |
| | Standard specifies minimum and Tolerable Maximum contents of micronutrients for labeling and enforcing. | X X X X X X X X | |

| 2. Standards | 2.2 Oil/Sugar Fortification | Fortificant and premix specifications are included in standards. Participating in regional certification scheme. | X X |
| | Fortificant and premix specifications are included in standards. | | X X |
| | Standard specifies level of addition of micronutrients. | X X X | |
| | Standard specifies minimum and Tolerable Maximum contents of micronutrients for labeling and enforcing. | X X X X | |

| 2. Standards | 2.3 Wheat/Maize Fortification | Fortificant and premix specifications are included in standards. Participating in regional certification scheme. | X |
| | Standard specifies level of addition of micronutrients. | X X X | |
| | Standard specifies minimum and Tolerable Maximum contents of micronutrients for labeling and enforcing. | X X X X X X | |

<p>| 1. National Policies | 3. Salt Iodization | At least 70% of the large factories with the necessary equipment for fortification. | NA |</p>
<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>SUB-COMPONENTS</th>
<th>TARGETS</th>
<th>ECSCA</th>
<th>Kenya</th>
<th>Uganda</th>
<th>Tanzania</th>
<th>Malawi</th>
<th>Zambia</th>
<th>Zimbabwe</th>
<th>Lesotho</th>
<th>Swaziland</th>
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<tr>
<td></td>
<td></td>
<td>Annual workshops to factory employees about the importance and requirements of food fortification.</td>
<td>NA</td>
<td>NA</td>
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<td>NA</td>
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<td>NA</td>
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<td></td>
<td></td>
<td>At least 50% (1 check), 70% (2) or 90% (3) of food samples at retail stores complying regulations.</td>
<td>NA</td>
<td>XXX</td>
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<tr>
<td>3.2 Oil/Sugar Fortification</td>
<td></td>
<td>At least 70% of the large factories with the necessary equipment for fortification.</td>
<td>NA</td>
<td>X</td>
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<tr>
<td>3.3 Wheat/Maize F. Fortification</td>
<td></td>
<td>At least 70% of the large factories with the necessary equipment for fortification.</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
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<td></td>
<td></td>
<td>Annual workshops to factory employees about the importance and requirements of food fortification.</td>
<td>NA</td>
<td>NA</td>
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<tr>
<td>4.1 Salt Iodization</td>
<td></td>
<td>QA-department documents daily checking of the fortification steps.</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td></td>
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<tr>
<td>4.2 Oil/Sugar Fortification</td>
<td></td>
<td>Daily checking of compliance with the minimum and maximum micronutrient levels at production.</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>4.3 Wheat/Maize F. Fortification</td>
<td></td>
<td>Factories send daily composite samples to external reference lab. with the recommended frequency.</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>4.QC/QA in Factories</td>
<td></td>
<td>QA-department documents daily checking of the fortification steps.</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<td>NA</td>
<td>X</td>
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<tr>
<td>4.QC/QA in Factories</td>
<td></td>
<td>At least one annual visit for inspection to each food factory, and documented with a report.</td>
<td>NA</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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### COMPONENTS

**SUB-COMPONENTS**

**TARGETS**

<table>
<thead>
<tr>
<th>COUNTRIES</th>
<th>ECSA</th>
<th>Kenya</th>
<th>Uganda</th>
<th>Tanzania</th>
<th>Malawi</th>
<th>Zambia</th>
<th>Zimbabwe</th>
<th>Lesotho</th>
<th>Swaziland</th>
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</thead>
<tbody>
<tr>
<td>At least one internal report every 6 months describing inspection data in factories and actions taken.</td>
<td>NA</td>
<td>X</td>
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<td>At least one internal report every 6 months describing quality of imported product and actions taken.</td>
<td>NA</td>
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<tr>
<td>At least one internal report every 6 months describing fortification compliance of products at retail stores.</td>
<td>NA</td>
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<tr>
<td><strong>6. Overall Output of the Program</strong></td>
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<tr>
<td>Annual assessment of penetration (provision) and quality (micronutrient levels) of fortified foods at homes.</td>
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<td>Annual publication interpreting the program data from factories, importation sites, retail stores and homes.</td>
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<td>At least 50% (1 check), 70% (2) or 90% (3) of food samples at homes with the household minimum content.</td>
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<tr>
<td><strong>7. Effectiveness Monitoring (Assessment of Intervention-specific outcomes)</strong></td>
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<tr>
<td>At least 70% of consumers are aware of the importance of micronutrients and their presence in fortified foods.</td>
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<tr>
<td>At least 50% (1 check), 70% (2) or 90% (3) of the target population receiving 20% EAR² from each fortified food.</td>
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<tr>
<td>Less than 10% (1 check) or 5% (2 checks) of population at risk of excesses³ with additional intakes below UL.</td>
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<tr>
<td>At least 50% (1 check), 70% (2) or 90% (3) of the target population reaching 100% EAR, and less than 10% (1 check) of the population at risk of excesses above the UL⁴.</td>
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</table>

**NOTE:** The table does not include biological and functional outcomes (impact indicators) that are part of effectiveness M&E, because those are very difficult to be analyzed following an adequacy (pre-defined success criteria) design. Assessment of biological and functional outcomes is more suitable for plausibility (reducing the effect of confounding factors) or probabilistic designs, which are proper of epidemiological/biochemical evaluations and experimental studies.

¹ Effectiveness monitoring needs of dietary/nutritional surveys carried out at home and, if possible, at the individual level, and probably following a sector/region representative sampling framework. Therefore, this monitoring may take place every 3-5 years and covering all the existent nutritional interventions and not only one of them.

² The proportion of the Estimated Average Requirement (EAR) of each micronutrient provided through food fortification may change from food to food, and from country to country. For example, in the case of salt iodization the criteria of success may be 100% EAR of iodine. The target population for program monitoring may also be different. In principle, the populations taken as reference for micronutrient deficiency corrections through mass fortification would be children from 3 to 6 years old, and women of reproductive age.

³ The population groups at risk of excessive intakes of micronutrients are children form 3 to 6 years old and adult males (19 to 50 years old).

⁴ The assessment of these target parameters requires evaluation of the intake through the diet, as well as the contribution by each one of the nutritional interventions (i.e. mass food fortification, targeted fortification, and preventive supplementation), reason by which it may be better to be included as part of the epidemiological/biochemical surveys.
Program Design and Partners
Three high impact interventions form the core of A2Z’s strategy in Jharkhand:

- **Sustainable high coverage vitamin A supplementation (VAS)** through twice-annual nutrition and health months when intensified, coordinated outreach sessions are held.

- **Maternal anemia reduction** through reducing iron deficiency, improving antenatal care, and integrating malaria control and deworming interventions.

- **Reducing anemia in children 6–23 months** by developing delivery systems to reach young children with a package of nutrition interventions.

The main partners are the National Rural Health Mission (NRHM), the Department of Health (DOH), Reproductive and Child Health (RCH) program and Integrated Child Development Services (ICDS). A2Z works closely with MI, UNICEF, Immunization Basics, CARE, World Vision, WHO, WHO-supported National Polio Surveillance Program, WHO-RIMS, NGOs, and medical colleges.

Strategies and Activities
- **Vitamin A**: A2Z’s strategy is to build partnerships to expand vitamin A coverage by providing technical support to the bi-annual vitamin A distribution program of the Government of Jharkhand (GOJ) to strengthen state and district capacity to plan, implement and monitor the program; support social mobilization; and develop and facilitate a standardized set of guidelines and tools. A2Z also performed a comprehensive assessment of micronutrient supplies that includes valuable information on vitamin A supplements, mebendazole, and iron folic acid supplements.

- **Maternal Anemia Reduction**: In 2005–2006, A2Z documented a pilot program in Gumla district that was started under the previous micronutrient project (MOST) in collaboration with a local organization, Vikas Bharti. Since 2007, A2Z focused on scaling up and evaluating maternal anemia interventions in seven
target districts that represent three regions of the state. The project conducted parallel state-level advocacy activities in maternal anemia focused on improving supplies and using HMIS data for program management.

- **Child Anemia Reduction**: A2Z developed and helps implement a study on child anemia and nutrition in Khunti District to demonstrate the feasibility of reducing child anemia through existing health and ICDS infrastructures. The state has already scaled up distribution of iron supplements for children. The study will help develop tools and guidelines.

### Progress and Results

**Vitamin A**

The following graph demonstrates the increasing trend of vitamin A coverage and highlights Jharkhand coverage data as documented by different sources.

**Figure 1. Jharkhand Vitamin A Coverage: Differences by Data Source**

*Note: The Tally/HMIS data reflect 2006 Round II, 2007 Round II, and 2008 Round I. The first bi-annual round for 2007 was not held, but distribution was reinstated for Round II in September.*

- **Policy.** The project in collaboration with MI and UNICEF jointly developed the rationale and operational guidelines for delivering VAS and deworming through routine outreach services for immunization twice a year. Called the Child Health and Nutrition Months strategy in Jharkhand, the state’s chief and health ministers launched the round, demonstrating political commitment and ownership at the highest level.

- **Harmonizing partner activities and tools for scale up.** A2Z with MI, UNICEF, and CARE compiled a VAS tool package that the government adopted for statewide use. It includes field worker implementation guidelines and training manual, a micro planning tool, a monitoring format, a vitamin A register, and IEC materials.

- **Strengthening state-level pharmaceutical management.** A2Z’s and other partners’ strong advocacy with the state government has ensured timely supply of vitamin A. Since September 2007, the government has purchased adequate stock for the entire state eliminating the need for donor supplied vitamin A. Figure 2 shows how the state supply has improved in since 2005.

- **Program monitoring and evaluation.** The VAS monitoring format was revised in collaboration with WHO, UNICEF, MI, and CARE and distributed to all partners including the Department of Health.
Partners strengthened the HMIS by introducing a twice-annual reporting format and instituting timely reporting. The vitamin A twice annual activity is integrated into district-level monitoring committee meetings.

**Figure 2. Vitamin A Supplies in Jharkhand 2005-2008**

![Figure 2. Vitamin A Supplies in Jharkhand 2005-2008](image)

*Source: HMIS*

- **Leveraging:** In the February/March 2008 round, MI printed BCC materials and built capacity, while all other development partners engaged in advocacy and monitoring. GOJ spent approximately $108,975 for program planning and management and $92,415 for information, education and communication. During the September 2008 round to encourage sustainability, GOJ led the activities while development partners provided limited technical assistance and monitoring. MI and UNICEF propose to evaluate coverage for this round.

The project has taken the lessons learned and findings from Jharkhand (and UP) to move forward with policies at national level, benefiting a population of over 1 billion people. For example, the vitamin A supplementation (VAS) program, formerly a vertical prophylaxis program against nutritional blindness, has been incorporated into the basket of reproductive and child health services delivered under the national Reproductive and Child Health (RCH) program. This ensures that vitamin A supplementation of children is delivered through the public health system in a routine fashion (twice annual rounds) and the supply of vitamin A solution is included in medicine kits supplied to the RCH program. A2Z has provided continued technical assistance to the Government of India in close partnership with UN agencies (UNICEF and WHO) and MI to influence policy changes and strengthen supply system capacity. This led to:

- Increasing the age for vitamin A supplementation from 35 months to 59 months (January 2007), resulting in an additional 11.3 million children being protected.

- Preventing VAS stock-outs by working with the Ministry of Health and Family Welfare/Empowered Procurement Wing and its procurement agent UNOPS to correct the quantity of 100 ml vitamin A bottles supplied in each RCH medicine kit ‘A’ distributed nationwide. National VAS supplies, e.g. bottles per kit, increased from 6 to 12, covering the needs through the routine drug supply system.

- Improving supplies through accurate denominators (e.g. coverage targets for vitamin A supplementation for years 2008–2010) and estimated vitamin A requirements for Jharkhand, UP and all other states with breakdown by state and district levels, and urban and rural areas within the districts. Such calculations will improve estimations of supply needs.
Maternal Anemia Reduction
A2Z is supporting progress in state-wide coverage with IFA and deworming for pregnant women as well as promoting use of Antenatal Care (ANC) services.

- Human capacity development. A2Z, in collaboration with the National Institute of Health and Family Welfare, conducted state-wide orientation of civil surgeons from all 22 districts on the maternal anemia program and new evidence on the link between maternal anemia and maternal mortality. The project trained 30 master trainers from the public health system and 973 service providers. The state government allocated the equivalent of $18,200 for this activity in 8 districts. The project is strengthening key processes to assure ANC services, such as joint monthly “cluster meetings.” In the past these meetings were not held but now approximately 70 percent do occur.

- Behavior change communication. A2Z developed an IEC template (picture with five key messages) for the maternal anemia reduction program that has been posted at identified Health Sub Centers (HSCs) and Anganwadi Centers (AWCs). A2Z advocacy at district and block level meetings has made counseling and home visits the top priority of health and ICDS to increase the consumption of IFA and deworming medicine. Reports from the self assessment formats in three focus districts found that counseling and home visits have increased by 30 percent.

- Strengthening pharmaceutical management systems. A2Z’s subcontractor, Management Sciences for Health (MSH), completed a situational analysis of the IFA and de-worming supply situation. Field teams are providing technical assistance to implement priority interventions, such as establishing an early warning system of potential anemia-reduction medicine stock-outs at the district and block levels, which did not exist until this year. As shown in Figure 3 below, the trend in IFA and mebendazole procurement demonstrates a significant increase in the state supplies system from 2005 to 2008. The state now has adequate supplies for 17 months.

- District partnerships. A2Z’s district level advocacy has motivated top district executives (deputy commissioners) to form the District Maternal Anemia Task Force in which all development partners (A2Z, Vistaar, UNICEF, WHO, MI, CARE) and reputed local NGOs participate. This helps to institutionalize maternal anemia reduction interventions within ANC services.

Figure 3. Improvements in Anemia Intervention Supplies, Jharkhand

![IFA (L) for Jharkhand 2005-2008](image-url)
• Monitoring and evaluation. A2Z conducted formative research and worm prevalence studies to support program design and policy improvements. The established baselines in three districts indicated anemia levels and intervention coverage in the three regions of Jharkhand (Figure 4). The project developed a software tool to monitor pregnancy registration and antenatal care. The health department adopted this tool in about 40 percent of districts. Figure 5 shows the registration gap in Hazaribag district.

Figure 4. Improvements in Anemia Intervention Supplies, Jharkhand

Figure 5. Prevalence of Anemia

Source: A2Z Maternal Anemia Baseline Survey, 2007
### Child Anemia Reduction

The project launched a new initiative to demonstrate how child anemia can be reduced through a package of services for children that includes providing iron supplements, deworming medicine, and improving complementary feeding practices. Through formative research, technical input, assistance with the supplies, and development of training materials, job aids, and guidelines, A2Z built capacity and mentored ICDS and RCH staff to design and implement the Child Anemia Feasibility Study. Families of children 6–23 months received a 12 month supply of iron supplements accompanied by counselling on infant feeding from March to August, 2008.

- **Policies & guidelines.** With A2Z assistance, the GOJ established the first-ever ethical review board for all studies on human subjects. The GOJ issued the order (Nov 30, 2007) for child anemia interventions in Murhu block in Khunti district.

### Leveraging

The Government of Jharkhand provided the equivalent of $50,000 in its annual plan for maternal anemia reduction in the fiscal year from April 2008–March 2009. Figure 6 shows how government funding for maternal anemia activities has steadily increased over the past three years.

#### Figure 6. Monitoring of Coverage Gaps

![Graph showing monitoring of coverage gaps](source)

**Source:** Monthly ANC registers, Hazaribag District

#### Figure 7. Government Investments in Maternal Anemia, Jharkhand

![Graph showing government investments in maternal anemia](source)

**Source:** Government Report
Supplies and logistics. GOJ achieved 72 percent distribution of iron supplements to children by August 2008 (Figure 7).

Capacity building. Large gaps in awareness about child anemia were addressed through sensitization at state, district, and block levels. A2Z developed, tested, and finalized program guidelines, job aids, and training manuals/facilitator guidebook. All 164 service providers (AWWs, ANMs, LHV's and LS/ICDS) in the study block were trained. An innovative ‘mentorship approach’ using NGOs to attend routine monthly meetings provided follow up.

Formative research and baseline study: Comprehensive studies of worm prevalence, baseline anemia levels, intervention coverage and KAP of mothers were completed as a basis for intervention design and as a baseline against which to measure progress.

Figure 8. Monthly Profile of Iron Supplements for Children, 2008

In conclusion, A2Z in Jharkhand has formed strategic partnerships in the state to support VAS and maternal and child anemia reduction. The project is mainstreaming micronutrient interventions into the ongoing MDG 4 and strategies, and for sustainability, it is helping this new state to build capacity and key mechanisms to manage micronutrient interventions successfully.
The 2003 National Nutrition Survey of the Food and Nutrition Research Institute (FNRI) showed that Vitamin A deficiency (VAD) was still a serious problem among children and among pregnant and lactating women. VAD based on serum retinol < 20 ug/dL affected 40 percent of children 6–59 months old, 36 percent of children 6–12 years old, 18 percent of pregnant women, and 20 percent of lactating mothers.

The 2003 National Demographic and Health Survey (NDHS) in the Philippines reported that 11 percent of children under five years of age were reported to have had diarrhea (in the previous two weeks). This represented a 57 percent increase from the 7 percent level in the 1998 NDHS. The Department of Health Field Health Service Information System (FHSIS) reported that in 2006, acute watery diarrhea was second among the ten leading causes of morbidity among children under five.

**Program Design and Partners**

Four high impact interventions form the core of A2Z’s strategy:

- **Sustainable high coverage vitamin A supplementation** (VAS) through twice-annual Child Health Days (CHD)

- **Food fortification** to deliver micronutrients through the private sector

- **Maternal anemia reduction** through reducing iron deficiency, improving antenatal care, and integrating infection control interventions.

- **Zinc treatment for diarrhea.**

In addition to working closely with the Department of Health (DOH) and USAID bilateral health projects, A2Z collaborated with local technical partners including UNICEF and HKI, and provided technical assistance to many partners in different areas: the National Center for Disease Prevention and Control (NCDPC) for micronutrient program implementation through the Micronutrient Core Group; NNC for policy development; National Center for Health Promotions (NCHP) for communication; FNRI for nutrition survey and research; BFAD for regulations; and collaborated with local technical partners including UNICEF and...
HKI. A2Z also provided technical assistance to local government units (LGUs) through its support to NCDPC for Child Health Days.

**Strategies and Activities**

- **Vitamin A:** The Philippines has one of the longest running bi-annual VAS programs. Yet the persistent VAD problem can be attributed to several factors related to the vitamin A supplementation (VAS) program: a) coverage for biannual universal VAS for pre-school children has been declining over time, reaching low levels in 2003 (76% coverage based on 2003 National Demographic and Health Survey) and in 2005 (73.9%, 2005 Family Planning Survey), b) limited availability of vitamin A supplements in most areas targeted for supplementation because few local government units procure them, c) unavailability of vitamin A in hospitals for treating high risk cases, d) limited local suppliers (only two) of vitamin A supplements, e) local implementers’ lack of technical skills to implement VAS program, and f) limited community promotion of VAS during universal supplementation.

- **Food Fortification:** To contribute to preventing micronutrient deficiencies, the Philippines enacted Republic Act 8976, which established the Philippine Food Fortification Program and mandates the fortification of wheat flour with vitamin A and iron, cooking oil and sugar with vitamin A, and raw rice with iron by November 7, 2004. A policy to promote voluntary fortification of processed foods and identify mandated products fortified according to standards through the Sangkap Pinoy Seal (SPS) Program was also initiated with a rectangular seal for processed foods and a diamond seal for mandated staples.

- **Maternal Anemia Reduction:** The 2003 national nutrition survey of the FNRI revealed that iron deficiency anemia (IDA) among pregnant (44%) and lactating (42%) women remains unchanged from the 1993 levels (and is a serious public health problem particularly for infants 6–11 months (66%)). Given the current thrust of USAID/Philippines to focus assistance at the local level in 29 priority provinces, A2Z coordinates with other USAID cooperating agencies involved in service delivery to include micronutrient activities in the priority provinces. This technical assistance to the priority provinces covers all A2Z project themes. In addition, the A2Z project has focused its technical assistance with DOH–NCDPC to build capacity of the regional CHDs, including the regional NNC, to respond to LGU requirements for managing the micronutrient program.

- **Zinc Treatment for Diarrhea:** A2Z works with partners to support the DOH-NCDCP to develop policy and program guidelines to address the high level of child mortality and morbidity associated with diarrhea.

**Progress and Results**

**Vitamin A**

- Based on Department of Health data from the 29 priority provinces, 24 provinces were above the A2Z target of 78 percent coverage during universal VAS in April 2007. With the increase in target for FY 2008 to 81 percent for non-ARMM and 80 percent for ARMM provinces, 20 provinces were above the target in October 2007.
The graph below represents the vitamin A round coverage at the national level and among the 29 USG-supported provinces based on the provincial data submitted to the NCDPC and the DOH.

**Figure 1. Philippines Vitamin A Coverage among Children 6-59 months, 2006 to 2008**

- A2Z with USAID’s PRISM project has advocated with pharmaceutical companies to increase availability of vitamin A. A2Z in partnership with USAID’s Health GOV and SHIELD projects have also provided technical assistance to develop procurement plans and supply estimates (including a Forecasting Tool for Micronutrients) to ensure that the LGUs procure sufficient micronutrients. As part of the TA in the 29 priority provinces, 11 provinces have included procuring vitamin A for routine supplementation for 2008 and 19 provinces for 2009 as part of their health investment plans. A2Z’s aim for 2009 is for all LGUs (100%) to procure vitamin A for high-risk groups.

- The project conducted training and consultative planning workshops for the October 2006 round of VAS for national, regional, and local partners.

- A2Z assisted NCDPC to plan and conduct technical updates on micronutrients for regional technical personnel in preparation for the October 2008 VAS round.

- The project assisted in drafting a “How To” guide for vitamin A supplementation and a supervisory and monitoring tool for health workers at the LGU level.

**Food Fortification**

Overall, fortified foods available have increased from 2005–2008, particularly those with an SPS seal. Diamond seal products increased from 79 to 118 (56 flour, 44 oil, 7 rice, 2 sugar and 9 salt). Processed foods with the rectangular seal have increased from 83 to 136. A2Z technical assistance resulted in the following achievements:

- Conducted an initial assessment of flour and oil fortification, and presented results in public – private consultation for flour and oil fortification in 2006. The results were used as the basis for the Bureau of
Food and Drugs (BFAD) to intensify flour fortification monitoring. BFAD conducted 34 tests in 2005, 324 tests in 2006, and 303 tests in 2007.

- Assisted the flour industry conduct an orientation on quality assurance for flour fortification. Coupled with BFAD’s intensive monitoring, flour fortification quality increased. Sourced from local flour mills that supply about 95 percent of total flour, 18 percent passed vitamin A standards in 2006, while 44 percent passed in 2007, showing a reduction of non-compliance among flour mills.

- Developed a database on food fortification program monitoring and trained inspectors to use the database in 2008.

- Supported a workshop to develop policy instruments for food fortification program implementation. Policy instruments developed during the workshop and approved and implemented were “Guidelines for Licensing and renewal of Iron Rice Premix Producers/Importers” and “Standards for Iron Rice Premix.” Two others, “Guidelines for Monitoring of Flour and Oil” and a Memorandum of Agreement with PCA, are still under discussion.

- Assisted health promotion and disease prevention by conducting a policy scan on food fortification and presented results in a multi-sectoral forum to BFAD and partners. This resulted in developing a BFAD workplan for food fortification and forming a BFAD core group composed of various BFAD divisions and technical assistance agencies to implement the plan in 2008.

- Assisted in conducting a laboratory assessment for micronutrient analyses. Also assisted BFAD to orient and inspect laboratories in 8 regions. Ten additional laboratories are now recognized in the regions where none were recognized before.

**Maternal Anemia Reduction**

- Through A2Z technical assistance, 8 provinces have included procuring iron-folate supplements for 2008 and 19 provinces for 2009 as part of their health investment plans.

- A2Z advocated for and coordinated NCDPC to allocate an additional five million pesos to FNRI to conduct a provincial prevalence study of IDA among pregnant women in the 2008 NNS. The results will be used to advocate to LGUs to procure iron-folate supplements.

- The project advocated for NCDPC to allocate and procure iron-folate tablets for pregnant women from provinces with high prevalence of maternal IDA. This was approved for 24 priority provinces, 11 of which are USG assisted areas. This is the first time that the National DOH will procure iron-folate supplements since early 2000.

- Assisted the Micronutrient Core Group select the best proposal to conduct a situational analysis on IDA on two provinces and one city, funded by UNICEF. The results of this study together with the Mid-term Review of the National Nutrition Council and the in-depth studies of FNRI will be used to develop a strategic plan to control and prevent micronutrient deficiencies.

- Conducted initial discussions with the Occupational Health Nurses Association of the Philippines and Employers Confederation of the Philippines (ECOP) to provide iron supplementation for women in the workplace. ECOP and DOH have developed an MOA to implement a micronutrient program in the workplace.

**Zinc Treatment for Diarrhea**

- Provided TA to NCDPC in drafting and finalizing Administrative Order No. 2007-0045 on Zinc Supplementation and Reformulated Oral Rehydration Salts in the Management of Diarrhea among Children. A2Z helped to disseminate this administrative order to USAID priority provinces.
• Provided TA to NCDPC in documenting dispersible zinc tablets needed for the public hearing on including zinc tablets in the Philippine National Drug Formulary; this was approved in September 2008.

• Coordinated discussions on developing a partnership between PRISM’s pharmaceutical partners and Kinia Farma of Indonesia, a manufacturer of dispersible zinc tablets.

• Facilitated a local pharmaceutical firm to seek approval of its zinc drops/syrup preparation.

• Advocated to include zinc and ORS as indicators in diarrhea management, in the revised 2008 Field Health Service Information System.

• Through A2Z technical assistance, 19 provinces have included the 2009 procurement as part of their operational/investment plan for health.

In conclusion, A2Z has strategically partnered with other US Government-assisted projects—a strategy that helped maximize USAID investments. Specific partners include HealthGov project for local government assistance in non-ARMM areas; SHIELD project for local government assistance in ARMM areas; HPDP for policy concerns; PRISM project for private sector support; and HealthPRO for behavior change communication.
Program Design and Partners
A2Z’s strategy includes three high impact interventions with a focus on the national vitamin A supplementation program:

- **Sustainable high coverage vitamin A supplementation (VAS)** through twice-annual Child Health Days (CHD)
- **Zinc treatment for diarrhea** through public and private practitioners and pharmacies, as part of the national IMCI strategy
- **Maternal anemia reduction** through iron deficiency reduction, focused antenatal care (FANC), and integration with malaria control and deworming interventions.

The main partners are Tanzania Food and Nutrition Centre (TFNC) and the national IMCI program of the Ministry of Health and Social Welfare (MoHSW). A2Z through HKI also works closely with UNICEF, WHO, JHPIEGO and participates in forums with other partners including through the Vitamin A task force, zinc task force and National Nutrition Working Group (NNWG).

Strategies and Activities
- **Vitamin A**: Since 2001, mass delivery of vitamin A supplementation (VAS) to children aged 6–59 months has been done primarily when commemorating the Day of the African Child in June and World AIDS Day in December. Starting in December 2004, deworming for children aged 12–59 months was integrated into these twice-yearly VAS events. The A2Z/HKI collaboration supported government capacity building and advocated for continued VAS support. These efforts have enabled the Tanzanian government to sustain high coverage of both VAS and deworming, which has been reported at levels above 90 percent in service rounds. Verification surveys in 2004 and 2006 suggest that the coverage is above 85 percent, which is considered acceptably high by UNICEF standards.

Other approaches for providing VAS to children aged 6–59 months in Tanzania include identifying diseases/conditions associated with high risk of VAD at health facilities and supplementing at this point.
Similarly, VAS is provided to postpartum women and children under age two during routine Expanded Program on Immunization (EPI) services.

- **Zinc Treatment for Diarrhea**: A2Z/HKI focuses on advocacy, coordination and tools development/dissemination.

- **Maternal Anemia Reduction**: A2Z/HKI will use regional and zonal activities organized for VAS to highlight the importance of reducing maternal anemia. In collaboration with JHPIEGO the project is strengthening maternal anemia components of FANC.

**Progress and Results**

**Vitamin A**

Tanzania is a global success story for VAS. Figure 1 shows the national vitamin A coverage according to the Tanzania HMIS tally sheets, from 2005 through 2007. This high level of success was accompanied by accelerated reductions in under five mortality rates (Masanja et al, 2008). A2Z support has focused on systems strengthening, advocacy, building awareness, and skills using data.

**Figure 1. Tanzania Vitamin A Round Coverage among Children 6-59 months**

- **Advocacy and capacity building**: A2Z conducted advocacy and skills development workshops in 2006 in 20 most vulnerable districts, identified by the VAS and deworming resources allocated in previous district budgets. Each council health management team was trained on how to advocate to key decision makers (councilors, departmental heads, other council health management team members, political and faith leaders). The advocacy objective was for district health plans and budgets in year 2007-2009 to include VAS and de-worming interventions. Advocacy activities reached 540 councilors and 461 other leaders—figures that represent more than 97 percent of targeted decision makers in the 20 districts. An immediate outcome was that the planned total budget for VAS and deworming in these districts more than doubled from Tsh. 53,600,000 in the 2006–2007 budget to Tsh. 130,000,000 in 2007–2008 budget.

- **Planning and budgeting**: A2Z created the Planning and Budgeting Tool (PBT) to assist districts to create reasonable and complete budgets for vitamin A supplementation (VAS) and deworming to incorporate in
the community council health plans (CCHPs). The tool produced realistic budgets for the program and A2Z and HKI are exploring new ways to incorporate this tool into other government planning exercises. A2Z/HKI, in collaboration with TFNC, held advocacy meetings on VAS with council chairpersons, council directors and district medical officers (DMOs) from 40 low performing districts (so identified because of inadequate resources for VAS and deworming were allocated in the previous CCHP). The meeting alerted key district officials to the importance of allocating adequate funds for VAS in the CCHPs for 2008-9. The decision makers agreed to increase consideration for VAS and deworming in their development plans. Funding for VAS and deworming per child targeted increased from Tsh. 119 in 2007–2008 to Tsh. 210 in 2008.

A2Z/HKI and TFNC reinforced the importance of budgeting adequate resources in the CCHPs for 2008–2009, obtained the planned budget for VAS from each district, gathered feedback on the usefulness of the PBT in developing these budgets, obtained coverage data from the VAS/deworming round in December 2007, and distributed and oriented the districts on using the VAS and deworming materials. A total of 179 health managers attended these meetings that revealed almost all districts used the PBT to estimate the VAS budget, resulting in higher, but more realistic budgets.

- **Monitoring coverage and sustainability.** A2Z/HKI’s rapid population-based assessment in August 2006 in 4 of the 20 A2Z project districts revealed that the coverage rates were 88.5 percent for VAS and 85.1 percent for deworming. These coverage rates were almost identical to those reported from the tally sheet system in the studied districts indicating correct understanding of the tally sheets and correct data gathering methods.

A2Z/HKI assessed the sustainability of the twice-yearly VAS and deworming program in all mainland Tanzania districts in 2007. Findings showed vulnerable program components at the district level and budget allocation and program planning were identified as problem areas. The project held program review meetings with these districts to give feedback to health managers from district, regional, zonal, and national administrative levels. In addition, the projects continued advocacy efforts in the most vulnerable districts. Four sustainability assessment reports were produced and are available on the HKI and A2Z websites.

A2Z also helped to develop a sustainability checklist that was introduced to health managers during zonal RCH review meetings. Regional secretariats and districts will likely use this checklist to facilitate supportive supervision and monitor progress towards sustaining VAS and deworming programs every year. VAS/deworming coverage and funding databases were established and have been continually updated following the coverage results for each subsequent VAS and deworming round and annual plans. This was initially spearheaded by HKI, but TFNC is increasingly maintaining the database.

- **Behavior change communication.** BCC materials were created and distributed following advocacy presentations to key decision makers in the district government. Using data from the Tanzania Bureau of Statistics and the Ministry of Health, fact sheets were developed to provide data on ‘lives saved’ by VAS for each of the 21 regions of Tanzania Mainland, broken down for component districts. Over 3000 sheets were distributed to district leaders. Although direct causality has not been established, VAS funding increased after these efforts. Dosage cards and other materials were distributed to all mainland Tanzania districts in the Regional VAS meetings with all 21 regions in February/March 2008.

A2Z supported the “Mama Ushauri” radio drama serial to incorporate health messages to raise awareness on the benefits of VAS, provide parents and caregivers with information on timing of VAS events, and create demand among community members for VAS. The series’ most recent season was launched in April 2008 and reaches approximately two million Tanzanians on a regular basis.
Zinc Treatment for Diarrhea

- **Behavior change communication.** To promote zinc to treat childhood diarrhea, A2Z/HKI provided technical support to the national IMCI program to develop a comprehensive communication strategy that identifies key audiences, messages, delivery mechanisms, and responsible partners. This strategy focuses on promoting the use of zinc tablets as an adjunct therapy for diarrhea on a national scale.

- **Advocacy.** A2Z/HKI provided technical support to the National IMCI Coordinator to draft a position paper that was presented at the MoHSW management meeting in November 2006. This led to the acceptance of zinc therapy as part of national diarrhea management plan in December 2006. Zinc treatment was integrated into National IMCI guidelines for diarrhea management in March 2007. Zinc treatment and low osmolarity oral rehydration salts (ORS) solution were also incorporated into the National Standard Therapeutic Guidelines.

- **Research and program monitoring.** The project undertook formative research on zinc that focused on health seeking practices for diarrhea treatment in collaboration with Ifakara Health Research and Development Centre (IHRDC) and Johns Hopkins University/USA. The research report was disseminated to key national health program managers and policy makers during the National Zinc Task Force Meeting in May 2008 and circulated by email to partners and stakeholders in Tanzania. This report will inform the strategy on zinc use and education in Tanzania.

Maternal Anemia Reduction

The A2Z project has recently entered into a partnership with a USAID project (ACCESS/JHPIEGO) for maternal health to strengthen anemia reduction components of antenatal care.

In conclusion, the A2Z/HKI project ensures the sustained achievement of over 80 percent coverage with vitamin A supplements to all children 6–59 months of age and builds capacity to ensure sustainability at each administrative level. Through collaboration with partners and national working groups, A2Z/HKI has been able to expand its area of influence to accelerate zinc treatment for diarrhea and raise awareness and commitment to maternal anemia reduction.
Program Design and Partners
Three high impact interventions form the core of A2Z’s strategy:

- **Sustainable high coverage vitamin A supplementation** (VAS) through twice-annual Child Health Days (CHD)

- **Food fortification** to deliver micronutrients through the private sector

- **Maternal anemia reduction** through iron deficiency, antenatal care, malaria control and deworming interventions.

The MOH, UNICEF, GAIN, the NWGFF, and national Child Health Task Force, the Zinc Task Force and USAID’s DELIVER, RPM+ and NTD project are long-standing collaborators of A2Z in Uganda. New partnerships are being formed with maternal health institutions such as Elizabeth Glaser Pediatrics Foundation, and CDC.

Strategies and Activities
- **Vitamin A**: A2Z’s support focuses primarily on planning, implementation, monitoring, documentation, and advocacy. USAID was instrumental in introducing and institutionalizing first Child Health Days and now Child Days Plus (CDP) in Uganda to reduce vitamin A deficiency. Coordinated by the Ministry of Health’s Child Health Division, and supported by UNICEF, CDPs are generally held for one month, during April and October. At age nine months, children receive vitamin A when they receive their measles immunization, whether or not it is a CDP month. CDP provides a core package of interventions: vitamin A supplementation, deworming medication for children 1–14 years old, catch-up immunization, and promotion of family health practices. CDP is implemented through the existing routine health service outreach delivery systems, but uses extensive social mobilization and school outreach to make contact with children who had not previously been involved in vitamin A campaign.
The Uganda national vitamin A coverage rate is based only on those districts that have reported vitamin A data for a particular CDP round.

One continuing challenge in reporting vitamin A coverage at the national level is having all Uganda’s districts submit CDP reports to the MOH. These reports are crucial in reporting more accurate national vitamin A coverage rates during each round. A2Z is coordinating with the MOH to improve district reporting submissions, and the number of districts reporting vitamin A rounds has improved. For the April 2008 CDP round, 70 of 80 districts submitted their CDP reports, an increase from the October 2007 round where only 61 districts reported vitamin A coverage data.

- **Food Fortification**: A2Z provides technical support to the National Working Group for Food Fortification, strengthens monitoring and food quality control, and conducted an assessment of food consumption and cost analysis to guide policy and programs.

- **Maternal Anemia Reduction**: A2Z supports the MOH and partners to increase the number of women who access ante-natal care and follow anemia prevention protocols. A2Z works at national and district levels to help implement national guidelines on preventing maternal anemia.

**Progress and Results**

**Vitamin A**

Supporting the government’s objective to achieve 80 percent coverage of vitamin A and deworming through Child days Plus, A2Z has helped to maintain an average coverage rate of over 70 percent since 2005. On average, 86 percent of the health units visited had vitamin A capsules available, with only 11 days of stock out in 2007 (A2Z assessment report 2008). A2Z is working very closely with UNICEF to scale up vitamin A activities to the entire country. CDPs were likely one factor contributing to Uganda’s improved progress in reducing mortality rates that was documented in the most recent DHS survey.
• **Planning.** A2Z developed CDP micro-planning guidelines, that included steps for developing a CDP micro-plan and spreadsheets to facilitate budgeting. The MOH adopted these guidelines and disseminated them to all districts through regional planning meetings supported by UNICEF. A2Z supported the MOH to forecast CDP supply needs for vitamin A capsules and deworming tablets and trained district health teams in 12 focus districts in 3 regions on supplies management.

• **Implementation and monitoring.** A2Z supported the national CDP working group to implement and monitor CDP in the 12 focus districts to strengthen pre-planning and implementation processes and document results. CDP monitoring and supervision checklists were revised and streamlined to improve monitoring of CDP micro-planning and implementation. The MOH adopted these checklists and is using them at the national level. The MOH has also adopted the revised Health Management Information System (HMIS) tally sheets, and the district CDP summary forms are awaiting approval.

• **Advocacy.** A2Z developed an advocacy tool to share lessons learned, gaps, challenges, and recommendations in vitamin A programs. One recommendation from documented lessons was to hold regional advocacy workshops to review performance, discuss success and setbacks, and plan the upcoming round. A2Z held advocacy workshops in its 12 focus districts. Through A2Z’s continued advocacy and leveraging of funds among partners, UNICEF supported these workshops at national scale for the October 2008 round.

• **Capacity building and leveraging.** Collaborating with the Neglected Tropical Diseases (NTD) programs, A2Z supported 831 people to be trained to integrate vitamin A supplementation into drug distribution. The project also documented community distribution of vitamin A as an opportunity and initiative for increasing coverage in 5 of the NTD-A2Z endemic districts. Coverage rates in one district improved markedly in the April 2008 round in the 5 NTD-A2Z districts: from 5 percentage points to as much as 28 percentage points in two districts. Vitamin A supplementation messages are now integrated in key NTD materials, though continuing to support integrating VAS topics in NTD training and advocacy meetings will help to ensure sustainability.

**Food Fortification**

• **Coverage:** With A2Z support, Uganda has made significant advances in fortification in the past few years becoming a role model for the ECSA region. Approximately 85 percent of Ugandan oil in the market is fortified with vitamin A, and more than 95 percent of table salt is iodized.

• **Support for the NWGFF.** The MOH, Ugandan National Bureau of Standards (UNBS), the National Drug Authority (NDA), the Ugandan Industry Research Institute (UIRI), Makerere University, food industries, and other institutions involved in Ugandan food fortification programs participate in the national working group on food fortification.

• **Support for wheat fortification.** A revised proposal to fortify wheat flour was submitted to and approved by GAIN. Wheat industry assessment findings were disseminated to the MOH and industry partners. The wheat industry is ready to start fortifying based on ECSA recommendations. In collaboration with Makerere University, A2Z conducted a sensorial test of wheat flour to be used as the basis for regulations and advocacy for wheat flour fortification in Uganda. The report indicated that food made from wheat flour, fortified using the ECSA standards, was acceptable to the Ugandan population.

• **Quality control and assurance.** A2Z, collaborating with UNBS, provided technical assistance and led workshops to strengthen quality control and auditing of oil fortification industry personnel. This was followed by a fortification assessment of Kinyara Sugar (March and April 2008). The national Food Control System for fortified foods was reviewed, and a plan to test implementation was developed. Twenty food inspectors received training in September 2006, and two additional trainings were held in 2008 to build the capacity of food inspectors that focus on imports. A2Z supported two rounds of the Food
Control System; a manual for enforcement and inspection systems, UNBS and MOH officials collecting edible oil, maize, and salt from industry and retail outlets, and UIRI testing the samples.

- **Surveys and tools.** A2Z led the Uganda Food Consumption Survey implementation and monitoring, in close collaboration with the Department of Food Science and Technology at Makerere University. A2Z also implemented and validated a tool to estimate food fortification and other micronutrient intervention costs, with a focus on oil and sugar.

**Maternal Anemia Reduction**

*Program design.* A2Z documented and confirmed high prevalence rates of maternal anemia (A2Z March 2007) and helped design program improvement to address barriers to anemia reduction. See Figures 1 and 2 below.

**Figure 2. Prevalence of Maternal Anemia**

![Figure 2](image)

Source: A2Z Core Survey, 2007

**Figure 3. High Levels of Anemia in Pregnant Women, Uganda**

![Figure 3](image)

Source: A2Z Core Summary, 2007
• **Surveys.** A baseline micronutrient survey was conducted in two districts (Kanungu and Kiboga) and included assessments of maternal anemia status, anemia prevention, and treatment activities. One national and two district stakeholders meetings were held to disseminate findings and discuss gaps, challenges, and recommendations.

• **Advocacy and communication.** A stakeholders’ meeting focused on revitalizing anemia prevention and control strategies. Service providers in the 12 focus districts attended orientation meetings on anemia control strategies. A2Z worked with a communication group to develop a comprehensive BCC strategy that included a proposal to share with partners.

• **Capacity building.** A2Z developed a health worker training manual and advocacy tool in consultation with MOH Nutrition Unit, reproductive health, malaria control program, environmental health, vector control division and partners including WHO, UNICEF, FANTA, and GAIN. The project developed health worker job aids and supported districts to train health workers on these materials. The first, a counseling job aid for health workers, provides basic messages to support pregnant mothers. The second, a supplies management job aid, provides simple steps to estimate supplies requirements. The third, focusing on calculating coverage, assists health workers to monitor key indicators such as antenatal care coverage and iron folic acid consumption. A2Z incorporated maternal anemia messages into the Village Health Team (VHT) training manual. This training tool has now been adopted nationally for training VHTs.

• **Supplies management.** A2Z assessed the pharmaceutical management supply system for iron/folic acid supplements, deworming medicines, and vitamin A. The findings, which illustrated procurement and distribution gaps, were disseminated to district health teams and Ministry of Health representatives and offices (Nutrition, Pharmaceutical and Reproductive Health divisions together with the National Medical Stores). A2Z is also strengthening supplies management through advocacy and orientation meetings at national and district levels, health worker training, supporting maternal anemia focal coordinators, and developing monitoring indicators. Data for key indicators in maternal anemia will be tracked on a monthly basis.

• **Scale-up strategy.** A2Z has proposed and received strong endorsement by the MOH to implement a scale-up strategy to leverage funds and build partnerships that address maternal health issues including maternal anemia. The strategy maps relevant stakeholders based on shared goals. A partners meeting to discuss the strategy will be held in December 2008 or January 2009.

In conclusion, A2Z in Uganda has ‘mainstreamed’ micronutrient interventions into the ongoing maternal, neonatal, and child survival programs. The project’s main role is to facilitate and support partner coalitions at the national level while conducting analyses, developing materials and databases, and testing innovations in the field.
Program Design and Partners
Three high impact interventions form the core of A2Z’s strategy in Uttar Pradesh (UP):

- **Sustainable high coverage vitamin A supplementation** (VAS) through twice-annual distribution in Bal Swasthya Poshan Mah (BSPM) or child health and nutrition days.

- **Maternal anemia reduction** through reduction in iron deficiency reduction, improved antenatal care, and integration with malaria control and deworming interventions.

- **Reducing anemia in children 6–23 months** by developing delivery systems to reach young children with a package of nutrition interventions.

The main partners are the National Rural Health Mission (NRHM), Department of Health’s Reproductive and Child Health (RCH) program and ICDS. A2Z works closely with UNICEF, WHO, CARE, and other NGOs, and several medical colleges.

Strategies and Activities
- **Vitamin A**: The BSPM strategy is successfully reaching children >1 and <5 years of age as this group is not reached during routine immunization services. During BSPM any infant who missed the first dose is identified and dosed. The first dose of Vitamin A is given along with measles vaccine at nine months of age throughout the year and second to ninth doses are given biannually during BSPM to children aged 12-59 months.

- **Maternal Anemia Reduction**: A2Z’s rapid assessments in 2007 identified huge supply gaps that dismantled the national maternal anemia program. A2Z assisted the Government of Uttar Pradesh (GOUP) to improve supplies and use of HMIS data, is building a partnership with UNICEF and others to ensure continuity, and is evaluating maternal anemia interventions in six target districts that represent the states’ eastern region. State-level advocacy and tools dissemination are helping to scale up program innovations for state-wide impact.
Child Anemia Reduction: Systematic documentation of the child anemia and nutrition situation in eastern UP has raised interest in addressing this widespread problem. A2Z supports GOUP to implement a study on child anemia and nutrition in SR Nagar District to demonstrate the feasibility of reducing child anemia through the existing health and ICDS infrastructures.

Progress and Results

Vitamin A

Coverage and sustainability of bi-annual VAS distribution remains an issue in UP. A2Z has maintained a focus on bi-annual rounds even as other major donors have varied in their support. The project developed tools, helped identify supplies/logistics gaps, helped in using the health management information system (HMIS), and addressed planning and budgeting issues to strengthen sustainability.

The December 2007 vitamin A round was considered an atypical round as supplies were not available during the BSPM round. As such, BSPM activities were extended through February 2008 as additional vitamin A capsule supply became available in January and February.

Policy and planning. A2Z developed new operational guidelines for all Chief Medical Officers (CMOs), facilitated CMOs to improve planning, helped map the availability of human resources, identified areas of low coverage, and emphasized timely and accurate reporting of coverage. For the first time, vitamin A supplementation targets were set.

Tools and innovations. A VAS Tool Package includes A2Z innovations such as external monitoring, an urban strategy, and use of HMIS data. The project identified low urban coverage as a constraint to overall high coverage and helped the CMOs of Allahabad and Varanasi to formulate a strategy for covering these cities. The strategy succeeded in Allahabad, while Varanasi was hampered by inadequate human resources.

Pharmaceutical system strengthening. The project helped in the rational and timely distribution of vitamin A supplies to the Primary Health Centers’ front line providers in primary health centers.

Social mobilization. A2Z supported social mobilization activities for five rounds (December 2005–December 2007). During the December 2007 round the two low performing blocks of each district received social mobilization. Moving towards sustainability, during the last BSPM round (December...
2007) the project assisted ICDS program staff to give all ICDS supervisors a one-day training to carry out social mobilization activities.

- **Monitoring and evaluation.** A2Z instituted external monitoring that was carried out for three rounds starting in December 2006. Independent monitors observed immunization sessions and provided feedback to program managers up to the December 2007 round. A2Z completed a cost study and program documentation for VAS. A2Z surveys have helped highlight coverage gaps and comparability of different sources.

### Figure 2. Uttar Pradesh Vitamin A Coverage: Differences by Data Source

*Note: The NFHS-3 figure reported for vitamin A coverage is based on the NFHS-3 Uttar Pradesh Fact Sheet.

#### Maternal Anemia Reduction

The A2Z project works in 6 eastern districts with a population of about 19 million to strengthen maternal anemia programs and at the same time conducts advocacy and dissemination of lessons learned and survey results at the state level. Policy guidelines issued by GOUP reach all districts (total population of about 190 million).

- **Program/policy guidelines.** Supported by technical assistance from A2Z, the ICDS Directorate issued state level operational guidelines to its entire staff on maternal anemia. The UP Government instructed CMOs in targeted A2Z districts to conduct prophylaxis for helminthiasis.

- **Human capacity and tool development.** An A2Z-developed maternal anemia training module was inserted into UP’s 12–day course on maternal health for auxiliary nurse-midwives. A2Z developed scale-up tools that included monitoring ANC registration and a self-assessment tool for ICDS workers. A2Z engaged NGOs and the Department of Community Medicine at the Medical College of the Institute of Medical Sciences as mentors to improve counseling skills, sensitize district officials, monitor availability of IFA and deworming tablets, solve problems at ICDS cluster meetings, and coordinate the Health Department and ICDS through joint meetings at block and district levels.

- **Strengthening pharmaceutical management systems.** A2Z’s subcontractor, MSH, completed a situational analysis of IFA and de-worming supplies in UP. As a result, the Departments of Health and Family Welfare and CMSD are procuring essential drugs kits for the entire state; this was distributed to the districts in February-March 2008 after a gap of three years. UP government is also developing an early warning system of potential anemia-reduction medicine stock-outs. UP is now tracking IFA distribution by Auxiliary Nurse Midwives (ANMs), with a reported 80 percent of ANMs providing monthly data.
*Monitoring and evaluation.* Through household surveys, LQAS and HMIS data, A2Z is building awareness and capacity in target districts and at the state level in using data for program and policy development. See Figure 3 on intervention coverage.

*National level.* A2Z’s Delhi-based team has brought lessons learned, studies, results, and tools from UP (and Jharkhand) to the attention of central policy makers. Advocacy at the national level led to adding albendazole for deworming, based on recent meta-analysis showing high efficacy for hookworm to reduce helminthic infections that contribute to anemia.7 A2Z’s work in supplies and logistics has helped advocate with UNOPS and GOI to begin national level improvements.

**Figure 3. Anemia Interventions in Pregnancy, UP**

*Low Coverage of Anemia Interventions in Pregnancy*

![Graph showing low coverage of anemia interventions in pregnancy](image)

% of Women with children 0-5 months

- **IFA**
- **Consumed IFA**
- **90+ IFA**
- **Deworming**

Sample sizes: Schedule Caste = 124, Other Backward Caste = 148, Other Caste = 52, Uttar Pradesh = 325

*Source: A2Z Baseline Survey, 2007*

**Child Anemia Reduction**

Using extensive studies on anemia prevalence, coverage of interventions, acceptability trials, and qualitative studies, A2Z built capacity and mentored ICDS and RCH staff to design and implement a Child Anemia Feasibility Study. Because no child anemia programs existed, several steps were completed at national level and clearances were obtained from ethical review panels.

**Uttar Pradesh State Level**

- **State policies & guidelines.** Chief Medical Officer of Sant Ravidas Nagar under the chairmanship of District Magistrate launched the child anemia program in the intervention area in presence of the ICDS head and all Medical Officers in Charge. Extensive advocacy and sensitization is being conducted to lay the foundation for a state-wide program.

- **Use of data.** A2Z completed anemia baselines, formative research, IYCF and worm prevalence studies to design messages, training, and guidelines.

7 Currently de-worming for all pregnant women is not a policy in any Indian state. A2Z continues advocacy efforts in this area.
Tools development. A2Z developed, tested and finalized program guidelines, job aids, and training manuals/facilitator guidebook. Tools include “do’s” and “don’ts” for IFA syrup distribution, self-assessment format for ANM/AWW and ASHA, a guide to conduct sector and block level meetings, format for recording IFA syrup distribution, and counseling tools for field staff.

Training service providers. About 500 ICDS workers were trained from March to July 2008, followed by supportive mentoring of supervisors and frontline providers through on-the-job training and solving problems.

Supplies and logistics systems. The distribution of IFA supplements to children has increased steadily over the past six months from state to district to block to ANM and finally to families of children 6–23 months. Feeding practices were discussed before syrup administration and ANM and ASHA were instructed in syrup administration. Over 75 percent of the syrup was distributed to children as of August 2008 (Figure 4).

National Level Policy. A2Z, in partnership with the National Institute of Health and Family Welfare, led a major policy change to provide universal iron supplements. Advocacy prompted the government to expand the age group of children to be supplemented in April 2007. Now infants aged 6–12 months will be supplemented. National Integrated Management of Neonatal and Childhood Illnesses (IMNCI) guidelines will follow guidelines for prophylactic dosing and an age-appropriate pediatric IFA formulation has been reintroduced. A2Z’s review of GOI procurement specifications for the IFA syrup revealed that the government was about to purchase a syrup that contained one-fifth of the required iron. The IFA syrup formulation error was detected and corrected in time to reach 100 million Indian children.

In conclusion, A2Z in Uttar Pradesh began to sensitize state level authorities about micronutrient interventions and how to improve their coverage and effectiveness. The state is challenging in its large population, poor record of social services, lack of data, and diverse population including large urban centers. The project is mainstreaming micronutrient interventions into the ongoing maternal health and child nutrition programs and is focused on building capacity to improve planning and management of micronutrient interventions.
West Bank
Country Profile
Life expectancy: 72 years
Fertility rate: 4.6
Infant mortality rate: 24.2 per 1000 live births
Iron deficiency anemia in women of child-bearing age: 33%
Iron deficiency anemia in children under five years: 25%

The risk of food insecurity is a major problem in the West Bank. According to a WHO assessment, Palestinians currently have relatively stable health status indicators, but with worrying trends. Chronic malnutrition is slowly increasing as well as dietary-related chronic diseases, and mental health is an increasing concern due to everyday life stressors.

Program Design and Partners
A2Z provides technical assistance for the comprehensive use of food fortification as a public health measure to protect and improve the nutritional status of the Palestinian population. As a USAID partner, A2Z’s main objective in the West Bank is to provide technical assistance and complementary support to design, regulate, implement, market, supervise, monitor, and evaluate food fortification practices, in coordination with the Palestinian public and private sectors, international cooperation agencies, and NGOs involved in food fortification initiatives.

The main partners are the Ministry of Health (MOH) and National Technical Nutrition Committee, USDA Western Human Nutrition Research Center (WHNRC), Palestinian Authority (Ministry of Health and Ministry of National Economy), UN Partners (UNICEF, WHO, WFP), food producers, premix producers, and national and local laboratories.

Strategies and Activities
The project provides technical assistance on food fortification design and implementation, assists in food analysis, monitoring and evaluation, advocacy, and analysis. In April 2004, the USAID West Bank and Gaza (USAID/WBG) mission began supporting the Palestinian Authority’s Ministry of Health (MOH) to introduce wheat flour fortification. In May 2008, A2Z followed the work initiated by MOST (the previous USAID-funded micronutrient project) and had a workshop titled “Food Industry Initiative in Support of Public Health Nutrition.” At the close of FY08, progress has been made in setting and testing appropriate standards with the government and international donors, introducing complementary foods, and developing a social marketing strategy.

Progress and Results
- Situation analysis. A2Z conducted an assessment to determine the capacity and willingness of food industry partners to produce fortified foods for complementary feeding programs and for commercial sale. The findings showed that partners were willing to fortify, but needed a legislative framework to standardize private industry production. This report was disseminated to the MOH and National Technical Nutrition Committee.

The Al-Quds Nutrition and Health Research Institute is analyzing data from the 2005 “Baseline Nutritional Survey of Women of Childbearing Age and Children.” Data analysis aims to estimate the magnitude of micronutrient deficiencies in these target groups, determine consumption patterns and popularity of certain foods to target appropriate fortification strategies, and create models for different
food fortification scenarios necessary to assess the potential impact of these strategies. The final reports are expected by the end of 2008.

- **Complementary foods.** In preparing new initiatives in complementary foods, A2Z issued a Request for Applications (RFA) to solicit proposals on “Readiness and acceptability for potential local manufactured complementary foods products among caregivers of children age 6–36 months in the Palestinian community.” The committee received and evaluated three applications. Alpha International won the procurement and is finalizing the paperwork to start field work.

- **Advocacy** activities focused on the Palestinian Authority (Ministry of Health and Ministry of National Economy), UN Partners (UNICEF, WHO, WFP), food producers, premix producers, and national and local laboratories, have increased awareness of the importance of basing fortification on scientific need, the value of fortification on health, the need to standardize fortification, and targeted fortification based on need.

- **Technical guidance and coordination.** A2Z participated on several committees including the National Breastfeeding Committee and the Fortified Foods Awareness Committee.

- **Food control.** The project provided technical assistance to revise food control and inspection activities in the West Bank. This TA included recommendations to review manufacturing practices of the pharmaceutical companies supplying fortification premixes and training to the Central Public Health Laboratory to implement analytical assays to determine minerals and vitamins in wheat flour and premixes. A2Z helped procure reagents and supplies to assist local laboratories analyze fortified wheat flour.

- **Inspection.** A2Z reviewed and updated the Manual for Inspection that had been drafted by the Palestinian National Fortification Committee. This revised manual will be translated into Arabic for food inspectors in the West Bank. A training workshop is planned for November 2008.

- **Voluntary enrichment of market-driven fortification.** The project is translating guidelines for labeling and voluntary enrichment of foods into Arabic for the West Bank. These documents will be used to discuss national guidelines for voluntary enrichment of market-driven fortification—an activity beginning with a workshop in November 2008. A2Z established a cooperative agreement with the Palestinian Standard Institute (PSI). The project agreed to provide technical support to develop standards and technical regulations for market driven qualification, to create a fortification logo, and to build PSI staff capacity on laboratory testing of fortified foods.

- **Monitoring and evaluation.** A2Z is collaborating with USDA Western Human Nutrition Research Center (WHNRC) and will provide technical assistance in designing a monitoring and evaluation system for fortification in the West Bank. The Palestinian Authority has agreed to allow WHNRC to analyze 800 blood samples that were collected in the 2005 Nutrition Survey to use as a baseline for the A2Z project.

In conclusion, A2Z in the West Bank has advocated for an appropriate role for food fortification as a public health measure, conducted situation analyses, designed program components, and is building partnerships for expanding access and quality of fortified foods.